APPROVED
General Director
«MY FREIGHTER» LLC

_____A.A. Abdurakhmanov

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SEAL

Ground Operations and Cargo Handling Manual

MF.GRH2-01.ENG
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Предупреждение! *Это электронная контролируемая копия документа, которая актуальна при доступе к ней в Электронной библиотеке ООО «MY FREIGHTER». Организация не гарантирует актуальность документа с момента его печати или копирования из Электронной библиотеки ООО «MY FREIGHTER» на любой носитель. Ответственность за использование неконтролируемой копии документа и возможные последствия принимает на себя пользователь.*

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SCOPE

This Ground Operations and Cargo Handling Manual (hereinafter referred to as the Manual) is an internal regulatory document, the requirements of which apply to all employees of MY FREIGHTER LLC involved in aircraft ground operations and handling of cargo, passengers and baggage

PURPOSE

This Manual has been developed to ensure efficient and safe ground handling of aircraft and cargo handling on flights of MY FREIGHTER LLC.

LANGUAGE

This Manual is prepared in Russian and English. In case of discrepancy, the English version shall prevail.

DOCUMENT REVIEW PERIOD

This Manual is reviewed at least once a year.

REGULATORY DOCUMENTS:

a) ISO 9001:2015 - Quality management systems;
b) IATA Airport Handling Manual;
c) IATA Ground Operations Manual;
d) IATA Cargo Handling Manual;
e) IATA Dangerous Goods Regulations;
f) IATA Temperature Control Regulations;
g) IATA Live Animals Regulations;
h) IATA Perishable Cargo Regulations;
i) IOSA Standards and Recommended Practices;
j) Oz’DSt 1.6:2003 "State standardization system of Uzbekistan. Regulatory documents. General requirements for construction, presentation, design, content and designation";
k) Quality Management Manual (MF.QMS2-01).

REFERENCE:

a) Appendix No. 2 to the Cabinet of Ministers of the Republic of Uzbekistan No. 58 dated 01.03.2016 "Regulations on the procedure for issuing an air operator certificate in civil aviation of the

Republic of Uzbekistan";

b) Appendix to the Cabinet of Ministers of the Republic of Uzbekistan No. 354 dated 31.12.2013 "Regulations on the procedure for issuing an aircraft maintenance organization certificate";

c) Order of the Director of the Uzaviatsia Agency No. 129 dated 23.11.2021 "Instructions on the procedure for approving documentation on the technical and flight operation of aircraft";

d) Regulations on the development of job descriptions and regulations on structural divisions (MF.QMS3-02);

e) Document Management System (MF.QMS3-01).

REVISIONS

Number of Revision	Date of revision	Responsible person
N/A	*N/A*	*N/A*

BRIEF DESCRIPTION OF CHANGES

Part/Chapter (Section)	Brief description of a change
Definitions and abbreviations	Information corrected and extended
Part 1, Section 1.5.2	Addresses for messages corrected and extended
Part 1, Section 1.5.3	COMAIL rules corrected and extended
Part 1, Section 1.6.1.1	List of documents corrected and extended
Part 1, Section 1.6.1.2	List of documents corrected and extended
Part 1, Section 1.6.2	Information corrected and extended
Part 1, Section 1.8.1.4	Requirements are extended
Part 1, Section 1.8.1.5	Added
Part 3, Section 3.6.3	B767-300BCF (-BDSF) main deck configuration layouts are added
Part 3, Section 3.6.4	Section name has been changed
Part 4	Applicable ULD and contours for A330 are added
Part 5, Section 5.2.3.2	Information corrected and extended; requirement for extra payment is added; 1 common table “Passenger distribution” is added instead of separate tables.
Part 5, Section 5.2.5.3.5	Requirements for extra baggage fees are updated
Part 5, Sections 5.2.5.3.7, 5.2.5.3.8	Requirements are updated
Part 5, Section 5.2.7.4	Requirements and conditions are updated
Part 5, Section 5.2.7.7	Requirements and conditions are updated
Part 5, Section 5.2.9.2.4	Requirements and conditions are updated
Part 5, Section 5.2.9.2.5	Requirements and conditions are updated
Part 5, Section 5.2.9.9.3	Requirements and conditions are updated
Part 5, Section 5.2.9.9.4	Requirements and conditions are updated
Part 5, Section 5.3.1	Requirements and conditions are updated
Part 5, Section 5.3.2	Requirements and conditions are updated

Part 5, Section 5.3.4	Requirements and conditions are updated
Part 5, Section 5.3.8.2	List of situations (requires Linited Release Tag issue) is extended
Part 5, Section 5.3.10.14	Requirements and conditions are updated
Part 6, Section 6.15.1	Requirements and conditions are updated. Picture have been added.
Part 6, Section 6.15	Requirements and conditions of Rigid Cargo transportation are updated.
Part 6, Section 6.15.3	Requirements and conditions of Rigid Cargo transportation are updated.
Part 6, Section 6.17	Requirements and conditions are updated
Part 8, Section 8.2	Requirements and conditions are updated
Part 8, Section 8.4	Requirements and conditions are updated
Part 8, Section 8.5	Requirements and conditions are updated. Links are corrected. Name of picture is corrected.
Part 8, Section 8.6	Requirements and conditions are updated. Aircrafts A330, B757-200PCF are added.
Part 8, Section 8.7	Numeration is corrected.
Part 8, Section 8.8	Requirements and conditions are updated
Part 8, Section 8.9	Requirements and conditions are updated. Pictures are corrected. New pictures added.
Part 8, Section 8.10	Requirements and conditions are updated. Layouts of tie-down are added for B767-300BCF (-BDSF).
Part 9	Name of this Part has been updated.
Part 9, Section 9.4	Aircraft tail numbers updated. New numbers added.
Part 9, Section 9.6	Information has been corrected and changed, responsibility for weight and balance computations is mentioned
Part 9, Section 9.10.1	Deleted.
Part 10, Section 10.1.3.4	Ground service equipment positioning layouts are added for A330, B757.
Part 10, Section 10.1.3.6	Requirements for passenger steps positioning are corrected and extended.
Part 10, Section 10.1.3.7	Requirements for belt loader positioning are corrected and extended. Pictures are added.
Part 10, Section 10.1.3.8	Requirements for highloader maneuvers are corrected and extended.
Part 10, Section 10.2.3	Information corrected
Part 10, Section 10.3.3.2	Information corrected and extended
Part 10, Section 10.5.3.1	Section name has been changed; information corrected and extended.
Part 10, Section 10.5.3.2	Information corrected and extended
Part 10, Section 10.6.2.3	Information corrected and extended
Part 10, Section 10.8	Information corrected and extended
Part 11, Section 11.1.1	Information corrected and extended
Part 11, Section 11.1.2	Information corrected and extended
Part 11, Section 11.1.3	Information corrected and extended
Part 11, Section 11.1.4	Section name has been changed
Part 11, Section 11.1.4.1	Section name has been changed; information corrected and extended.
Part 11, Section 11.1.4.2	Section name has been changed; information corrected and extended.
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Part 11, Section 11.5.1.6	Information corrected and extended
Part 11, Section 11.5.1.7	Information corrected and extended
Part 11, Section 11.5.2.5	Information corrected and extended
Part 11, Section 11.6.2.2	Information corrected and extended

LIST OF HOLDERS

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DEFINITIONS

- The terms “shall” and “must” are used to indicate mandatory requirement.
- The terms “should” and “may” indicate preferred requirement and are not binding.
- The terms Forward, Aft, Left, Right, Up, Down refer to flight direction.

MF STATION INFO: Information register, with contact details of stations, handling restrictions applicable to consignments and addresses used for receipt of cargo messages

ACCEPTANCE OF CARGO FOR CARRIAGE: A procedure, whereby the Shipper's cargo requested for carriage becomes the ready-for-carriage cargo

ACCIDENT: An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

a. a person is fatally or seriously injured as a result of:
   – being in the aircraft, or
   – direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
   – direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the supernumerary and crew; or
b. the aircraft sustains damage or structural failure which:
   – adversely affects the structural strength, performance or flight characteristics of the aircraft, and
   – would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or
c. the aircraft is missing or is completely inaccessible.

***Note 1**: For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified, by ICAO, as a fatal injury.*

***Note 2**: An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.*

ACTIVE FROST: Active frost is a condition when frost is forming. Active frost occurs when (1) the aircraft surface temperature is at or below the frost point, or (2) there is water in liquid form (e.g., dew) on the aircraft surface and the surface falls to/or below 0 °C (frozen dew).

AIR CARRIAGE: Transport of supernumeraries and their checked-in and carry-on baggage by Airline airplanes.

AIR CARRIER’S LIABILITY: Airline’s obligation to repay damage caused during air transportation of supernumerary and his/her baggage.

AIR WAYBILL: Document for carriage of cargo.

AIRCRAFT PALLET NET: A webbing net for restraining load onto aircraft pallets.

AIRCRAFT SERVICING POINT: An external connection on the aircraft to which servicing supply or evacuation lines are connected to the corresponding internal systems of the aircraft.

AIRCRAFT UNIT LOAD DEVICE: A load carrying device which interfaces directly with aircraft loading and restraint systems and meets all restraint requirements without the use of supplementary equipment. As such, it becomes a component part of the aircraft. The device can be either a combination of components or one complete structural unit. A combination unit is an aircraft pallet plus net plus non-structural igloo, or pallet plus net. A structural unit is a lower deck or main deck cargo container, or a structural igloo assembly.

AIRLINE (AIR CARRIER): An entity established in the territory and under the law of the Uzbek Republic irrespective of its ownership for the purpose of air transport (supernumeraries, baggage, mail and cargo), aerial work and services on a commercial basis. For the purpose of this Manual the Airline (Air Carrier) is MY FREIGHTER LLC. In terms of this Manual, MY FREIGHTER Airline.

AIRLINE TICKET (TICKET AND BAGGAGE RECEIPT): A (paper based) shipping document evidencing the Airline's consent to transport supernumerary and terms/conditions of carriage of his/her baggage. Tickets could be issue either in printed or hand-written form.

AIRWORTHINESS: Refers to a condition of serviceability that conforms to certification criteria. An airworthy container not only is serviceable but also meets certain minimum strength requirements established by government authorities. Airworthiness generally refers to certified aircraft structural and non-structural unit load devices.

ANTI-ICING: Procedure by which fluid is applied to provide protection against the formation of frost or ice or the accumulation of snow or slush on treated surfaces of an aircraft for a limited period of time (holdover time).

ANTI-ICING FLUID:

1. Mixture of water and Type I fluid;
2. Premix Type I fluid;
3. Types II, III, or IV fluids;
4. Mixture of water and Types II, III, or IV fluids.

Note: Fluids in 1 and 2 shall be heated to ensure a temperature of 60 °C (140 °F) minimum at the nozzle. SAE Type II and IV fluids for anti-icing are normally applied unheated on clean aircraft surfaces, but may be applied heated. SAE Type III fluids for anti-icing may be applied heated or unheated on clean aircraft surfaces.

ANTI-ICING CODE: This code is given to the flight crew/Pilot-in-Command that deicing/anti-icing has been carried out and the details of the anti-icing treatment that was applied.

BAGGAGE AIR TRANSPORT PERIOD: A period from the time the baggage is accepted for carriage till the time it is delivered to its holder or till it is delivered to safe custody.

BAGGAGE MANIFEST: A document evidencing acceptance of registered baggage by persons in charge of its handling and security.

BAGGAGE RECEIPT: Airline ticket.

BAGGAGE: Passenger, Crew or Supernumerary's personal property carried by the Airline without issue of Air Waybill.

BAGGAGE TAG: A document issued by the Air Carrier solely for the purpose of checked-in baggage identification (recognition).

BALANCE ARM: A true measure of distance from forward to aft, in inches, from a fixed datum. The fixed datum is selected by the airplane manufacturer.

BALLAST FUEL: unusable fuel carried in the Centre Tank in order to bring aircraft CG forward for balance purpose.

BASIC EMPTY WEIGHT (BEW): equals to Standard Basic Empty Weight plus or minus weight of standard item variations.

BAY: a subdivision of a containerized/palletized compartment.

BELLY: General term describing the lower portion of an aircraft, normally that part of the aircraft body which is below the main deck.

BODY STATION: A manufacturing location on the airplane. For first of an airplane model, B.S. are continuous from the front to the aft of the airplane. For later versions that are either stretched (i.e. fuselage inserts added) or shrunk (i.e. fuselage sections removed), B.S. becomes discontinuous, for manufacturing reasons. To see the relationship between B.A. and B.S., refer to 18.2 Balance Arm / Body Station of this manual.

BRIDGING: Bridging occurs when a ULD is supported only at its ends.
BUFFER (FREEZING POINT BUFFER): The difference between the outside air temperature (OAT) and the freezing point of the fluid used.
CABIN POSITION: A cargo aircraft load area normally one ULD in size. A cabin Position also represents:

a. An identification of a cargo load location for the communication of load information to the loading supervisor or persons handling cargo;
b. A weight centroid for weight and balance computations;
c. A weight control device. The number and location to which a pallet or container is assigned by use of the Load Plan and ULD Ident.

CARGO AGENT: Agent that accepts cargo from Shipper for carriage and signs AWB on behalf of the Company

CARGO AIRCRAFT: Any aircraft, other than a passenger aircraft, which is carrying goods or property.

CARGO: Any goods carried on an aircraft covered by an air waybill.

CARGO ITEM (PIECE): Single cargo unit in a shipment

CARGO LENGTH: Length of the cargo in the fore-aft (flight) direction.

CARGO PACKAGING: Material/means in which cargo is packed

CARGO RESTRAINT SYSTEM: a part of airplane structure intended to secure load during flight.

CARGO WIDTH: The length of the cargo in the inboard-outboard direction.

CARRY-ON BAGGAGE: Supernumerary's baggage, which is allowed by the Airline to be held in during transportation in the aircraft under the supernumerary's responsibility and which is evidenced as such by "Carry-on baggage" tag or "Hand baggage" tag or "Cabin baggage" tag.

CENTERLOAD: floating ULD located symmetrically on center line of cargo compartment.

CERTIFIED AIRCRAFT STRUCTURAL or NON-STRUCTURAL ULD: This unit provides flight restraint for its contents and is approved by the appropriate government Airworthiness authority. The unit load device base, walls, doors and net (if used) provide flight restraint when the ULD is properly positioned in the aircraft restraint system. A certified aircraft unit load device must be maintained and repaired by licensed personnel in accordance with approved repair manual methods.

CHARTER FLIGHT AGREEMENT: An agreement whereby Party One (Carrier) undertakes to provide the Party Two (Charterer) with complete or partial airplane cargo capacity.

CHARTER FLIGHT OPERATION: Non-scheduled air transport operation carried out in accordance with charter agreement based on the relevant license.

CHECKED-IN BAGGAGE: Supernumerary's baggage accepted by the Air Carrier for transport under its liability evidenced by baggage tag. Supernumerary have no access to the checked-in baggage until it is delivered to the destination airport baggage claim area.

CHECK: The examination of an aircraft item against a relevant standard by a trained and qualified person.

CHEMICAL CONTAMINATION: Impurity in a deicing/anti-icing fluid or may be from an inadvertent application of deicing fluid on top of an anti-icing (thickened) fluid.

CLAIM: A request in writing made by a person concerned with respect to recovery of damage occurred during air transportation.

COLD-SOAK EFFECT: The wings of an aircraft are said to be "cold-soaked" when they contain very cold fuel as a result of having just landed after a flight at high altitude or from having been refueled with very cold fuel. Whenever precipitation falls on a cold-soaked aircraft on the ground, clear icing may occur. Even in ambient temperatures between -2 °C and +15 °C (28 °F and 59 °F), ice or frost can form in the presence of visible moisture or high humidity if the aircraft structure remains at 0 °C (32 °F) or below. Clear ice is very difficult to detect visually and may break loose during or after takeoff. The following factors contribute to cold-soaking: temperature and quantity of fuel in fuel cells, type and location of fuel cells, length of time at high altitude flights, temperature of refueled fuel, and time since refueling.

COLD SOAKING: Ice can form even when the outside air temperature (OAT) is well above 0 °C (32 °F). An aircraft equipped with wing fuel tanks may have fuel that is at a sufficiently low temperature such that it lowers the wing skin temperature to below the freezing point of water. If an aircraft has been at a high altitude, where cold temperature prevails, for a period of time the aircraft's major structural components such as the wing, tail, and fuselage will assume the lower temperature, which will often be below the freezing point. This phenomenon is known as cold soaking. While on the ground, the cold-soaked aircraft will cause ice to form when liquid water, either as condensation from the atmosphere or as rain, comes in contact with cold-soaked surfaces.

COLD-SOAKED CLEAR ICE: This is the formation of ice, normally in the area of the wing fuel tanks, caused by the cold soak effect. Clear ice is very difficult to be detected visually and may break loose during or after takeoff, and poses a hazard particularly to aircraft with rear fuselage mounted engines.

COLD-SOAKED FUEL FROST: This is the formation of frost, normally in the area of the wing fuel tanks, caused by the cold soak effect.

COLD-SOAKED WING ICE/FROST: Water, visible moisture, or humidity forming ice or frost on the wing surface, when the temperature of the aircraft wing surface is at or below 0 °C (32 °F).

COMPARTMENT: A space designated within the aircraft for the carriage of load. Can be a sub-division of a predetermined zone/lower deck area/hold.

COMPETENT PERSON: Designated person, suitably trained according to pertinent industry training and proficiency standards, qualified by knowledge and practical experience and with the necessary operating instructions established by MF.

CONTAINER: A unit in which cargo and mail is bulk loaded and subsequently loaded as a unit into the aircraft. (See also “Aircraft Unit Load Device”).

CONTAMINATION: All forms of frozen or semi-frozen deposits on an aircraft, such as frost, snow, slush, or ice (also known as frozen contamination).

CONTAMINATION CHECK: A check of aircraft surfaces and components for contamination to establish the need for deicing.

COUPON: Part of ticket marked with “Coupon” phrase.

CRESTING: Cresting occurs when the cargo load is supported over a single line under the Load.

CREW: The operating crew of the aircraft plus Additional Crew Members (ACM). Crew is further defined as those occupants of the aircraft who are authorized to occupy a cockpit jump seat for takeoff and landing.

DAMAGED BAGGAGE: Baggage damaged as the result of air carriage or as a result of ground handling by the Airline.

DAMAGED CARGO: Damage to packaging of a cargo item and/or shipment, damaged/missing seals on packaging, damage to ULD packaging

DAMAGED CARGO FIT FOR FURTHER CARRIAGE: Cargo presenting no hazard for other cargo, aircraft, supernumeraries, crew, handling personnel.

DAMAGED CARGO UNFIT FOR CARRIAGE: Cargo presenting unavoidable hazard for the aircraft, crew, supernumeraries, handling personnel and other cargo

DANGEROUS GOODS ACCIDENT: An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.
Note: A dangerous goods accident may also constitute an aircraft accident as specified in this section in accordance with ICAO Annex 13 — Aircraft Accident and Incident Investigation.

DANGEROUS GOODS INCIDENT: An occurrence other than a dangerous goods accident associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any

occurrence relating to the transport of dangerous goods, which seriously jeopardizes an aircraft or its occupants, is also deemed to be a dangerous goods incident.
Note: A dangerous goods incident may also constitute an aircraft incident as specified in this section in accordance with ICAO Annex 13 — Aircraft Accident and Incident Investigation.

DEICING: Procedure by which frost, snow, slush, or ice is removed from an aircraft in order to provide clean surfaces and components.

DEICING/ANTI-ICING: Combination of or referring to both of the procedures for “deicing” and “anti-icing.” It may be performed in one or two steps.

DEICING SERVICE PROVIDER: The company responsible for the aircraft deicing/anti-icing operations on an airfield.

DEICING FLUID:
1. Heated water;
2. Heated mixture of water and Type I fluid;
3. Heated premix Type I fluid;
4. Heated Types II, III, or IV fluids;
5. Heated mixture of water and Types II, III, or IV fluids.

NOTE: Unheated fluids are ineffective to deice.

DEVIATION: Any discrepancy between the protocol and the actual performed test, test function methodology, testing equipment, testing material etc.

DIRECT TIE DOWN: tie down directly fastened to the package (load).

DRY OPERATING WEIGHT: (in Operational Flight Plan) includes basic weight of empty Aircraft, service and operational items, liquids, standard crew, standard Flight Kit, excluding usable fuel and Payload.

EMBRACED TIE DOWN: Tie down across or around a package (load)

EXCESS BAGGAGE: Baggage in excess of the Airline standard baggage weight.

FITTING: elementary piece of hardware, either single stud or double stud fitting, with an omni-directional capability, allowing to attach strap(s) or other elementary tie-down unit(s), to the floor tracks or tie-down receptacles of an aircraft’s structure or the edge tracks of an air cargo pallet. Tie-down fittings most commonly include an attachment ring, but may also be directly sewn onto a strap as a permanent end fitting thereof (IS0 16049-l).

FLIGHT ENVELOPE: For a given aircraft type of sub-type, the set of allowable values for accelerations which may be encountered during flight in the various directions relative to the aircraft’s structure, as determined during the aircraft certification flight testing and certified by the airworthiness Authority within the aircraft’s type certificate.

FLIGHT KIT: standard set of aircraft spare parts, oil, and other material for purposes of urgent aircraft repair or maintenance.

FLOATING ULD: An ULD or equivalent flat support device, located on an aircraft’s cargo compartment conveyor surface in a location at which aircraft restraint system hardware (locks, restraints) cannot restrain

the pallet. The pallet and the load on it is being restrained by a set of straps attached to the aircraft structural points.

FLOOR ANGLE: Angle between a tie-down strap or rope and cargo compartment floor.
FOOTING Beams under the cargo, usually, spacer blocks or grips to hold the cargo.

FRANGIBLE CARGO: Cargo consisting of items that will progressively conform to the airplane contour when subjected to loads up to limit load (will easily break apart on impact). A stack of fiberboard boxes is an example of frangible cargo.

FREEZING DRIZZLE: Fairly uniform precipitation composed exclusively of fine drops [diameter less than 0.5 mm (0.02 inch)] very close together, which freeze upon impact with the ground or other exposed objects.

FREEZING FOG: A suspension of numerous very small water droplets which freeze upon impact with the ground or other exposed objects; generally, reduces the horizontal visibility at the earth's surface to less than 1 km (5/8 mile).

FROST/HOAR FROST: Frost is the tiny solid deposition of water vapor from saturated air which occurs when the temperature of a surface is below 0 °C (32 °F). Frost generally occurs generally with clear skies at temperatures below freezing point. Frost can also occur from the freezing of dew.

FREEZING RAIN (LIGHT): Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects, either in the form of drops of more than 0.5 mm (0.02 inch) or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is up to 2.5 mm/h (0.10 in/h) or 25 g/dm2/h with a maximum of 0.25 mm (0.01 inch) in 6 minutes.

G: The expression used to show the magnitude of a force in terms of the standard earth gravitational unit.

GROSS WEIGHT: The combined weight of the commodity and tare weight equals gross weight or total weight.

GROUND HANDLING: The ground services necessary for the arrival and departure of an airport, other air traffic services.

GROUND OPERATIONS: The conduct of activities associated with the ground handling.

GROUND HANDLING AGENT: Agent contracted by the Company for ground handling services.

GROUND SERVICE PROVIDER: A provider acting as the handling agent for one or more customer airlines, providing one or more of the ground services as defined in SGHA.

HAIL: Precipitation of small balls or pieces of ice with a diameter ranging from 5 to 50 mm (0.2 to >2.0 inches) falling either separately or agglomerated.

HANDLING TEMPERATURE: is allowable temperature regime (expressed either as temperature code or temperature range or temperature limit) that a containment can be exposed to during transportation. No other temperature information may be indicated on the TTS label. This temperature regime always reflects the handling temperature external to the containment allowed during transportation.
Examples:
"+2C to +8C" (range);
"+2C to ___" (limit).

HEAVY FREEZING RAIN: Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects. Heavy freezing rain can seem to fall in sheets and individual drops may not be identifiable. Heavy freezing rain has a measured intensity of more than 0.30 in/h.

HIGHEST ON-WING VISCOSITY: Highest viscosity of a deicing/anti-icing fluid which is still aerodynamically acceptable. Can also be referred to as maximum on-wing viscosity.

HOLD: a Space in an aircraft confined by ceiling, floors, walls and bulkhead, used for carrying cargo and mail. Either in bulk, in containers or on pallets.

HOLD DOOR: Aircraft door providing access to a hold.

HOLDOVER TIME: Estimated time for which an anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the treated surfaces of an aircraft.

HORIZONTAL ANGLE: Angle between restraint direction (Fore or Aft or Side) and the strap projection on the floor.

ICE PELLETS: Precipitation of transparent (grains of ice) or translucent (small hail) pellets of ice, which are spherical or irregular, and have a diameter of 5 mm (0.2 inch) or less. Ice pellets usually bounce when hitting hard ground.

INCIDENT: An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

INDEX UNITS: A calculated unit used in aircraft balance computations. Index Units are expressed as either positive or negative values. Negative Index Unit values are preceded by a (-) sign. When computing aircraft balance, Index Unit values are added algebraically as follows: Add all negative values to arrive at a negative total. Add all positive values to arrive at a positive total. Subtract the smaller of the total values from the larger of the total values and use the sign (positive or negative) of the larger.

INDIVIDUAL TIE-DOWN: The weight or size of a piece of cargo may require that it be tied down individually.

LASHING: Equivalent to “Tie-down”.

LAST MINUTE CHANGES: Changes after the release of Trim sheet are called LMC;

LIMIT LOADS: Maximum loads to be expected in service. Limit loads must be supported without detrimental permanent deformation or interference with safe operation.

LOAD CONTROL AGENT: is a person performing his/her duties in the Load Control area. Roles and responsibilities related to Load Control area are specified in 1.12 Ground Operations

LOAD CONTROL: process that ensures that an aircraft is safely and economically loaded for flight.;

LOAD FACTORS: The accelerations, expressed as multiples of the standard acceleration of gravity (“g” = 9.8065 m/s2), in each direction of restraint (fore, aft, sides and upward), that will result in the limit or ultimate, as is the case, forces on the tie-down arrangement proportional to the weight of the piece of cargo being restrained. These Load Factors are provided by the appropriate Weight and Balance Control Manual and/or Supplement to such document for the specific aircraft type and incorporated in MF GOCHM.

LOAD INSTRUCTION REPORT: the same as LOAD PLAN

LOAD: Payload, Cargo and/or Mail, Aircraft Equipment in cargo compartment and/or aircraft spare parts.

LOAD PLAN: a document containing details of load distribution, aircraft load limits, influence of Payload on aircraft CG.

LOADSHEET: form used for computation of aircraft weights (ZFW, TOW, Landing Weight) and location of aircraft CG at ZFW and TOW and for ensuring that the weights and the CG locations are within limits.

LOADING SUPERVISOR: person responsible for the safe and correct loading of the aircraft.

LOCAL FROST: The limited formation of frost in localized wing areas cooled by cold fuel or large masses of cold metal in the wing structure; this type of frost does not cover the entire wing.

LOWEST ON-WING VISCOSITY (LOWV): Lowest viscosity of a deicing/anti-icing fluid for which the applicable holdover timetable can still be used.

LOWEST OPERATIONAL USE TEMPERATURE (LOUT): The higher (warmer) of:

- The lowest temperature at which the fluid meets the aerodynamic acceptance test (according to AS5900) for a given type (high speed or low speed) of aircraft, or
- The freezing point of the fluid plus the buffer of 10 °C (18 °F) for Type I fluid and 7 °C (13 °F) for Types II, III, or IV fluids.

MANUAL: Current Ground Operations and Handling Manual.

MAXIMUM LANDING WEIGHT: Limit for Landing Weight for a particular flight (at OFP)

MAXIMUM TAKE OFF WEIGHT: Limit for TOW for a particular flight (at OFP)

MEAN AERODYNAMIC CHORD: A reference line used in the design of an aircraft wing. Aircraft CG is calculated and expressed as a percentage of MAC. E.g. “30% MAC” means that distance from forward edge of the MAC to aircraft CG is 30% of the MAC length.

MODERATE FREEZING RAIN: Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects. Moderate freezing rain may appear in the form of large drops or can appear to fall in sheets where individual drops are not identifiable. Moderate freezing rain has a measured intensity of between 0.10 to 0.30 in/h.

NEGATIVE BUFFER: A negative buffer exists when the freezing point of a de-icing fluid is above the OAT (see Tables 1 or 2 for “first step” application limits).

NET WEIGHT: the difference between total weight and the tare weight; i.e. gross weight minus tare weight.

NON-APPROVED ULD: a unit load device that has not received approval by the appropriate governmental airworthiness authority indicating the airplane ULD meets their safety requirements.

NON-CERTIFIED CONTAINER: a compartment restrained lower deck ULD which does not require airworthy certification, with the lightest tare weight possible.

ONLOAD SHEET: A document containing details about ULD and bulk load prepared for a flight.

OPERATING IRREGULARITIES: any irregularity and/or disturbance of the established air transport operating procedures (in respect of cargo and baggage: a complete failure to deliver, shortage of weight or number of items, external package damage, loss, separation of documents, wrong issue of shipping documents etc.), which cause or may cause adverse effects.

OPERATIONAL EMPTY WEIGHT (OEW): includes Delivery Empty Weight, operational items, liquids, crew, supernumerary, baggage, excluding usable fuel and payload. Adjusted OEW includes Balance fuel if any.

OPERATIONAL ITEMS: personnel, equipment and supplies necessary for a particular operation but not included in Basic Empty Weight. These items may vary for a particular aircraft and may include, but are not limited to, the following:

- Standard Crew and its Baggage;
- Manuals and navigational equipment;
- Removable service equipment for cabin and galley (for example oven);
- Food and beverages (catering stuff);
- Usable fluids other than those in useful load (e.g. portable water);
- Life rafts, life vests and emergency transmitters;
- Flight Kits with a/c spare parts and equipment.

OUTSIZED CARGO: Cargo which cannot be accommodated within contour Q7 or cannot be accommodated within 20FT pallet base.

OVERHANG: A term used to describe loading beyond the geometrical limits of a pallet contour specified in the Manual. In these circumstances, the unit or overhanging load may require additional time for movement and restraint.

OVERSIZED BAGGAGE: A piece of baggage if any dimension (Length, Width, Height) of the baggage piece exceeds the following dimensions 53*50*100 cm;

PALLET NET ASSEMBLY: Any web net which attaches at all tie-down points on a pallet and is CAA approved to restrain cargo loads for carriage on aircraft. Nets may be single or multi-piece assemblies which attach to form a web that contains the load or ULD shell.

PARKING STAND: Area for parking of aircraft

PASSENGER AIRCRAFT: An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment or other cargo.

PAYLOAD: cargo, mail, baggage, portable aircraft service or cargo equipment (e.g. aircraft tow-bar, empty ULD), additional aircraft spare parts that are not included in standard Flight Kit. Payload value indicated on OFP may include payload fuel (Ballast fuel) if any.

PERFORMANCE LANDING WEIGHT: Maximum Landing Weight of particular aircraft for particular flight with consideration of all relevant airports and the aircraft current conditions and weather forecast.

PERFORMANCE TAKE OFF WEIGHT: Maximum Take Off Weight of particular aircraft for particular flight with consideration of all relevant airports and the aircraft current conditions and weather forecast.

PHARMACEUTICAL PRODUCT: Any product intended for human use or veterinary product intended for administration to food producing animals, presented in its finished dosage form, that is subject to control by pharmaceutical legislation in either the exporting or the importing state and includes products for which a prescription is required, products which may be sold to patients without a prescription, biologicals and vaccines. It does not, however, include medical devices.

POST-DEICING CHECK: A synonym for post-deicing/anti-icing check.

POST-DEICING/ANTI-ICING CHECK: A check by qualified ground personnel to ensure that all critical surfaces are free of adhering contamination after the deicing/anti-icing has been completed.

PRE-DEICING PROCESS: A process to remove large quantities of frozen contamination prior to the regular deicing/anti-icing process with the objective of reducing the quantity of deicing fluid to be used.

PRE-FLIGHT CHECK: A check performed by the flight crew or ground crew prior to departure to verify the presence of adhering contamination to establish the need for deicing/anti-icing. It may be part of the flight crew walk around before the flight.

PRE-TAKEOFF CHECK: A check by the flight crew prior to takeoff and within holdover time. This test is normally conducted from inside the cockpit. It is normally accomplished by a continuous assessment of the conditions that affect holdover time and includes an assessment and adjustment of holdover time.

PRE-TAKEOFF CONTAMINATION CHECK: A check of the critical surfaces for adhering contamination. This check is accomplished after the holdover time has been exceeded and must be completed within 5 minutes prior to the beginning of takeoff.

PROXIMITY SENSOR: A proximity sensor is a safety feature on some models of deicing equipment that, upon activation, disengages relevant systems, preventing equipment movement and damage from occurring due to physical contact between equipment components (e.g., spray nozzle, forced air nozzle, operator basket, etc.) and aircraft surfaces. As a safety mechanism, the proximity sensor is designed to prevent damage from occurring to aircraft surfaces, normally while the equipment chassis is in a stationary position (not maneuvering). Where equipped, the type of sensor used may vary by design, and may activate either by physical contact (e.g., a proximity switch with contact mechanism), or by non-physical activation (e.g., infrared, radar, etc.).

QUALIFIED STAFF: Trained staff who have passed theoretical and practical training tests and have been certified for performing this type of job; refer to AS6286.

RAMP: An airside part of a civil airfield designed to accommodate aircraft for the purpose of supernumerary boarding or debarkation, cargo and/or mail on- or off-loading as well as other types of ground handling services.

RAMP FUEL: total In-plane Fuel, the sum of takeoff fuel, taxi fuel and Ballast fuel.

REFRACTIVE INDEX: Refractive index, for any substance, is the ratio of the velocity of light in a vacuum to its velocity in the substance. For solutions, the refractive index will vary upon the concentration of the solute in the solvent. Using a calibration curve, it is possible to determine the concentration of the

solute in the solvent. For example, for aqueous glycol solutions, it is possible to determine the concentration of the glycol in water by measuring the refractive index and comparing the result to the calibration curve.

REFRACTOMETER: An optical instrument designed to measure the refractive index of water-soluble fluids.

RESIDUE/GEL: A buildup of dried out thickened fluids typically found in aerodynamically quiet areas of the aircraft.

READY-FOR-CARRIAGE CARGO: cargo that is in compliance with the following requirements:

- All necessary documents available, such as manifest (list) of consolidation, invoices, packing lists for personal belongings, Shippers Declaration for Dangerous Goods, Shippers Certification for Live Animals, DG acceptance check sheet, AVI acceptance check sheet, other documents required for export, import or transit by customs, any other state authorities or MF requirements. Shipping documents should be attached to the AWB and accompany it en route. FWB and FHL messages are received and processed.
- Labeling and marking stating nature of cargo requiring special conditions of transport, manipulation signs, airport of destination, and number of pieces in the shipment, weight of the shipment, AWB number.
- Package shall ensure safety of AC, crew, supernumeraries and other shipments, handling staff, shall ensure cargo securing and lashing, handling en route. It shall have no cuts, damages or being opened, package shall not have signs of leakages, spillages, wet spots, outstanding wires. Heavy and outsized cargo may only be carried up-on prior approval from MF. Package of the Dangerous Cargo – according to DGR. AVI package according to LAR. PER should be packed according to PCR. Any divergences from LAR, PCR may be accepted only agreed upon in writing by MF.
- General requirements:
  - Packaging should not be damaged or wet upon acceptance;
  - Packaging should not be weak and constitute a potential risk for further damage or collapse during handling;
  - BUP or SMU accepted should not contain visual damage of packaging, have collapsed contour, lacking sufficient plastic cover protection, have damaged ULDs or nets;
  - BUP or SMU contours are to be verified at acceptance to ensure conformity to FBL and build-up instructions;
  - Any irregularity noted at acceptance should be immediately reported to MF. Acceptance has to stop until further instructions from MF;
- Should AWB / FWB or/and Consolidation Manifest / FHL contain military equipment/stuff or possible dual usage product as nature of goods (e.g. drones spare parts), military organizations as consignees or/and shippers (e.g. Air Forces), an alert has to be immediately provided to MF, further handling has to be stopped until further instructions from MF.
- Requirements for VUN Cargo Packaging:
  - External packaging of VUN shipments shall not depict its contents;
  - Packaging shall be tamper-proof and prevent opening or access to contents without clearly visible signs of such interference;
  - It is recommended to place internal packaging of such goods into external packaging made of strong material (wood, plastic, metal) with additional strapping of such packaging with strong straps.
- Requirements for VAL Cargo Packaging:
  - External packaging of VAL shipments shall not depict its contents;
  - Packaging shall be tamper-proof and prevent opening or access to contents without clearly visible signs of such interference;
  - VAL packaging should be sealed up using tamper-proof seals. Numbers of seals are to be listed

in the AWB's 'Nature and Quantity of Goods' box. Use of seals with worn out and illegible alphanumeric symbols is not allowed;
  - The minimum volume of one VAL shipment may not be less than 0.016 m3 (corresponds to volume of a cube with a 25 cm side);
  - Packaging shall be made of strong material, such as, for example, wood, strong plastic, metal.
- Actual weight and number of pieces, their dimensions (volume) shall be as stated in AWB. Allowed weight and volume divergence from AWB is not to exceed 3 percent.
- Whenever the weigh cargo pieces cannot be identified by the scaling, the coordination with LRG HQ is required. The following data must be submitted:
  - product certificate (manufacturer's certificate);
  - product modification/maintenance log book (if applicable).
- AWB is issued and available.
- Weight and size of any piece of shipment is admissible for load on board. It means that the cargo can be loaded into the AC, can be secured in ULD/AC, linear and area limits can be observed.
- DG accepted according to IATA DGR Manual, actual edition.
- AVI accepted according to IAT LAR Manual, actual edition.
- Requirements of the customs, immigration and other authorities are met.
- All security requirements are met.

REFRIGIRATION EQUIPMENT: The term ‘refrigeration’ or ‘refrigeration equipment’ means any equipment whose purpose is to lower air and product temperatures and/or to control relative humidity. Temperature-controlled: Includes any environment in which the temperature is actively or passively controlled at a level different from that of the surrounding environment within precise pre-defined limits.

REGULATED LANDING WEIGHT: Maximum Certified Landing Weight or Performance Landing Weight, whichever is lower. The limit is printed as MLDW at OFP.

REGULATED TAKE OFF WEIGHT: Maximum Certified Take Off Weight or Performance Take Off Weight, whichever is lower. The limit is printed as MTOW at OFP.

RESTRAINT STRAP ASSEMBLY: Elementary tie-down unit consisting of flat woven textile webbing (one fixed end and one adjustable end), one tensioning device and two end fittings, used for restraint of cargo on board civil transport aircraft. (IS0 16049-1 for design and criteria and testing requirements.)

RESTRAINT: The amount of tie-down applied to prevent the movement of cargo or a unit load. Movement in this definition is movement brought about by take-off landing, flight maneuvers, turbulence or a survivable crash landing. The amount of tie down is determined by in-flight load factors and by CRS capabilities specified by its manufacturer.

RIGID CARGO: Cargo that will not break apart during an emergency landing event. In other words, cargo with strong structural elements made of hard materials such as stone, metal, hard wood.

RIGID PALLET or ULD: Any type or size of NAS 3610 class II certified aircraft ULD with base core stiffness (EI) of 0,02 x 108 lb x in 2 (per 1 inch of core width) or greater. The core thickness is from 2,0 to 2,5 inch.

SAFE FLIGHT OPERATION: Condition wherein a risk of injury or damage is reduced to acceptable minimum and maintained at such level or below through a process of continuing identification of hazards and sources of danger (ICAO Doc. 9859).

SEAT TRACK: A series of circular openings connected with a slot and embedded in the aircraft floor. Double and Single stud fittings lock into the seat track to provide tie-down attachment points in the aircraft.

SERIOUS INJURY: An injury, which is sustained by a person in an accident and which:

a. requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
b. results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
c. involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
d. involves injury to any internal organ; or
e. involves second- or third-degree burns, or any burns affecting more than 5 per cent of the body surface;
f. involves verified exposure to infectious substances or injurious radiation.

SERIUOUS INCIDENT: An incident involving circumstances indicating that there was a high probability of an accident and associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked. The incidents listed below are typical examples of incidents that are likely to be serious incidents. The list is not exhaustive and only serves as guidance to the definition of serious incident.

- Near collisions requiring an avoidance maneuver to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate.
- Controlled flight into terrain only marginally avoided.
- Aborted take-offs on a closed or engaged runway, on a taxiway 1 or unassigned runway.
- Take-offs from a closed or engaged runway, from a taxiway 1 or unassigned runway.
- Landings or attempted landings on a closed or engaged runway, on a taxiway 1 or unassigned runway.
- Gross failures to achieve predicted performance during take-off or initial climb.
- Fires and smoke in the upper deck compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents.
- Events requiring the emergency use of oxygen by the flight crew.
- Aircraft structural failures or engine disintegrations, including uncontained turbine engine failures, not classified as an accident.
- Multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft. -Flight crew incapacitation in flight.
- Fuel quantity requiring the declaration of an emergency by the pilot.
- Runway incursions classified with severity A. The Manual on the Prevention of Runway Incursions (Doc 9870) contains information on the severity classifications.
- Take-off or landing incidents. Incidents such as under-shooting, overrunning or running off the side of runways.
- System failures, weather phenomena, operations outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft.
- Failures of more than one system in a redundancy system mandatory for flight guidance and navigation.

SERVICEABLE ULD: Any Unit Load Device in good repair, able to perform the function for which it was designed. All units must be serviceable prior to loading on MF aircraft.

SHIPMENT: Cargo carried under one AWB

SIDE: The direction of restraint, relative to the aircraft structure, determined perpendicular to the aircraft centerline and parallel to its floor, left hand or right hand.

SLUSH: Slush is snow or ice that has been combined with water.

SNOW: Snow is a precipitation of ice crystals, most of which are branched, star-shaped or mixed with unbranched crystals. At temperatures higher than -5 °C (23 °F), the crystals are generally agglomerated into snowflakes.

SNOW GRAINS: Precipitation of very small white and opaque particles of ice that are fairly flat or elongated with a diameter of less than 1 mm (0.04 inch); when snow grains hit hard ground, they do not bounce or shatter. NOTE: For holdover time purposes, treat snow grains as snow.

SNOW PELLETS: Precipitation of white, opaque particles of ice. The particles are round or sometimes conical, their diameters range from approximately 2 to 5 mm (0.08 to 0.2 inch), they are brittle and easily crushed, and they do bounce and may break upon contact with hard ground.
NOTE: For holdover time purposes, treat snow pellets as snow.

SPECIAL CARGO: Cargo that requires special conditions for carriage, e.g. DG, AVI, PER, VAL, etc.

SPECIAL CONDITIONS FOR CARRIAGE: Requirements for handling of special cargo, such as compatibility, temperature control, ventilation, etc.

STANDARD BASIC EMPTY WEIGHT (SBEW): Manufacturer's Empty Weight plus standard items.

STANDARD ITEMS: Equipment and fluids not considered an integral part of a particular aircraft and not a variation for the same type of:

- Unusable fuel and other unusable fluids;
- Engine oil;
- Toilet fluid and chemical;
- Fire extinguishers, pyrotechnics and emergency oxygen equipment;
- Structure of galley;
- Supplementary electronic equipment.

STANDARD MESSAGES: Standard messages iaw AHM, Cargo IMP

STATE OF OCCURRENCE: The State in the territory of which an accident or incident occurs.

STATE OF THE OPERATOR: The State in which the operator’s principal place of business is located or, if there is no such place of business, the operator’s permanent residence.

STORAGE TANK: A vessel for holding fluid that can be fixed, or mobile; includes rolling tanks (ISO tanks), totes, trailers, or drums.

STRAP: Equivalent to “Restraint strap assembly”.

STRUCTURAL ULD: A type of certified Unit Load Device which has been stressed to provide in-flight restraint for the load without the use of external nets or straps. The structural ULD has the required strength to contain and restrain the load to it’s specified G limits designed into it’s basic shell, top and doors.

SUPERNUMERARY: A person in addition to the flight crew that is on board aircraft during commercial or non-commercial operations and is not classified as a passenger by the Airline or the Authority. Such person is typically any of the following:

- Assigned to the flight by the Airline as necessary for the safety of operations and has certain

(operator required) knowledge and abilities gained through selection and mandatory training (e.g. animal handler, dangerous goods handler, cargo attendant, security guard).

- An inspector, auditor or observer authorized by the Airline and the State to be on board the aircraft in the performance of his or her duties (e.g. CAA flight operations inspector, IOSA auditor, IOSA observer).
- Any other individual that has a relationship with the Airline, is not classified as a passenger by the Authority and authorized by the Airline and the State to be on board the aircraft (e.g. loadmaster, courier, contract coordinator, individual with Airline required knowledge and abilities traveling to/from a duty assignment, company employee or dependent in the supernumerary compartment of a cargo aircraft).

TAKEOFF FUEL: the amount of fuel required for take-off.

TACTILE CHECK: A tactile check requires a person to touch specific aircraft surfaces. Tactile checks, under certain circumstances, may be the only way of confirming the critical surfaces of an aircraft are not contaminated. For some aircraft, tactile checks are mandatory as part of the deicing/anti-icing check process to ensure the critical surfaces are free of frozen contaminants.

TARE WEIGHT: The weight of an empty Unit Load Device. It includes all liners and/or fittings etc. when these are required by specification or as registered with IATA.

TIE-DOWN ARRANGEMENT: Assembly of elementary tie-down devices affixed and tensioned around a piece of cargo in order to ensure its tie-down against each direction of restraint. (The geometric layout of such an assembly.)

TIE DOWN: The restraining of cargo movement in relation to an aircraft's structure, throughout the range of relative accelerations resulting from the allowable flight envelope, by means of an appropriate use of a number of elementary tie-down devices against each direction of restraint (AFT, FWD, SIDE, UP).

TIE-DOWN ATTACHMENT POINT: a part of airplane Cargo Restraint System, it is intended to accommodate a Fitting.

TIME AND TEMPERATURE SENSITIVE PRODUCT (TTSP): Any pharmaceutical good or product which, when not stored or transported within predefined environmental conditions and/or within pre-defined time limits, is degraded to the extent that it no longer performs as originally intended.

TOTAL LMC: Sum of TOP LMC and TOF LMC.

TRAFFIC LOAD: Same as Payload.

TRANSIT AREA: An area in an international airport specially designed for accommodation of transit and transfer persons and those who stay under supervision/control of Government and Airport authorities. Or Area of temporary cargo placement between warehouse and parking stand.

TRAVEL INFORMATION MANUAL (TIM): A reference manual containing national requirements/standards regarding entry/exit (transfer, transit, stop over) to/from the state during air transport.

LOADSHEET: equivalent of LOADSHEET

TRIP FUEL: the amount of fuel to be burned during the flight as specified in the Dispatch Release (Operating Flight Plan).

TRUCKING: Delivery of cargo by road

ULD PACKAGING: ULD's outer protective material, such as protective film, protective cover, tamper-proof seals.

ULD/BULK LOAD WEIGHT SIGNAL: a message prepared by Handling Agent staff that lists the prepared cargo on load for a flight. It will include at least the following:

- ULD Identification number;
- Destination;
- Gross Weight in kg;
- Pallet Contour;
- Special handling codes.

UNILODE: ULD provider for MF.

UNIT LOAD: A load of cargo or mail which has been stacked on a pallet and restrained by a net assembly as defined in the ALM.

UNIT LOAD DEVICE (ULD): A container, pallet/net combination, igloo, horse stall or other device which permits cargo, mail or live animals to be loaded in a unit form.

UNSERVICEABLE ULD: A Unit Load Device that cannot perform the function for which it was designed; (in poor condition - needing repair).

WEIGHT AND BALANCE SHEET: Same as Trim sheet.

WING-BOX AREA: the Main Deck area in the Central area of the fuselage.

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ABBREVIATIONS

AA Actual Arrival
MF MY FREIGHTER Airlines.
A/C Aircraft
AC PACK Air Conditioning Pack
ACARS Aircraft Communications Addressing and Reporting System
ACM Additional crew members or authorized supernumeraries (in addition to standard crew).
ACT Active temperature-controlled container (IMP code)
ACTAC Active Control Temperature Aircraft Container
AD Actual Departure
AFT Aft direction relative to flight direction.
AHM IATA Airport Handling Manual
APT Attachment Point, a part of airplane Cargo Restraint System.
APU Auxiliary Power Unit
ASM Ad Hoc Schedules Message, SMI
ATA Actual time of arrival
ATC Air Traffic Control
ATD Actual time of departure
AVI Live animals (IMP code)
AWB Air waybill
BA Balance arm
BBL Body Buttock Line is a vertical line or vertical plane parallel to the centerline of the airplane used to locate points or planes to the left or right of the airplane centerline.
BIG an item loaded on two or more pallets or which, due to its size or weight, requires special handling/equipment for loading and off-loading.
BNS Bulk Net Section
BS Body Station (Same as STA)
BULK Cargo compartment for loading of cargo in bulk or cargo loaded into aircraft in bulk
BUP Bulk Utilization Program
CAO (Cargo Aircraft Only) a classification of Hazardous Material (HAZMAT) that can only be carried on cargo aircraft.
CAR special handling code for a vehicle.
CDR Cargo Damage Report.
CDS Cargo damage survey certificate
CG Centre of Gravity.
CHS Cargo Handling System on board, includes restraints, guides, motorized and control devices (PDU), cargo conveyor system, net dividers, net barriers.
COL Cool goods
CPM Container Pallet Distribution Message, SMI
CRS Cargo Restraint System, comprises restraining elements of ULD (e.g. pallet net, container walls and ceiling) that are intended to restrain load placed on the ULD as well as restraints on board (e.g. locks, guides, stops, etc.).
CSS Client Standard Stock, meaning a stock of ULDs which is paid by MF on monthly basis to Unilode. The CSS comprises the ULDs allocation per stations where MF operates, inflight allocation, ULD distributed within the customers, the charter flights allocation, ULD distributed within the offline stations, ULD dropped off after the charter flights. The ULD allocation per station depends on the weekly ULD utilization at that station.
DG Dangerous goods
DGR Dangerous Goods Regulations (IATA).
DI Deferred Items (deferred aircraft defects).
DIP Diplomatic mail
DIV Diversion Message, SMI

DOW Dry Operating Weight (in OFP)
E.G. exempli gratia - for example
EAT Foodstuffs for human consumption, excluding PEM, PEP, PES
EFB Electronic Flight Bag
EFF Estimated Flight Figures message
EICAS Engine Indication Crew Alert System
EP Executive President
ERA Equipment Restricted Area
ETD Estimated time of departure
FAA Federal Aviation Administration
FAD Advice of discrepancy in movement of cargo or documents
FBL Flight Booking List
FFF Flight Final Figures
FFM Airline Flight Manifest Message
FHL Consolidation List Message
FIL Undeveloped/unexposed film
FKT Flight Kit (aircraft spare parts, engine oil, etc.)
FLT Flight
FOD Foreign Object Debris
FRO Frozen goods
FSU Freight status update
FWB Air waybill Data Message
FWD Forward in relation to flight direction;
G The expression used to show the magnitude of a force in terms of the standard earth gravitational unit.
GHA Ground Handling Agent
GOCHD Ground Operations and Cargo Handling Department at HQ
GOCHM Ground Operations and Cargo Handling Manual
GPU Ground power Unit
GSE Ground Support Equipment (e.g. engine air-starter, GPU, etc.)
HEA Heavy cargo 150 kg and over per piece.
HEG Hatching eggs
HQ Head Quarter
HUM Human remains in coffins
IATA International Air Transport Association
IMP Interchange Message Procedures
IS Information system
L/H Left Hand (side)
LAR IATA Live Animals Regulations, as amended
LAT Final (latest) time of acceptance of goods for carriage
LD Lower Deck
LE Leading Edge (of a wing or stabilizer)
LGW Landing Gross Weight
LHO Living human organs/blood
LIR Loading Instruction Report
LMC Last Minute Changes.
LOUT Lowest Operational Use Temperature
LOWV Lowest On-Wing Viscosity
LRG Load-ability Request Group.
LUC ULD handover or acceptance message
MAC Mean Aerodynamic Chord
MCC Maintenance Coordination and Control
MCT Minimum Connection Time

MD Main Deck.
MEL Minimum Equipment List
MGT Minimum Ground Time
MLDW Maximum Landing Weight, the same as RLW.
MRO Maintenance and Repair Organization
MTOW Maximum Take-off Weight, the same as RTOW
MUW Munitions of war
MVT Movement Message
MZFW Maximum Zero Fuel Weight.
NOTOC Notification to Captain of special loads/dangerous goods onboard
OAT Outside Air Temperature
OBX Obnoxious cargo
OCC Operation Control Centre (covers all operations at all airports);
OEW Operating Empty Weight of aircraft
OFP Operational Flight Plan
OHG an item loaded on one or more pallets that overhangs positions other than those on which it is loaded.
PBB Passenger Boarding Bridge
PCA Pre-Conditioned Air Cooling/Heating Unit
PCR IATA Perishable Cargo Regulations
PDU Power Drive Unit
PEA Hunting trophies, skin, hide, and all articles made from or containing parts of species listed in CITES
PEF Flowers
PEM Meat
PEP Fruits and vegetables
PER Perishable cargo, excluding PEM, PES, PEP, PEF, PEP
PES Fish/seafood
PIC Pilot in command
PIL Pharmaceuticals
PSI Pound per Square Inch
PSIG Pound force per Square Inch Gage
PVC Photo & video control required (see 4.18 Vulnerable cargo)
QD Quality Department
R/H Right Hand (side)
RDS Diagnostic specimens
RFC Ready-for-carriage cargo
RFS Road Feeder Service.
RLW Regulated Landing Weight, the same as MLDW in OFP.
RTOW Regulated Take Off Weight, the same as MTOW in OFP.
SCM ULD Stock Check Message
SDS Safety Data Sheet
SFR Station Flight Report
SLA Service Level Agreement (a part of a ground handling contract)
SMI Standard Message Identifier
SMU Shipper Mixed Unit
SSIM Standard Schedule Information Manual
SSM Standard Schedule Message
ST Set Temperature
STA Body Station (Same as BS)
STD Schedule Time of Departure
SWP Sporting, hunting weapons and ammunition
TBA To be advised
TBD To Be Determined

TE Trailing Edge (of a wing or stabilizer)
TIE If a load, for any reason, cannot be restrained for one or several restraint direction(s) then a person responsible for build-up shall indicate this at the pallet tag in “Remarks” field (code TIE) and notify Load Control agent accordingly.
TIM IATA Travel Information Manual
TLB Technical Log Book
TOF Takeoff Fuel
TOF LMC Take Off Fuel LMC.
TOP LMC - Total OEW & Payload LMC. It comprises changes of OEW (due to a missing operational item, change of number of occupants), change of Payload, change of Ballast fuel;
TOW MAC Take Off Weight MAC –the fully loaded CG condition of an aircraft, minus taxi fuel.
TOW Take Off Weight
TRC Tall Rigid Cargo
UCM ULD Control Message
UCR Unit Load Device Control Receipt
UHM Pooling ULD Handling Manual (issued by ULD provider)
ULD ID identification number of an ULD
ULD Aircraft Unit Load device is a device for grouping, transferring, and restraining cargo for transit. It may consist of a pallet and an approved restraint method, or may be a container, both of which can be directly restrained onto the aircraft structure by the Cargo Loading System (CLS)
UWS ULD/Bulk Weight Signal message.
VAL Valuable cargo
VHC Very Heavy Cargo
VHF Very High Frequency radio
VUN Vulnerable cargo
WEA Military weapons
WET Shipments of wet material not packed in watertight containers
ZFW MAC Zero Fuel Weight MAC - the CG condition of an aircraft when fully loaded, except for usable fuel.
ZFW Zero Fuel Weight. Equals to OEW plus Payload plus Ballast fuel. The total weight of the aircraft and its contents, except for usable fuel.
°C Degrees Celsius
°F Degrees Fahrenheit

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PART 1. ADMINISTRATIVE PART

1.1 GROUND OPERATIONS AND HANDLING MANUAL STRUCTURE

1.1.1 GROUND OPERATIONS AND HANDLING MANUAL STRUCTURE

The Ground Operations and Handling Manual (GOCHM or Manual) contains the main part and appendices.

All parts are sequentially numbered, pages are consecutively numbered.

GOCHM has a number of appendices that are its integral part. Links to the relevant appendices are indicated in the text.

All appendices are sequentially numbered, every new appendix is assigned a continuous numbering.

In case of discrepancies, the Russian version takes precedence.

IATA Ground Operations Manual

All processes and procedures described in this Manual are, at a minimum, equivalent to those contained in the IGOM. To ensure that, yearly gap analysis of GOCHM procedures against IGOM is performed. If safety critical variations are identified against IGOM procedures, such variations are escalated to the airline's Safety Manager and assessed on Safety Action Group meeting.

1.1.2 DEVELOPMENT, REVIEW AND UPDATE OF GROUND OPERATIONS AND HANDLING MANUAL

The development, storage, preservation, review, amendments, editing and use of GOCHM comply with the requirements of the "My Freighter" Documented Information Management Manual MF.QMS2-02.

Revision, amendment, further development of this Manual in compliance with internal laws, aviation regulations of the Republic of Uzbekistan, ICAO, IATA, airline standards, aircraft manufacturer's documentation is the responsibility of the Director of Ground Handling and Operations Department.

The Ground Handling Manual must be reviewed at least once every 12 months.

1.1.3 TEMPORARY REVISIONS

The Manual is subject to revision (update) in case of changes in the external regulatory documents, internal regulations and technologies in order to introduce new procedures and resolutions, or changes in the composition of the airline fleet.

Application of temporary changes or additional instructions and notifications related to GOCHM is carried out through the "Ground Operations Notice (GON)" (Appendix 1.1).

The purpose of the Notification is to convey updated information to employees and implement it into daily operations as soon as possible.

Notices apply to the relevant sections of this manual when performing duties that fall under the scope of this GOCHM.

Information in "Ground Operations Notices (GON)" notices shall be treated as a priority within the relevant part of the GOCHM.

Notices are issued with a 12-month validity period and are effective until they are included in the next revision of the GOCHM, or until the expiration date, after which they shall be canceled or reissued.

GONs have the same effect as GOCHM.

The development of GONs is carried out on the initiative of the Director Ground Handling and Operations Department (hereinafter referred to as the Director of GOCHD).

The Head of Ground Handling Standards Division is responsible for developing GON and communicating it to GOCHD employees (and contractors, if necessary).

GON is stored on a shared company disk. The Head of Ground Handling Standards Division is responsible for placing effective GONs on a shared disk and deleting canceled ones.

Each notice shall contain the date of issue and number in the following format: YYYY-MM-DD-number, for example 2023-03-28-01 (Notice #1 issued on March 28, 2023).

Where necessary, a Letter of Information (LOI) may be issued to promptly inform the GOCHD personnel, reminding/clarifying the need to comply with the ground operations procedures (related to the aircraft, passengers and cargo handling), as well as notifying of changes to the said procedures. LOIs are issued by the Head of the Standards Department or another employee appointed by the GOCHD Director. Reasons for issuing an LOI may include (but are not limited to) registered deviations from the ground operations procedures, amendments/supplements to existing procedures, etc.

1.1.4 ENTRY INTO FORCE

This Manual shall become effective twenty (20) business days after the date of signature by the General Director or other authorized persons and shall remain in effect until a new edition is issued or until it ceases to be valid.

1.1.5 STORAGE

A controlled copy of GOCHM is located on “My Freighter's” ICARUS web portal. A controlled hard copy, agreed with the aviation authorities, is located at the HQ office.

The current version of the GOCHM and related documents must be available at the airport office (hard copy and/or electronic copy) and for all parties involved in airline ground operations and cargo/passengers handling.

1.1.6 DISTRIBUTION

1.1.6.1 DISTRIBUTION TO CONTRACTORS

Head of Ground Handling Standards Division or other designated person, must ensure the distribution of the effective version of the Manual and associated documents and GONs to all ground handling agents (GHA) at airline’s destinations.

An electronic copy of the effective version of the GOCHM (and the accompanying documents, if necessary) is uploaded to the airline's website, the responsible person from the ground handling agent’s side is given access (login details are sent to the provided email address) (www.centrum-air.com → "For Agents" tab → enter login and password).

1.1.6.2 INTERNAL DISTRIBUTION

Head of Ground Handling Standards Division or an appointed person must ensure that an electronic copy of the effective GOCHM, agreed upon with the aviation authorities, is placed in the Airline’s file storage.

Access to the effective GOCHM and related documents must be provided to all airline employees involved in the ground operations and cargo/passengers handling. In this regard, after agreeing on the new version of the GOCHD with the aviation authorities, the Head of Ground Handling Standards Division, sends approved document to the Deputy General Director for Quality Assurance for uploading to the ICARUS portal. Access to the current version of the GOCHD on the ICARUS portal must be provided for:

- Flight Operations Director;
- Maintenance and Engineering Director;
- Head of Operations Control Center;
- Deputy General Director of Commercial Department;
- Deputy General Director of Quality Assurance;
- Head of the Safety Department.

Heads of the departments are responsible for ensuring that relevant information is disseminated within departments and that relevant documents are updated.

GOCHM effective version is available to all airline employees in the ICARUS portal. A copy of GOCHM downloaded from the ICARUS portal is considered uncontrolled. A company employee, when using an uncontrolled GOCHM copy, is obliged to check that the version of the document is current.

1.1.6.3 CONFIRMATION OF RECEIPT

When distributing new GOCHM edition, a "Confirmation of Receipt" must be obtained.

Person responsible for distribution must use one of three possible options for obtaining a "Confirmation of Receipt":

1. Use email options ("request a notification that the letter has been read") to ensure that the distributed information is delivered to the recipient, or obtain an email with confirmation of receipt from the addressee;
2. Use the familiarization sheet from GOCHM;
3. Use a written confirmation of receipt.

Person responsible for distribution must store the scan of received receipt in a folder. Minimum storage period is two (2) years.

1.1.6.4 FAMILIARIZATION

It is necessary to ensure that changes and updates are fully understood and accepted by airline personnel, therefore, when a new GOCHM revision/edition is released, familiarization with the changes should be carried out. Familiarization can be carried out through:

- Personnel self-familiarization;
- Seminar;
- Periodic training.

Updates and changes related to aircraft loadplanning, weight & balance, lashing and shoring should not be introduced through familiarization and should always be introduced through seminar, initial or periodic training.

1.2 EXTERNAL REGULATORY DOCUMENTS

The following effective manuals must be located at the Head Office of My Freighter LLC in paper or electronic form:

- ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284/AN905);
- IATA Dangerous Goods Regulations;
- IATA Perishable Cargo Regulations;
- IATA Live Animals Regulations;
- IATA Temperature Control Regulations;
- IATA Airport Handling Manual;
- IATA Ground Operations Manual;
- IATA Cargo Handling Manual;
- IATA ULD Regulations.

The leading standards specialist annually compiles a list of mandatory and additional publications of IATA, ICAO and, if necessary, other regulators, and organizes their purchase through the financial department.

Original Equipment Manufacturer Manuals

The following documentation is required to perform aircraft loading and alignment control procedures:

- "Weight and Balance Control and Loading Manual" – for each aircraft configuration (Boeing document);
- "Weight and Balance Manual" – for each aircraft configuration (Airbus document);
- "Weighing Report" – for each aircraft (issued by the aircraft maintenance company);

- Shoring Guidelines (if applicable);
- Supplementary Type Certificates (if applicable).

Effective versions of the documents listed above are kept at the airline's Head Office.

The airline's Aviation Engineering Department notifies the Ground Handling Standards Department of new aircraft weighing protocols issued by the aircraft maintenance company.

1.3 DISTRIBUTION OF GROUND HANDLING RESPONSIBILITIES

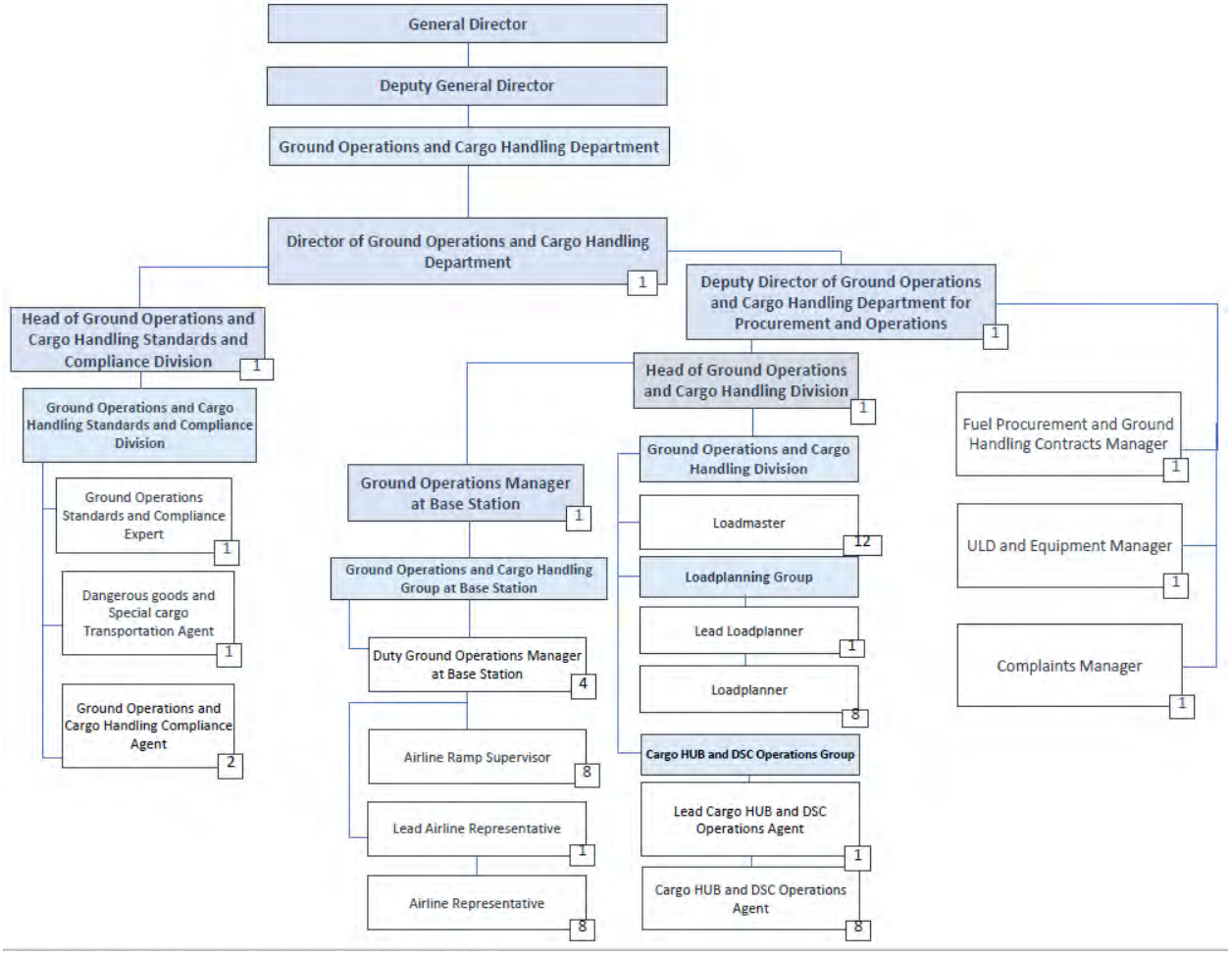
The roles and responsibilities of personnel performing ground operations functions related to company aircraft are defined in this section. Some of these roles may be outsourced.

1.3.1 GROUND OPERATIONS AND CARGO HANDLING POSTHOLDER

The designated person responsible for ground operations and cargo handling at My Freighter LLC is the Deputy General Director for Operations.

The Director of GOCHD has overall responsibility for safe, effective and efficient ground handling, provides strategic management to the Ground Handling and Operations Department, and ensures the adequacy of the budget and resources for the company's operations in this area of responsibility.

1.3.2 ORGANIZATIONAL STRUCTURE OF GROUND HANDLING AND CARGO OPERATIONS DEPARTMENT



Organizational structure of Ground Handling and Operations Department is shown above.

GOCHD functions related to ground operations and cargo/passengers handling are stated in the “GOCHD Regulation PP-05/02”.

1.4 TRAINING REQUIREMENTS

This section describes the mandatory training requirements to the airline and GHA staff to perform My Freighter LLC ground operational functions safely and efficiently.

1.4.1 TRAINING MANAGEMENT SYSTEM

The GOCHD Director is responsible to ensure that all GOCHD operational and non-operational personnel meets the relevant qualification and training requirements specified in this section and in the job descriptions.

To ensure training address relevant operational functions, main operational roles (refer to Table 1.4.1: Alignment of a job position with the job roles and AHM 1110) and training matrix (Table 1.4.5: Training Matrix Airline Ground Operations and Cargo Handling Staff) were established within the GOCHD.

Training currency of GOCHD operational staff is controlled by the GOCHD Standards Division by using Table MF.GRH2-01.ENG-A1.11: Training of Ground Operations and Cargo Handling Department Personnel. Ground Operations Standards and Compliance Expert performs monthly analysis to identify training needs and reports to the GOCHD Director.

Relevant initial and recurrent training as per Training matrix is mandatory.

Table 1.4.1: Alignment of a job position with the job roles and AHM 1110

Airline Job Position	Job Role and Functions	Training Modules as per AHM 1110				DG Training
		GEN	PAX	RMP	LOD	
Loadmaster	Aircraft loading and unloading	GEN01, GEN02, GEN03, GEN04, GEN06** GEN08***	N/A	RMP04, RMP09, RMP10, RMP17, RMP18	LOD01, LOD02, LOD03	
	Aircraft loading supervision					
	Turnaround coordination and/or load control information exchange					
	Load Control*					
	(DG) Personnel responsible for handling cargo in a warehouse, loading and unloading unit load devices and loading and unloading aircraft cargo compartments					7.4
	(DG) Planning of Aircraft Loading					7.6
Loadplanner	Load Control	GEN01, GEN02, GEN03, GEN04, GEN06** GEN08***	N/A	N/A	LOD01, LOD02, LOD03	
	(DG) Personnel responsible for handling cargo in a warehouse, loading and unloading unit load devices and loading and unloading aircraft cargo compartments					7.4
	(DG) Planning of Aircraft Loading					7.6
Airline Ramp Supervisor	Aircraft loading supervision	GEN01, GEN02, GEN03, GEN04, GEN06** GEN08***	N/A	RMP04, RMP09, RMP10, RMP17, RMP18	N/A	
	Turnaround coordination and/or load control information exchange					
	Passenger service supervision					
	(DG) Personnel responsible for handling cargo in a warehouse, loading and unloading unit load devices and loading and unloading aircraft cargo compartments					7.4
	(DG) Planning of Aircraft Loading					7.6
Airline Representative (Check-in)	Meet and greet at customer touch points	GEN01, GEN02, GEN03, GEN04, GEN06** GEN08***	PAX01, PAX02, PAX03, PAX05, PAX06, PAX08, PAX09, PAX10, PAX11, PAX12	N/A	N/A	
	Check-in					
	Arrival					
	Departure					
	Transit/transfer connection					
	Baggage services					
	Passenger service supervision					
	(DG) Accepting Passenger and Crew Baggage, Managing Aircraft Boarding Areas, other functions involving direct passenger contact at an Airport					7.5
Cargo HUB and DSC Operations Agent	DCS control and operations	GEN01, GEN02, GEN03, GEN04, GEN06** GEN08***	PAX12	N/A	N/A	
	(DG) Planning of Aircraft Loading					7.6

*where centralized loadplanning by GOCHD Loadplanning Group is not possible.
** as per airline's ERP procedures where required.
***only for persons, involved to performing on-the-job trainings
NOTE 1: *for DG training of service providers refer to Part 7, Section 7.12.13.*
NOTE 2: *training of service providers should be performed as per IATA AHM 1110 requirements depending on the job roles and functions.*

NOTE 3: *training of service providers personnel assigned to perform aircraft fueling should include the following elements:*

- *Safe operation of equipment;*
- *Emergency procedures;*
- *Fuel spillage avoidance response;*
- *Aircraft fueling and defueling procedures;*
- *Aircraft-specific training.*

1.4.2 INITIAL AND CONTINUOUS QUALIFICATION

Initial Training

Initial training is provided to GOCHD operational and non-operational personnel prior to them being assigned to new duties. Requirements to the applicable training modules as per operational function are provided in the Table 1.4.1: Alignment of a job position with the job roles and AHM 1110 and Table 1.4.5: Training Matrix Airline Ground Operations and Cargo Handling Staff.

Initial training must be conducted in person and in the classroom only, unless otherwise specified/permitted in the training program and agreed with the GOCHD Director. Person cannot be given authorization for independent work or be admitted to the curatorial phase until successful completion of all required initial training programs.

Recurrent Training

Recurrent training is performed to maintain current qualification required by regulation or legislation and shall:

a. Include assessments of theoretical knowledge and/or practical competencies appropriate to the function and operational requirements, which shall be completed prior to the current expiry date.
b. Be delivered at the frequency specified in the relevant training documentation, but not exceed 36 months from the completion of the previous training, unless a different period is specified by the applicable regulation. If a national competency authority sets a longer recurrent duration, this standard shall be met. For Dangerous Goods training recurrent training shall be done within 24 months.
c. Be based on the initial courses.
d. Take into consideration operational needs and safety performance indicators from e.g., safety report, monitoring report, performance report, incidence/accident reports.

Recurrent training shall be planned in such manner that the training is performed, and any evaluation done prior to the current certificate expiry date. However, if the certificate expiry date would be exceeded, the training will be considered valid provided that the training session is completed within the same calendar month as the certificate expiry date.

Recurrent assessment

Recurrent assessment is performed only by the decision of the GOCHD Director.

Recurrent assessment is a possible alternative to recurrent training in a case when a person passed the initial or recurrent training but for certain reason their qualification needs to be validated (identified gaps in operational knowledge or practical competence, significant deviations from operational procedures, incident, absence from work up to 12 months, etc.).

Means of assessment can include:

a. Coaching to support the employee in practicing the skills to achieve the standard expected.
b. Supervision to support the learner during the development of skills.
c. Review of topic areas identified as weak or uncertain to re-establish the knowledge.
d. Re-qualification (only if it is evident the employee would benefit).
e. Other suitable and agreed interventions to best aid the employee to return to operational duties with competence and confidence.
f. A mix of the above until such time as competence and confidence are established.

The scope of the assessment may focus more on areas where the negative trends were identified and less on areas where trends are not evident. Knowledge can be assessed by a knowledge exam. Skills can be assessed by an assessment of the employee performing the task. The attitude of the employee will be observed during any assessment.

Results of the assessment shall be documented, the use of curatorial phase forms is strongly recommended, but it is allowed to use other means of assessment documentation provided that is it approved and signed by the Head of GOCH Standards and Compliance Division or the Head of GOCH Division.

Update Training

Update training is provided to ensure operational personnel remain competent because of changes relevant to the operational duties. Update training can be provided in the following circumstances (but not limited to):

a. Significant changes to the operating environment;
b. Infrastructure or equipment changes, new GSE, or new aircraft type;
c. The individual's assigned task changes as necessary within roles/functions;
d. Qualification requirements have changed.

Update training is developed and introduced by the Head of GOCH Standards and Compliance Division or another responsible person assigned by the GOCHD Director.

Absence from work and re-qualification training

Re-qualification training is applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties. Re-qualification training is applied in the following cases:

a. Recurrent training was not performed within the validity period;
b. Absence from work (see table below);
c. Safety incident or its precursor caused by a serious deviation from operational standards.

When an employee is absent from the operational duties for a prolonged period, regardless of the reason for their absence, actions to ensure the continuous qualification shall be done depending on the period of absence (see Table 1.4.2).

Table 1.4.2. Minimum training conditions for employees returning from work absence

PERIOD OF ABSENCE	ACTIONS
Up to 1 month	No additional training required
1 to 3 months	Brief the employee on any procedural, organizational or equipment/infrastructure updates or changes that might have occurred during their absence. Briefing shall be documented and filed accordingly.
3 to 6 months	Conduct one on-the-job training to inform the employee of any possible updates or changes related to their duties that may have occurred during absence. The on-the-job training session should be documented in the same way as the curatorial phase.
6 to 12 months	Recurrent training is required
Over 1 year	Initial training is required

Decision on re-qualification training shall be made by the GOCHD Director.

Recognition of certificates

At outstations operational functions (as described in Table 14.1 of this Section) can be outsourced to service provider. In such a case it is the responsibility of the service provider to train their own staff. Training certificates can be recognized upon the decision of GOCHD Director.

New airline employee	Service provider's staff
Only the initial training according to the training matrix.	By decision of the GOCHD Director.

However, if the scope of the training is not covering those, required by the airline, the airline provides additional training to such staff to ensure their proper qualification.

1.4.3 INITIAL AND CONTINUOUS QUALIFICATON FOR TRAINERS, ON-THE-JOB-TRAINERS AND ASSESSORS

Training and assessments shall be conducted by personnel who have demonstrated the skills to deliver the training/assessment effectively.

TRAINER

Trainer means a competent person who officially delivers training to employees. A trainer:

a. Shall deliver training according to the company training program.
b. Shall assess achievement of the knowledge and competence trained.
c. Should sign records of training on behalf of the company to document learning completion, as applicable.
d. Shall have a minimum of 12 months of operational experience.
e. Shall be certified to conduct training in accordance with the standards outlined in Appendix 1.4.
f. Shall have a proof of competence in the subject matter they are qualified to train.
g. Shall have effective interpersonal and communication skills.
h. Shall have an ability to present to an audience (e.g., to a minimum of five people).

Initial and continuous qualification requirements:

a. Successfully complete a train-the-trainer program (See Appendix 1.4) to develop training competence to deliver training effectively.
b. Undertake recurrent training or recurrent assessment for trainers at least once every 36 months e.g., workshops, train the trainer updates, briefs, peer reviews.
c. Complete any recurrent trainer certification, as required by a state or regulatory authority.
d. Maintain up-to-date knowledge in the subject area of training.
e. For DGR specifically: maintain current certificates for all provided functions.

ON-THE-JOB TRAINER

On-the-job Trainer means a competent person who enables the delivery and aids in the development of theoretical knowledge and practical competence within the operational environment. This person is not considered a trainer and may not sign records of training other than to confirm satisfactory completion of practical training. The on-the-job trainer role is performed by operational personnel. The on-the-job trainer:

a. Shall be trained and competent to perform the operational task being instructed.
b. Shall be instructed or briefed on how to coach the trainee and supervise performed tasks in a way to support the trainee in developing and practicing the skills to achieve the standard expected.
c. Shall be competent to deliver on-the-job training.
d. Shall have a minimum of 24 months of operational experience and be current in the subject area they are expected to train.

e. Shall have effective interpersonal and communication skills.

Initial and continuous qualification requirements:

a. Undertake initial and recurrent training in the subject area they are expected to train.
b. Maintain up-to-date knowledge in the subject area of training.

ASSESSOR

Assessor means a competent person who can formally assess a trainee's achievement of theoretical knowledge and practical competences to the expected standard and is an objective measure. The task of assessment can be performed as part of the job role by trainers, on-the-job trainers or other operational personnel who are competent and qualified to perform assessment. An assessor shall be able to:

a. Conduct an assessment against the defined operational standard.
b. Provide feedback to the trainee on any gaps in theoretical and/or practical competence.

1.4.4 ON-THE-JOB TRAINING

On-the-job training is mandatory for GOCHD operational staff applying for the positions of:

a. Loadmaster;
b. Loadplanner;
c. Airline Ramp Supervisor;
d. Airline Representative (Check-in);
e. Cargo HUB and DSC Operations Agent.

The aim of on-the-job training is to provide the new employees with practical skills and experience to ensure that they are apt to perform the duties under their responsibility once being released to unsupervised work. Obtained qualification shall be documented as described hereinafter.

On-the-job training should normally be conducted after the new employee has received all mandatory training as per Training Matrix. During the on-the-job training responsible on-the-job trainer performs:

a. Assessment of knowledge of Ground Operations and Cargo Handling Manual provisions;
b. Coaching to support the employee to obtain practical skills;
c. Supervision during the development of skills;
d. Behavioral observation of the tasks performed.

On-the-job training normally lasts up to three months from the date of successful completion of the mandatory initial training. The duration of on-the-job training depends on the trainee's performance.

Table 1.4.4: Scope of on-the-job training

Job Position	Scope of on-the-job training
Loadmaster	Knowledge and competence assessment
	Preliminary calculation cargo loadability and transportability upon the request of the commercial department: at least 10 calculations
	Preparation of cargo buildup and tie-down instructions for cargo terminal, including graphic diagrams and a text description: at least 10 instructions
	Loadplanning and W&B preparation: at least 10 calculations
	Supervision of cargo build up and warehouse activities: at least 5 shipments
	Supervision of GHA activities during the ground operations and cargo handling: at least 5 flights
	Behavioral observation of the performance on cargo flights (as a crewmember)
Loadplanner	Knowledge and competence assessment
	Preliminary calculation cargo loadability and transportability upon the request of the commercial department: at least 10 calculations
	Preparation of cargo buildup and tie-down instructions for cargo terminal, including graphic diagrams and a text description: at least 10 instructions
	Loadplanning and W&B preparation: at least 10 calculations
	Supervision of cargo build up and warehouse activities: at least 5 shipments
	Supervision of GHA activities during the ground operations and cargo handling: at least 5 flights
Airline Ramp Supervisor	Knowledge and competence assessment
	Monitoring and control of check-in process in airport
	Supervision of GHA activities during the ground handling
	Behavioral observation of the performance on cargo and passenger flights (as ramp supervisor)
Airline Representative (Check-in)	Knowledge and competence assessment
	Monitoring and control of check-in process in airport
	Supervision of GHA activities during the ground handling
	Behavioral observation of the performance on passenger flights (as check-in agent)
Cargo HUB and DSC Operations Agent	Knowledge and competence assessment
	Cargo HUB operations
	Cargo booking system operations
	FFM preparation
	DCS system operations
	Advanced passenger information system operations

Simultaneous on-the-job training session by the same trainer for several trainees (but not more than 2) is allowed.

On-the-job training form (***Appendix 1.2A, 1.2B, 1.2C***) shall be completed and signed by the Head of the Ground Operations and Cargo Handling Division and a decision is made either on admission/non-admission of the employee to unsupervised work, or whether additional individual training in one or several operational duties is necessary (with an indication of the reason of such decision).

When filling out the On-the-job training form, it is allowed to take into account the actual tasks performed on the same flight in different sections (for example, work on same flight in sections 1 and 2 of the form).

On-the-job training form filled in and signed by the Head of the Ground Operations and Cargo Handling Division is retained in the GOCHD.

By decision of the Head of the Ground Operations and Cargo Handling Division, the duration of the on-the-job training may be changed due to the airline's flight schedule, or the need for additional individual training for a particular employee.

If the number of airline flights does not allow one or more on-the-job training sessions to be completed in full, the Head of the Ground Operations and Cargo Handling Division may decide to reduce the internship on an individual basis.

1.4.5 TRAINING MATRIX

The Training Matrix defines the required training for the roles identified above in this section. The full name of the program and the duration of training is shown in the Table 1.4.6: Alignment of the training programs with AHM 1110 below. The "X" sign indicates mandatory training for the respective operational staff.

Table 1.4.5: Training Matrix Airline Ground Operations and Cargo Handling Staff

Job specific training* / Airline Job Position	AHM 1110 GEN	AHM 1110 PAX	AHM 1110 RMP	AHM 1110 LOD	Dangerous Goods	Cargo Terminal	Special Cargo Handling	SMS	Aviation Security
Loadmaster	X		X	X	X	X	X	X	X
Loadplanner	X			X	X	X	X	X	
Airline Ramp Supervisor	X		X		X	X	X	X	X
Airline Representative (Check-in)	X	X			X			X	X
Cargo HUB and DSC Operations Agent	X	X			X	X	X	X	

*Training scope as per Table 1.4.1: Alignment of a job position with the job roles and AHM 1110. Training of GOCHD management and non-management non-operational staff, that is not included in the Training Matrix, is performed as per training requirements in the relevant job descriptions.

For Loadmasters and Loadplanners: trainees are not allowed to take any other required courses unless they have completed the Dangerous Goods and Cargo Terminal trainings. If either of the two trainings were not passed successfully, a retake of the test is carried out within 14 days after the initial test with the permission of the GOCHD Director.

1.4.6 TRAINING PROGRAM

Training programs should cover company policies, company processes, procedures and written instructions related to operations, product/service and quality system. The content of the training program shall be appropriate to individual responsibilities and functions, provide the knowledge necessary to perform duties, execute procedures and operate equipment associated with specific ground handling functions and responsibilities.

The airline can perform trainings internally or by contracting authorized training centers, but regardless the training provider, all training programs shall be in compliance with training modules and topics described in (***Appendix 1.4: Minimum requirements to training programs***).

All internal and external training programs for operational staff shall be checked against the airline requirements and validated by the Head of GOCH Standards and Compliance Division or GOCHD Director.

Training program shall:

a. include the methods of testing or evaluation by written, computer-based, oral or practical means, as applicable.
b. require a demonstration of adequate knowledge, competency and proficiency to perform duties, execute procedures and/or operate equipment.

The training program shall be reviewed and updated annually to ensure that:

a. It remains relevant and current.
b. It continues to meet current and specified internal and regulatory requirements.
c. All training materials are up-to-date and meet airline needs and regulatory requirements.
d. Reviews shall update the training content to reflect current industry standards at a minimum, taking into consideration outcomes of management reviews, regulations, resolutions, airline requirements, and recommended practices.
e. The outcome of the review may result in no change to the training program or changes made are updated. The review process shall be documented.

Training syllabus and materials

Training syllabus shall include:

a. Training objectives, learning outcomes and training content.
b. Initial training requirements and methodology.
c. Recurrent training content, frequency, and methodology.
d. Duration of training.
e. Target audience for training.
f. Any pre-requisites.
g. Training methods and mode of assessment.

Training materials shall be designed and developed in a way to meet the requirements of the syllabus, the required training objectives and learning outcomes. Training materials shall be maintained and current, as appropriate, and reviewed at least annually. Training materials shall display at a minimum, the version number and date of review.

Training methods

Training should be a combination of theoretical and practical skills designed to develop the trainee's competence and ability to successfully complete the task to the required standard.

Theoretical training focuses on delivering the knowledge required for the task and can be delivered using a variety of methods and media to enable learning (e.g., traditional classroom, virtual classroom, web-based, digital, virtual reality, video tutorials).

Verification of theoretical knowledge shall be achieved by establishing a minimum of an 80% pass grade for written theoretical assessments and/or oral knowledge assessment during on-the-job training.

Practical Training

In addition to theoretical training, practical training shall be conducted to ensure achievement of operational performance and competence in all defined training objectives applicable to the functional role

Verification of operational performance shall be achieved by conducting all practical assessments as per scope described in Table 1.4.4: Scope of on-the-job training, and documented by completion of Appendix 1.2 (A, B, C) for the respective function.

Theoretical and practical trainings shall be documented and recorded accordingly.

Table 1.4.6: Alignment of the training programs with AHM 1110

Training Programs	Periodicity	Assessment Method	AHM 1110 Module or other requirements
Aviation Basics (familiarization training on applicable external and internal regulations)	Not required	As part of theoretical assessment in Curatorial phase	GEN01
Airline Safety Management System Basics	As per airline's SMS Manual but not less than every 36 months	As per airline's SMS Manual	GEN02
Airline Aviation Security Basics	As per airline's Aviation Security Program but not less than every 36 months	As per airline's Aviation Security Program	National Aviation Security Program
Occupational Health and Safety	Recurrent assessment as per local regulations	As part of theoretical assessment in Curatorial phase	GEN02
Fire safety awareness	Recurrent assessment as per local regulations	As part of theoretical assessment in Curatorial phase	GEN02
Airside Safety and Human Factor	Recurrent training within 36 months	Written test	GEN03, GEN04
Airline Emergency Response Basic Awareness	Recurrent assessment as per airline's ERP Manual but not less than every 36 months	As per airline's ERP Manual	GEN06
On-the-job Trainer	Not required	Written test	GEN08
Aircraft Weight and Balance Principles and Aircraft Loading (per AC type respectively)	Recurrent training within 24 months	Written test Practical tasks in Curatorial phase	LOD01, LOD02 LOD03
Aircraft Loading Supervision	Recurrent training within 36 months	Written test Practical tasks in Curatorial phase	RMP04, RMP09, RMP10, RMP17, RMP18
Cargo Terminal	Recurrent training within 24 months	Written test Practical tasks in Curatorial phase	LOD02**
Special Cargo Handling	Recurrent training within 36 months	Written test	Airline specific training
Passenger Handling	Recurrent training within 36 months	Written test Practical tasks in Curatorial phase	PAX01, PAX02, PAX03, PAX05, PAX06, PAX08, PAX09, PAX10, PAX11
DCS Operations	Recurrent assessment within 36 months	Practical tasks in Curatorial phase	PAX12
(DG 7.4) Personnel responsible for handling cargo in a warehouse, loading and unloading unit load devices and loading and unloading aircraft cargo compartments	Recurrent training within 24 months	Written test	IATA DGR CBTA
(DG 7.5) Accepting Passenger and Crew Baggage, Managing Aircraft Boarding Areas, other functions involving direct passenger contact at an Airport	Recurrent training within 24 months	Written test	IATA DGR CBTA
(DG 7.6) Planning of Aircraft Loading	Recurrent training within 24 months	Written test	IATA DGR CBTA

**partially, the course contents information related to cargo loading specifications and limitations

1.4.7 TRAINING DOCUMENTATION

Training documentation is issued and retained by the entity providing training (either an approved training organization or the airline itself). Training records shall be made available for review (including for contract and/or part-time personnel), as required (e.g., during an audit, upon request of a regulatory authority or internal airline auditors). Training records shall be:

a. Documented on paper, or electronically in a system to confirm the training delivered and the required level of competence achieved.
b. Enlisted in a system for the management and control of operational training records. As a minimum records of current (latest validity) will be maintained.
c. Retained for a period of training validity. Whenever electronic retention is used regular data backup processes shall be established to ensure data safety.

Records Identification

All theoretical, practical, on-the-job training, including assessments and achievement of competence, shall be documented in a timely and consistent manner. The record shall identify, at a minimum:

a. Trainee name;
b. Subject/title of training;
c. Training date;
d. Competency achieved;
e. Passing score;
f. Name of trainer and signature (when paper-based).

1.5. COMMUNICATION

1.5.1 COMMUNICATION OF OPERATIONAL INFORMATION

Internal and external communications are carried out by email or telephone using the contact information published in the MF Station Info file.

The GOCHD Director appoints an employee responsible for updating MF Station Info. MF Station Info is updated at least once every 3 months, or at the arrangement of each new station of route network, and distributes the document among GOCHD employees.

Each message must contain the following elements:

— topic (the original topic should remain in the reply message);
— sender’s position and name.

If messages require a response but cannot be answered on the same day, the sender of the message must be informed.

Rapid exchange of information is allowed using chats in the Telegram messenger. In this case, a chat is created within or between operational departments, to which the following is sent:

— operational information on flight status (ATA, ATD, planned delay, etc.);
— information about deviations (failure to provide services, deviations in the processes of handling of aircraft, cargo, passengers, baggage);
— information about changes in the schedule;
— information on cargo (CPM, FFM, UWS messages, cargo manifests, copies of air waybills, planned HUB operations);
— notifications to the crew about dangerous and special cargo on board (NOTOC);
— ULD traffic messages (UCM);
— calculations of cargo loadability at the request of the commercial department;
— other operational information necessary for uninterrupted handling of aircraft, cargo, passengers, and baggage.

1.5.2 MESSAGES

1.5.2.1 GENERAL PROVISIONS

The standardized messages described in this section are intended to transfer information between airports and agents about aircraft movement, aircraft loading, cargo characteristics, air waybill numbers, number and data of passengers, numbers and types of ULDs used, etc.

Messages should only be sent to the addresses specified in the current version of the **MF Station Info** file, and in accordance with the instructions contained in this manual, where applicable.

1.5.2.2 UWS (Unit Weight Statement)

Report on the planned aircraft loading (number of ULDs, their numbers, weights, destinations, IMP-codes, as well as the weight of bulk cargo and special codes applicable to it).

The agent (who performs build up) must send a message to the airline minimum 3 hours before STD (used email Loadplaning@centrum-air.com).

A preliminary message may be sent and then a final message. The final message must be sent marked FINAL (see example below).

Example 1 (cargo aircraft):

UWS
C6123/01.SVO.FINAL
-PMC12345R7/PVG/4500A/C.PMD/Q7.OHG/FWD20/AFT150
-PMC12346R7/PVG/2500A/C.PMD/Q7.IND/AFT20
-PMC12349R7/PVG/2300A/C.PMD/A1
-PMC32470R7/PVG/3600A/C.PMD/Q6.OHG/FWD10
SI PMC32470R7/CENTERLOAD
SI PMC12346R7 SPACED FOR PMC12345
SI STRAPS TO PVG/100

Example 2 (passenger aircraft):

UWS
C6242/01.UGC.FINAL
BULK/UGC/220A.RCM.RMD.AOG
SI 8 PCS TTL
SI INDIVIDUAL WEIGHTS 27-28KG PER ITEM

1.5.2.3 EFF (ESTIMATED FLIGHT FIGURES)

A message with information about the flight load, sent to the flight dispatcher to calculate the refueling of the aircraft.

Loadmaster or Loadplanner, whoever performs a W&B calculation, must sent this message to Flight Dispatcher minimum 3 hours before STD to dispatch@centrum-air.com (and duplicate it to the Telegram chat that is used for operational data exchange).

Example 1 (cargo aircraft):

EFF
C6222/03JUN UK47088 FRATAS
ETTL 22000KG
TPOB 5
BALLAST FUEL 10000KG
ADJUSTMENT DUE FLY AWAY KIT-200KG
REMAINING FUEL 45000KG

MD: AVI 2000KG+20C
AFT LD: PIL PEF 4000KG +5C
BRGDS/NICK
TEL: +55 555 55 55 555

Description:

- Message type – EFF.
- Flight number and date: C6222/03. Registration number UK47088. Route FRA-TAS.
- Expected payload - 22,000 kg.
- There are 5 people on board (NOTE: including service passengers).
- Ballast fuel - 10,000 kg.
- OEW weight correction - minus 200 kg (due to the technical first aid kit).
- The rest of the fuel is 45,000 kg.
- 2000 kg of live animals are transported on the main deck, temperature during the flight: +20℃.
- 4000 kg of temperature-sensitive cargo is transferred in the rear compartment, temperature during the flight: +5℃.
- Who sent the message.
- Sender's contact number.

1.5.2.4 MVT (Movement Message)

Aircraft departure or arrival message. Shall be sent within 5 minutes after the departure of the aircraft / upon arrival of the aircraft (used email occ@centrum-air.com and emails of GHA (refer to MF Station Info).

The time is in UTC format. Specify the date and time in the format DDHHMM (days, hours, minutes), for example: 24th at 11.30 = 241130.

Example:

- *Flight C68010 is operated on the 24th day of this month by aircraft with tail number UK47088 on the TAS-JED route.*
- *The aircraft left the stand at 1130 UTC and took off at 1140 UTC, expected to arrive at JED at 1635 UTC.*
- *There are 188 passengers on board.*

The message will look like this:
MVT
C68010/24.UK47088.TAS
AD241130/241140 EA1635 JED
PX188

1.5.2.5 CPM (CONTAINERS PALLETS MESSAGE)

Report on the distribution of containers, pallets and bulk cargo on the aircraft by positions, indicating the type and number of ULD, the airport of unloading from the aircraft, their gross weight in kilograms, load category, contour code, cargo codes requiring special handling, as well as additional information such as destinations and connecting flights for transshipped pallets and cargo, details of overhangs/indents (if applicable), number of straps used per destination, and other additional information.

This message shall be sent by GHA (or loadmaster on charter cargo flights) within 5 minutes after the departure of the aircraft (used email Loadplaning@centrum-air.com and emails of GHA).

Next codes must be used in CPM to define specific codes of payload:

- B — commercial baggage.

- C — cargo.
- E — company equipment.
- M — mail.
- D — crew baggage (include DHC).
- X — empty ULD.
- U — unserviceable ULD.
- S — mixed payload of different commodity.
- T — payload for transfer or transit flights.
- W — secured (tracked) ULD.
- H — ULD/payload for transfer on hub station.
- Z — mixed payload for different destinations.

Example 1 (cargo aircraft):
CPM
C6888/20.UK47088
-A1/PMC00123R7/SVO/2000/H/C.PMD/A1.RFG.IND
-JL/PGA00012R7/PVG/3551/C.PMD/Q6.CAO.RFS.OHG
-KL/PGA00012R7/PVG/3551/C.PMD/Q6.CAO.RFS
-KR/PMC00015R7/PVG/1125/E.PLD.ELD
-LL/PMC00345R7/PVG/2500/C.PLD.EAT
-21P/PMC32111R7/PVG/2250/C.PLD
-45R/AKE10000C6/PVG/1500.AOG
-52/SVO/500/C.HEA/1/200.PER
SI A1/HKG/C6123
SI JL/OHG 120CM FWD
SI A1/IND 50CM FWD

Description:

- Message type - CPM
- Flight number and date: C6888/20. Board number UK47088.
- Position A1: pallet PMC00123R7.
- Positions JL and KL: pallet PGA00012R7 with dangerous goods RFS.CAO and overhang (Supplementary Information (SI) has a dimension indication: 120 cm forward).
- Position LL: pallet PMC00345R7 with special cargo: EAT.
- Position 21: PMC32111R7 pallet.
- Position 45R: container AKE10000C6 with spare part AOG.
- Additional Information (SI): A pallet from position A1 is scheduled for transfer to flight C6123, its destination is HKG.
- Supplementary Information (SI): Pallet in position JL has a forward projection of 120 cm.
- Supplementary Information (SI): Pallet in position A1 has a forward indent of 50 cm.

Example 2 (passenger aircraft):
CPM
C61082/26.YLGET.P0C0
-13/TAS/325/BY

Description:

- Message type - CPM

- Flight number and date: C61082/26. Board number YLGET.
- 13 is the number of the section where the download is located.
- TAS is the airport of destination for loading in section 13.
- 325 is the mass of the load in kilograms.
- BY - load category designation (B - baggage; M - mail; C - cargo; E - equipment).
- Y - baggage of which class of service is loaded into the section (F - first class; C - business class; Y - economy class).

1.5.2.6 FFM (FREIGHT FORWARDING MESSAGE)

A cargo manifest containing information about the cargo being transported, the movements of the cargo / ULD, the requirements necessary for planning the delivery of the cargo to the destination. May be required by handling agents, customs authorities, airports of departure, transit and destination.

GHA shall send FFM within 30 minutes after the departure of the aircraft, if any cargo is presented onboard (used email HUB.OPS@centrum-air.com and emails of GHA (departure, transit and destination)).

Example:

- FFM/7
- 1/C6888/27MAY/FRA
- TAS
- 488-12345678TASFRA/T4K9MC0.16/AUTO SPARE PART
- H/
- NMAC6123/27MAY
- /H
- 488-12348765TASBER/T2K55MC0.6/SHOES
- ULD/PMC00123R7
- /PEKRU799/27MAY
- /2
- 488-12347430TASPEK/S3K2250/MC5.6T5/MACHINE PARTS
- /RMD

Line by line description:

1. Message title and version.

2. Begins with the serial number of the FFM message part. In this case, it's the first Part. Next, the slash is followed by the number, date of the flight, airport of destination.

3. Destination. The specified traffic airport will be the destination until a new destination is specified in the message text. In this example, only one endpoint is used - TAS.

4. Bulk cargo must be listed after the destination. This line contains information about the loading: air waybill; airport/city of departure; destination airport/city; the number of ULDs in the cargo - T4 - 4 packages; weight and units of measurement of cargo units - K9 - 9 kg; volume in cubic meters - MS0.16 - 0.16 m3; Shipping Name. The T code in front of the ULD quantity means that the entire 9-pack bulk cargo is transported on one flight.

5. Information about the transport of bulk cargo after unloading at TAS. The line indicates the destination airport of the connecting flight, the two-digit carrier code, the number of connecting flights, the date of transport from line 4. The destination of the connecting flight and the carrier code are added to the FFM message when the cargo is being transported to the point of transportation.

6. This line indicates the traffic priority - H.

7. Data on the transportation of bulk cargo.

8. Indicates the type and number of the ULD (ULD). Means that all subsequent information up to the next ULD refers to this ULD.

9. Indicates the movement of the ULD with the cargo after it has been unloaded in the TAS. The destination airport of the connecting flight, carrier code, flight number, and its date in the given format are indicated. This information is required to be included in the FFM message. Only the destination airport and carrier code are allowed.

10. Code of occupied space ULD. The information is optional in accordance with the requirements of the FFM format. In this case, the number 2 means that the ULD is half empty.

11. Cargo data - air waybill number, number and weight of packages, cargo volume according to the consignment note, cargo name. The ULD air waybill package quantity is S3. This means that all the cargo on this air waybill is carried on the flight and is divided among different ULDs, and there are three packages in one ULD. Since the code is “S”, the volume information is followed by the amount of cargo on the air waybill - T5.

12. Indicates the code for the cargo requiring special handling - RMD - Class 9 Dangerous Goods. The format allows up to 9 codes.

1.5.2.7 FWB (FORWARD WAY BILL)

Data message for a specific air waybill.

The data must be entered once directly by the source of information, then these data are used as necessary at all stages of cargo processing.

The message is formed and processed by the recipient and the sender in an automatic form.

GHA on passenger and cargo flights must send it within 60 minutes if any possible situation (shown in list below) is happened. (used email HUB.OPS@centrum-air.com and emails of GHA (departure, transit and destination)).

Possible cases when FWB message is used:

- ✓ *When the freight agent delivers the goods to the carrier;*
- ✓ *When the carrier transfers the goods to another carrier;*
- ✓ *When a carrier or shipping agent hands over the cargo to a ground handling agent;*
- ✓ *When the ground handling agent hands over the cargo to the carrier.*

Message example:

FWB/15
580-51428344SPLSVO/T1K2000
RTG/SVORU
SHP
/ANIMAL VENDORS
/1 PARK STREET
/AMSTERDAM
/NL
CNE
/HORSE IMPORTERS
/10 BEGOVAYA CTR
/MOSCOW
/RU
SSR/SHIPPERS CERTIFICATION FOR LIVE ANIMALS ATTACHED
CVD/EUR//PP/NVD/NCV/XXX
RTD/1/P1/K1200/CS/SN150/W1200/R26.57/T31884.00
/NG/3 LIVE HORSES
/2/K800/CS/SN150/W750/R26.57/T19927.00
/NG/1 STALL
/3/NU/PMC01234R7
OTH/P/LJC292.27

PPD/WT/51811.50
/OC292.27/CT52104.47
CER/ANIMAL VENDORS
ISU/26FEB10/AMSTERDAM/AIRBRIDGECARGOAIRLINES
REF/AMSSORU/111205/AIR/AIRBRIDGECARGOAIRLINES/AMS

1.5.2.8 UCM (ULD CONTROL MESSAGE)

Distinguish between UCM IN and UCM OUT messages:

- **UCM OUT:** a report on ULDs used on a departing flight, taken out of a specific airport.
- **UCM IN:** a report about ULDs used on an arriving flight delivered to a specific airport.

The UCM IN message is sent within 60 minutes of the ATA by GHA of arrival station.
The UCM OUT message is sent within 60 minutes after the ATD by GHA of departure station.
Any UCM message also must be copied to email ULD.control@centrum-air.com.
Based on decision of Director of GHD, sending of UCM IN/UCM OUT messages could be performed by loadmasters on cargo flights.

Example of a UCM IN message:

UCM
C25/30JAN.TAS.UK47088
IN
.PMC06738R7.PMC08884R7.PMC13229R7
.PMC13505R7.PMC13686R7.PMC14101R7
.PMC15831R7.PMC25724R7.PMC28754R7
.PMC32946R7.PMC36822R7.PMC39562R7
.PMC40094R7.PMC40403R7.PMC42509R7
.PMC50532R7.PMC51818R7.PMC81451R7
.PMC88778R7.PMC94389R7
SI

Example of a UCM OUT message:

UCM
C625/30JAN.MFM.UK47088
OUT
.PMC06738R7/TAS/C.PMC08884R7/TAS/C.PMC13229R7/TAS/C
.PMC13505R7/TAS/C.PMC13686R7/TAS/C.PMC14101R7/TAS/C
.PMC15831R7/TAS/C.PMC25724R7/TAS/C.PMC28754R7/TAS/C
.PMC32946R7/TAS/C.PMC36822R7/TAS/C.PMC39562R7/TAS/C
.PMC40094R7/TAS/C.PMC40403R7/TAS/C.PMC42509R7/TAS/C
.PMC50532R7/TAS/C.PMC51818R7/TAS/C.PMC81451R7/TAS/C
.PMC88778R7/TAS/C.PMC94389R7/TAS/C
SI

1.5.2.9 SCM (STOCK CONTROL MESSAGE)

Weekly information on ULDs and equipment available at the airport (including straps).
GHA must send it every Monday before 09.00 UTC to emails of ULD provider(s) and airline (used email ULD.control@centrum-air.com).
Each type of ULD is listed individually (see example below). At the end of the list of available ULDs, the number of ULDs of this type is indicated: TX (where X is the number of ULDs).

At the end of the message, under the SI designation, additional information is indicated on the presence of tie-down straps, faulty or incomplete ULDs, etc.

Example:
SCM
TAS.23DEC/1230
.PMC12345R7/23456R7/98765R7.T3
.AKE09576R7/76543R7/AKE09456ER.T3
SI STRAPS 400 PCS.PMC12345R7 W/O NET

1.5.2.10 LDM (LOADING DISTRIBUTION MESSAGE)

A message with information about the load of the flight (including transit).

Must be sent to GHA of destination airport within 30min after ATD (by e-mail, SITA, AFTN – whatever is acceptable for current airport) (also used emails hub.ops@centrum-air.com; occ@centrum-air.com).

Example 1 (passenger aircraft):
LDM
C61082/26.YLGET.Y180.3/4
-TAS.61/0/5.T325.1/325
.PAX/61.PAD/0
SI
PAX WEIGHT USED M/88 F/70 C/35
NOTOC NIL
PANTRY STANDARD 500/+2.4
FUEL DENSITY 0.790
-TAS.B325.CNIL.MNIL.ENIL

Description:

- Message type - LDM
- Flight number and date: C61082/26. Board number YLGET. Layout: 180 economy class seats. Crew 3/4 (flight crew 3, cockpit 4).
- For TAS station: 61 passengers with seats, 5 passengers without seats (INF). Total load - 325 kg. Loading - in the 1st cargo compartment.
- Total passengers with seats by class: 61. Non-revenue passengers by class (e.g. service): 0.
- Supplementary Information (SI).
- The average weights of passengers taken for calculation (M - men; F - women; C - children 2-12 years old).
- NOTOC: None.
- Catering loading option: standard (weight 500, index +2.4).
- Fuel density: 0.790.
- Deciphering the load by category and station: station, baggage, cargo, mail, equipment (weight is indicated in kg).

1.5.2.11 PSM (PASSENGER SERVICE MESSAGE)

The message conveys information about special categories of passengers.

The message must be generated at the departure station of the flight and transmitted to the transit and destination stations immediately upon completion of check-in (used emails hub.ops@centrum-air.com; occ@centrum-air.com and emails of GHA).

Responsible person(-s): GHA (in exceptional case – airline representative).

Message example:

PSM
C6653/11FEB.UGC
-TAS IVANOV 19C WCHR
-TAS DZHURILLOVA 18D BLND
-TAS CHENG 1C DEAF
END

Description:

- The message type is PSM.
- Flight number: C6653. Flight date: 11 February. Departure station: UGC.
- The IVANOV passenger with limited mobility, who is disembarking at the TAS station, is accommodated at seat 19C and needs a wheelchair.
- The visually impaired passenger DZHURILLOVA, disembarking at the TAS station, is stationed at station 18D.
- The hearing-impaired passenger CHENG disembarking at the TAS station is located at seat 1C.

1.5.2.12 COM (CLOSE OUT MESSAGE)

Message for W&B reasons (to be send into W & B system). Could be used for manual loadsheet release.

The message must be generated at the departure station of the flight and transmitted to the airport en-route and to the airline OCC on email hub.ops@centrum-air.com and emails og GHA (transit and destination) upon completion of check-in.

Responsible person(-s): GHA (in exceptional case – airline representative).

Example of message COM:

DVC-36570 0416 11OCT23
COMC6
C6501/10OCT TAS/99 CC/NAM
CWT262143 UWT245033 CAW025162 UAW008084 WTN1 KG TCI
767/301 GTD/???? POS/GATE BDT1350 SD1420 ED1430
ARN/VPBUZ CNF/F10C40Y157 CAP/F10C31Y157 AV/F7C2Y0
PADC/F0C0Y0
PEK 187/0/0 166/2448/605 3/29/157 0/0/0 2 0 0/0/0
TTL 187/0/0 166/2448/605 3/29/157 0/0/0 2 0 0/0/0 0 14175

1.5.2.13 SOM (SEAT OCCUPIED MESSAGE)

Message must be used on flights with intermediate landing to inform next stations about occupied or blocked seats.

The message must be generated at the departure station of the flight and transmitted to the OCC on email hub.ops@centrum-air.com and GHA in transit and destination stations immediately upon completion of check-in. Responsible person(-s): GHA (in exceptional case – airline representative).

Example of message SOM:

DVC-36570 0421 11OCT23
SOM
C6501/10OCT TAS PART1
-PEK.1A 3ACDGHK 4ACDGHK 5ACDGHK 6ACHK 7ACHK 9ACH 10ACDEGHK
11ACDEGHK 12ACDEGHK 13ACDEGHK 14ACDEGHK 15ACDEGHK 16ACDEGHK
17ACDEGHK 18ACDEGHK 19ACDEGHK 20DEG 21ACDEGHK 22ACDEGHK
23ACDEGHK 24ACDEGHK 25ACDEGHK 26ACDEGHK 27ACDEGHK 28ACDEGHK
29ACDEGHK 30ACDEGHK 31ACDEGHK 32ACDEGHK
PROT EX
-TAS.8ACDGHK 9DGK
XCR
-PEK.1HK
ENDSOM

1.5.2.14 PTM (PASSENGER TRANSFER MESSAGE)

Message contains information about passengers who have connection. Next information must be provided:

- ✓ Connection flight number and date;
- ✓ Destination;
- ✓ Number of passengers and class information;
- ✓ Amount of baggage;
- ✓ Passenger's details.

The message must be generated at the departure station of the flight and transmitted to the OCC on email hub.ops@centrum-air.com and destination station immediately upon completion of check-in.

Responsible person(-s): GHA (in exceptional case – airline representative).

Example of message PTM:

PTM
E3272/27SEP SKDDME PART1
E3107 UUS 1X 0B ABDUEV/ABDUMALIK MR.CHLD1
E3107 UUS 1X 0B AHMANOV/FARHOD MR
E3107 UUS 1X 0B ERGASHEVA/SANOBAR MRS
ENDPTM

1.5.2.15 TPM (TELETYPE PASSENGER MANIFEST)

Message contains information about passengers in alphabet order (with no separation by classes);

The message must be generated at the departure station of the flight and transmitted to the OCC on email hub.ops@centrum-air.com and transit and destination stations immediately upon completion of check-in.

Responsible person(-s): GHA (in exceptional case – airline representative).

Example of message TPM:

DVC-36570 0444 11OCT23
TPM
C61413/11OCT FEG PART1
ABBASOV/OMR
BAOH/XINMR
BERKMIRZAEV/NMR
DROVANOVA/VMRS
ERMORI/HMR
FUJIMOTO/KMR
ENDTPM

1.5.2.16 PFS (PASSENGER FINAL SALES MESSAGE)

Message contains information about checked-in passengers and passengers under exemptions described in table below.

The message must be generated at the departure station of the flight and transmitted to airline on emails tasc6@centrum-air.com; msg.ops@centrum-air.com immediately upon completion of check-in.

Responsible person(-s): GHA (in exceptional case – airline representative).

Category	Description
CFMWL	Confirmed from the waiting list
CHGCL	Upgrade/downgrade of class
CHGFL	Change due to the new check-in
CHGSG	Flight segment has been changed after booking
GOSHO	Open date for the flight (URES).
FQTVN	FQTV number has been changed or added during the check-in
IDPAD	ID pax
IN VOL	Involuntary upgrade/downgrade due to the change of aircraft configuration
NOREC	Passengers with confirmed booking (OK), not included into the PNL/ADL.
NOSHO	Passengers with confirmed booking (OK), not arrived to flight check-in/boarding
OFFLK	Passengers with confirmed booking (OK), checked-in and cancelled from the flight
OFFLN	NOREC passengers with confirmed booking (OK), checked-in and cancelled from the flight
PXLST	Changes in passenger DOCA, DOCO, DOCS

Example of PFS:

PFS
E3278/08OCT FEG PART1
DME 000/000/000/000/000/004/000/000/000/000/042/000/000/065/
000/000/000/000/000/000/000/000 PAD 000/000/000/000/000/
000/000/000/000/000/000/000/000/000/000/000/000/000/000/
000/000/000
-DME
NOSHO 1M
1LUZRAPOV/ALIMJON MR .L/9B8WVQ
NOSHO 1T

1HAZAROV/SHAHBOZ MR .L/9B3CCZ
GOSHO 4Y
1BOYNAZOROV/MMR
1BOYNAZAROVA/HMRS
1GHAFUROVA/SMR
1ARASULOV/TMR
ENDPFS

1.5.2.17 PIL (PASSENGER INFORMATION LIST)

Message requires for flights where passengers have designated seats. Message requires for cabin crew to inform them about passengers needs special attention.

Message includes information about passengers of first and business classes (include seats numbers and special handling, if applicable). For passengers of economic class next information is available: INF, CHD, PWD, special meals requests, blocked seats.

The message must be generated at the departure station of the flight and transmitted to the OCC on email **msg.ops@centrum-air.com**; manifest.ops@centrum-air.com immediately upon completion of check-in. Additionally it must be sent by SITA tp address: TASOCC6.

Responsible person(-s): GHA (in exceptional case – airline representative).

Example of PIL:
DVC-36570 0450 11OCT07
PIL
C6513/10OCT TAS

CCLASS
1E/AGORA/CHANG MO MR
2A/CHOKEE/CHOONHEEMS
2C/LEE/JOHNMR
4A/XXXCREW
4C/XXXCREW
4D/XXXCREW
4E/XXXCREW
5A/XXXCREW

YCLASS
11D/CHOILEE/MIKY INF
END OF LIST

1.5.2.18 BTM (BAGGAGE TRANSFER MESSAGE)

Message contains information about transfer baggage for accepting carrier in transfer airport. Each airline who has transfer will receive own BTMs.

The message must be generated at the departure station of the flight and transmitted to the airline and service providers by on emails **lostnfound2@centrum-air.com**; **lostandfound.tas@uzport.com**; **dispatch@uzport.com**; **msg.ops@centrum-air.com** immediately upon completion of check-in. Additionally it must be sent by SITA to address: TASOCC6.

Responsible person(-s): GHA (in exceptional case – airline representative).

Message must contain next information:

- ✓ Name of baggage owner;
- ✓ Connection flight;

- ✓ Number of baggage pieces;
- ✓ Baggage tags numbers;
- ✓ PNR number.

Example of BTM:

BTM
.V/1TDME/PART1
.I/E3266/15SEP/TAS/M
.F/LX1325/15SEP/ZRH/Y
.N/0250796249001
.W/K/1/25
.O/JP365/15SEP/LJU/Y
.P/1BAVDAZKURET/DARJAMRS
.L/99809W
.N/0250796250001
.W/K/1/25
.O/JP365/15SEP/LJU/Y
.P/1SOLAR/GORAZDMR
.L/99809W
ENDBTM

Letter code	Description
.V/	Transfer baggage from TAS / part 1
.I/	Delivery flight / date / departure point / class
.F/	Transfer flight (E3266) / data / destination / class
.N/	Baggage tag number (0250796249).
.O/	Connection flight / date / point / class
.P/	Passenger name
.L/	PNR.
.W/	Baggage weight data

1.5.2.19 PRL (PASSENGER RESERVATION LIST)

The PRL message transmits booking and check-in information of passengers, their data, and services on the flight. It should be generated and sent to the immigration services of the destination country after passenger check-in is complete and the flight is closed.

The ground handling agent (if a local DCS system is used at the departure airport) or an airline representative (specialist in passenger and cargo operations management) must send the message by email to emails of destination airport and airline emails: **prl.ops@centrum-air.com; dcs@centrum-air.com; tasc6@centrum-air.com; msg.ops@centrum-air.com**.

Example:

PRL
C63321/24OCT TAS PART1CFG/180Y
RBD Y/Y
-JED179Y
1MANAKOVA/AIGULMRS .L/KK7AND .W/K/1/10
.R/TKNE HK1 5991000391743/1 .R/SEAT HK1 10F .R/DOCS HK1/P/UZ/FA9
.RN/569676/UZ/14APR69/F/14JUL34/ MANAKOVA/AIGULMRS .BG/048
.N/0000241496/1/JED
ENDPART1
ENDPRL

Explanation:
- PRL — message type (Passenger Reservation List).
- C63321/24OCT — flight number (C63321) and flight date (October 24).
- TAS — departure station code (Tashkent).
- PART1 — first part of the message; if there are many passengers, the information is divided into parts.
- CFG/180Y — aircraft configuration: 180 seats in Economy class (Y).
- RBD Y/Y — booking class code for Economy (Reservation Booking Designator): initial and final RBD for all passengers.
- JED179Y — destination (Jeddah), airport code (JED), total number of passengers in Economy class (179).
- 1MANAKOVA/AIGULMRS — passenger last name and first name: Manakova Aigul, female (MRS).
- .L/KK7AND — booking status: confirmed (KK) for 7 seats, passenger flying as an escort (AND).
- .W/K/1/10 — services: wheelchair required (WCHR), passenger is in escort category, baggage allowance: 1 piece, max 10 kg.
- .R/TKNE HK1 5991000391743/1 — ticket number (5991000391743), 1 seat confirmed (HK1).
- .R/SEAT HK1 10F — reserved seat in the aircraft: 10F, confirmed (HK1).
- .R/DOCS HK1/P/UZ/FA9 — documents: passport (P), nationality Uzbekistan (UZ), passport series (FA).
- .RN/569676/UZ/14APR69/F/14JUL34/MANAKOVA/AIGUL — registration data: passport number (569676), country (UZ), birth date (April 14, 1969), gender (F), passport expiry date (July 14, 2034), last and first name as in the document: Manakova Aigul.
- BG/048 — baggage: 48 kg.
- .N/0000241496/1/JED — baggage tag number: 0000241496, destination: Jeddah (JED).

1.5.2.21 API (ADVANCE PASSENGER INFORMATION)

The API message transmits advance information on passengers, including passport details, booking, and baggage. It must be generated and sent before flight departure to ensure security checks at the departure and destination airports. The ground handling agent (if a local DCS system is used at the departure airport) or an airline representative (specialist in passenger and cargo operations management) must send the message by email to the immigration services of the destination airport to inform them about the passengers and their statuses onboard. Next airline emails must also be used: **apipnr@customs.uz; dcs@centrum-air.com; msg.ops@centrum-air.com**.

Example:

```
UNA:+.?*'
UNB+UNOA:4+CENTRUMAIRLINE:ZZ+SCC:ZZ+241024:0827+000000011++APIS'
UNG+PAXLST+CENTRUMAIRLINE+SCC+241024:0827+000000001+UN+D:05B'
UNH+MSG001+PAXLST:D:05B:UN:IATA+C63212024102980510+1:C'
BGM+745'
NAD+MS+++CENTRUM AIRLINE'
TDT+20+C63321'
LOC+125+TAS'
DTM+189:2410240150:201'
LOC+87+JED'
DTM+232:2410240500:201'
NAD+FL+++MANAKOVA:AIGUL'
ATT+2++F'
DTM+329:790524'
MEA+CT++:1'
MEA+WT++KGM:10'
FTX+BAG+++0000241496'
LOC+178+TAS'
```

LOC+179+JED'
NAT+2+UZB'
RFF+ABO:953887'
RFF+AVF:KK7AND'
RFF+SEA:10F'
DOC+P+FA5697676'
DTM+36:441024'
LOC+91+UZB'
Explanation of the message:
- UNA:+.?*' — Initial line: defines the syntactic symbols and separators that will be used in the message.
- UNB+UNOA:4+CENTRUMAIRLINE:ZZ+SCC:ZZ+241024:0827+000000011++APIS'
  - UNB — Data exchange block header.
  - UNOA:4 — Encoding and UN/EDIFACT standard, version 4.
  - CENTRUMAIRLINE — Sender identifier (CENTRUM AIRLINE).
  - SCC — Receiver identifier (SCC).
  - 241024:0827 — Message creation date and time: October 24, 2024, 08:27.
  - 000000011 — Unique message number.
  - APIS — Message type (Advanced Passenger Information System).
- UNG+PAXLST+CENTRUMAIRLINE+SCC+241024:0827+000000001+UN+D:05B'
  - UNG — Message group header.
  - PAXLST — Message type: Passenger List.
  - CENTRUMAIRLINE — Sender (CENTRUM AIRLINE).
  - SCC — Recipient (controlling authority SCC).
  - 241024:0827 — Sending date and time: October 24, 2024, 08:27.
  - 000000001 — Group message number.
  - UN — UN/EDIFACT standard.
  - D:05B — Version and release standard: D, version 05B.
- UNH+MSG001+PAXLST:D:05B:UN+C633212024102980510+1:C'
  - UNH — Message header.
  - MSG001 — Message identification number.
  - PAXLST:D:05B:UN — Message type (Passenger List), version 05B, by UN and IATA standards.
  - C633212024102980510 — Unique flight identifier: flight C63321, date October 24, 2024.
  - 1 — Sequential message processing number.
- BGM+745'
  - BGM — Message type.
  - 745 — Passenger List Transmission.
- NAD+MS+++CENTRUM AIRLINE'
  - NAD+MS — Message Sender (MS).
  - CENTRUM AIRLINE — Airline sending the message.
- TDT+20+C63321'
  - TDT+20 — Transportation information (air transport).
  - C63321 — Flight number: C63321.
- LOC+125+TAS'
  - LOC+125 — Departure location code.
  - TAS — Departure airport code: Tashkent (TAS).
- DTM+189:2410240150:201'
  - DTM+189 — Departure time.
  - 2410240150 — Departure date and time: October 24, 2024, 01:50 UTC.
- LOC+87+JED'
  - LOC+87 — Arrival location code.
  - JED — Arrival airport code: Jeddah (JED).
- DTM+232:2410240500:201'

  - DTM+232 — Arrival time.
  - 2410240500 — Arrival date and time: October 24, 2024, 05:00 UTC.
- NAD+FL+++MANAKOVA:AIGUL'
  - NAD+FL — Passenger.
  - MANAKOVA:AIGUL — Passenger’s last and first names: Aigul Manakova.
- ATT+2++F'
  - ATT+2 — Passenger gender.
  - F — Gender (Female).
- DTM+329:790524'
  - DTM+329 — Date of birth.
  - 790524 — May 24, 1979.
- MEA+CT++:1'
  - MEA+CT — Baggage category.
  - 1 — Number of baggage pieces.

- MEA+WT++KGM:10'
  - MEA+WT — Baggage weight.
  - KGM:10 — Baggage weight: 10 kg.
- FTX+BAG+++0000241496'
  - FTX+BAG — Baggage information.
  - 0000241496 — Bag tag number.
- LOC+178+TAS'
  - LOC+178 — Departure location.
  - TAS — Tashkent (TAS).
- LOC+179+JED'
  - LOC+179 — Arrival location.
  - JED — Jeddah (JED).
- NAT+2+UZB'
  - NAT+2 — Passenger nationality.
  - UZB — Uzbekistan (UZB).
- RFF+ABO:953887'
  - RFF+ABO — Booking reference (ABO): 953887.
- RFF+AVF:KK7AND'
  - RFF+AVF — Tariff code (AVF): KK7AND.
- RFF+SEA:10F'
  - RFF+SEA — Seat: 10F.
- DOC+P+FA5697676'
  - DOC+P — Document type: Passport.
  - FA5697676 — Passport number.
- DTM+36:441024'
  - DTM+36 — Passport expiration date.
  - 441024 — Expiry date: October 24, 2044.
- LOC+91+UZB'
  - LOC+91 — Location code.
  - UZB — Uzbekistan (UZB).

1.5.3 COMPANY MAIL (COMAIL)

Only documents (for example, bills or contracts) can be shipped as company mail onboard of any flight operated by “My Freighter” LLC. Shipping of cash, payment cards or any personal items is not allowed. Any attempt to carry it onboard must be refused and reported to AVSEC and Director of GHD (with detailed information about station, fight number & date, other information).

Shipper of COMAIL is responsible for its commodity and AVSEC check.

COMAIL must be checked by AVSEC as standard hand baggage and be given directly to:

- Chief flight attendant on PAX flights;
- Loadmaster or PIC on cargo flights.

Shipper’s and consignee’s data (surname, name, telephone number(s), email(s)) must be mentioned on each package.

3 copies of COMAIL manifest must be filled for any COMAIL package (refer to Appendix 1.3 to GOCHM), signed and be given to responsible crew. 1 signed copy must remain on departure station. 1 copy must be given to responsible crew. A copy of signed Manifest must be attached to SFR message.

MAX weight of COMAIL package is 1 kg. MAX size of COMAIL package is an envelope A4 format. MAX quantity of COMAILs per flight are 2 pcs.

Shipping of COMAIL packages without shipper’s and consignee’s data is not allowed.

1.6 DOCUMENTATION MANAGEMENT

1.6.1 FLIGHT AND OTHER DOCUMENTS FOR FLIGHT SERVICE

Not applicable.

1.6.1.1 FLIGHT DOCUMENTS FOR CARGO AIRCRAFT CREW

Electronic pre-flight documentation for the crew is sent by the flight dispatcher, usually no later than 2 hours 30 minutes before the scheduled departure time (ETD).

All flight documents listed below must be submitted in hard copy for pre-flight preparation to PIC 60 minutes before the estimated time of departure (ETD minus 60 minutes). The Operational Flight Plan (OFP) is sent as a single file - and must be printed as indicated below.

Set of flight documents includes:

1. Full copy of OFP for the crew (all pages) - 1 copy;
2. Short copy of OFP (including Part of the route with waypoints before the start of the weather report) - 1 copy;
3. Copy of 1st page of OFP (ends with words "Accepted by Captain") - 1 copy;
4. NOTOC - 5 copies;
5. Loadsheet - 5 copies;
6. Loadplanner Form, LIR - 5 copies;
7. Trimback Page - at least 1 copy.

If necessary, PIC may require additional copies of documents. In the event that changes in payload require a reissue of the OFP, an updated flight package must be submitted 30 minutes before the estimated time of departure (ETD minus 30 minutes).

Set of documents kept at the airline's office for 90 days after the date of flight departure:

1. Loadsheet, signed by PIC - 1 copy;
2. Loadplanner Form (LIR) - 1 copy;
3. NOTOC signed by the employee who prepared the document, as well as by the employee who performed the load control, and PIC - 1 copy.

1.6.1.2 FLIGHT DOCUMENTS FOR PASSENGER AIRCRAFT CREW

Electronic pre-flight documentation for the crew is sent by the flight dispatcher, usually no later than 60 minutes before the scheduled departure time (ETD).

When W&B for the flight is performed by the handling agent, a complete set of flight documents must be provided to the flight crew in printed form 20 minutes before the estimated departure time (ETD minus 20 minutes).

When W&B for the flight is performed by the flight crew, the full set of flight documents (except for the Loadsheet Report Form) must be provided to the flight crew in printed form 40 minutes before the estimated departure time (ETD minus 40 minutes).

NOTE: *if the pre-flight set of documents is provided later, consider a 20-minutes flight delay as the time required to prepare the crew for departure. Time of delay must be negotiated with flight crew and OCC.*

Set of flight documents provided to the crew includes:

1. Loadsheet - 5 copies.
2. Loadplanner Form (LIR) - 5 copies.
3. Passenger manifest - 5 copies.
4. Passenger Name List - 5 copies.
5. NOTOC - 5 copies (in the presence of dangerous and special cargo, as well as weapons).
6. Air waybills and cargo manifest (if any).
7. Fuel order(s) (when refueling the aircraft).
8. De-icing/Anti-icing order (if applicable).
9. General declarations - 5 copies (if applicable).
10. Completed and signed Security Search Check List (if applicable).

Set of reporting documents kept at the airline's office for 90 days after the date of flight departure:

1. Loadsheet, signed by PIC - 1 copy.
2. Loadplanner Form (LIR) - 1 copy.
3. NOTOC signed by PIC (if any) - 1 copy.
4. Passenger manifest

Allows printout or electronic forms!

IMPORTANT! Personal information of passengers, as well as other information constituting a commercial secret, must not be disclosed, or transferred to third parties, or copied in any way.

1.6.2 RETENTION AND DISPOSAL OF RECORDS

GOCHD employees are responsible for storing and protecting operational documents/records. The records listed in the table below are maintained at the GOCHD office.

№	Document	Type	Location of storage	Retention period	Person responsible for obliteration	Disposal method
1	Loadsheet Report Form signed by PIC	Original or copy	GOCHD office	3 months	Head of GOCH Division	Regular
2	Loadplanner Form (LIR)	Original or copy	GOCHD office	3 months	Head of GOCH Division	Regular
3	NOTOC signed by PIC	Original or copy	GOCHD office	3 months	Head of GOCH Division	Regular
5	Station Flight Report	Original or copy	Electronic	1 year	Head of GOCH Division	Regular
6	Investigation reports	Original or copy	Electronic	5 years	GOCHD Director	Secure
7	Completed Curatorial Phase (Annex 1.2.A, B, C)	Original	GOCHD office	Until employee quits the company	Head of GOCH Division	Regular

Reading and copying of documents by visitors as well as taking out documents/files from the office is possible only with the permission of the GOCHD director.

Documents/records are disposed after the end of the retention period.

Documents that do not contain commercial or confidential information should be disposed as waste (regular disposal method).

Documents that contain commercial or confidential information are disposed physically using a shredder (secure disposal method).

1.7 EQUIPMENT MANAGEMENT

GOCHD controls the following types of equipment:

— unit load devices (ULD);
— tie-down equipment (straps).

“MY FREIGHTER” does not have its own ULD stock. All ULDs used on the company's flights are leased from the ULD provider.

The quantity of ULDs required to meet the airline's needs is determined taking into consideration data on the planned number of flights and destinations provided by the commercial department.

When transporting certain categories of special cargo, it may be necessary to order special equipment (containers for live animals, platforms for transporting cars, etc.). In this case employee of the commercial department responsible for transportation should forward the request to the GOCHD ULD Manager. A request for special equipment must include the following information: name and quantity of special equipment, route, location of equipment delivery, departure flight and return flight of the equipment.

The provision of special equipment cannot be guaranteed.

Tie-down equipment includes:

- Air Cargo Restraint Straps (*refer to* ***Part 8 GOCHM***);

Whenever special/lashing equipment is used on cargo or shipped separately to the station en-route for cargo buildup, information about the type, quantity and location of equipment must be provided in the CPM (SI).

The ULD Manager is responsible for liaising with ULD/equipment providers and ensuring sufficient quantities of ULD/equipment are available to meet airline's needs.

1.8 SUPPLIER MANAGEMENT

1.8.1 REQUIREMENTS FOR GROUND HANDLING SERVICE PROVIDERS

In order to ensure that ground services will be provided at appropriate levels of safety and quality, the capabilities of ground service providers below must be verified prior to commencement of operations at a particular location/station.

The evaluation, selection and monitoring of service providers shall be carried out in accordance with «MF.QMS3-16 Guidelines for the evaluation, selection and monitoring of service providers».

1.8.1.1 MINIMUM REQUIREMENTS FOR A GROUND HANDLING AGENT IN A CARGO TERMINAL

	Service provider (SGHA)	Service provider (without SGHA)
Have personnel (for DG acceptance) trained according to the function: acceptance of dangerous goods*	X	X
Have an DG handling license (if required by local law)*	X	X
Accept DG according to the DGR IATA acceptance checklist of the current version*	X	X
DG buildup according to DGR IATA *	X	X
Have a robust procedure for confirming the correct contour of the assembled ULD	X	X
Have a robust security screening procedure for export cargo in accordance with ICAO standards	X	X
Have a robust procedure for checking the serviceability of ULDs/straps/pallets/ pallet nets in accordance with IATA ULDR	X	X
Have a robust procedure for weighing ULDs before transporting them to the ramp	X	X
Have a dedicated area for handling export/import cargo	X	
Have enough loading/unloading docks for trucks	X	
Ability to place assembled ULDs	X	
Ability to store the planned cargo	X	
Have an appropriate system for FSU messaging	X	
Provide customs clearance services	X	
Ability to handle and store ULDs	X	

** applicable when DG are provided for transport*

1.8.1.2 MINIMUM REQUIREMENTS FOR A GROUND HANDLING AGENT ON RAMP

	Service provider (SGHA)	Service provider (without SGHA)
Have FOD check procedure	X	X
Provide "Ground to Flight deck" communication	X	X
Have a sufficient number of aircraft stands with a clean and well-maintained surface with appropriate markings suitable for loading and unloading operations for aircraft types B767-300BCF, A319, A320 and other aircrafts operated by the airline	X	X
Have suitable ground service equipment in a sufficient quantity	X	X
Have facilities and capability for de-icing/snow removal	X	X

1.8.1.3 MINIMUM REQUIREMENTS FOR A GROUND HANDLING AGENT IN A PASSENGER TERMINAL

	Service provider (SGHA)	Service provider (without SGHA)
Have sufficient staff to handle passenger flights and check in passengers and baggage	X	X
Have a functioning DCS (Passenger and Baggage Check-In System)	X	X
Be able to carry out manual check-in of passengers and baggage	X	X
Have serviceable, calibrated and verified scales for weighing baggage	X	X
Have check-in desks for passengers and baggage	X	X
Have your own stock of boarding passes and baggage tags without symbols of other airlines	X	X
Have equipment for conducting pre-flight screening of passengers and scanning their baggage and hand baggage	X	X
Have appropriate additional operational equipment in sufficient quantity	X	X
Have sufficient ventilated and heated rooms in the passenger terminal to accommodate passengers while waiting for the start of check-in and boarding the flight, as well as to store baggage	X	X
For international flights: to have equipment and personnel for pre-flight checks of transportation documents (passports, visas, other permits)	X	X

1.8.1.4 MINIMUM REQUIREMENTS FOR GROUND SUPPORT EQUIPMENT

Ground Handling Agent shall have a maintenance program for the maintenance of ground support equipment, which assures:

a. A preventive maintenance program plan for each type of equipment;
b. Maintenance completed on such equipment is recorded;
c. Such equipment remains serviceable and in good mechanical condition.

The required equipment varies depending on the provided ground services and the type of aircraft.

Below is a list of ground support equipment used in ramp operations, with the following specifications, where applicable:

AIRCRAFT HANDLING

Equipment	**Minimal amount**
	Aircraft type: B767-300BCF(-BDSF), B757-200PCF & A330 (all)
Tow tractor	1
Towbar	1
Air Starter Unit (ASU)	2
Air Conditioning Unit (ACU)	1
Ground Power Unit (GPU)	1
De-icing/Anti-Icing Vehicle	De-icing:1 Anti-icing: 2
Fuel Truck	1
Waste Discharge Machine	1
Nitrogen Filling Machine	1
Oxygen Filling Machine	1

Equipment	**Minimal amount**
	Aircraft type: A319-153N, A320 (all), A321 (all)
Tow tractor	1
Towbar for A320 family	1
Air Starter Unit (ASU)	1
Air Conditioning Unit (ACU)	1
Ground Power Unit (GPU)	1
Anti-Icing Machine	De-icing:1 Anti-icing: 1
Fuel Truck	1
Waste Discharge Machine	1
Water filling machine	1
Ambulift	1
Catering Truck	1
Nitrogen Filling Machine	1
Oxygen Filling Machine	1

CARGO HANDLING

Equipment	Minimal amount
	Aircraft type: B767-300BCF(-BDSF), B757-200PCF, A330 (all)
Belt loader	1
Highloader (minimum capacity 7 tons, recommends 14 tons or more)	1
10FT Pallet dollies	35
Pallet dolly 20FT (optional)	5 (on request)
ULD Transporter for 10FT ULD (optional)	1
ULD Transporter for 20FT ULD (optional)*	1 (on request)
Forklift (capacity 5 tons)	1 (on request)
Forklift (capacity 10 tons)	1 (on request)

** The number of units may vary depending on the actual needs.*

Equipment	Minimal amount
	Aircraft type: A319-153N, A320 (all), A321 (all)
Belt loader	1
Baggage cart	4
Tractor for towing of baggage carts	1

** The number of units may vary depending on the actual needs*

MISCELLANEOUS

Equipment	Minimal amount					
	B767-300BCF (-BDSF)	A319	A320 (all)	A321 (all)	A330 (all)	B757-200PCF
Chocks	6/10[1]	4/12[1]	4/12[1]	4/12[1]	4/12[1]	6/10[1]
Safety cones	6/7[2]	6	6	6	6	6/7[2]
Technical steps	2[3]	2[3]	2[3]	2[3]	2[3]	2[3]

[1]***NOTE**: the second value is provided for wind gusts exceeding 35 knots (18 m/s). Can be halved if one wide wheel chock holds two parallel wheels.*
[2]***NOTE**: When using optional safety cones.*
[3]***NOTE**: 2 types of ladders are needed: with 3 steps and with 5 steps.*

1.8.2 SGHA, SLA, STANDARD OPERATING PROCEDURE

1.8.2.1 SGHA (STANDARD GROUND GANDLING AGREEMENT)

A Standard Ground Handling Agreement (SGHA) is an agreement between an airline and a ground handling agent as per **IATA AHM810**.

SGHA is signed between the Airline and ground handling agents providing services in ground handling of aircraft, loading and unloading operations, passenger and baggage servicing, cargo handling in the warehouse, refueling, and de-icing of aircraft.

The content of the SGHA may vary depending on the service provided and the structure of ground handling operations of aircraft, cargo, passengers and baggage at a particular airport.

The list of contracts with suppliers is stored at the GOCHD Head Office. Responsibility for managing the database of ground handling operations of aircraft, cargo, passengers and baggage lies with the GOCHD Ground Handling and Fuel Agreement Manager.

1.8.2.2 SLA (SERVICE LEVEL AGREEMENT)

An agreement on quality standards can be concluded between the airline and the ground handling agent or between the airline and the customer in order to establish quality parameters and key performance indicators to improve the quality of handling of aircraft, cargo, passengers, and baggage.

If, in addition to the SGHA, an SLA was concluded, information about this is stored by the GOCHD Ground Handling and Fuel Agreement Manage in the database of service providers for ground handling operations of aircraft, cargo, passengers and baggage.

1.8.2.3 STANDARD OPERATING PROCEDURE

In some cases, it may be necessary to develop a standard operating procedure between the airline and the ground handling agent to describe the process for providing a specific service (for example, handling of temperature-sensitive cargo in a warehouse).

The purpose of a standard operating procedure is to help personnel perform complex routine operations to achieve efficiency, quality output, and uniformity of performance, while reducing misunderstanding and non-compliance with company rules.

The draft standard operating procedure is developed by the GOCHD Standards Division, or by a project group, which may include representatives of the ground handling agent.

Once the procedure is agreed upon and signed, it becomes an annex to the SGHA.

Changes to the standard operating procedure can be initiated by either party in the event of a change in the processes/conditions described in the procedure, and come into force after agreement by both parties.

1.9 DEVIATION MANAGEMENT

1.9.1 GROUND OPERATIONS STAFF REPORTS ANALYSIS

Deviations in ground handling processes are determined based on the following records:

— Station Flight Report;
— PIC report;
— Audit report;
— Inspection report;
— Confidential report from ground operations staff.

Loadmaster or Airline Ramp Agent prepares a Station Flight Report (SFR) (***refer to Appendix 1.5A Parts 1-3***) for each flight. Reports are submitted to the GOCHD Ground Handling Standards Division, no

later than 24 hours after the flight (or after arrival from charter). All completed SFRs shall be sent by e-mail to sfr@centrum-air.com.

Head of Ground Operations Division is responsible for the timely analysis of delays related to ground handling operations (code G) for all the flights performed in the airline's route network.

Information on delays is analyzed based on deviations in the ground operations and handling obtained from:

a. SFR (Station Flight Report) reports for passenger and cargo flights departing from the base airport. Shall be filled by the Airline Representative together with the Airline Ramp Supervisor, with a detailed description of the deviations on the flight, including codes and time of delay.
b. SFR reports for cargo flights departing from an off-base airports. Shall be filled by the Loadmaster, unless the flight was supervised by the local airline representative.
c. SFR reports for passenger and cargo flights departing from an off-base airports. If there is no loadmaster on board, shall be filled in by the Airline Ramp Supervisor at the off-base station or responsible person of ground handling agent.

Before the 5th working day of every month Head of Ground Operations Division using information from the submitted SFR reports, as well as the monthly report on flights received from the Deputy Head of OCC, prepares a GOCHD Delay Report for the previous month and sends it to the GOCHD Standards Division.

GOCHD Delay Report must contain an analysis of the reasons of delays caused by deviations related to ground handling of aircraft, cargo, passengers, baggage at the stations of the route network.

GOCHD Delay Report shall be sent by e-mail to the GOCHD Director, the Head of Ground Operations Standards and Compliance Division and the Ground Operations Standards and Compliance Expert for the development of corrective measures. Monthly, before the 10th working day of the current month, the Ground Operations Standards and Compliance Expert prepares a report on corrective actions regarding the reasons delays and submits it to the GOCHD Director, the Head of Ground Operations Standards and Compliance Division, the Head of Ground Operations Division and the Ground Operations Manager at Base Station. After approval by the GOCHD Director, the report and corrective actions are submitted to the airline OTP meeting.

The Lead Ground Handling Standards Expert analyzes reports received on a weekly basis, consolidates information on deviations received, determines or obtains from the supplier the root cause of the deviation, and proposes corrective actions.

Once a quarter, the GOCHD Director analyzes all the inconsistencies that were reported, their root causes, the degree of compliance with the KPI indicators approved for providers (if applicable), if the identified inconsistencies were repeated at least three times per quarter, the GOCHD director escalates them.

Escalation is possible in one or more of the following ways:

— Conduct an investigation and determine whether the root cause has been correctly identified;
— Suggest preventive actions;
— Request an audit of the service provider.

Findings revealed during audit/inspection of ground handling providers are managed in accordance with the Quality Manual.

Comments and suggestions from supernumeraries are included by the Loadmaster/Airline Ramp Agent in the SFR, if they revealed on board - in the PIC report.

Non-compliances related to ground handling reflected in the PIC report are transferred by the Flight Department to the GOCHD Ground Handling Standards Division for subsequent analysis and feedback.

Confidential reports from ground operations staff are received and processed in accordance with the Airline's Safety Management Manual. Safety Manager informs GOCHD director about the identified violation; in this case, root causes investigation is mandatory, as well as report on results to Safety Manager. If necessary, a reassessment of safety risks related to ground handling is carried out.

1.9.2 INVESTIGATION OF GROUND HANDLING DEVIATIONS

The purpose of own investigations is to establish the circumstances and root causes of deviations that have led, or may lead, to negative consequences, as well as to take corrective measures aimed at eliminating the root causes.

Risk assessment is an integral part of investigation process. During the assessment, the possible risk of repeated non-compliance and negative consequences is assessed, and, if necessary, preventive measures are developed to prevent such violations.

“My Freighter” LLC is committed to a Just Culture.

When conducting investigations within a just culture, the task of the investigation committee is to understand why deviations occurred and how the system itself led to suboptimal behavior and, ultimately, to the negative consequences that are the subject of the investigation, while avoiding blame on the employees involved and “searching for those to blame”.

Establishing someone's guilt and punishing them is not the purpose of the investigation.

The object of the investigation is a negative event that directly or potentially affect safety, posing a threat to the property of the airline or the customer, life and health of people.

The investigation process includes:

— preparation for the investigation of commission members;
— collection of information;
— information analysis, search for root causes and development of CAPA;
— registration of the investigation results;
— completion of the investigation.

Based on all the information received, the chairman of the commission (or an appointed member of the commission in agreement with the chairman) develops a report on the investigation. The report should contain the following:

— list of commission members;
— number of the order to conduct an investigation;
— date, time and place of the event;
— a brief description of the event (including details of the event to help to identify it);
— list of event participants with job title and full name (additional relevant information may be indicated, for example, about the employee’s qualifications and training completed);
— chronological description of the event;
— event analysis;
— list of identified deviations;
— risk analysis;
— CAPA plan;
— signatures of all commission members confirming their agreement with the report;
— appendices to the report (may contain photos, screenshots of documents, explanatory notes, excerpts from documents, etc.).

The event analysis should include:

— a detailed description of the (root) causes identified during the investigation (preferably according to the 6-factor model) with the disclosure of cause-and-effect relationships;
— a list of regulatory documents regulating the process, with a description of what requirements were violated;
— analysis of all deviations identified during the investigation;
— risk assessment.

If the analysis reveals deviations that are not directly related to the event, they should also be indicated in the report, a risk assessment should be carried out on them and, if necessary, preventive measures should be developed.

Registered originals of investigation reports are retained in the Quality Department (Safety Manager) (if the event subject to investigation had an impact on safety) or in the GOCHD (if the event subject to investigation did not have an impact on safety).

Investigation materials are confidential information. Familiarization of employees with investigation materials is carried out in agreement with the Deputy General Director for Quality Assurance. Access to investigation materials by third parties is strictly prohibited and can only be granted by decision of the General Director. Selective demonstration of investigation materials during regulatory audits (CAA, IOSA) is allowed; the person responsible for providing materials in this case is the Deputy General Director for Quality Assurance.

1.9.3 CORRECTIVE AND PREVENTIVE ACTIONS

The purpose of developing corrective and preventive measures is to eliminate the causes of inconsistencies identified in the company's activities.

Events that trigger the procedure for developing corrective actions include (but are not limited to):
results of external/internal audits/inspections;
results of internal/external investigations;
deviations in the main process identified during operational activities (PIC reports, ground operations staff reports, voluntary reports);
negative feedback from the customer (complaints, claims);
decisions of the General Director or the Deputy General Director for Quality Assurance.

The reasons why inconsistencies arise are divided into 2 categories:

1. typical – reasons that were identified earlier during the analysis of inconsistencies and for which a search for causes has already been carried out and management decisions have been made to eliminate them;

2. unique – reasons that were identified for the first time.

The discrepancy may be due to more than one reason. During the development of CAPA, it is necessary to analyze the discrepancy as completely as possible and find its root causes (Root Cause Analysis).

It is advisable to use a combination of methods to provide the most complete analysis to find the root cause of a nonconformity. If it is not possible to use several methods, you should choose more complex methods of analysis (for example, prefer the Ishikawa method to the “5 why?” method).

The corrective action plan is prepared by the manager responsible for the process in which the nonconformity is recorded.

Corrective and preventive action projects (CAPA) should be aimed at:

- elimination of the consequences of non-compliance (correction); this allows to eliminate the non-compliance itself and its consequences without affecting the root causes (for example, eliminating a fuel spill, eliminating aircraft damage);
- causes of non-conformity (corrective measures); this helps to prevent the occurrence of non-conformity in the future;
- potential causes of nonconformity (preventive measures); this allows to influence the causes of a potential nonconformity or other potentially undesirable situation.

CAPA should be prepared in the form of an action plan according to the established format and are agreed upon with:

- the Deputy General Director for Quality Assurance;
- the head of the audit team (if inconsistencies are identified during the audit);
- heads of departments whose employees are included in the CAPA plan as (co)executors;
- General Director in case the implementation of activities requires the attraction of financial resources;
- other managers/employees by decision of the Deputy General Director for Quality Assurance and/or the General Director.

If there is a corresponding request from the customer, by decision of the General Director, the CAPA plan can be sent to the customer.

The manager/employee designated as responsible for the implementation of the CAPA must:

— organize the implementation of activities within the established time frame;
— carry out ongoing monitoring of implementation by co-executors (if necessary);
— provide a report to the manager who confirms the performance.

Requirements for formulating corrective/preventive actions:

— action must have a specific responsible person and deadlines;
— when choosing a responsible person for each action, employee's competencies, resources and authorities shall be taken into consideration;
— action must be formulated clearly and specifically;
— specific criteria for the feasibility of the action must be established;
— action must be adequate to the identified cause of nonconformity and aimed at eliminating it;
— action must be realistic and achievable.

If corrective measures relate to the internal processes of the GOCHD and do not require the involvement of financial resources the agreed CAPA plan shall be approved by the GOCHD director. If the involvement of employees of other departments and/or additional financial resources are required the agreed CAPA plan shall be approved by the General Director.

1.10 CONTRACTORS OR SERVICE PROVIDERS ASSESSMENT AND MONITORING

MF Airline uses a monitoring process to ensure outsourced functions are conducted in a manner that meets its own operational, safety and security requirements.

Monitoring (supervision) process includes but is not limited to:

— inspections,
— observations,
— general feedback,
— tests and desktop assessments,
— questionnaires.

In some regulatory jurisdictions there may be a regulatory control process that permits certain organizations to meet rigorous standards and become approved to conduct outsourced operational functions for an operator. This includes National Authority Approvals, IATA IOSA or ISAGO audits, etc.

Regardless of the approval status of the contracted organization, MF Airline is responsible for ensuring that all contracted activities are subject to hazard identification and risk management and to compliance monitoring.

All new contractors are evaluated or audited when required within three (3) months of the contract initiation.

1.10.1 ASSESSMENT PROCEDURE

Initial assessment procedure is performed by the Quality Department as described in ***Procedure for evaluation, selection and monitoring of suppliers and contractors MF.QMS3-16***.

1.10.2 CONTINUOUS MONITORING PROCEDURE

Audits are performed by the Quality Department in accordance with the Quality Assurance Program.

Continuous monitoring (supervision) is performed on a regular basis. Supervision checks are performed by GOCHD staff (Airline Representatives, Airline Ramp Supervisors, Loadmasters, GOCHD HQ staff).The scope and frequency of checks is determined by the Head of GOCH Division on the monthly basis taking into consideration the flight schedule, the type of operations outsourced, the availability of resources for the supervision, the number of identified irregularities (if results of the previous checks are available or as per irregularities registered in SFR), identified hazards/risks (if any).

Supervision checks are performed iaw ***Procedure for evaluation, selection and monitoring of suppliers and contractors MF.QMS3-16***. Areas of supervision:

— Ground operations on ramp;
— Cargo handling in warehouse;
— Passenger and baggage handling;
— Turnaround coordination by airline representative (where outsourced).

Results of performed supervision checks are provided to the Quality Department for further analysis. If hazards/risks were identified during the supervision check, further decision on addressing risks and possible mitigation shall be made by the GOCHD Director iaw with procedures established in ***Safety Management System Manual MF.SMS2-01***.

1.10.3 EVALUATION AND MONITORING OF DE-ICING/ANTI-ICING SERVICES SUPPLIERS AND FUEL SUPPLIERS

1.10.3.1 EVALUATION AND MONITORING OF DE-ICING/ANTI-ICING SERVICES SUPPLIERS

Airline “My Freighter” is a passive member of **De-/Anti-Icing Quality Control Pool (DAQCP)**. Airline “My Freighter” accepts results of pool report for further analysis

The qualified GOCHD specialist has been appointed to be responsible for the procedure of interaction with the DAQCP pool, analysis of the route network and determination of stations for which it is possible to purchase pool reports and stations where additional measures of control over the quality of services provided are required.

Initial assessment and validation procedure of De-/Anti-icing service providers is performed by the Quality Department as described in ***Procedure for evaluation, selection and monitoring of suppliers and contractors MF.QMS3-16***.

To control suppliers, a registry of de-icing services is maintained within the GOCHD, which contains:

- ICAO/IATA station code;
- Subject to DAQCP pool inspections;
- Type of transportation (cargo/passenger);
- Type of flight (regular/charter);
- Frequency of flights;
- Results of audits for the previous period;
- Rating of the station for the service provided.

Before the start of each winter season, by the end of September, the register is subject to analysis and revision with clarification of the quality level of De-/Anti-icing services provided at the station (green, yellow, red).

During the year, the following information may be collected for each station by the designated GOCHD specialist:

- Results of audits conducted by the airline;
- Crew reports on the quality of De-/Anti-icing service;
- Incidents or deviations received from external sources;
- Data updates from the service provider.

The information can be used to revise the quality category level, revise the station level and develop corrective measures, assign an additional audit and develop other preventive measures aimed at improving interaction at the station and eliminating risks from poor De-/Anti-icing service quality.

For each station in the register, the supplier is analyzed for participation in DAQCP, using the official list of pool partner stations available on the DAQCP platform. Based on the results of the check, stations included and not included in DAQCP are determined.

For stations not included in the DAQCP pool, the service provider is checked in accordance with ***MF.QMS3-16***, including checking the Standard Operational Procedure (SOP), training of personnel involved in the provision of the service, certification of fluids and equipment, assessment of the implementation of procedures in production (if possible). The results of the conducted check are sent to the Quality Assurance Department for validation of the supplier.

For stations included in the DAQCP pool, pool reports are purchased and sent to the Quality Assurance Department for supplier validation.

Based on DAQCP reports or validation results, each station is assigned a category and color-coded:

- **Green (high quality)** - compliance with standards, no incidents/comments on reports. Monitoring required; no additional actions required.
- **Yellow (medium quality)** - minor deviations recorded in the provided pool reports, deficiencies in documentation, but without impact on safety. Monitoring and informing of related departments is required.
- **Red (low quality)** - serious deficiencies, safety risk, need for corrective actions, flight cancellation,

referral to the Safety Action Group.

1.10.3.2 EVALUATION AND MONITORING OF FUEL SUPPLIERS

My Freighter Airlines is an Active Member of the **IATA Fuel Quality Pool (IFQP)** and accepts the results of the pool for further analysis and development of corrective actions. The qualified GOCHD specialist has been appointed and is responsible for the procedure for interaction with the IFQP pool.

Initial assessment and validation procedure of fuel suppliers is performed as described in ***Procedure for evaluation, selection and monitoring of suppliers and contractors MF.QMS3-16***.

The pool reports on fueling service providers are sent to the Quality Assurance Department for subsequent validation. If reports on a supplier in the pool are not available, the responsible qualified GOCHD specialist sends a checklist for supplier assessment and validation in accordance with the ***Instruction for Assessment, Selection and Monitoring of Product and Service Suppliers MF.QMS3-16***. The results of the conducted check are sent to the Quality Assurance Department for supplier validation.

1.11 SAFETY MANGEMENT AND RISK MANAGEMENT

Safety risk management of ground operations is the part of the overall airline risk management processes established in the ***Safety Management System Manual MF.SMS2-01***

Identification of risks in order to create a list of possible hazards and risks that have had or may have negative consequences is carried out on the basis of information about deviations in ground operations processes (***see Section 1.9, Part 1 GOCHM***).

Areas of hazard identification and risk assessment of ground operations include, but not limited to:

- Aircraft weight and balance (loadplanning);
- Aircraft loading and unloading operations;
- Cargo securing on board an aircraft;
- Transportation of dangerous goods;
- Transportation of lithium batteries;
- Transportation of live animals;
- Aircraft servicing operations;
- Aircraft fueling operations;
- Aircraft de-/anti-icing procedures;
- Passenger and baggage handling;
- ULD operations.

MY FREIGHTER implemented operational safety reporting via ICARUS software. All personal of GOCHD have an access to the ICARUS, that allows to send safety occurrence report, as well as confidential report.

Personnel of external service providers shall complete Ground Operations Occurrence Report (*refer to **Appendix 1.10 GOCHM***) and send to emails hub.ops@centrum-air.com and r.saitov@centrum-air.com as soon as possible but not later than 48 hours after the occurrence.

1.12 EMERGENCY RESPONSE

1.12.1 ACCIDENTS AND INCIDENTS

Refer to Part 14 of this Manual. All apron accidents and incidents, including aircraft damage, must be reported to the My Freighter General Director and, in applicable cases, to authorities in accordance with local requirements and airline policy.

All records of such occurrences and incidents must be kept in accordance with local requirements. For that purpose, they shall be reported via ICARUS system to the Safety Department.

Initial actions

Responsible persons are required to take initial response measures in the event of accidents and/or incidents, including incidents involving dangerous goods.

In the event of an accident / incident, a number of measures must be taken immediately:

- do not expose yourself or others to further risk;
- provide assistance to persons who have received bodily injuries, seek specialized assistance if necessary;
- take control of the accident/incident scene and, if possible, take steps to prevent the movement of ground handling equipment and personnel;
- notify local emergency services and/or airport emergency services;
- notify the crew;
- notify the OCC;
- notify the GOCHD Director;
- take photographs of the accident site and send them to the GOCHD Director and OCC duty manager by e-mail or in any other way possible.

The appointed responsible persons must be aware of their area of responsibility in terms of the local safety procedures and the emergency response plan in case of accidents and incidents in accordance with the approved regulations and requirements of the airline.

In addition, any deviations from ground handling procedures or any detected mishandling of airline property (which does not fall under the definition of an "accident" or "incident") should be immediately reported to the Head of Ground Handling Operations Division and Station Manager (if it occurred at base station).

List of ground incidents/incidents/safety-related issues to be reported (includes but is not limited to):

- Act of aggression (threat of explosion, seizure, hijacking, damage to the aircraft).
- Bodily injury to employees or employees of a ground handling contractor.
- Violation of security procedures.
- Aircraft damage.
- Identification of hidden dangerous goods.
- Aircraft emergency equipment is non-functional or missing.
- Baggage left unattended in the secure ramp area.
- Potential threats to the health of the crew or ground personnel.
- Vehicle traffic in the aircraft parking area on the ramp does not comply with safety standards.
- Departure of an aircraft in violation of safety requirements.
- Act of unlawful interference.
- Any events that may compromise compliance with safety standards.
- Environmental hazard/disaster (eg. fuel leak).
- Any other incident subject to reporting in accordance with regulations and/or requirements of the Airline.

1.12.2 EMERGENCY RESPONSE PLAN

In the event of an emergency, the actions must be taken in accordance with the ***Emergency Response Plan MF.SMS3-02***.

A list of emergency telephone numbers must be available at each airline office at the airport.

The list must include telephone numbers of all local emergency services and relevant government agencies, which must be informed about an emergency in accordance with the requirements of the Airline and local legislation.

The list must include the following departments/services:

- Airline OCC;
- Airport operations center;
- Emergency response services and airport information center;
- Airport firefighting stations;
- Airport emergency medical and rescue services;
- Safety service (including services responsible for the safety of the airline's aircraft in the parking lot);
- Aviation security of the airline office at the airport;
- Airport police;
- Airport customs;
- Airport Immigration Service;
- Airport quarantine service;
- Airline Station Manager;
- Head of Ground Handling Operations Division.

Station Manager at the base airport is responsible for the following:

- Updating the list of emergency telephone numbers for the base station (as necessary, but at least once a year). The list should be reviewed if local telephone numbers change and at least once a year. The date of the last revision must be indicated in the list of emergency telephone numbers;
- Availability of the notification list for the staff of the airline office;
- Providing an updated list of emergency telephone numbers to OCC.

The emergency action plan for handling dangerous goods is specified in ***Part 7, Section 7.11***.

1.13 MANAGEMENT REVIEW

1.13.1 ANALYSIS OF EXTERNAL AND INTERNAL ISSUES

Lead Ground Handling Standards Expert (or another GOCHD employee appointed by the GOCHD director) annually analyzes the following documents in order to verify the compliance of the GOCHD regulatory documents with the requirements of current national and international standards:

- Aviation rules of the Republic of Uzbekistan related to ground handling of aircraft, cargo and passengers;
- ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284/AN905);
- IATA Dangerous Goods Regulations;
- IATA Perishable Cargo Regulations;
- IATA Live Animals Regulations;
- IATA Temperature Control Regulations;
- IATA Airport Handling Manual;
- IATA Ground Operations Manual;
- IATA Cargo Handling Manual;
- IATA ULD Regulations
- IOSA ISM;
- Weight & Balance Manual (by types of operated aircrafts).

Every year, based on an analysis of current KPIs and ground handling suppliers feedback, GOCHD Director assesses the need to conclude additional SLAs, or sign contracts with new suppliers.

1.13.2 DATA FOR MANAGEMENT REVIEW

GOCHD Director is responsible for the timely preparation of data for management review analysis and its submission to the Deputy General Director for Quality Assurance. Significant issues arising from ground handling operations quality assurance and risk management as well as any other information required by the Quality Manager are reported as per procedure established in ***Quality Manual MF.QMS2-01***.

1.14 DRY OPERATING WEIGHT AND WEIGHT&BALANCE PROCEDURES CONTROL

Head of Ground Handling Standards Division is responsible for:

- Keeping up to date data on Dry Operating Weight (DOW) and CG position for each aircraft;
- Keeping up to date Load Planning and Weight and Balance computation procedures and forms;
- Keeping up to date the airline configuration /data in electronic Weight & Balance system.

DOW and Center of Gravity (CG)

The DOW and center of gravity (CG) position of each aircraft shall be re-established after each reweighing. The interval between reweighing must not exceed 4 years.

In addition, it shall be re-established through calculation whenever the cumulative change to the weight and balance log is more than +/-0,5% of the maximum landing weight, or whenever the cumulative change in the CG position exceeds +/-0,5% of the mean aerodynamic chord (MAC).

When re-establishing the aircraft OEW between reweighing, the weight changes shall be computed based on known weight and CG location of the modifications as per a maintenance document (Aircraft Maintenance Manual, Supplemental Type Certificate).

Changes in DOW and CG shall be documented in documents AHM560 (AHM565) for appropriate aircraft.

Airline Head of Maintenance Department is responsible for the following in regard to maintaining aircraft DOW and DOI:

- Providing to the GOCHD Ground Handling Standards Division actual data regarding an aircraft weighing results, empty aircraft weight and balance conditions changes in between of weighing as per performed modifications of the aircraft;
- Maintenance and distribution of "Flight Kit Total Weight", where actual weight of Flight Kit is provided for each aircraft.

Update Load Planning and Weight and Balance computation procedures and forms

Procedures and forms for load planning and Weight & Balance computation shall be established for each new aircraft type in the airline fleet.

Refer to ***Part 9 for Load Planning and Weight and Balance*** computation procedures. Load Planning and Weight and Balance computation forms are established in Appendices to ***Part 9 GOCHM***.

Validation of Weight & Balance systems

GOCHD Ground Handling Standards Division is responsible for verifying and validating the W&B systems used by GHAs. Verification and validation of W&B systems is carried out in accordance with the document "***Technology for validation of GHA personnel and DCS systems for W&B and issuing flight documentation***" ***MF.GRH3-04***.

Validation results are documented in «**Weight and Balance validation log**» (***Appendix A to MF.GRH3-04***).

1.15 INTERLINE

Transfer of cargo to another airline

The Commercial Department is responsible for booking interline cargo and sending notifications to the agent at the station where this cargo will be transferred to another airline.

When transferring cargo/ULD to the agent of the interline partner, it is necessary to sign the "Transfer Cargo Manifest". If the transfer manifest is signed without any comments, this means that the cargo/ULD was transferred in good condition without damage and/or other violations. In case of any violations at the destination, the interline partner is responsible for this.

Receiving cargo from another airline

- Interline cargo is accepted for transportation only in the "Ready for carriage" status (TACT Rules, clause 2.3);
- When accepting cargo from the partner airline, the employee of “My Freighter” (or the representative of the handling agent on behalf of the airline) must check the condition of the cargo. If the cargo does not meet the airline's requirements, it must not be accepted for transportation;
- If the cargo is not listed in the Flight Booking List and/or requires special handling conditions, the partner airline must notify the airline’s Duty HUB Operations Agent;
- For cargo from/to the USA, the shipper/shipper's agent must present a "Security statement", which must be attached to the consignment note.

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PART 2. INFORMATION ABOUT PASSENGER AIRCRAFT

2.1 GENERAL

«My Freighter» operates the following types of passenger aircraft (under the «Centrum Air» brand):

A/C TYPE & MODIFI-CATION	A/C REG	PAX CABIN CONFIG [1]	AVERAGE MAX PAYLOAD [2]	ESTIMATED WEIGHT OF PAYLOAD IN CARGO HOLDS	ESTIMATED USABLE VOLUME OF CARGO HOLDS [3]	LOW DECK COMPART-MENT CLASS [4]
A319-153N	UK888	F19	10000 kg	1000 kg	5 m^3	C
A320-251N	UK32075	Y186	19252 kg	8196 kg	33.45 m^3	C
A320-251N	UK32074	Y186	19252 kg	8196 kg	33.45 m^3	C
A320-214	UK32073	Y180	19812 kg	9398 kg	33.45 m^3	C
A320-232	UK32071	Y180	18149 kg	9398 kg	33.45 m^3	C
A320-232	UK32072	Y180	17717 kg	9398 kg	33.45 m^3	C
A320-233	UK32070	Y180	19320 kg	9398 kg	33.45 m^3	C
A321-251N	UK32130	Y221	23562 kg	7617 kg	44 m^3	C
A321-253NX	UK32131	Y216	23661 kg	12140 kg	37.5 m^3	C
A321-253NX	UK32132	Y216	23661 kg	12140 kg	37.5 m^3	C
A330-343	UK33030	Y347	48268 kg	36200 kg	160 m^3	C
A330-343	UK33031	Y347	48268 kg	36200 kg	162.2 m^3	C
A330-343	UK33032	Y358	48268 kg	36200 kg	162.2 m^3	C

[1] ***F*** *= first class,* ***Y*** *= economy class.*

[2] ***Difference between MZFW and Dry Operating Weight of aircraft with standard quantity of crew and standard pantry onboard****. These estimated payloads are shown for reference only. Final payload depends on actual quantity of crew, weight of additional equipment, exact route – and must be defined by Flight Dispatcher. Refer to* ***Section 9.4 Part 9 GOCHM****.*

[3] ***Actual utilizations of free space*** *depend on packages weight/volume and payload character (dangerous goods / non-dangerous goods, etc.).*

[4] ***Compartment Class C*** *= compartment is equipped by smoke detectors and fire extinguishing systems allows to detect and prevent the spread of fire and smoke from compartment.* ***Compartment Class E*** *= compartment is equipped by smoke detectors only.*

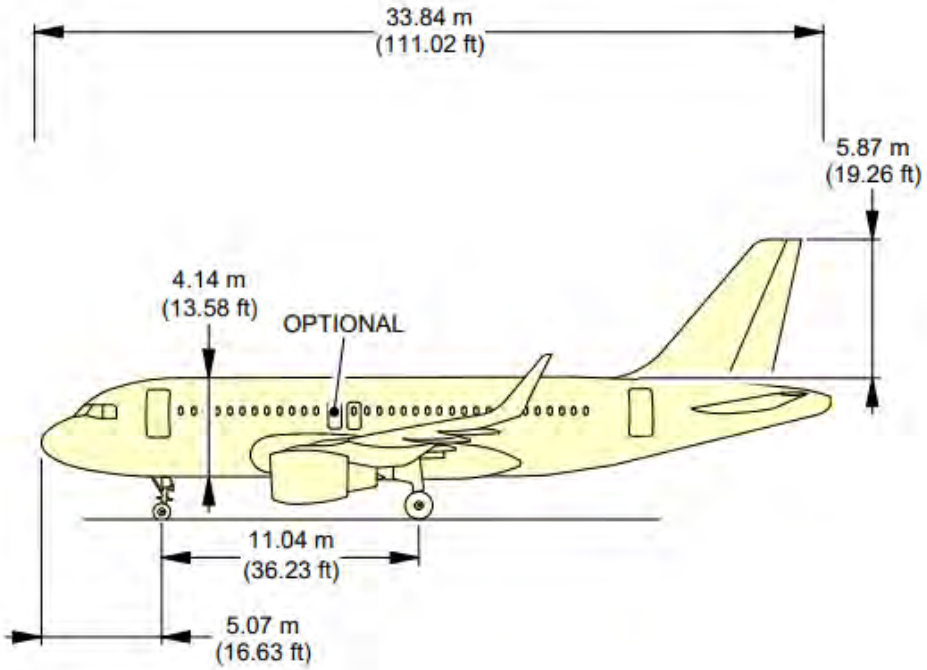
Detailed information about configuration of passenger cabin and cargo holds of each aircraft is shown in appropriate chapters of documents AHM560 or AHM565 individually issued for each aircraft.

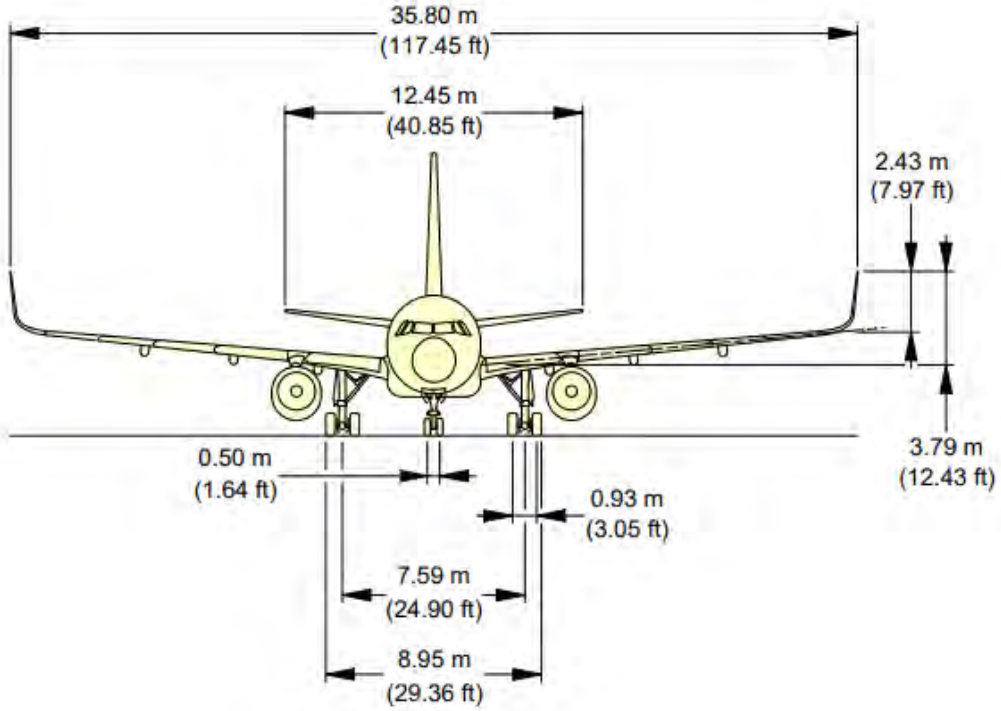
Refer to ***Section 9.5 Part 9 GOCHM*** *to have more details.*

2.1.1 A319-153N DIMENSIONS

Applicable for: UK888

- *The main dimensions of the aircraft are indicated in meters.*
- ***NOTE: current aircraft is equipped by CFM LEAP-1A engines.***

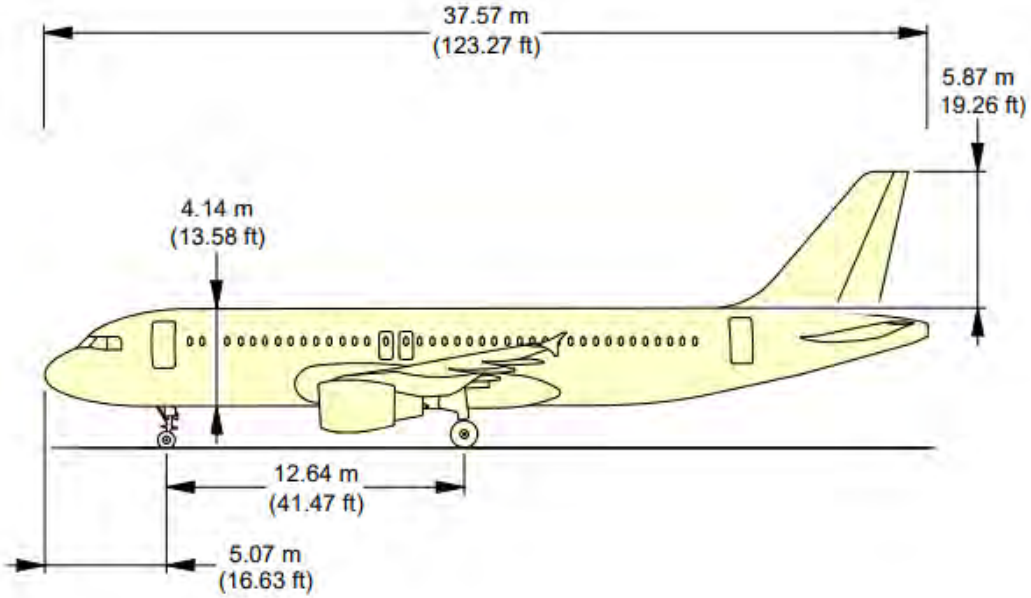


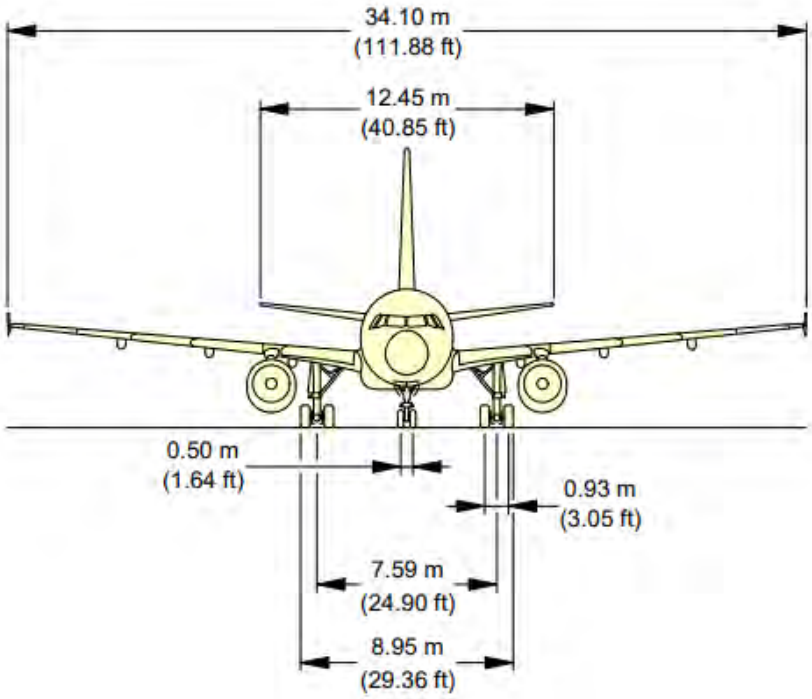


2.1.2 A320-214, A320-232, A320-233 DIMENSIONS

Applicable for: UK32070, UK32071, UK32072, UK32073

- *Dimensions of the aircraft are indicated in meters.*
- ***NOTE: UK32070, UK32071, UK32072 are equipped by V2500 engines.***
- ***NOTE: UK32073 is equipped by CFM56-5B engines.***

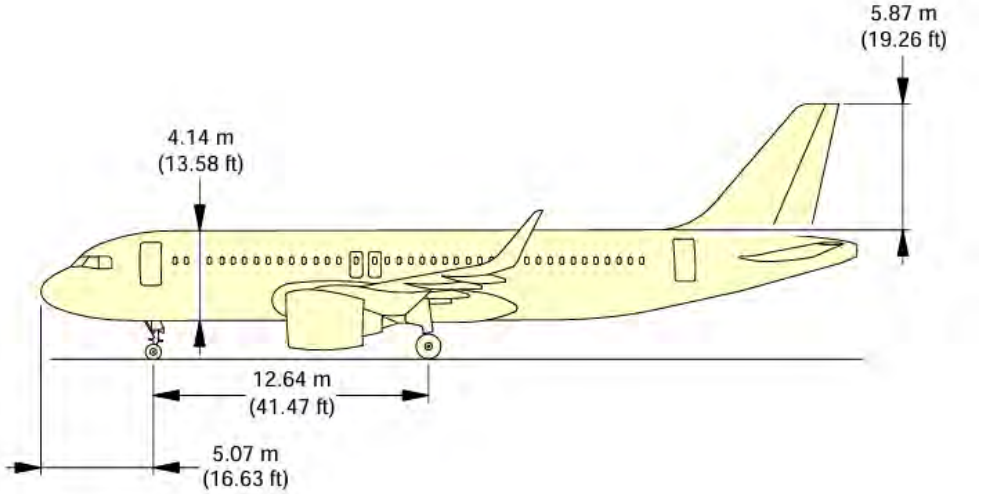


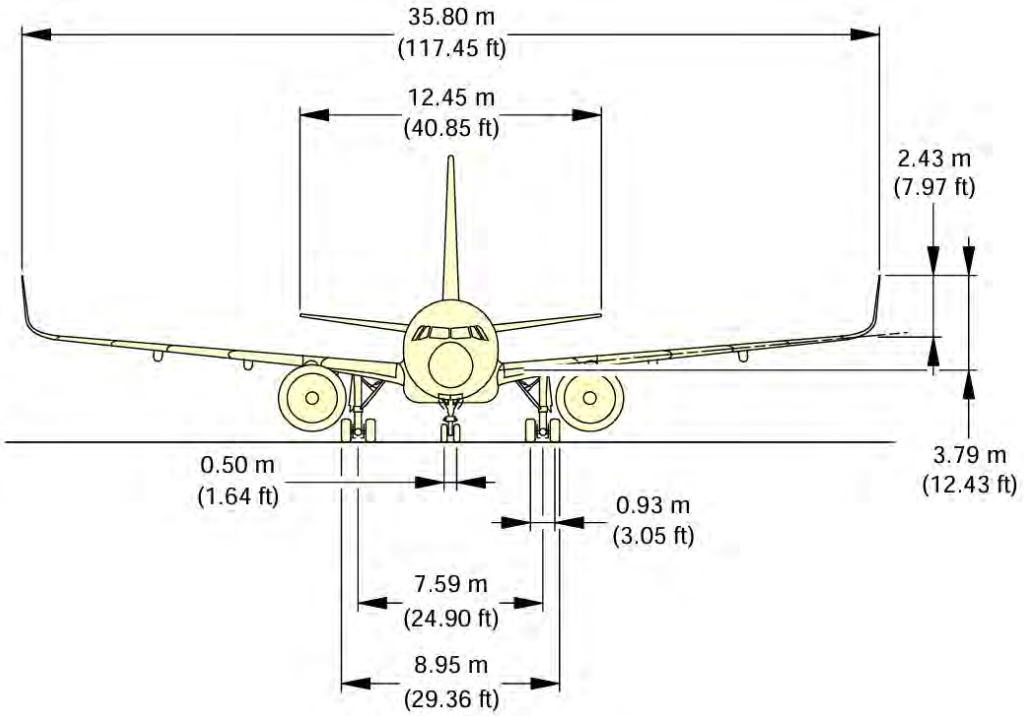


2.1.3 A320-251N DIMENSIONS

Applicable for: UK32074, UK32075

- *Dimensions of the aircraft are indicated in meters.*
- ***NOTE: current aircraft are equipped by LEAP-1A26 engines.***

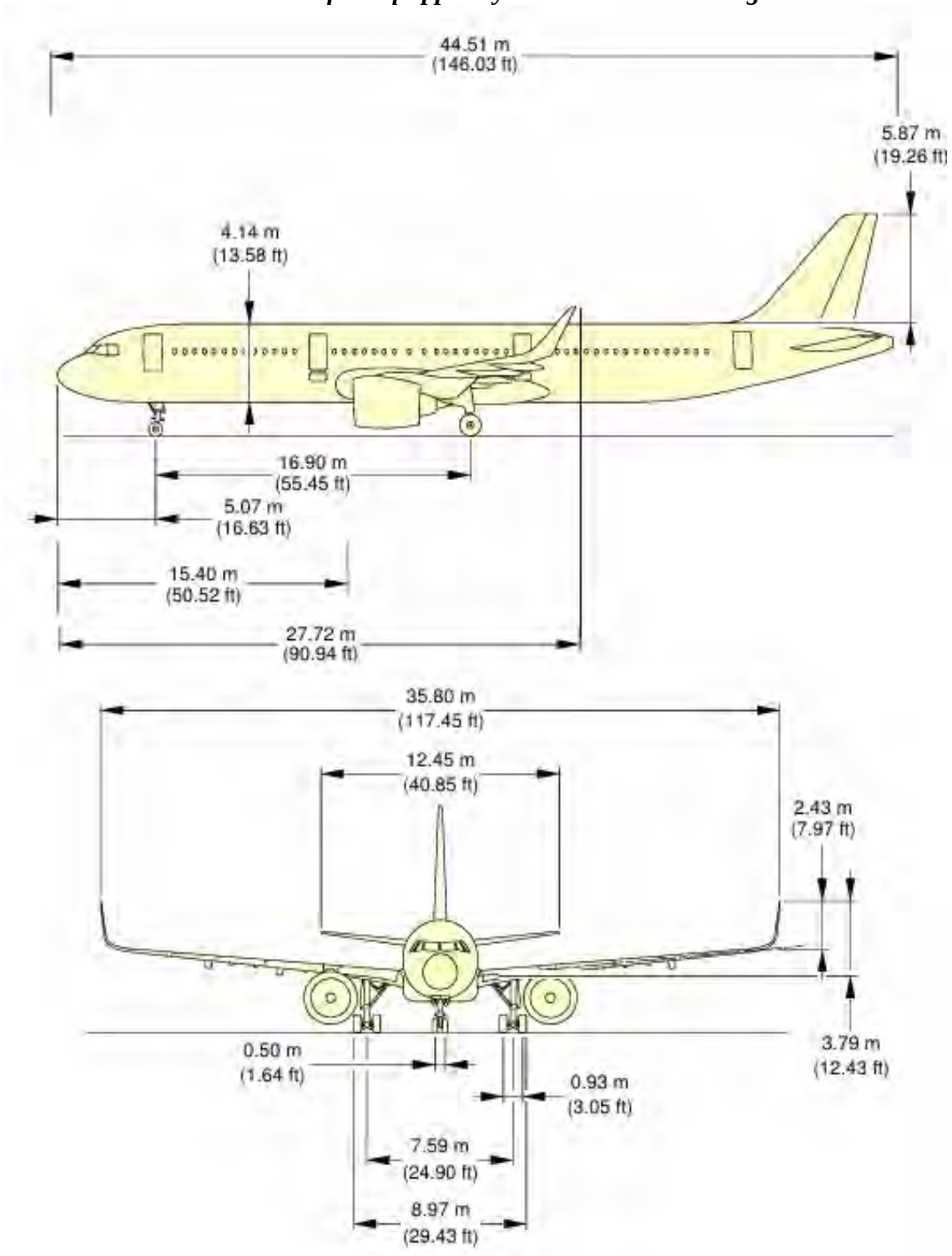




2.1.4 A321-251N DIMENSIONS

Applicable for: UK32130

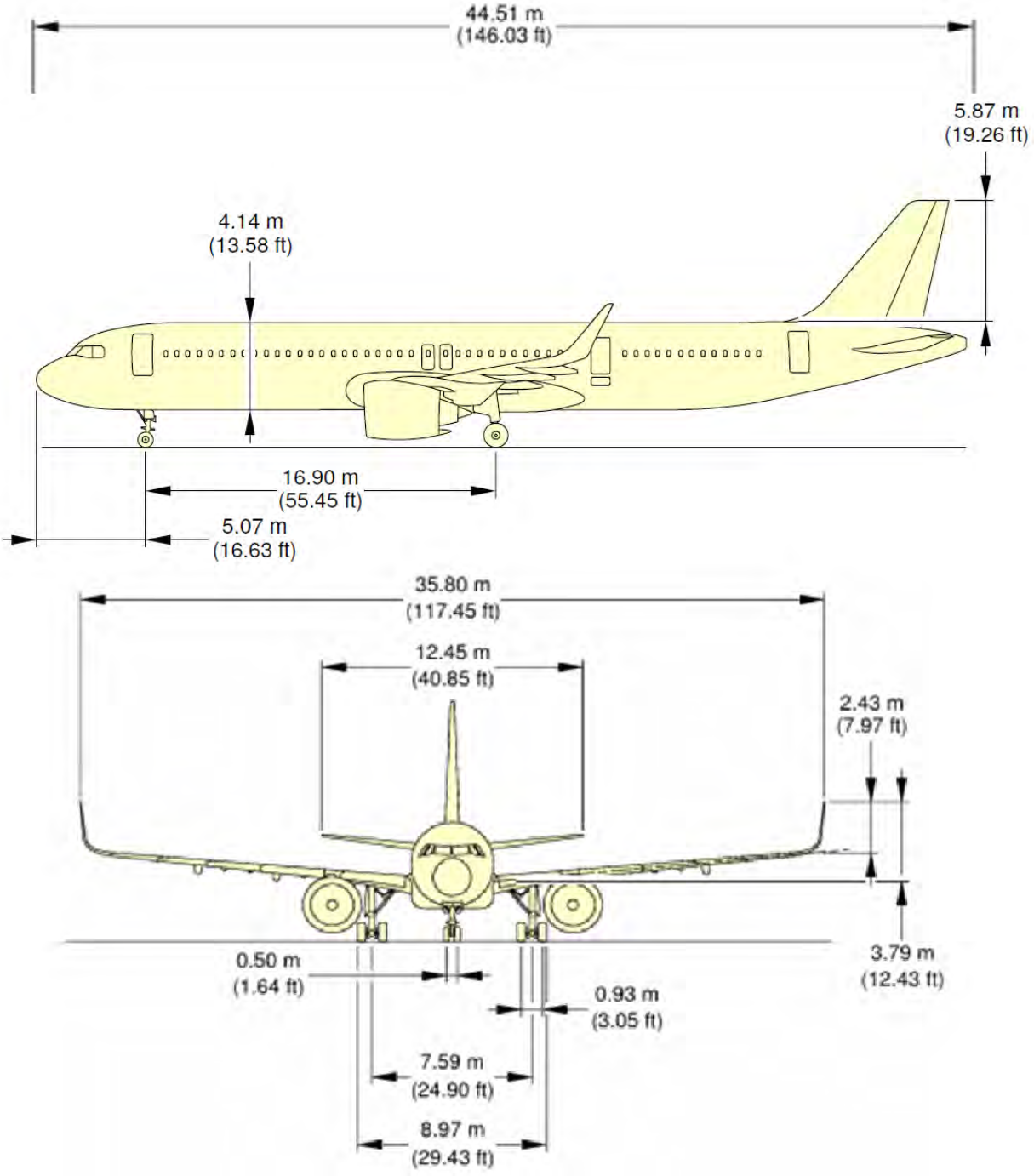
- *Dimensions of the aircraft are indicated in meters.*
- ***NOTE: current aircraft is equipped by CFM LEAP-1A33 engines.***



2.1.5 A321-253NX DIMENSIONS

Applicable for: UK32131, UK32132

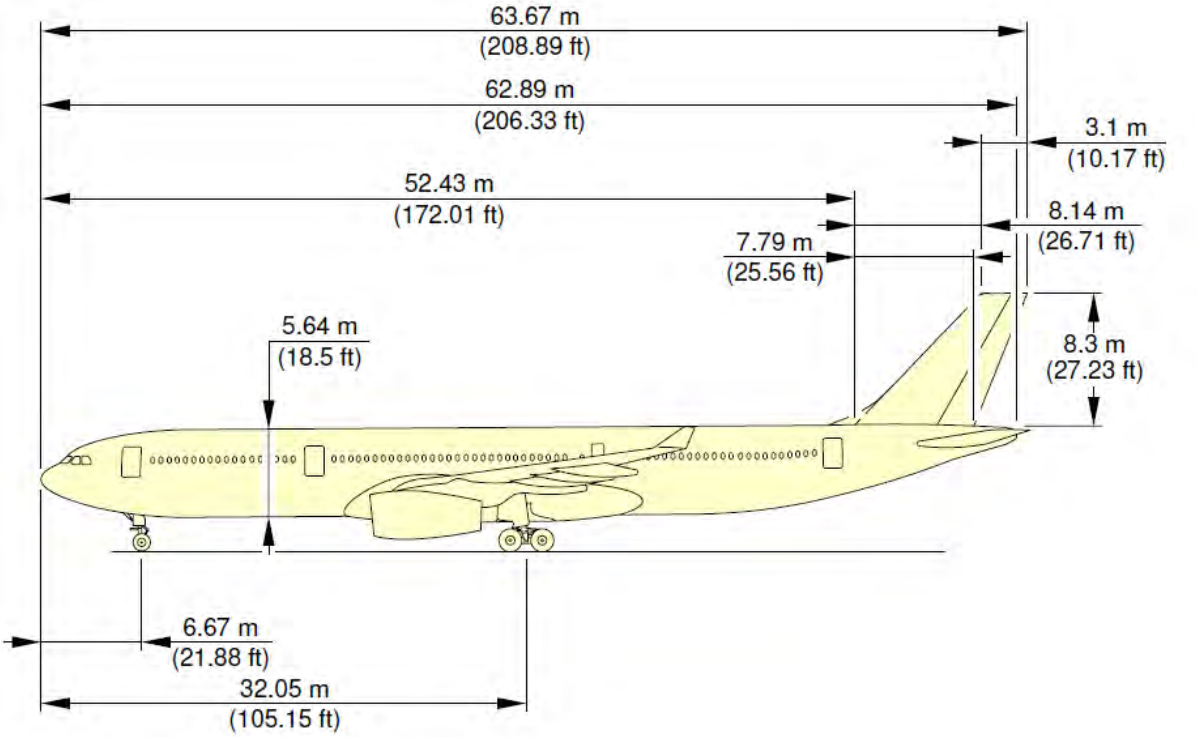
- *Dimensions of the aircraft are indicated in meters.*
- ***NOTE: current aircraft is equipped by CFM LEAP-1A33 engines***

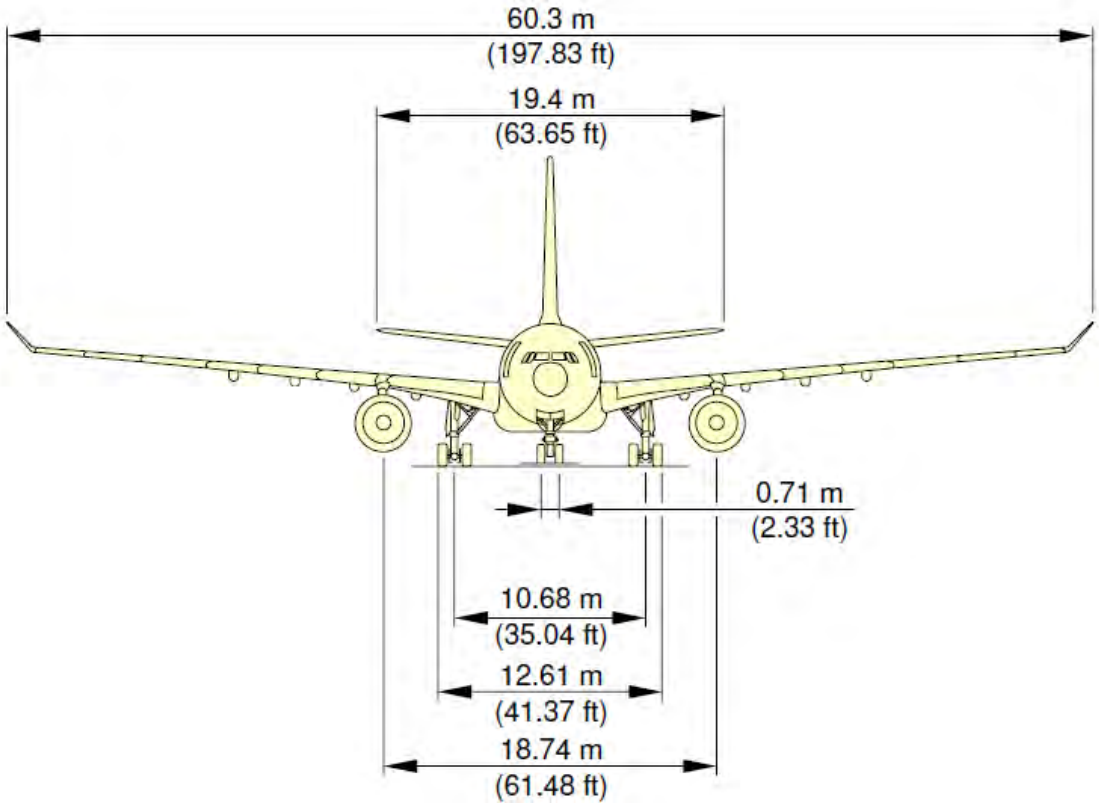


2.1.6 A330-343 DIMENSIONS

Applicable for: UK33030, UK33031, UK33032

- *Dimensions of the aircraft are indicated in meters.*
- ***NOTE: current aircraft are equipped by Rolls-Royce Trent-700 engines**.*



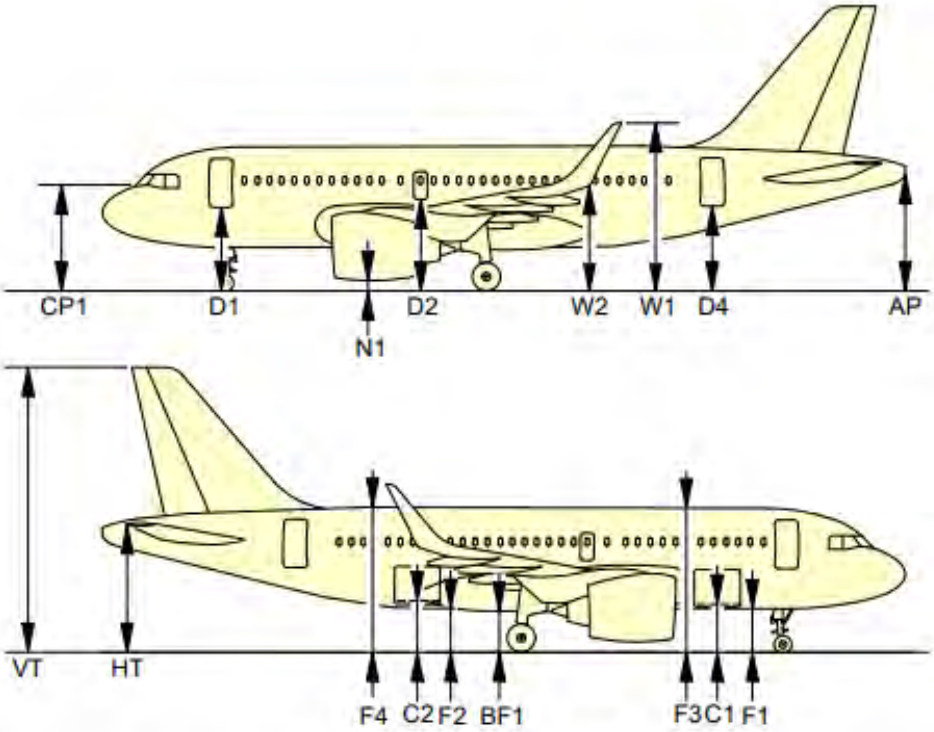


2.2 GENERAL MAXIMUM AND MINIMUM DISTANCES FROM APRON LEVEL TO CRITICAL POINTS OF FREIGHTER AIRCRAFT

2.2.1 A319-153N PARAMETERS

Applicable for: UK888

- ***NOTE: current aircraft is equipped by CFM LEAP-1A engines***

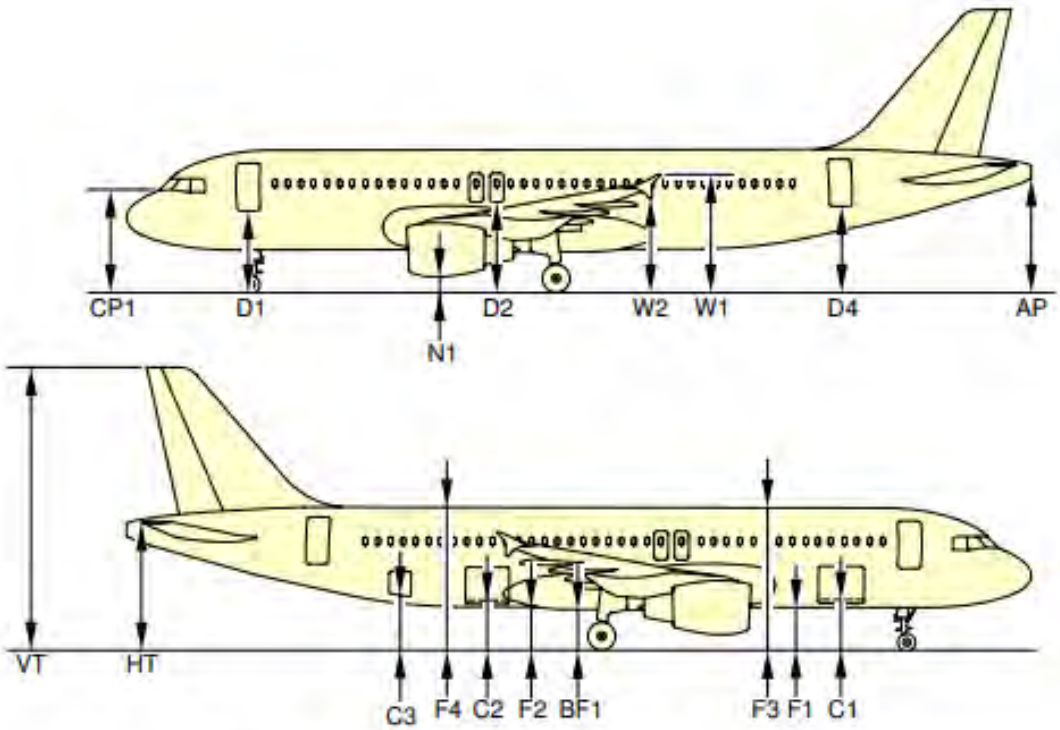


A/C CONFIGURATION		MRW				40 000 kg (88 185 lb)		A/C JACKED FDL = 4.60 m (15.09 ft)	
		FWD CG (21%)		AFT CG (36%)		CG (28%)			
		m	ft	m	ft	m	ft	m	ft
DOORS	D1	3.38	11.09	3.43	11.25	3.47	11.38	4.13	13.55
	D2	3.88	12.73	3.88	12.73	3.97	13.02	4.54	14.89
	D4	3.61	11.84	3.54	11.61	3.71	12.17	4.13	13.55
	C1	1.99	6.53	2.03	6.66	2.09	6.86	2.71	8.89
	C2	2.12	6.96	2.09	6.86	2.22	7.28	2.71	8.89
FUSELAGE	F1	1.73	5.68	1.76	5.77	1.83	6.00	2.43	7.97
	F2	1.84	6.04	1.81	5.94	1.94	6.36	2.43	7.97
	F3	5.88	19.29	5.90	19.36	5.97	19.59	6.58	21.59
	F4	5.99	19.65	5.95	19.52	6.09	19.98	6.58	21.59
	BF1	1.63	5.35	1.62	5.31	1.73	5.68	2.26	7.41
	CP1	4.16	13.65	4.24	13.91	4.26	13.98	4.96	16.27
WINGS	W1	6.72	22.05	6.68	21.92	6.81	22.34	7.29	23.92
	W2	4.08	13.39	4.04	13.25	4.17	13.68	4.65	15.26
TAILPLANE	HT	5.48	17.98	5.37	17.62	5.58	18.31	5.93	19.46
	AP	4.78	15.68	4.65	15.26	4.87	15.98	5.20	17.06
	VT	12.01	39.40	11.89	39.01	12.11	39.73	12.45	40.85
ENGINE/ NACELLE	N1 (CFM LEAP-1A)	0.46	1.51	0.47	1.54	0.56	1.84	1.13	3.71
	N1 (PW 1100G)	0.46	1.51	0.47	1.54	0.56	1.84	1.13	3.71

2.2.2 A320-214, A320-232, A320-233 PARAMETERS

Applicable for: UK32070, UK32071, UK32072, UK32073

- ***NOTE: UK32070, UK32071, UK32072 are equipped by V2500 engines.***
- ***NOTE: UK32073 is equipped by CFM56-5B engines.***

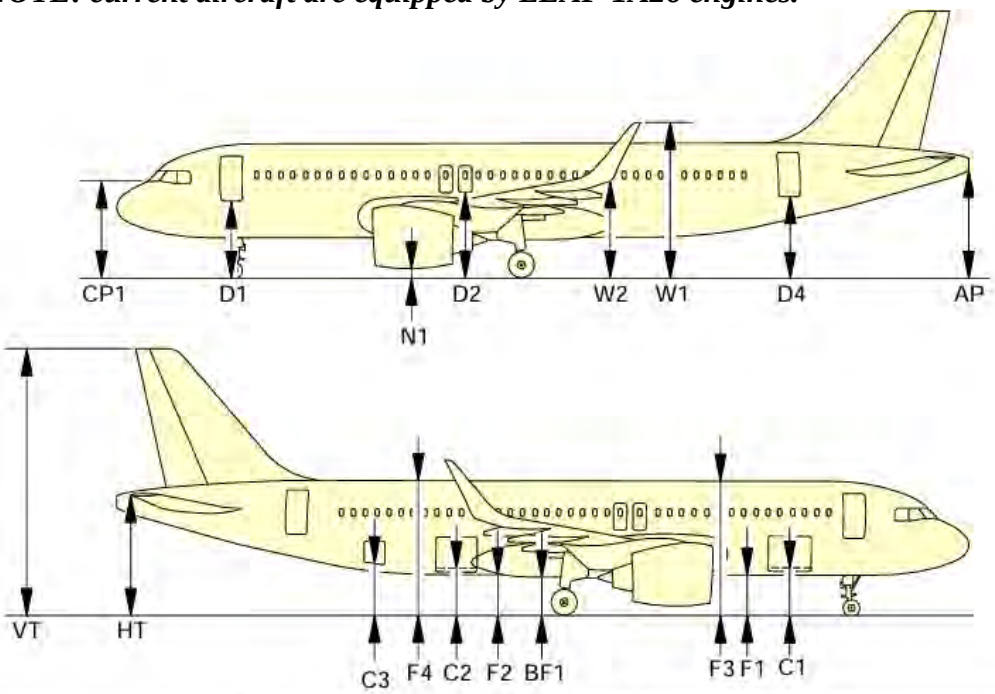


A/C CONFIGURATION		MRW				41 000 kg (90 389 lb)		A/C JACKED FDL = 4.60 m (15.09 ft)	
		FWD CG (17%)		AFT CG (36.8%)		CG (26.5%)			
		m	ft	m	ft	m	ft	m	ft
DOORS	D1	3.38	11.09	3.45	11.32	3.48	11.42	4.13	13.55
	D2	3.87	12.70	3.88	12.73	3.98	13.06	4.54	14.89
	D4	3.60	11.81	3.50	11.48	3.70	12.14	4.13	13.55
	C1	1.98	6.50	2.04	6.69	2.09	6.86	2.71	8.89
	C2	2.12	6.96	2.07	6.79	2.22	7.28	2.71	8.89
	C3	2.19	7.19	2.11	6.92	2.29	7.51	2.75	9.02
FUSELAGE	F1	1.72	5.64	1.76	5.77	1.82	5.97	2.43	7.97
	F2	1.84	6.04	1.79	5.87	1.95	6.40	2.43	7.97
	F3	5.86	19.23	5.90	19.36	5.97	19.59	6.58	21.59
	F4	5.99	19.65	5.93	19.46	6.09	19.98	6.58	21.59
	BF1	1.62	5.31	1.60	5.25	1.72	5.64	2.26	7.41
	CP1	4.17	13.68	4.27	14.01	4.28	14.04	4.96	16.27
WINGS	W1	4.76	15.62	4.71	15.45	4.86	15.94	5.35	17.55
	W2	3.78	12.40	3.74	12.27	3.89	12.76	4.38	14.37
TAILPLANE	HT	5.46	17.91	5.32	17.45	5.56	18.24	5.93	19.46
	AP	4.74	15.55	4.59	15.06	4.84	15.88	5.20	17.06
	VT	11.98	39.30	11.83	38.81	12.08	39.63	12.45	40.85
ENGINE/ NACELLE	N1 (CFM)	0.57	1.87	0.58	1.90	0.67	2.20	1.24	4.07
	N1 (IAE)	0.75	2.46	0.76	2.49	0.85	2.79	1.42	4.66

2.2.3 A320-251N PARAMETERS

Applicable for: UK32074, UK32075

- ***NOTE: current aircraft are equipped by LEAP-1A26 engines.***



A/C CONFIGURATION		MRW				41 000 kg (90 389 lb)		A/C JACKED FDL = 4.60 m (15.09 ft)	
		FWD CG (17%)		AFT CG (36.8%)		CG (26.5%)			
		m	ft	m	ft	m	ft	m	ft
DOORS	D1	3.38	11.09	3.45	11.32	3.48	11.42	4.13	13.55
	D2	3.87	12.70	3.88	12.73	3.98	13.06	4.54	14.89
	D4	3.60	11.81	3.50	11.48	3.70	12.14	4.13	13.55
	C1	1.98	6.50	2.04	6.69	2.09	6.86	2.71	8.89
	C2	2.12	6.96	2.07	6.79	2.22	7.28	2.71	8.89
	C3	2.19	7.19	2.11	6.92	2.29	7.51	2.75	9.02
FUSELAGE	F1	1.72	5.64	1.76	5.77	1.82	5.97	2.43	7.97
	F2	1.84	6.04	1.79	5.87	1.95	6.40	2.43	7.97
	F3	5.86	19.23	5.90	19.36	5.97	19.59	6.58	21.59
	F4	5.99	19.65	5.93	19.46	6.09	19.98	6.58	21.59
	BF1	1.62	5.31	1.60	5.25	1.72	5.64	2.26	7.41
	CP1	4.17	13.68	4.27	14.01	4.28	14.04	4.96	16.27
WINGS	W1	6.70	21.98	6.65	21.82	6.80	22.31	7.25	23.79
	W2	4.05	13.29	4.01	13.16	4.16	13.65	4.65	15.26
TAILPLANE	HT	5.46	17.91	5.32	17.45	5.56	18.24	5.93	19.46
	AP	4.74	15.55	4.59	15.06	4.84	15.88	5.20	17.06
	VT	11.98	39.30	11.83	38.81	12.08	39.63	12.45	40.85
ENGINE/ NACELLE	N1 (CFM LEAP-1A)	0.46	1.51	0.47	1.54	0.56	1.84	1.13	3.71
	N1 (PW 1100G)	0.46	1.51	0.47	1.54	0.56	1.84	1.13	3.71

NOTE:
PASSENGER AND CARGO DOOR GROUND CLEARANCES ARE MEASURED FROM THE CENTER OF THE DOOR SILL AND FROM FLOOR LEVEL.

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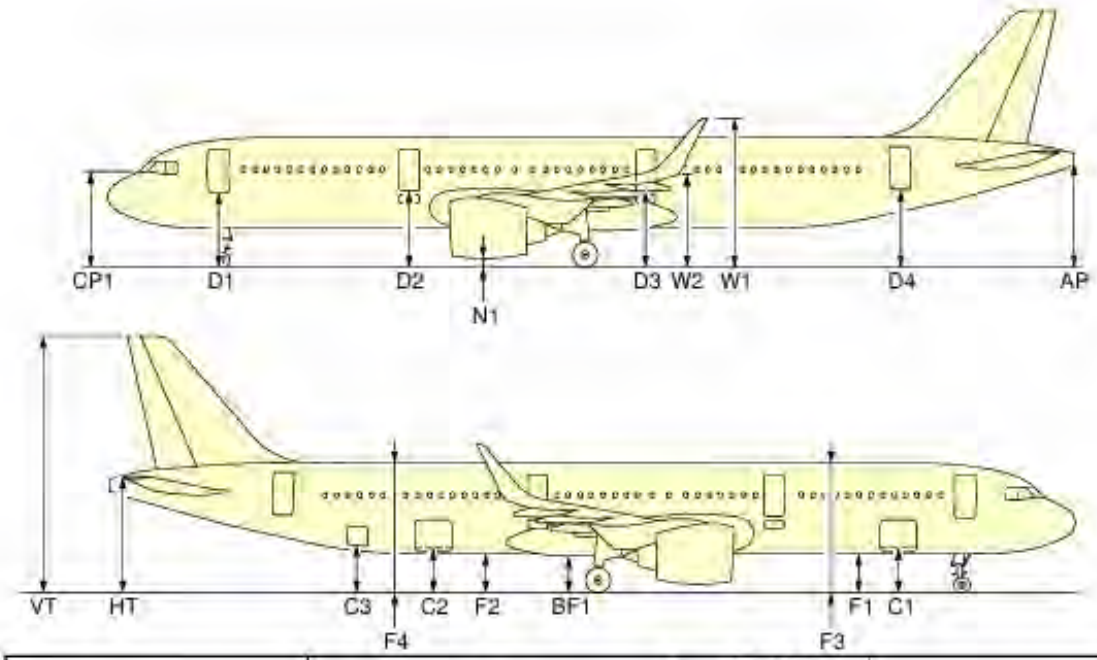
2.2.4 A321-251N & -253NX

Applicable for: UK32130, UK32131, UK32132

- ***NOTE: current aircraft are equipped by CFM LEAP-1A33 engines***



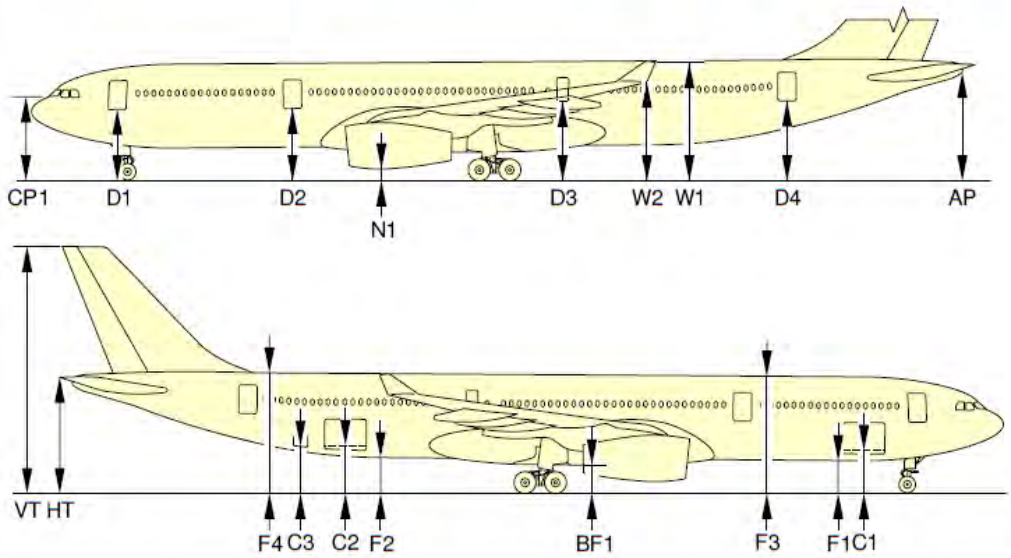
A/C CONFIGURATION		MRW				47 000 kg (103 617 lb)		A/C JACKED FDL = 4.60 m (15.09 ft)	
		FWD CG (19%)		AFT CG (36.9%)		CG (25%)			
		m	ft	m	ft	m	ft	m	ft
DOORS	D1	3.39	11.12	3.47	11.38	3.50	11.48	4.13	13.55
	D2	3.45	11.32	3.48	11.42	3.57	11.71	4.13	13.55
	D3	3.89	12.76	3.90	12.80	4.01	13.16	4.54	14.89
	D4	3.61	11.84	3.53	11.58	3.73	12.24	4.13	13.55
	C1	1.99	6.53	2.05	6.73	2.10	6.89	2.71	8.89
	C2	2.14	7.02	2.09	6.86	2.26	7.41	2.71	8.89
	C3	2.20	7.22	2.14	7.02	2.33	7.64	2.75	9.02
FUSELAGE	F1	1.73	5.68	1.78	5.84	1.84	6.04	2.43	7.97
	F2	1.87	6.14	1.82	5.97	1.99	6.53	2.43	7.97
	F3	5.87	19.26	5.92	19.42	5.98	19.62	6.58	21.59
	F4	6.01	19.72	5.96	19.55	6.13	20.11	6.58	21.59
	BF1	1.64	5.38	1.62	5.31	1.76	5.77	2.26	7.41
	CP1	4.19	13.75	4.29	14.07	4.30	14.11	4.96	16.27
WINGS	W1	6.70	21.98	6.67	21.88	6.82	22.38	7.29	23.92
	W2	4.06	13.32	4.03	13.22	4.18	13.71	4.65	15.26
TAILPLANE	HT	5.45	17.88	5.34	17.52	5.58	18.31	5.93	19.46
	AP	4.73	15.52	4.61	15.12	4.86	15.94	5.20	17.06
	VT	11.97	39.27	11.85	38.88	12.10	39.70	12.45	40.85
ENGINE/ NACELLE	N1 (CFM LEAP-1A)	0.46	1.51	0.47	1.54	0.58	1.90	1.13	3.71
	N1 (PW 1100G)	0.46	1.51	0.47	1.54	0.58	1.90	1.13	3.71

NOTE:
PASSENGER AND CARGO DOOR GROUND CLEARANCES ARE MEASURED FROM THE CENTER OF THE DOOR SILL AND FROM FLOOR LEVEL.

2.2.5 A330-343

Applicable for: UK33030, UK33031, UK33032

- ***NOTE: current aircraft are equipped by Rolls-Royce Trent-700 engines.***



A/C CONFIGURATION		MRW				119 000 kg (262 350 lb)		A/C JACKED FDL = 6.50 m (21.33 ft)	
		FWD CG		AFT CG		MID CG			
		m	ft	m	ft	m	ft	m	ft
DOORS	D1	4.41	14.46	4.55	14.92	4.55	14.92	6.32	20.73
	D2	4.67	15.32	4.73	15.51	4.83	15.84	6.32	20.73
	D3	5.31	17.42	5.20	17.06	5.34	17.52	6.43	21.10
	D4	5.55	18.20	5.41	17.75	5.77	18.93	6.53	21.42
	C1	2.55	8.36	2.66	8.72	2.70	8.85	4.14	13.58
	C2	3.22	10.56	3.13	10.27	3.43	11.25	4.24	13.91
	C3	3.46	11.35	3.35	11.00	3.68	12.07	4.39	14.40
FUSELAGE	F1	2.10	6.88	2.14	7.02	2.28	7.48	3.68	12.07
	F2	2.54	8.33	2.45	8.03	2.74	8.99	3.68	12.07
	F3	7.58	24.86	7.67	25.16	7.74	25.40	9.32	30.58
	F4	8.31	27.26	8.19	26.87	8.53	28.00	9.32	30.58
	BF1	1.86	6.10	1.85	6.07	2.04	6.70	3.26	10.70
	CP1	5.22	17.12	5.43	17.81	5.41	17.75	7.10	23.30
WINGS	W1	7.70	25.26	7.61	24.96	8.05	26.41	8.96	29.40
	W2	6.13	20.11	6.06	19.88	6.46	21.20	7.55	24.77
TAILPLANE	HT	8.09	26.54	7.88	25.85	8.33	27.32	9.23	30.28
	AP	7.24	23.76	7.03	23.06	7.48	24.54	8.10	26.57
	VT	16.94	55.58	16.72	54.85	17.18	56.36	17.62	57.81
ENGINE/ NACELLE	N1 (GE)	0.76	2.49	0.79	2.59	0.94	3.08	2.34	7.67
	N1 (PW)	0.72	2.36	0.75	2.46	0.90	2.95	2.29	7.51
	N1 (RR)	0.69	2.26	0.72	2.36	0.87	2.85	2.21	7.25

NOTE:

PASSENGER AND CARGO DOOR GROUND CLEARANCES ARE MEASURED FROM THE CENTER OF THE DOOR SILL AND FROM FLOOR LEVEL.

THE VALUES GIVEN IN THE TABLE DEPEND ON THE POSITION OF THE CENTER OF GRAVITY (CG) AND ON THE AIRCRAFT WEIGHT.

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2.3 VENTILATION AND TEMPERATURE CONDITION OF CARGO COMPARTMENTS AND MAIN DECK OF PASSENGER AIRCRAFT

COMPARTMENTS→ AC TYPE & REG↓	Forward Cargo Hold (Lower Deck)	Aft Cargo Hold (Lower Deck)	Bulk Hold (Lower Deck)
A319-153N *UK888*	Not ventilated, not heated	Not ventilated, not heated	Not ventilated, not heated
A320-214 *UK32073*	Not ventilated, not heated	Not ventilated, not heated	Not ventilated, not heated
A320-233 *UK32070*	Not ventilated, not heated	Not ventilated, not heated	Not ventilated, not heated
A320-233 *UK32071, UK32072*	Not ventilated, not heated	Not ventilated, not heated	Not ventilated, not heated
A321-251N *UK32130*	Not ventilated, not heated	Ventilated, not heated	Not ventilated, not heated
A321-2513NX *UK32131, UK32132*	Not ventilated, not heated	Ventilated, not heated	Not ventilated, not heated
A330-343 *UK33030, UK33031, UK33032*	Ventilated, heated	Ventilated, not heated	Ventilated, not heated

ATTENTION! Loading of live animals and temperature sensitive cargoes to LD holds of mentioned aircraft is prohibited until Director of GHD written confirmation.

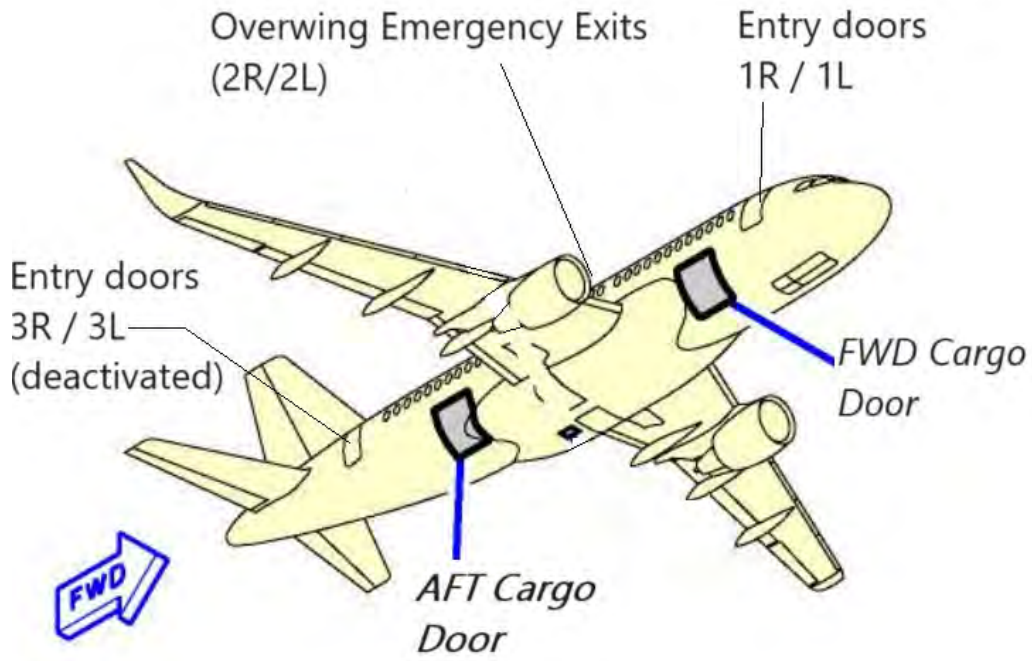
2.4 AIRCRAFT DOORS

2.4.1. GENERAL RESTRICTIONS

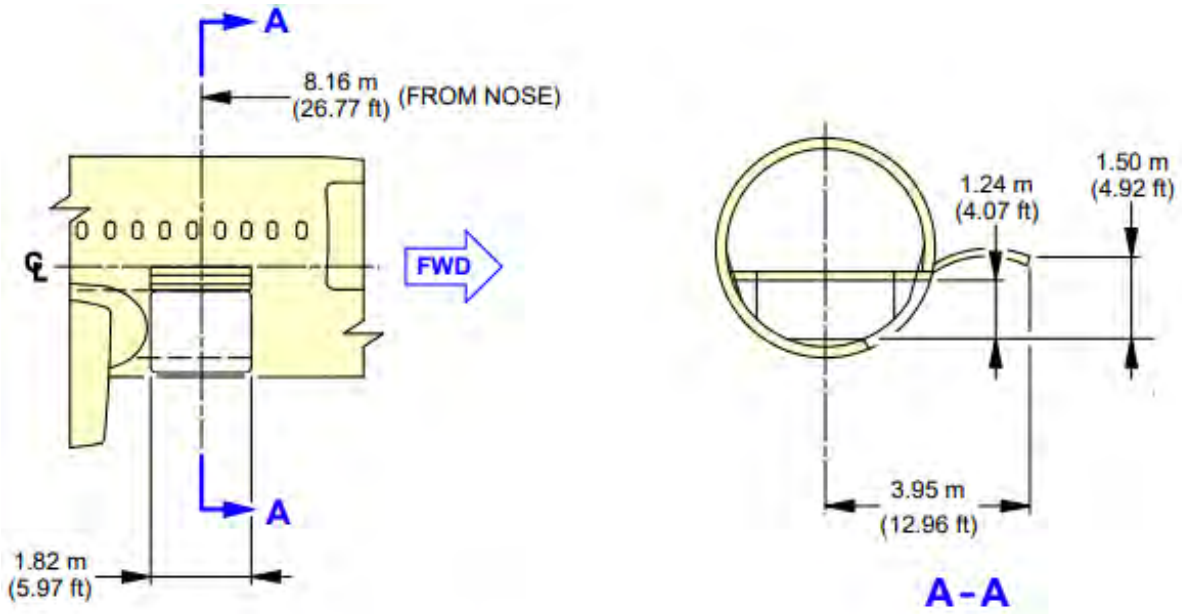
1. Do not operate doors in winds more than 40 knots (20 meters per second). If wind speed increased over the limit 40 knots (20 meters per second) when door(s) was (were) open, it is allowed to remain it opened, if wind is ≤65 knots (33 meters per second).
2. Do not let the door(s) stay open in winds more than 65 knots (33 meters per second).
3. Do not open any doors when aircraft is still pressurized.
4. In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately.

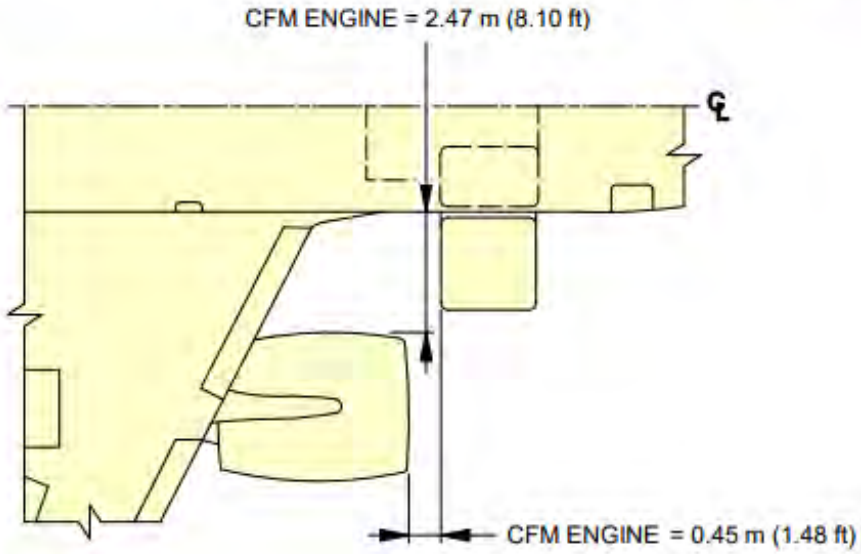
2.4.2 A319-153N DOORS

DOOR ID	POSITION	OPENS	PURPOSE
FWD Entry Door (1L)	Left side, nose section	Outside of aircraft	Staff, crew & PAX entry
AFT Entry Door (3L)	Left side, tail section	Outside of aircraft	*Deactivated on UK888*
FWD Service Door (1R)	Right side, nose section	Outside of aircraft	Service equipment loading & staff entry
AFT Service Doors (3R)	Right side, tail section	Outside of aircraft	*Deactivated on UK888*
Overwing Emergency Exit Doors (2R/2L)	Left & rights sides, wingbox section	Outside of aircraft	Staff, crew & PAX evacuation in case of emergency
FWD Cargo Door	Right side, nose section	Outside and up	Baggage/cargo/mail/equipment loading & offloading operations
AFT Cargo Door	Right side, tail section	Outside and up	

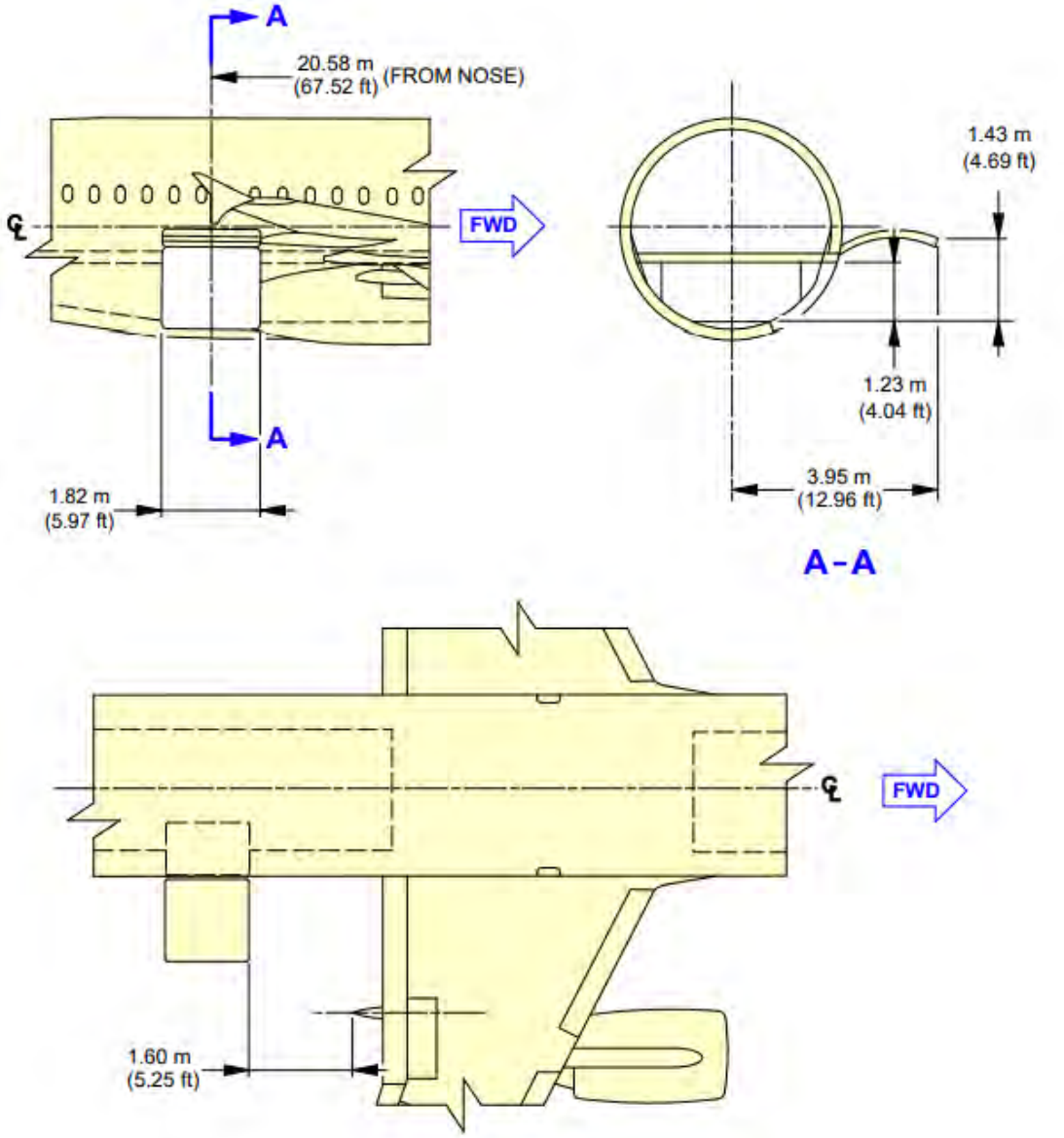


FORWARD CARGO DOOR





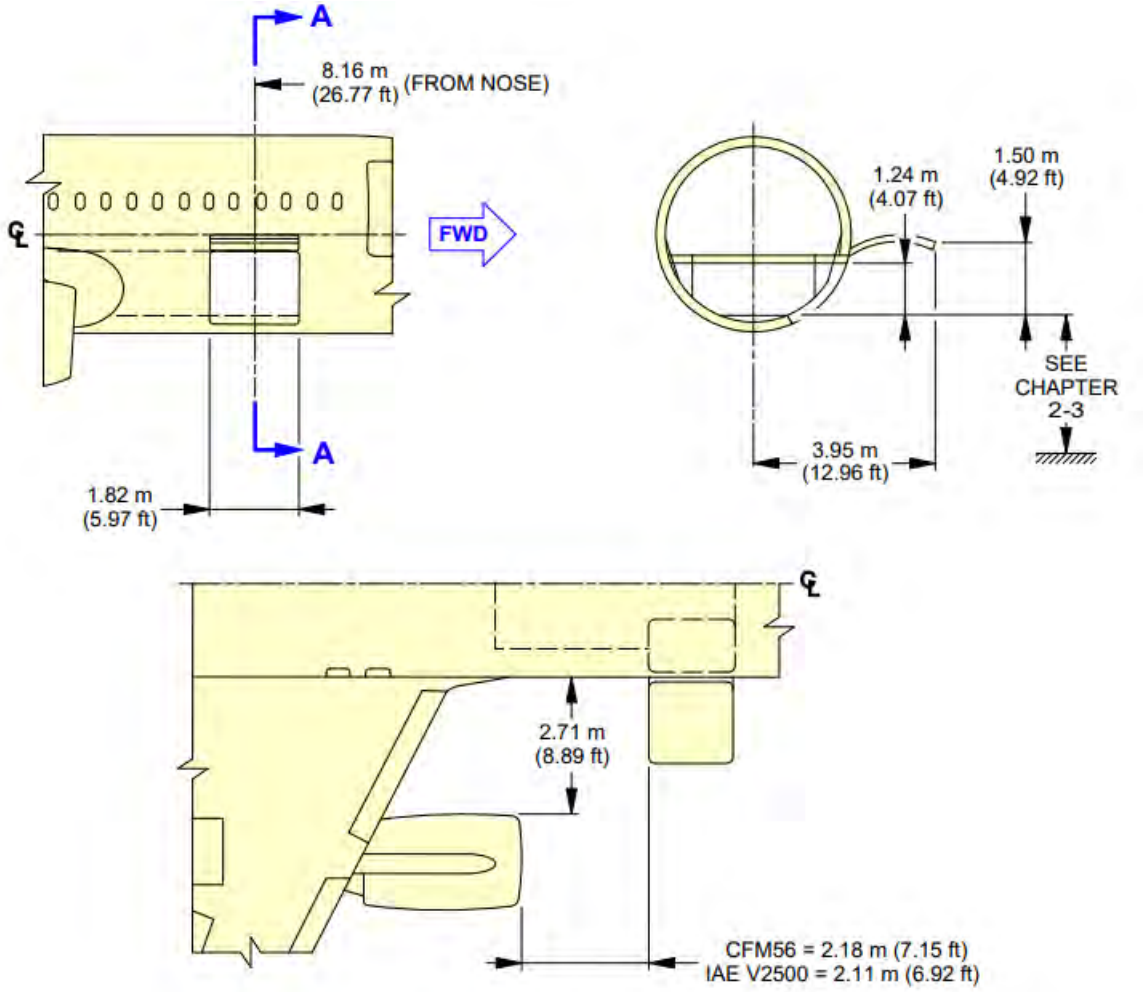
AFT CARGO DOOR



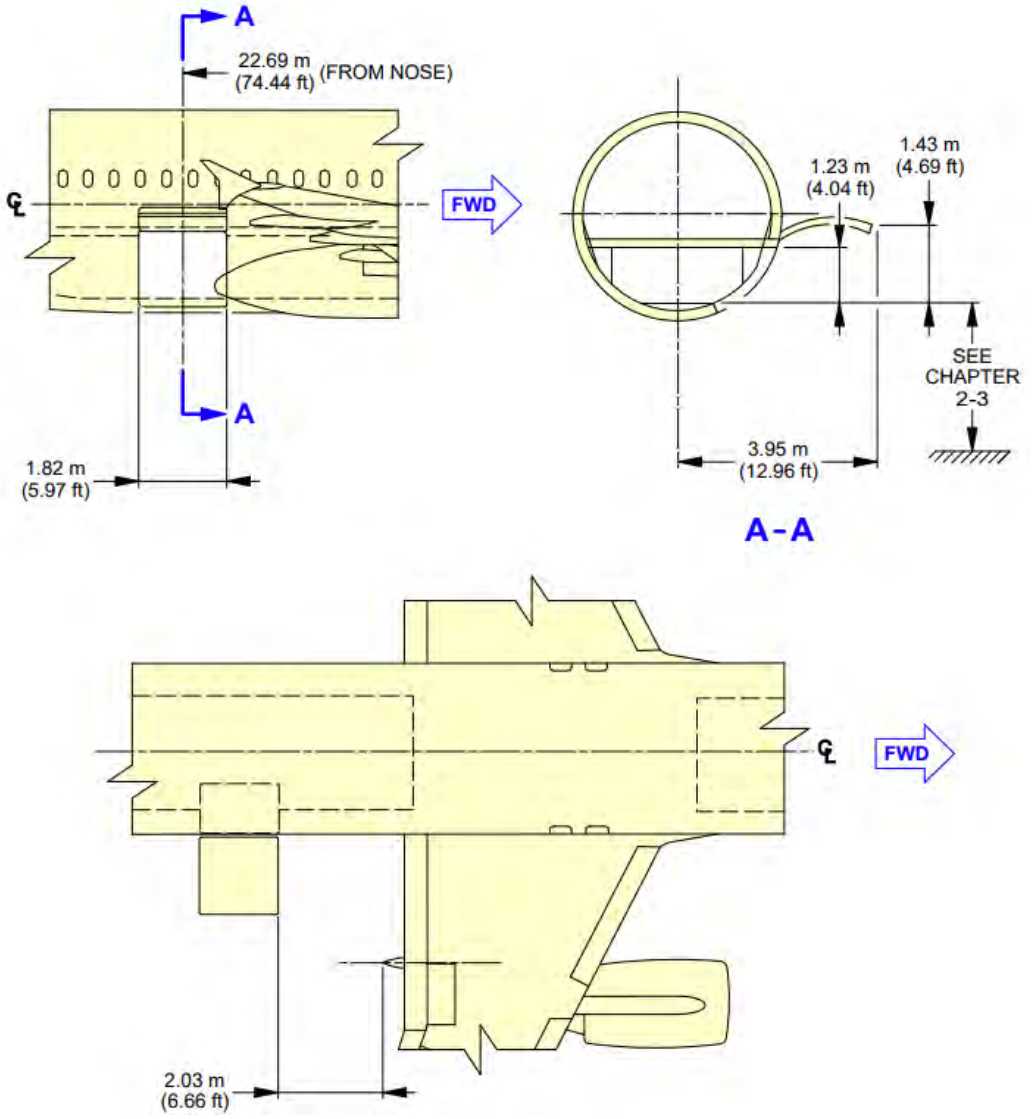
2.4.3 A320-214, A320-232, A320-233, A320-251N DOORS

DOOR ID	POSITION	OPENS	PURPOSE
FWD Entry Door (1L)	Left side, nose section	Outside of aircraft	Staff, crew & PAX entry
AFT Entry Door (3L)	Left side, tail section	Outside of aircraft	Staff, crew & PAX entry
FWD Service Door (1R)	Right side, tail section	Outside of aircraft	Service equipment loading & staff entry
AFT Service Doors (3R)	Right side, tail section	Outside of aircraft	Service equipment loading & staff entry
Overwing Emergency Exit Doors (2R/2L)	Left & rights sides, wingbox section	Outside of aircraft	Staff, crew & PAX evacuation in case of emergency
FWD Cargo Door	Right side, nose section	Outside and up	Baggage/cargo/mail/equipment loading & offloading operations
AFT Cargo Door	Right side, tail section	Outside and up	
Bulk Cargo Door	Right side, tail section	Inside the aircraft	

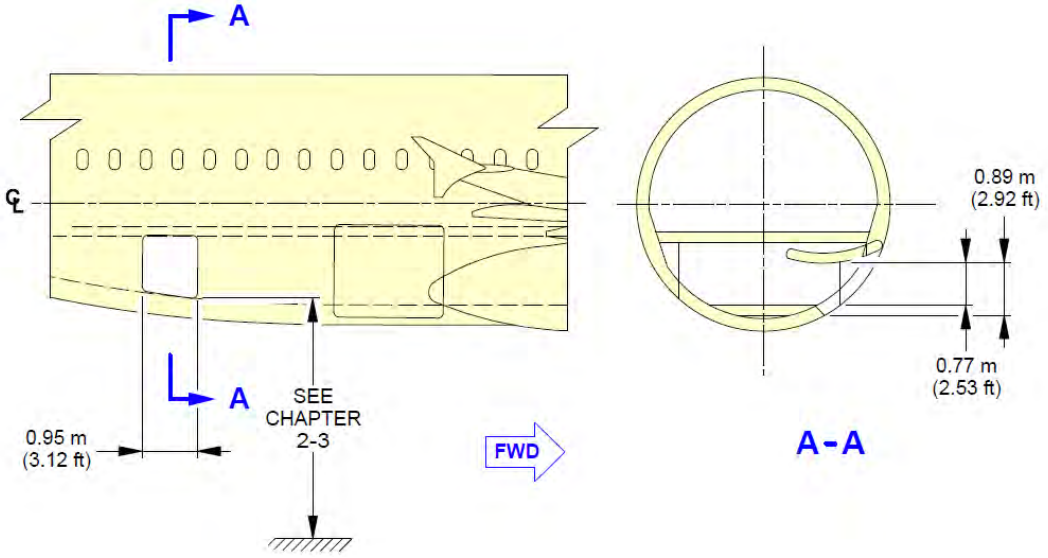
A320-214, -232, 233: FORWARD CARGO DOOR



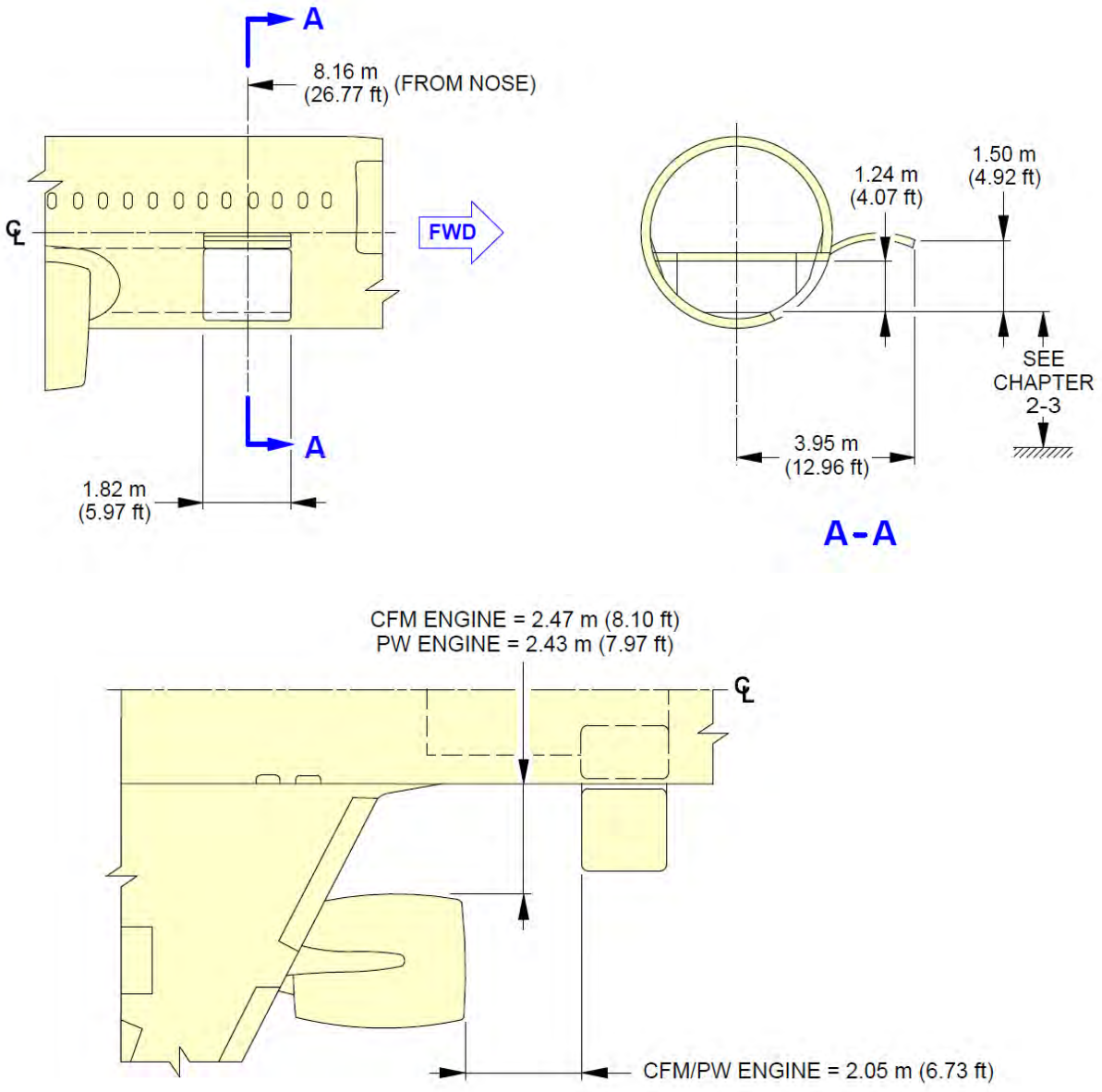
A320-214, -232, 233: AFT CARGO DOOR



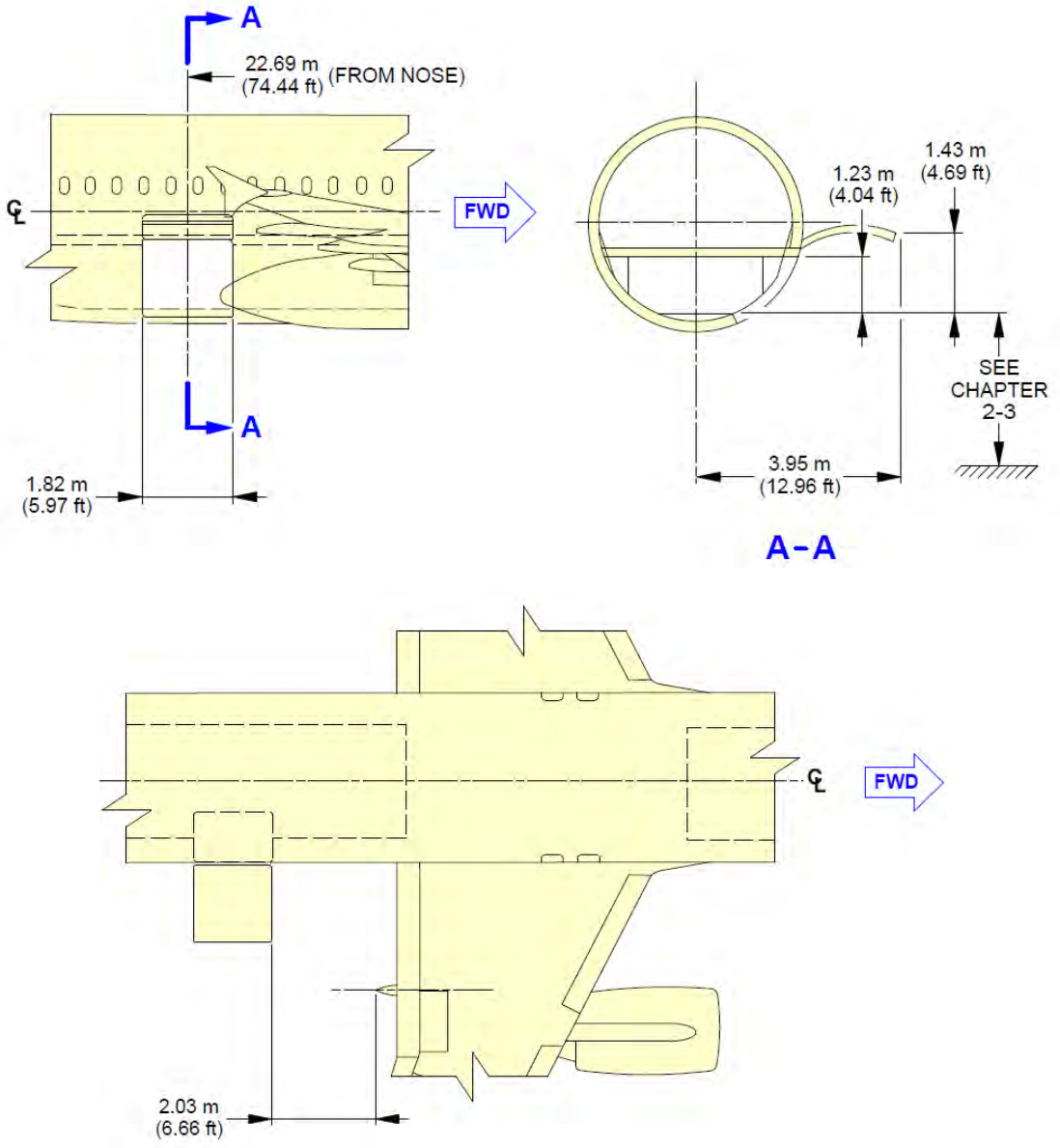
A320-214, -232, 233: BULK CARGO DOOR



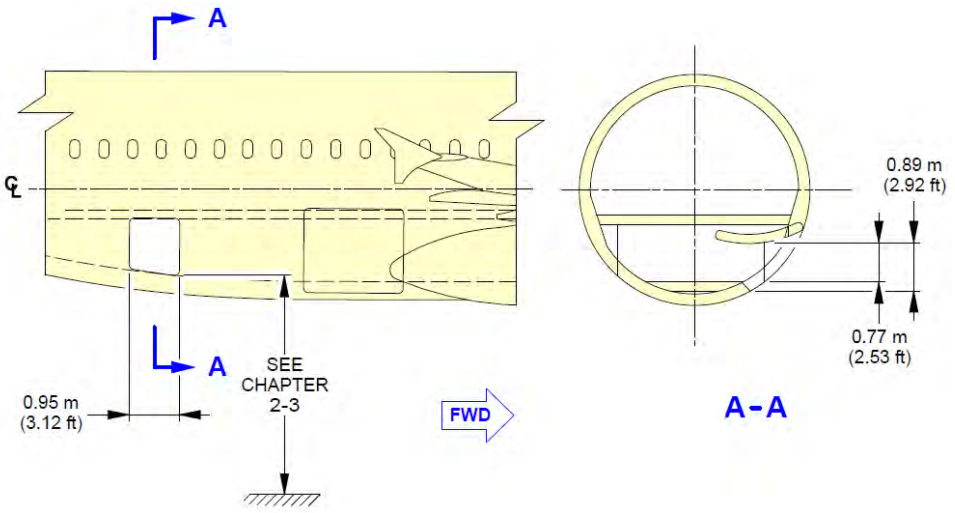
A320-251N: FORWARD CARGO DOOR



A320-251N: AFT CARGO DOOR

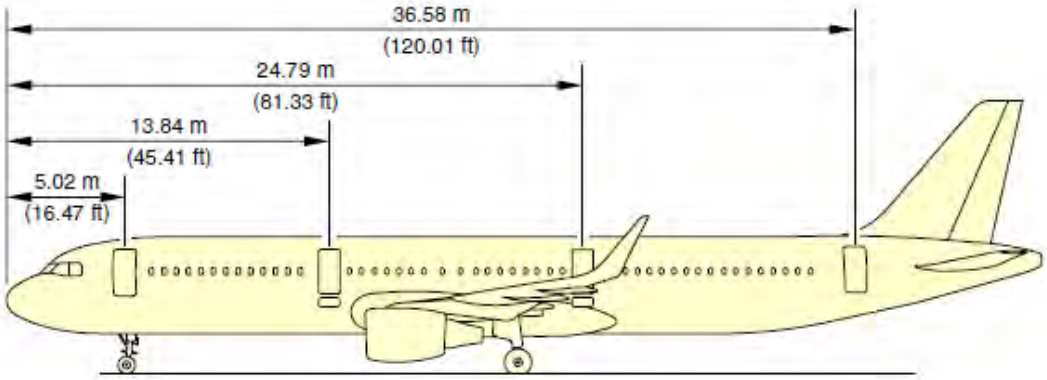


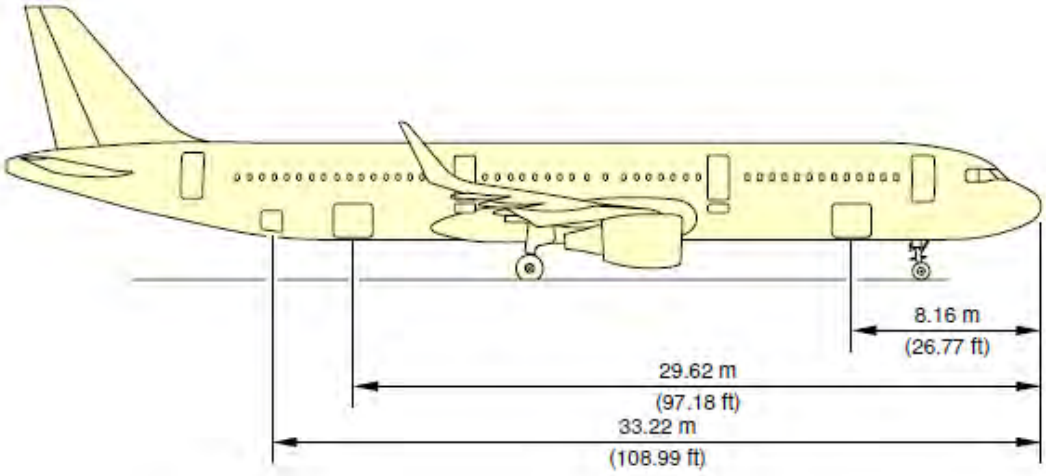
A320-251N: BULK CARGO DOOR



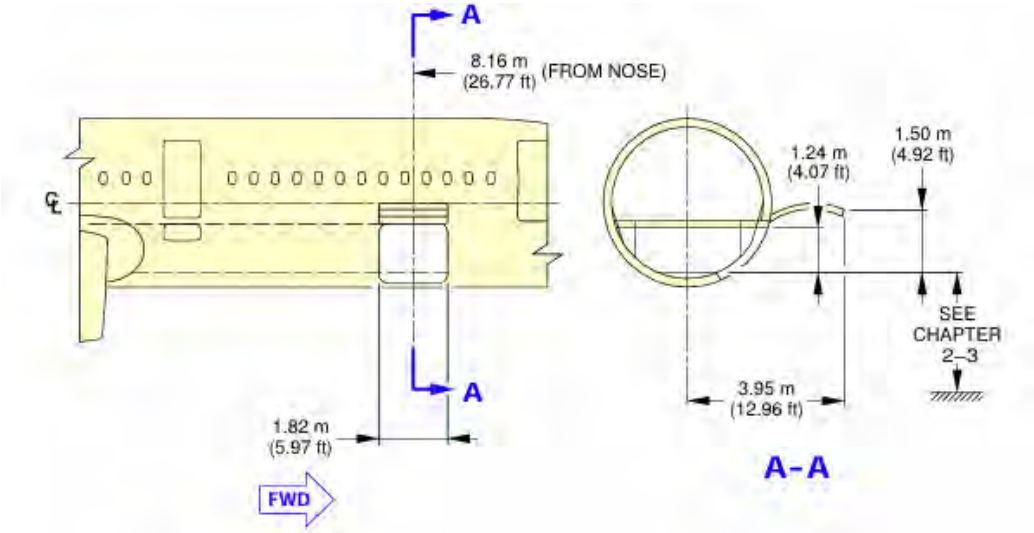
2.4.4 A321-251N DOORS

DOOR ID	POSITION	OPENS	PURPOSE
FWD Entry Door (1L)	Left side, nose section	Outside of aircraft	Staff, crew & PAX entry
AFT Entry Door (4L)	Right side, tail section	Outside of aircraft	Staff, crew & PAX entry
FWD Service Door (1R)	Left side, nose section	Outside of aircraft	Service equipment loading & staff entry
AFT Service Doors (4R)	Right side, tail section	Outside of aircraft	Service equipment loading & staff entry
Emergency Exit Doors (2R/2L & 3R/3L)	Left & rights sides, wingbox section	Outside of aircraft	Staff, crew & PAX evacuation in case of emergency
FWD Cargo Door	Right side, nose section	Outside and up	Baggage/cargo/mail/equipment loading & offloading operations
AFT Cargo Door	Right side, tail section	Outside and up	
Bulk Cargo Door	Right side, tail section	Inside the aircraft	

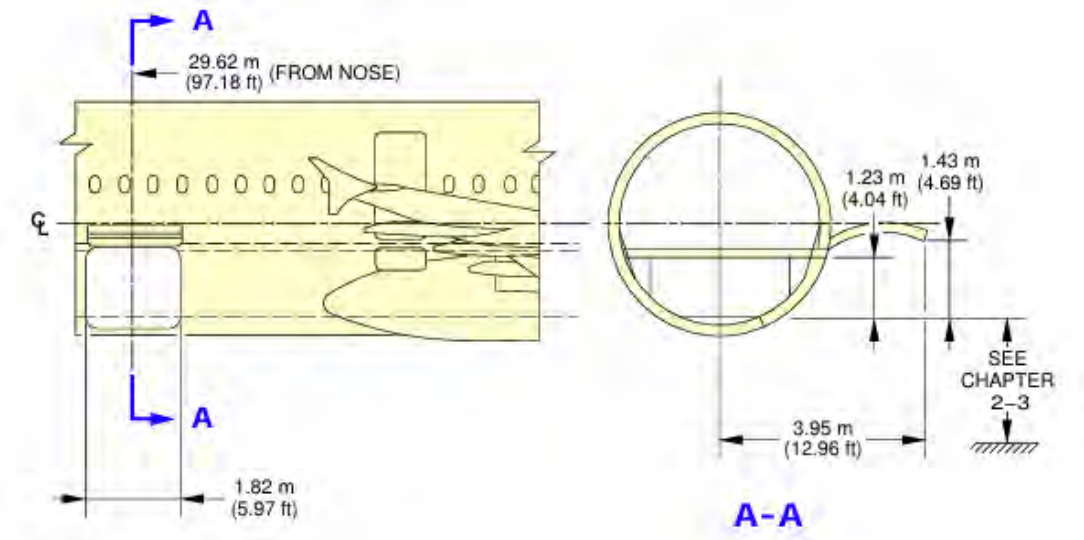




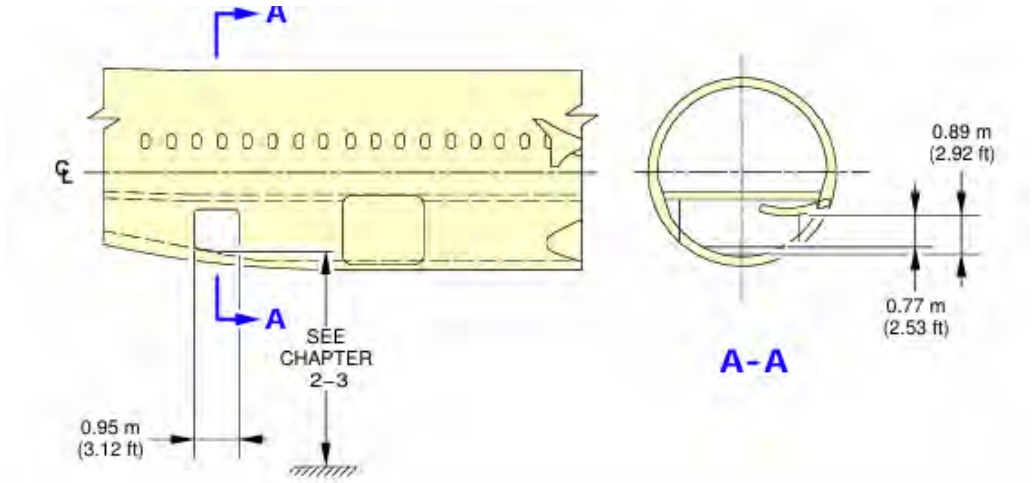
A321-251N: FORWARD CARGO DOOR



A321-251N: AFT CARGO DOOR

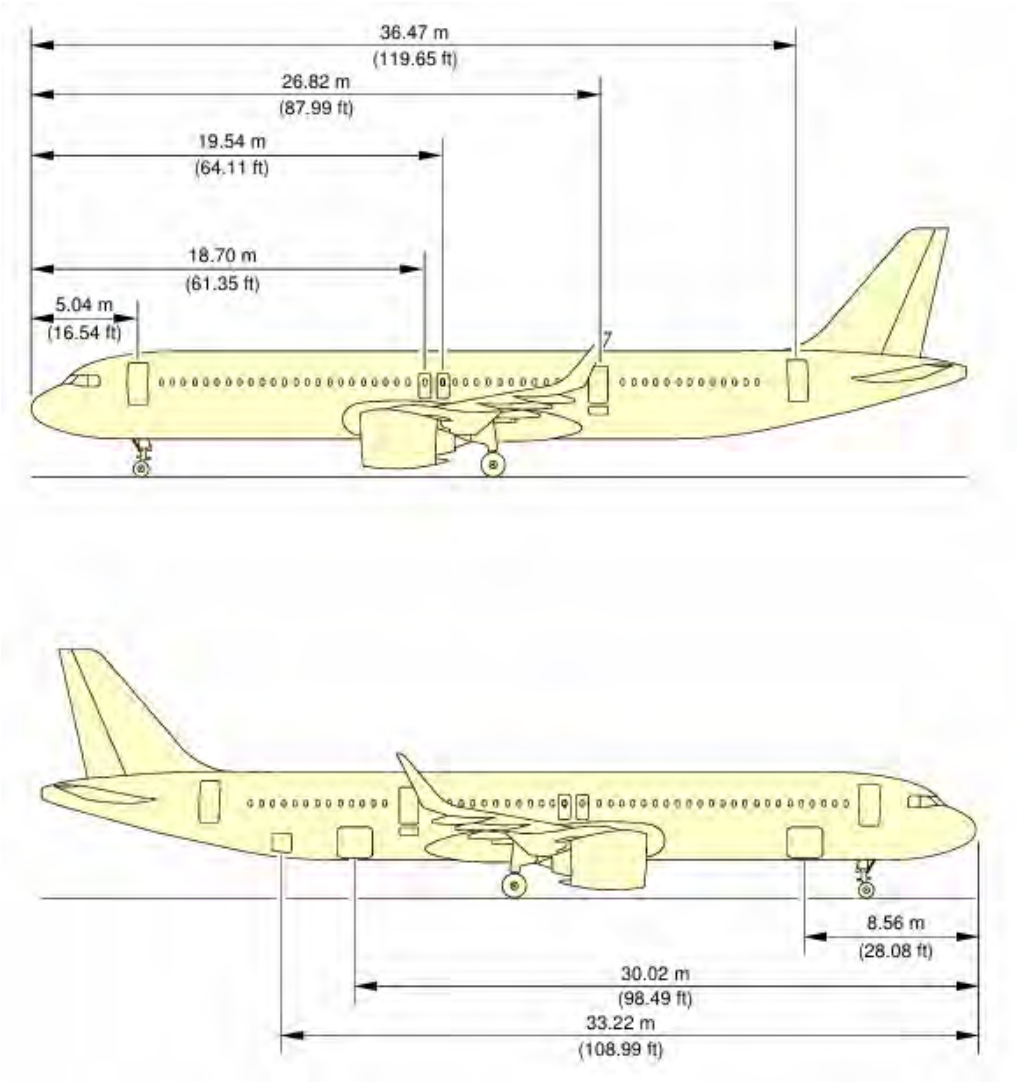


A321-251N: BULK DOOR

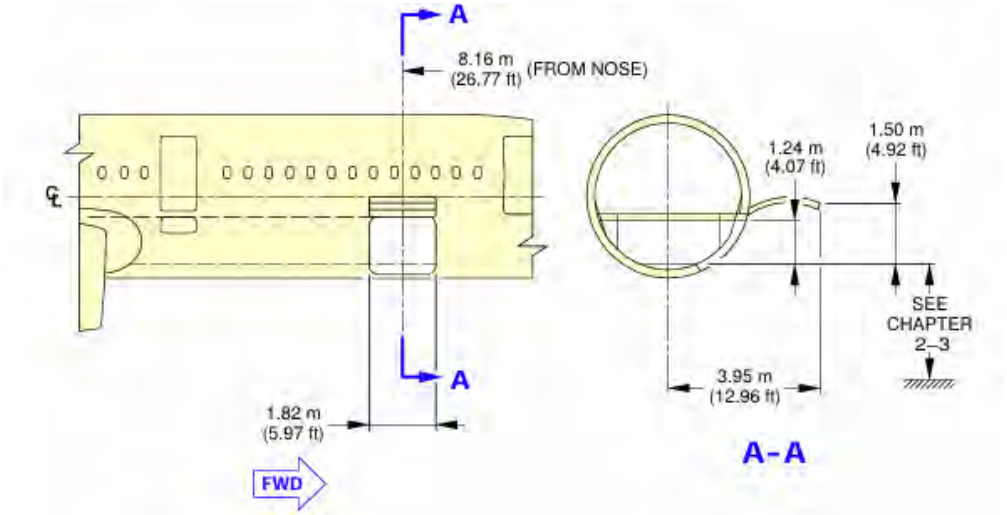


2.4.5 A321-253NX DOORS

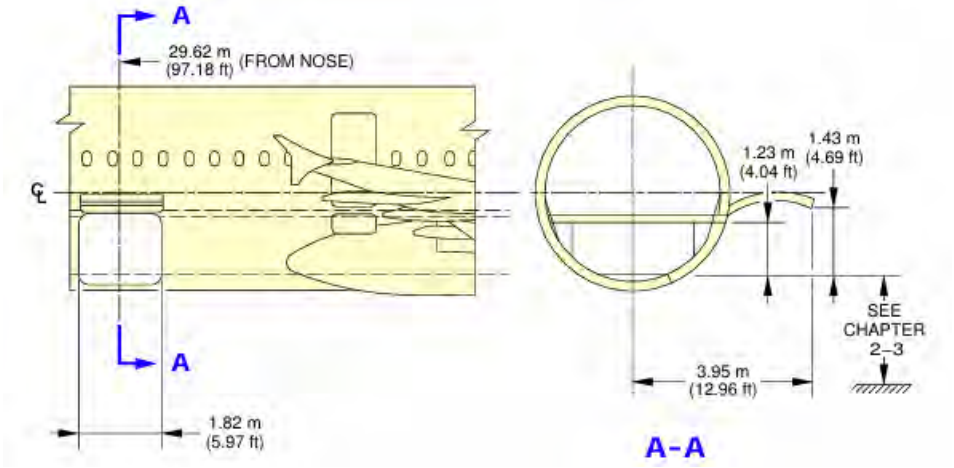
DOOR ID	POSITION	OPENS	PURPOSE
FWD Entry Door (1L)	Left side, nose section	Outside of aircraft	Staff, crew & PAX entry
AFT Entry Door (4L)	Right side, tail section	Outside of aircraft	Staff, crew & PAX entry
FWD Service Door (1R)	Left side, nose section	Outside of aircraft	Service equipment loading & staff entry
AFT Service Doors (4R)	Right side, tail section	Outside of aircraft	Service equipment loading & staff entry
Emergency Exit Doors (2R/2L & 3R/3L)	Left & rights sides, overwing	Outside of aircraft	Staff, crew & PAX evacuation in case of emergency
FWD Cargo Door	Right side, nose section	Outside and up	Baggage/cargo/mail/equipment loading & offloading operations
AFT Cargo Door	Right side, tail section	Outside and up	
Bulk Cargo Door	Right side, tail section	Inside the aircraft	



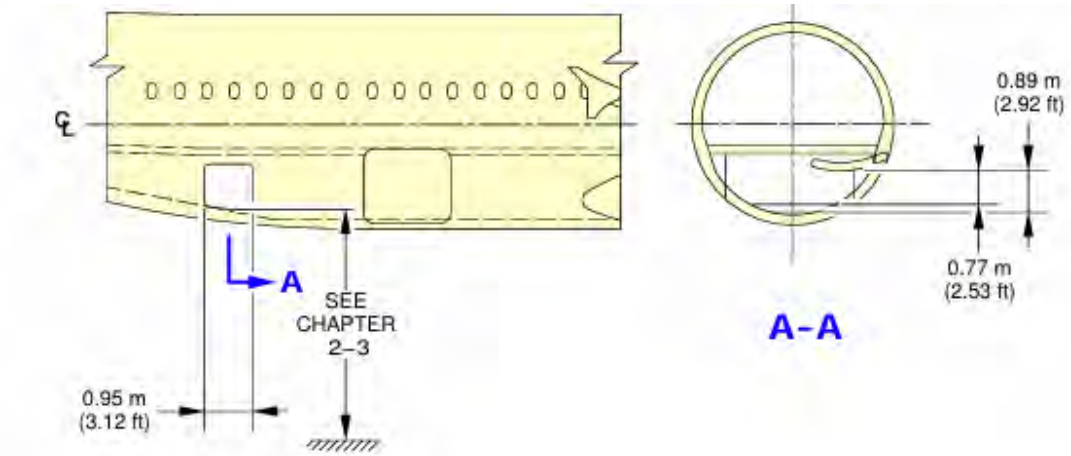
A321-253NX: FORWARD CARGO DOOR



A321-253NX: AFT CARGO DOOR

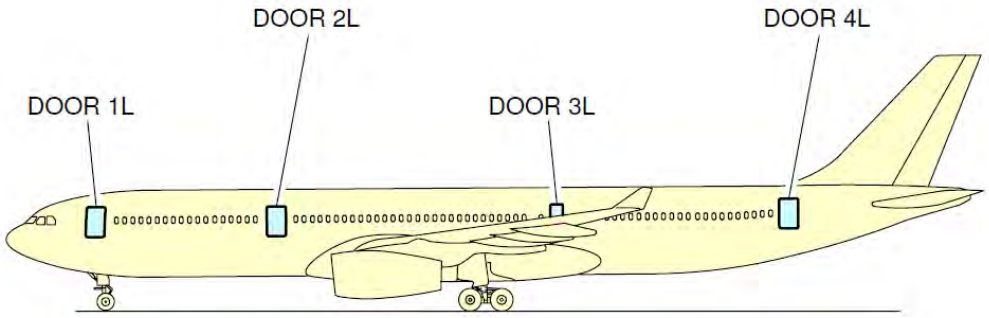


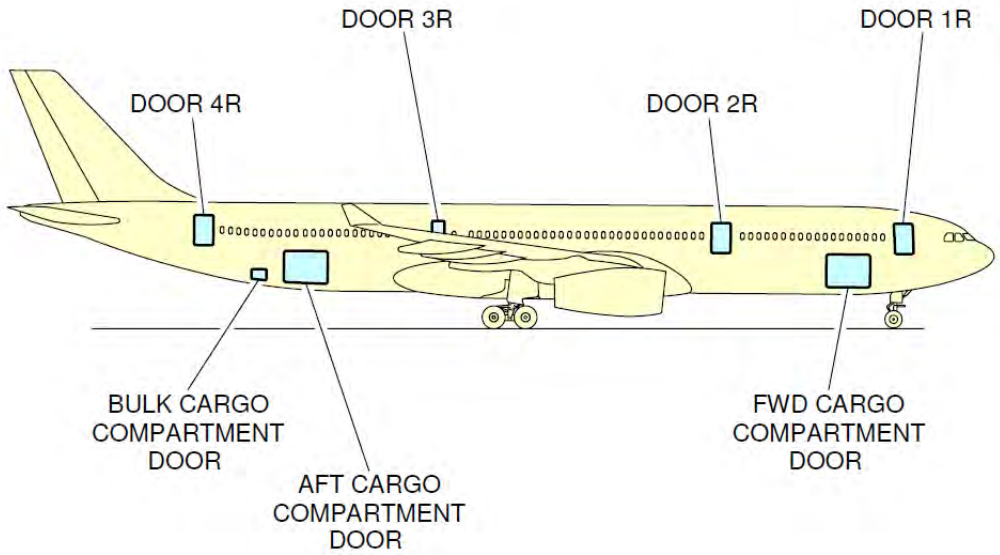
A321-253NX: BULK DOOR



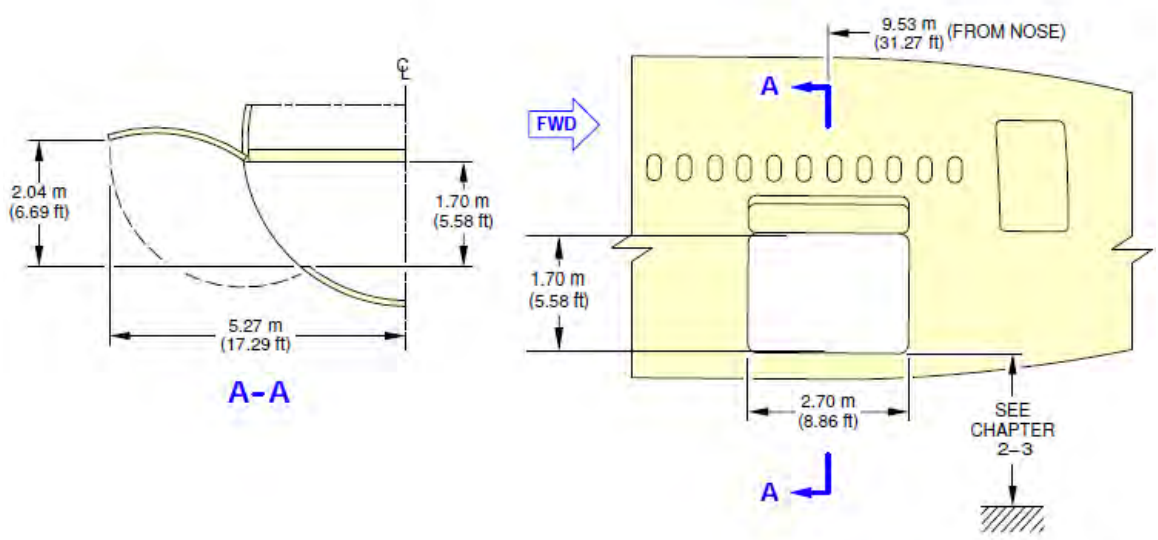
2.4.6 A330-343 DOORS

DOOR ID	POSITION	OPENS	PURPOSE
FWD Entry Door (1L)	Left side, nose section	Outside of aircraft	Staff, crew & PAX entry
AFT Entry Door (4L)	Right side, tail section	Outside of aircraft	Staff, crew & PAX entry
FWD Service Door (1R)	Left side, nose section	Outside of aircraft	Service equipment loading & staff entry
AFT Service Doors (4R)	Right side, tail section	Outside of aircraft	Service equipment loading & staff entry
Emergency Exit Doors (2R/2L & 3R/3L)	Left & rights sides, wingbox section	Outside of aircraft	Staff, crew & PAX evacuation in case of emergency
FWD Cargo Door	Right side, nose section	Outside and up	Baggage/cargo/mail/equipment loading & offloading operations
AFT Cargo Door	Right side, tail section	Outside and up	
Bulk Cargo Door	Right side, tail section	Inside the aircraft	

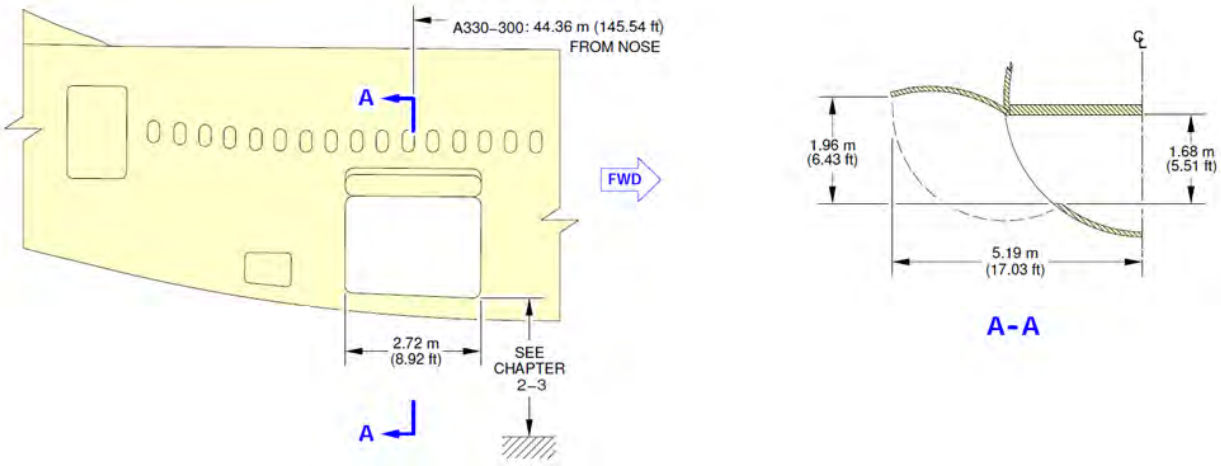




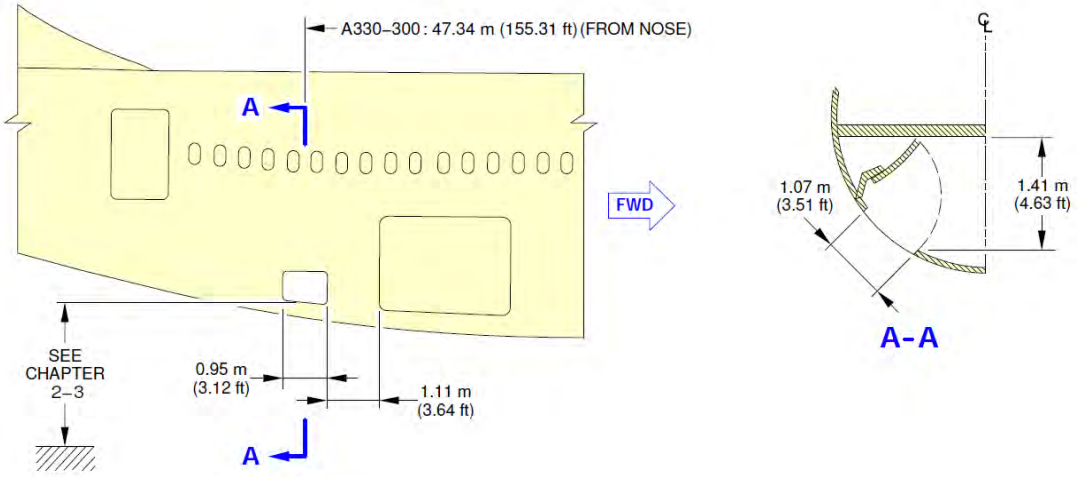
A330-343: FORWARD CARGO DOOR



A330-343: AFT CARGO DOOR



A330-343: BULK DOOR



2.5 AIRCRAFT DOORS OPERATIONS

2.5.1 ENTRY & SERVICE DOORS OPERATIONS – A319, A320, A321, A330

To open entry or service doors outside of aircraft:

1. Make sure that there are no obstacles on the way of the door movement, and passenger step/technical step does not block movement of door;
2. Make sure that the signal lights in the small window are not lit;
3. Raise up Door Handle until the stop;
4. Slide the door into the flight direction until it reaches the stop and blocked into opened position.

***NOTE 1*: do not open doors outside of aircraft, if you see the "Cabin pressure signal" turned on into small window, or cabin crew members are onboard.**

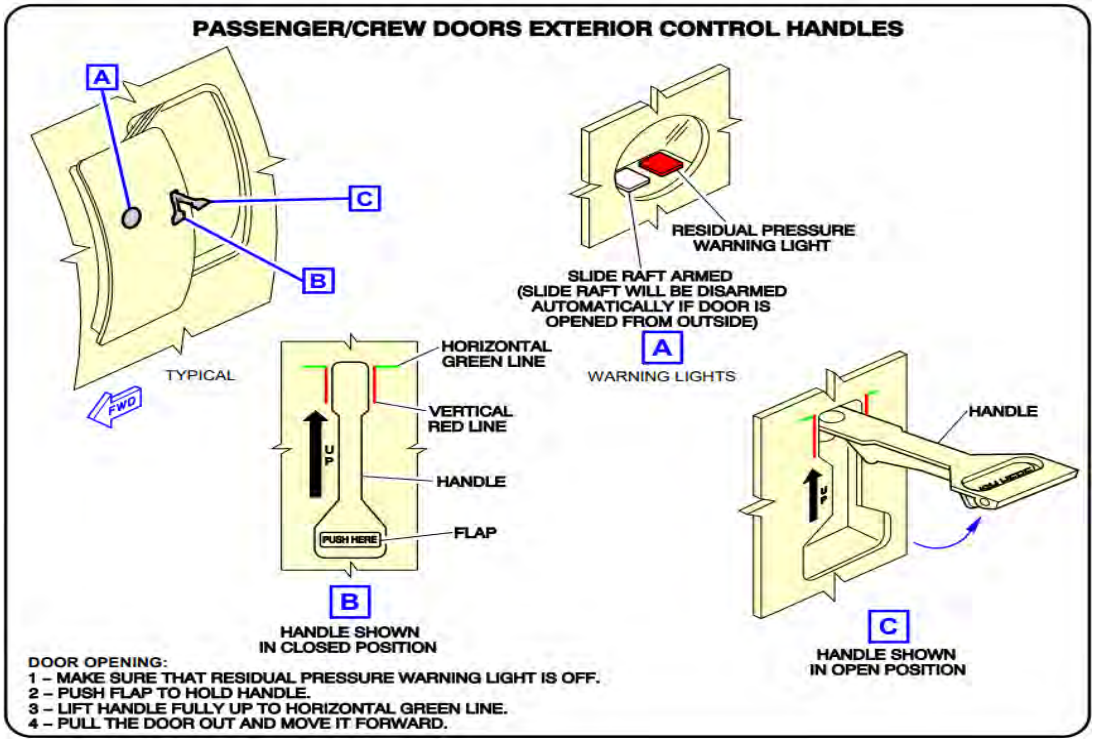
***NOTE 2*: cabin crew or engineers (if stays onboard) must open doors inside the aircraft.**

***NOTE 3*: doors 3L/3R are deactivated on UK888.**

***NOTE 4: this instruction is applicable for doors 1R/1L/4R/4L A320, A3221, A330. Never open doors 2R/2L/3R/3L (emergency exits) outside of aircraft.**

To close Crew Entry Door externally:

1. Make sure that there are no obstacles on the way of movement of the door and in the doorway;
2. Press the button on the top of the door actuator to unblock the door;
3. Slide the door against the flight direction until it is fit into fuselage and blocked into closed position;
4. Lower the Door Handle to close the door.



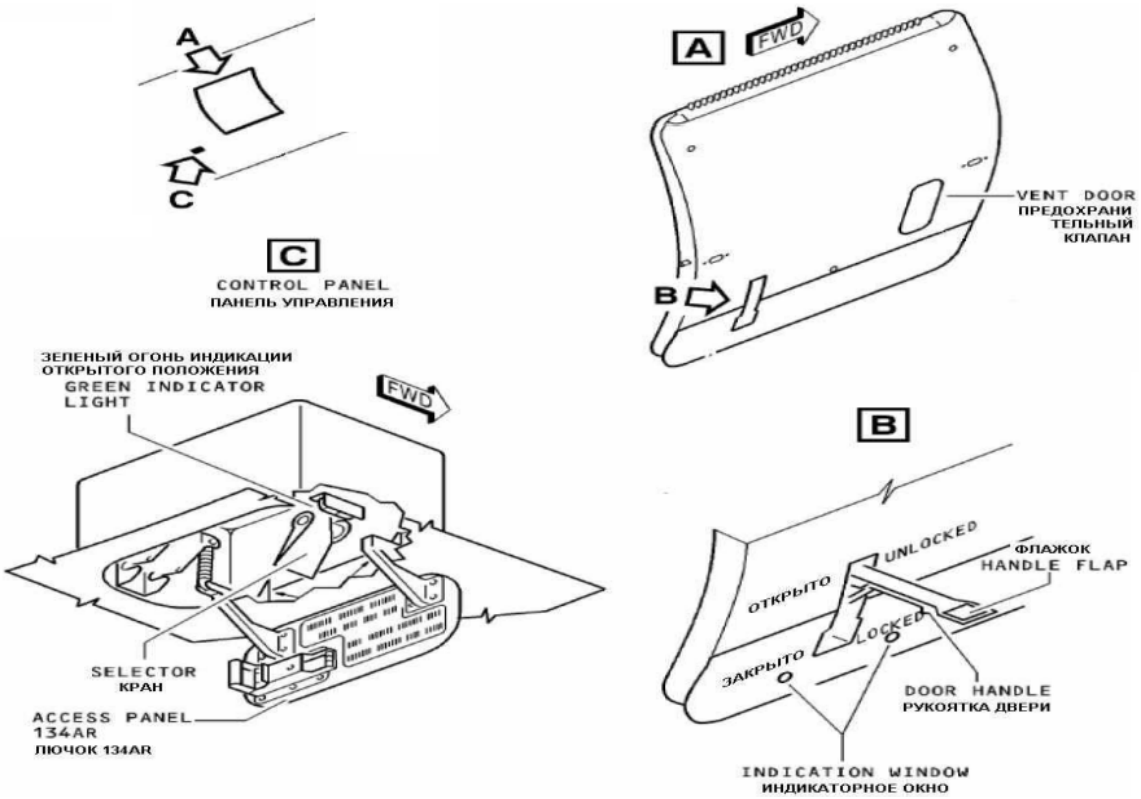
2.5.2 LOW DECK CARGO DOORS OPERATIONS – A319, A320, A321

ATTENTION!

When the outside air temperature is below 0^0 C and in the absence of work on loading and unloading of baggage, mail, cargo, spare parts (FKT) – all doors of the cargo compartments must be closed to prevent defrosting of the aircraft's water system.

To open the FWD & AFT cargo doors A319-153N, A320-214, -232, -233, A320-251N, A321-251N, A321-253NX:

1. Make sure that there are no obstacles and service personnel are presented on the way of the door movement. The door opens outside;
2. Stand at a distance from the door, as shown on photos;
3. Raise up the Door Handle – refer to ***Fig. B*** below (***<u>For A319-153N, A320-251N, A321-251N, A321-253NX only</u>: press additional button PUSH 1 on Door Handle and only after that pull the Door Handle***).
4. Make sure that the safety valve flap (Vent Door) is open;
5. Go to the control panel located on the bottom of the aircraft fuselage (*refer to **Fig. C** below*);
6. Open the hatch of the control panel;
7. Move the selector to the OPEN position and hold until the door is fully opened;
8. Make sure that the green indicator light is turned on and close the control panel hatch.



<u>NOTE</u>: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

***NOTE*: Contact engineer if needs to open/close door manually.**

To close the FWD & AFT cargo doors A319-153N, A320-214, -232, -233, A320-251N, A321-251N, A321-253NX:

1. Make sure that there are no obstacles and maintenance personnel in the doorway and in the way of the door movement;
2. Make sure that all nets inside the compartment are installed and fastened. No obstackles (cargo net, loaded packages or its parts, etc.) must be presented into the doorway;
3. Go to the control panel located on the bottom of the aircraft fuselage (refer to the **Fig. C** on drawings above);
4. Open the hatch of the control panel;
5. Move the valve (Selector) to the Close position and hold until the door is fully closed. The green indicator will turn off when the door starts to move;
6. Release the tap after the door touches the opening and fit into fuselage;
7. Make sure that the tap (Selector) has returned to the neutral position on its own. If this does not happen, forcibly return it to a neutral position;
8. Close the hatch of the control panel;
9. Within 3 seconds after Selector is released - lower the door opening / closing handle (Door Handle) into the “Locked” direction, otherwise the door under its own weight will move away from the door opening. *If door moved down, repeat Steps 5-8.*
10. Make sure the Door Handle is fit into the door surface and the Vent Door is closed.

***NOTE 1*: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!**

***NOTE 2*: Contact engineer if needs to open/close door manually.**

BULK DOORS

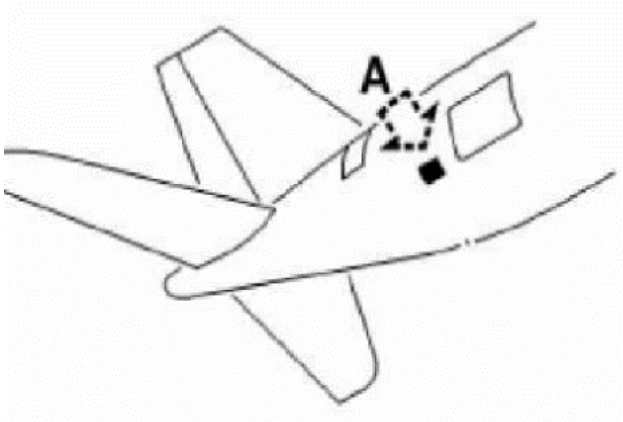
- **A319 aircraft is not equipped with bulk door.**
- **Any A320 or A321 aircraft (Classic or Neo) has bulk door.**

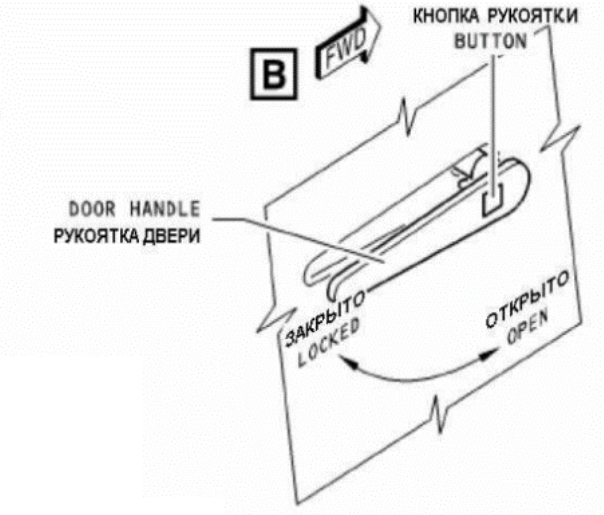
To open Bulk Cargo Door (A320 & A321 only):

1. Pull the handle out of door surface.
2. Rotate the handle according to the marks on the door.
3. Pull the door up until it secured in upper position.

To close Bulk Cargo Door (A320 & A321 only):

1. Pull the door down.
2. Pull the handle out of the door surface.
3. Turn the handle to the unlatch position to ensure the latch cams are in the proper position.
4. Close the door.
5. Turn the handle to the latch position and put down to door surface.

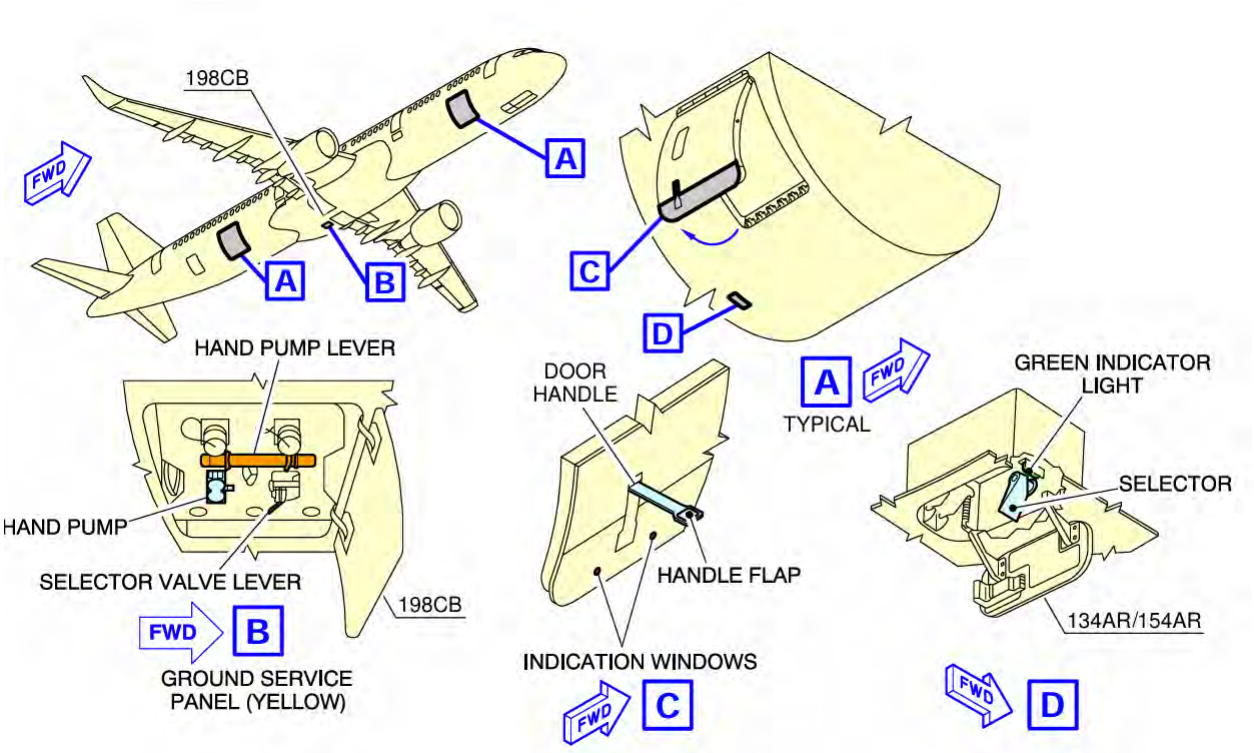




ATTENTION!

When the outside air temperature is close or lower 0^0 C – all doors of the cargo compartments must be closed to prevent defrosting of the aircraft's water system (except the time of loading/offloading operations).

2.5.3 LOW DECK CARGO DOORS OPERATIONS – A321-251N & A321-253NX



NORMAL OPERATION:

1 – PUSH THE HANDLE FLAP IN TO RELEASE THE DOOR HANDLE FROM THE CATCH OF THE DOOR STRUCTURE.
2 – PULL THE DOOR HANDLE AWAY AND UP FROM THE DOOR STRUCTURE. TO THE FULLY "UNLOCKED" POSITION. YOU CAN SEE A RED MARK THROUGH ALL THE INDICATION WINDOWS.
3 – OPEN THE ACCESS DOOR 134AR/154AR BELOW THE FUSELAGE TO GET ACCESS TO THE SELECTOR.
4 – MOVE THE SELECTOR TO THE "OPEN" POSITION AND HOLD IT UNTIL THE GREEN INDICATOR LIGHT COMES ON. (DOOR FULLY OPEN AND LOCKED).
5 – RELEASE THE SELECTOR.

MANUAL OPERATION:

NOTE: TWO OPERATORS ARE NECESSARY FOR THIS OPERATION.
1 – DO THE OPERATIONS 1 TO 3 AS FOR "NORMAL OPERATION".
2 – MOVE THE SELECTOR TO THE "OPEN" POSITION AND HOLD IT DURING OPERATION OF THE HAND PUMP.
3 – IN THE BELLY FAIRING AREA, OPEN THE ACCESS DOOR 198CB OF THE YELLOW GROUND SERVICE PANEL.
4 – SET THE LEVER OF THE ELECTRO–MANUAL SELECTOR VALVE TO THE HAND PUMP POSITION.
5 – INSTALL THE HAND PUMP LEVER ON THE HAND PUMP AND OPERATE IT UNTIL THE CARGO DOOR IS FULLY OPENED (YOU CAN FEEL THE FORCE INCREASE ON THE HAND PUMP LEVER).

To open Bulk Cargo Door:

1. Pull the door handle out of door surface. *Refer to **Picture C** on drawing above.*
2. Rotate the handle according to the marks on the door.
3. Pull the door up until it secured in upper position.

To close Bulk Cargo Door:

1. Pull the door down.
2. Turn the door handle to the unlatch position to ensure the latches are in the proper position. *Refer to **Picture C** on drawing above.*
3. Close the door by selector. *Refer to **Picture D** on drawing above.*
4. Turn the handle to the latch position.

ATTENTION!

When the outside air temperature is close or lower 0^0 C – all doors of the cargo compartments must be closed to prevent defrosting of the aircraft's water system (except the time of loading/offloading operations).

2.5.4 LOW DECK CARGO DOORS OPERATIONS – A330-343

A330-343: FORWARD AND AFT CARGO DOORS

WARNING! – ensure that all personnel and equipment are clear of cargo door area.

WARNING! – do not open the cargo door if the residual pressure warning light is flashing.

TO OPEN CARGO DOOR:

1. Push the handle flap in and pull the Locking Handle to the “UNLOCKED” position. All indicator flags must move out.
2. Make sure if red warning light («Residual Pressure Warning Light») is not turned on.

- *If red warning light («Residual Pressure Warning Light») is turned on, stop operations and inform engineers immediately*.

3. If red warning light («Residual Pressure Warning Light») is not turned on, press the pushbutton on the top of the latching handle and pull it to the “UNLOCKED” position.
4. Open the door operation level access door (marked as 122CR/152NR).
5. Move the door operation lever to the “OPEN” position and hold it until the door fully opened, and green indicator light turned on.
6. Release the door operation lever. Lever goes automatically to the “STOP” position. If not, move it manually.
7. Close door operation level access door (marked as 122CR/152NR).

TO CLOSE CARGO DOOR:

1. Open door operation level access door (marked as 122CR/152NR).
2. Move the door operator lever to the “CLOSE” position and hold it until the door fully closed and locked, and green indicator light turned off.
3. Pull the Latching Handle up intil it stopped in retracted position.
4. Pull the Locking Handle down. Make sure if red indicator flags are retracted into door surface.
5. Make sure if handle flap is fully retracted, and door operation level access door (marked as 122CR/152NR) is closed.

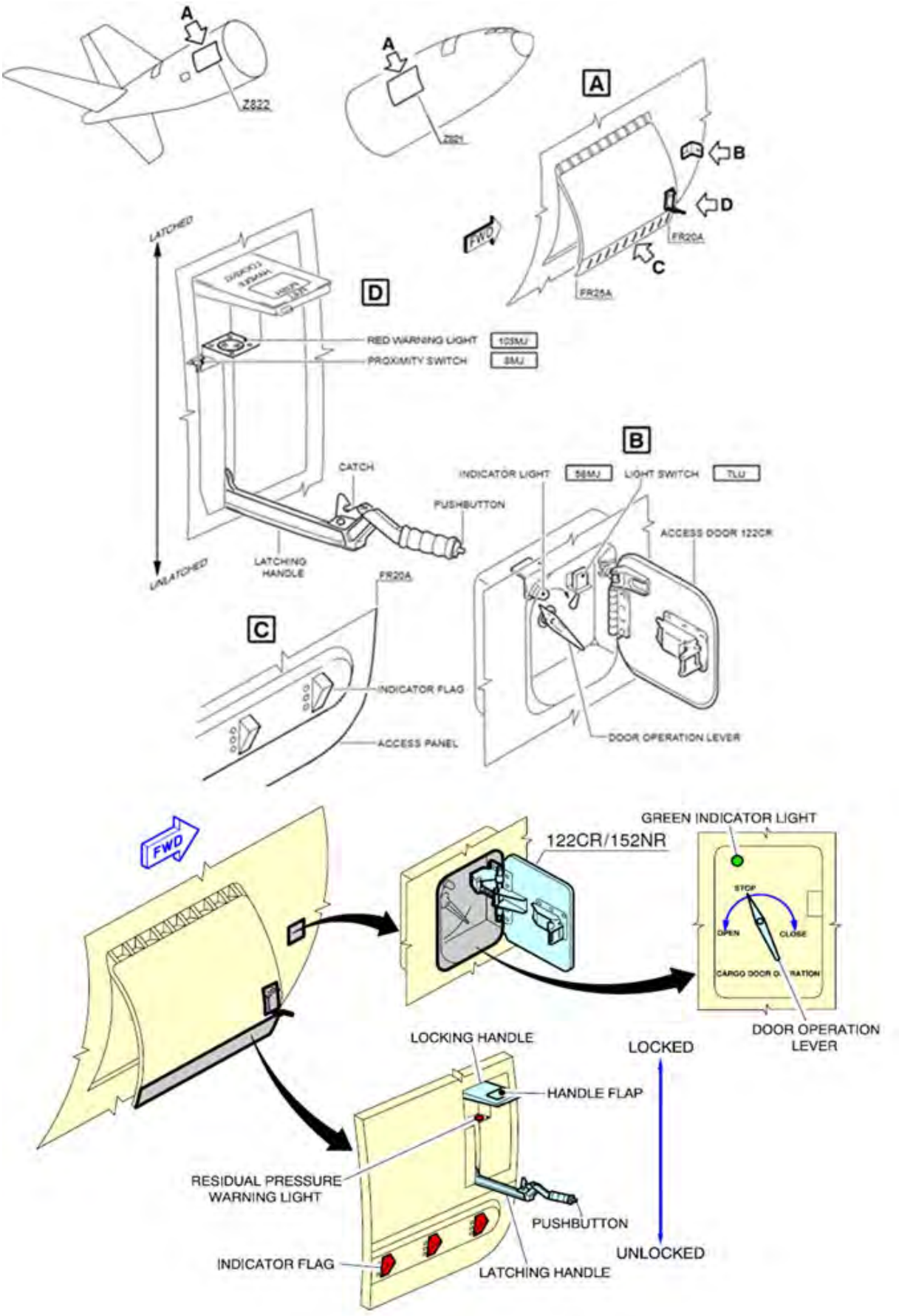
NOTES:

1. In case of door lifting system failure any of cargo doors can be opened manually (by aircraft hydraulic system).

2. Contact engineers to open/close cargo doors of Forward or Aft Holds manually.

ATTENTION!

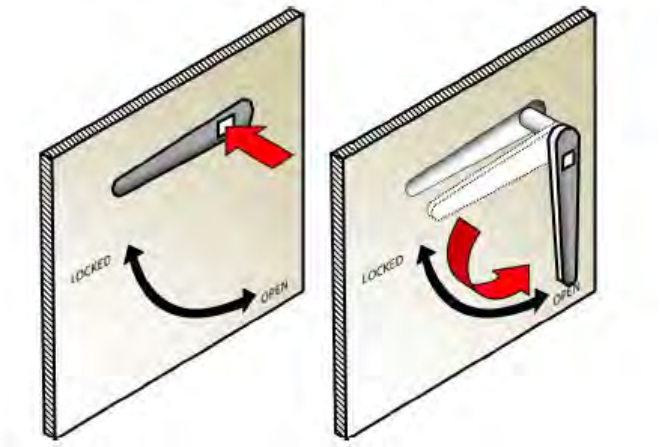
When the outside air temperature is close or lower 0^0 C – all doors of the cargo compartments must be closed to prevent defrosting of the aircraft's water system (except the time of loading/offloading operations).


A
Z822
A
A
B
D
FWD
FR20A
C
FR25A
LATCHED
D
RED WARNING LIGHT
PROXIMITY SWITCH
UNLATCHED
CATCH
LATCHING HANDLE
PUSHBUTTON
B
INDICATOR LIGHT
LIGHT SWITCH
ACCESS DOOR 122CR
FR20A
C
INDICATOR FLAG
ACCESS PANEL
DOOR OPERATION LEVER
FWD
122CR/152NR
GREEN INDICATOR LIGHT
STOP
OPEN
CLOSE
DOOR OPERATION LEVER
LOCKING HANDLE
LOCKED
HANDLE FLAP
RESIDUAL PRESSURE WARNING LIGHT
PUSHBUTTON
UNLOCKED
INDICATOR FLAG
LATCHING HANDLE

A330-343: CARGO DOOR OF COMPARTMENT 5

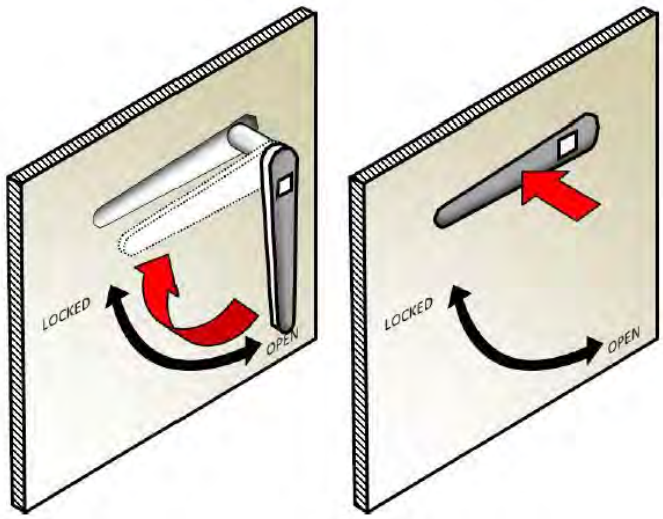
TO OPEN DOOR:

1. Press the button in the door handle to release the door handle.
2. Turn the door handle to OPEN.
3. Push the door inward and turn the door handle to LOCKED.
4. Open the door until it locks at the compartment ceiling.



TO CLOSE DOOR:

1. Turn the handle to open.
2. Pull the door down until it is closed.
3. Turn the door handle to LOCKED and ensure it is flush with the door surface.



NOTES:

1. Contact engineers to open/close Bulk cargo door in case of failure.

ATTENTION!

When the outside air temperature is close or lower 0^0 C – all doors of the cargo compartments must be closed to prevent defrosting of the aircraft's water system (except the time of loading/offloading operations).

2.6 CARGO HOLDS CONFIGURATIONS

2.6.1 GENERAL RESTRICTIONS

1. **A319-153N, A320-214, -232, -233, A320-251N, A321-251N, A321-253NX** have 2 cargo compartments: Forward (includes 3-5 sections depends on A/C model and modification) and Aft (contains up to 8 sections depends on A/C model and modification).
   - All mentioned aircraft are not equipped by special systems to load and secure ULD.
   - There are restrictions for loading of baggage and cargo classified as “Dangerous Goods” or “Special Cargo” to specific aircraft.
   - Aft Cargo Hold of **A319-153N (UK888)** is equipped by 3 additional center tanks (shortly named ACT), and same hold is used for loading of crew baggage and Fly Away Kit, so loading of additional baggage & cargo to this hold is not possible.

2. **A320-214, -232, -233** *(UK32070, UK32071, UK32072, UK32073)* **and A320-251N** *(UK32074, UK32075)* are not equipped by ACT. Only loose cargo/baggage/mail packages/equipment can be loaded to its cargo holds.
   - Different weight limits for payload are applicable to different modifications of aircraft (Classic and Neo). *Observe loading limits for specific aircraft (mentioned in AHM560 or AHM565) before weight & balance computations*.
   - **A320-251N** (*UK32074, UK32075*) have restrictions for loading of CPT 5, Section 53: it is prohibited to load anything except standard FKT (12kg) to mentioned section. Special cargo net is installed between Sections 52 and 53 to prevent mistake loading to Section 53.

3. **A321-251N (UK32130)** is equipped by 1 ACT installed in Section 31 of AFT Hold.
   - There are restrictions for loading of Dangerous Goods to AFT Hold. Dangerous goods Class 1, Division 2.1, Class 3, Class 4 (all divisions), Class 5, Class 8 are forbidden for loading to the AFT compartment of the lower deck under any circumstances due to ACT.
   - Any item heavier 32kg (or any item (include long & narrow pieces) potentially able to damage ACT protection wall or ACT itself must be restrained to A/C structure against 9G accelerations in flight direction (minimum 3 embraced straps for any item of any weight).
   - If volume of payload in Compartment 3 and Compartment 4 (each CPT separately) is less 75% of max volume, the total weight of payload in Compartment 5 must not exceed 200 kg.

4. **A321-253NX (UK32131, UK32132)** are equipped by 2 ACT installed in Sections 31 & 32 of AFT Hold.
   - There are restrictions for loading of Dangerous Goods to AFT Hold. Dangerous goods Class 1, Division 2.1, Class 3, Class 4 (all divisions), Class 5, Class 8 are forbidden for loading to the AFT compartment of the lower deck under any circumstances due to ACT.
   - Any item heavier 32kg (or any item (include long & narrow pieces) potentially able to damage ACT protection wall or ACT itself must be restrained to A/C structure against 9G accelerations in flight direction (minimum 3 embraced straps for any item of any weight).
   - If volume of payload in Compartment 3 and Compartment 4 (each CPT separately) is less 75% of max volume, the total weight of payload in Compartment 5 must not exceed 200 kg.

5. **A330-343** *(UK33030, UK33031, UK33032)* are equipped by cargo handling system includes rollers and locks/restraints to load and secure different types of ULDs in Compartments (*refer to **Sections 2.6.2.4-2.6.2.5 Part 2 GOCHM** to have full information about possible ULD intermix and **Section 2.6.2.7-2.6.2.9 Part 2 GOCHM** to have full information about Cargo Handling System operation*).

6. **Compartment 5 of each passenger aircraft** has flat floor to accommodate light loose items only. ULD loading is not possible into this compartment.

- **A319-153N** (*UK888*) has no bulk compartment due to the ACT installed in AFT Hold.

7. Each cargo hold of any passenger aircraft has limited quantity attachment points for cargo tie-down. Refer to ***Chapter 8 GOCHM*** for details.

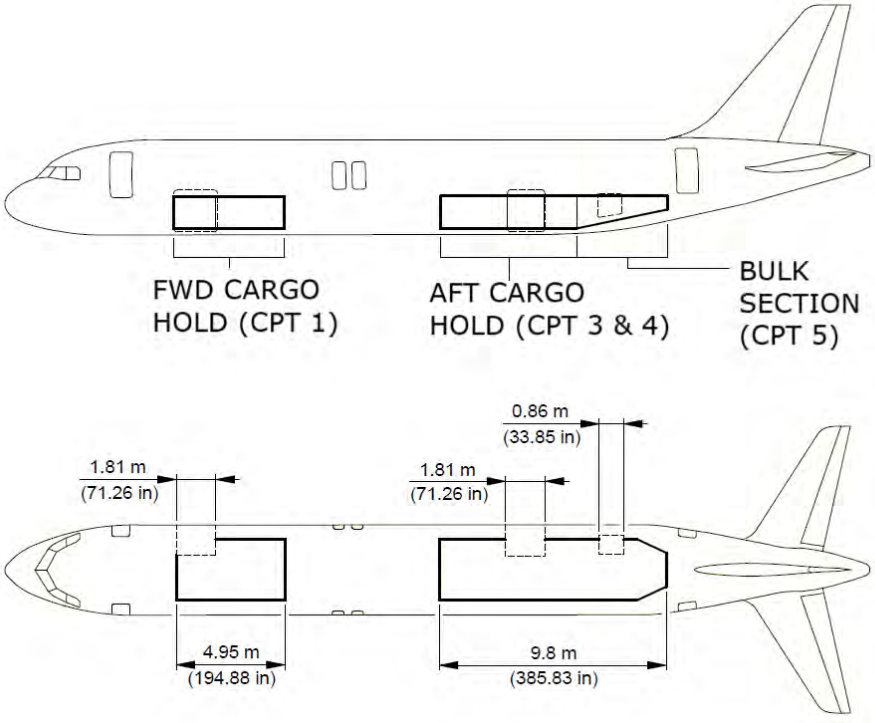
2.6.2 CARGO HOLDS CONFIGURATIONS

2.6.2.1 A320-214, -232, -233, A320-251N CARGO HOLD CONFIGURATIONS

Applicable for: UK32070, UK32071, UK32072, UK32073, UK32074, UK32075

There are 4 compartments on A320 aircraft:

1. **FWD Hold** – Compartment 1 (sections 11, 12, 13).
2. **AFT Hold** – Compartment 3 (sections 31 & 32).
3. **AFT Hold** – Compartment 4 (sections 41 & 42).
4. **AFT Hold** – Compartment 5 (sections 51, 52 & 53).



CARGO COMPARTMENTS DIMENSIONS AND LIMITS – A320ceo

Applicable for: UK32070, UK32071, UK32072, UK32073

Cargo Hold ID	Usable volume per section, m^3	Max TTL volume of compartment	Max TTL payload weight per section, kg	Max TTL payload weight per compartment, kg
11 (FWD Hold)	3.7	11.95	1045	3402
12 (FWD Hold)	4.3		1225	
13 (FWD Hold)	3.95		1132	
31 (AFT Hold)	4.7	8.7	1301	4536
32 (AFT Hold)	4		1125	
41 (AFT Hold)	3.41		928	
42 (AFT Hold)	4.28		1182	
51 (Bulk Hold)	1.34	5.34	374	1460
52 (Bulk Hold)	1.25		430	
53 (Bulk Hold)	2.75		770	

CARGO COMPARTMENTS DIMENSIONS AND LIMITS – A320neo

Applicable for: UK32074, UK32075

Cargo Hold ID	Usable volume per section, m^3	Max TTL volume of compartment	Max TTL payload weight per section, kg	Max TTL payload weight per compartment, kg
11 (FWD Hold)	3.7	12	500	2632
12 (FWD Hold)	4.3		1000	
13 (FWD Hold)	3.95		1132	
31 (AFT Hold)	4.7	16.45	1301	4536
32 (AFT Hold)	4		1125	
41 (AFT Hold)	3.41		928	
42 (AFT Hold)	4.28		1182	
51 (Bulk Hold)	1.34	2.59 (*Section 53 is inoperable*)	374	500
52 (Bulk Hold)	1.25		100	
53 (Bulk Hold)	2.75		50	

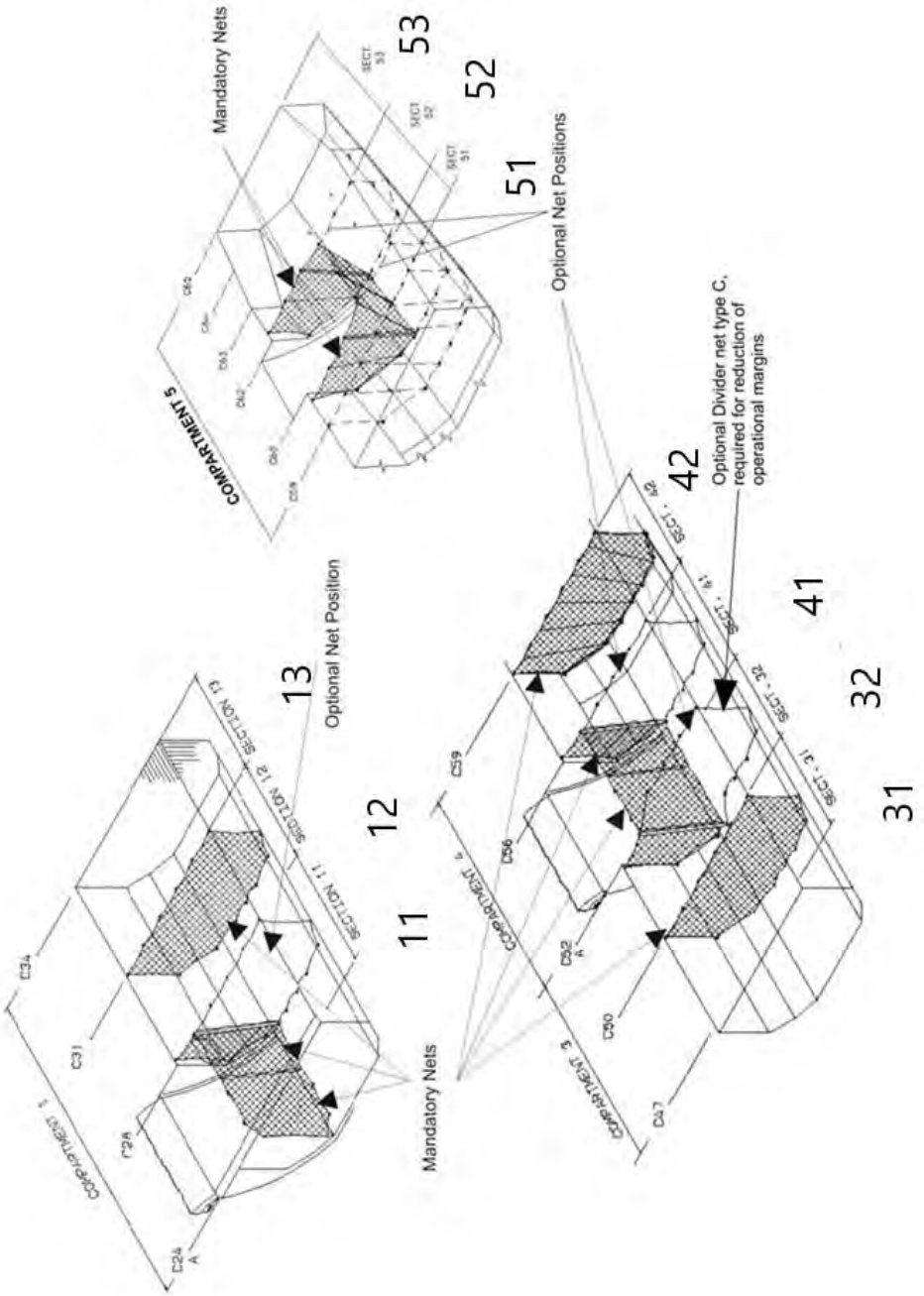
***NOTE**: actual usable volumes are shown above for reference (based on all Airbus restrictions), but actual space utilization is always 75-85% from mentioned volumes.*

Cargo holds and cargo nets layouts are similar on A320ceo and A320neo.

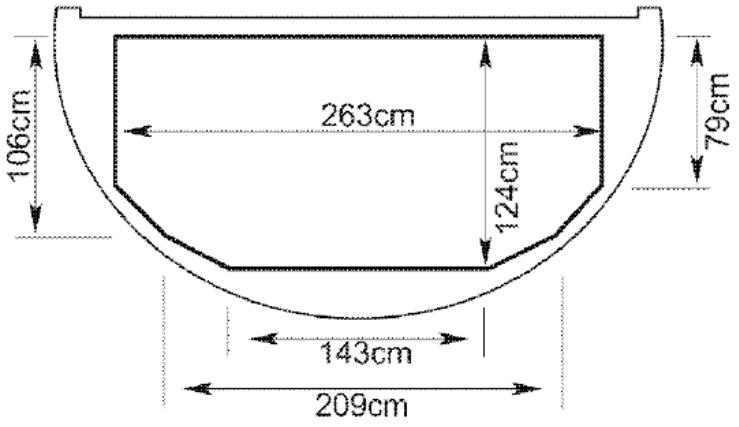
***NOTE:** MFX AIRCRAFT A320CEO (ALL AIRCRAFT A320, EXCEPT UK32074, UK32075) ARE NOT EQUIPPED BY BULK NETS/OPTIONAL DIVIDER NET TYPE C INSTALLED AT "OPTIONAL NET POSITIONS". ONLY MANDATORY NETS ARE INSTALLED.*

***NOTE**: A320NEO (UK32074, UK32075) ARE EQUIPPED BY OPTIONAL CARGO NET BETWEEN SECTIONS 52 AND 53. LOADING OF ANY KIND OF PAYLOAD, EXCEPT FKT, TO SECTION 53 IS STRICTLY PROHIBITED. CARGO NET MUST ALWAYS BE KEPT ON ITS ORIGINAL POSITION AS SHOWN.*

NET CONFIGURATION IN CARGO HOLDS



CROSS SECTION OF CARGO HOLDS (SECTIONS 11-42)

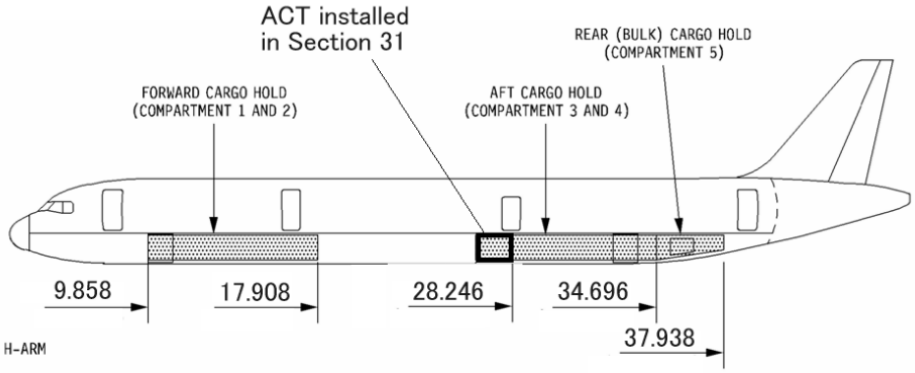


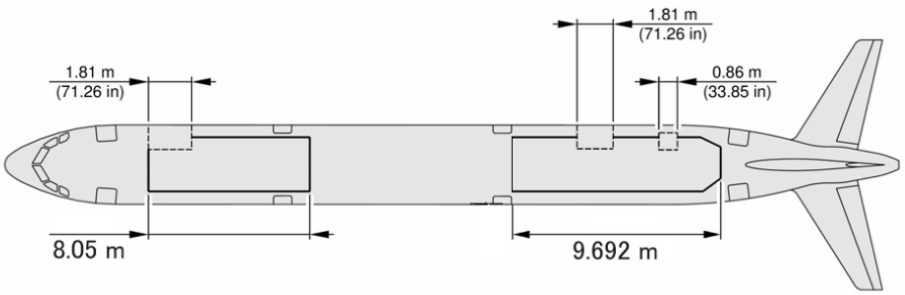
2.6.2.2 A321-251N CARGO HOLD CONFIGURATIONS

Applicable for: UK32130

There are 5 compartments on A321-251N aircraft:

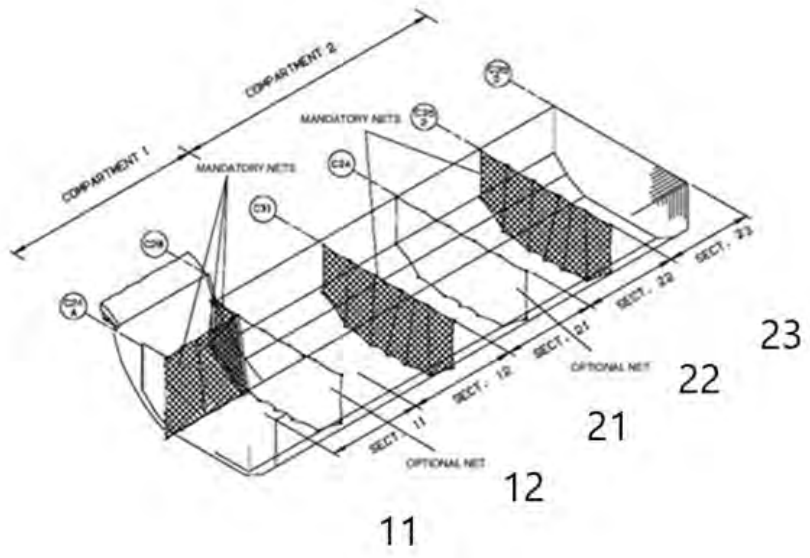
1. **FWD Hold** – Compartment 1 (sections 11, 12).
2. **FWD Hold** – Compartment 2 (sections 21, 22, 23).
3. **AFT Hold** – Compartment 3 (sections 32 & 33). 1 Additional Center Tank is installed in Section 31. This section cannot be used to load any payload.
4. **AFT Hold** – Compartment 4 (sections 41 & 42).
5. **AFT Hold** – Compartment 5 (sections 51, 52 & 53).





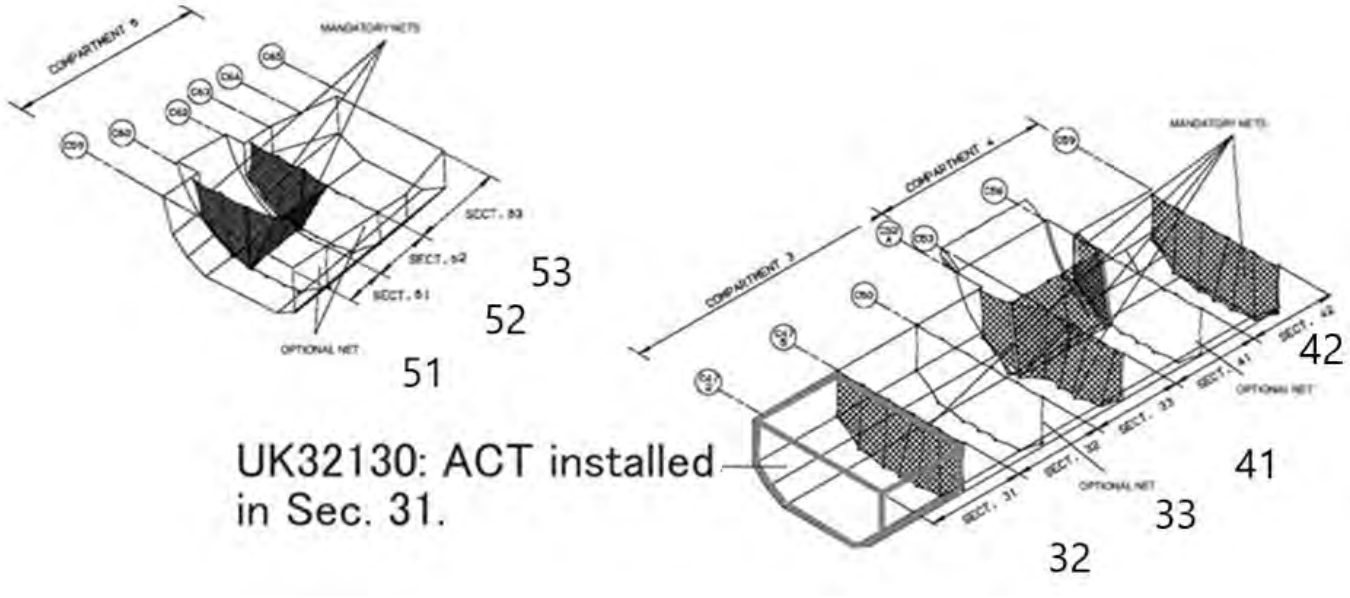
2.6.2.2.1 A321-251N: FWD CARGO HOLD (COMPARTMENTS 1 & 2)

NOTE: *MFX AIRCRAFT ARE NOT EQUIPPED BY BULK NETS/OPTIONAL DIVIDER NET TYPE C INSTALLED AT "OPTIONAL NET POSITIONS". ONLY MANDATORY NETS ARE INSTALLED.*

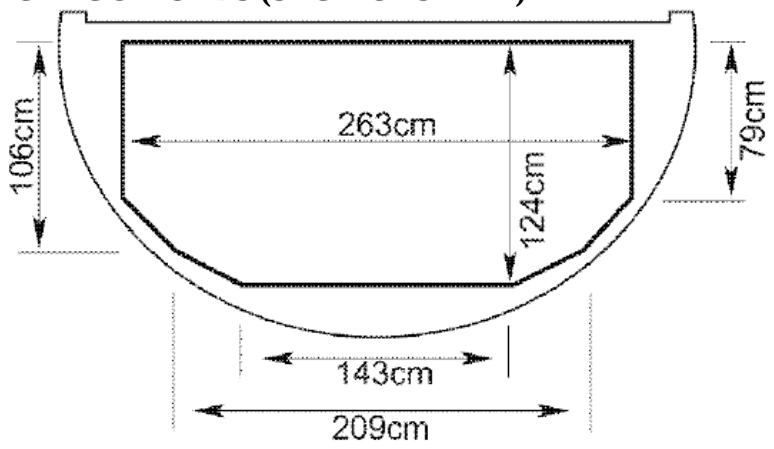


2.6.2.2.2 A321-251N: AFT CARGO HOLD (COMPARTMENTS 3, 4 & 5)

***NOTE**: MFX AIRCRAFT ARE NOT EQUIPPED BY BULK NETS/OPTIONAL DIVIDER NET TYPE C INSTALLED AT "OPTIONAL NET POSITIONS". ONLY MANDATORY NETS ARE INSTALLED.*



CROSS SECTION OF CARGO HOLDS (SECTIONS 11-42)



CARGO COMPARTMENTS DIMENSIONS AND LIMITS – A321 (UK32130 ONLY)

Section (Hold, Compartment)	Maximum capacity		
	Max TTL payload weight per section, kg	Usable volume per section, m^3	Max TTL volume of compartment, m^3
11 (FWD Hold, CPT 1)	720	3.4	7.8
12 (FWD Hold, CPT 1)	720	4.4	
21 (FWD Hold, CPT 2)	720	4.4	13.2
22 (FWD Hold, CPT 2)	720	4.4	
23 (FWD Hold, CPT 2)	720	4.4	
32 (AFT Hold, CPT 3)	1177	4	7.6
33 (AFT Hold, CPT 3)	1121	3.6	
41 (AFT Hold, CPT 4)	919	3.5	8
42 (AFT Hold, CPT 4)	1164	4.5	
Section (Hold, Compartment)	**Maximum capacity**		
	Max TTL payload weight per section, kg	**Usable volume per section, m^3**	**Max TTL volume of compartment, m^3**
51 (AFT Hold, CPT 5)	374	1.3	5.3
52 (AFT Hold, CPT 5)	100	1.25	
53 (AFT Hold, CPT 5)	214	2.75	

***NOTE**: if total volume of payload in any CPT – 3 or 4 - is lower 75% of maximum, the max weight of payload in CPT 5 is restricted by 200 kg.*

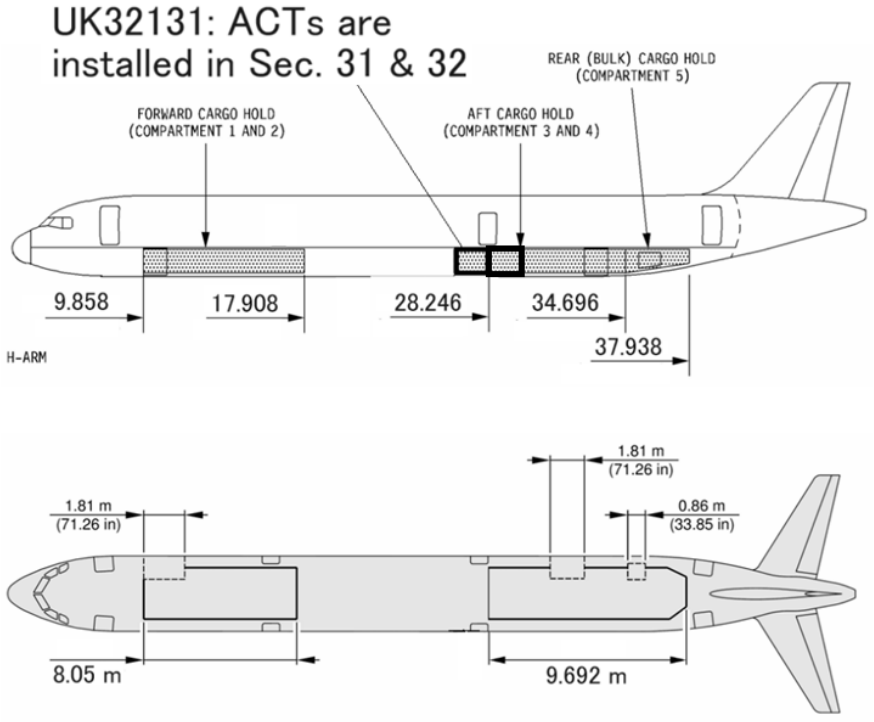
***NOTE**: actual usable volumes are shown above for reference (based on all Airbus restrictions), but actual space utilization is always 75-85% from mentioned volumes.*

2.6.2.3 A321-253NX CARGO HOLD CONFIGURATIONS

Applicable for: UK32131, UK32132

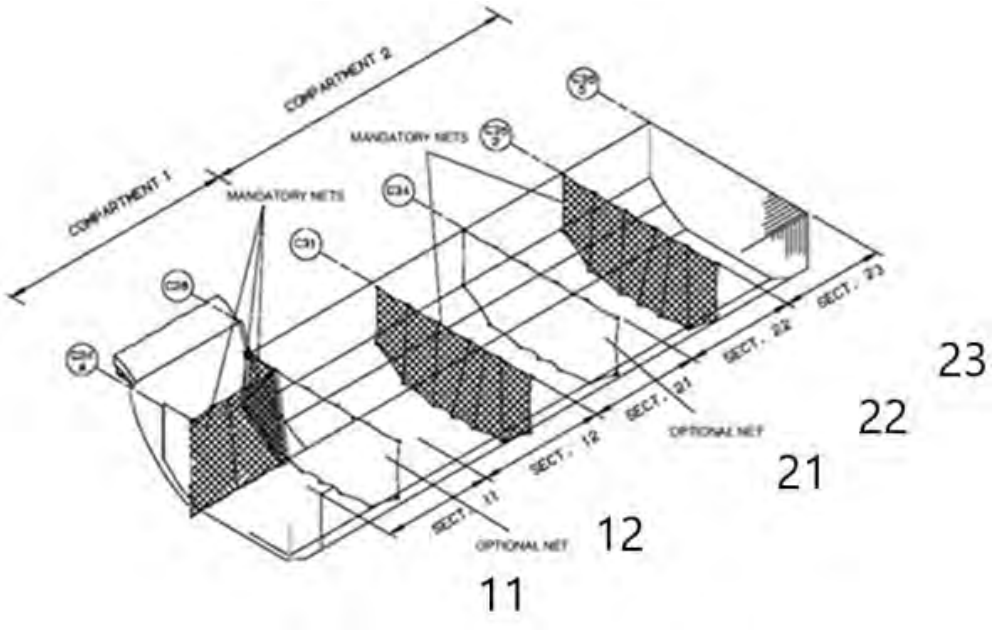
There are 5 compartments on A321-253NX aircraft:

1. **FWD Hold** – Compartment 1 (sections 11, 12).
2. **FWD Hold** – Compartment 2 (sections 21, 22, 23).
3. **AFT Hold** – Compartment 3 (section 33). 2 Additional Center Tanks are installed in Sections 31 & 32. These sections cannot be used to load any payload.
4. **AFT Hold** – Compartment 4 (sections 41 & 42).
5. **AFT Hold** – Compartment 5 (sections 51, 52 & 53).



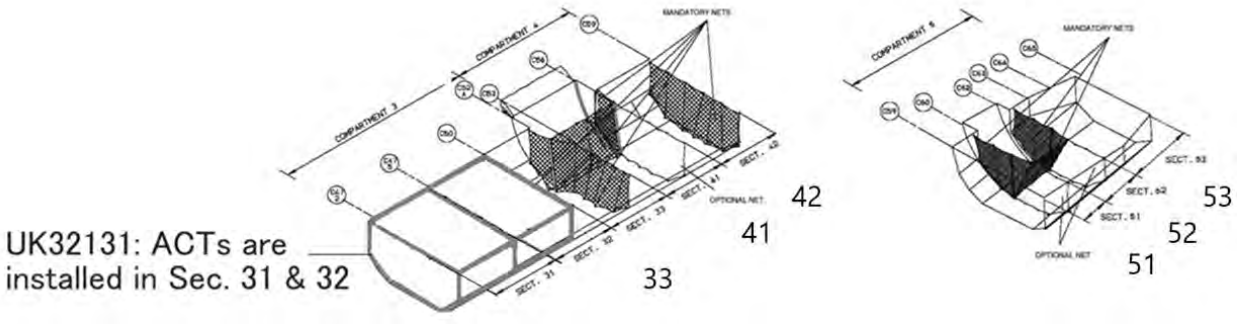
2.6.2.3.1 A321-253NX: FWD CARGO HOLD (COMPARTMENTS 1 & 2)

***NOTE**: MFX AIRCRAFT ARE NOT EQUIPPED BY BULK NETS/OPTIONAL DIVIDER NET TYPE C INSTALLED AT "OPTIONAL NET POSITIONS". ONLY MANDATORY NETS ARE INSTALLED.*

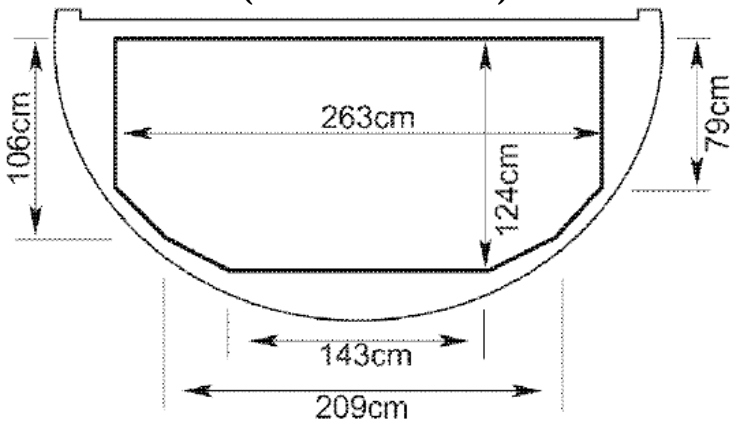


2.6.2.3.2 A321-253NX: AFT CARGO HOLD (COMPARTMENTS 3, 4 & 5)

***NOTE**: MFX AIRCRAFT ARE NOT EQUIPPED BY BULK NETS/OPTIONAL DIVIDER NET TYPE C INSTALLED AT "OPTIONAL NET POSITIONS". ONLY MANDATORY NETS ARE INSTALLED.*



CROSS SECTION OF CARGO HOLDS (SECTIONS 11-42)



CARGO COMPARTMENTS DIMENSIONS AND LIMITS – A321-253NX (UK32131, UK32132 ONLY)

Section (Hold, Compartment)	Maximum capacity		
	Limiting total loading weight per section, kg	Volume per section, m^3	Max Volume per compartment, m^3
11 (FWD Hold, CPT 1)	1013	3.4	7.8
12 (FWD Hold, CPT 1)	1189	4.4	
21 (FWD Hold, CPT 2)	1189	4.4	13.2
22 (FWD Hold, CPT 2)	1189	4.4	
23 (FWD Hold, CPT 2)	1090	4.4	
33 (AFT Hold, CPT 3)	1121	3.6	3.6
41 (AFT Hold, CPT 4)	919	3.5	8.47
42 (AFT Hold, CPT 4)	1164	4.5	
51 (AFT Hold, CPT 5)	374	1.3	5.92
52 (AFT Hold, CPT 5)	187	1.25	
53 (AFT Hold, CPT 5)	411	2.75	

***NOTE**: if total volume of payload in any CPT – 3 or 4 - is lower 75% of maximum, the max weight of payload in CPT 5 is restricted by 200 kg.*

***NOTE**: actual usable volumes are shown above for reference (based on all Airbus restrictions), but actual space utilization is always 75-85% from mentioned volumes.*

2.6.2.4 A330-343 CARGO HOLD CONFIGURATIONS

Applicable for: UK33030, UK33031, UK33032

There are 5 compartments on A330-343 aircraft:

1. **FWD Hold** – Compartment 1 (sections 11-13).
2. **FWD Hold** – Compartment 2 (sections 21-26).
3. **AFT Hold** – Compartment 3 (sections 31-35).
4. **AFT Hold** – Compartment 4 (sections 41-44).
5. **AFT Hold** – Compartment 5 (sections 51, 52 & 53).

Compartments 1, 2, 3, 4 could be used for loading of the following types of ULDs (refer also to ***Part 3 GOCHM***):

ULD BAZE SIZE	MAX WEIGHT PER UNIT
125x88''	4626 kg
125x96''	5103 kg
60.4x61.5''	1587 kg
125x60.4''	3174 kg

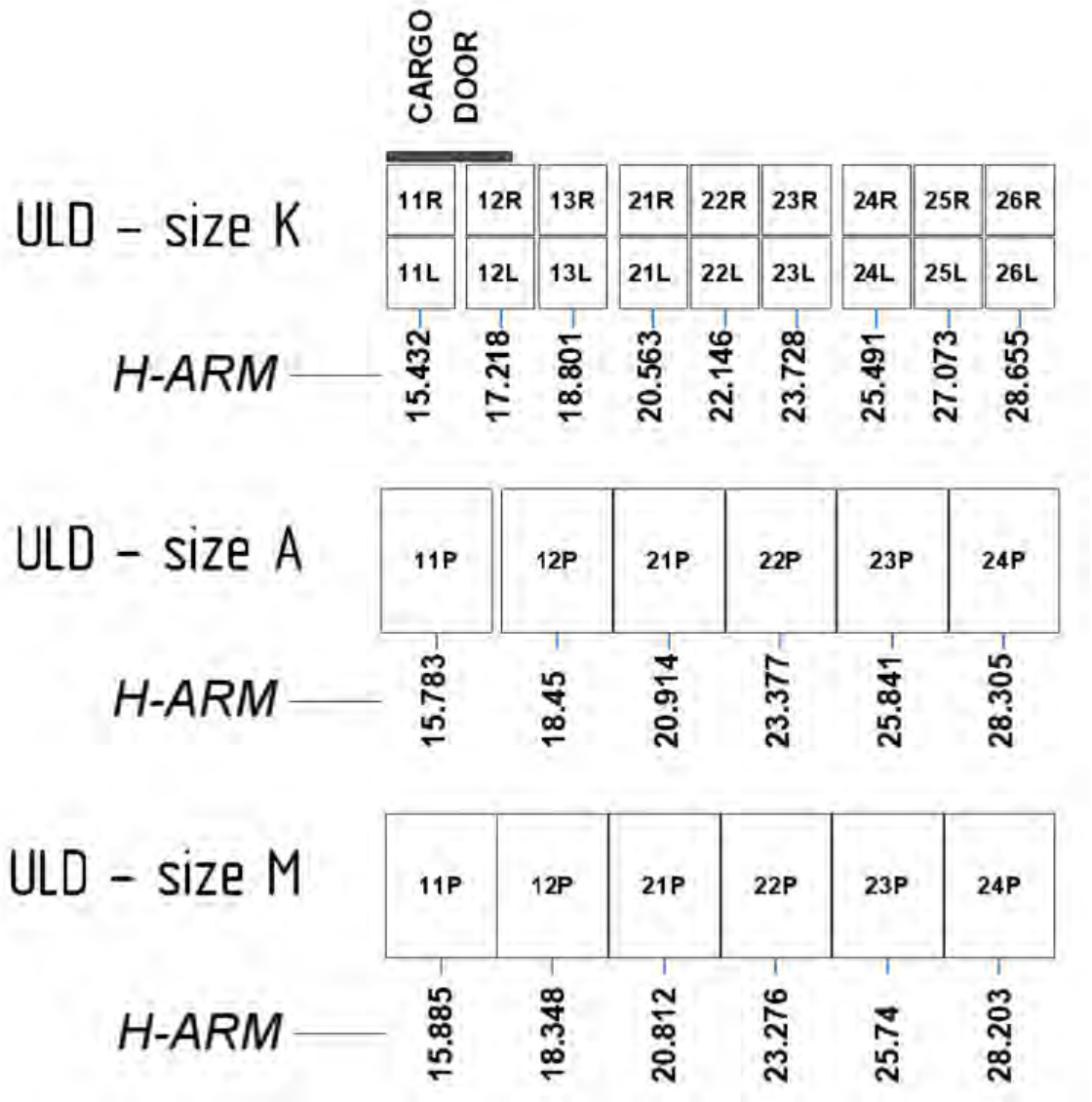
Loading of bulk items is not allowed to Compartments 1-4. Only loading of ULD with payload is allowed.

Loading of bulk items is allowed to Compartment 5 only.

ULD intermix is partially possible with some restrictions. *Refer to* ***Section 2.6.2.4.4 Part 2 GOCHM*** *for reference.*

2.6.2.4.1 A330-343: LOADING CONFIGURATIONS OF COMPARTMENTS 1 & 2

Applicable for: UK33030, UK33031, UK33032



2.6.2.4.2 A330-343: LOADING CONFIGURATIONS OF COMPARTMENTS 3 & 4

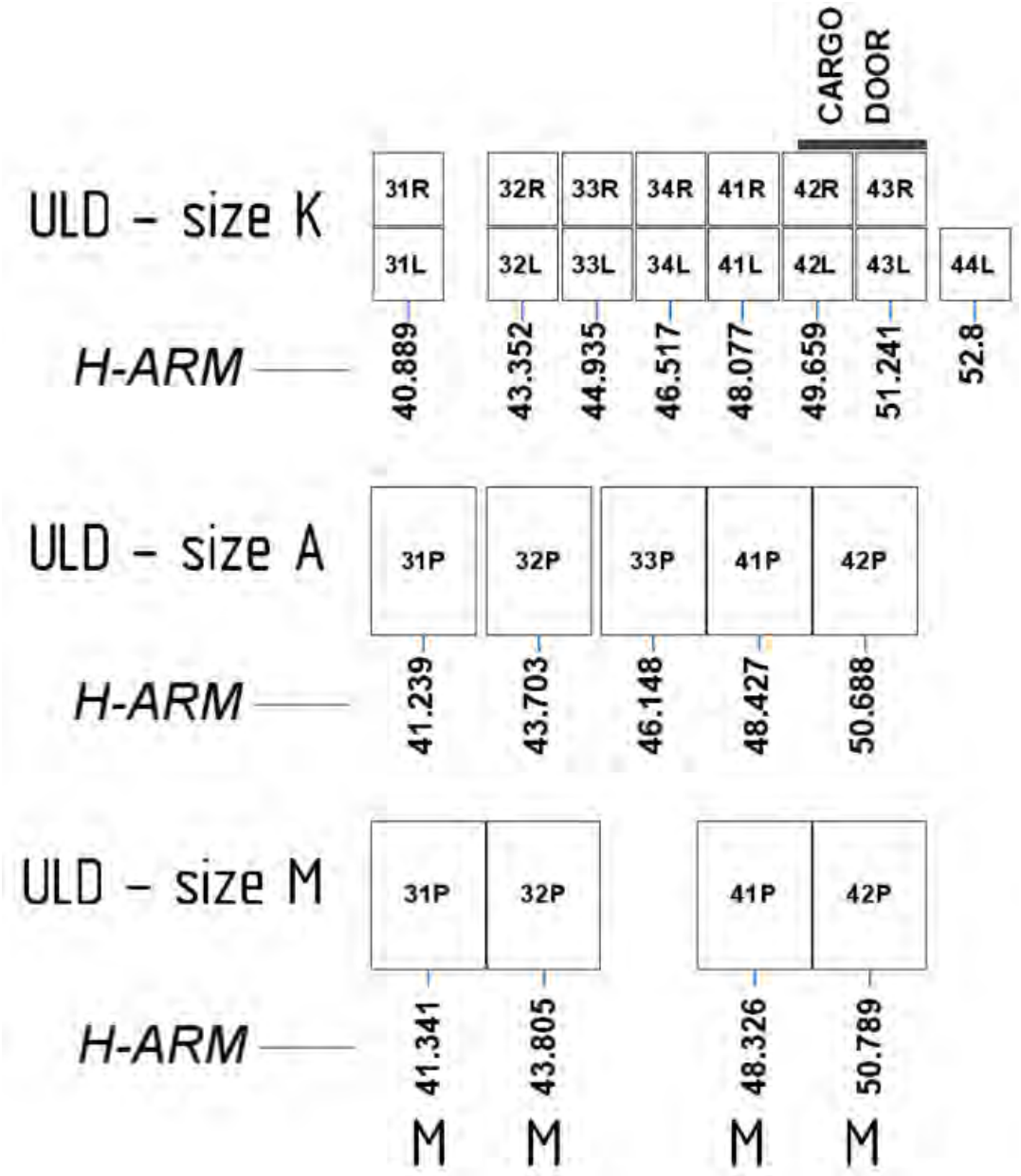
Applicable for: UK33030, UK33031, UK33032

Position 44L is optional – operator can choose desired option:

- **Variant A:** load 1 extra container to position 44L instead of usage of Section 52 of Compartment 5.
- **Variant B:** use Section 52 of Compartment 5 instead position 44L (for loading of loose items).

Bulk Net between position 43L and Section 52 must be placed in accordance with desired configuration: in case of container loading it must be removed and stored in Section 51, in case of Section 52 usage for loose items loading it must be installed and tightened. *Refer to* ***Section 2.6.2.4.3 Part 2 GOCHM*** *for details.*

VARIANT A – Compartment 4 with positions 44L

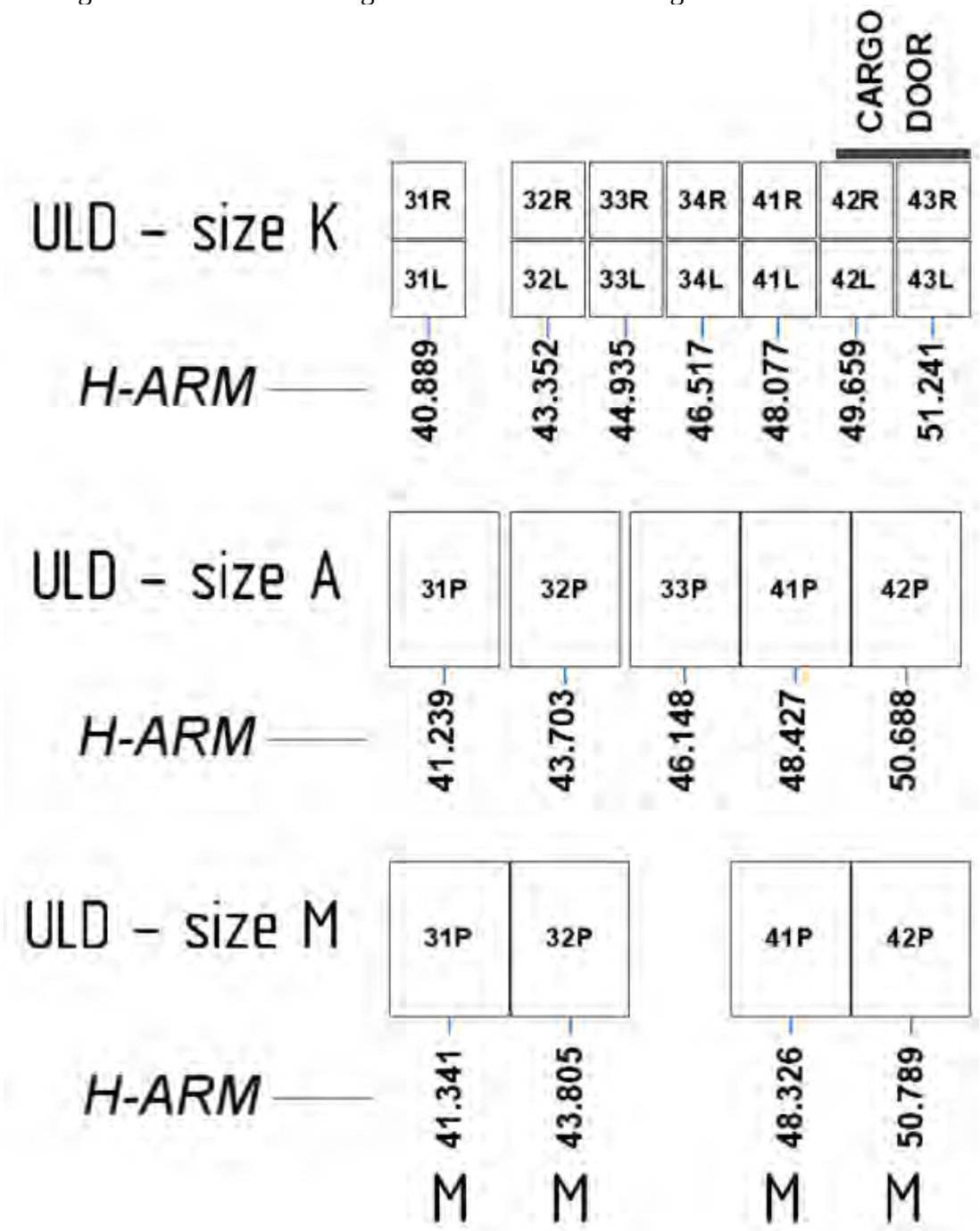


VARIANT B – Compartment 4 without positions 44L

Position 44L is optional – operator can choose desired option:

- **Variant A:** load 1 extra container to position 44L instead of usage of Section 52 of Compartment 5.
- **Variant B:** use Section 52 of Compartment 5 instead position 44L (for loading of loose items).

Bulk Net between position 43L and Section 52 must be placed in accordance with desired configuration: in case of container loading it must be removed and stored in Section 51, in case of Section 52 usage for loose items loading it must be installed and tightened.



2.6.2.4.3 A330-343: LOADING CONFIGURATIONS OF COMPARTMENT 5

Compartment 5 is separated from Compartment 4 by removable Bulk Net.

Bulk door is separated from Compartment 5 by removable Door Net.

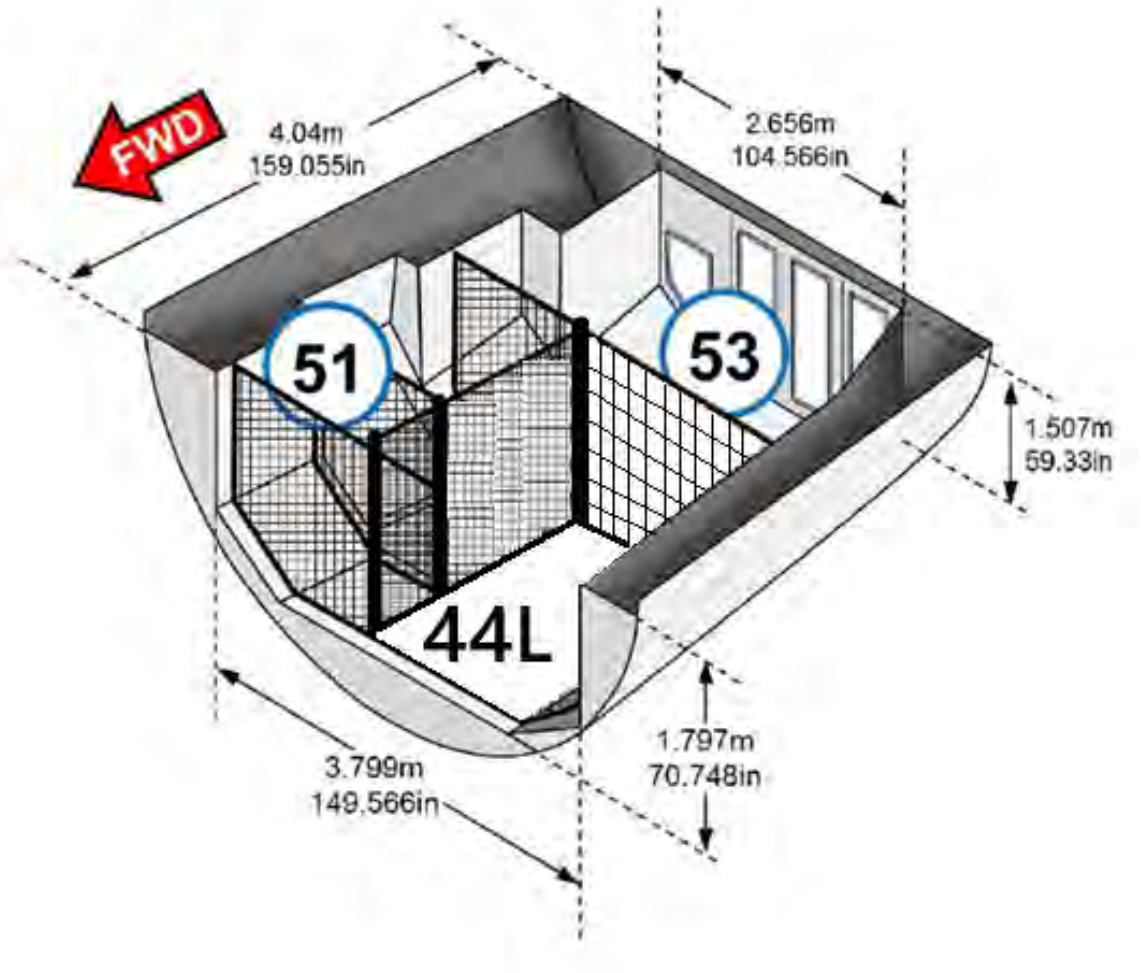
Bulk Section (Compartment 5) is equipped by restricted amount of attachment points to secure packages in Bulk section by straps.

Section 52 is optional – operator can choose desired option:

- **Variant A:** load 1 extra container to position 44L instead of usage of Section 52 of Compartment 5.
- **Variant B:** use same space to load extra loose items to Section 52 of Compartment 5).

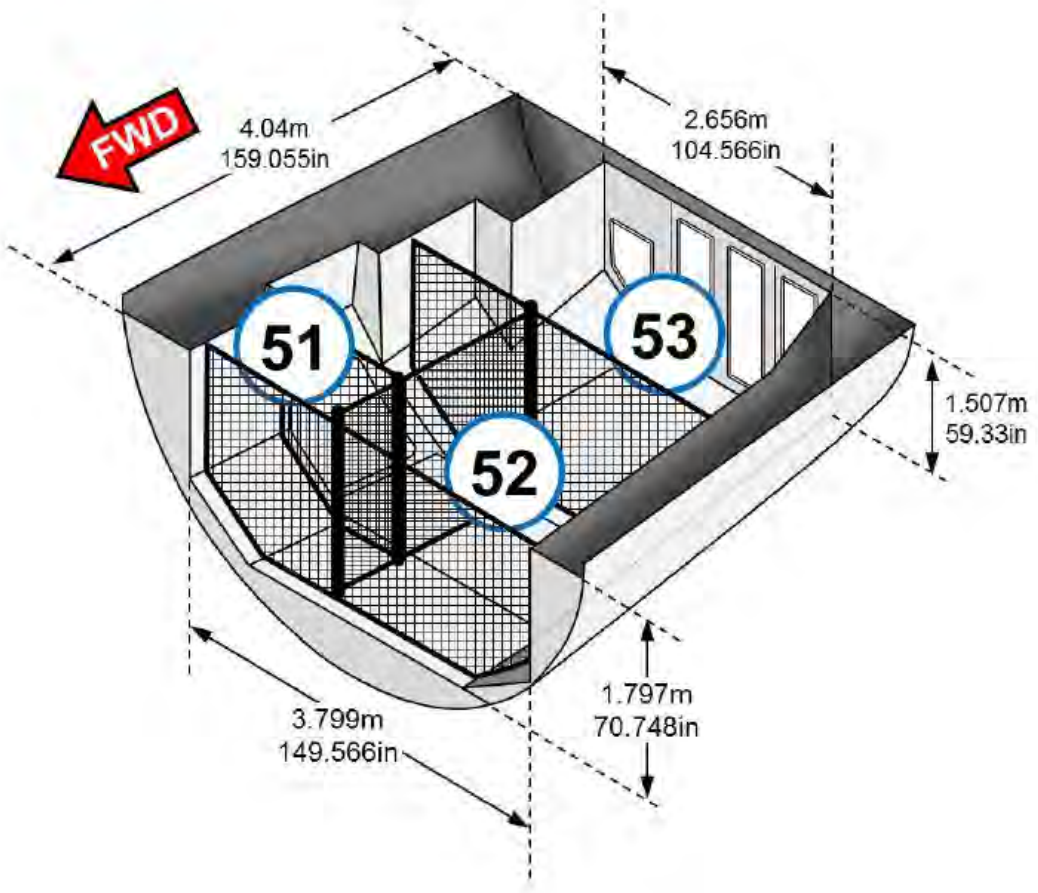
Bulk Net between position 43L and Section 52 must be placed in accordance with desired configuration: in case of container loading it must be removed and stored in Section 51, in case of Section 52 usage for loose items loading it must be installed and tightened.

VARIANT A – Compartment 4 with positions 44L



VARIANT B – Compartment 4 without positions 44L

This variant is standard, and Bulk Net must be installed permanently between position 43L and Section 52, if loading of container to position 44L is not planned.



2.6.2.5 A319-153N MAIN DECK COMPARTMENT CONFIGURATIONS AND RESTRICTIONS

Applicable for: UK888

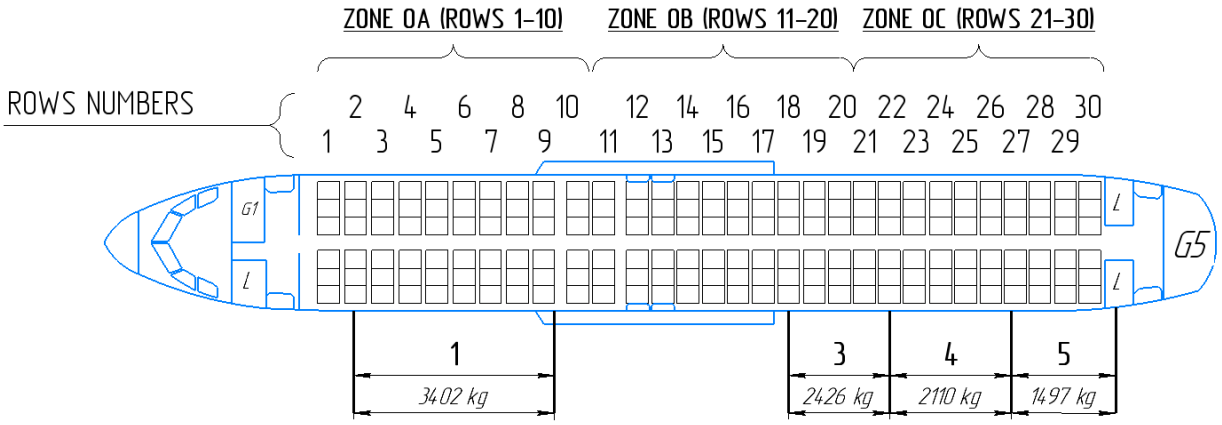
Aircraft has 24 seats (5 seats for crewmembers and 19 first class seats for passengers).
Totally 24 adult passengers + 5 infants can travel onboard of UK888.

A320-214, A320-232, A320-233

Applicable for: UK32070, UK 32071, UK 32072, UK32073

Aircraft has 190 seats (10 seats for crewmembers and 180 economy class seats for passengers).
Amount of people onboard is limited by 10 crew, 180 adult passengers and 20 infants.

UK32070, UK32071, UK32072, UK32073 – general layout

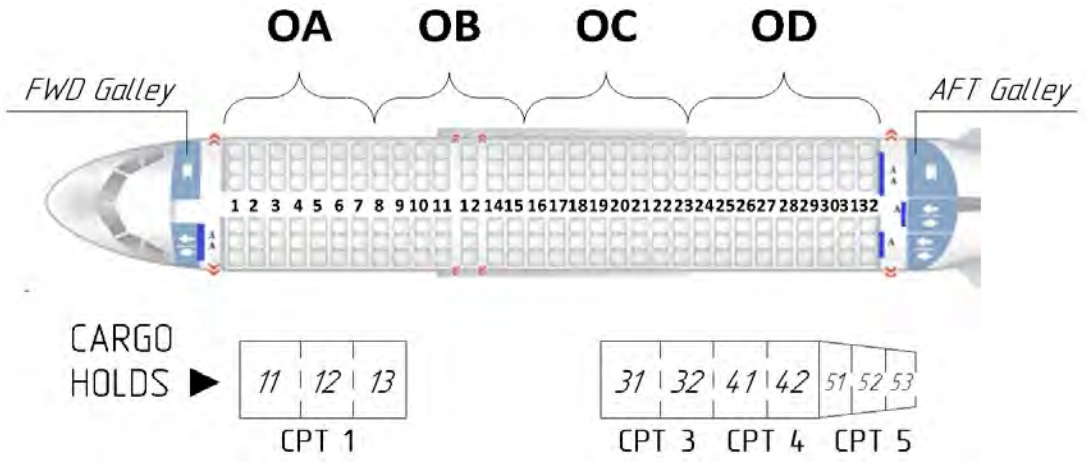


A320-251N

Applicable for: UK32074, UK32075

Aircraft has 196 seats ((10 seats for crewmembers and 186 economy class seats for passengers).
Amount of people onboard is limited by 10 crew, 186 adult passengers and 20 infants.

UK32074, UK32075 – general layout

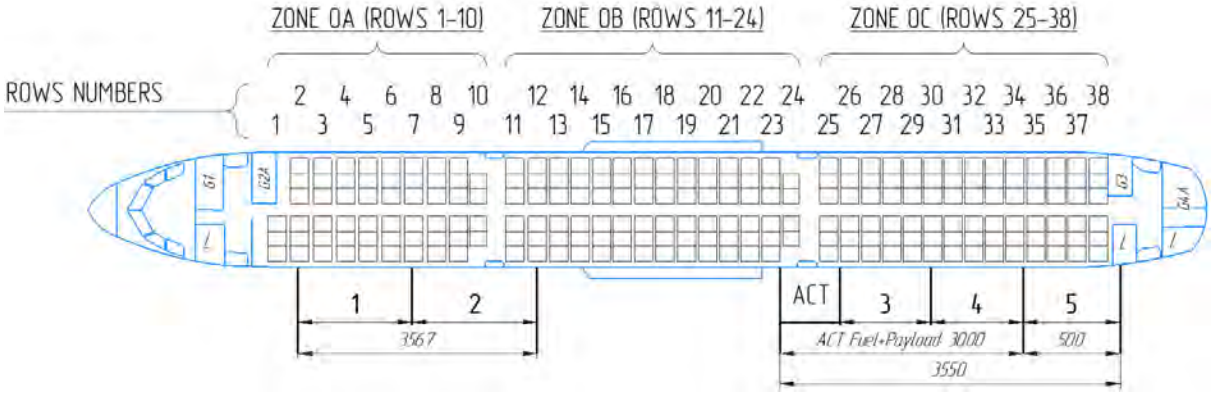


A321-251N

Applicable for: UK32130

Aircraft has 231 seats (10 seats for crewmembers and 221 economy class seats for passengers). Amount of people onboard is limited by 10 crew, 221 adult passengers and 20 infants.

UK32130 – general layout

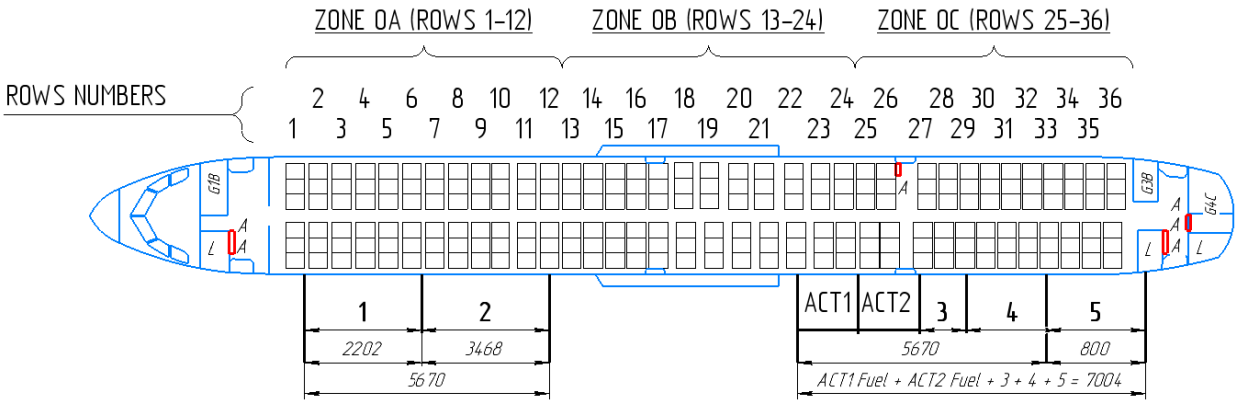


A321-253NX

Applicable for: UK32131

Aircraft has 226 seats (9 seats for crewmembers and 216 economy class seats for passengers). Amount of people onboard is limited by 9 crew, 216 adult passengers and 20 infants.

UK32131, UK32132 – general layout



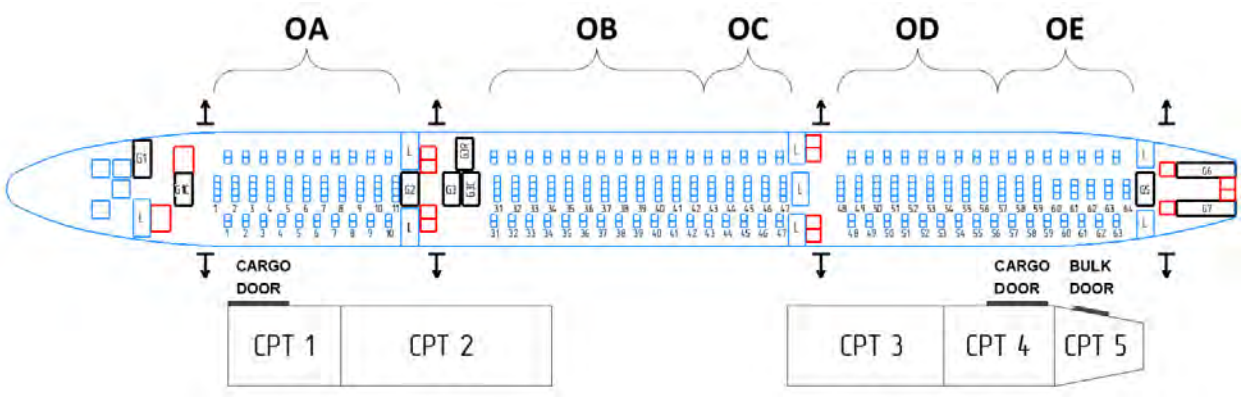
A330-343

Applicable for: UK33030, UK33032

Aircraft has 362 seats (18 seats for crewmembers and 347 economy class seats for passengers).

Amount of people onboard is limited by 18 crew, 347 adult passengers and 40 infants.

UK33030, UK33032 – general layout



Applicable for: UK33031

Main deck compartment (passenger cabin) has 376 seats (18 seats for crewmembers and 358 economy class seats for passengers).

Amount of people onboard is limited by 18 crew, 358 adult passengers and 40 infants.

2.7 CARGO HANDLING AND RESTRAN SYSTEM (CRS)

2.7.1. GENERAL INFORMATION ABOUT CARGO HANDLING AND RESTRAIN SYSTEM

Cargo handling system contains different devices:

- Cargo nets (for compartments designed to carry loose items).
- Optionally (if compartment is designed to carry ULD) – rollers, side guides, end stops, pallet locks (allows to move and secure ULD in cargo compartment).

All cargo nets, locks and guides are manually operated, except some specific elements (depends on aircraft).

2.7.2. CRS OF A319-153N

Applicable for: UK888

ULD loading to any cargo hold is impossible.

Loose items in FWD Cargo Compartment are secured by cargo nets attached to aircraft structure by special fittings and separates payloads in adjacent sections from each other.

Pallet locks are installed in AFT Hold to secure secure additional Center Tanks (ACT). All locks must be free of damages and must be closed to secure appropriate ACT on desired position.

ACT protection walls must be installed and secured behind the most aft ACT and most forward ACT to protect tanks from possible damage by any items loaded into AFT Hold.

No damaged ACT protection wall and damaged locks are allowed – otherwise current zone of cargo hold cannot be used to carry loose items or ACT.

In case of any damage of cargo nets or supporting stachions refer to ***Section 2.14 Part 2 GOCHM*** to define payload limitations.

2.7.3. CRS OF A320-214, A320-232, A320-233, A320-251N

Applicable for: UK32070, UK32071, UK32072, UK32073, UK32074, UK32075

ULD loading to any cargo hold is impossible.

Loose items in cargo compartments are secured by cargo nets attached to aircraft structure by special fittings and separates payloads in adjacent sections from each other. Loose items can be secured by straps with hooks (tie-down rings with single-stud fittings requires must be installed to appropriate fittings on the floor of cargo hold).

In case of any damage of cargo nets or supporting stachions refer to ***Section 2.14 Part 2 GOCHM*** to define payload limitations.

2.7.4. CRS OF A321-251N, A321-253NX

Applicable for: UK32130, UK32131, UK32132

ULD loading to any cargo hold is impossible.

Loose items in cargo compartments are secured by cargo nets attached to aircraft structure by special fittings and separates payloads in adjacent sections from each other. Loose items can be secured by straps with hooks (tie-down rings with single-stud fittings requires must be installed to appropriate fittings on the floor of cargo hold).

Special locks are installed in AFT Hold to secure additional Center Tanks (ACT). All locks must be free of damages and must be closed to secure appropriate ACT on desired position.

ACT protection wall must be installed and secured behind the most aft ACT to protect them from possible damage by any items loaded into AFT Hold.

No damaged ACT protection wall and damaged locks are allowed – otherwise current zone of cargo hold cannot be used to carry loose items or ACT.

In case of any damage of cargo nets or supporting stachions refer to ***Section 2.14 Part 2 GOCHM*** to define payload limitations.

2.7.5. CRS OF A330-343

Applicable for: UK33030, UK33031, UK33032

The forward and the aft lower deck cargo compartments have semi-automatic cargo loading systems which operate independently. The semi-automatic cargo loading systems move the Unit Load Devices (ULDs). Pallet locks and other types of restrains are installed in Compartments 1-4 to provide ULD loading/offloading, movement onboard and securing on desired positions.

ULD intermix is possible with certain restrictions.

Loose items in Compartment 5 (Aft Hold) are secured by cargo nets attached to aircraft structure by special fittings and separates payloads in adjacent sections from each other. Loose items also can be secured by certified straps with hooks or ropes to attachment points on the floor of Compartment (additional single stud fitting rings must be installed to provide such restrain).

The ULDs can be pallets or containers of different sizes: A, M, L, K. *Refer to **Part 4 GOCHM** to have more information about different types of ULDs.*

Each compartment has two control panels. The outside control panel is installed adjacent to the cargo compartment doors on the right side. The inside control panel is installed in the ceiling in the cargo compartments. Each cargo loading system can be operated by one person.

If there is no electrical power, the CRS can be operated manually.

The semi-automatic cargo loading system has a drainage system. The drainage system is connected to the drain funnels of the roller tracks and the drain pans below the ball mats of the cargo loading system.

In case of any damage of cargo restrains, PDU or cargo nets refer to ***Section 2.14 Part 2 GOCHM*** to define mandatory limitations of payload.

GENERAL VIEW OF AFT CARGO HOLD (FOR REFERENCE)

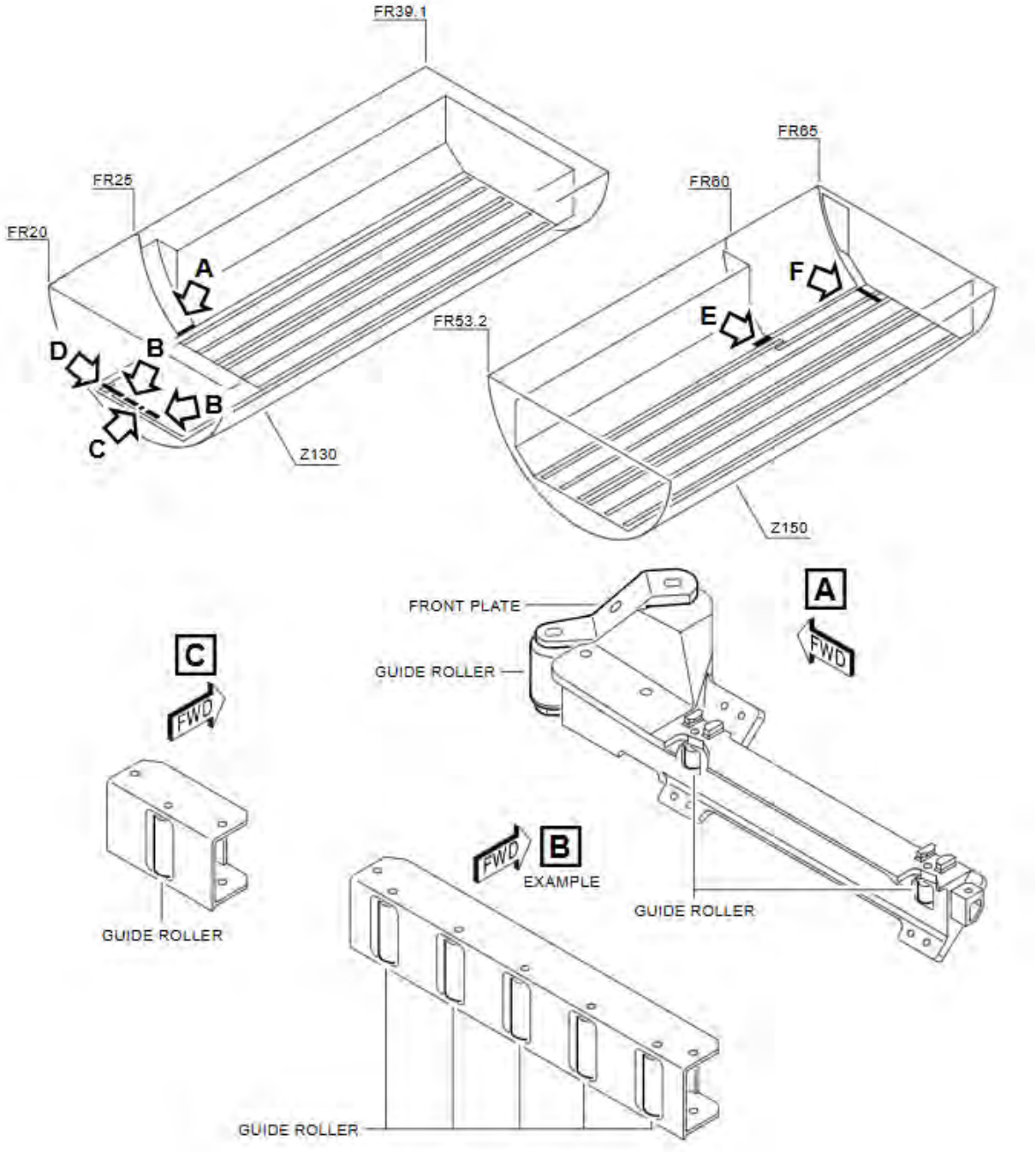
General types of elements of cargo restraint and handling systems in LD Holds
Applicable for: UK33030, UK33031, UK33032

Guide Rollers in Door Area (Compartments 1-4)

- Installed into the Forward and Aft cargo doorways.
- Not requires special actions to operate (operated automatically during loading & offloading operations).

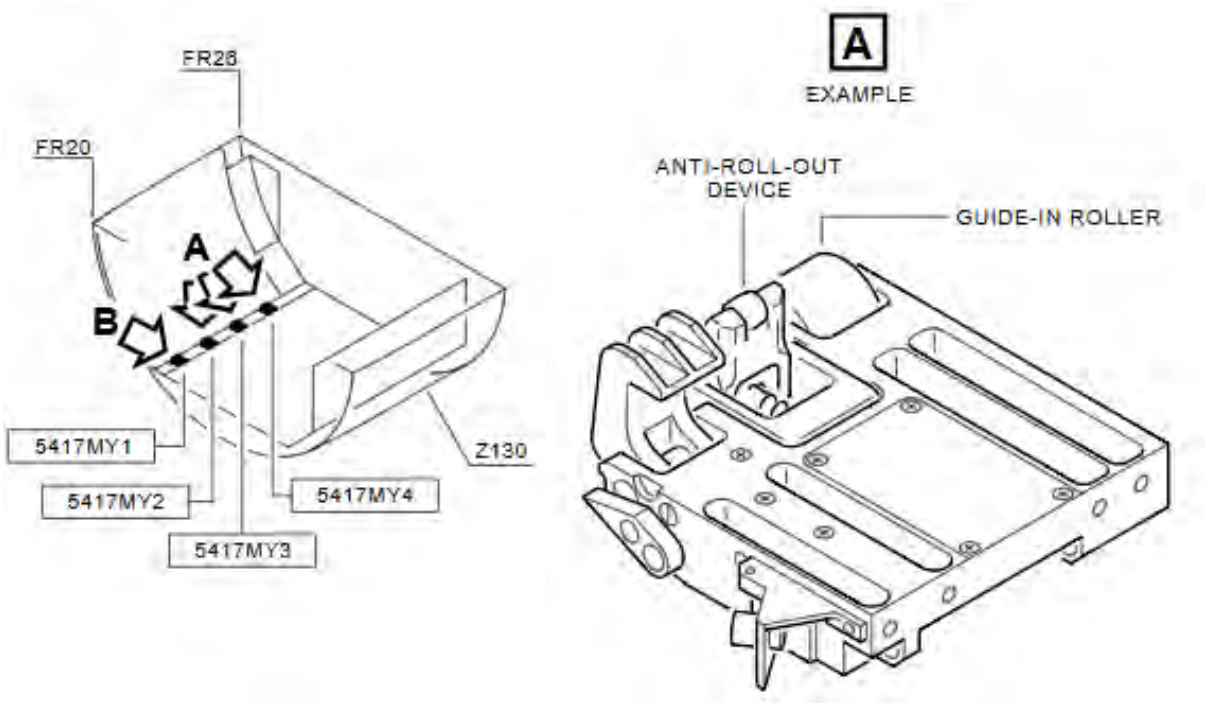
Guide Rollers (Forward Cargo Hold)

- Installed in guide located along the forward wall of cargo hold.
- Not requires special actions to operate (operated automatically during loading & offloading operations).



Anti-Roll-Out Device (also known as overrideable Y-Latch) (Compartments 1-4)

- Installed into the Forward and Aft cargo doorways to prevent spontaneous movemet of loaded ULDs out of cargo hold. Automatically moves down and returns to raised position when ULD touches its outer side during the loading and overrides the lock.
- Must be lowered manually prior to offloading of ULDs. Not requires special actions prior to loading of ULDs.
- **To retract:** push down the Door Sill Latch Release Lever on Control Panel and make sure that lock has been retracted. *Refer to **Subsections 2.8.7 & 2.8.8 Part 2 GOCHM** for reference.*
- **To raise:** pull up the Door Sill Latch Release Lever on Control Panel and make sure that lock has been raised. *Refer to **Subsections 2.8.7 & 2.8.8 Part 2 GOCHM** for reference.*



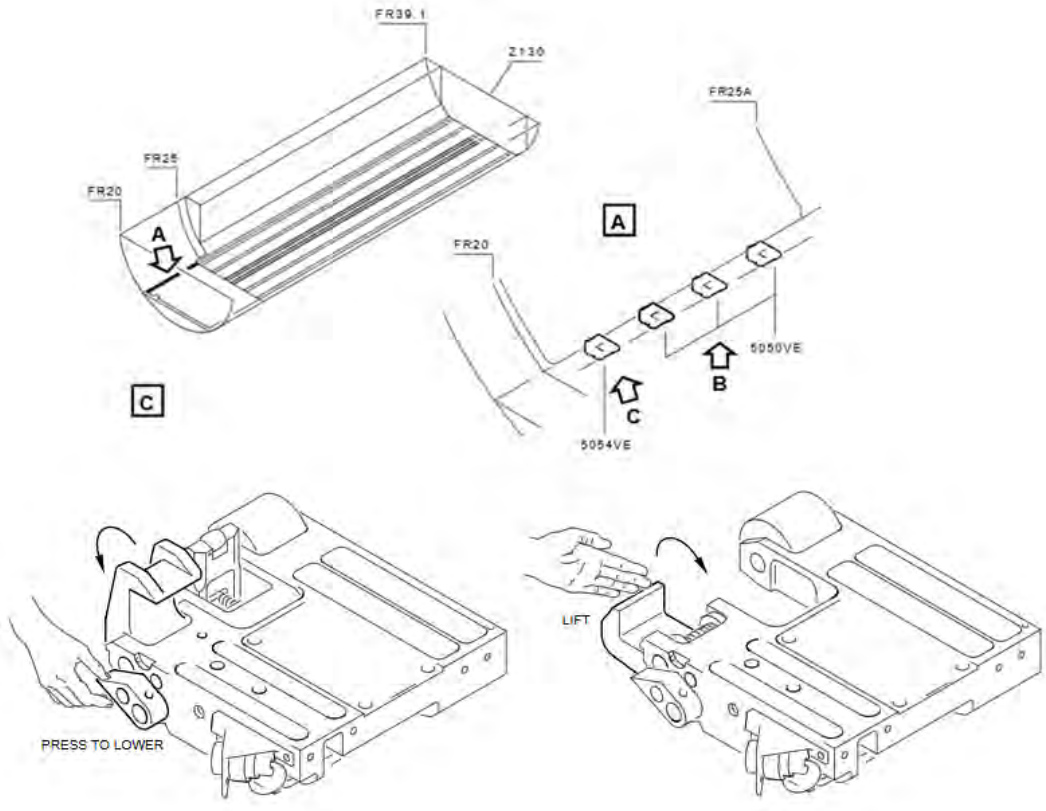
Door Sill Latch (Compartments 1-4)

- Installed into the Forward and Aft cargo doorways.
- Secures loaded ULD against possible movements during flight operations.
- **To retract**: push the Red Flag down and make sure that lock retracted (move it manually if needs).
- **To raise**: pull the lock up until fixed in upper position.

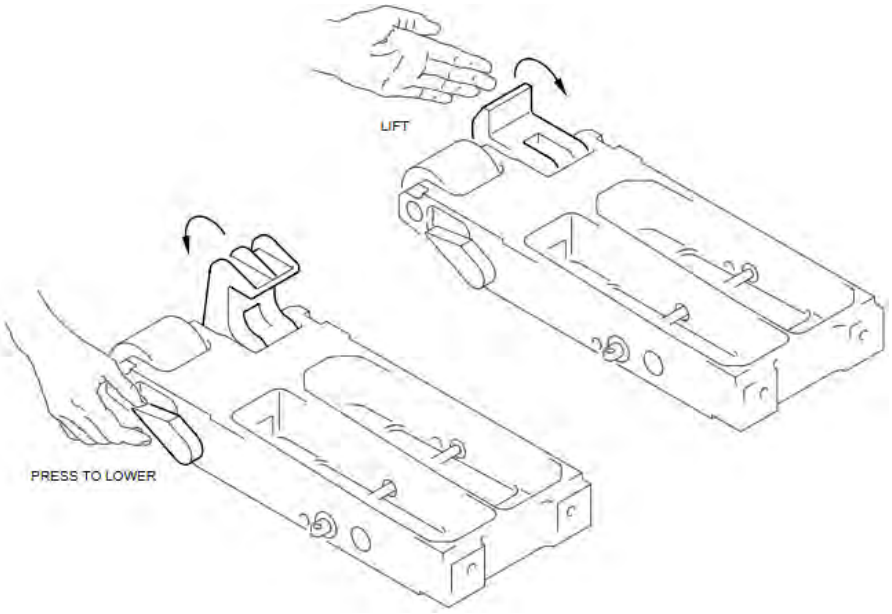
NOTES:

1. If even 1 Door Sill Latch is in raised position, cargo loading system cannot be turned on.
2. If even 1 Door Sill Latch is in retracted position, Cargo Door cannot be closed.

Door Sill Latches of Forward Cargo Hold



Door Sill Latches of Aft Cargo Hold



Overrideable YZ-latch (also named "T-shaped YZ-latch") (Forward Cargo Hold)

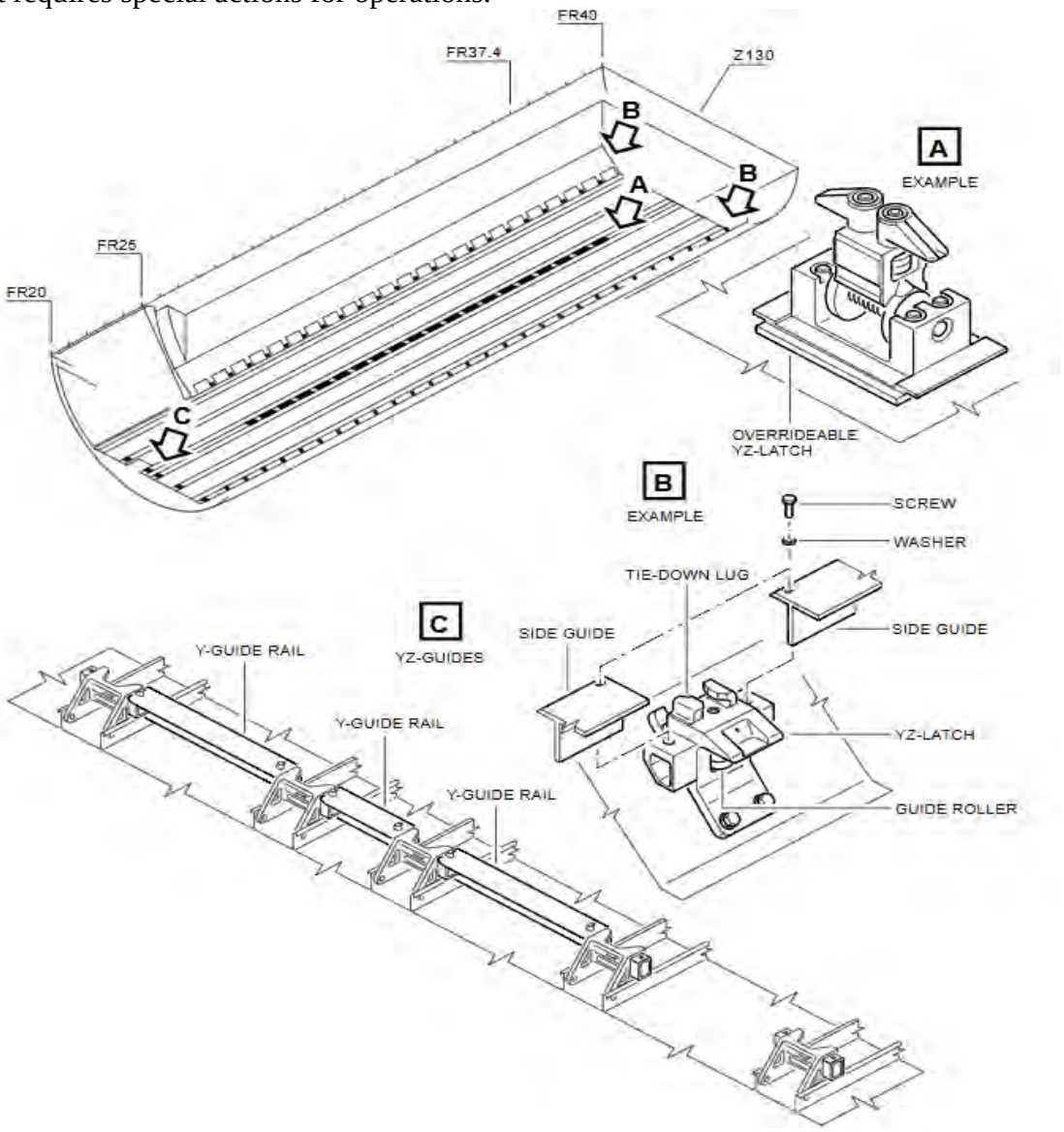
- Marked by letter "A" on drawing below.
- Installed on centreline of Forward Cargo Holds.
- Prevents possible spontaneous side and upward movements of loaded K-size ULDs during flight operations.
- Automatically moved down once ULD of A-, M- or L-size contacted it during the loading or offloading operations (and automatically raised if no ULD is stopped on top of it).

Fixed YZ-latch with Guide Roller (Forward Cargo Hold)

- Marked by letters “B” on drawing below.
- Installed on the sidewalls of the cargo compartments at each frame position, but not in the cargo-compartment door area. 4 latches are installed on the wall opposite the cargo compartment door.
- The latches hold the pallets and containers in both the upward and side directions.
- The upper part of the latch is a tie-down point which can restrain a load capacity of 908 kg in all load directions. *Refer to **Part 8 GOCHM** to have information about tie-down restrictions for current Attachment Point (APT).*

Y-guide rail (Forward Cargo Hold)

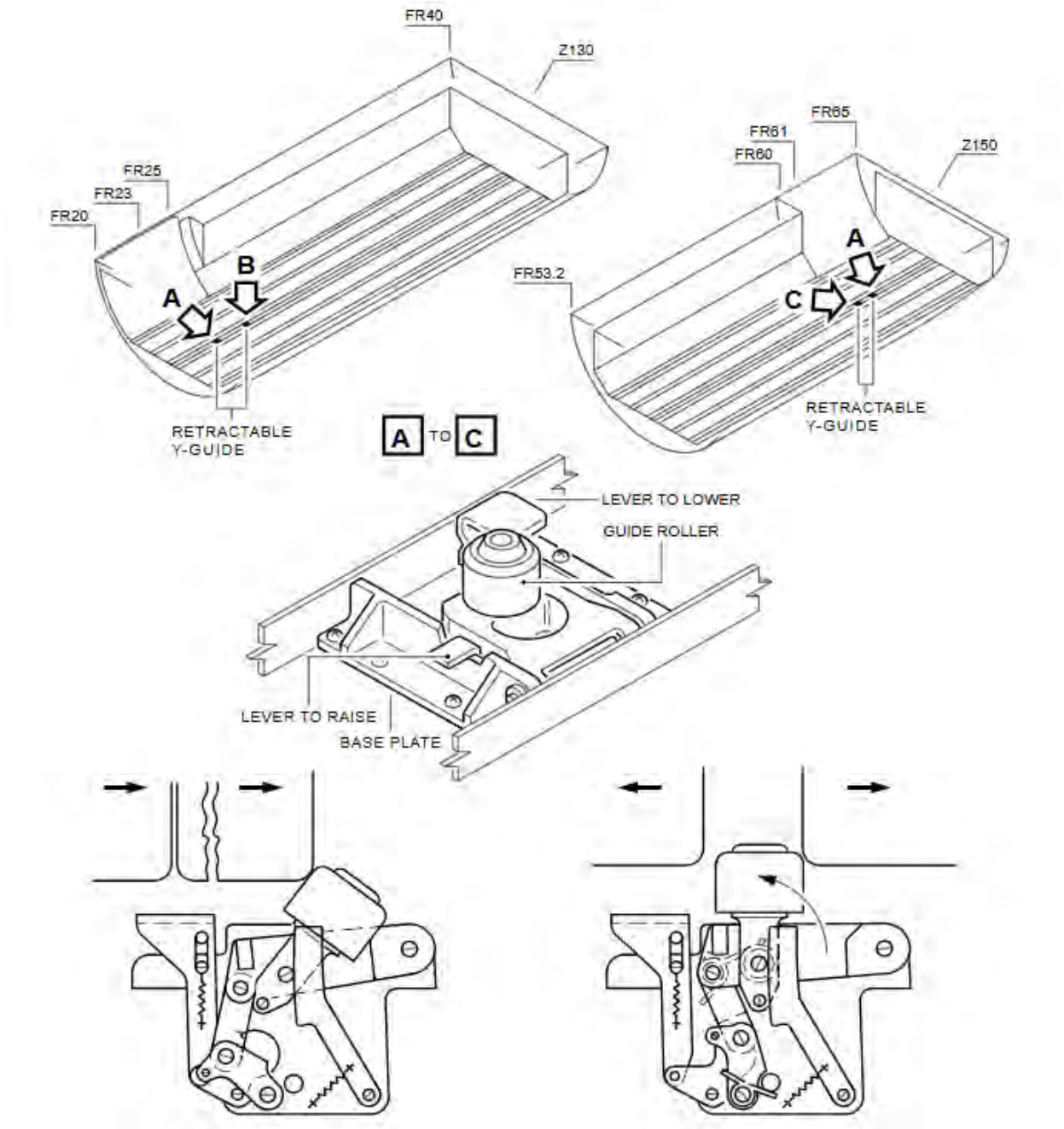
- Marked by letter “C” on drawing below.
- Installed along the forward wall of cargo hold
- Not requires special actions for operations.

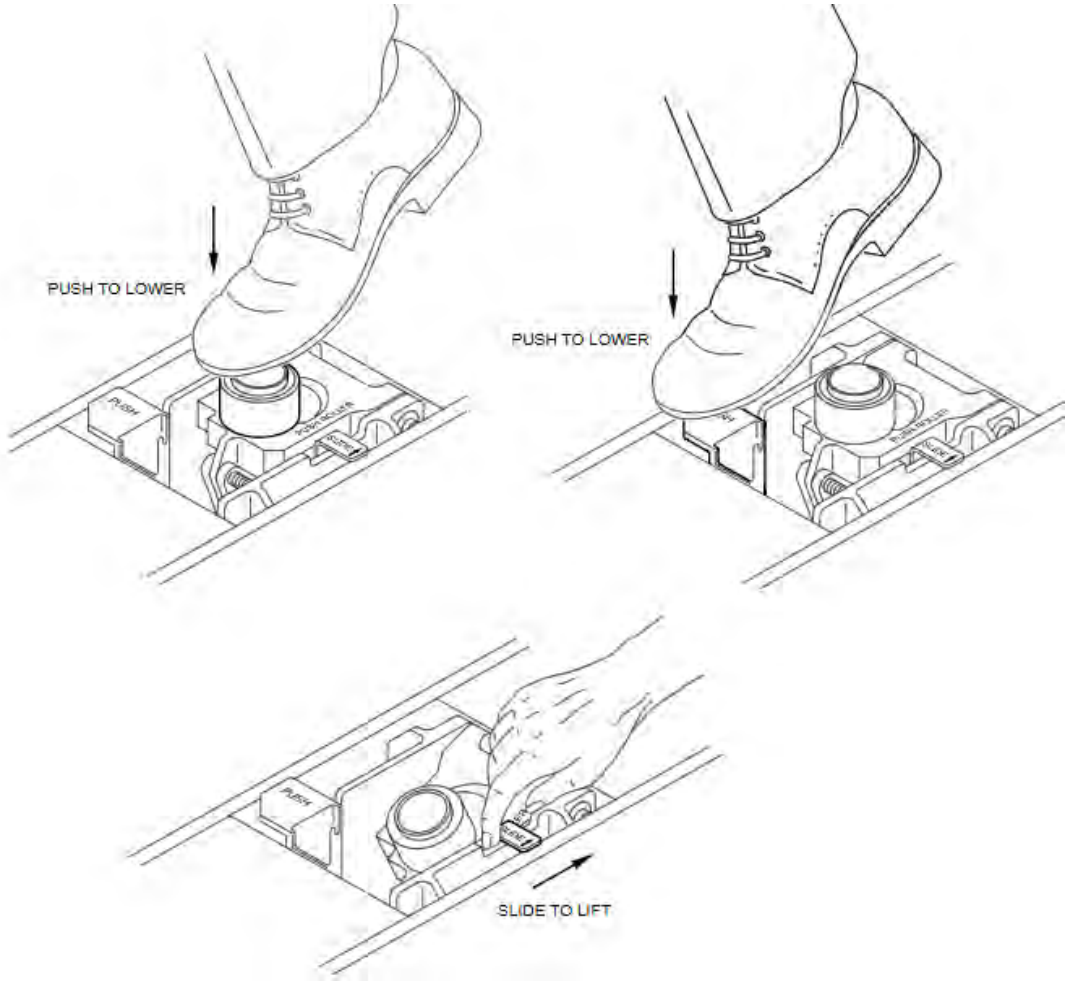


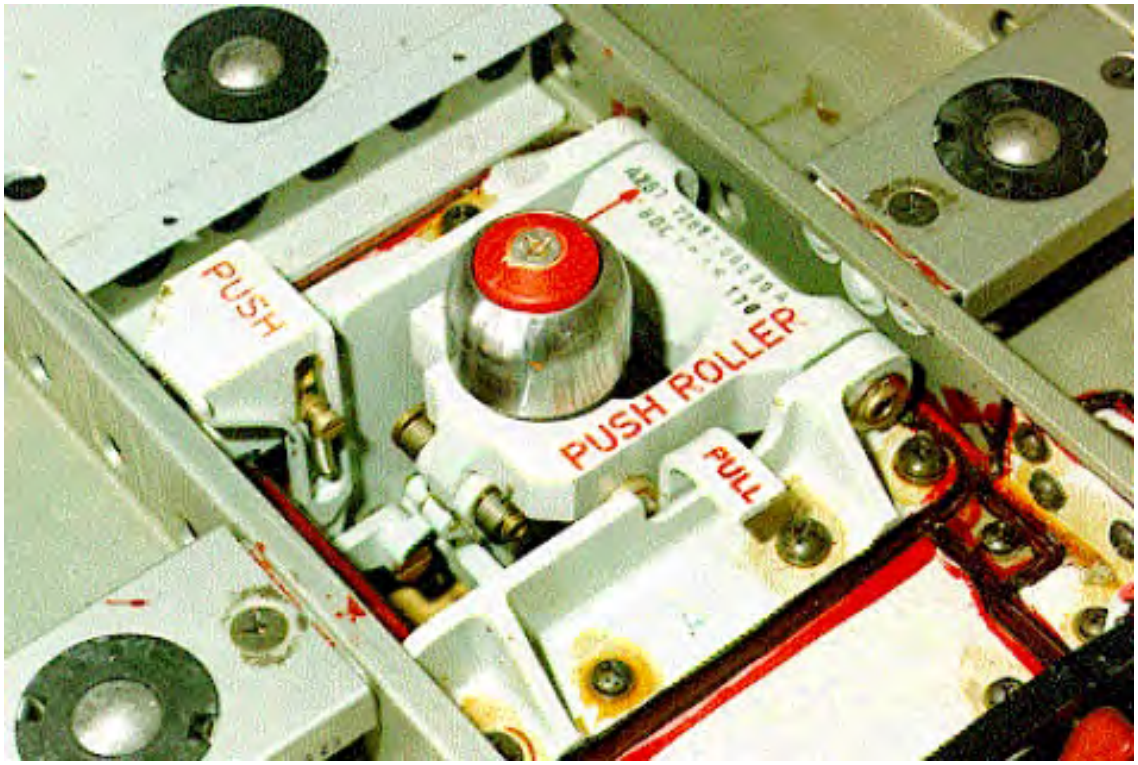
Overrideable Y-Guide (also named Splitter)

- Installed on centreline of Forward Cargo Holds.
- Separates left and right rows of K-size ULDs during the loading.
- Must be manually retracted before offloading of left row of ULDs.
- Must be manually raised before the loading of left row of ULDs.
- **To retract**: push to roller or to lever “PUSH” to lower and secure in retracted position.

- **To raise**: slide lever “PULL” to lift the device and secure in raised position.




PUSH TO LOWER
PUSH TO LOWER
SLIDE TO LIFT


PUSH
PUSH ROLLER
PULL

XZ-Single Latch (Compartment 1-4)

- Frame contains 1 lock.
- Prevents ULD movement between positions.
- Must be manually operated to raise or retract.

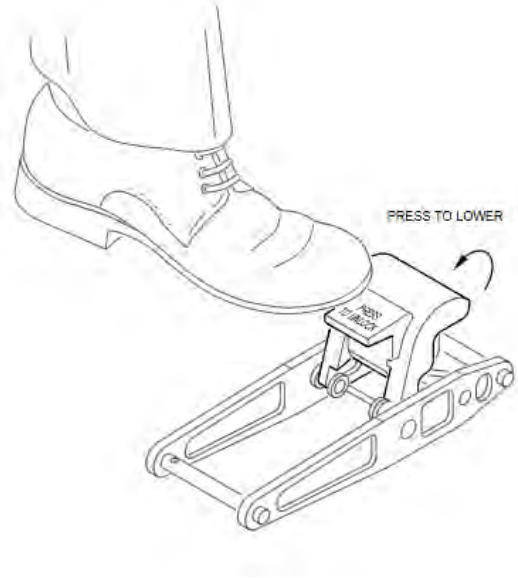
XZ-Double Latch (Compartment 1-4)

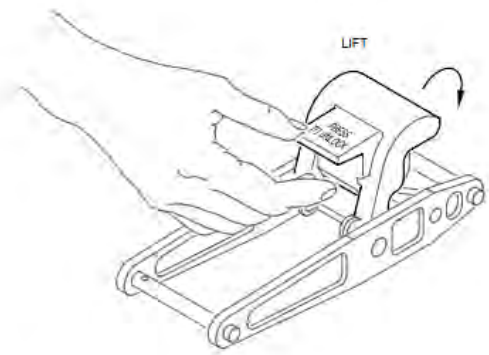
- Frame contains 2 locks.
- Prevents ULD movement between positions.
- Must be manually operated to raise or retract.

XZ-Triple Latch (Compartment 1-4)

- Frame contains 3 locks.
- Prevents ULD movement between positions.
- Must be manually operated to raise or retract.

To raise: manually raise the lock up until secured in upper position.
To retract: press to lock's part with text "PUSH TO UNLOCK" and make sure the lock has been automatically moved into retracted position (if not, move it manually).



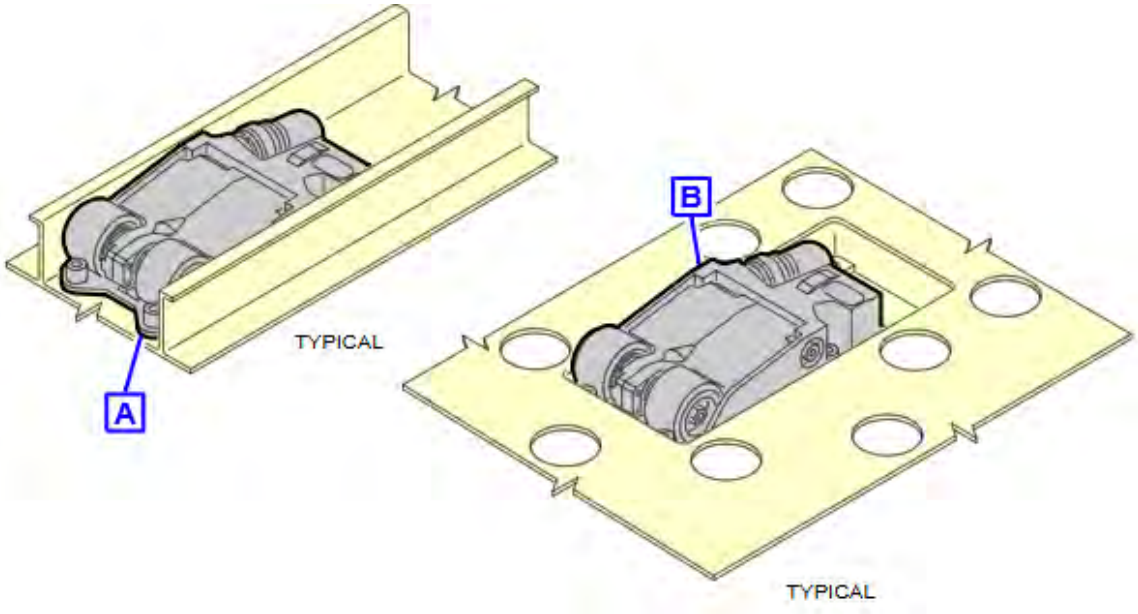


Single latch Double latch Triple latch

Power Drive Units (PDU) (Compartments 1-4)

- Installed on the floor of cargo holds.
- Allows to load, offload and move ULD inside the cargo holds.
- Controls by joysticks installed on outer or internal control panels of appropriate cargo hold.

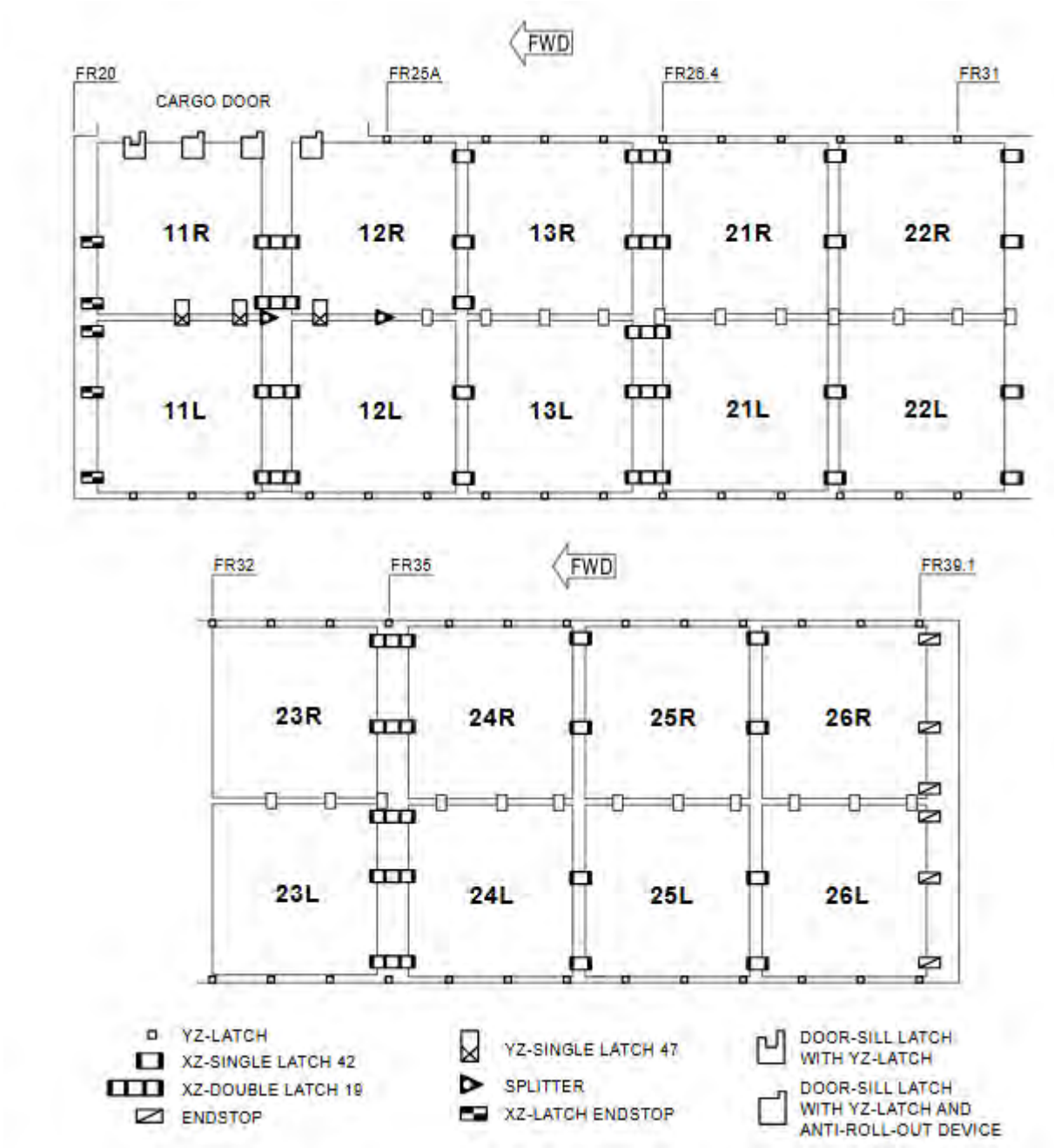
- Automatically shutdowns if ULD has been located above of the sensor (which is installed on upper side of PDU), and pallet locks were closed on those ULD side which is closer to cargo door (to prevent damage of PDU wheels due to the rotation and contact with lower side of ULD surface).



Mandatory Cargo Restrains for for K-size and L-size ULDs – Forward Hold

Applicable for: UK33030, UK33031, UK33032

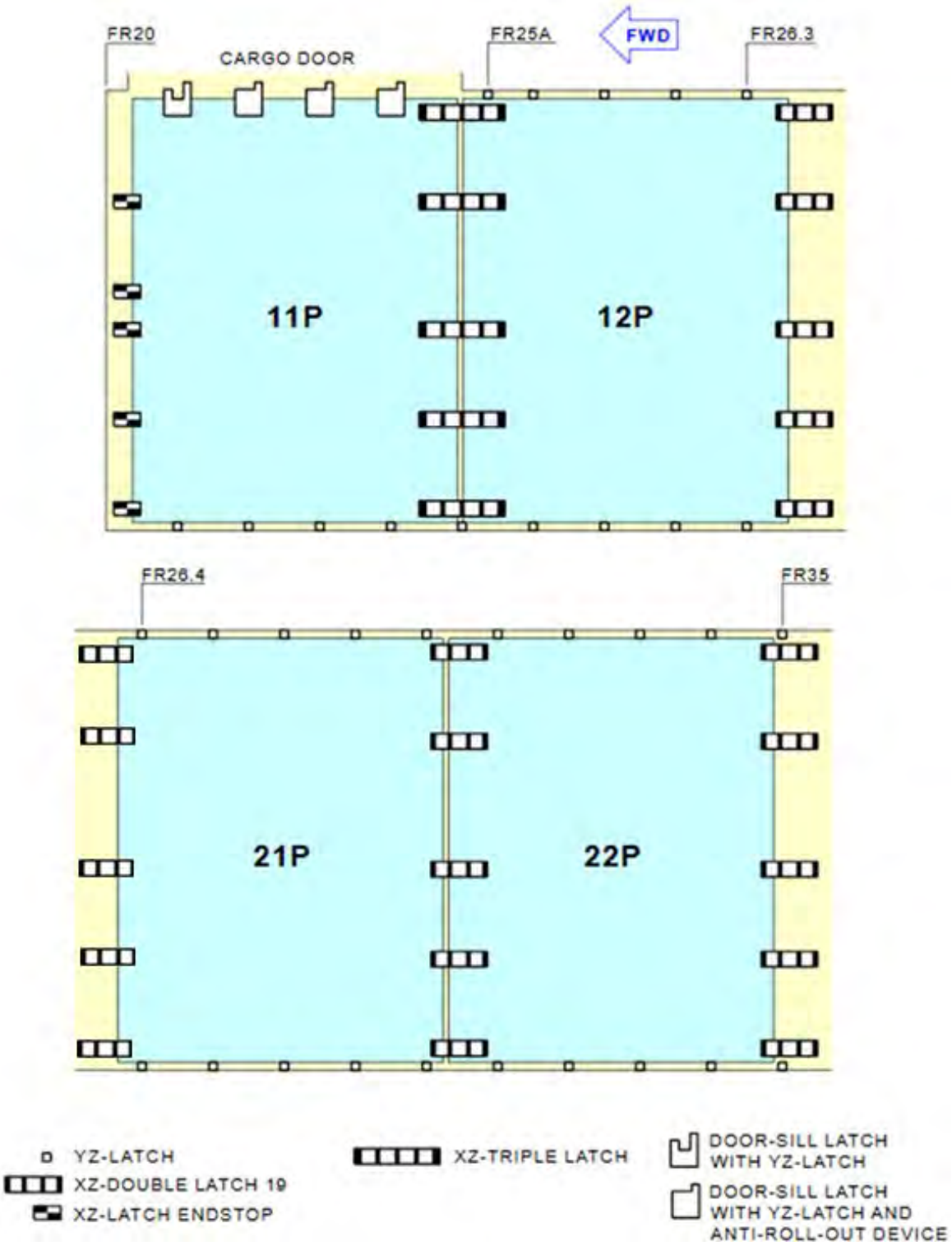
- ***NOTE**: L-size ULD occupies 2 adjacent positions simultaneously, right and left (e.g., 12R & 12L or subst.).*
- ***NOTE**: K-size ULD occupies only one position on left or right sides (e.g. 12R or 12L or substl.).*
- ***NOTE**: if ULD are loaded one by one on same side of cargo hold (e.g., pos. 11R and 12R), and must be separated by Double Lock (YZ-Double Latch), each ULD must be secured by separate lock (gap remains between ULD).*



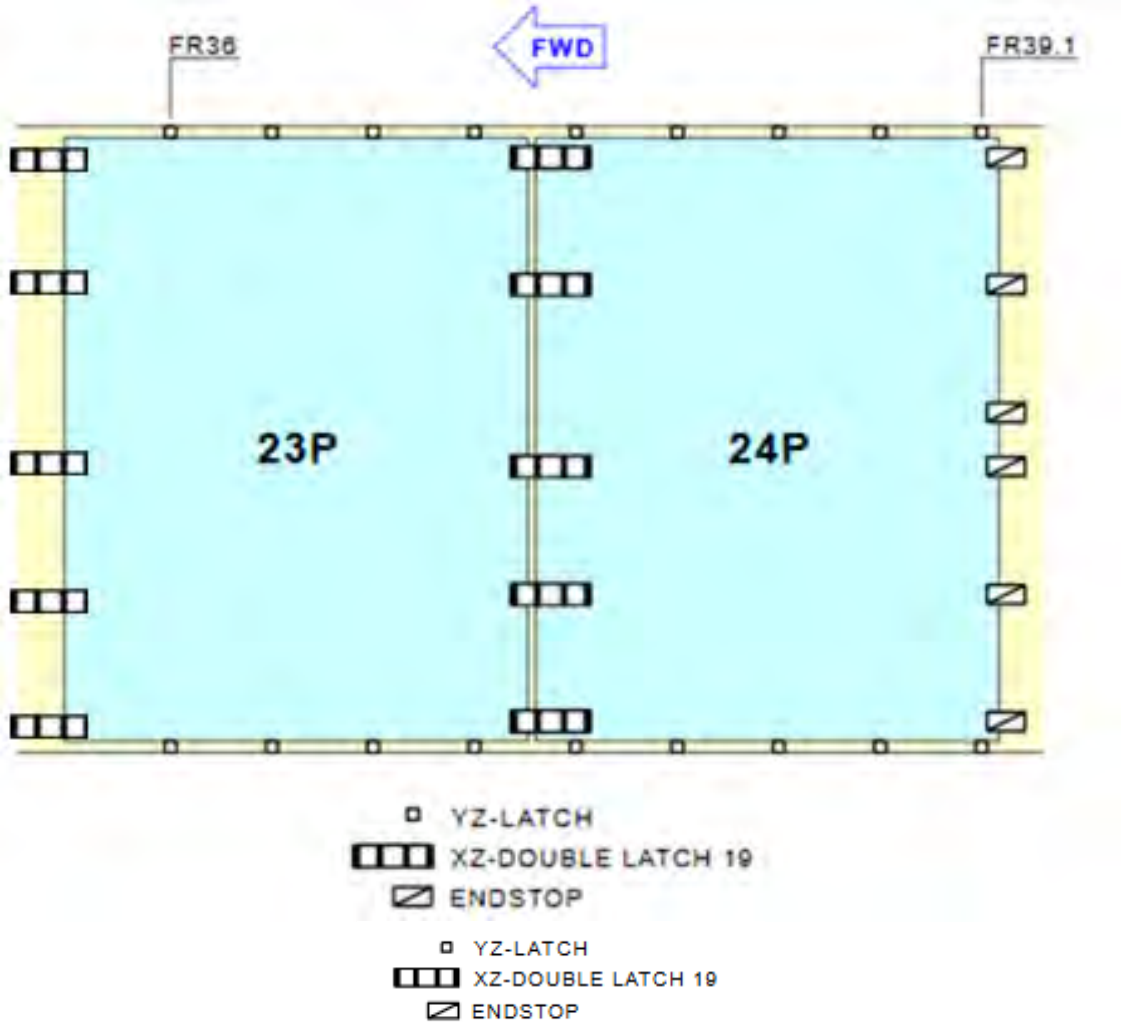
Mandatory Cargo Restrains for A-size ULDs – Forward Hold

Applicable for: UK33030, UK33031, UK33032

- ***NOTE**: A-size ULD occupies 1 standard position (marked as 11P, 12P, 21P or subst.).*



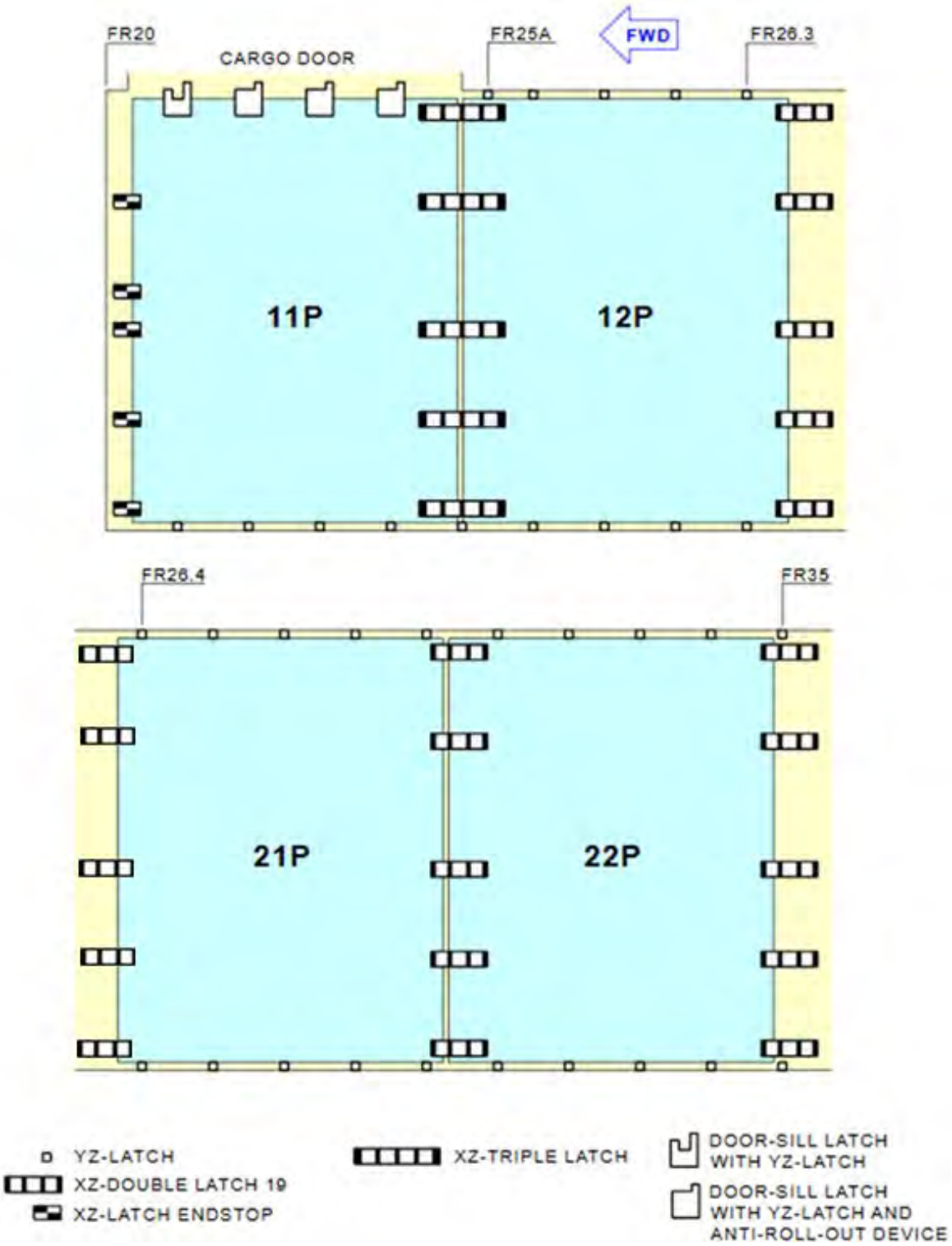
Refer to next page to see remain information


FR36
FWD
FR39.1
23P
24P
YZ-LATCH
XZ-DOUBLE LATCH 19
ENDSTOP
YZ-LATCH
XZ-DOUBLE LATCH 19
ENDSTOP

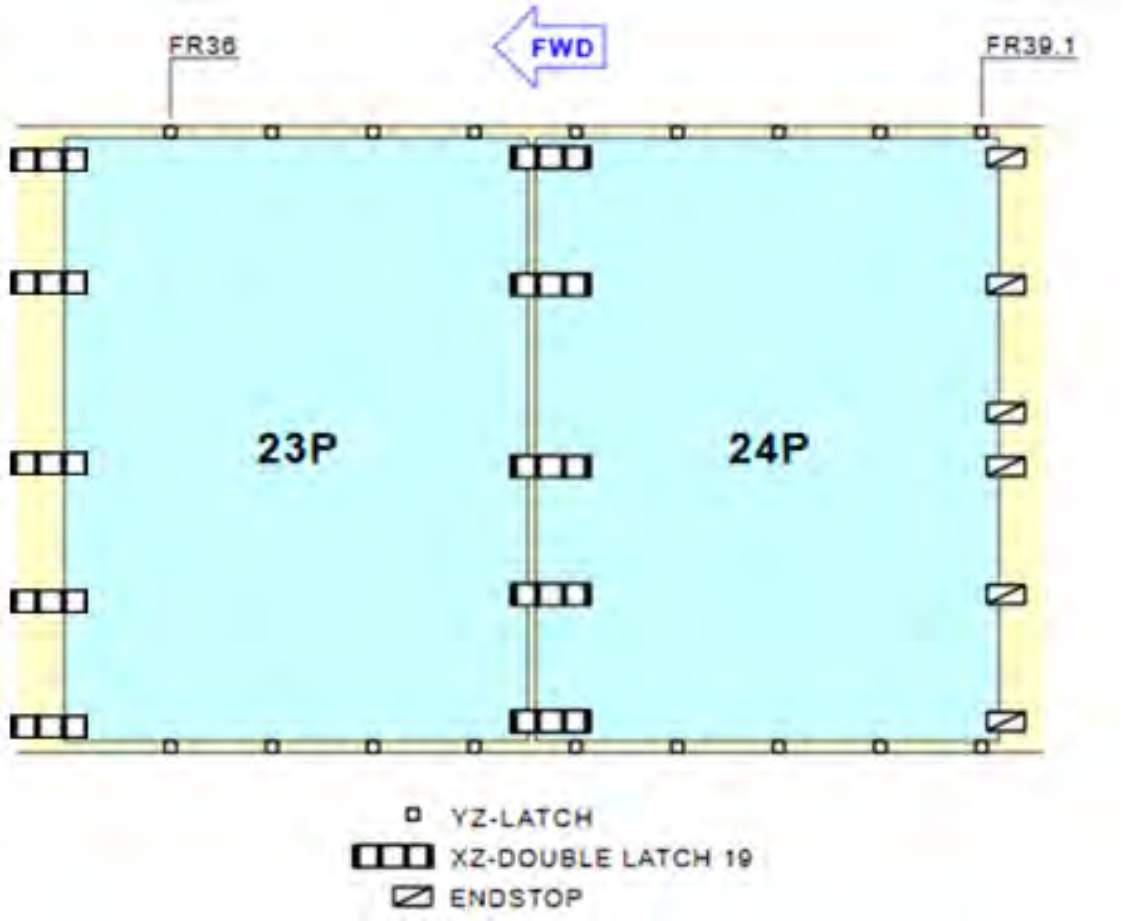
Mandatory Cargo Restrains for for M-size ULDs – Forward Hold

Applicable for: UK33030, UK33031, UK33032

- ***NOTE**: M-size ULD occupies 1 standard position (marked as 11P, 12P, 21P or subst.).*



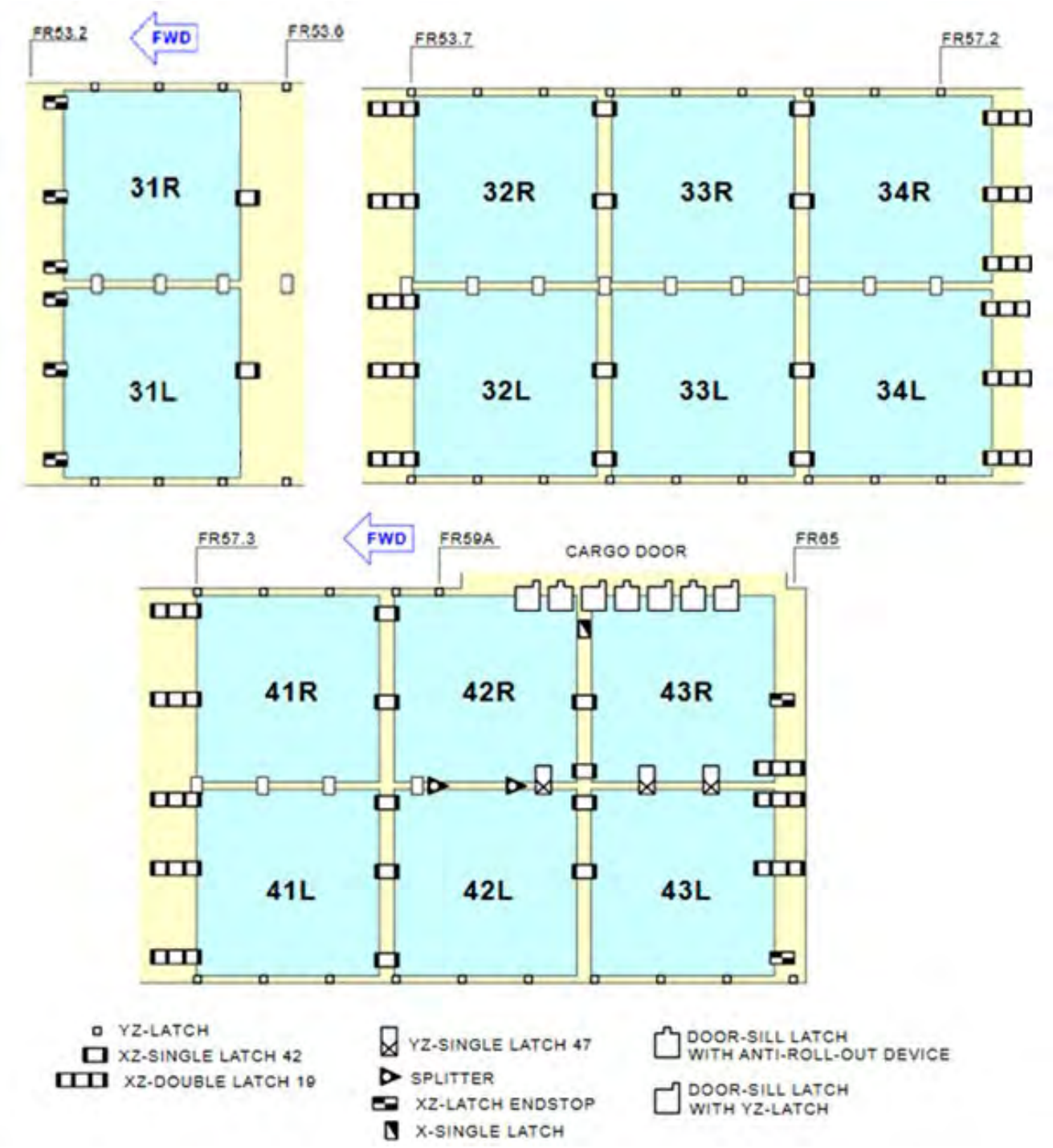
Refer to next page to see remain information


FR36
FWD
FR39.1
23P
24P
YZ-LATCH
XZ-DOUBLE LATCH 19
ENDSTOP

Mandatory Cargo Restrains for for K-size and L-size ULDs – Aft Hold

Applicable for: UK33030, UK33031, UK33032

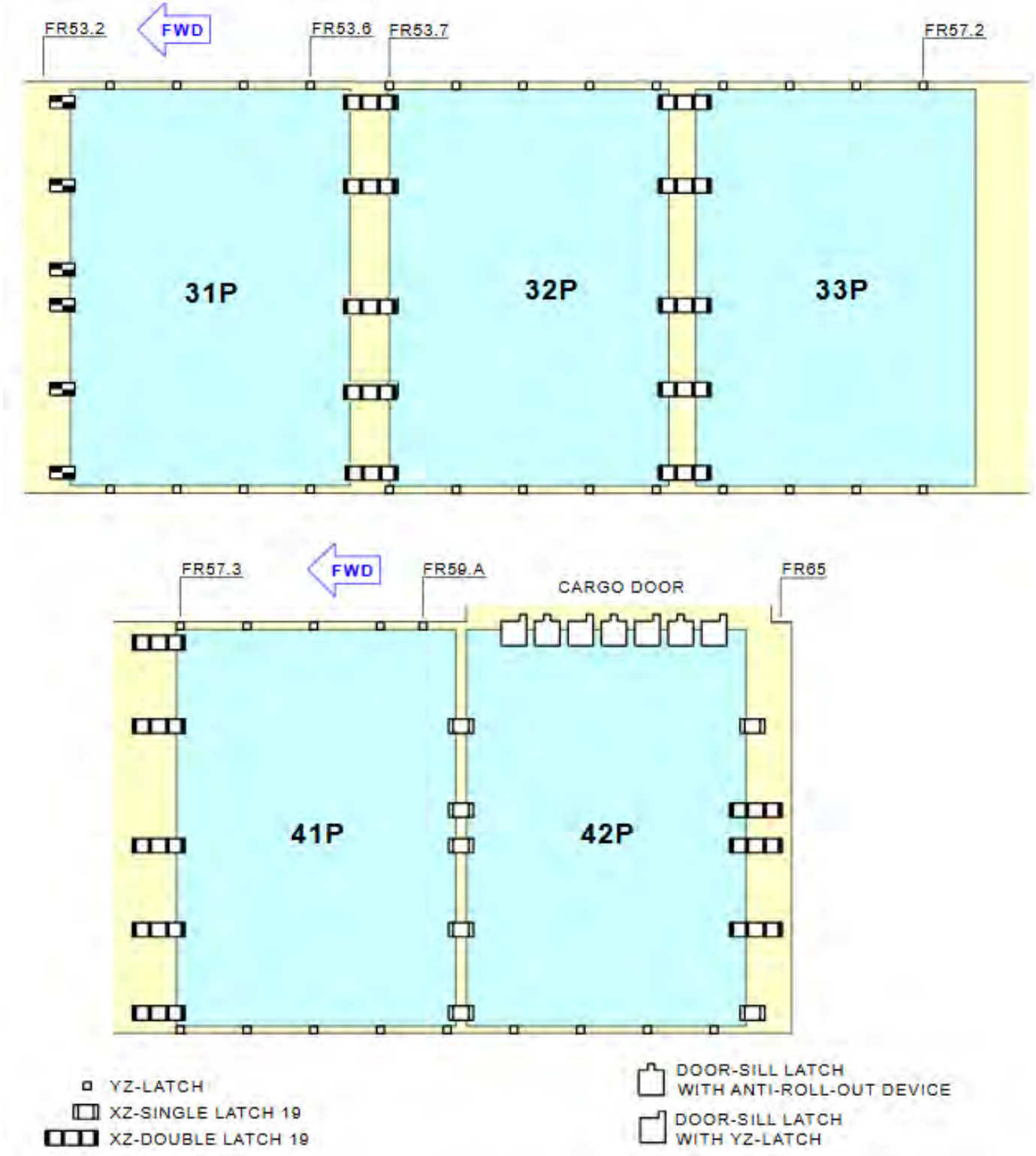
- ***NOTE**: L-size ULD occupies 2 adjacent positions simultaneously, right and left (e.g., 32R & 32L or subst.).*
- ***NOTE**: K-size ULD occupies only one position on left or right sides (e.g. 32R or 32L or substl.).*
- ***NOTE**: if ULD are loaded one by one on same side of cargo hold (e.g., pos. 34R and 41R), and must be separated by Double Lock (YZ-Double Latch), each ULD must be secured by separate lock (gap remains between ULD).*



Mandatory Cargo Restrains for A-size ULDs – Aft Hold

Applicable for: UK33030, UK33031, UK33032

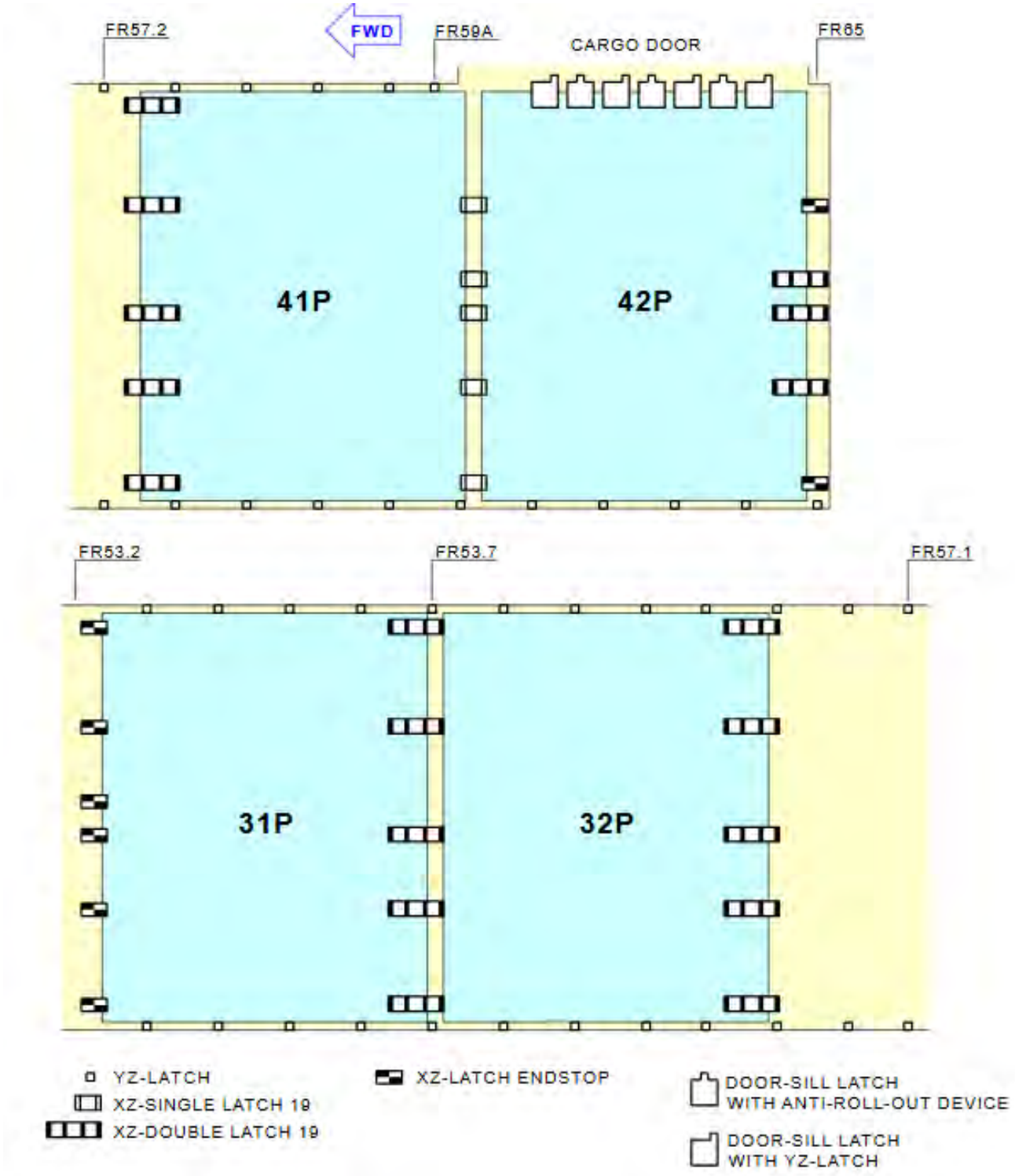
- ***NOTE**: A-size ULD occupies 1 standard position (marked as 31P or subst.).*



Mandatory Cargo Restrains for for M-size ULDs – Aft Hold

Applicable for: UK33030, UK33031, UK33032

- ***NOTE**: M-size ULD occupies 1 standard position (marked as 31P or subst.).*



2.8 LOADING & OFFLOADING OPERATIONS - LOW DECK HOLDS

2.8.1 GENERAL INFORMATION AND RESTRICTIONS

1. **FOR ALL AIRCRAFT**: FWD Low Deck Hold must be loaded at first and offloaded at last.
2. **FOR ALL AIRCRAFT**: Bulk Hold & AFT Low Deck Hold must be loaded at last and offloaded at first.
3. **FOR ALL AIRCRAFT**: Passenger embarkation and disembarkation through the forward doors are not critically influences to aircraft balance, however to provide best aircraft stability AFT Hold must be loaded after passenger embarkation and must be offloaded before the passenger disembarkation, if FWD Hold is empty, or total weight of actual load in FWD Hold is 50% or less of actual load in AFT Hold.
4. **FOR A319-153N, A321-251N, A321-253NX ONLY**: after the offloading of AFT Hold make sure that ACT Protection Wall is free of damages, and no fuel spillage/smell are discovered into cargo hold. Immediately inform engineers, if fuel spillage/smell are found. Do not perform loading operations until rectification of defect.
5. **FOR A319-153N, A321-251N, A321-253NX ONLY**: before and after the loading of AFT Hold make sure that ACT Protection Wall is free of damages, and no fuel spillage/smell are discovered into cargo hold. Immediately inform engineers, if fuel spillage/smell are found. Do not perform any operations in cargo hold until rectification of defect.
6. **FOR A319-153N, A321-251N, A321-253NX ONLY**: All payload planned for loading to the Low Deck Holds or Bulk Section of A319-153N, A320 (any modification), A321-251N & A321-253NX aircraft must be moved manually during the loading & offloading operations. Loading of ULD to cargo holds of these aircraft is not possible.
7. **FOR A330-343 ONLY:** All payload planned for loading to the Compartment 5 of A330-343 aircraft must be moved manually during the loading & offloading operations. Loading of ULD to Compartment 5 of A330-343 is not possible.
8. **FOR A330-343 ONLY:** Payload planned for loading to the Compartments 1, 2, 3, 4 of A330-343 aircraft must be built on ULD prior to the loading. Loading of loose items to Compartments 1, 2, 3, 4 of A330-343 aircraft is strictly prohibited.
9. **FOR ALL AIRCRAFT**: Careful evaluation of package dimensions and weight requires to provide safe loading and offloading. *Refer to **Section 2.8.2 – 2.8.5 Part 2 GOCHM** to see detailed tables for loading evaluation (specific for appropriate aircraft).*
10. **FOR ALL AIRCRAFT**: Extra tie-down can be required for specific items (baggage, cargo, equipment) loaded to Low Deck holds of specific aircraft – refer to ***Part 8 GOCHM***.

2.8.2 LOADING RESTRICTIONS

2.8.2.1 A319-153N LOADING RESTRICTIONS

Applicable for: UK888

- Loading of long items to AFT Hold is not possible due to the ACT installed.
- Loading of long items to FWD Hold is possible, if items are rotated/tilted. Follow to dimensions described in ***Table 2.8.2*** to check, if dimensions of cargo allow to move it into cargo hold through the Bulk Cargo Door.
- No dangerous goods or special loads must be loaded to any cargo holds of A319-153N.

Table 2.8.2. Maximum Bulk Cargo Dimensions A319-153N (Forward Cargo Hold only)

Package height, cm ▼																	
101.4 - 122	210	200	191	182	173	165	165	165	165	165	165	165	165	N/A	N/A	N/A	N/A
74.6 – 101.4	227	218	207	197	187	178	168	164	164	164	164	164	164	164	164	164	N/A
0-74.6	245	235	225	215	205	195	185	179	179	179	179	179	179	179	179	179	179
Package Width, cm ►	***0***	***10***	***20***	***30***	***40***	***50***	***60***	***70***	***80***	***90***	***100***	***110***	***120***	***130***	***140***	***150***	***160***

2.8.2.2 A320-214, A320-232, A320-233, A320-251N: LOADING RESTRICTIONS

Applicable for: UK32070, UK32071, UK32072, UK32073, UK32074, UK32075

- Loading of long items to AFT Hold, FWD Hold, Bulk section is possible if items are rotated/tilted. Follow to dimensions described in all parts of ***Table 2.8.2.2*** to check, if dimensions of cargo allow to move it into cargo hold through the appropriate cargo door.
- Use Aft Cargo Hold door only to load long items to Compartment 5 of any A320 aircraft. Do not use door of Compartment 5 for long items loading to Compartment 5.
- Temperature sensitive special cargo (include AVIH) must not be loaded to LD Holds of A320 (any modification).

Table 2.8.2.2. Maximum Package Dimensions A320-214, -232 & -233

Forward Cargo Hold A320

Load place width (cm) →	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	164.7
0 - 115	435	415	395	375	355	335	315	294	274	254	234	214	194	173	165	143	143	143
0–97	475	475	475	455	435	414	394	374	354	334	314	294	273	253	233	212	200	200
0 - 70	475	475	475	475	475	475	465	444	424	403	382	362	341	319	298	275	253	253
Load height (cm) ↑	Load piece length (cm) ↑																	

Aft Cargo Hold A320

Load place width (cm) →	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	171.6
0 - 115	444	424	404	384	364	344	324	304	284	264	243	223	203	182	172	143	143	143	143
0–97	485	485	485	465	445	425	405	384	364	344	324	304	284	264	243	223	202	200	200
0 - 70	485	485	485	485	485	485	475	455	435	414	394	373	352	331	310	288	266	253	253
Load height (cm) ↑	Load piece length (cm) ↑																		

2.8.2.3 A321-251N: LOADING RESTRICTIONS

Applicable for: UK32130

- Loading of long items to AFT Hold, FWD Hold, Bulk section is possible if items are rotated/tilted. Follow to dimensions described in all parts of ***Table 2.8.2.3*** to check, if dimensions of cargo allow to move it into cargo hold through the appropriate cargo door.
- Use Aft Cargo Hold door only to load long items to Compartment 5 of A321-251N aircraft. Do not use door of Compartment 5 for long items loading to Compartment 5.
- Temperature sensitive special cargo (include AVIH) or cargo requires ventilation during flight must not be loaded to LD Holds of A321-251N aircraft.
- Loading of Dangerous Goods (classes 1, 2, 3, 4, 8) to Aft Cargo Hold is prohibited.

Table 2.8.2.3. Maximum Package Dimensions A321-251N

FWD HOLD

Load width (cm) →	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
101.4-122	348	342	336	331	318	298	278	257	237	216	195	174	N/A	N/A	N/A	N/A	N/A
74.6-101.4	362	354	347	340	334	329	324	312	292	272	252	232	212	192	172	164	N/A
0-74.6	376	367	359	351	343	336	330	324	319	314	294	274	254	233	213	193	185
Load height (cm) ↑	Load piece length (cm) ↑																

AFT HOLD

Load width (cm) →	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
101.4-122	350	343	336	330	324	319	315	301	281	261	241	221	200	179	171	N/A	N/A	N/A
74.6-101.4	377	368	359	351	343	335	328	321	314	309	304	301	283	263	242	222	201	199
0-74.6	408	398	388	379	369	360	350	341	332	324	315	307	300	293	288	283	265	252
Load height (cm) ↑	Load piece length (cm) ↑																	

2.8.2.4 A321-253NX: LOADING RESTRICTIONS

Applicable for: UK32131, UK32132

- Loading of long items to AFT Hold, FWD Hold, Bulk section is possible if items are rotated/tilted. Follow to dimensions described in all parts of ***Table 2.8.5*** to check, if dimensions of cargo allow to move it into cargo hold through the appropriate cargo door.
- Dimensions for bulk door are not shown. Use Aft Cargo Hold door to load long items to Compartment 5 of A321-253NX aircraft.
- Temperature sensitive special cargo (include AVIH) or cargo requires ventilation during flight must not be loaded to LD Holds of A321-253NX aircraft.
- Loading of Dangerous Goods (classes 1, 2, 3, 4, 8) to Aft Cargo Hold is prohibited.

Table 2.8.5. Maximum Bulk Cargo Dimensions A321-253NX

FWD HOLD – Loading through the cargo door

Load width (cm) →	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**	**140**	**150**	**160**
101.4-122	348	342	336	331	318	298	278	257	237	216	195	174	N/A	N/A	N/A	N/A	N/A
74.6-101.4	362	354	347	340	334	329	324	312	292	272	252	232	212	192	172	164	N/A
0-74.6	376	367	359	351	343	336	330	324	319	314	294	274	254	233	213	193	185
Load height (cm) ↑	**Load piece length (cm) ↑**																

AFT HOLD – Loading through the cargo door

Load width (cm) →	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**	**140**	**150**	**160**	**170**
101.4-122	350	343	336	330	324	319	315	301	281	261	241	221	200	179	171	N/A	N/A	N/A
74.6-101.4	377	368	359	351	343	335	328	321	314	309	304	301	283	263	242	222	201	199
0-74.6	408	398	388	379	369	360	350	341	332	324	315	307	300	293	288	283	265	252
Load height (cm) ↑	**Load piece length (cm) ↑**																	

2.8.2.5 A330-343: LOADING RESTRICTION

Applicable for: UK33030, UK33031, UK33032

- Loading of long items to Compartment 5 is possible if items are rotated/tilted.
- Trial loading or 3D loading simulation may be required for several types of oversized packages.
- Total height of oversized packages planned for loading to Compartment 5 is limited by 56 cm.
- Follow to dimensions described in all parts of ***Table 2.8.6*** to check, if dimensions of cargo allow to move it into cargo hold through the appropriate cargo door.

Table 2.8.6. Maximum Bulk Cargo Dimensions – Compartment 5 of A330-343 aircraft

Net Section 52							***Net Section 53***						
Package Width, cm	***Package Length, cm***						***Package Width, cm***	***Package Length, cm***					
	≤ 180	***200***	***210***	***225***	***240***	***≥240***		***≤ 210***	***225***	***235***	***250***	***≥ 250***	
≤ 10	***Yes [1]***					***Trial [2]***	***≤ 10***	***Yes [1]***				***Trial [2]***	
25	***Yes [1]***				***Trial [2]***		***25***	***Yes [1]***			***Trial [2]***		
40	***Yes [1]***			***Trial [2]***			***40***	***Yes [1]***		***Trial [2]***			
55	***Yes [1]***		***Trial [2]***				***55***	***Not loadable***					
85	***Yes [1]***	***Trial [2]***					***85***	***Yes [1]***	***Trial [2]***				
≥ 85	***Trial [2]***						***≥ 85***	***Trial [2]***					
NOTE: maximum package height is 56 cm													

[1] Loading is possible.
[2] Trial loading requires.

2.8.3 LOADING AND OFFLOADING PROCEDURES (LOW DECK CARGO HOLDS)

2.8.3.1 LOADING AND OFFLOADING PROCEDURES (LOW DECK CARGO HOLDS)

2.8.3.1.1 A319, A320, A321: LOADING PROCEDURES (LOW DECK CARGO HOLDS)

Applicable for: UK888, UK32070, UK32071, UK32072, UK32073, UK32074, UK32075, UK32130, UK32131, UK32132

1. Open cargo door.
- *Refer to **Section 2.5.2 Part 2 GOCHM**.*

2. Open Door Net in doorway area and Bulk Nets (separates sections from each other).

3. **FOR A321-251N & -253NX ONLY**: make sure if no damages of protection wall of additional fuel tanks have been found, and no fuel leakage / fuel smell are presented in cargo hold.

4. Load planned payload (baggage, cargo, mail, equipment) according to Loading Instruction Report. Perform additional tie-down to aircraft structure for appropriate types of payload, if required.
- *Refer to **Part 8 GOCHM**.*

5. Close and tight all Bulk Nets between sections of cargo hold (attach fittings to anchor plates on the floor, ceiling and walls, connect nets by lever latches (where applicable), tight the net straps).

6. Close and tight Door Net in doorway area (attach fittings to anchor plates on the floor, ceiling and walls, connect nets by lever latches (where applicable), tight the net straps).

7. Close cargo door.
- *Refer to **Section 2.5.2 Part 2 GOCHM**.*

2.8.3.1.2 A319, A320, A321: OFFLOADING PROCEDURES (LOW DECK CARGO HOLDS)

Applicable for: UK888, UK32070, UK32071, UK32072, UK32073, UK32074, UK32075, UK32130, UK32131, UK32132

1. Open cargo door.
- *Refer to **Section 2.5.2 Part 2 GOCHM**.*

2. Open Door Net in doorway area and Bulk Nets (separates sections from each other).

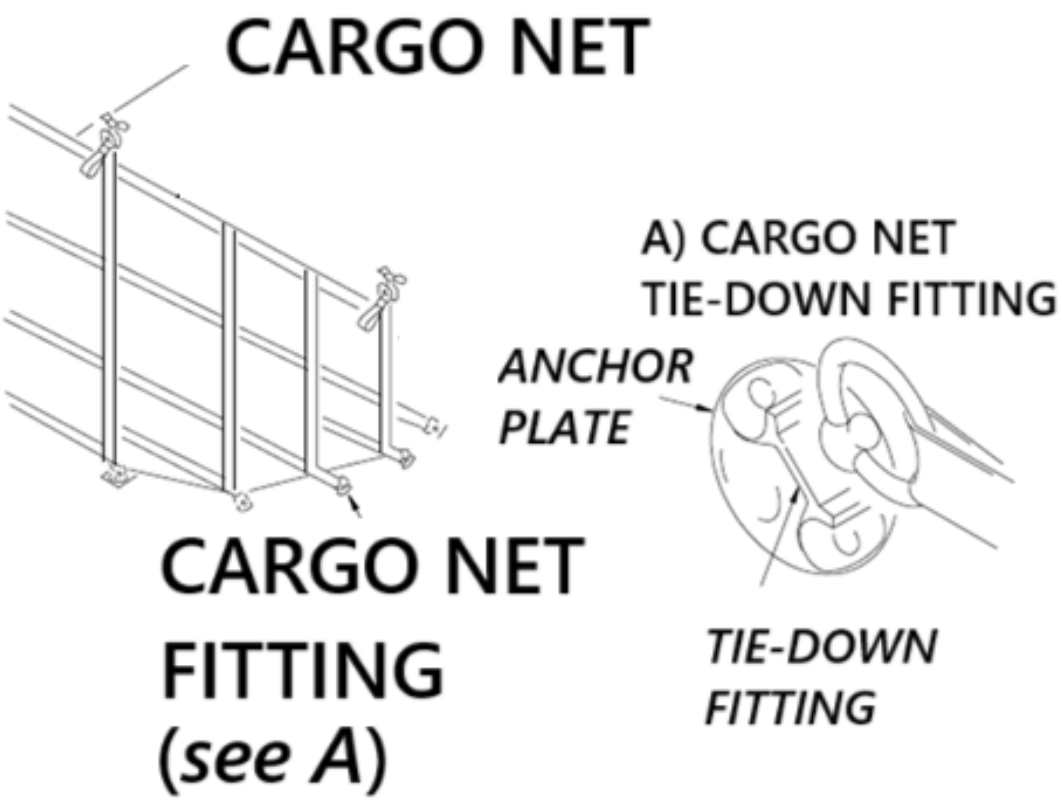
3. Offload planned payload (baggage, cargo, mail, equipment) according to Loading Instruction Report and incoming CPM message.

4. **FOR A321-251N & -253NX ONLY**: make sure if no damages of protection wall of additional fuel tanks have been found, and no fuel leakage / fuel smell are presented in cargo hold.

5. Close and tight all Bulk Nets between sections of cargo hold (attach fittings to anchor plates on the floor, ceiling and walls, connect nets by lever latches (where applicable), tight the net straps).

6. Close and tight Door Net in doorway area (attach fittings to anchor plates on the floor, ceiling and walls, connect nets by lever latches (where applicable), tight the net straps).

7. Close cargo door.
- *Refer to **Section 2.5.2 Part 2 GOCHM**.*


CARGO NET
A) CARGO NET TIE-DOWN FITTING
ANCHOR PLATE
CARGO NET FITTING (see A)
TIE-DOWN FITTING

2.8.3.2 A330-343: LOADING & OFFLOADING OPERATIONS INTO LOW DECK CARGO HOLDS

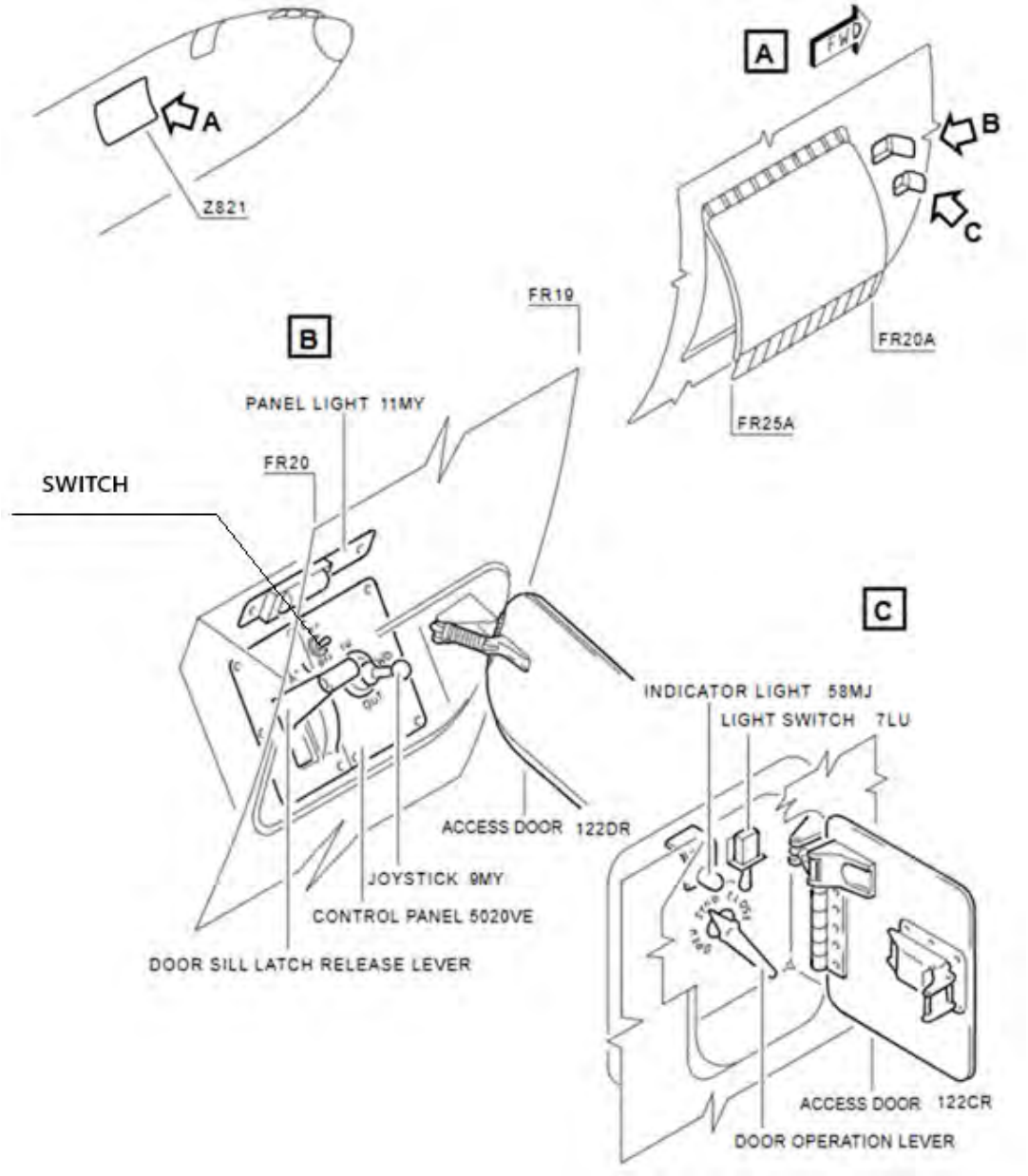
2.8.3.2.1 A330-343: LOADING OPERATIONS – FORWARD CARGO HOLD

Applicable for: UK33030, UK33031, UK33032

1. Open cargo door.
   - *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

2. Open access door 122DR on **Outside Control Panel**.

3. Set the SYSTEM ON/OFF switch on the **Outside Control Panel** to ON. Make sure if the signal light SYSTEM READY came on after 5 seconds standby.



4. Retract manually operated YZ-latches in doorway area.
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

5. Move the Door Sill Latch Release Lever on **Outside Control Panel** down to retract Door Sill Latches.

6. Retract all retractable locks and guides in compartment down prior to loading operations. Remain locks and guides raised on positions which shall be remained empty on current flight (if no ULD are planned for transfer via these positions during the loading operations).
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

7. **To load the desired ULDs into the compartment** – push and hold the joystick on **Outside Control Panel** into IN position when ULD(s) movement from the highloader platform to cargo hold has been started. Power drive units (PDU) will automatically start to rotate wheels once ULD will covers the sensor on top of PDU body. When you release the joystick, each PDU stops to operate.
   - *If you need to load the pairs of ULD (K-size) or move pair of ULD along the cargo hold, you can move each pair of half-width ULDs simultaneously when you hold the joystick in the SPLIT position (neutral position), or any of ULD separately when you hold the joystick into RIGHT or LEFT position.*

To move ULD along the cargo hold to desired positions - hold the joystick on **Outside Control Panel** into AFT position (until ULD stopped after contact with end stops or raised locks). **Inner Control Panel** on compartment roof inside the cargo hold can be used for movement of ULDs behind the door area (position 11P).

8. Raise applicable locks to secure loaded ULDs (in accordance with ULD loading type). It automatically turned off PDUs on occupied positions. Continue loading process in accordance with chosen loading configuration.
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*
   - *Loading sequence for ULD size K: from positions 26L/26R to 11L/11R.*
   - *Loading sequence for ULD size L: from positions 26 to 11.*
   - *Loading sequence for ULD size A: from positions 24P to 11P.*
   - *Loading sequence for ULD size M: from positions 24 P to 11P.*
   - *Loading sequence in case of ULD intermix: from positions 24 (26) to positions 11 in accordance with ULDs types.*
   - *Refer to **Part 4 GOCHM** to have information about different ULD types.*

9. Once loading is finished, raise all locks and other types of retractable restrains on empty positions (if any position(s) remain empty on current flight).
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

10. Raise all YZ-latches and the anti-roll-out devices in doorway area prior to door closing. When the manually operated YZ-latches and the anti-roll-out devices on each door sill latch are raised, the SYSTEM ON/OFF switch is automatically set to OFF and the SYSTEM READY light goes off. Set the SYSTEM ON/OFF switch to OFF if it not set automatically.
    - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

IT IS PROHIBITED TO CLOSE CARGO DOOR IF PALLET LOCKS AND ANTI-ROLLOUT DEVICES ARE NOT RAISED FULLY.

11. Close cargo door.
    - *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

12. Close access door 122DR on **Outside Control Panel**.

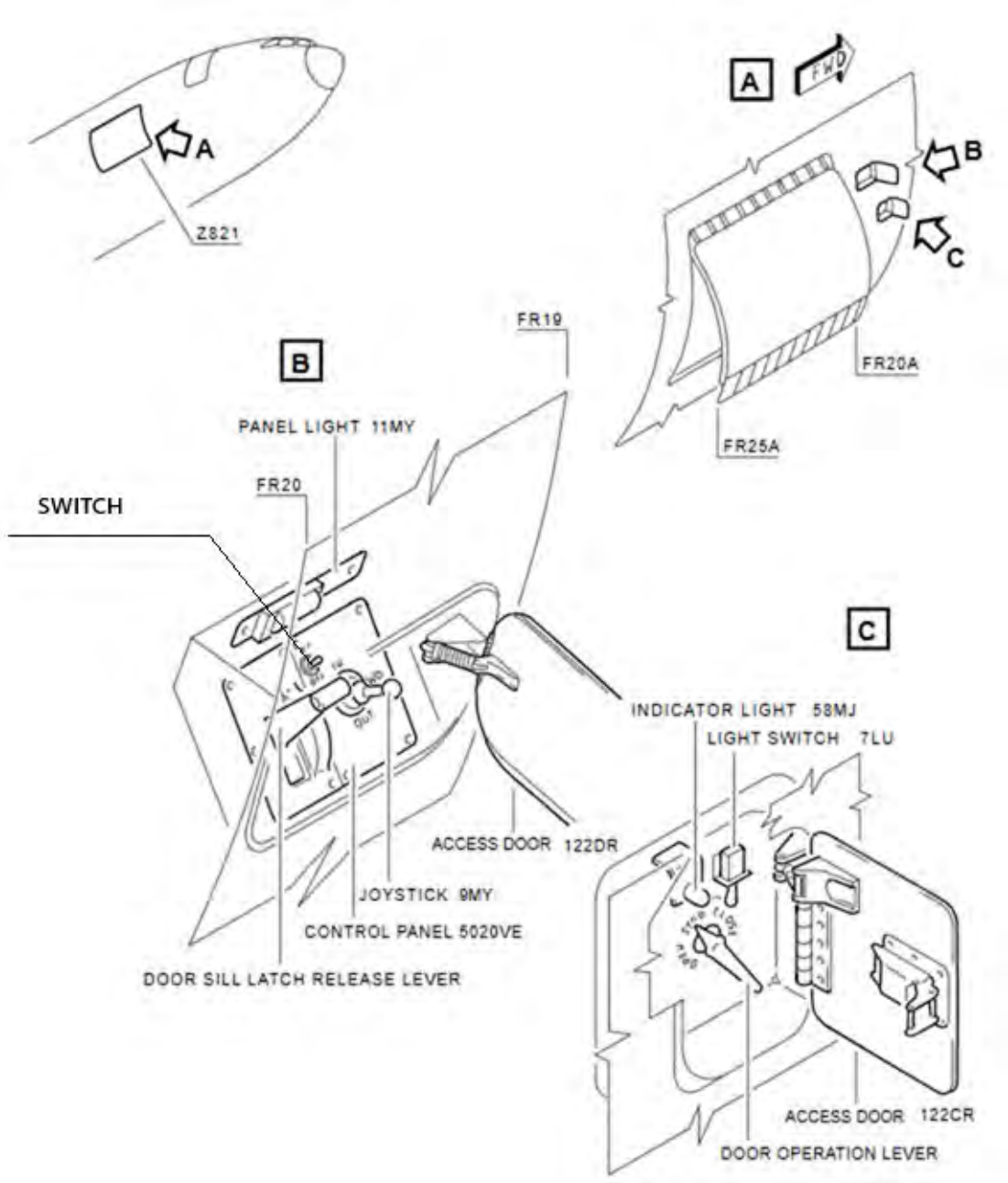
2.8.3.2.2 A330-343: OFFLOADING OPERATIONS – FWD CARGO HOLD

Applicable for: UK33030, UK33031, UK33032

1. Open cargo door.
   - *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

2. Open access door 122DR on **Outside Control Panel**.

3. Set the SYSTEM ON/OFF switch on the **Outside Control Panel** to ON. Make sure if the signal light SYSTEM READY came on after 5 seconds standby.



4. Retract manually operated YZ-latches in doorway area.
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

5. Move the Door Sill Latch Release Lever on **Outside Control Panel** down to retract Door Sill Latches.

6. Retract all retractable locks and guides on empty positions (if applicable for current flight) down prior to loading operations. If compartment is full, or positions near the cargo door are loaded, skip this step.
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

7. **To offload ULD(s) from door area zone (position 11P)** – push the joystick into OUT position to start ULD movement out of compartment (when it located on position near the cargo door). When you release the joystick, each PDU stops to operate.

   To move ULD along the cargo hold from other positions to position 11P - hold the joystick on **Outside Control Panel** into OUT position to move ULD from position(s) 11P (11L/11R) to desired position outside of cargo compartment. Hold the joystick on **Outside Control Panel** into FWD position to move ULD from another positions to door area (position 11P). Make sure if pallet locks forward of desired ULD are opened (otherwise PDU will not be activated to move it).
   - ***Inner Control Panel** on compartment roof inside the cargo hold can be used for movement of ULDs behind the door area (position 11P).*
   - *If you need to offload the pairs of ULD (K-size) or move pair of ULD along the cargo hold, you can move each pair of half-width ULDs simultaneously when you hold the joystick in the SPLIT position (neutral position), or any of ULD separately when you hold the joystick into RIGHT or LEFT position.*

8. Next standard offloading sequence is applicable:
   - *Offloading sequence for ULD size K: from positions 11L/11R to 26L/26R.*
   - *Offloading sequence for ULD size L: from positions 11 to 26.*
   - *Offloading sequence for ULD size A: from positions 11P to 24P.*
   - *Offloading sequence for ULD size M: from positions 11P to 24P.*
   - *Offloading sequence in case of ULD intermix: from positions 11 to positions 24 (26) in accordance with ULDs types.*
   - *Refer to **Part 4 GOCHM** to have information about different ULD types.*

9. Once offloading is finished, raise next locks and restrains:
   A. **If Compartments 1-2 remain empty** – only all locks and anti-rollout devices into the doorway area.
   B. **If even 1 ULD remains in Compartments 1-2** – all locks and anti-rollout devices into the doorway area plus all pallet locks on the cargo hold floor.
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

10. Always raise all YZ-latches and the anti-roll-out devices in doorway area prior to door closing. When the manually operated YZ-latches and the anti-roll-out devices on each door sill latch are raised, the SYSTEM ON/OFF switch is automatically set to OFF and the SYSTEM READY light goes off. Set the SYSTEM ON/OFF switch to OFF if it not set automatically.
    - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

IT IS PROHIBITED TO CLOSE CARGO DOOR IF PALLET LOCKS AND ANTI-ROLLOUT DEVICES ARE NOT RAISED FULLY.

11. Close cargo door.
    - *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

12. Close access door 122DR on **Outside Control Panel**.

2.8.3.2.3 A330-343: LOADING OPERATIONS – AFT CARGO HOLD

Applicable for: UK33030, UK33031, UK33032

1. Open cargo door.
    - *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

2. Open access door 152NR on **Outside Control Panel**.

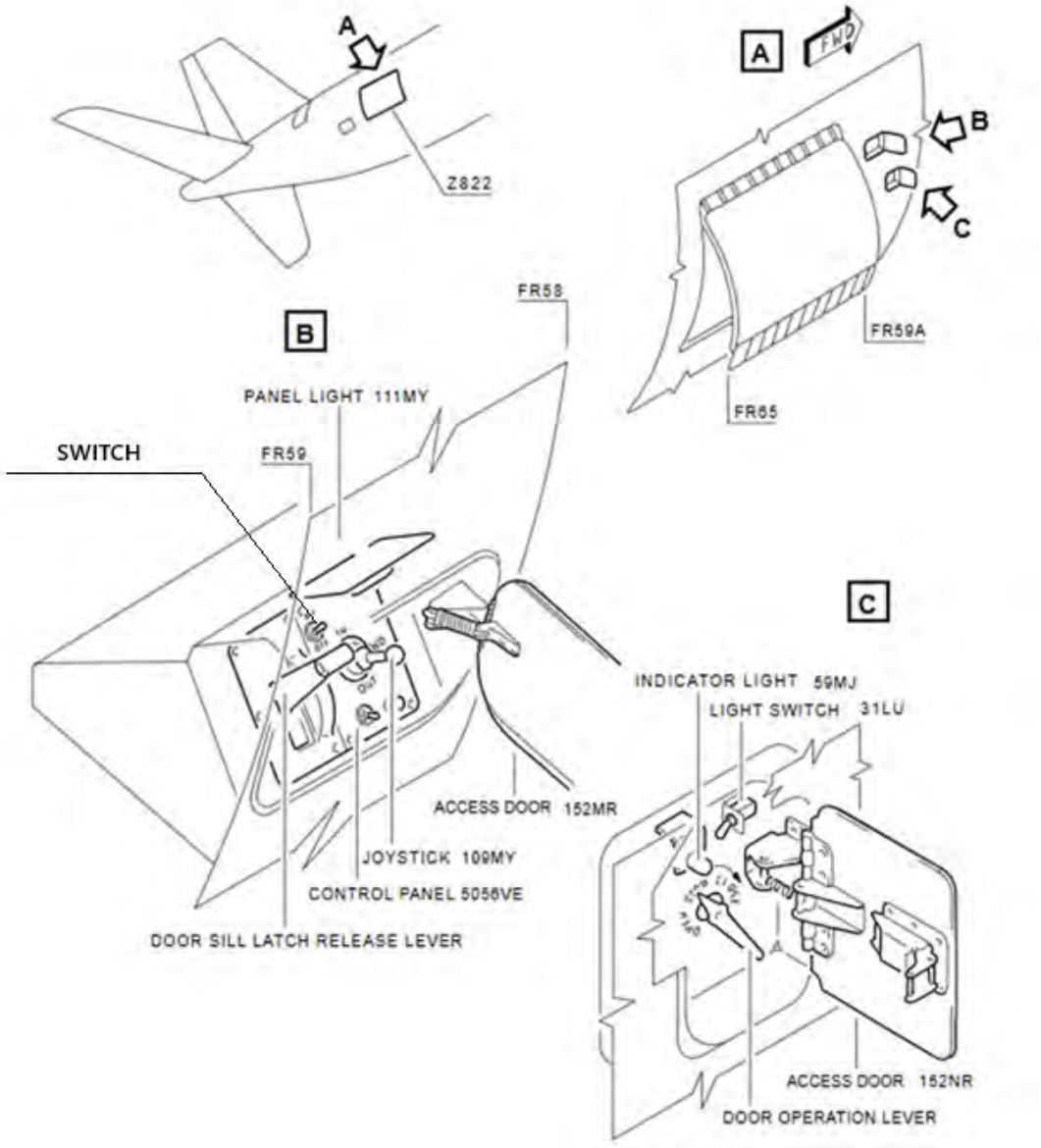
3. Set the SYSTEM ON/OFF switch on the **Outside Control Panel** to ON. Make sure if the signal light SYSTEM READY came on after 5 seconds standby.

4. Retract manually operated YZ-latches in doorway area.
    - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

5. Move the Door Sill Latch Release Lever on **Outside Control Panel** down to retract Door Sill Latches.

6. Retract all retractable locks and guides in compartment down prior to loading operations. Remain locks and guides raised on positions which shall be remained empty on current flight (if no ULD are planned for transfer via these positions during the loading operations).
    - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

7. To load the desired ULDs into the compartment – push the joystick into IN position when ULD(s) movement to cargo hold has been started. When you release the joystick, each PDU stops to operate.
    - *If you load the pairs of half-width ULDs, you can move each pair of half-width ULDs simultaneously when you hold the joystick in the SPLIT position.*



8. Hold the joystick on **Outside Control Panel** into FWD position to move ULD to desired position (until it stopped after contact with end stops or raised locks). **Inner Control Panel** on compartment roof inside the cargo hold can be used for movement of ULDs behind the door area (position 11P).

9. Raise applicable locks to secure loaded ULDs (in accordance with ULD loading type). It automatically turned off PDUs on occupied positions.
   - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*
   - *Loading sequence for ULD size K: from positions 26L/26R to 11L/11R.*
   - *Loading sequence for ULD size L: from positions 26 to 11.*
   - *Loading sequence for ULD size A: from positions 24P to 11P.*
   - *Loading sequence for ULD size M: from positions 24 P to 11P.*
   - *Loading sequence in case of ULD intermix: from positions 24 (26) to positions 11 in accordance with ULDs types.*
   - *Refer to **Part 4 GOCHM** to have information about different ULD types.*

10. Once loading is finished, raise all locks and other types of retractable restrains on empty positions (if any positions remain empty on current flight).

- *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

11. Raise all manually operated YZ-latches and Door Sill Latches in doorway area.
    - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

12. Raise all YZ-latches and the anti-roll-out devices in doorway area prior to door closing. When the manually operated YZ-latches and the anti-roll-out devices on each door sill latch are raised, the SYSTEM ON/OFF switch is automatically set to OFF and the SYSTEM READY light goes off. Set the SYSTEM ON/OFF switch to OFF if it not set automatically.
    - *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*
    - *If the manually operated YZ-latches and the anti-roll-out devices on each door sill latch were not fully lifted, you can manually lower and lift them again to prevent damage to the inner part of the forward cargo-compartment door. It is prohibited to close cargo door if any YZ-latch or anti-roll-out device are not raised.*

13. Close cargo door.
- *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

14. Close access door 152MR on **Outside Control Panel**.

2.8.3.2.4 A330-343: OFFLOADING OPERATIONS – AFT CARGO HOLD

Applicable for: UK33030, UK33031, UK33032

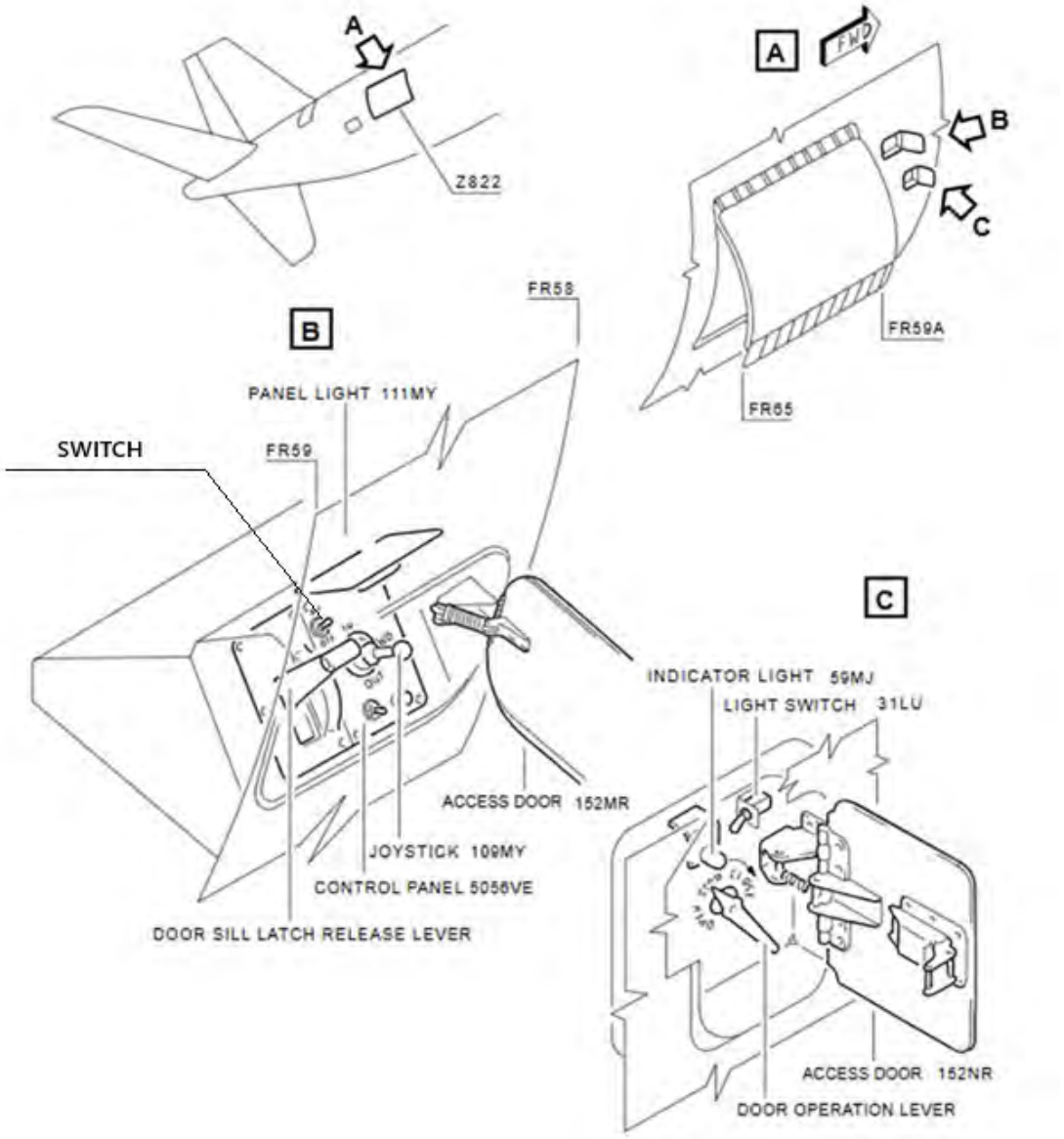
1. Open cargo door.
- *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

2. Open access door 152NR on **Outside Control Panel**.

3. Set the SYSTEM ON/OFF switch on the **Outside Control Panel** to ON. Make sure if the signal light SYSTEM READY came on after 5 seconds standby.

4. Retract manually operated YZ-latches in doorway area.
- *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

5. Move the Door Sill Latch Release Lever on **Outside Control Panel** down to retract Door Sill Latches.



6. Retract all retractable locks and guides on empty positions (if applicable for current flight) down prior to loading operations. If compartment is full, or positions near the cargo door are loaded, skip this step.

- *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

7. **To offload ULD on position 42P from the cargo hold** – push the joystick into OUT position to start ULD movement out of compartment (when it located on position near the cargo door). When you release the joystick, each PDU stops to operate.

- *If you offload the pairs of half-width ULDs, you can move each pair of half-width ULDs simultaneously when you hold the joystick in the SPLIT position.*

To move ULD from certain position to position 42P - hold the joystick on **Outside Control Panel** into AFT position to move ULD to desired position (until it stopped after contact with end stops or raised locks). **Inner Control Panel** on compartment roof inside the cargo hold can be used for movement of ULDs behind the door area (position 11P).

8. Retract locks secures each ULD (planned for offloading) prior to its offloading. If locks are retracted, it automatically turned off PDUs on occupied positions.

- *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*
- *Offloading sequence for ULD size K: from positions 11L/11R to 26L/26R.*
- *Offloading sequence for ULD size L: from positions 11 to 26.*
- *Offloading sequence for ULD size A: from positions 11P to 24P.*
- *Offloading sequence for ULD size M: from positions 11P to 24P.*
- *Offloading sequence in case of ULD intermix: from positions 11 to positions 24 (26) in accordance with ULDs types.*
- *Refer to **Part 4 GOCHM** to have information about different ULD types.*

9. Once offloading is finished, and no transit ULD remain inside the compartment and/or no loading is planned, raise all manually operated YZ-latches and Door Sill Latches in doorway area (*refer to Step 11*). If no loading planned, but as minimum 1 transit ULD remains in compartment, raise all locks and other types of restrains on empty positions.

- *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*

10. Raise all YZ-latches and the anti-roll-out devices in doorway area prior to door closing. When the manually operated YZ-latches and the anti-roll-out devices on each door sill latch are raised, the SYSTEM ON/OFF switch is automatically set to OFF and the SYSTEM READY light goes off. Set the SYSTEM ON/OFF switch to OFF if it not set automatically.

- *Refer to **Subsection 2.7.5 Part 2 GOCHM** for reference.*
- *If the manually operated YZ-latches and the anti-roll-out devices on each door sill latch were not fully lifted, you can manually lower and lift them again to prevent damage to the inner part of the forward cargo-compartment door. <u>It is prohibited to close cargo door if any YZ-latch or anti-roll-out device are not raised</u>.*

11. Close cargo door.

- *Refer to **Subsection 2.5.4 Part 2 GOCHM** for reference.*

12. Close access door 152MR on **Outside Control Panel**.

2.8.3.2.5 A330-343: LOADING & OFFLOADING OPERATIONS – COMPARTMENT 5

Applicable for: UK33030, UK33031, UK33032

All loading and offloading operations must be performed manually into the sections of Compartment 5.

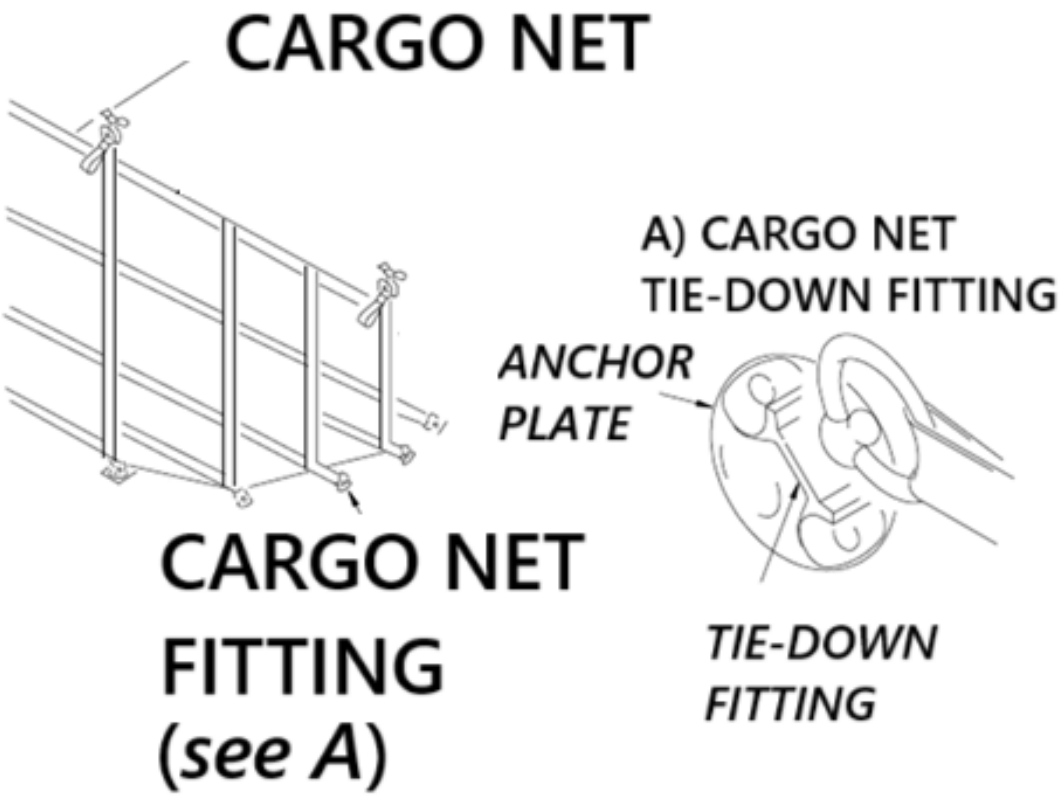
Specific items may require tilting and rotation during the loading/offloading operations.

- *Refer to **Subsection 2.8.2.5 Part 2 GOCHM** for reference regarding loading limitations.*

Specific items must be tie-downed by straps to attachment points on cargo floor.

- *Refer to **Part 8 GOCHM** for reference regarding the tie-down limitations.*

All Bulk and Door Nets must be installed and tightened prior to departure even in case of ferry flight (if no payload or FKT are presented in Compartments 3, 4, 5).



2.9 AIRCRAFT LIMITS

2.9.1 GENERAL RESTRICTIONS

Any package (light or heavy), or set of packages, placed into aircraft, provides a load to aircraft structure. Concentrated load of heavy and small package can damage aircraft structure, sometimes beyond repair.

Loose packages (*any type: baggage, cargo, mail, equipment*) can be loaded only to specific compartments of Cargo Holds. Specific items may require tie-down to aircraft structure. Refer to ***Part 8 GOCHM.***

Specific cargo holds of appropriate aircraft are designed only for loading of payload built on ULD (pallets or containers). Refer to ***Part 4 GOCHM*** to have information about applicable ULD types and its restrictions.

When loading ULD with any type of payload, the load appearing on the rollers and transmitting through the floor panels to the aircraft structure. Excessive stress on the floor beams caused by incorrect load distribution can result in permanent structural deformation or destruction of the aircraft structure.

To avoid overloading of aircraft structure – several aircraft limits must be observed.

Employee responsible for load planning must check whether the load limits of the aircraft structure, described below, are not exceeded.

2.9.2 ULD MAXIMUM WEIGHT. LINEAR AND AREA LOAD LIMITS. PALLET LOCKS LIMITS

Maximum gross weight of ULD/cargo/baggage/equipment/mail package in any zone of aircraft is restricted by 3 main limits:

1. Maximum allowed limits for Pallet Locks and other restraints (for palletized aircraft).
2. Maximum allowed Linear Load for appropriate aircraft zone. *Refer to* ***Table 2.9.2.A***.
3. Maximum allowed Area Load for appropriate aircraft zone. *Refer to* ***Table 2.9.2.A***.
4. Center of gravity for built ULD (applicable for all aircraft which can be loaded by ULD). *Refer to* ***Table 2.9.2.B***.

PALLET LOCKS LIMIT

The maximum designed load for all locks, secures appropriate ULD into specific zone of aircraft. Units of measurement are kilograms. This limit is applicable for palletized aircraft only (A330-343).

- *Refer to* ***Section 2.6.2.4 Part 2 GOCHM*** *to have information about max weights of ULD.*
- *Refer to* ***Section 2.13 Part 2 GOCHM*** *to have information about weight restrictions in case of CRS malfunctions.*

LINEAR LOAD (also can be named LOCAL LOAD)

The load per 1-meter length of the aircraft structure.

Units of measurement are kilograms per meter (kg/m).

- *Refer to* ***Table 2.10.2*** *to have information about limits applicable for specific aircraft zones. Specific values are applicable for different aircraft on same zones.*

AREA LOAD (also can be named DISTRIBUTED LOAD)

The load per 1 square meter of the aircraft structure.

For Airbus aircraft: depends on aircraft, units of measurement are kilograms per square feet (kg/ft^2) or kilograms per square meter (kg/m^2).

For Boeing aircraft: units of measurement are kilograms per square meter (kg/m^2).

- *Refer to* ***Table 2.9.2*** *to have information about limits applicable for specific aircraft zones. Specific values are applicable for different aircraft on same zones.*

POINT LOAD

Point load on any element on the aircraft cargo floor.

Table 2.9.2.A Applicable Floor Load Limits

Applicable for: UK888, UK32070, UK32071, UK32072, UK32073, UK32074, UK32075, UK32130, UK32131

POSITIONS ►	ALL LOW DECK HOLDS
Linear Load (Local Load), kg/m	*732*
Area Load (Distributed Load), kg/ft²	*906*
Point Load, kg/cm²	*6.6*

Applicable for: A330-343 (UK33030, UK33031, UK33032)

POSITIONS ►	ALL LOW DECK HOLDS
Linear Load (Local Load), kg/m	*2070*
Area Load (Distributed Load), kg/m²	*659*

Table 2.9.2.B Applicable Center of Gravity limits for built ULDs

Applicable for: A330-343 (UK33030, UK33031, UK33032).

DESIGNATION		BASE DIMENSION (cm)	ALLOWABLE CENTER OF GRAVITY RANGE (cm)		
ULD SIZE	CONTOUR		VERTICAL	LATERAL	LONGITUDINAL
K	LD-1	153,4 x 156, 2	86	± 15,7	± 15,2
	LD-3	153,4 x 156, 2	86	± 15,7	± 15,2
P	LD-2	153,4 x 119,3	86	± 11,9	± 15,2
L	LD-4	317x153,4	86	± 11,9	± 15,2
	LD-8	317x153,4	86	± 11,9	± 15,2
M	LD-4	317x244	91	± 24,3	± 31,7
A	LD-4	317x224	91	± 22,3	± 31,7

2.9.3 UNSYMMETRICAL LINEAR LOAD LIMITS ON THE MAIN DECK OF AN AIRCRAFT

- Not applicable for A319-153N, A320-214 (-232, -233, -251N), A320-251N, A321-251N, A321-253NX, A330-343.

2.9.4 LATERAL IMBALANCE LIMITATIONS

- Not applicable for A319-153N, A320-214 (-232, -233), A321-251N, A321-253NX.
- Applicable for A330-343: lateral imbalance in case of loading of K-size ULDs and Compartment 5 must not exceed 600 kg. Left side includes all left positions for K-size ULD (include pos. 44L) and Section 52 Compartment 5. Right side includes all right positions for K-size ULD and Section 51 Compartment 5.

2.9.5 LIMITATION OF MINIMUM WEIGHT OF PAYLOAD IN LOW DECK HOLDS

- Not applicable for A319-153N, A320-214 (-232, -233), A321-251N, A321-253NX, A330-343.

2.9.6 COMBINED LINEAR LOAD LIMIT

The combined linear load is the linear load limits for the entire fuselage of the aircraft.

The total load for the cargo compartments of the main deck and the lower deck should not exceed the total linear load limits specified in the load plan for the corresponding type of aircraft.

2.9.7 CUMULATIVE WEIGHT LIMIT

Summable weights by fuselage zones, increasing from the tail and nose of the aircraft to the center section. Restrictions on these weights are also given in the load plan of the respective aircraft. These limits must not be exceeded in any area of the aircraft fuselage.

Applicable for any A320-214, -232, -233, -251N

- **Total weight of payload in CPT 3 & 4 must not exceed 4536 kg**

Applicable for A321-251N (UK32130)

- **Total weight of fuel in ACT & payload in CPT 3 & 4 must not exceed 3000 kg.**
- **Total weight of fuel in ACT & payload in CPT 3 + CPT 4 + CPT 5 must not exceed 3550 kg.**

Example:

- *Total weight of fuel in ACT is 2000kg.*
- *Total weight of planned loads (baggage & cargo) in AFT Hold is 2000kg.*
- *Total weight of fuel + total weight of planned loads = 4000kg, so it exceeded limit 3550 kg, and payload or fuel quantity must be reduced to change total weight to appropriate limit.*

Applicable for A321-253NX (UK32131)

- **Total weight of fuel in ACT & payload in CPT 3 & 4 must not exceed 5670 kg.**
- **Total weight of fuel in ACT & payload in CPT 3 + CPT 4 + CPT 5 must not exceed 7004 kg.**

Example:

- *Total weight of fuel in ACT is 400kg.*
- *Total weight of planned loads (baggage & cargo) in AFT Hold is 3400kg.*
- *Total weight of fuel + total weight of planned loads = 7400kg, so it exceeded both limits 7004 kg and 5670kg, and payload or fuel quantity must be reduced to change total weight to appropriate limit.*

Applicable for A330-343 (UK33030, UK33031, UK33032)

- **Total maximum weight of payload in forward and aft cargo holds depends on actual ZFW % MAC and total weight of payload in appropriate sections of passenger cabin and cargo holds.**
- **Actual limitations are shown on manual Loading Instruction Report and in AHM560 document for appropriate aircraft.**

CUMULATIVE LIMITS CHECK - FWD SECTION
(CPT 1 + CPT 2 + SECTION 0A + 70% SECTION OB)

% MAC ▶	18	19	20	21	22	23	24	25	26	27
MAX TTL WEIGHT IN SECTIONS 0A + 0B + CPT 1 + CPT 2	20384	19845	19307	18750	18230	17650	17150	16600	16000	15500
% MAC ▶	28	29	30	31	32	33	34	35	36	37
MAX TTL WEIGHT IN SECTIONS 0A + 0B + CPT 1 + CPT 2	15000	14400	13800	13300	12800	12300	11700	11200	10600	10100

CUMULATIVE LIMITS CHECK - AFT SECTION (CPT 3+CPT4+CPT 5+SECTION 0D+SECTION 0E)										
% MAC ▶	18	19	20	21	22	23	24	25	26	27
MAX TTL WEIGHT IN SECTIONS 0D + 0E + CPT 3, 4, 5	20400	20900	21500	22000	22600	23100	23700	24100	24700	25300
% MAC ▶	28	29	30	31	32	33	34	35	36	37
MAX TTL WEIGHT IN SECTIONS 0D + 0E + CPT 3, 4, 5	25800	26400	26800	27500	28000	28500	29100	29600	30200	30800

Example:

- *ZFW % MAC = 24 %.*
- *Total weight of passengers in Zone 0A and 70% of Zone 0B is 4000 kg, and total weight of payload in Compartments 1 and Compartments 2 is 8259 kg. Total weight of payload in FWD Section is 12259 kg.*
- *Total weight of passengers in Zones 0D and 0E is 7500 kg, and total weight of payload in Compartments 3 and Compartments 4 is 16405 kg. Compartment 5 is empty. Total weight of payload in AFT Section is 23905 kg.*
- *According to the table "Cumulative Limits Check – FWD Section", maximum total weight of payload in FWD Section may be equal to 17150 kg, so this limit is not exceeded.*
- *According to the table "Cumulative Limits Check – AFT Section", maximum total weight of payload in FWD Section may be equal to 23700 kg, so this limit is exceeded. Part of payload must be re-loaded from Aft Cargo Hold to Forward Cargo Hold, and aircraft limits must be checked again.*

2.9.8 TAIL TIPPING LIMIT

Tipping limit - the position of the center of gravity of the aircraft, in which it is dangerously close to the main landing gear, which leads to an unstable position of the aircraft. In this case, the load on the nose landing gear becomes equal to zero, and a sharp gust of wind, or the movement of cargo inside the aircraft, can overturn it on the tail.

The position of the center of gravity of the aircraft behind the main landing gear will inevitably lead to rollover onto the tail.

Critical limits for different types of passenger aircraft *

A/C TYPE	CLOSE TO TIPPING	ZERO NOSE GEAR LOAD	ABSOLUTELY TIPPING
A319-153N	30% MAC	32% MAC	36% MAC
A320-214 (-232, -233)	30% MAC	32% MAC	36% MAC
A321-251N	30% MAC	32% MAC	38% MAC
A321-253NX	30% MAC	32% MAC	38% MAC
A330-343	38% MAC	40.2 % MAC	49 % MAC

Calculated for an empty aircraft and wind up to 20 meters per second (40 knots). With further wind intensification, the maximum AFT CG limit for an empty aircraft decreases to 18%. It can be achieved by additional ballast loaded into FWD Cargo Compartment (according to the weight limits for appropriate aircraft).

A number of factors can cause the tail tipping during ground handling operations and/or aircraft storage/parking between flights:

- ✓ Incorrect payload distribution;
- ✓ Incorrect sequence of loading or offloading operations;
- ✓ Specific fuel distribution (shifts aircraft CG aft);
- ✓ Simultaneous loading and offloading operations and replacement of wheels;
- ✓ Apron surface slope;
- ✓ Precipitation on the stabilizer (snow, sand, volcanic ash);
- ✓ Nose wind (creates wing lifting force).

It is necessary to take into account the influence of these factors when performing unloading and loading operations, preventing the aircraft from tipping over on its tail due to the action of one or more of these factors.

It is necessary to follow the correct sequence of loading and offloading operations to avoid tail tipping. Refer to ***Chapters 3.8-3.9 Part 3 GOCHM*** for detailed information.

2.9.9 NOSE GEAR LOAD LIMIT

- Not applicable for A319, A320, A321, A321, A330.

2.9.10 CENTER OF GRAVITY OF A BUILT ULD

- Not applicable for A319, A320, A321, A321, A330.
- Applicable for A330-343. *Refer to **Section 2.9.2 Part 2 GOCHM** for detailed information.*

2.9.11 AIRCRAFT CENTER OF GRAVITY LIMITS FOR TOWING

Applicable for: all A319, A320, A321, A330

Towing of any **A319/A320/A321/A330** with AFT center of gravity (30-35% MAC) must be performed with extreme caution in order to avoid damage to the mechanisms of the nose landing gear of the aircraft.

Max FWD CG for towing of any A319/A320/A321 is 14% MAC.

Towing in windy weather (when wind speed exceeds 30kt) must be performed with extreme caution in order to avoid tail tipping.

In case of wind stronger than 40kt, the maximum AFT CG is limited to 18% MAC instead of 35% MAC.

Possible additional effect from snow, nose wind and apron slope must be also taken into account. If needs, aircraft can be additionally balanced by bags/barrels with ballast loaded onboard to achieve appropriate CG.

2.10 MAXIMUM ANGLE OF TURN OF NOSE GEAR DURING THE TOWING

Applicable for A319/A320: UK888, UK32070, UK32071, UK32072, UK32073, UK32074, UK32075

Maximum angle of turn of A319/A320 nose gear during the towing must not exceed 95 degrees, if aircraft is towing with turned-off engines.

If minimum 1 engine is turned on, maximum angle of turn of A319/A320 nose gear during the towing must not exceed 40 degrees.

Applicable for A321-251N & -253NX: UK32130, UK32131, UK32132

Maximum angle of turn of A321-251N & -253NX nose gear during the towing must not exceed 73 degrees, if aircraft is towing with turned-off engines.

If minimum 1 engine is turned on, maximum angle of turn of A321-251N & -253NX nose gear during the towing must not exceed 40 degrees.

Applicable for A330-343: UK33030, UK33031, UK33032

Maximum angle of turn of A330-343 nose gear during the towing must not exceed 50 degrees, if aircraft is towing with turned-off engines.

If minimum 1 engine is turned on, maximum angle of turn of A330-343 nose gear during the towing must not exceed 40 degrees.

2.11 STAB TRIM

Stabilizer trim settings for Airbus aircraft must be calculated based on actual Take-Off Weight (TOW) and actual CG position (% MAC).

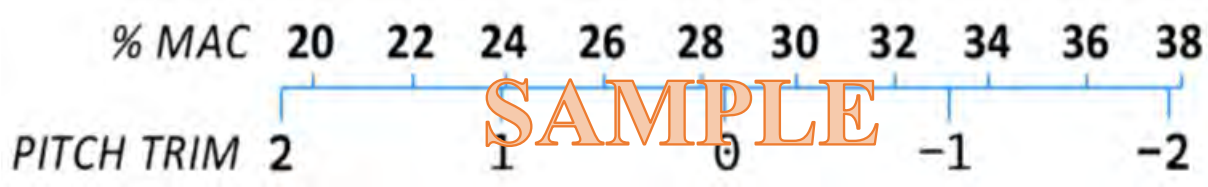
Current value can be calculated based on pitch trim graph on Loadsheet.

It must be input to appropriate field of Loadsheet.

Refer to examples of Stab Trim Graph Chart and Stab Trim Table below for reference.

*Refer to the **Part 9 GOCHM.***

Example of Stab Trim Settings Table for A320-214, -232, -233



SAMPLE

Example of Stab Trim Settings Table for A321-251N & -253NX

%MAC	15	16	17	18	19	20	21	22	23	24	25
STAB TRIM	3.67	3.39	3.12	2.84	2.56	2.29	2.01	1.74	1.4	1.19	0.91

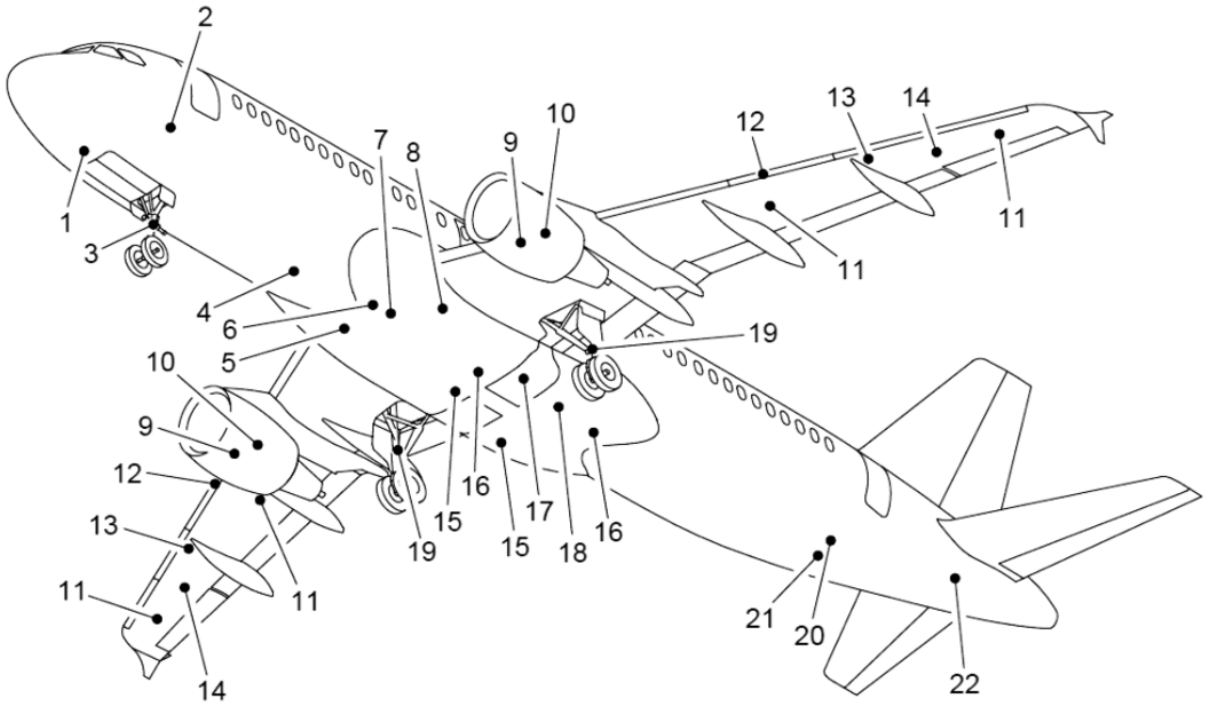
%MAC	26	27	28	29	30	31	32	33	34	35	36
STAB TRIM	0.64	0.36	0.09	-0.19	-0.46	-0.74	-1.02	-1.29	-1.57	-1.84	OUT OF LIMIT

SAMPLE

2.12 SERVICING POINTS

2.12.1 A320-214, -232, -233 SERVICING POINTS

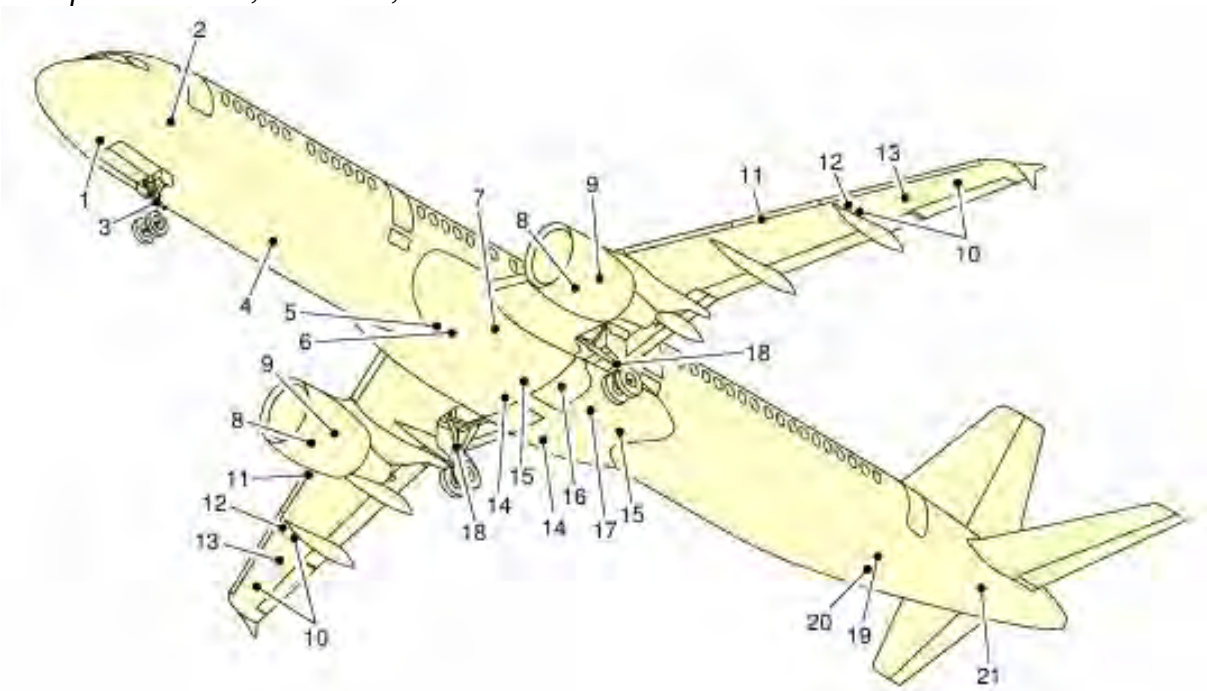
Applicable for: UK32070, UK32071, UK32072, UK32073, UK32074, UK32075



1 – GROUND ELECTRICAL POWER CONNECTOR
2 – OXYGEN SYSTEM
3 – NLG GROUNDING (EARTHING) POINT
4 – POTABLE WATER DRAIN PANEL (OPTIONAL)
5 – REFUEL/DEFUEL INTEGRATED PANEL
6 – LOW PRESSURE AIR PRE-CONDITIONING
7 – HIGH PRESSURE AIR PRE-CONDITIONING
8 – NOT APPLICABLE
9 – IDG/STARTER OIL SERVICING
10 – ENGINE OIL SERVICING
11 – OVERPRESSURE PROTECTOR
12 – REFUEL/DEFUEL COUPLINGS (***NOTE:*** *not installed on A320 used by My Freighter airline*)
13 – OVERWING REFUEL (***NOTE:*** *not installed on A320 used by My Freighter airline*)
14 – NACA VENT INTAKE
15 – YELLOW HYDRAULIC-SYSTEM SERVICE PANEL
16 – BLUE HYDRAULIC-SYSTEM SERVICE PANEL
17 – ACCUMULATOR CHARGING (GREEN SYSTEM) AND RESERVOIR DRAIN (GREEN SYSTEM)
18 – GREEN HYDRAULIC-SYSTEM SERVICE PANEL
19 – MLG GROUNDING (EARTHING) POINT
20 – WASTE WATER SERVICE PANEL
21 – POTABLE WATER SERVICE PANEL
22 – APU OIL SERVICING

2.12.2 A321-251N & -253NX SERVICING POINTS

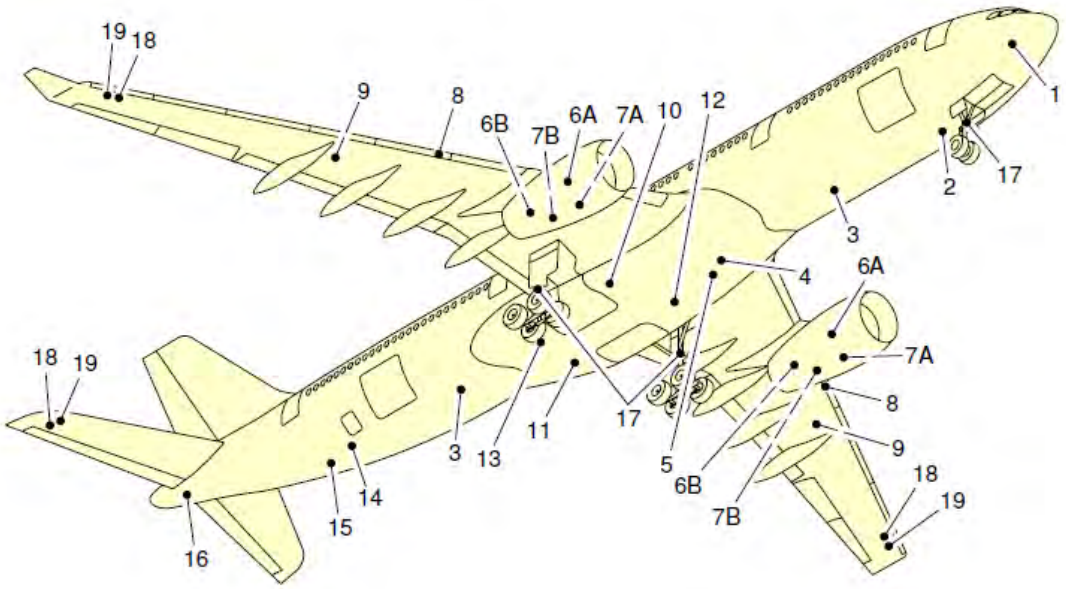
Applicable for: UK32130, UK32131, UK32132



1 – GROUND ELECTRICAL POWER CONNECTOR
2 – OXYGEN SYSTEM
3 – NLG GROUNDING (EARTHING) POINT
4 – POTABLE WATER DRAIN PANEL
5 – LOW PRESSURE AIR PRE–CONDITIONING
6 – HIGH PRESSURE AIR PRE–CONDITIONING
7 – REFUEL/DEFUEL INTEGRATED PANEL
8 – IDG/STARTER OIL SERVICING
9 – ENGINE OIL SERVICING
10 – OVERPRESSURE PROTECTOR
11 – REFUEL/DEFUEL COUPLINGS (OPTIONAL–LH WING)
12 – OVERWING REFUEL (IF INSTALLED)
13 – NACA VENT INTAKE
14 – YELLOW HYDRAULIC–SYSTEM SERVICE PANEL
15 – BLUE HYDRAULIC–SYSTEM SERVICE PANEL
16 – ACCUMULATOR CHARGING (GREEN SYSTEM) AND RESERVOIR DRAIN (GREEN SYSTEM)
17 – GREEN HYDRAULIC–SYSTEM SERVICE PANEL
18 – MLG GROUNDING (EARTHING) POINT
19 – WASTE WATER SERVICE PANEL
20 – POTABLE WATER SERVICE PANEL
21 – APU OIL SERVICING

2.12.3 A330-300 SERVICING POINTS

Applicable for: UK33030, UK33031, UK33032



1 – OXYGEN SERVICING
2 – GROUND ELECTRICAL POWER CONNECTORS
3 – POTABLE WATER DRAIN
4 – LOW PRESSURE AIR PRE–CONDITIONING
5 – HIGH PRESSURE AIR PRE–CONDITIONING AND ENGINE STARTING
6A – ENGINE OIL FILLING (FOR RR AND GE)
6B – ENGINE OIL FILLING (FOR PW)
7A – IDG OIL FILLING (FOR RR)
7B – IDG OIL FILLING (FOR PW AND GE)
8 – PRESSURE REFUEL/DEFUEL COUPLINGS
9 – OVERWING REFUEL (IF INSTALLED)
10 – HYDRAULIC GROUND POWER SUPPLY (YELLOW)
11 – HYDRAULIC RESERVOIR FILLING AND GROUND POWER SUPPLY (GREEN)
12 – HYDRAULIC RESERVOIR AIR PRESSURIZATION AND GROUND POWER SUPPLY (BLUE)
13 – REFUEL/DEFUEL PANEL
14 – POTABLE WATER SERVICE PANEL
15 – WASTE WATER SERVICE PANEL
16 – APU OIL FILLING
17 – GROUNDING (EARTHING) POINT
18 – NACA FLAME ARRESTOR
19 – OVERPRESSURE PROTECTOR

2.13 MINIMUM EQUIPMENT LIST

2.13.1 GENERAL PROVISIONS

This section contains description of possible restrictions in case of any elements of cargo handling system malfunction or inoperative condition, or missed activation (e.g., due to the mistake of ground handling team who forgot to activate appropriate lock/restrain for loaded ULD or attach Bulk or Door Net into the Bulk Section).

Such elements include, but are not limited to rollers, side guides, pallet locks, end stops, bulk section nets.

Definition "**Inoperative**" means impossibility to use installed restrain to secure ULD/payload on appropriate position due to the damage of restrain.

Definition "**Missed**" means physically removed lock/restrain or lock/restrain not activated by loading team for appropriate ULD/loading type due to the mistake.

2.13.2 A319-153N MEL LIMITS

Applicable for: UK888

Restraint systems of Low Deck Holds include:

1. Bulk Nets (separates adjacent sections of cargo hold from each other).
2. Door Nets (separates cargo door from nearest sections of cargo hold once door is closed).
3. Stanchions (supports Door Nets).
4. Additional Center Tank Protection Walls (protects ACT (if installed) from possible damage occurred in case of contact with cargo, baggage, mail, equipment carried in same Cargo Hold).

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Bulk Net or Door Net (any section) *Bulk Net separates volumes of Bulk Section and remain AFT Hold.* *Door Net separates Bulk Cargo Door from Bulk Section.* *Each net contains vertical straps and horizontal straps.* *Each net must be attached by fittings on straps ends to attachment points on floor, walls and ceiling. Parts of Door Net in any Cargo Hold must be connected between each other by lever latches.*	***Max Section load weight = 0, if:*** 1. Two or more adjacent fittings, lever latches and/or straps are damaged and inoperative. 2. Two or more vertical straps (totally per net) have cut 8mm or more. 3. Two or more adjacent horizontal straps have cuts in zone between two adjacent vertical straps. 4. Door Net is missed or removed. *If it is impossible to replace damaged Net, do not use Section of Cargo Hold for any payload, or individually secure all bulk loads by straps to aircraft structure. Refer to* ***Part 8 GOCHM*** *for details.* ***NOTE!*** *– if damaged net is placed between adjacent sections of Cargo Hold, restrictions mentioned above are applicable for both sections.*
Stanchion	***Max Section load weight = 0, if:*** *1. Stanchion is not properly installed to support attached Bulk or Door Nets.* *2. Stanchion is damaged and cannot be secured in appropriate sockets.* ***NOTE!*** *If damaged stanchion supports Door Net, restrictions mentioned above are affected to all involved sections close to Cargo Door.*
ACT protection wall	***No damages allowed. Any damage of ACT protection wall (protrusion, corrosion, any kind of holes, etc.) is a reason for AOG.***

2.13.3 A320-214, -232, -233, -251N MEL LIMITS

Applicable for: UK32070, UK32071, UK32072, UK32073, UK32074, UK32075

Restraint systems of Low Deck Holds include:

1. Bulk Nets (separates adjacent sections of cargo hold from each other).
2. Door Nets (separates cargo door from nearest sections of cargo hold once door is closed).
3. Stanchions (supports Door Nets).

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Bulk Net or Door Net (any section) *Bulk Net separates volumes of Bulk Section and remain AFT Hold.* *Door Net separates Bulk Cargo Door from Bulk Section.* *Each net contains vertical straps and horizontal straps.* *Each net must be attached by fittings on straps ends to attachment points on floor, walls and ceiling. Parts of Door Net in any Cargo Hold must be connected between each other by lever latches.*	***Max Section load weight = 0, if:*** 1. Two or more adjacent fittings, lever latches and/or straps are damaged and inoperative. 2. Two or more vertical straps (totally per net) have cut 8mm or more. 3. Two or more adjacent horizontal straps have cuts in zone between two adjacent vertical straps. 4. Door Net is missed or removed. *If it is impossible to replace damaged Net, do not use Section of Cargo Hold for any payload, or individually secure all bulk loads by straps to aircraft structure. Refer to* ***Part 8 GOCHM*** *for details.* ***NOTE!*** *– if damaged net is placed between adjacent sections of Cargo Hold, restrictions mentioned above are applicable for both sections.*
Stanchion	***Max Section load weight = 0, if:*** 1. *Stanchion is not properly installed to support attached Bulk or Door Nets.* 2. *Stanchion is damaged and cannot be secured in appropriate sockets.* ***NOTE!*** *– if damaged stanchion supports Door Net, restrictions mentioned above are affected to all involved sections close to Cargo Door.*

2.13.4 A321-251N & -253NX MEL LIMITS

Applicable for: UK32130, UK32131, UK32132

Restraint systems of Low Deck Holds include:

1. Bulk Nets (separates adjacent sections of cargo hold from each other).
2. Door Nets (separates cargo door from nearest sections of cargo hold once door is closed).
3. Stanchions (supports Door Nets).
4. Additional Center Tank Protection Walls (protects ACT (if installed) from possible damage occurred in case of contact with cargo, baggage, mail, equipment carried in same Cargo Hold).

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Bulk Net or Door Net (any section) *Bulk Net separates volumes of Bulk Section and remain AFT Hold.* *Door Net separates Bulk Cargo Door from Bulk Section.* *Each net contains vertical straps and horizontal straps.* *Each net must be attached by fittings on straps ends to attachment points on floor, walls and ceiling. Parts of Door Net in any Cargo Hold must be connected between each other by lever latches.*	***Max Section load weight = 0, if:*** 1. Two or more adjacent fittings, lever latches and/or straps are damaged and inoperative. 2. Two or more vertical straps (totally per net) have cut 8mm or more. 3. Two or more adjacent horizontal straps have cuts in zone between two adjacent vertical straps. 4. Door Net is missed or removed. *If it is impossible to replace damaged Net, do not use Section of Cargo Hold for any payload, or individually secure all bulk loads by straps to aircraft structure. Refer to* ***Part 8 GOCHM*** *for details.* ***NOTE!*** *– if damaged net is placed between adjacent sections of Cargo Hold, restrictions mentioned above are applicable for both sections.*
Stanchion	***Max Section load weight = 0, if:*** 1. *Stanchion is not properly installed to support attached Bulk or Door Nets.* 2. *Stanchion is damaged and cannot be secured in appropriate sockets.* ***NOTE!*** *– if damaged stanchion supports Door Net, restrictions mentioned above are affected to all involved sections close to Cargo Door.*
ACT protection wall	***No damages allowed. Any damage of ACT protection wall (protrusion, corrosion, any kind of holes, etc.) is a reason for AOG.***

2.13.5 A330-343 MEL LIMITS

Applicable for: UK33030, UK33031, UK33032

Cargo handling systems of Low Deck Holds include:

Compartments 1-4:

1. Rollers.
2. Pallet locks and restrains.
3. Side Guides.
4. Ball Mats.

Compartment 5:

1. Bulk Nets (separates adjacent sections of cargo hold from each other).
2. Door Nets (separates cargo door from nearest sections of cargo hold once door is closed).
3. Stanchions (supports Door Nets).
4. Additional Center Tank Protection Walls (protects ACT (if installed) from possible damage occurred in case of contact with cargo, baggage, mail, equipment carried in same Cargo Hold).

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Bulk Net or Door Net (Compartment 5) *Bulk Nets separates volumes of Compartment 5 from remain AFT Hold and separates sections of Compartment 5 from each other.* *Door Net separates Bulk Cargo Door from Bulk Section.* *Each net contains vertical straps and horizontal straps.* *Each net must be attached by fittings on straps ends to attachment points on floor, walls and ceiling. Parts of Door Net in any Cargo Hold must be connected between each other by lever latches.*	***Max Section load weight = 0, if:*** 1. Two or more adjacent fittings, lever latches and/or straps are damaged and inoperative. 2. Two or more vertical straps (totally per net) have cut 8mm or more. 3. Two or more adjacent horizontal straps have cuts in zone between two adjacent vertical straps. 4. Door Net is missed or removed. *If it is impossible to replace damaged Net, do not use Section of Cargo Hold for any payload, or individually secure all bulk loads by straps to aircraft structure. Refer to* ***Part 8 GOCHM*** *for details.* ***NOTE!*** *– if damaged net is placed between adjacent sections of Cargo Hold, restrictions mentioned above are applicable for both sections.*

Refer to next page to continue

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Stanchion (Compartment 5)	***Max Section load weight = 0, if:*** 1. *Stanchion is not properly installed to support attached Bulk or Door Nets.* 2. *Stanchion is damaged and cannot be secured in appropriate sockets.* ***NOTE!*** *– if damaged stanchion supports Door Net, restrictions mentioned above are affected to all involved sections close to Cargo Door.*
Power Drive Units (PDU) **(Any position in FWD or AFT Hold)**	***In case of missed or unserviceable PDU loading and offloading can be performed (additional manpower may be required – depends on ULD weight).***
Latches of different types are missed or damaged simultaneously (Any position in FWD or AFT Hold)	***Position must remain unoccupied (doesn't matter which type of ULD can be loaded to this position)***
Pallet lock (XZ-single latch) **(Any position in FWD or AFT Hold)**	***ULD type: K-size*** ***Any latch*** *is missed or damaged - involved positions must remain empty.* ***ULD type: L-size*** ***1 latch*** *is missed or damaged – max ULD weight 1238 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.* ***ULD types: A-size or M-size*** ***1 latch*** *is missed or damaged – max ULD weight is 2500 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.*
Double Pallet lock (XZ-double latch) **(Any position in FWD or AFT Hold)**	***ULD type: K-size*** ***Even 1 latch*** *is missed or damaged – position must remain empty.* ***ULD type: L-size*** ***1 latch*** *is missed or damaged – max ULD weight 1238 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.* ***ULD types: A-size or M-size*** ***1 latch*** *is missed or damaged – max ULD weight is 2500 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.*

Refer to next page to continue

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Triple Pallet lock (XZ-triple latch) **(Any position in FWD or AFT Hold)**	***ULD type: K-size*** ***Even 1 latch*** *is missed or damaged – position must remain empty.* ***ULD type: L-size*** ***1 latch*** *is missed or damaged – max ULD weight 1238 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.* ***ULD types: A-size or M-size*** ***1 latch*** *is missed or damaged – max ULD weight is 2500 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.*
YZ-latch (Fixed locks on walls) **(Any position in FWD or AFT Hold)**	***ULD type: K-size*** ***Even 1 latch*** *is missed or damaged – position must remain empty.* ***ULD type: L-size*** ***1 latch*** *is missed or damaged – max ULD weight 1238 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.* ***ULD types: A-size or M-size*** ***1 latch*** *is missed or damaged – max ULD weight is 2500 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.*
YZ-latch (Door Sill) **(positions 11R, 12R, 42R, 43R)**	***ULD type: K-size*** ***Even 1 latch*** *is missed or damaged – position can be loaded with an empty ULD only, or must remain empty.* ***ULD type: L-size*** ***1 latch*** *is missed or damaged – max ULD weight 1238 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.* ***ULD types: A-size or M-size*** ***1 latch*** *is missed or damaged – max ULD weight is 2500 kg.* ***2 or more latches*** *are missed or damaged - position can be loaded with an empty ULD only, or must remain empty.*
End Locks	***Any type of ULD:*** ***Even 1 latch*** *is missed or damaged – position can be loaded with an empty ULD only, or must remain empty.*
Rollers on Door Sill Latch	*If even 1 roller is jammed, missed or damaged, loading and offloading are prohibited*
Guide Rollers on Y-Guides and other guides	*If 1 roller per guide is jammed or damaged or missed, loading and offloading can be performed*
Balls on Ball Mat	*If less 10% of balls per square feet are missed or jammed or damaged, loading and offloading are allowed.* *If more 10% of balls per square feet are missed or jammed or damaged, loading and offloading are not allowed until balls replacement.*

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PART 3. INFORMATION ABOUT CARGO AIRCRAFT

3.1 GENERAL

«My Freighter» operates the following types & modifications of freighter aircraft:

A/C TYPE & MODIFICATION	REG. NUMBERS	WINGTIP TYPE (W – Winglets, S – Standard)	MAX PAYLOAD, kg [1]	MAX THEORETICAL VOLUME OF CARGO HOLDS [3]	MAIN DECK CPT CLASS [2]	LOW DECK CPT CLASS [2]
B767-300BCF	UK67009	S	57035	MAIN DECK: 336 m^3 LOW DECK: 99 m^3	E	E
B767-300BCF	UK67010	W	55844		E	E
B767-300BCF	UK67017	W	55821		E	E
B767-300BCF	UK67018	W	55588		E	E
B767-300BDSF	UK67015	S	57062		E	E
B767-300BDSF	UK67019	W	56578		E	E
B767-300BDSF	UK67020	W	56578		E	E
B767-300BDSF	UK67021	W	56578		E	E
B757-200PCF	UK75001	W	36310	MAIN DECK: 184 m^3 LOW DECK: 47.85 m^3	E	C

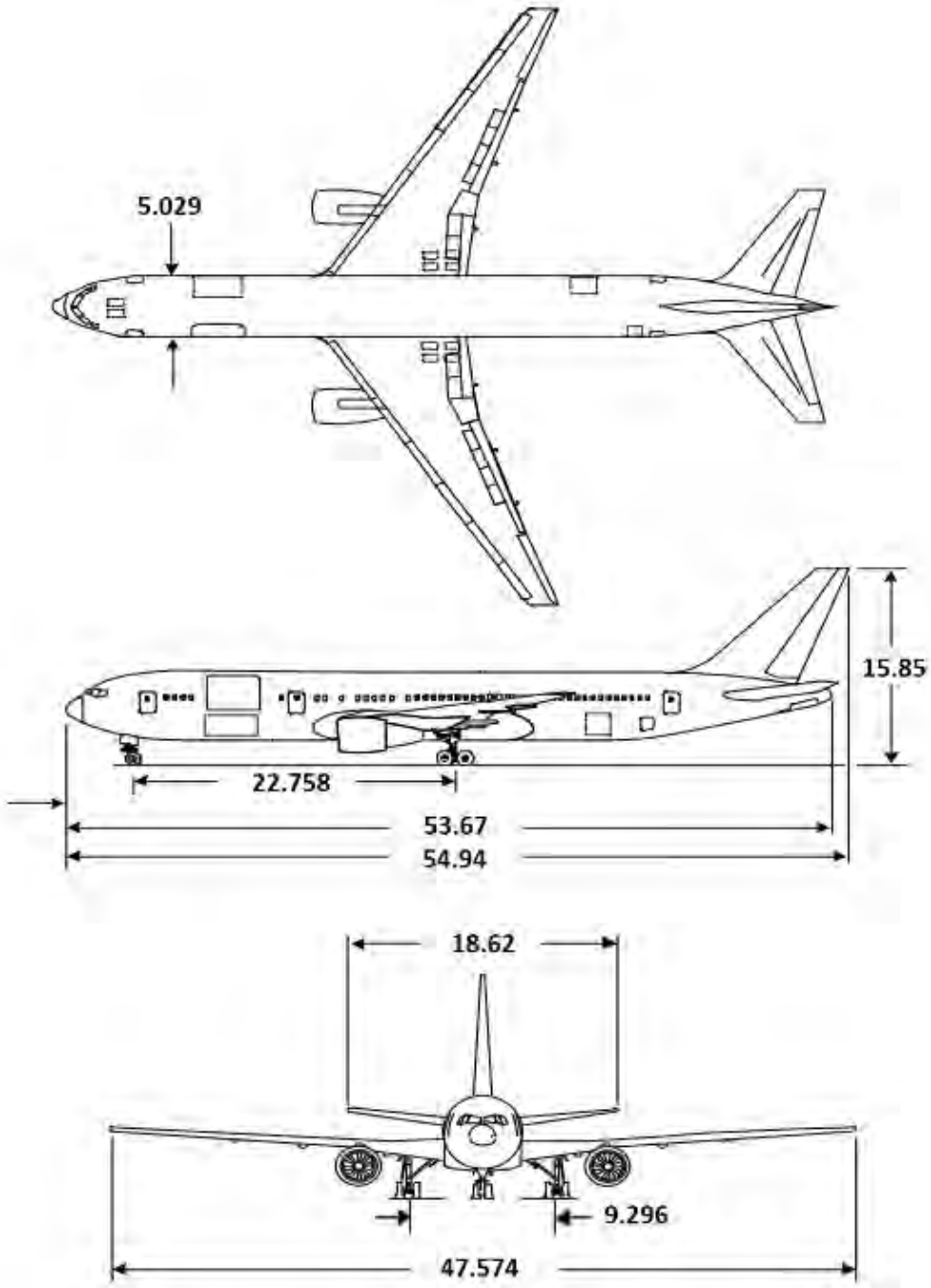
[1] ***NOTE**: value has been shown for crew 2/0 without regard for weight of used ULDs. This value should be reduced for 100 kg for any additional crew member. Weight of used ULDs must be calculated additionally based on planned flight payload. If DOW is increased, this value also should be reduced appropriately. Final data about actual DOW/DOI are shown in actual version of AHM560 for appropriate aircraft.*

[2] ***NOTE**: **compartment Class C** – is equipped by smoke detectors and fire extinguisher system, which allows to define presence of fire/smoke in compartment and arrange firefighting remotely. **Compartment Class E** – is equipped by smoke detectors only.*

[3] ***NOTE**: maximum theoretical volume of cargo holds is shown (for case of maximum effective loading of all cargo holds). Such utilization is normally not possible on real flights. Space utilization depends on several factors, include packages configuration, packages sizes and individual weights, stacking-ability, etc. Space utilization for general cargo normally not exceeds 75-85% of maximum theoretical volume.*

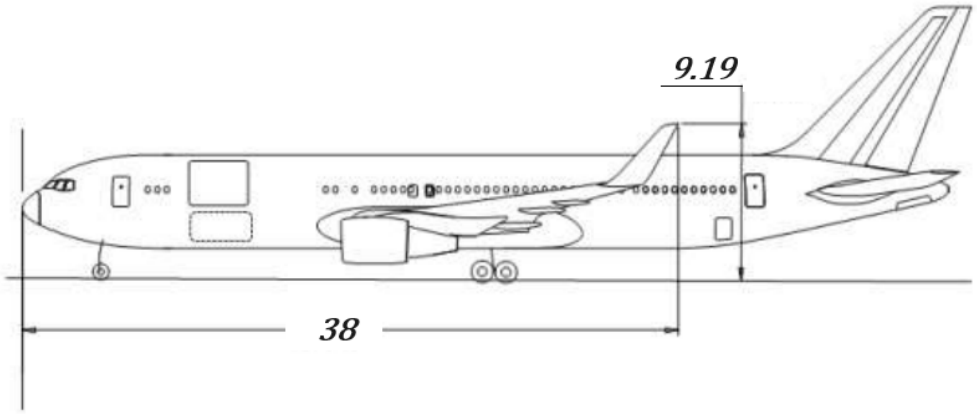
B767-300BCF – UK67009
B767-300BDSF – UK67015

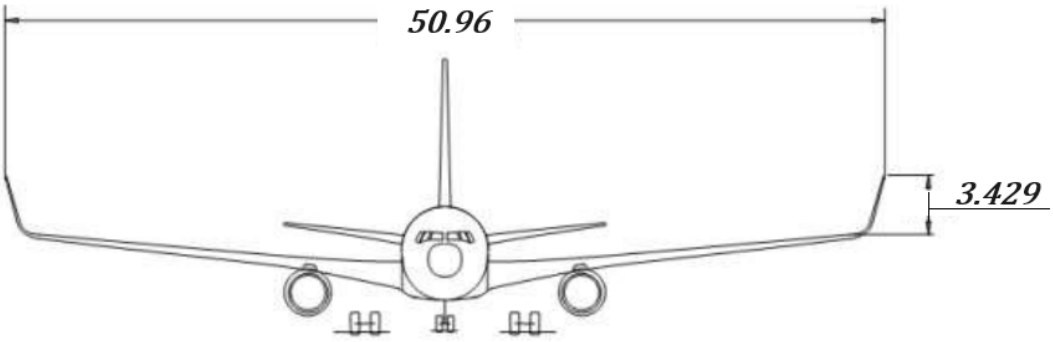
- *The main dimensions of the aircraft are indicated in meters.*
- *Same dimensions (except wingspan, winglets and distance from top of wingtip to ground) are applicable for UK67010, UK67017, UK67018 as well.*
- *Refer to next page to see individual dimensions of UK67010, UK67017, UK67018, UK67019, UK67020, UK67021.*



B767-300BCF – UK67010, UK67017, UK67018
B767-300BDSF – UK67019, UK67020, UK67021

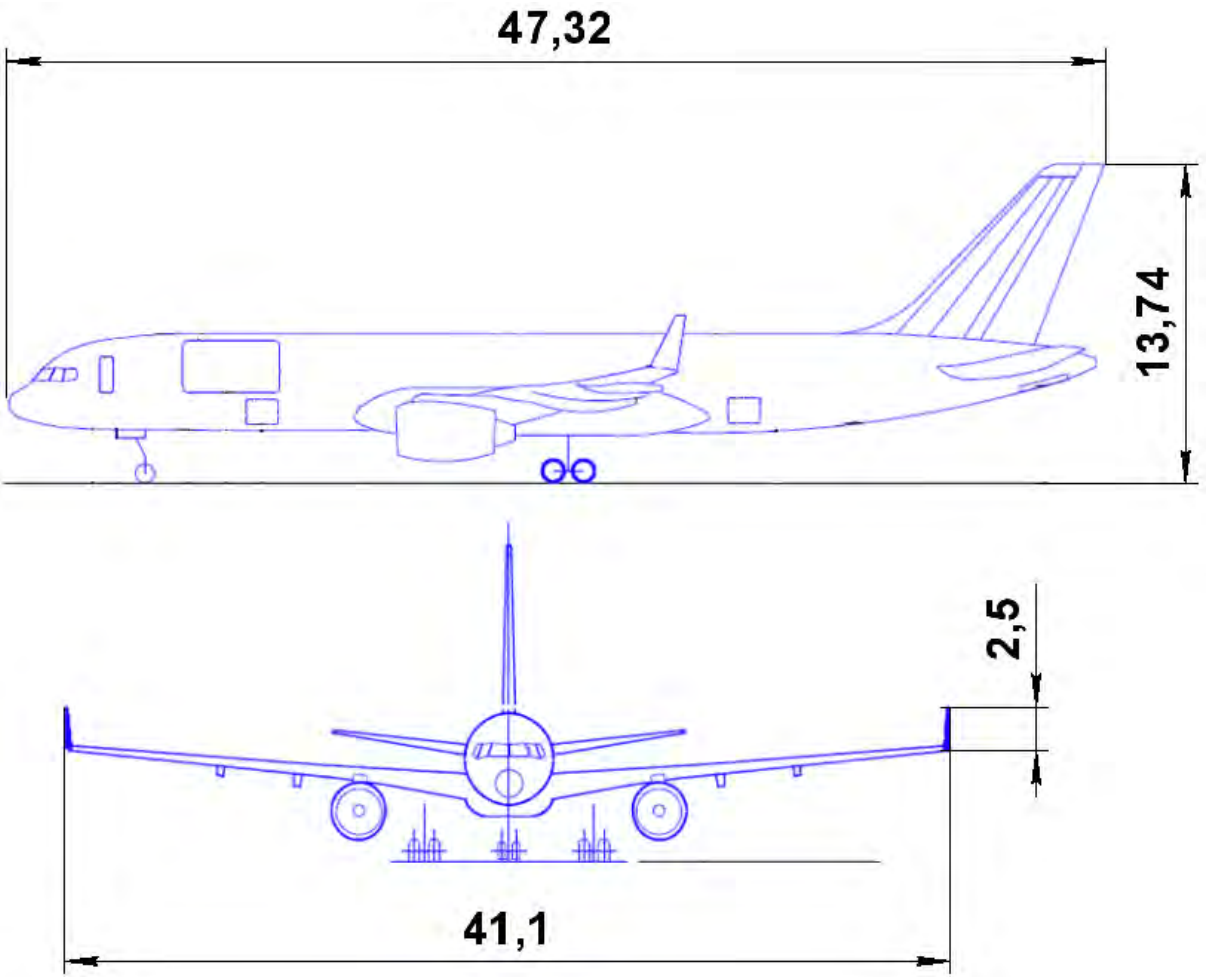
- *Dimensions of the aircraft are indicated in meters.*
- *This layout shows main dimensions, applicable only for aircraft equipped by winglets.*
- *Other dimensions (except wingspan, winglets size and distance from top of wingtip to ground) are applicable for all B767-300BCF & -BDSF. Refer to drawing on previous page to have more information.*





B757-200PCF – UK75001

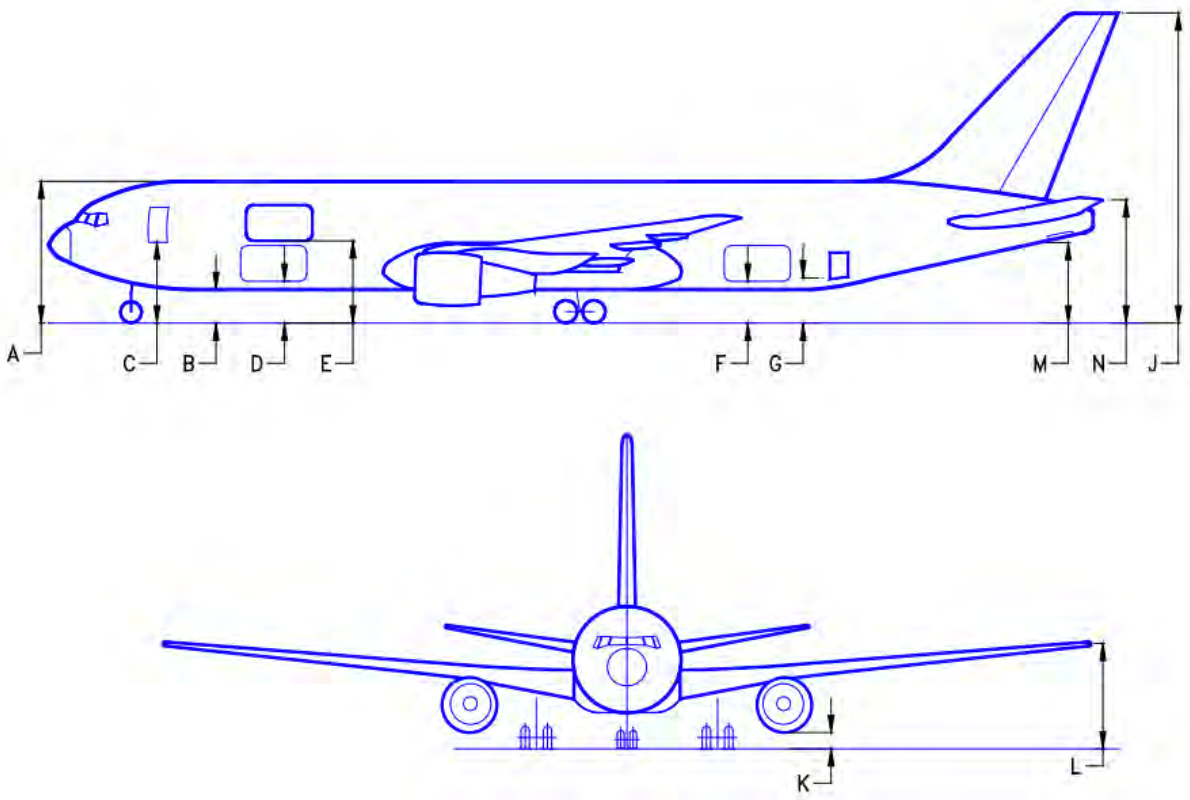
- *Dimensions of the aircraft are indicated in meters.*



3.2 GENERAL MAXIMUM AND MINIMUM DISTANCES FROM APRON LEVEL TO CRITICAL POINTS OF FREIGHTER AIRCRAFT

B767-300BCF & B767-300BDSF

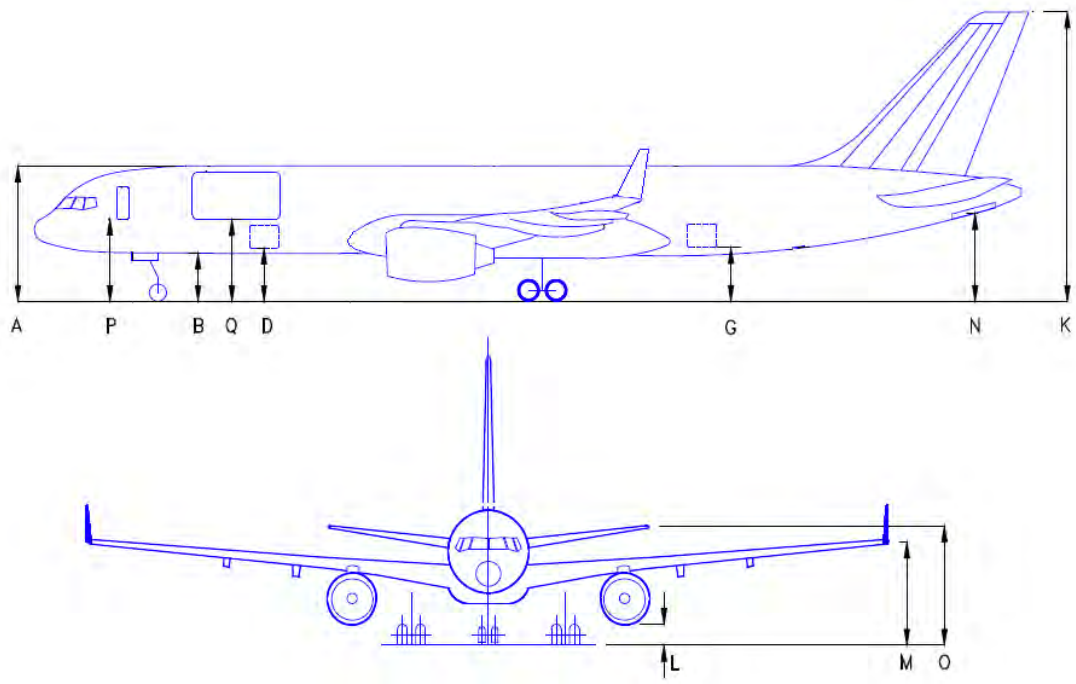
Applicable for: ALL



DIMENSION ID	MINIMUM, m	MAXIMUM, m
A	7.16	7.49
B	1.78	2.08
C	4.11	4.50
D	2.26	2.57
E	4.16	4.47
F	2.26	2.54
G	2.26	2.62
J	15.44	16.13
K	0.56	1.09
L	4.95	5.56
M	3.73	4.37
N	5.89	6.58

B757-200PCF

Applicable for: UK75001



DIMENSION ID	MINIMUM, m	MAXIMUM, m
A	6.25	6.45
B	2.24	2.44
D	2.46	2.67
G	2.36	2.51
K	13.49	13.74
L	0.74	0.86
M	4.67	4.9
N	3.78	4.04
O	5.66	5.99
P	3.79	4.01
Q	3.81	4.01

3.3 VENTILATION AND TEMPERATURE CONDITION OF CARGO COMPARTMENTS AND MAIN DECK OF CARGO AIRCRAFT

Each compartment below is defined as single zone for temperature control.

It is not possible to maintain different temperature in different zones of compartment.

However, a minimum temperature difference between different parts of compartment will be appeared during the flight (depends on cargo position close or far from the cargo door).

COMPARTMENTS→ **AC TYPE & REG↓**	**Forward Cargo Hold (Lower Deck)**	**Aft Cargo Hold (Lower Deck)**	**Bulk Section (Lower Deck)**	**Main Deck Cargo Hold**
B767-300BCF *UK67009*	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +17℃ **Max.:** +29℃
B767-300BCF *UK67010,* *UK67017,* *UK67018*	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +17℃ **Max.:** +29℃
B767-300BDSF *UK67015* *UK67019* *UK67020* *UK67021*	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +4.5℃ **Max.:** +10℃	**Min.:** +17℃ **Max.:** +29℃
B757-200PCF *UK75001*	**Min:** +10℃ **Max:** +21℃	**Min:** +10℃ **Max:** +21℃	*Неприменимо к данному ВС*	**Min:** +18℃ **Max:** +29℃

To ensure proper temperature conditions during transportation, pre-conditioning (pre-cooling or pre-heating) of a cargo hold before loading temperature-sensitive cargo shall be performed on every flight.

Pre-condition of cargo holds may not be performed if outside temperature meets required handling temperature range for cargo, there is no direct sunlight, rain, snow, humidity effect (fog) or strong wind.

APU must be switched on not later than 30 minutes before loading of temperature-sensitive shipment into appropriate cargo hold.

APU must operate during the ground time on transit station (cargo doors must always be kept closed except when loading and offloading of cargo) to ensure temperature conditions of remaining cargo.

Upon arrival of temperature-sensitive shipment APU must operate while cargo is on board until its offloaded.

NOTE: the duration of APU work shall not exceed 1,5h in order to reduce hazard of aircraft damage if outside temperature exceeds +30^0 C.

3.4 AIRCRAFT DOORS

3.4.1. GENERAL RESTRICTIONS

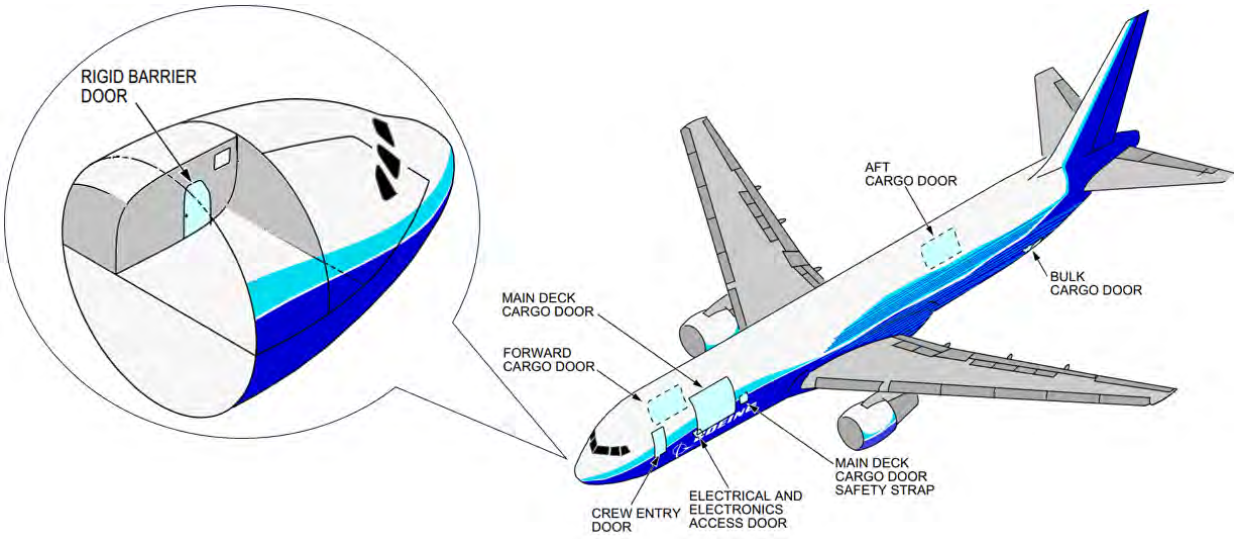
1. Do not operate entry, service and cargo doors if wind speed exceeds 40 knots (20 meters per second). If wind speed has been increased when any door was opened, remain it opened until the wind speed reduced to speed below 40 knots. Door can stay opened till the wind speed 65 knots.

- ***Exemption: Side Cargo Door of B757-200PCF (which shall be in position «Up to Canopy» to resist a wind speed 65 knots (wind speed limit is 25 knots only, if door is in position «Above the Canopy»). Refer to Section 3.4.3 Part 3 GOCHM.***

2. Do not let doors stay open if wind speed exceeds 65 knots (33 meters per second).
3. Do not open doors when aircraft is pressurized.
4. In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately.

3.4.2 B767-300BCF (-BDSF) DOORS

DOOR ID	POSITION	OPENS	PURPOSE
Crew Entry Door (1L)	Left side, nose section	Inside the aircraft	Staff entry
Rigid Barrier Door (inner door)	Inside the aircraft, galley area	To galley area	Staff entry to Main Deck Cargo Hold
Side Cargo Door	Left side, nose section	Outside and up	ULD loading & offloading operations
FWD Hold Cargo Door	Right side, nose section	Outside and up	
AFT Hold Cargo Door	Right side, tail section	Outside and up	
Bulk Door	Left side, tail section	Inside the aircraft	



MAIN DECK CARGO DOOR

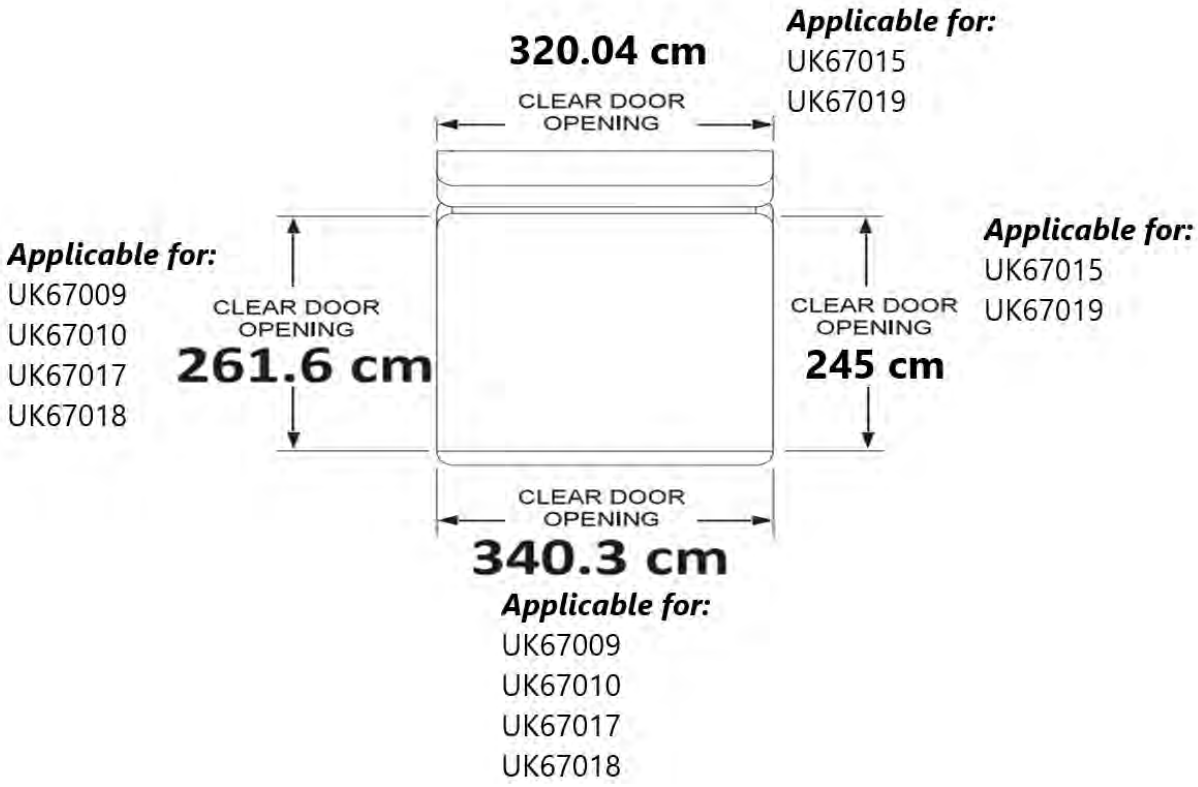
Size of Main Deck cargo door can be different on different aircraft modifications – B767-300BCF & -BDSF.

Applicable for: UK67009, UK67010, UK67017, UK67018 (B767-300BCF)

Side Cargo Door has dimensions 340.3 x 261.6 cm (*«Length» x «Height»*).

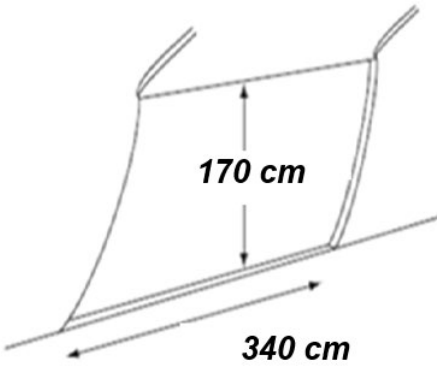
Applicable for: UK67015, UK67019, UK67020, UK67021 (B767-300BDSF)

Side Cargo Door has dimensions 320.06 x 245 cm (*«Length» x «Height»*).

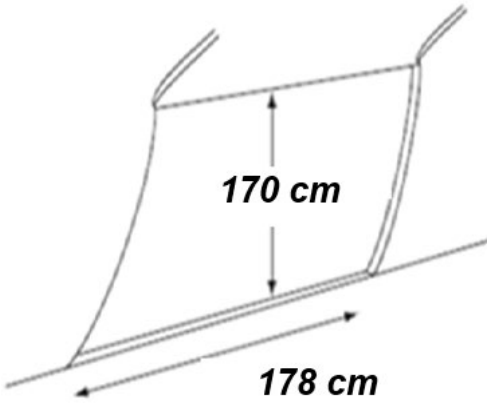


FWD LD HOLD CARGO DOOR

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

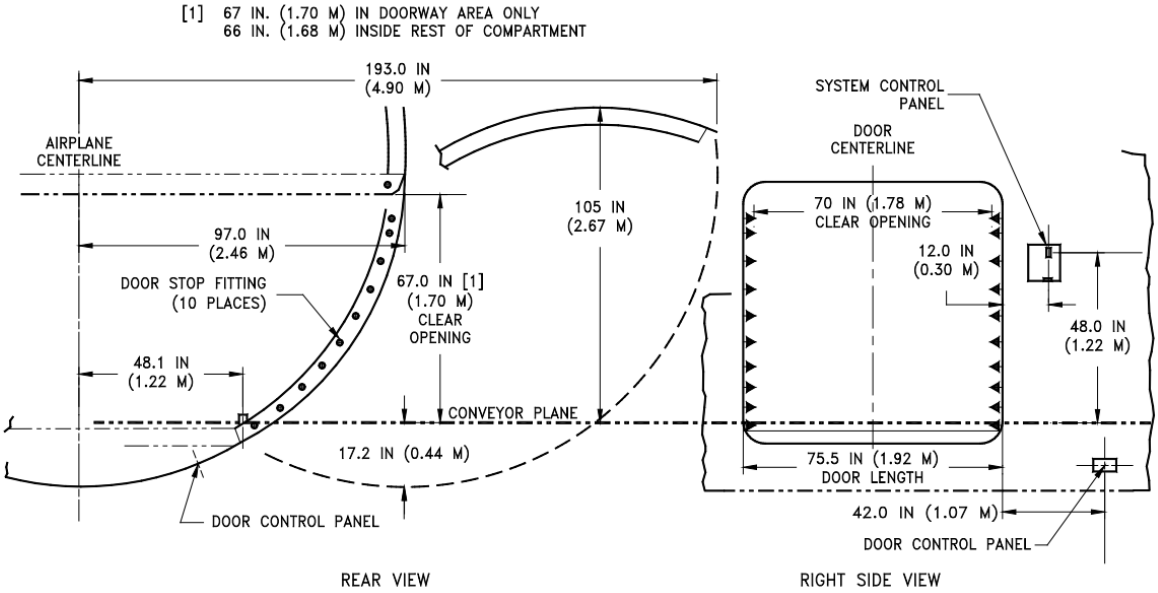


Applicable for: UK67019, UK67020, UK67021



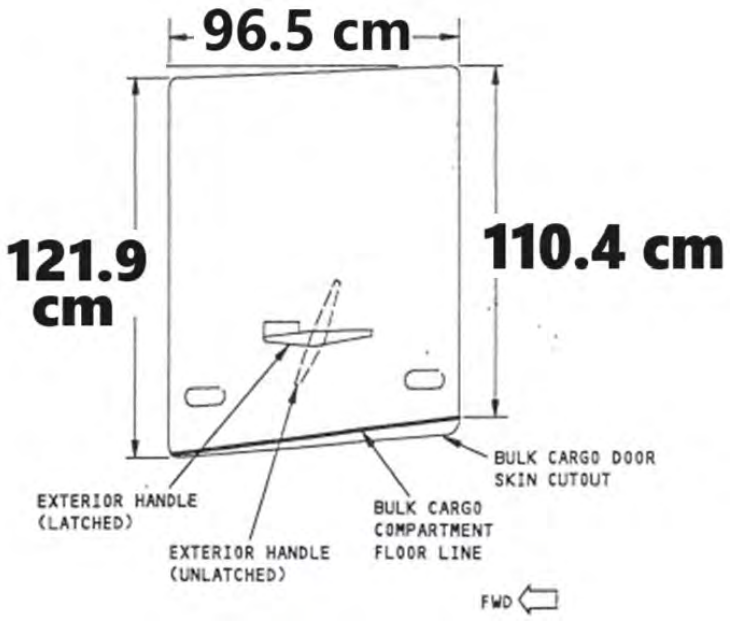
AFT LD HOLD CARGO DOOR

Applicable for: ALL



BULK DOOR

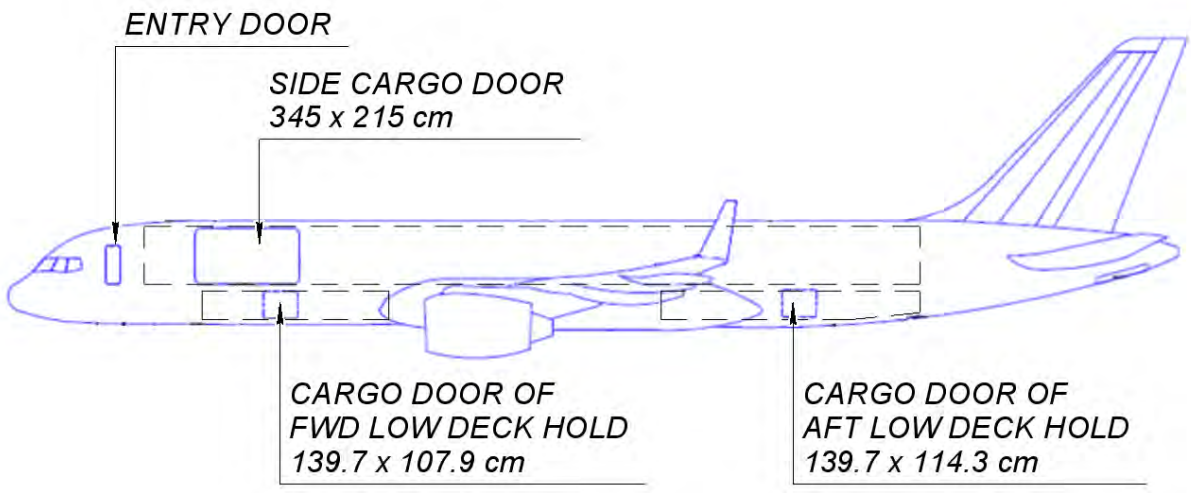
Applicable for: ALL



3.4.3 B757-200PCF DOORS

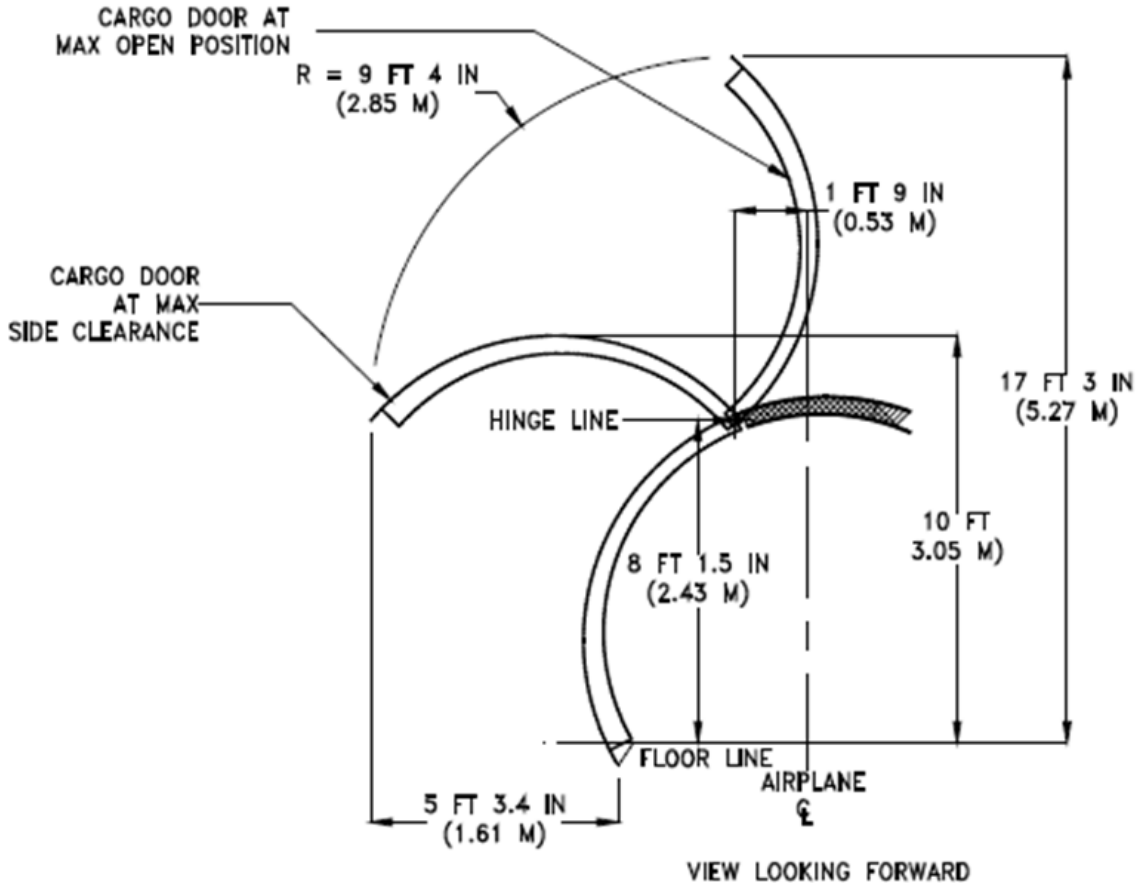
Applicable for: UK75001

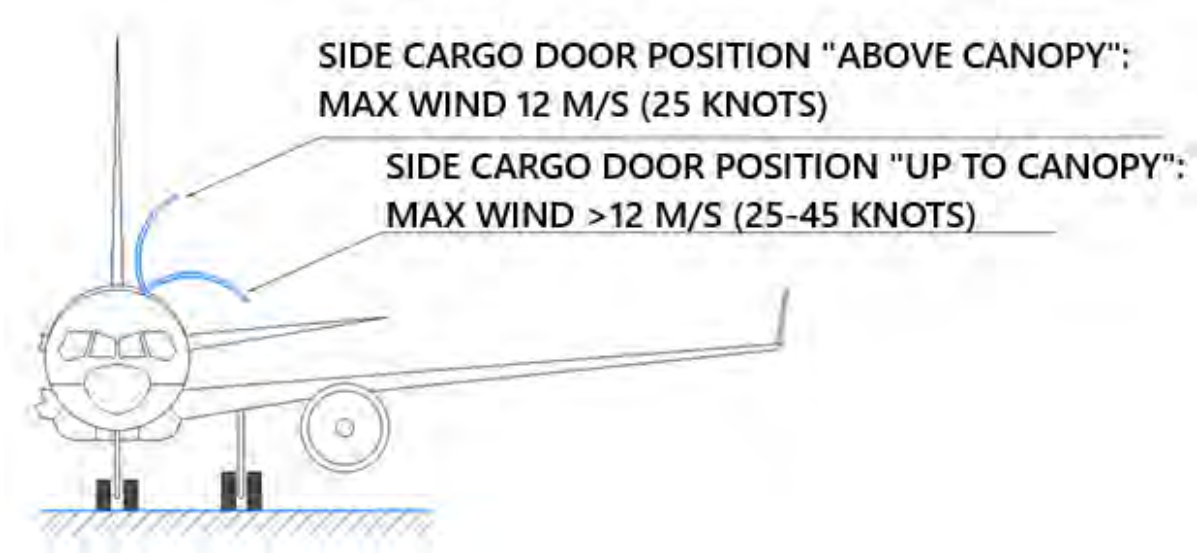
DOOR ID	POSITION	OPENS	PURPOSE
Crew Entry Door (1L)	Left side, nose section	Inside the aircraft	Staff entry
Rigid Barrier Door (inner door)	Inside the aircraft, galley area	Shifts along the 9G barrier	Staff entry to Main Deck Cargo Hold
Side Cargo Door (Main Deck Cargo Door)	Left side, nose section	Outside and up	ULD & cargo loading & offloading operations
FWD Hold Cargo Door	Right side, nose section	Outside and up	
AFT Hold Cargo Door	Right side, tail section	Outside and up	



MAIN DECK CARGO DOOR

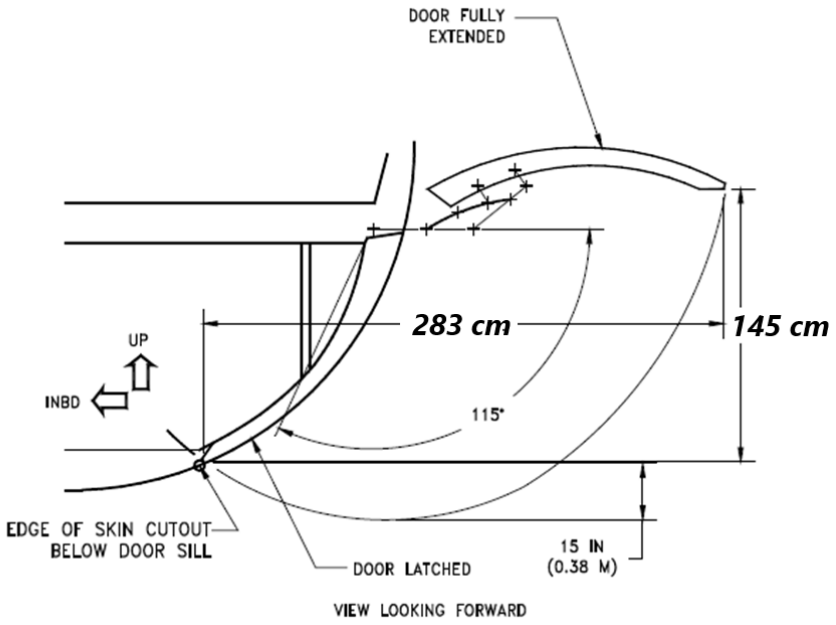
Applicable for: ALL





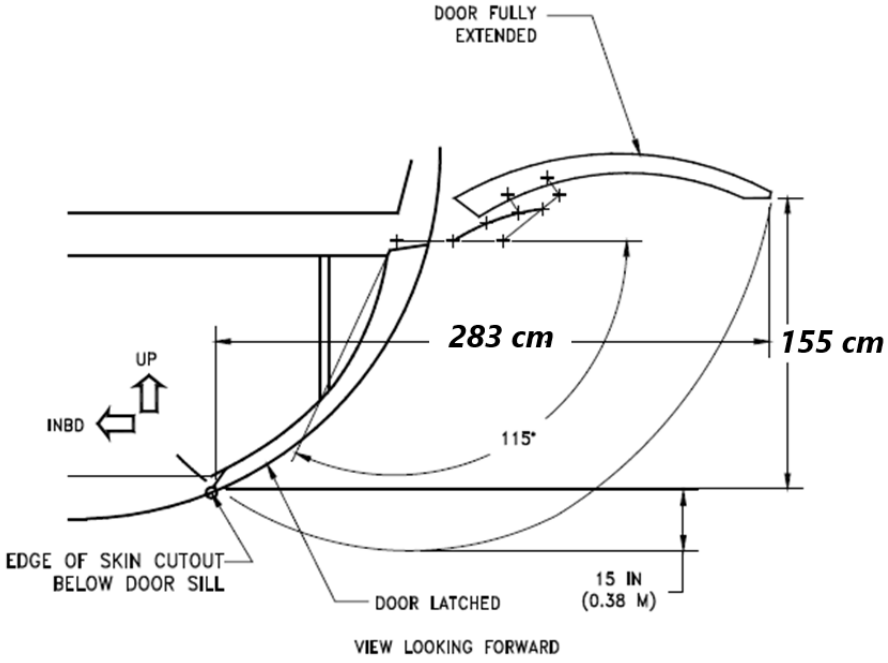
FORWARD LOW DECK CARGO DOOR

Applicable for: ALL



AFT LOW DECK CARGO DOOR

Applicable for: ALL



3.5 AIRCRAFT DOORS OPERATIONS

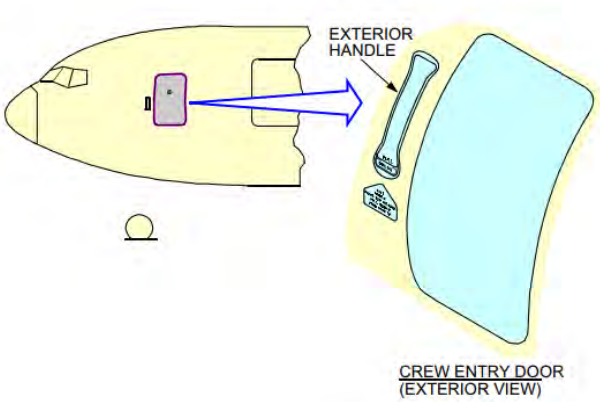
3.5.1 B767-300BCF (-BDSF) - ENTRY DOOR OPERATIONS

To open Crew Entry Door externally:

1. Push the Exterior Handle lever fully to the “Unlatched position”.
2. Slowly lift the door up until the latch is engaged.
3. Rotate the release roller located under the Exterior Handle in the required direction, then lower the Exterior Handle to the faired position.

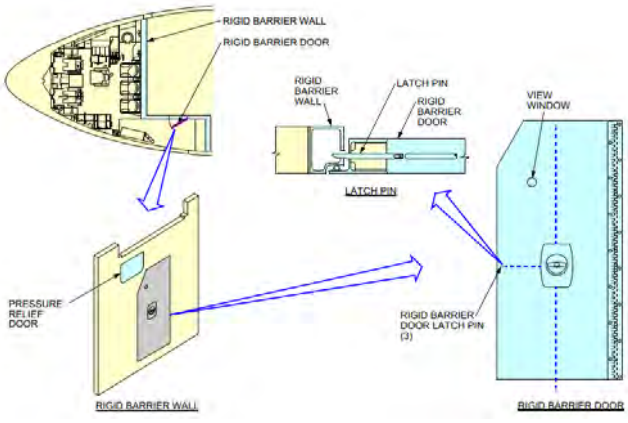
To close Crew Entry Door externally:

1. Visually make sure if no obstacles are presented on the way of door movement and in doorway.
2. Make sure the interior handle is in the open (unlatched) position.
3. Move the handle to the open position if necessary.
4. Make sure the red external primary capture lever is in the fully captured position and the exterior handle is unlatched. *If the interior handle is not open and the primary capture lever is not fully captured, you cannot close the door.*
5. Press the button on internal perimeter of the entry door. Lower the crew entry door and move the exterior handle down to the faired position.
6. The red external primary capture lever is pulled into the fully faired position when the secondary capture lever handle is moved to the captured position.



Rigid Barrier Door operations

- **To close** – position door to closed position and rotate handle on the door.
- **To open** - rotate handle on the door and open door.



3.5.2 B767-300BCF (-BDSF) - LOW DECK CARGO DOORS OPERATIONS

***Applicable only for**: UK67009, UK67010, UK67015, UK67017, UK67018*

***For UK67019, UK67020, UK67021**: FWD and AFT Cargo Hold Doors are identical as well as opening & closing instructions.*

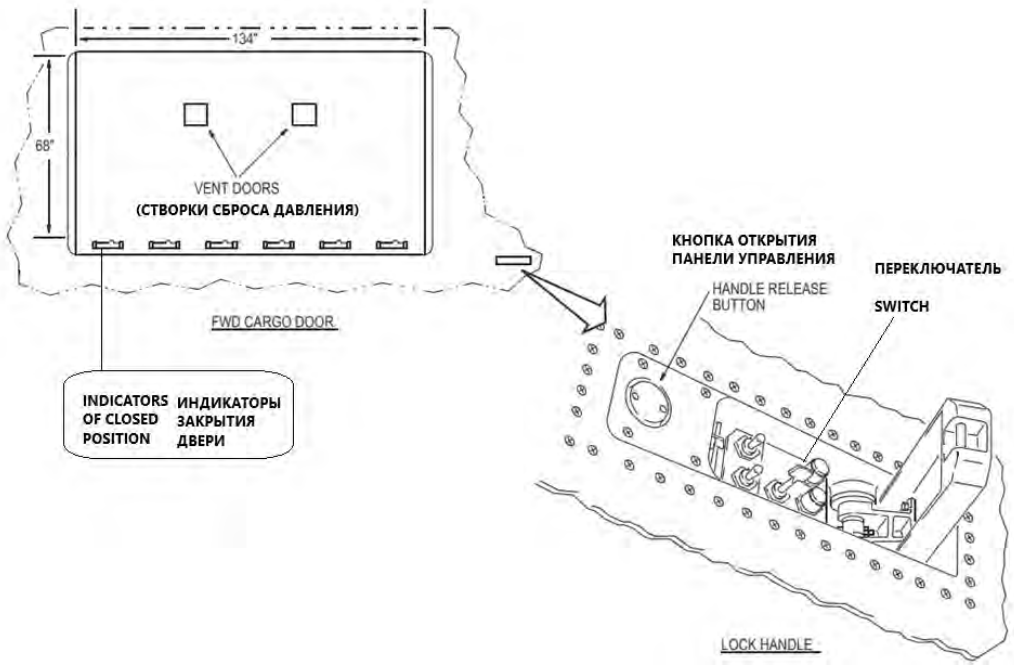
FORWARD LOW DECK CARGO DOOR

To open FWD Low Deck Cargo Door:

1. Visually make sure if no obstacles are presented on the way of door movement.
2. Push handle release button and rotate lock handle till stop in flight direction.
3. Visually make sure if vent doors on cargo door are opened.
4. Hold switch «CARGO DOOR CONTROL» in position OPEN till door fully opens, and signal lamp «DOOR OPEN» is light on.

To close FWD Low Deck Cargo Door:

1. Visually make sure if no obstacles are presented on the way of door movement and in doorway.
2. *IF APPLICABLE*: push handle release button and move lock handle till stop in flight direction.
3. *IF APPLICABLE*: make sure if vent doors are opened after **Step 1**.
4. Hold switch «CARGO DOOR CONTROL» in position CLOSE till door fully closes, and signal lamp «DOOR CLOSE» is light on.
5. Visually make sure if green indicators are visible in all small windows in bottom part of cargo door. If indicators are not visible, stop operations and notify engineers immediately.
6. If green indicators are visible, close door of control panel.
7. Make sure if vent doors are closed.



<u>NOTE</u>: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

<u>NOTE</u>: Contact engineer if needs to open/close door manually.

***Applicable for**: ALL*

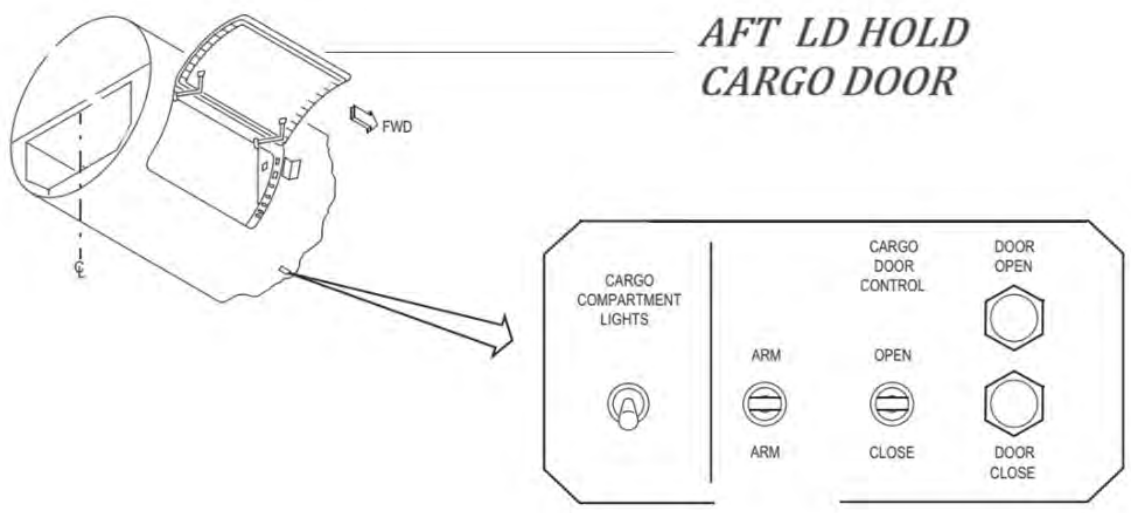
AFT LOW DECK CARGO DOOR

To open AFT Low Deck Cargo Door externally:

1. Visually make sure if no obstacles are presented on the way of door movement.
2. Open panel door.
3. Push switches ARM and OPEN/CLOSE simultaneously.
4. Hold switch OPEN/CLOSE in position OPEN and switch ARM in position ARM (up or down) till door fully opens, and signal lamp «DOOR OPEN» is light on.
5. Close panel door.

To close AFT Low Deck Cargo Door externally:

1. Visually make sure if no obstacles are presented on the way of door movement and in doorway.
2. Open panel door.
3. Push switches ARM and OPEN/CLOSE simultaneously.
4. Hold switch OPEN/CLOSE in position CLOSE and switch ARM in position ARM (up or down) till door fully closes, and signal lamp «DOOR CLOSE» is light on.
8. Visually make sure indicators are visible in all small windows on bottom side of the door. If indicators are not visible, stop operations and notify engineers immediately.
5. Close panel door.



BULK CARGO DOOR

To open Bulk Cargo Door:

4. Pull the handle out of door surface.
5. Rotate the handle according to the marks on the door.
6. Pull the door up until it secured in upper position.

To close Bulk Cargo Door:

6. Visually make sure if no obstacles are presented in door perimeter and in doorway.
7. Pull the door down.
8. Turn the handle to the unlatch position to ensure the latch cams are in the proper position.
9. Close the door.
10. Turn the handle to the latch position.

3.5.3 B767-300BCF (-BDSF) - MAIN DECK CARGO DOOR OPERATIONS

Side Cargo Door control panel is positioned together with galley near the Left Forward Entry door 1L (*refer to drawings below*).

General view of panel is shown below.

External view may vary on different aircraft, but general principles remain same.

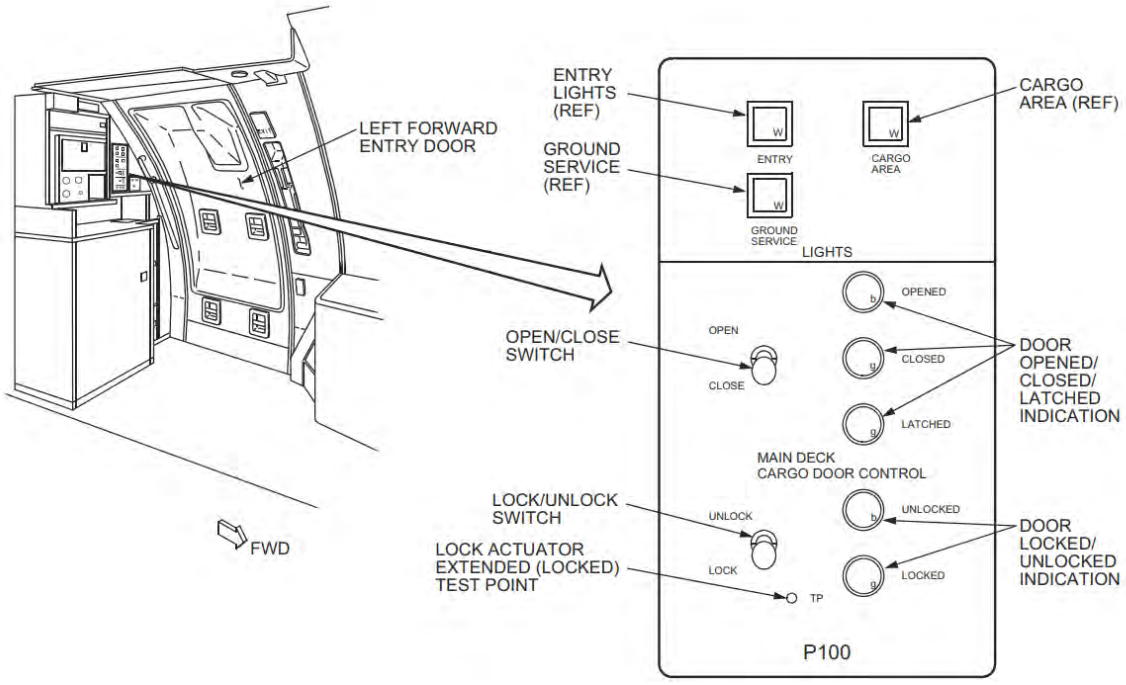
Applicable for: ALL

To open Side Cargo Door:

1. Visually make sure that no obstacles are stays on the way of the door movement;
2. Pull and press the LOCK/UNLOCK switch to “Unlock” position. Hold it until “UNLOCKED” light is turned on (***Applicable for UK67015, UK67018, UK67020, UK67021 only****: additional lamp «ARM» on door control panel must be light on as well*);
3. Pull and press the OPEN/CLOSE switch to “OPEN” position and hold until the door is fully opened, and “OPENED” light is turned on. It may take 1.5-2 min.

To close Side Cargo Door:

1. Visually make sure that no obstacles are stays on the way of the door movement, and all pallet locks on SCD doorway are raised;
2. Pull and press the OPEN/CLOSE switch to “CLOSE” position and hold until the door is fully closed, light “OPENED” is turned off, and lights “CLOSED” and “LATCHED” are turned on. It may take 1.5-2 min;
3. Pull and press the LOCK/UNLOCK switch to “Lock” position and hold until “LOCKED” light is turned on (***Applicable for UK67015 only****: additional lamp ARM on door control panel must switch off as well during the locking procedure*).



NOTE: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

NOTE: Contact engineer if needs to open/close door manually.

3.5.4 B757-200PCF – ENTRY DOOR OPERATIONS

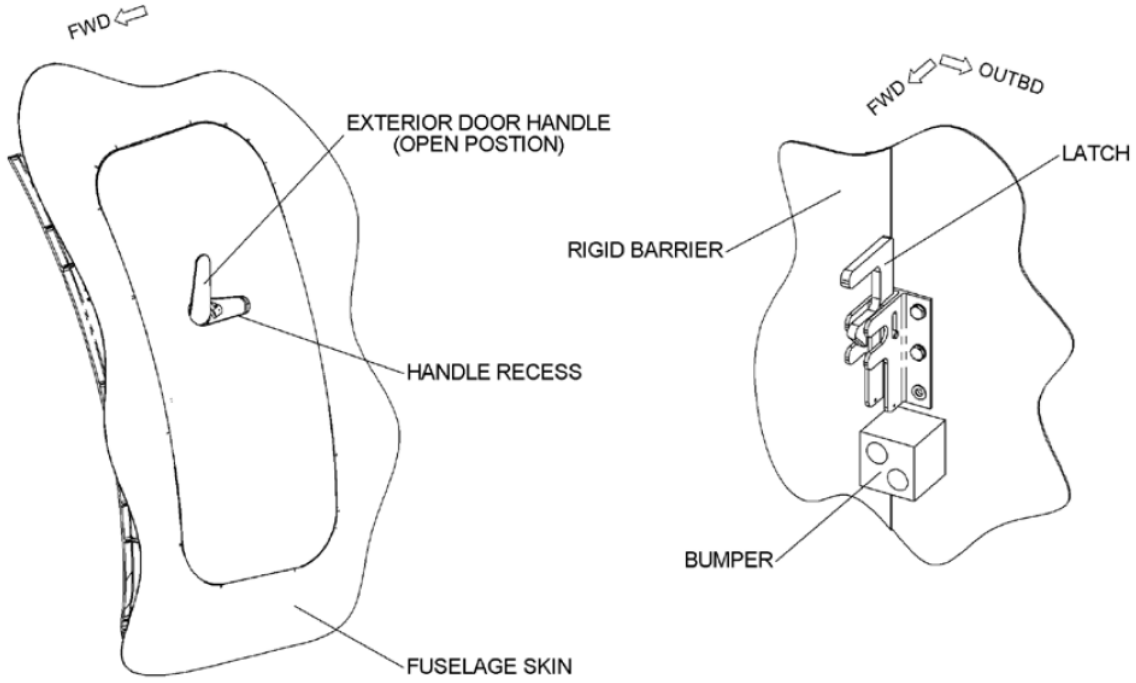
Entry door is located on left side of fuselage to provide entry to Flight Deck.

To open the entry door outside:

1. Pull and rotate Exterior Door Handle to unlock the door. Be careful – the door is heavy, and it may fall inside the aircraft, if you not hold it properly.
2. Accurately move door inside the fuselage until locked by latch on 9G barrier.

To close the entry door outside:

1. Release inner latch.
2. Pull the door until it positioned inside the door perimeter.
3. Hold the door and rotate Exterior Door Handle to lock the door.
4. Make sure if Exterior Door Handle is retracted to standard flight position (not overlaps above the door surface).



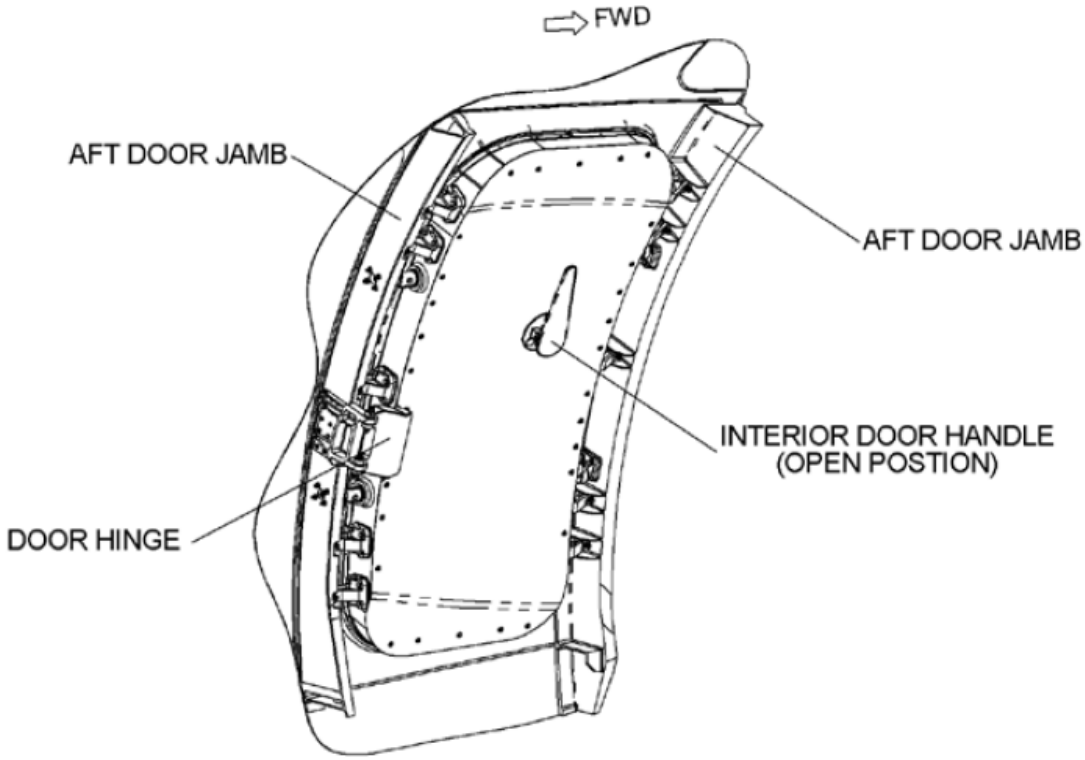
<u>NOTE</u>: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

To open the entry door inside the aircraft:

1. Pull and rotate Exterior Door Handle to unlock the door.
2. Accurately move door inside the fuselage until locked by latch on 9G barrier.

To close the entry door inside the aircraft:

1. Release inner latch.
2. Pull the door until it positioned inside the door perimeter.
3. Hold the door and rotate Exterior Door Handle to lock the door.
4. Make sure if Exterior Door Handle is retracted to standard flight position (not overlaps above the door surface).



<u>NOTE</u>: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

3.5.5 B757-200PCF – 9G BARRIER DOOR OPERATIONS

Sliding Door is located in 9G barrier inside the aircraft to provide access to Main Deck cargo hold from the Flight Deck. It must be closed during the taxiing and flight operations to provide protection of flight crew and supernumeraries against possible fire and smoke happened on Main Deck.

To open the 9G barrier door:

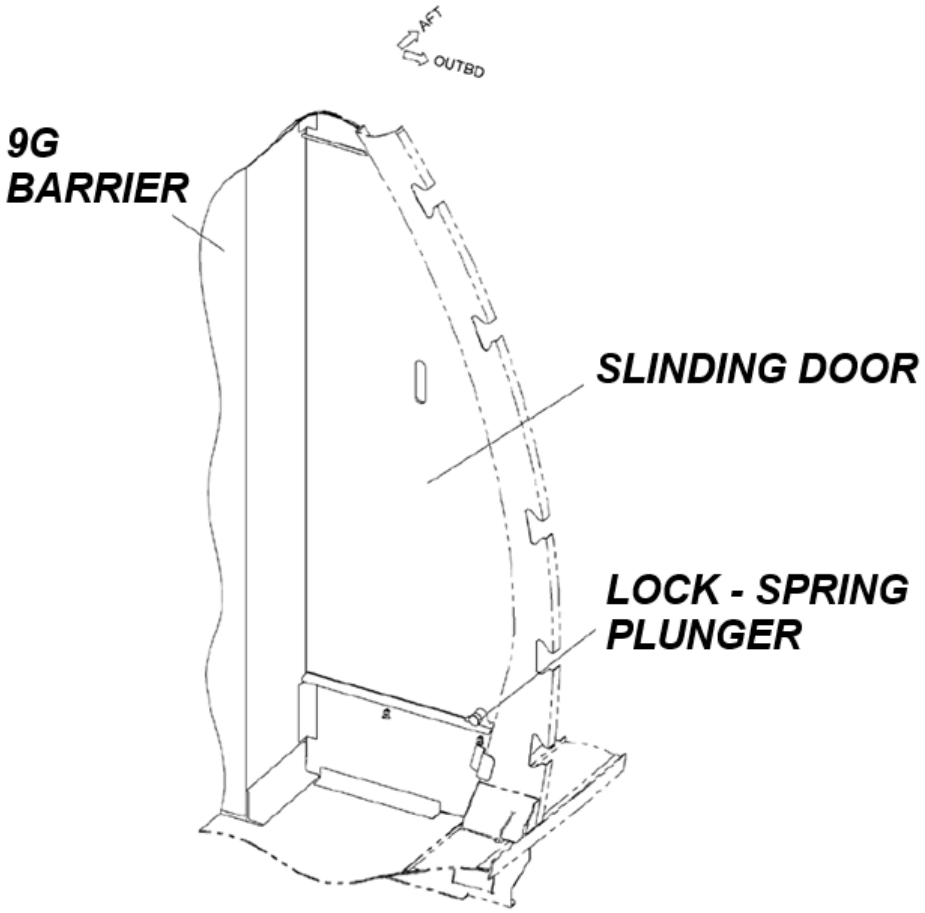
1. Pull the lock and push the door along the barrier to open.

NOTE: to open the 9G barrier door needs to close entry door first.

To close the 9G barrier door:

1. Pull the 9G barrier door to closed position until locked.

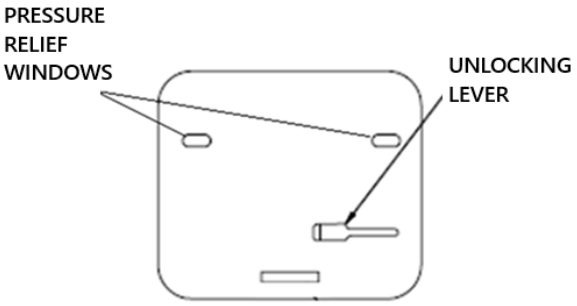
NOTE: to close the 9G barrier door needs to close entry door first.



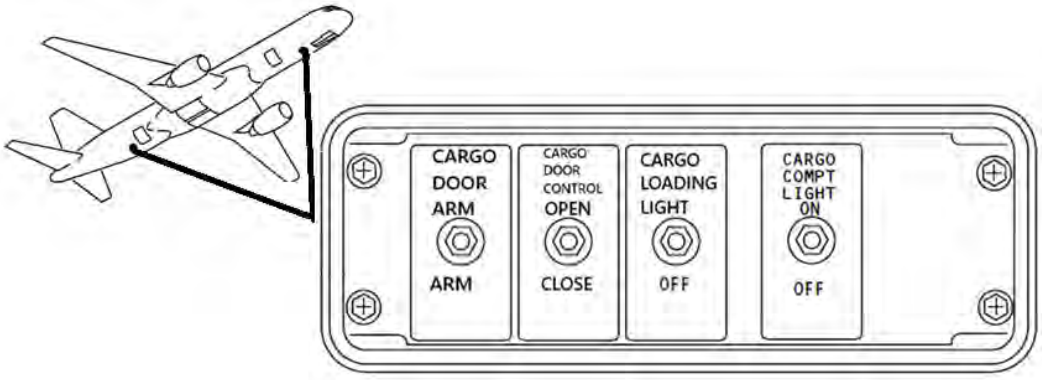
<u>NOTE</u>: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

3.5.6 B757-200PCF - LOW DECK CARGO DOORS OPERATIONS

Low Deck Cargo doors are located on right side of fuselage to allow access to Low Deck cargo holds.



General view of Low Deck Cargo Doors



General view of Cargo Doors Control Panels

To open the any Low Deck cargo door:

1. Make sure, no obstackles are positioned on the way of door movement.
2. Make sure, aircraft is supplied by electricity from GPU or APU.
3. Pull the Unlocking Lever (located on the each cargo door) in flight direction until stopped (pressure relief windows must opens, and door must partially move out from fuselage). **ATTENTION – you must be minimum 0.5-0.7m from the door!**
4. Open access door of Cargo Door Control Panel (located behind the each cargo door).
5. Press switches «CARGO DOOR ARM» into position ARM and «CARGO DOOR CONTROL» into position OPEN and hold until door is opened and locked in upper position.
6. Close panel access door.

To close the any Low Deck cargo door:

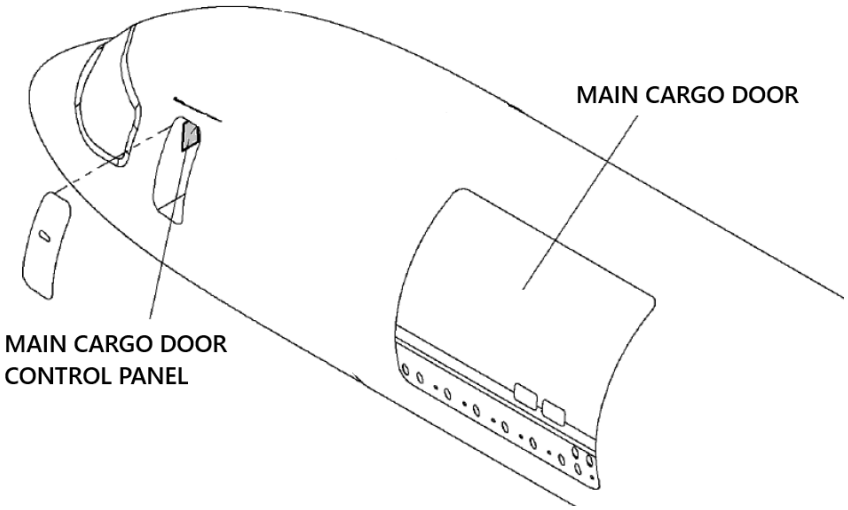
1. Make sure, no obstackles are positioned on the way of door movement.
2. Make sure, aircraft is supplied by electricity from GPU or APU.
3. Open panel access door.
4. Press switches «CARGO DOOR ARM» into position ARM and «CARGO DOOR CONTROL» into position CLOSE and hold until door is opened and locked in closed position.
5. Close panel access door.
6. Retract Unlocking Lever until the lever is positioned in socket, and door is fully closed and locked (pressure relief windows must close). Make sure if door is fully closed.

<u>NOTE</u>: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

3.5.7 B757-200PCF - MAIN DECK CARGO DOOR OPERATIONS

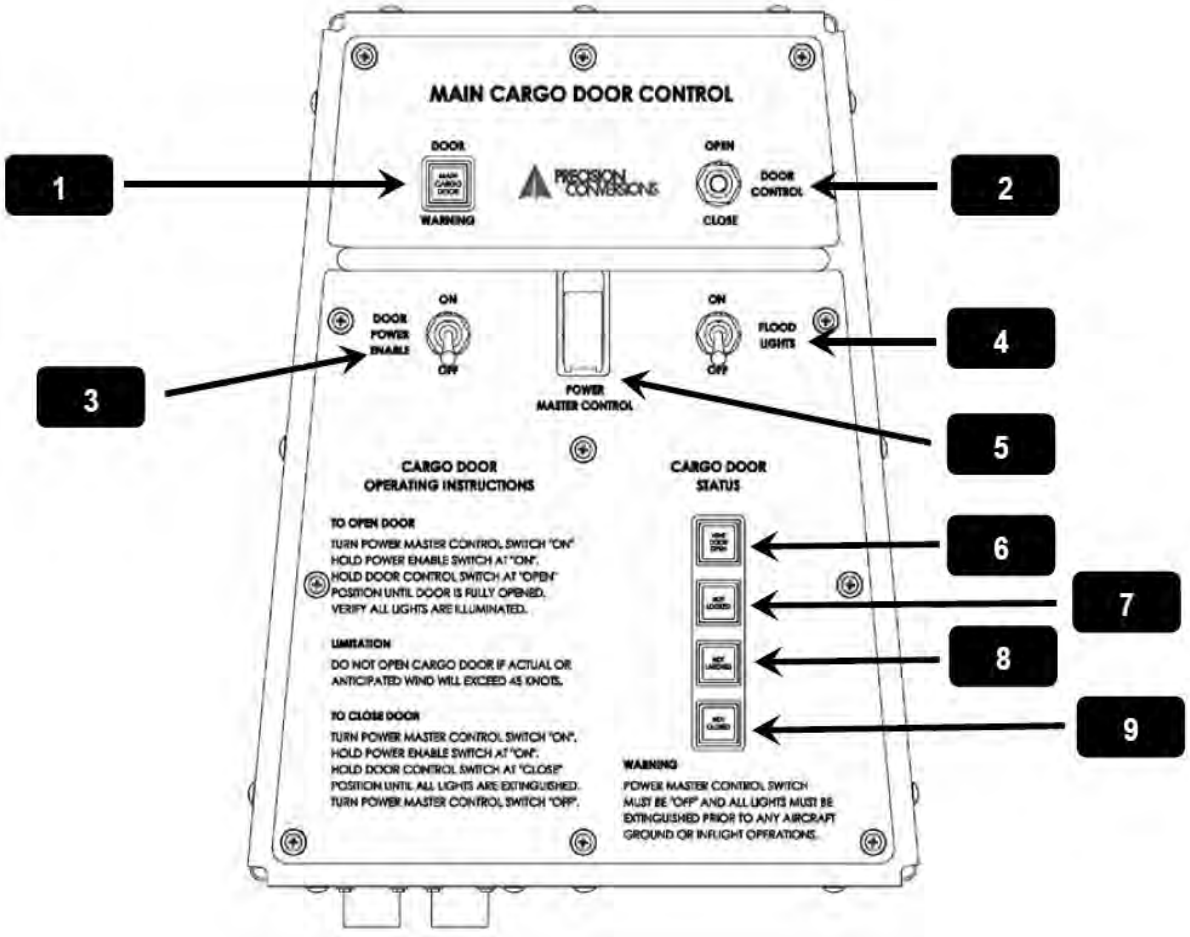
Side Cargo Door is located in nose section (left side of fuselage) and provides access to Main Deck cargo hold for personnel and cargo during the loading/offloading operations.

Side Cargo Door Control Panel is located on left side of aircraft inside the Flight Deck.



General view of Side Cargo Door Control Panel is shown below.

Refer to next pages to see detailed explanation about each element of Main Deck Door Control panel and Side Cargo Door operations.



To open the Main Deck cargo door:

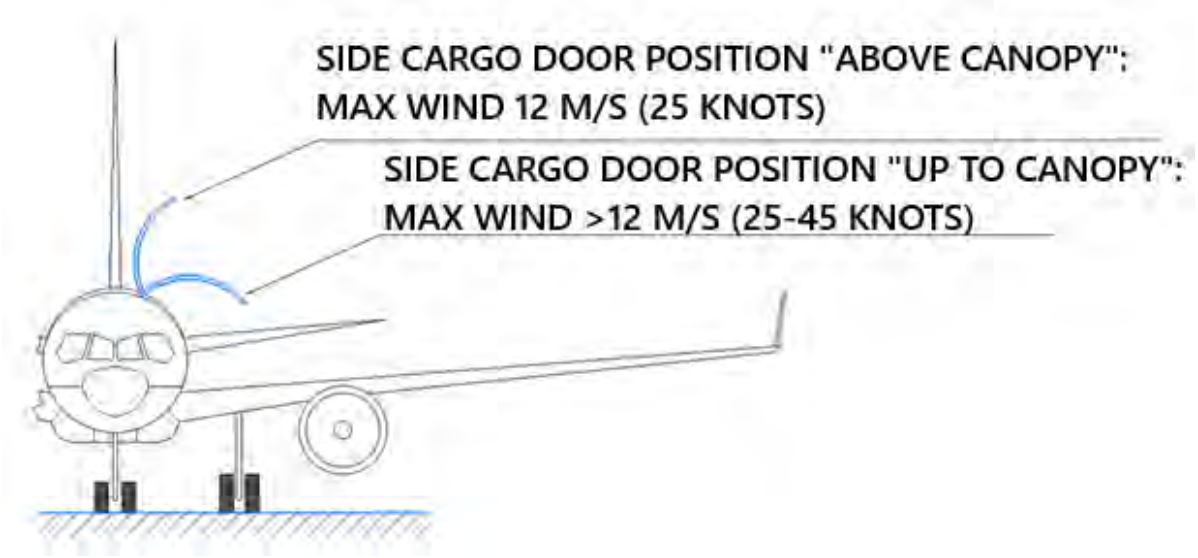
1. Make sure, no obstackles are positioned on the door movement area.
2. Make sure, aircraft is supplied by electricity from GPU or APU.
3. Turn Power Master Control Switch (5) ON.
4. Hold Power Enable Switch (3) ON.

5. Hold Door Control Switch (2) at OPEN position until door is fully opened and verify if all lights are illuminated.

ATTENTION – different wind speed restrictions are applicable for different positions of the Side Cargo Door.

There are 2 positions of Side Cargo Door:

1. **Up to Canopy:** half-way position (max wind speed >25 knots / 12 m/s).
2. **Above the Canopy:** maximum opened (max wind speed 25 knots / 12 m/s).



To close the Main Deck cargo door:

1. Make sure, no obstackles are positioned on the door movement area.
2. Make sure, aircraft is supplied by electricity from GPU or APU.
3. Make sure, retractable “bridges” are raised and locked.

- *Refer to* ***Section 3.7.5 Part 3 GOCHM***.

4. Turn Power Master Control Switch (5) ON.
5. Hold Power Enable Switch (3) ON.
6. Hold Door Control Switch (2) at CLOSE position until door is fully closed and verify if all lights are extinguished.
7. Turn Power Master Control Switch (5) OFF.

NOTE: In case of obviously incorrect opening or closing of the door - stop operations and notify the engineer immediately!

LEGEND:

ID	*LIGHT NAME*	*FUNCTION*
1	***MAIN CARGO DOOR Warning Light***	Illuminated (red) – main cargo door is not fully closed, latched, and locked.
2	***DOOR CONTROL Switch***	OPEN – commands the main cargo door to open when power is provided. CLOSE – commands the main cargo door to close when power is provided. Switch must be held OPEN or CLOSE, otherwise it will return to neutral position. Requires DOOR POWER ENABLE switch to be ON for this switch to function.
3	***DOOR POWER ENABLE Switch***	ON – Supplies power to the main cargo door. OFF – Disconnects power to the main cargo door. Requires POWER MASTER CONTROL Switch to be ON for switch to function.
4	***FLOOD LIGHTS Switch***	ON – Turns main cargo door flood lights on. OFF – Turns main cargo door flood lights off.
5	***POWER MASTER CONTROL Guarded Switch***	ON – Supplies power to the MAIN CARGO DOOR CONTROL Panel. OFF – Disconnects power to the MAIN CARGO DOOR CONTROL Panel.
6	***VENT DOOR OPEN Light***	Illuminated (amber) – main cargo door vent doors not fully closed.
7	***NOT LOCKED Light***	Illuminated (amber) – main cargo door not fully locked.
8	***NOT LATCHED Light***	Illuminated (amber) – main cargo door not fully latched.
9	***NOT CLOSED Light***	Illuminated (amber) – main cargo door not fully closed.

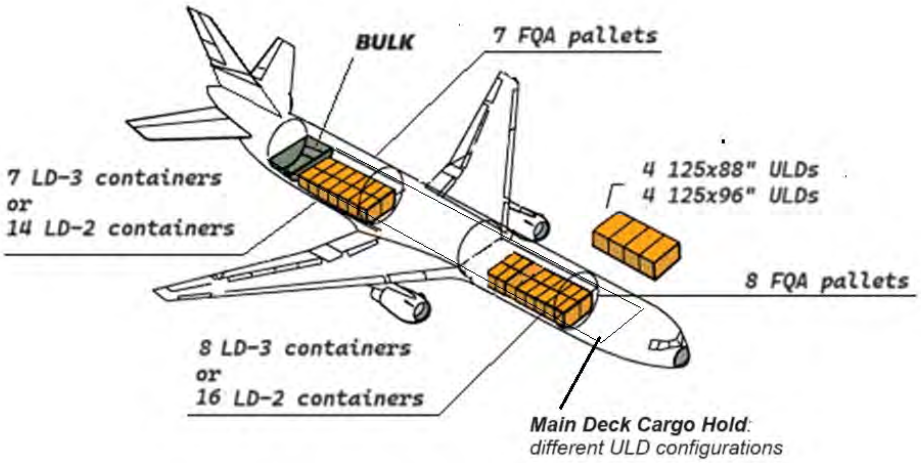
3.6 CARGO HOLDS CONFIGURATIONS

3.6.1 B767-300BCF (-BDSF): GENERAL RESTRICTIONS

8. Boeing B767-300BCF (-BDSF) has 3 cargo holds: Forward Cargo Hold, Aft Cargo Hold (includes Bulk Hold) and Main Deck Cargo Hold.
9. Each Low Deck hold (except Bulk) is equipped with a semi-automatic, electrically powered cargo loading system. Bulk cargo loaded out of Bulk Hold must be always restrained by straps to A/C structure. Locking and unlocking of ULDs inside the cargo compartments is carried out manually.
10. Bulk Hold has only flat floor to accommodate light bulk loads only. ULD loading is not possible into Bulk Hold.
11. Main Deck Cargo Hold is equipped by manual powered cargo loading system. Locking and unlocking of ULDs inside the cargo compartments is carried out manually.
12. Each hold has limited quantity attachment points for cargo tie-down.
13. Other details are described in appropriate Chapters of this Part of GOCHM.
14. Refer to ***Chapter 4 GOCHM*** to have more information about applicable ULDs.
15. All LD and MD holds are Class E compartments (equipped by smoke detectors, but not equipped by fire extinguisher systems).

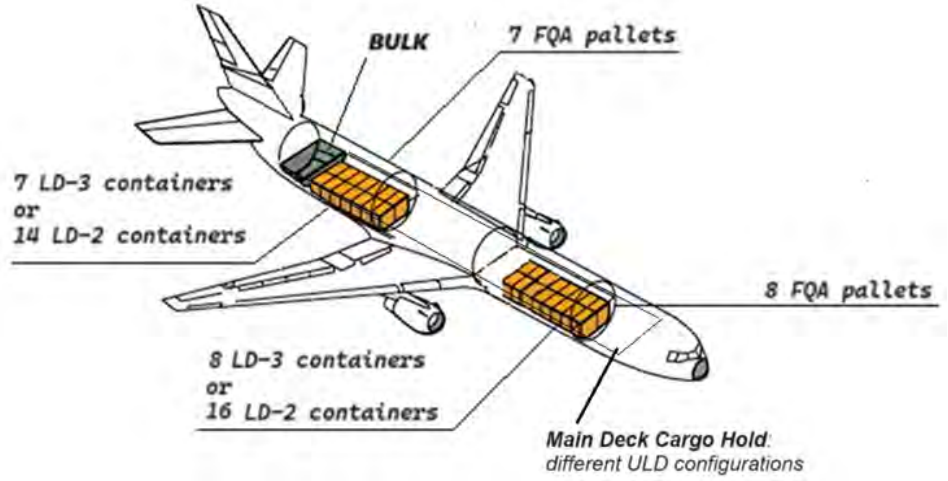
Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

- Big door of FWD Low Deck Cargo hold is installed. It is possible to load ULD 125x88'' & 125x96'' to FWD Hold.



Applicable for: UK67019, UK67020, UK67021

- Cargo Doors of FWD and AFT Holds have same size 178x175cm. Loading of ULDs 125x88'' & 125x96'' to FWD Hold is impossible.



3.6.2 B767-300BCF (-BDSF) LOW DECK HOLDS CONFIGURATIONS AND RESTRICTIONS

FORWARD CARGO HOLD

Applicable for: UK67019, UK67020, UK67021

- Forward Low Deck Hold can accommodate 16 LD2 containers, or 8 LD3 containers, or 8 FQA pallets. ULD intermix is partially possible.
- Forward Low Deck Hold cannot accommodate 125x88'' and 125x96'' ULD due to the small size of Forward Low Deck Cargo Door.

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

- Forward Low Deck Hold can accommodate 16 LD2 containers, or 8 LD3 containers, or 8 FQA pallets, or 4 ULD size "L", or 4 ULDs 125x96", or 4 ULDs 125x88". ULD intermix is partially possible.

Applicable for: ALL

- Cargo Hold has cargo power drive systems to load, offload and transfer containerized or palletized cargo. The power drive systems can be operated from control panels located out of compartments near the cargo doors. Power drive units (PDU) located on the cargo floors are able to transfer fully loaded ULDs (approved for loading to appropriate aircraft). Manual transfer of same ULDs is also possible in case of PDU malfunction.
- Several attachment points for single stud fittings are installed in cargo hold to provide securing of payload loaded on non-certified ULD.

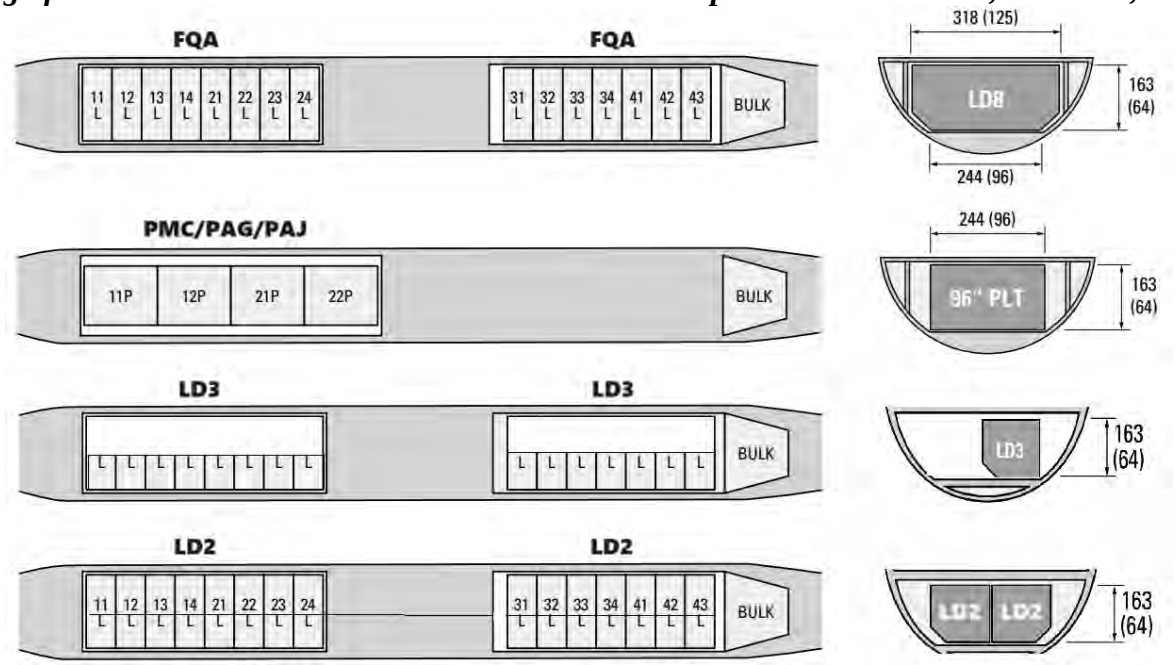
AFT CARGO HOLD

Applicable for: ALL

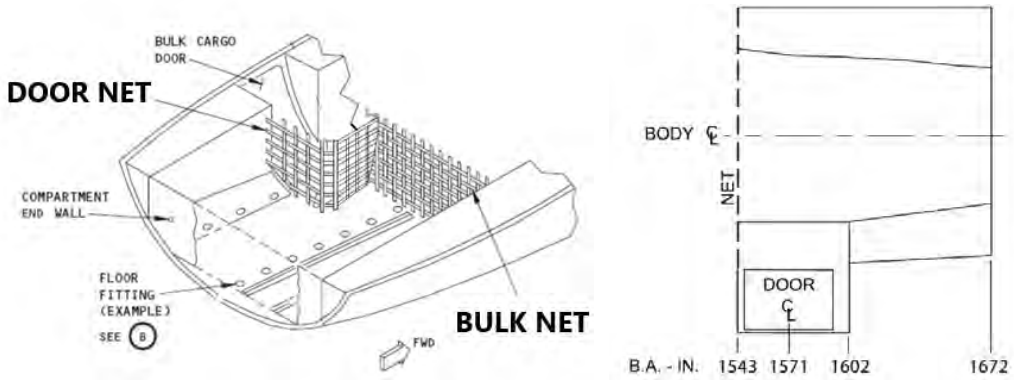
- Aft Low Deck Hold can accommodate 14 LD2 containers, or 7 LD3 containers, or 7 FQA pallets. ULD intermix is partially possible.
- Aft Low Deck Hold cannot accommodate 125x88'' and 125x96'' ULD due to the small size of Aft Low Deck Cargo Door.
- Bulk section is separated from remain volume of Aft Cargo Hold by special net attached to ceiling, floor and walls. Second part of this net separates bulk section from bulk cargo door (to prevent cargo shift to door and its internal blocking).
- Only light items of baggage, mail, cargo or equipment can be loaded to Bulk section. Recommended max weight per item is 32 kg. Loading of items heavier 32 kg must be confirmed by Airline Chief Loadmaster.
- Cargo Hold has cargo power drive systems to load, offload and transfer containerized or palletized cargo. The power drive systems can be operated from control panels located out of compartments near the cargo doors. Power drive units (PDU) located on the cargo floors are able to transfer fully loaded ULDs (approved for loading to appropriate aircraft). Manual transfer of same ULDs is also possible in case of PDU malfunction.
- Cargo hold has limited quantity of attachment points (APT) for cargo tie-down. Total amount of APT is restricted, and additional single stud fittings requires to provide cargo restrain. ***Refer to Chapter 8 GOCHM to have more details.***

Applicable for: ALL

Loading of ULD 125x88'' and 125x96'' to FWD Hold is not possible on UK67019, UK67020, UK67021



FWD & AFT HOLDS CONFIGURATION (B767-300BCF & -BDSF)



BULK HOLD CONFIGURATION (B767-300BCF & -BDSF)

ULD intermix is possible with next restrictions:

1. All restrains (locks and retractable guides) are operable.
2. LD3/LD1 or LD2 containers must fill the string from end locks till retractable guides.
3. LD2 containers cannot be mixed with LD2 or LD3 containers into single cargo hold.
4. LD2 containers must be loaded in pairs when placed forward or aft of an LD4 or LD8 container(s).
5. If any restrain is missing or inoperative, only LD1, LD3, LD4 or LD8 containers can be placed at the end of a string of containers at which a restraint is missing or inoperative.
6. Do not place a pair of LD2 containers (side by side) against inoperative restraints when intermixing containers.

Side Restraints and Side Guides provide restrain against possible ULD shift in side directions.

End stops with Vertical Restraint provides restrain against possible ULD shift in Forward or Aft directions (depends on which side of ULD contacts with these stops).

Partial Load Stops provides restrain against possible ULD shift in forward or aft direction (depends on Partial Load Stop position onboard). Partial Load Stops must be erected between ULDs loaded into row (FQA pallets and subst. ULD of same size, or LD1/LD2/LD3 containers and subst. ULD of same type, or ULDs of sizes "K" and "L" (refer to *Part 4 GOCHM* for details).

Lateral Guides near cargo doors provides restrain against possible ULD shift in Forward & Aft direction (depends on which side of ULD contacts with these guides).

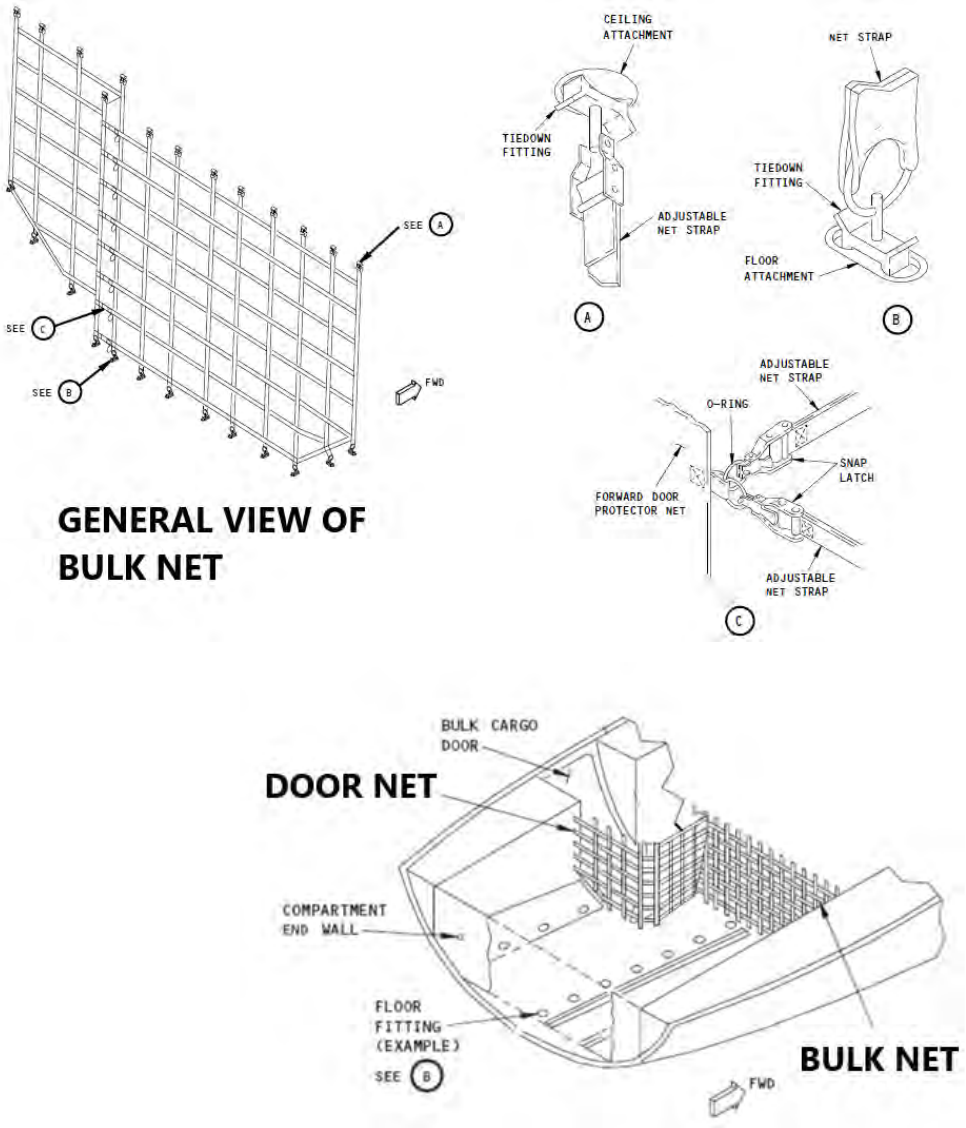
Anti-Roll-Out Stops in doorways provides restrain against ULD side shift through the cargo doors.

There are no vertical restrains for FQA pallets in LD Holds of B767-300BCF (-BDSF). Restrain against shift in forward and aft directions is provided by Ends Stops, Partial Load Stops, Lateral Guides.

FQA pallets are uncertified Unit Load Devices, so always must be restrained to aircraft structure against upward (vertical) shift (even row between end stops and retractable guides is fully loaded). Restrain by straps against shifts in other direction also can be required. *Refer to Part 8 GOCHM as well to have more information.*

If row between End Stops and Lateral Guides is not fully loaded by FQA pallets, and empty space remains between last ULD edge and End Stops or Lateral Guides, and no Partial Load Stops available against shift in this direction – all ULDs in row must be additionally restrained to A/C structure against possible shift in direction of empty space. *Refer to Part 8 GOCHM as well to have more information.*

If FWD or AFT restrains are missed or not erected FWD or AFT of ULD row, or between pallets in row (for example, FQA pallets are loaded to positions 33, 34, 41 in AFT Hold due to the W & B issues) – full tie-down of all pallets in row requires against the direction where FWD/AFT restrains are missed. *Refer to Part 8 GOCHM as well to have more information.*



Bulk Net and Door Net general view and components

To install or close Bulk Net or Door Net:

1. Connect the tiedown fittings to the anchor plates in the ceiling.
2. Connect the tiedown fittings to the anchor plates in the sidewall and the floor.
3. Connect the snap latches to the nets which attach to each other.
4. Tighten the net straps to increase the tension in the net straps.
5. Make sure there are no damages to the net straps, net fabric, tie-down fittings, and snap hooks. Snap hooks must keep the cargo net attached to the O-rings and D-rings.

To remove or open Bulk Net or Door Net:

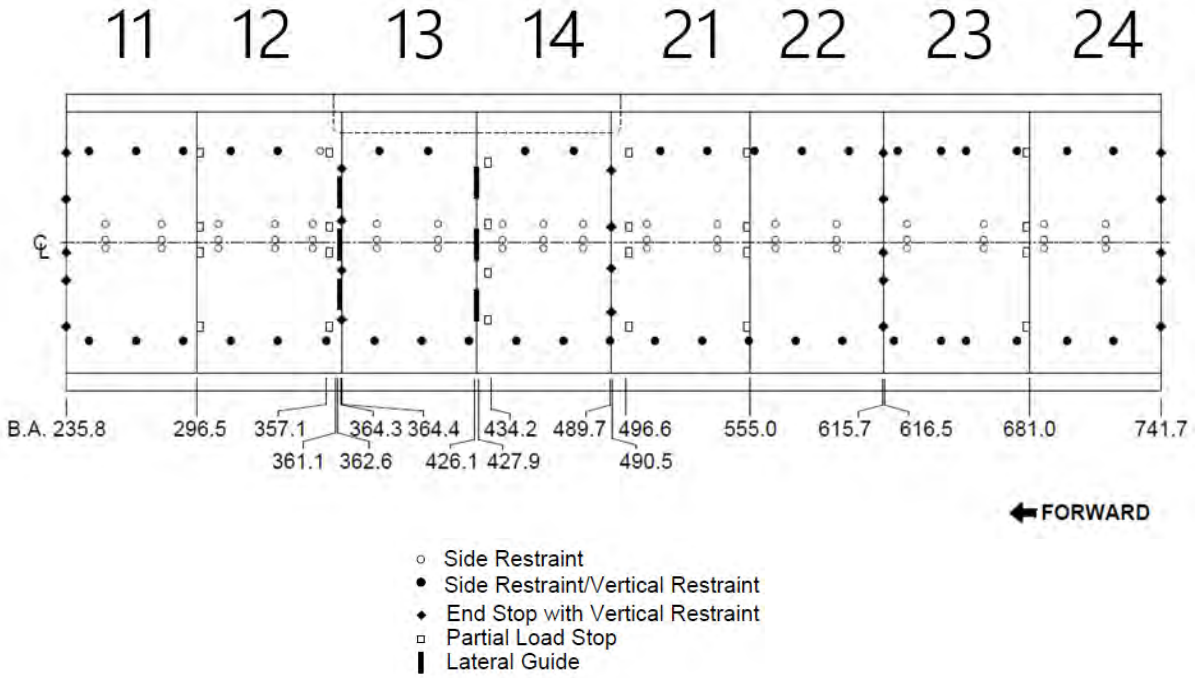
Perform steps 3, 4, 5 in back order. Full removal of bulk net is not required during standard loading/offloading operations.

NOTE: *all fittings of bulk and door nets must be attached to appropriate anchor plates, all latches must be closed and all net straps must be tightened all the time before departure, nevertheless is bulk section empty or not.*

FWD Low Deck Hold: restrains for ULD size “K”, “P”, “Q”

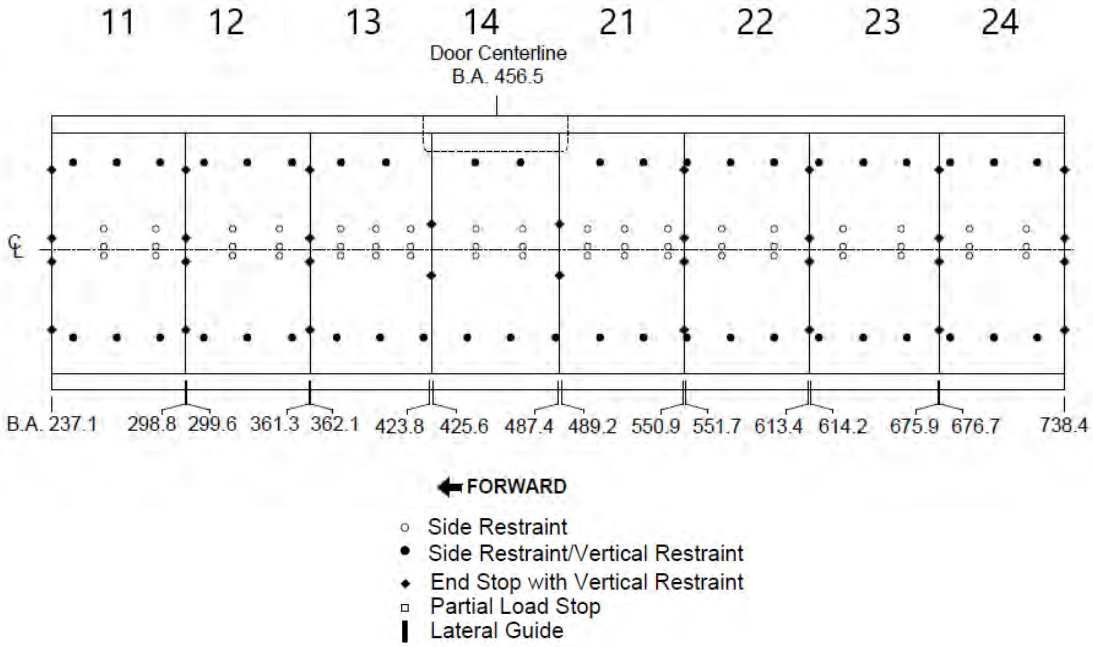
Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

Refer to ***Part 4 GOCHM*** to have information about ULD specifications.



Applicable for: UK67019, UK67020, UK67021

Refer to ***Part 4 GOCHM*** to have information about ULD specifications.



Recommended positions for ULD size Q (FQA pallets and substitutable ULDs) for loading of FWD Low Deck Hold

Applicable for: ALL

TOTAL QANTITY OF Q-SIZE ULD IN CARGO HOLD	RECOMMENDED POSITIONS	REQUIRED RESTRAINS ON EACH POSITION
1 *	13 or 14	FWD, AFT, Anti Roll-Out Stops
2 *	23 & 24 (by pair)	FWD and AFT
3 *	23 & 24 (by pair) or any other subst. pair of positions (11+12, 21+22, 23+24); 13 or 14 (single ULD)	13 and 14 - FWD, AFT, Anti Roll-Out Stops Remain positions - FWD and AFT
4 *	Any 2 pairs of positions: 11+12, 13+14, 21+22, 23+24	
5 *	Any 2 pairs of positions: 11+12, 21+22, 23+24; 13 or 14 (single ULD)	
6 *	Any 3 pairs of positions: 11+12, 13+14, 21+22, 23+24	
7 *	Any 3 pairs of positions: 11+12, 21+22, 23+24; 13 or 14 (single ULD)	
8 *	11 & 12 (by pair); 13 & 14 (by pair); 21 & 22 (by pair); 23 & 24 (by pair)	

**** NOTE:** upward tie-down to A/C structure requires for any FQA pallet on any position, if all necessity restrains are operative and erected. If necessity restrains are not operative or not erected, full tie-down against shift in appropriate direction (s) requires for 100% of ULD gross weight.*

***Example**: there are 3 FQA pallets planned for loading to FWD Hold of B767-300BCF.*
***Solution**: plan 2 ULDs to positions 23 and 24 and 3rd ULD to position 14. Positions 11P and 21P can be used to load ULDs 125x88'' or 125x96''.*

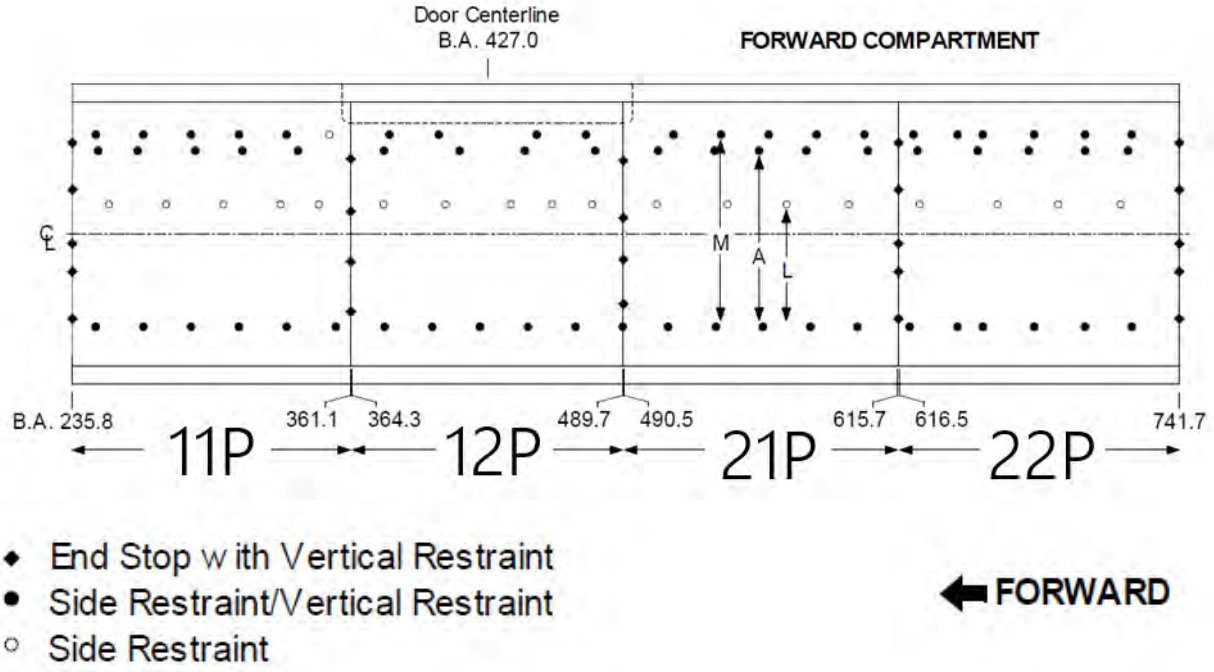
1. *Load 1st FQA pallets to position 24 and erect Partial Load Stops FWD of ULD than tie-down this ULD by 2 embraced straps against Upward shift (refer to **Part 8 GOCHM** for details).*
2. *Load 2nd FQA pallet to position 23 and erect Partial Load Stops FWD of ULD than tie-down this ULD by 2 embraced straps against Upward shift (refer to **Part 8 GOCHM** for details).*
3. *Load other planned ULD to positions 11P & 21P, if applicable, or remain it empty, but erect all locks in empty areas for safety. Erect locks between positions 11P & 12P and 12P & 21P, erect Lateral Guides between positions 13 and 14.*
4. *Load 3rd FQA pallet to position 14 and erect Anti-Roll-Out Stops in door area than tie-down this ULD by 2 embraced straps against Upward shift (refer to **Part 8 GOCHM** for details).*
5. *If FWD or AFT restrains are missed or inoperative on any of desired position(s), FQA pallet(s) loaded to this position (s) must be restrained by straps to A/C structure against shift in appropriate direction (where restrains are missed or inoperative).*

FWD Low Deck Hold: restrains for ULD size "A", "L", "M"

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

Not applicable for: UK67019, UK67020, UK67021 (due to the size of cargo door)

Refer to ***Part 4 GOCHM*** to have information about ULD specifications.



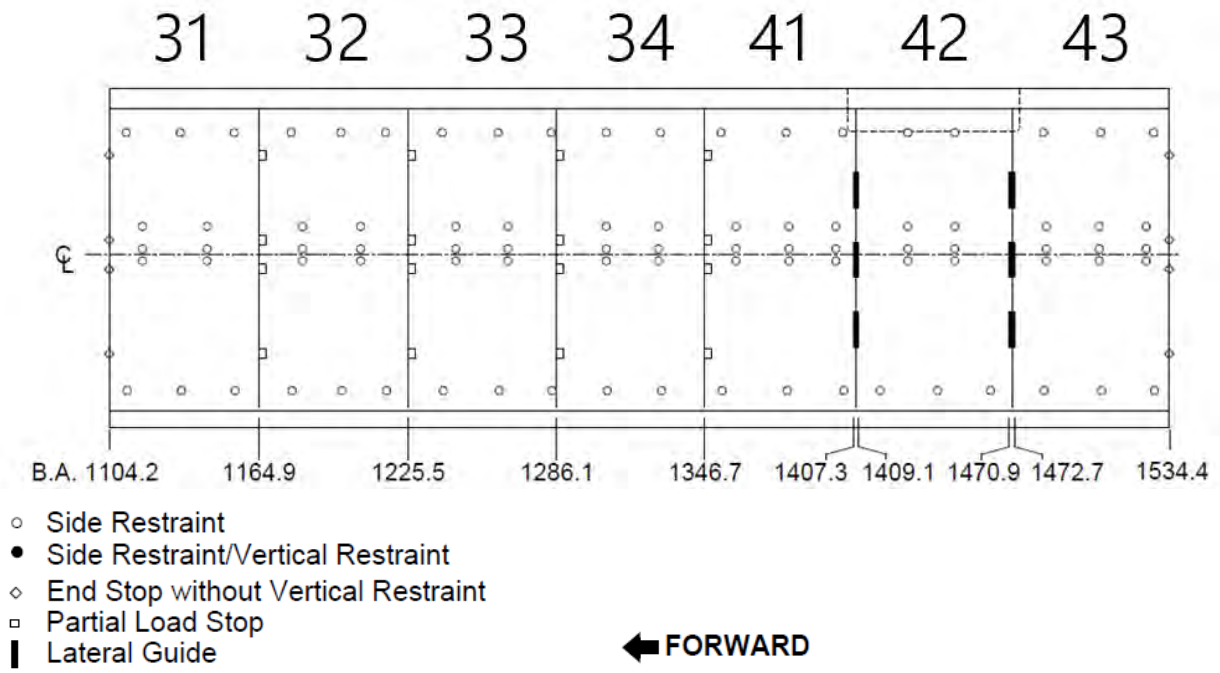
TOTAL QANTITY OF A-SIZE OR M-SIZE ULD	RECOMMENDED POSITIONS	REQUIRED RESTRAINS ON EACH POSITION
1 *	22P	Pallet Locks FWD of ULD *
2 *	22P + 21P	Pallet Locks FWD of ULD and between these 2 ULDs *
3 *	22P + 21P + 12P	Pallet Locks FWD and AFT of ULD + Lateral Guides between positions 11P and 12P + Anti-Roll-Out Stops in cargo door area *
4 *	11P + 12P + 21P + 22P	

***** ***NOTE:*** *before the loading of 125x88'' ULD to positions 11P, 21P, 22P loadmaster must erect and lock Side Guide Rail for 88'' ULDs on right side of cargo hold. Loading of 125x88" ULD without erected Side Guide Rail is prohibited. Refer to* ***Section 3.7.2 Part 3 GOCHM****.*

AFT Low Deck Hold: restrains for ULD size “K”, “P”, “Q”

Applicable for: ALL

Refer to ***Part 4 GOCHM*** to have information about ULD specifications.



Recommended positions for ULD size Q (FQA pallets and substitutable ULDs) in FWD Low Deck Hold

Applicable for: ALL

QANTITY OF Q-SIZE ULD	RECOMMENDED POSITIONS	REQUIRED RESTRAINS ON EACH POSITION
1 *	43	FWD, AFT, Anti Roll-Out Stops (for pos. 42)
2 *	43 & 42	
3 *	43, 42, 41	FWD, AFT, Anti Roll-Out Stops (for pos. 42)
4 *	43, 42, 41, 34	
5 *	43, 42, 41, 34, 33 Or 31, 32, 33, 34, 41	
6 *	31, 32, 33, 34, 41, 43	
7 *	31, 32, 33, 34, 41, 42, 43	

**** NOTE:** upward tie-down to A/C structure requires for any FQA pallet on any position, even if all necessity restrains are operative and erected. If necessity restrains are not operative or not erected, full tie-down against shift in appropriate direction (s) requires for 100% of ULD gross weight.*

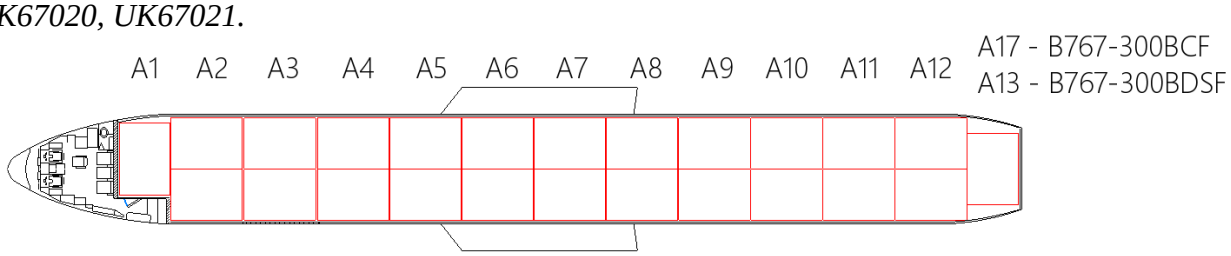
3.6.3 B767-300BCF (-BDSF): MAIN DECK COMPARTMENT CONFIGURATIONS AND RESTRICTIONS

- Main Deck compartment can accommodate ULDs of different size (108x88”, 125x96”, 125x88” and 196x96”) in different combinations. Intermix is possible.
- Main Deck compartment is equipped by pallet locks for different ULD combinations.
- There are no locks for LD1, LD2, LD3, LD8 containers in this compartment.
- There is limited amount of attachment points (APT) for cargo tie-down on main deck. The only allowed APT are seattracks on cargo floor, but it used to install and secure elements of cargo handling system (locks and rollers), so possibility to tie-down cargo to A/C structure is limited. ***Refer to Chapter 9 GOCHM to have more details.***
- Height of built ULDs is limited by 244cm. *Contact Airline Chief Loadmaster if needs to check load ability of cargoes higher 244cm.*
- Side Cargo Door has different height and width on B767-300BCF and -BDSF.
- There are no Power Drive Units (PDU) to move cargo on main deck surface. Loading, offloading and transfer of ULD requires manpower. Possibility to move heavy ULDs depends on its gross weight and correct cargo weight spreading on ULD surface.

Configuration "A" – 24 ULD 125x88''

Applicable for: ALL

- ***ATTENTION**: tail position is marked as "A17" instead "A13" on all aircraft except UK67015, UK67019, UK67020, UK67021.*
- ***ATTENTION**: tail position is marked as "A13" instead of "A17" on aircraft UK67015, UK67019, UK67020, UK67021.*

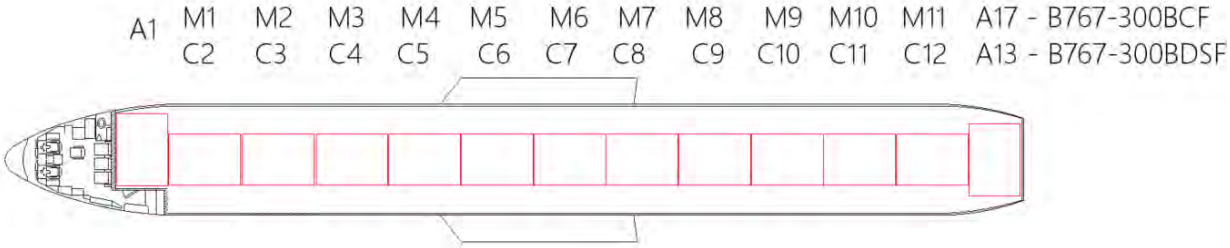


- **Positions A1 and A17 (A13)**: max ULD contour – Q1.
- **Positions A2-A12**: max ULD contour – Q2.

Configuration C («2 ULD 125x88'' + 11 longitudinal ULD 125x96''»)

Applicable for: ALL

- ***ATTENTION**: different position IDs are applicable for -BCF and -BDSF aircraft.*

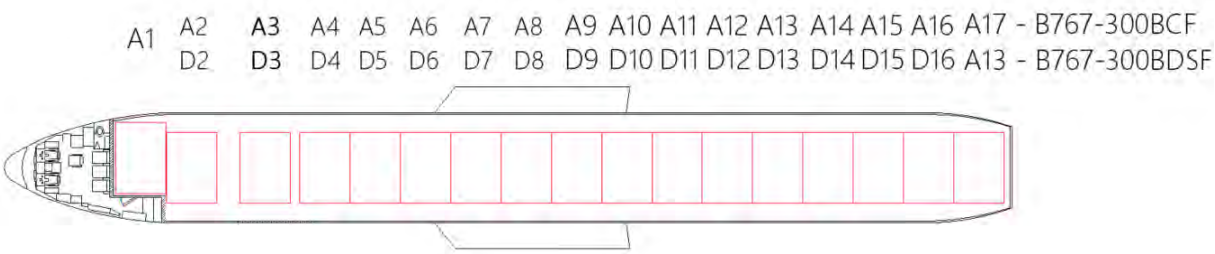


- **Positions A1 and A17**: max ULD contour – Q1.
- **Positions M1-M11 (C2-C12)**: max ULD contour – Q6 (also possible to load Q3 & PLD contoured ULD longitudinally).

Configuration D («17 lateral ULD 125x88''»)

Applicable for: ALL

- ***ATTENTION**: different position IDs are applicable for -BCF and -BDSF aircraft.*



- **Positions A1 and A17**: max ULD contour – Q1.
- **Positions A2-A16 (D2-D16)**: max ULD contour – Q3 (also possible to load PLD contoured ULD).

Configuration E («2 ULD 125x88'' + 14 lateral ULD 125x96'')

Applicable for: ALL

- ***ATTENTION**: different position IDs are applicable for -BCF and -BDSF aircraft.*

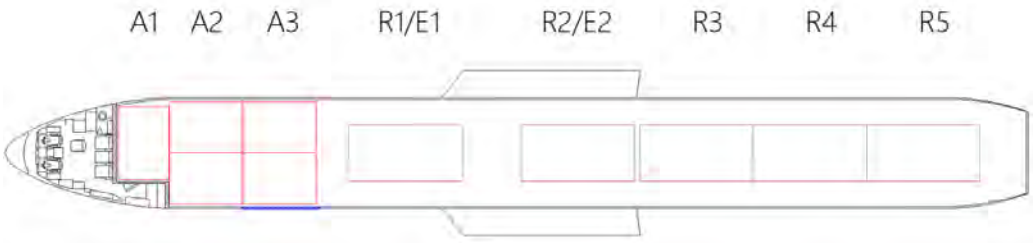
- **Positions A1 and A17 (A13)**: max ULD contour – Q1.
- **Positions M1-M14 (E2-E15)**: max ULD contour – Q3 (also allowed PLD or Q1 contoured ULD).

Configuration G («5 ULD 196x96'')

Applicable for: UK67009, UK67010, UK67017, UK67018

Not applicable for: UK67015, UK67019, UK67020, UK67021

- ***ATTENTION**: such loading plan is impossible on UK67015, UK67019, UK67020, UK67021 due to the lack of appropriate pallet locks. 100% of weight of any 16FT ULD must be restrained by straps to A/C structure – refer to **Part 8 GOCHM**.*
- ***ATTENTION**: positions A2 & A3 can be loaded by ULDs of appropriate contour once Configuration G is used on any B767-300BCF (refer to examples below; ULD and/or contour intermix is allowed).*
- ***ATTENTION**: position A17 is blocked and remains empty if 16FT ULD is loaded to position R5 (as it partially occupies tail position).*
- ***ATTENTION**: locks reposition requires before loading of 16FT ULDs to positions R3, R4, R5. Also locks reposition to standard configuration requires after offloading of mentioned 16FT ULDs. Refer to **Chapter 3.6.5 Part 3 GOCHM**. Operations for relocation of full set of locks takes up to 15 min.*



- **Positions A1**: max ULD contour – Q1.
- **Positions A2 & A3**: max ULD contour – .
- **Positions R1-R5**: max ULD contour – Q3 (also allowed PLD or Q1 contoured ULD).

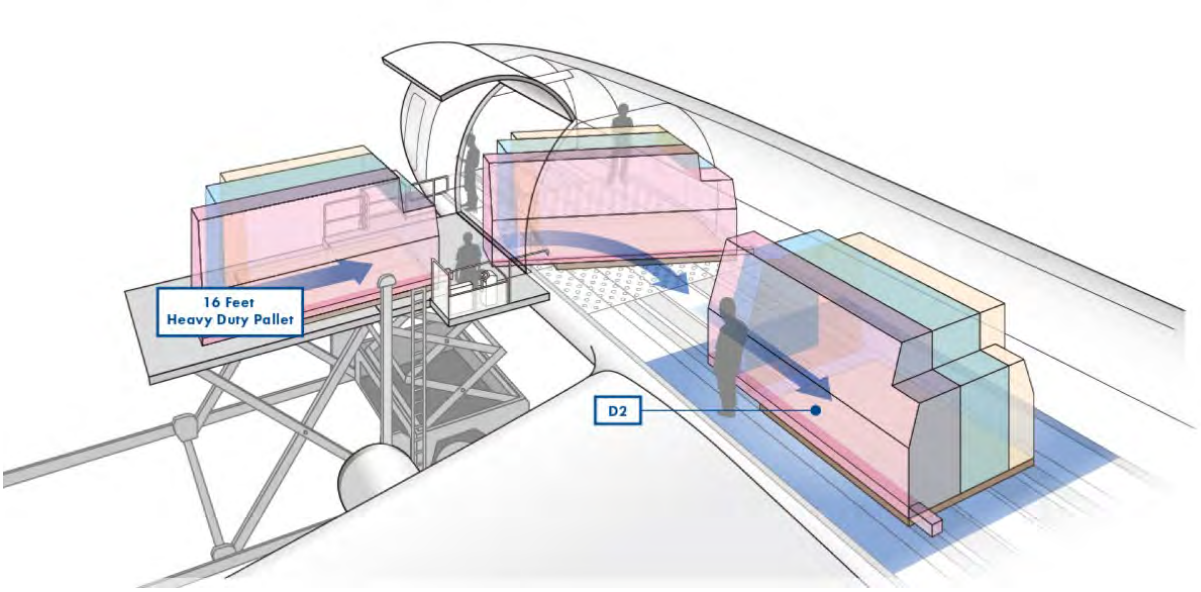
3.6.4 B767-300BCF (-BDSF): MAXIMUM SIZE CHART FOR SIDE CARGO DOOR

The following tables are applicable for packages loaded through the side cargo door.

Different tables are applicable for different aircraft. Refer to remarks below (above the appropriate tables).

The package size table above does not pertain to internal engine carriage. However, when loading an aircraft engine through the side cargo door, the full dimensions of the door shown above may be used when loading with care.

ULD rotation may be required for package loading & offloading exceeds dimensions 320x244x150cm.



Example of oversized cargo rotation during the loading

Applicable for: UK67009, UK67010, UK67017, UK67018

HEIGHT, cm ↓	WIDTH, cm ↓													
	25.4	50.8	76.2	101.6	127	152.4	177.8	203.2	228.6	254	279.4	304.8	330.2	335
	LENGTH, cm ↓													
261.62	627.38	541.02	485.14	436.88	393.7	353.06	299.72	203.2	203.2	203.2	203.2	203.2	203.2	
256.54	680.72	591.82	523.24	492.76	421.64	381	332.74	266.7	223.52	223.52	223.52	223.52	223.52	
251.46	883.92	767.08	678.18	607.06	551.18	505.46	467.36	416.56	345.44	241.3	241.3	241.3	241.3	
246.38	947.42	815.34	716.28	640	579.1	530.8	490.2	447	388.6	292.1	256.5	256.5	256.5	
241.3	1013.4	863.6	754.3	670.5	604.5	551.1	510.5	467.3	414	347.9	271.7	271.7	271.7	
236.22	1079.5	911.8	792.4	701	629.9	571.5	528.3	490.2	439.2	375.9	287	287	287	
228.6	1181.1	985.5	845.8	744.2	662.9	599.4	548.6	513	464.8	406.4	332.7	304.8	304.8	
215.9	1361.4	1112.5	942.3	817.88	721.36	647.7	589.2	543.5	502.9	452.1	386	332.7	332.7	
203.2	1557	1242	1033.7	886.4	777.2	690.8	624.8	571.5	530.8	482.6	421.6	355.6	355.6	
190.5	1170.3	1379.2	1130.3	960.1	833.1	736.6	660.4	599.4	553.7	508	452.1	381	375.9	360
177.8	1996.4	1518.9	1224.2	1028.7	883.9	777.2	693.4	624.8	576.5	530.8	474.9	403.8	393.7	384
165.1	2245.3	1663.7	1320.8	1094.7	937.2	817.8	726.4	652.7	596.9	551.1	497.8	429.2	408.9	404
152.4	2504.4	1805.8	1412.2	1160.7	982.9	850.9	754.3	675.6	619.7	566.4	510.5	439.4	421.6	412
139.7	2933.7	2019.3	1536.7	1242	1041.4	894	784.8	703.5	632.4	576.5	525.7	454.6	434.3	420
0-116.84	3210.5	2146.3	1610.3	1287.7	1071.8	916.9	800.1	711.2	637.5	579.1	533.4	459.7	449.5	427

Applicable for: UK67015, UK67019, UK67020, UK67021

HEIGHT, cm ▼	WIDTH, cm ▼												
	25,4	50,8	76,2	101,6	127	152,4	177,8	203,2	228,6	254	269,24	294,64	320,04
	LENGTH, cm ▼												
243,84	838,2	736,6	657,86	591,82	535,94	487,68	439,42	388,62	345,44	228,6	228,6	228,6	228,6
238,76	863,6	769,62	683,26	617,22	591,82	505,46	459,74	411,48	365,76	241,3	241,3	241,3	241,3
233,68	924,56	802,64	711,2	640,08	576,58	523,24	480,06	429,26	383,54	345,44	254	254	254
228,6	972,82	840,74	741,68	665,48	599,44	541,02	495,3	452,12	401,32	363,22	340,36	266,7	266,7
215,9	1115,06	947,42	822,96	728,98	655,32	591,82	538,48	492,76	449,58	406,4	381	342,9	297,18
203,2	1292,86	1074,42	919,48	805,18	716,28	647,7	584,2	533,4	490,22	447,04	421,64	383,54	330,2
190,5	1422,4	1163,32	985,52	858,52	759,46	680,72	614,68	558,8	510,54	472,44	447,04	396,24	345,44
177,8	1577,34	1264,92	1059,18	911,86	802,64	716,28	647,7	584,2	533,4	492,76	469,9	426,72	365,76
165,1	1760,22	1384,3	1143	975,36	850,9	754,38	680,72	614,68	558,8	510,54	487,68	452,12	381
152,4	1978,66	1521,46	1239,52	1043,94	901,7	795,02	713,74	645,16	584,2	530,86	505,46	467,36	401,32
139,7	2118,36	1602,74	1292,86	1082,04	932,18	820,42	731,52	662,94	596,9	543,56	515,62	474,98	408,94
127	2275,84	1694,18	1351,28	1122,68	965,2	845,82	751,84	678,18	599,44	556,26	525,78	480,06	419,1
114,3	2456,18	1795,78	1412,24	1170,94	1000,76	871,22	772,16	695,96	627,38	566,42	533,4	482,6	429,26
0-96.52	2682,24	1935,48	1529,08	1259,84	1051,56	911,86	789,94	713,74	637,54	574,04	541,02	492,76	441,96

3.6.5 B767-300BCF (-BDSF): 16FT ULD (R-SIZE) LOADING

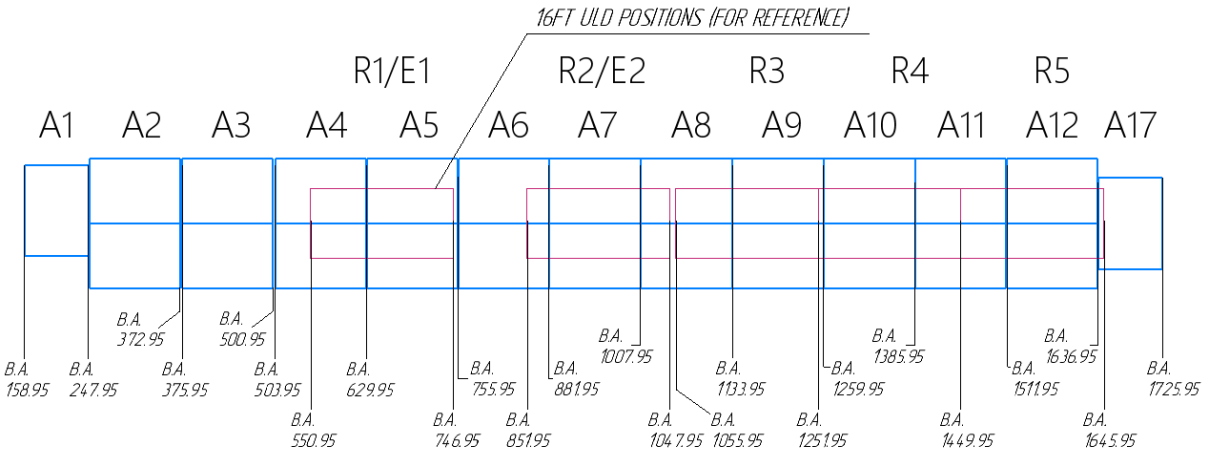
- Up to 5 R-size pallets (size 196x96'') can be loaded and secured by pallet locks onboard of B767-300BCF.
- Up to 5 R-size pallets (size 196x96'') can be loaded onboard of B767-300BDSF, but all of these ULDs must be secured by straps to A/C structure due to the lack of appropriate locks for this type of pallets onboard.
- Special engine pallet 188x96'' can be loaded to position R1(G) only on any B767-300BCF. There are no locks for this ULD type on B767-300BDSF.
- All 188'' or 196'' long pallets can be loaded only as longitudinal centerloads only on certain positions only on any B767-300BCF.
- 16FT Locks reposition on Main Deck requires for B767-300BCF (UK67009, UK67010, UK67017, UK67018) before the ULD loading.
- **B767-300BCF only**: ULD coordinates and percentage of ULD weight per standard position are shown in ***Table 3.1A***. It must be observed in case of manual loadplanning. It computes automatically in case of DCS usage. Refer to layout below to compare position of 16FT ULD with borders of standard positions (configuration "A").
- Percentage of ULD weight per each pair of standard positions must be calculated for each pair of standard positions and added to loadplan (for example, if ULD has weight 10000 kg and placed on position R2/E2, load for 1st pair of standard positions is equal to 750kg per position, load for 2nd pair of standard positions is equal to 3200kg per position, load for 3rd pair of standard positions is equal to 1050kg per position).

Table 3.1A

R-size ULDs weight distribution on Main Deck of B767-300BCF (UK67009, UK67010, UK67017, UK67018)

ULD ID	ULD location FWD–AFT edges, (B.A.)	Positions ID	ULD weight distribution			Distance to standard position's border (cm / inches)	
			1st pair of positions	2nd pair of positions	3rd pair of positions	FWD	AFT
R1	**550.95 – 746.95**	A4-A5	39%	61%	-	124,46 cm 49 inches	16,6 cm 42.16
R2	**851.95 – 1047.95**	A6-A7-A8	15%	64%	21%	76,2 cm 30 inches	99,7 cm 39,25
R3 *(Note 1)*	**1055.95 – 1251.95**	A8-A9	40%	60%	-	121 cm 47,6 inches	17 cm 6.6 inches
R4 *(Note 1)*	**1252.95 – 1448.95**	A9-10-A11	4%	64%	32%	300 cm 118,11 inches	158,08 cm 62,23
R5 *(Note 1)*	**1449.95 – 1645.95**	A11-12-A13	32%	64%	4%	158,92 cm 62,5 inches	206,16 cm 81,16

***Note 1**: 4 pallet locks must be replaced before the loading for each of these ULDs. Refer to appropriate instruction below.*


16FT ULD POSITIONS (FOR REFERENCE)
R1/E1
R2/E2
R3
R4
R5
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A17
B.A. 158.95
B.A. 247.95
B.A. 372.95
B.A. 375.95
B.A. 500.95
B.A. 503.95
B.A. 550.95
B.A. 629.95
B.A. 746.95
B.A. 755.95
B.A. 851.95
B.A. 881.95
B.A. 1007.95
B.A. 1047.95
B.A. 1055.95
B.A. 1133.95
B.A. 1251.95
B.A. 1259.95
B.A. 1385.95
B.A. 1449.95
B.A. 1511.95
B.A. 1636.95
B.A. 1645.95
B.A. 1725.95

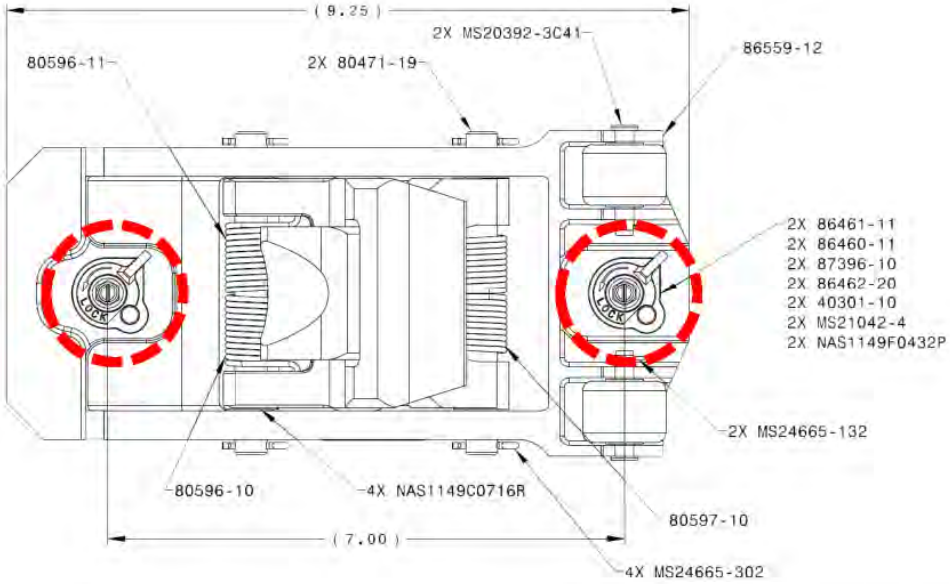
Applicable for: UK67009, UK67010, UK67017, UK67018

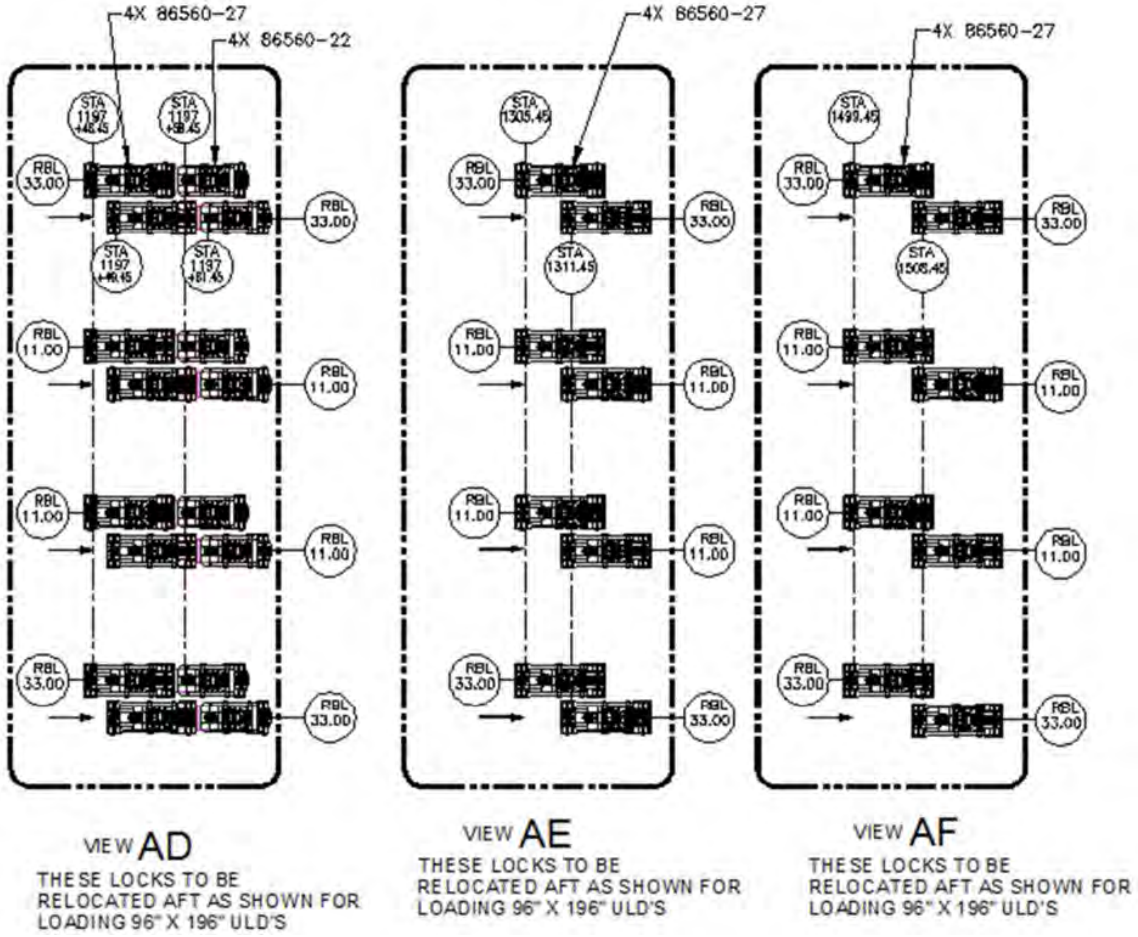
For 16FT ULD locks removal:

1. Turn switches manually (with no instruments) clockwise;
2. Remove lock from the seattrack.

For 16FT ULD locks installation:

1. Install lock to the seattrack.
2. Turn switches manually (with no instruments) contraclockwise.





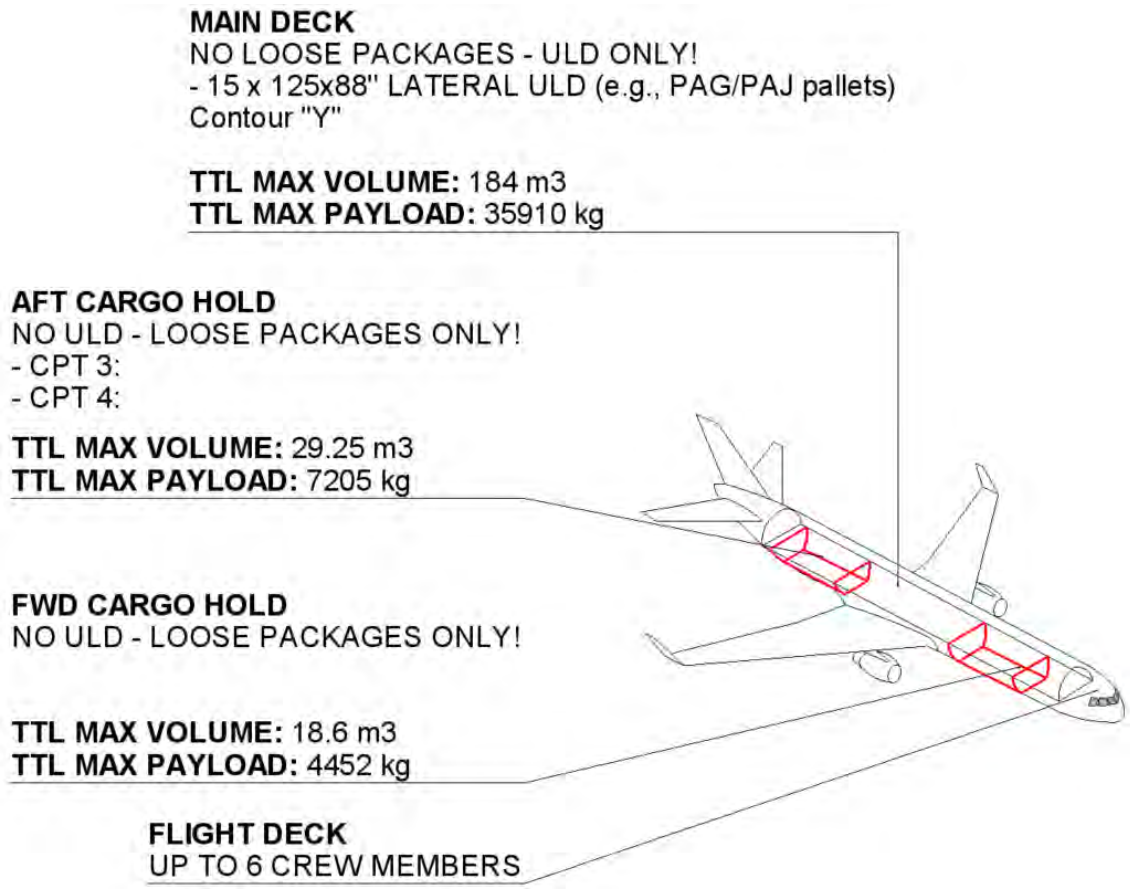
3.6.6 B757-200PCF (-BDSF): GENERAL RESTRICTIONS

Applicable for: UK75001

- B757-200PCF has 3 cargo compartments: Main Deck compartment, Aft Cargo Compartment, Forward Cargo Compartment.
- Main Deck compartment can accommodate only laterally loaded ULDs size A (125x88”).
- Main Deck compartment of *UK75001* is equipped only by pallet locks for ULD 125x88”.
- There are no locks for LD1, LD2, LD3, LD8 containers, B- and M-size ULDs in this compartment.
- Tie-down of any items to A/C floors is prohibited.
- Height of built pallets planned for loading to Main Deck is limited by 203cm.
- Height of containers planned for loading to Main Deck is limited by 208cm.
- There are no Power Drive Units (PDU) to move cargo on main deck surface. Loading, offloading and transfer of ULD requires manpower. Possibility to move heavy ULDs depends on its gross weight and correct cargo weight spreading on ULD surface.
- Low Deck holds are not equipped by cargo handling system. All LD compartments must be loaded manually by loose items only.

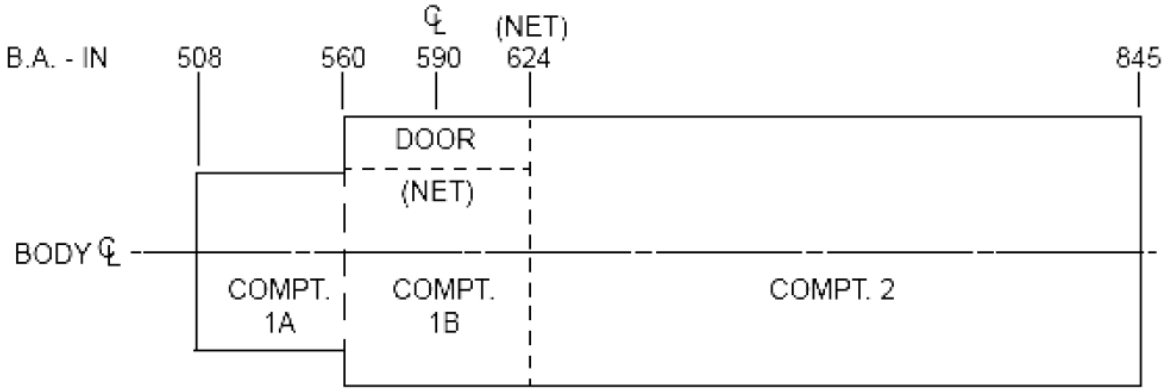
Calculations below are applicable, if:

- Main Deck has been loaded by full contoured ULD (Y-contour).
- Full volume of Low Deck Holds is used, except space 5cm from ceiling.
- No FKT and crew baggage have been loaded to LD Holds.
- All cargo nets in LD Holds are closed and tightened.



3.6.7 B757-200PCF: LOW DECK HOLDS CONFIGURATIONS AND RESTRICTIONS

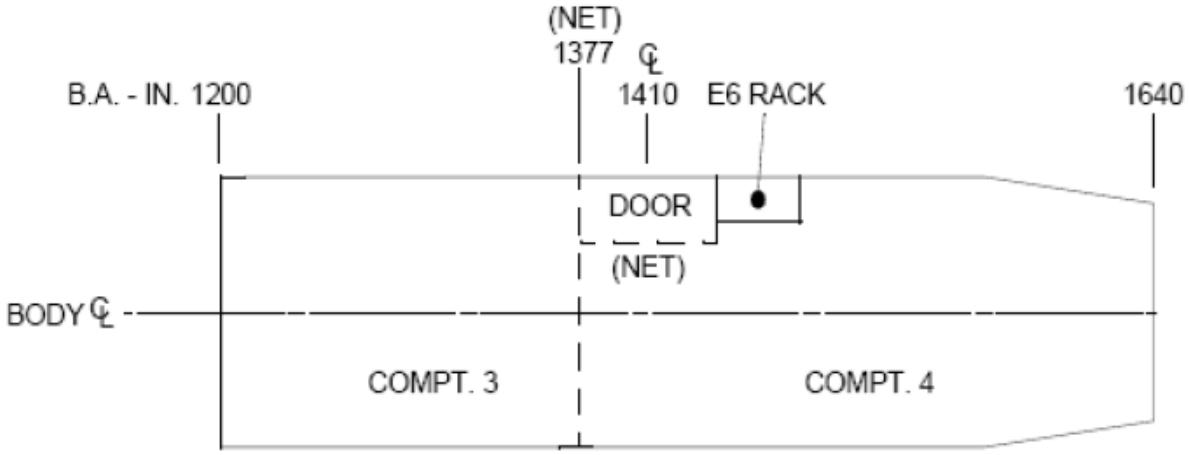
FWD LOW DECK CARGO HOLD



COMPARTMENT	"WATER" VOLUME (m^3)	MAX WEIGHT (kg)
1A	1.99	1085
1B	2.94	1300
2	13.95	4400

***NOTE**: realistic cargo volume depends on packages actual sizes and weights. Normally it can be counted as 70% of "water" volume, but for specific cargoes it may be less or more 70%.*

AFT LOW DECK CARGO HOLD



COMPARTMENT	"WATER" VOLUME (m^3)	MAX WEIGHT (kg)
3	14.24	3600
4	16.76	5400

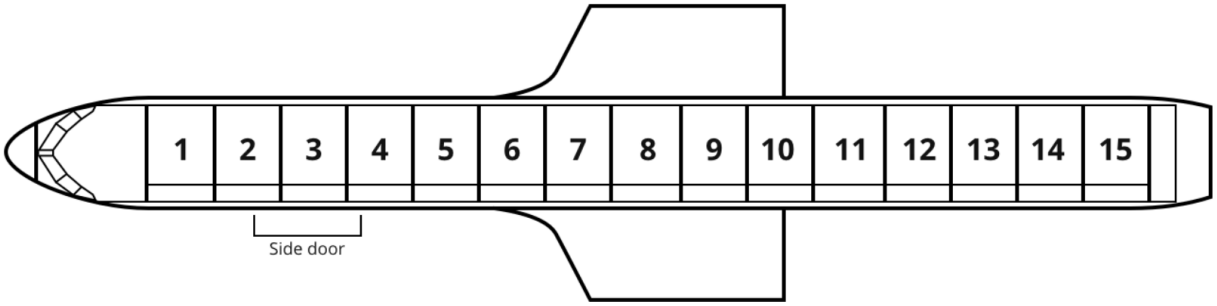
***NOTE:** realistic cargo volume depends on packages actual sizes and weights. Normally it can be counted as 70% of "water" volume, but for specific cargoes it may be less or more 70%.*

3.6.8 B757-200PCF: MAIN DECK COMPARTMENT CONFIGURATIONS AND RESTRICTIONS

Applicable to: UK75001

There is only 1 configuration for Main Deck: 15 lateral ULD 125x88’’.

Max allowable contour is Y. *Refer to **Part 4 GOCHM** for details.*



3.6.9 B757-200PCF: MAXIMUM SIZE CHART FOR SIDE CARGO DOOR

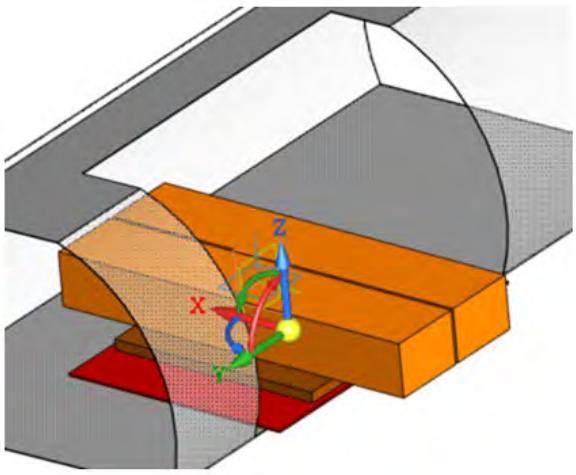
Applicable for: UK75001

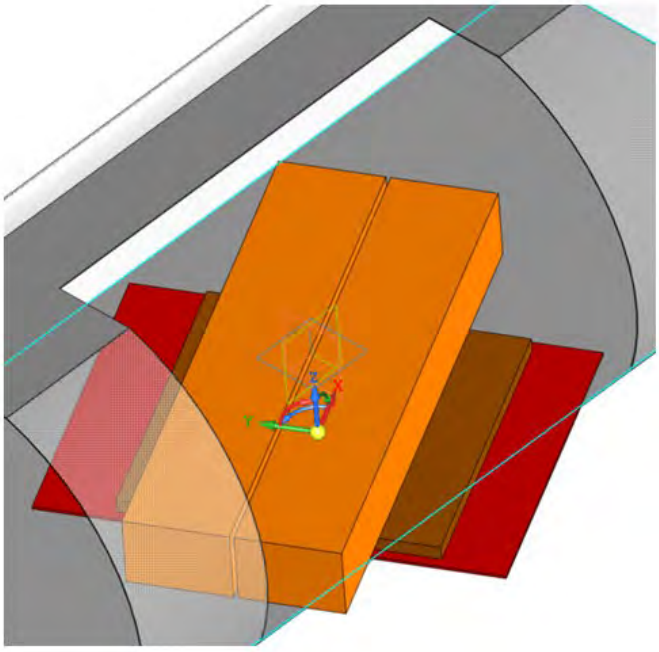
The following table is applicable for packages loaded through the side cargo door.

The package size table above does not applicable to evaluate loading possibility of package with complicated configuration. Additional evaluation may be required in such case. *Refer to* ***Section 6.4 Part 6 GOCHM*** *to have more information.*

ULD rotation may be required for package loading & offloading exceeds dimensions of A-size ULD (125x88’’). Refer to pictures below for reference (125x88’’ ULD with overhanging items 360cm long is planned for loading).

HEIGHT, cm ▼	WIDTH, cm ▼												
	12.7	25.4	50.8	76.2	101.6	127	152.4	177.8	203.2	223.52	254	274.32	317.5
	LENGTH, cm ▼												
12.7	1651	1651	1651	1270	990.6	812.8	685.8	609.6	533.4	508	457.2	317.5	317.5
25.4	1651	1651	1651	1270	990.6	812.8	685.8	609.6	533.4	508	457.2	317.5	317.5
50.8	1651	1651	1651	1219.2	965.2	787.4	660.4	584.2	508	482.6	431.8	317.5	317.5
76.2	1651	1651	1651	1219.2	965.2	787.4	660.4	584.2	508	482.6	431.8	317.5	317.5
101.6	1651	1651	1422.4	1092.2	889	736.6	635	558.8	482.6	457.2	406.4	317.5	317.5
127	1651	1651	1422.4	1092.2	889	736.6	635	558.8	482.6	457.2	406.4	317.5	317.5
152.4	1651	1651	1168.4	914.4	762	635	558.8	508	431.8	406.4	355.6	317.5	317.5
177.8	1651	1651	939.8	762	635	558.8	482.6	431.8	**X**	**X**	**X**	**X**	**X**
203.2	1651	1651	736.6	609.6	508	457.2	406.4	**X**	**X**	**X**	**X**	**X**	**X**





3.7 CARGO HANDLING AND RESTRAN SYSTEM (CHS)

3.7.1 GENERAL INFORMATION ABOUT CHS

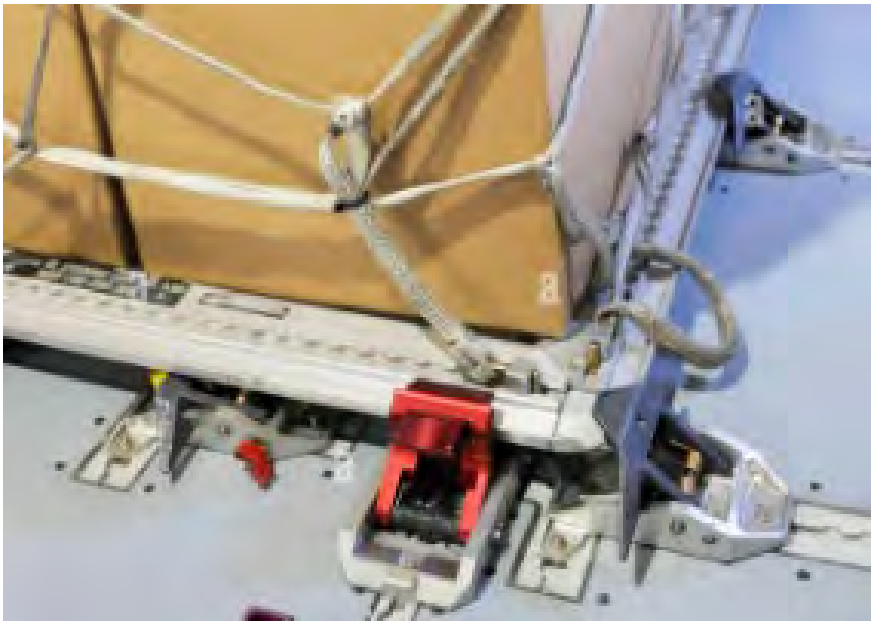
B767-300BCF (-BDSF), B757-200PCF

Cargo handling system (shortly abbreviated as CHS) contains rollers, guides, different retractable locks and partial load stops, allows to move and secure ULD. Most locks and guides in Low Deck Holds are manually operated, except some specific elements in Low Deck Holds. Both Low Deck Holds (except Bulk Section) are equipped by power drive units (electric-motor-driven wheels on cargo floor) which allows to move ULD inside the cargo hold, load and unload. These Power Drive Units (shortly named PDU) are controlled from outer control panel located outside of cargo holds.

Moving, loading and offloading of ULDs on Main Deck can be done only manually.

To secure the ULD each lock or element of cargo restrain system (e.g., end lock, side guide, center guide) must block appropriate side of ULD, and its upper part (e.g., movable upper flag) must cover ULD perimeter as shown on pictures below.

Loading restrictions in case of missed or damaged equipment are described separately for each aircraft type in ***Section 3.9 Part 3 GOCHM.***

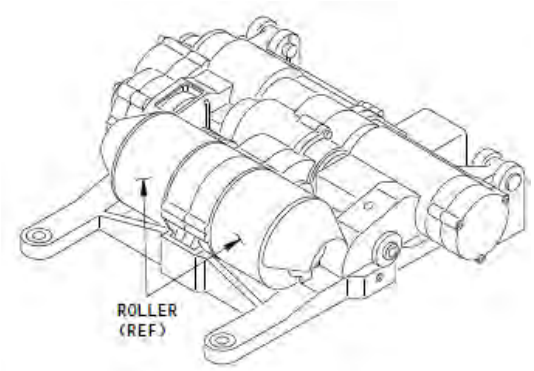


EXAMPLES OF APPROPRIATELY RAISED LOCKS AROUND THE LOADED ULD

3.7.2 B767-300BCF (-BDSF) - LOW DECK CARGO LOADING AND RESTRAIN SYSTEM

Low Deck Cargo Holds (Forward and Aft) are equipped by Cargo Handling System (CHS) includes:

1. Pallet locks
2. End stops
3. Restraints
4. Centerline guides
5. Roller trays
6. Ball mats
7. Outboard rails (side guides);
8. Power Drive Units.



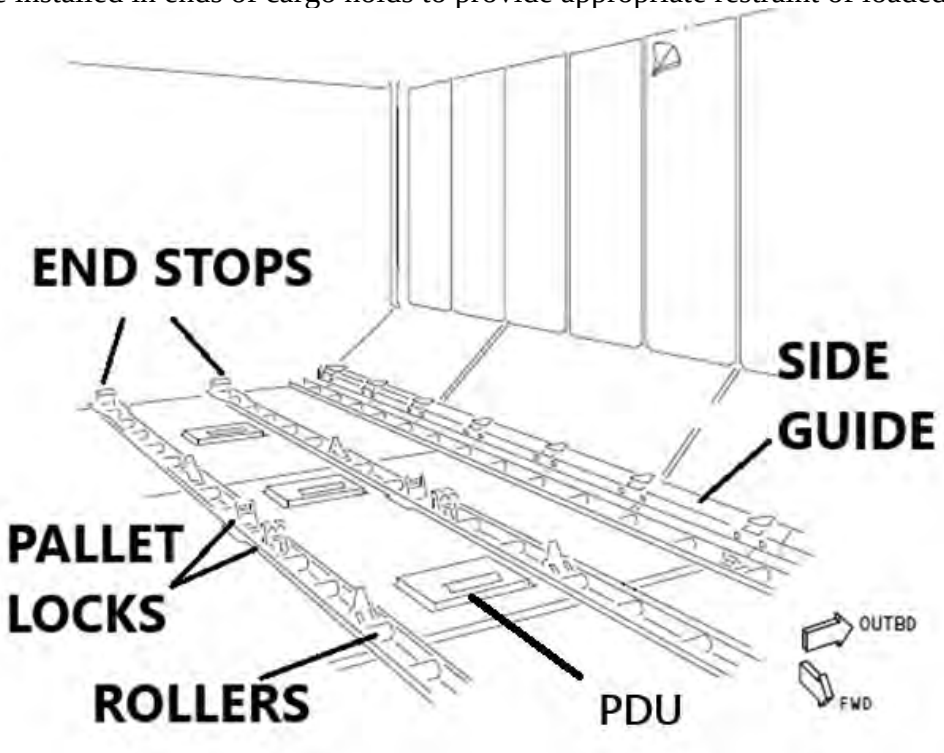
POWER DRIVE UNIT

Power Drive Units are installed on Low Deck of all "My Freighter"'s B767-300BCF (-BDSF) except Bulk section (designed for loading of loose loads). If system is deactivated, ULDs can be loaded, offloaded and moved inside the cargo hold manually (extra manpower requires).

Pallet locks are installed in manner allows to secure different types of pallets in different variants (refer to ***Part 3.6.1 Chapter 3 GOCHM*** to have more information about possible ULD configurations).

Side Guides are installed on left and right sides of Low Deck Cargo Holds to provide restrain and safe movement of loaded ULDs.

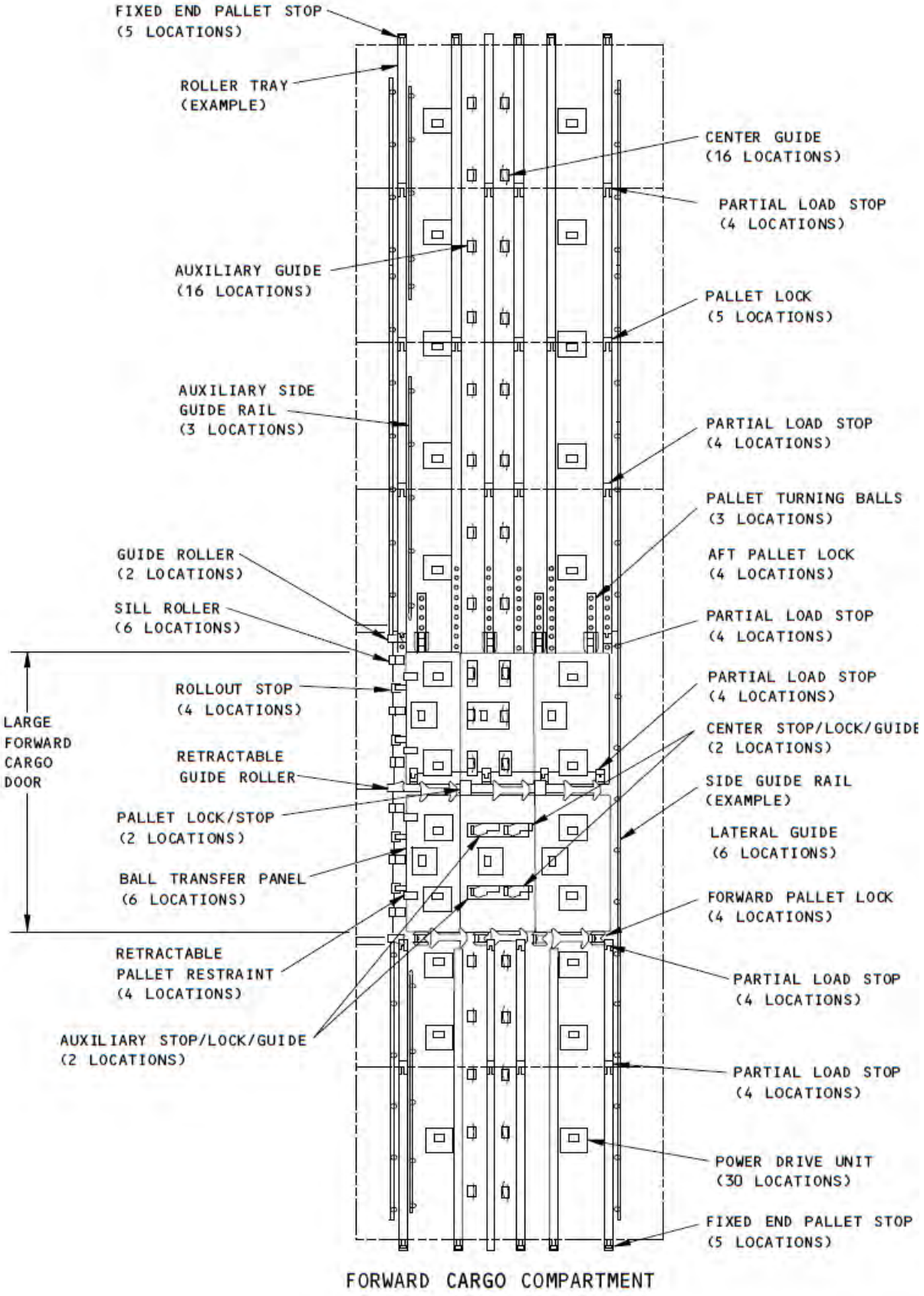
End Stops are installed in ends of cargo holds to provide appropriate restraint of loaded ULDs.



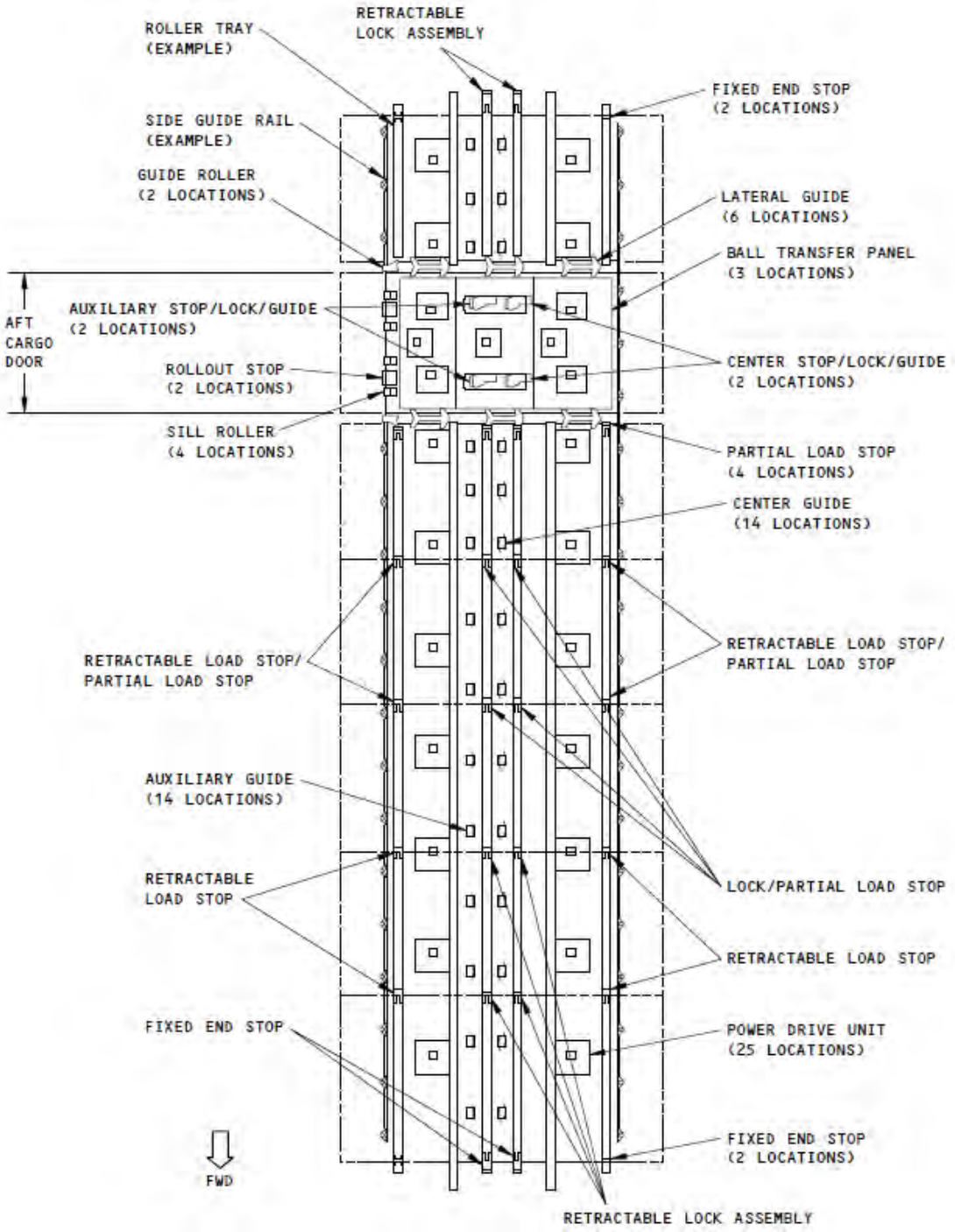
General layout of elements of Cargo Handling System is shown below – separately for FWD and AFT Holds.

LAYOUT OF CARGO HANDLING SYSTEM IN FORWARD LOW DECK HOLD

Pallet locks for ULD 125x96'' & 125x88'' are not available on UK67019



LAYOUT OF CARGO HANDLING SYSTEM IN AFT LOW DECK HOLD



PALLET LOCKS

- Pallet locks provide Forward, Aft & Upward restrain for ULDs loaded to cargo holds.
- Additional side locks are available on right side of Forward Low Deck Hold surface (position 12P) to provide Side & Upward restrain for 125x88” ULDs (as it loaded with shift to left side of aircraft).
- Different types of locks are used in FWD Low Deck Hold (refer to descriptions and instructions below).

PALLET LOCKS FOR 88’’ & 96’’ WIDE ULDS BETWEEN POSITIONS 11P & 12P (FORWARD LOW DECK HOLD ONLY)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

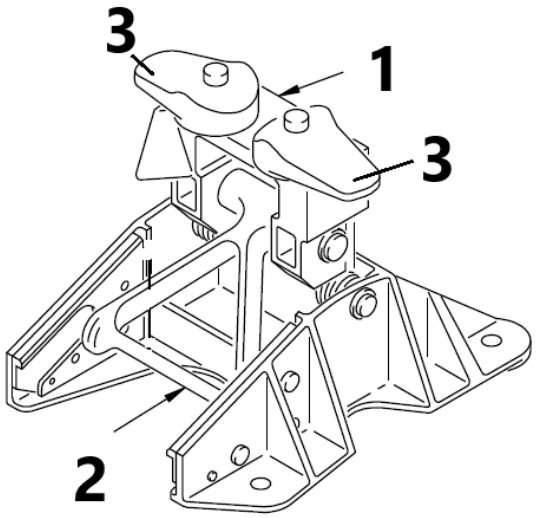
- Secures 125x88’’ or 125x96’’ ULD, or LD1/LD2/LD3/LD4/LD8 containers, or ULD size “K”, “L”, “Q” on positions 11P and 12P against shifts: against AFT if ULD (s) are loaded to position 11P; against FWD if ULD (s) are loaded to position 12P.
- Must be raised if positions 11P and/or 12P are occupied by any type of ULD mentioned above, or any other position(s) in cargo hold are occupied by any type of ULD.

To raise Pallet Lock:

1. Rotate movable part of the lock (1) until the locked in the raised position by yoke (2).
2. Manually make sure the lock is locked in raised position. *Upper “lips” (3) must be oriented along the aircraft centerline (as shown) and be above the ULD surface to secure ULD properly against Upward shift.*

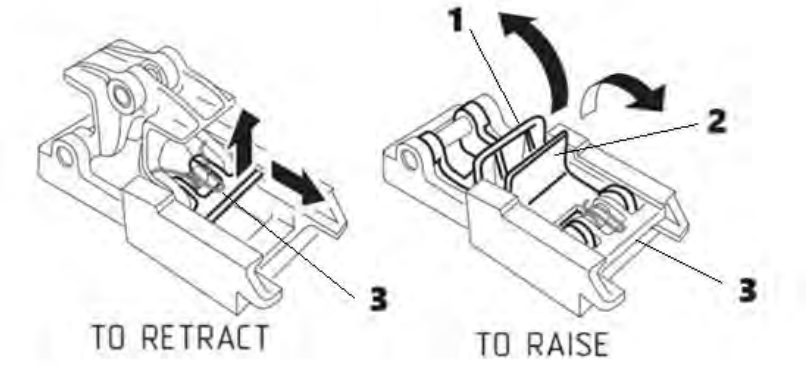
To retract Pallet Lock:

1. Move yoke (2) up (if needs, rotate lock (1) a bit to the left side of aircraft to relieve the load to yoke).
2. Manually rotate lock and put it down into retracted position. *Upper “lips” (3) must be oriented along the aircraft centerline (as shown) and located lower of bottom ULD surface. If needs, rotate “lips” (3) manually to correct position to avoid ULD and lock damage during loading or offloading.*
3. Manually make sure the lock is retracted and no e overlaps above lock frame surface.



PALLET LOCKS FOR -88'' & -96'' WIDE ULDS BETWEEN POSITIONS 12P & 21P (FORWARD LOW DECK HOLD ONLY)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018



To raise Pallet Lock:

1. Move movable parts of lock (1 & 2) up.
2. Push movable parts to each other until locked.
3. Manually make sure the lock is locked in raised position. *Fixation plank (3) must secure lock against possible collapsing.*

To retract Pallet Lock:

1. Move fixing plank (3) up.
2. Pull fixing plank to you and collapse lock down.
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.

PALLET LOCKS FOR 88'' & 96'' WIDE ULDS BETWEEN POSITIONS 21P & 22P (FORWARD LOW DECK HOLD ONLY)

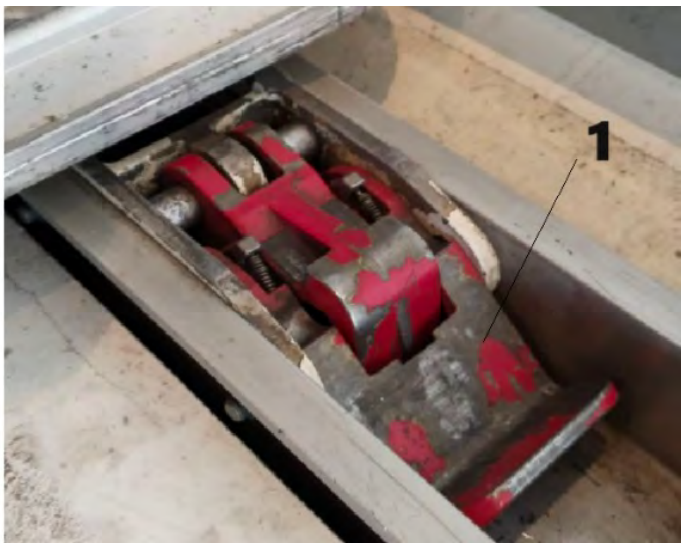
Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

To raise Pallet Lock:

1. Move lock (1) up and rotate until it locked.
2. Manually make sure the lock is locked in raised position.

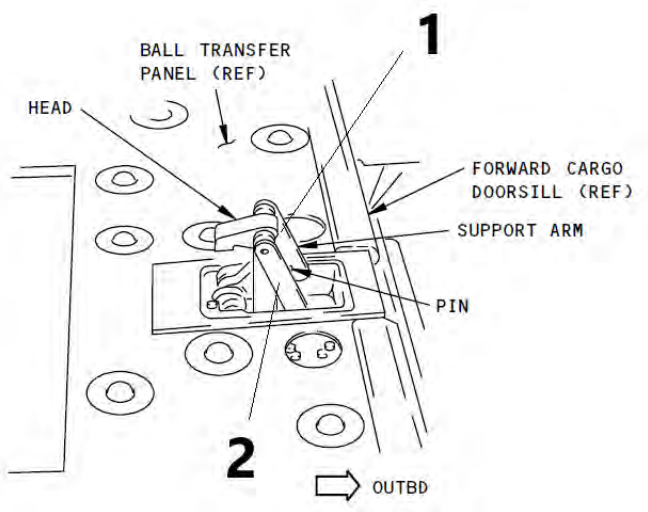
To retract Pallet Lock:

1. Press to fixing plank (3).
2. Rotate movable part (2) and put it down together with lock (1).
3. Manually make sure the whole lock is retracted and not overlaps above lock frame surface.



SIDE PALLET LOCKS FOR 88'' WIDE ULDS ON POSITION 12P (FORWARD LOW DECK HOLD ONLY)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018



To raise Pallet Lock:

1. Move lock (1) up.
2. Manually make sure it is locked in raised position. *Stop plate (2) must secure raised lock against possible folding.*

To retract Pallet Lock:

1. Press to Stop Plate (2).
2. Fold lock down into retracted position. Manually make sure it is retracted and not overlap above deck surface.

SIDE GUIDE RAILS FOR 88'' WIDE ULDS ON POSITIONS 11P, 21P, 22P (FORWARD LOW DECK HOLD ONLY)

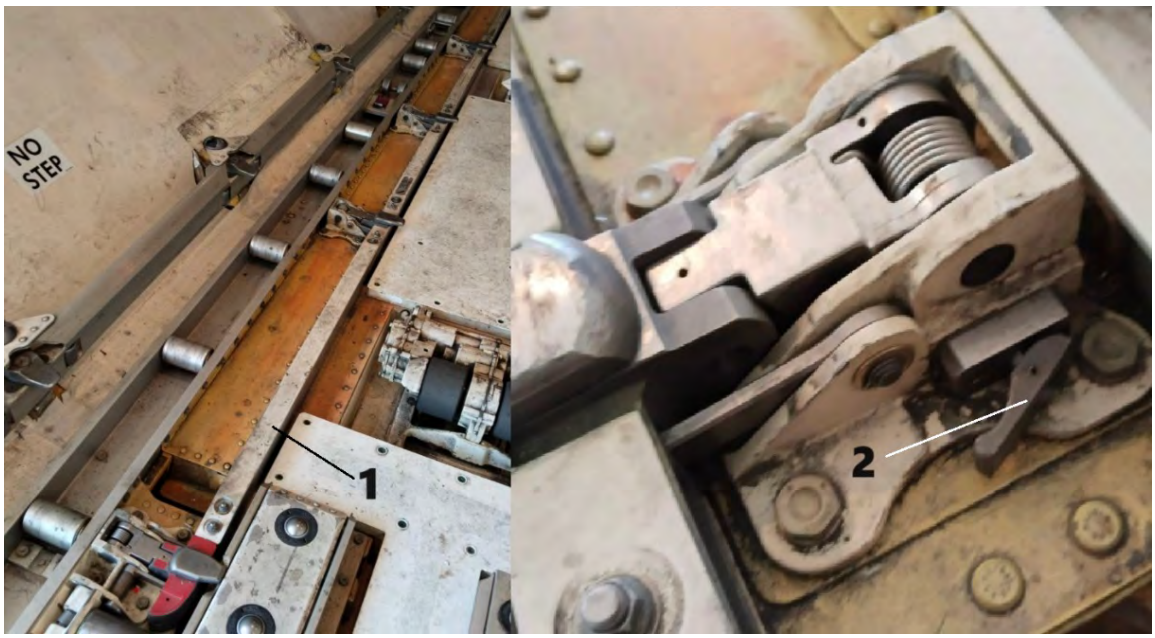
Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

To raise Side Guide Rail:

1. Press 2 triggers (2) and pull rail up until locked in upper position. *URGENT – it must be done before the ULD loading.*
2. Manually make sure it is locked in raised position.

To retract Side Guide Rail:

1. Press 2 triggers (2) and pull rail down.
2. Manually make sure it is locked in retracted position.



CENTER GUIDES FOR LD3 CONTAINERS (FORWARD AND AFT LOW DECK HOLDS) LOCATED ON RIGHT SIDE OF AIRCRAFT LOW DECK

Applicable for: ALL

To raise center guides in cargo door area (must be done after the ULD loading):

1. Move thumbler CENTER GUIDES on outside control panel into position LD3.
2. Raise locks manually, if system is inoperable, and make sure if locks are secured into raised position.

To retract center guides in cargo door area (must be done before the ULD offloading):

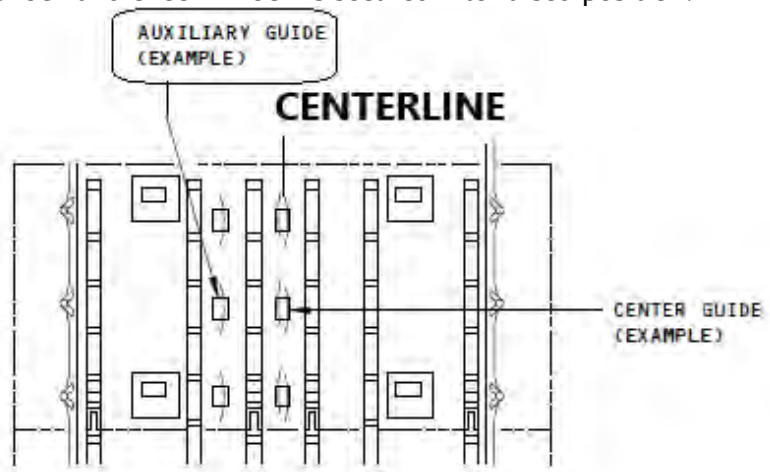
1. Move thumbler CENTER GUIDES on outside control panel into position ALL DN.
2. Retract locks manually, if system is inoperable, and make sure if locks are secured into retracted position before the ULD loading. To retract center guides manually – press to lock until it locked in down position.

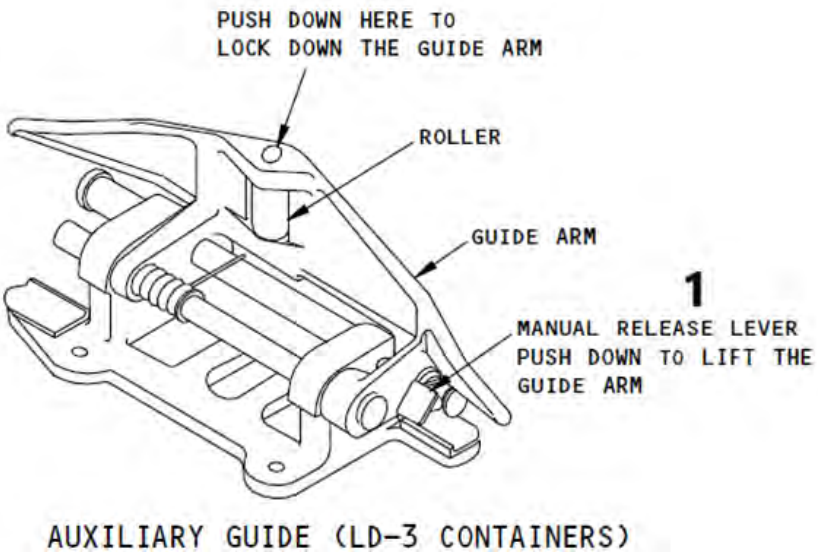
To raise center guides out of cargo door area (must be done before the ULD loading):

1. Hold lock by hand and press manual release lever (1).
2. Raise lock and check if lock is secured into raised position.

To retract center guides out of cargo door area (must be done after the ULD offloading):

1. Hold lock by hand and press manual release lever (1).
2. Raise lock and check if lock is secured into raised position.





CENTER GUIDES FOR LD2 CONTAINERS (FORWARD AND AFT LOW DECK HOLDS)

Applicable for: ALL

To raise center guides in cargo door area (must be done after the ULD loading):

1. Move thumbler CENTER GUIDES on outside control panel into position LD3.
2. Raise locks manually, if system is inoperable, and make sure if locks are secured into raised position.

To retract center guides in cargo door area (must be done before the ULD offloading):

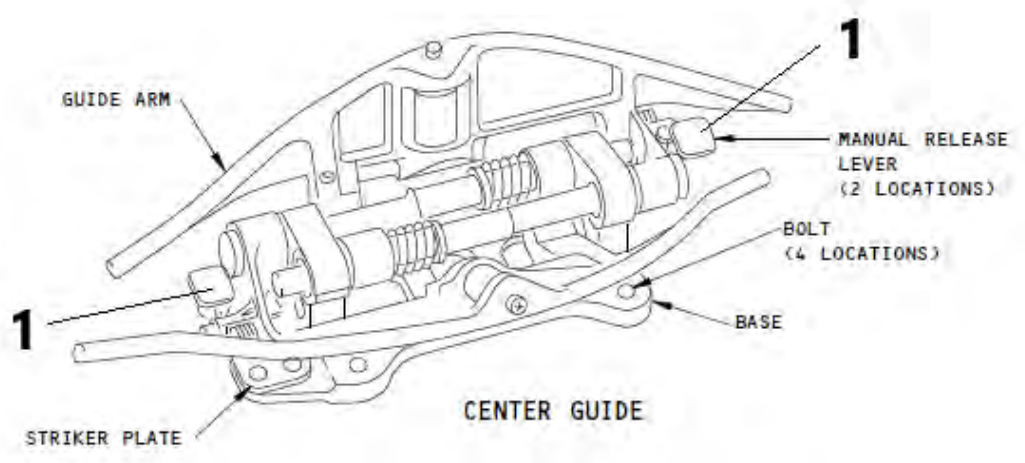
1. Move thumbler CENTER GUIDES on outside control panel into position ALL DN.
2. Retract locks manually, if system is inoperable, and make sure if locks are secured into retracted position before the ULD loading. To retract center guides manually – press to lock until it locked in down position.

To raise center guides out of cargo door area (must be done before the ULD loading):

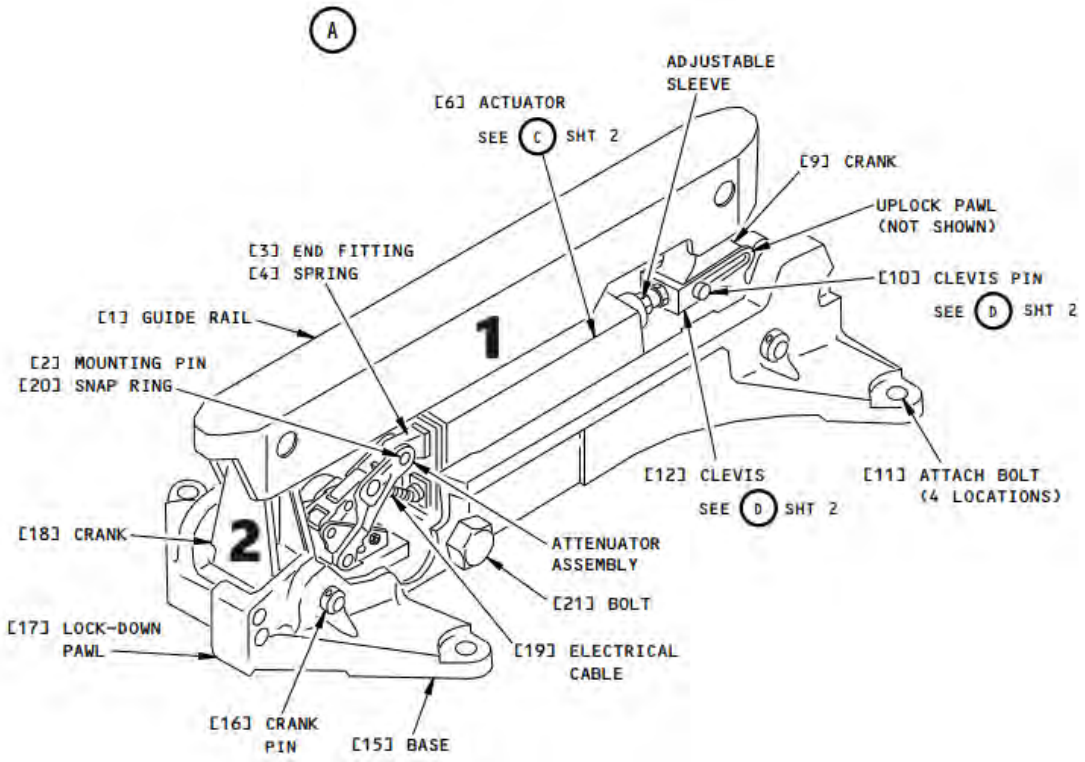
1. Hold lock by hand and press manual release lever (1).
2. Raise lock and check if lock is secured into raised position.

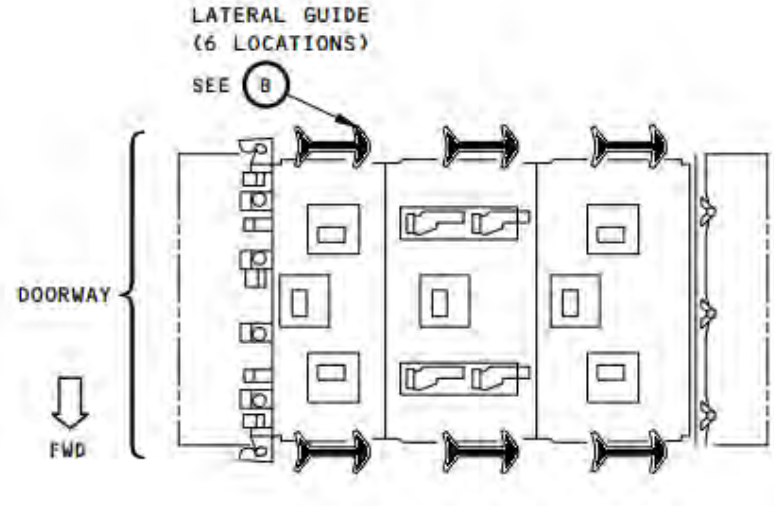
To retract center guides out of cargo door area (must be done after the ULD offloading):

1. Hold lock by hand and press manual release lever (1).
2. Raise lock and check if lock is secured into raised position.



RETRACTABLE GUIDES IN DOOR AREA (FORWARD AND AFT LOW DECK HOLDS)
Applicable for: ALL





In normal conditions retractable guides are raised and retracted automatically during the loading and offloading operations (depends on ULD movement direction controlled by joystick on outer control panel).

If guides are stacked into any position, it can be operated manually.

To raise retractable guides manually:

1. Press guide rail (1) down.
2. Rotate crank (2) – guide body will raise automatically.

To retract these guides manually:

1. Press guide rail (1) down until it locked.
2. Rotate crank (2) until guide body is locked.

DOOR AREA LOCKS

Applicable for: ALL

Retractable door area locks provide restrain against upward and side shifts.

Inner part of locks can be used as anti-rollout locks (prevent ULD movement out of cargo hold if raised).

External frames must be retracted and raised manually.

Inner part of locks must be retracted and raised manually. Inner part of locks must be secured by hooks into retracted position before ULD offloading.

Applicable for: UK67010, UK67017, UK67018

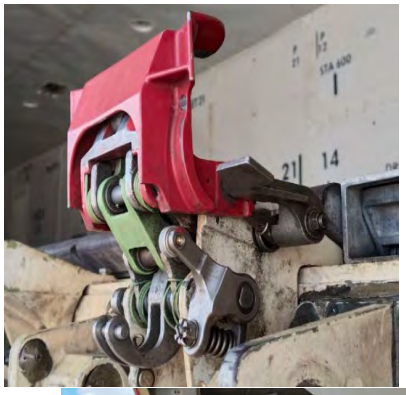
Several locks also can be retracted and raised by appropriate tumbler on Outside Control Panel (press appropriate tumbler on optional panel ROLLOUT STOPS on **Outside Control Panel**).

To raise retractable guides manually:

1. Remove hook (1).
2. Rotate inner part of lock (2) up until stopped in raised position, and upper part of lock (4) is placed on side from ULD (*refer to the picture below*).
3. Make sure upper part of lock is not placed lower the ULD perimeter.
4. Raise external frame of lock (5) up manually until locked in raised position.

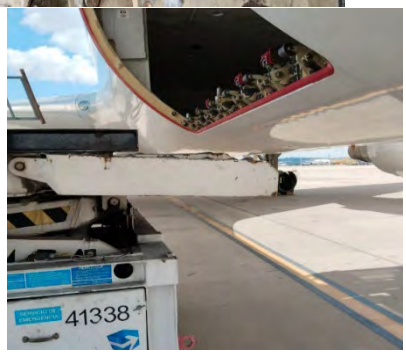
To retract these guides manually:

1. Press the retracting lever (3) and manually move external frame of lock (5) into retracted position.
2. Press to inner lock part (2) down to retract it and move until stopped into down position.
3. Rotate hook (1) and connect it to inner lock part (2) as shown on picture.
4. Make sure lock is properly secured by hook and not overlapped above deck surface.



NOTE! *– there are 2 recommended positions of staff to retract Door Area Locks and secure it by hooks:*

- *From the ground level.*
- *From the lowered platform of highloader.*



PIVOT ROLLER (FWD HOLD)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

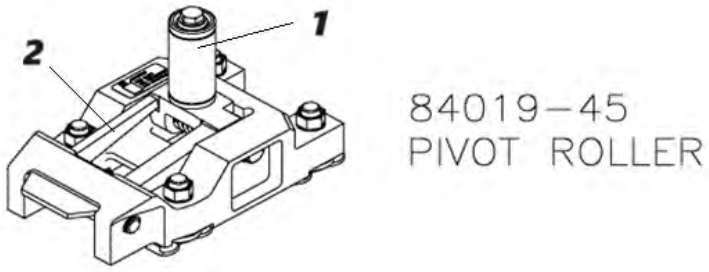
- Pivot roller provides movement of 88'' ULDs during the loading & offloading in different zones of aircraft FWD Hold.

To raise Pivot Roller:

1. Lift movable part of the Pivot Roller (1) up and pull it until the locked in the raised position.
2. Manually make sure the Pivot Roller is locked by fixing plank (2).

To retract Pivot Roller:

1. Lift fixing plank (2) up.
2. Manually rotate Pivot Roller and put it into retracted position.
3. Manually make sure the Pivot Roller is retracted and not overlaps above lock frame surface.



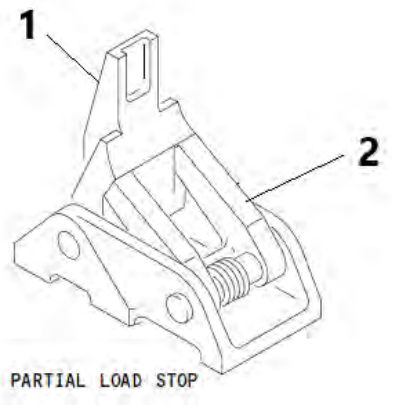
PARTIAL END STOPS (FWD & AFT HOLDS)

Applicable for: ALL

- Partial End Stops provides restraint of LD-1, -2, -3, -4, -8 containers, ULDs sizes "K", "L", "Q" against the shifts in aft direction (in AFT Hold and partially in FWD Hold) or forward direction (in FWD Hold).
- Partial End Stops must be manually erected forward of last LD-1, -2, -3, -4, -8 containers, ULDs sizes "K", "L", "Q" on positions 24, 23, 22, 21, 14 and behind the same types ULD on position 11 and 12 in FWD Hold in case of non-full row loaded.
- Partial End Stops must be manually erected behind the last LD-1, -2, -3, -4, -8 containers, ULDs sizes "K", "L", "Q" on positions 31, 32, 33, 34 in AFT Hold in case of non-full row loaded.

To raise Partial End Stop:

1. Lift stopper part (2) up and rotate it until the locked in the raised position by stop plate (1).
2. Push the stopper part (2) into stop plate direction (1) to make sure if Partial End Stop secured into raised position by stop plate.



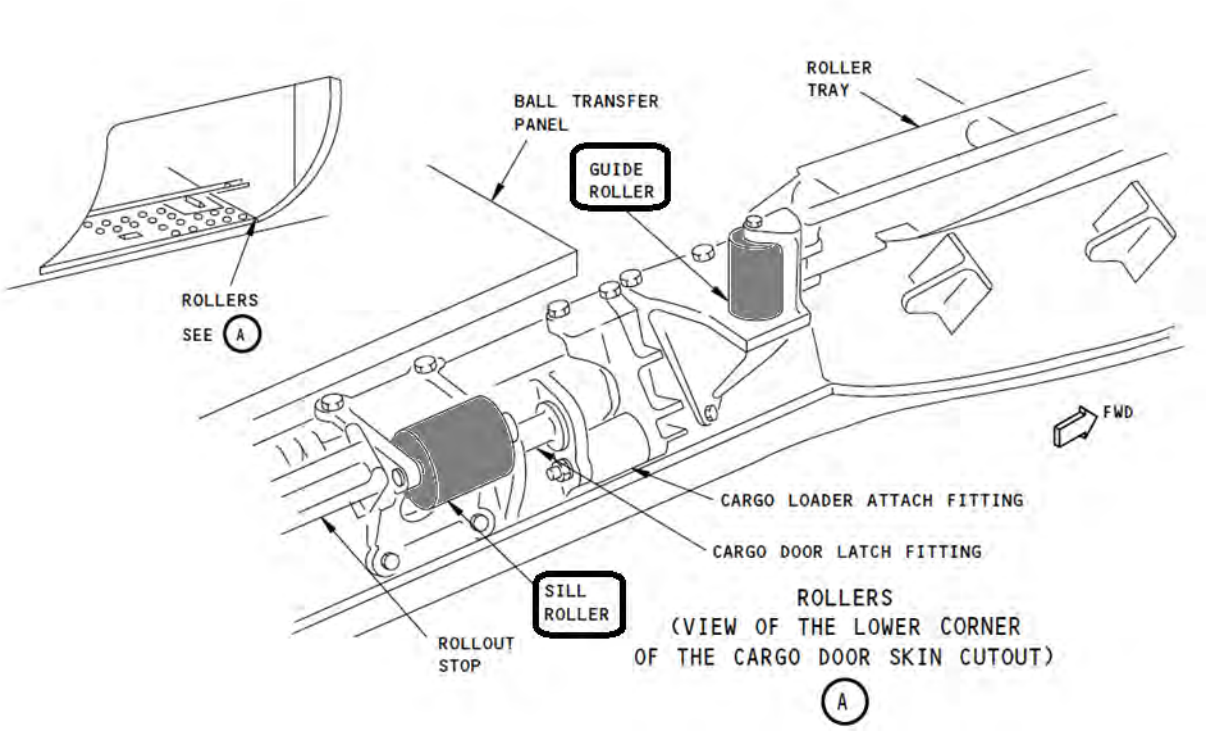
To retract Partial End Stop:

1. Push stopper part (2) out of stop plate (1).
2. Put stop plate (1) into down position.
3. Put stopper part (2) into down position.
4. Manually make sure if both parts are in down position.

SILL ROLLERS AND GUIDE ROLLERS (ANY CARGO DOOR, EXCEPT BULK)

Applicable for: ALL

- These rollers installed on bottom part of any cargo door, except Bulk Door.
- These rollers provides ULD transfer through the cargo door during the loading and offloading.
- These rollers do not require special actions during the loading or offloading.



3.7.3 B767-300BCF (-BDSF) - MAIN DECK CARGO RESTRAIN SYSTEM

All information below is applicable for all B767-300BCF (-BDSF).

Any differences between aircraft are mentioned additionally in description.

There are no Power Drive Units installed on Main Deck of B767-300BCF (-BDSF) operated by "My Freighter" LLC. All ULDs must be moved manually. Possibility to move heavy ULD depends on its weight spread on ULD surface and manual force of ground handling team.

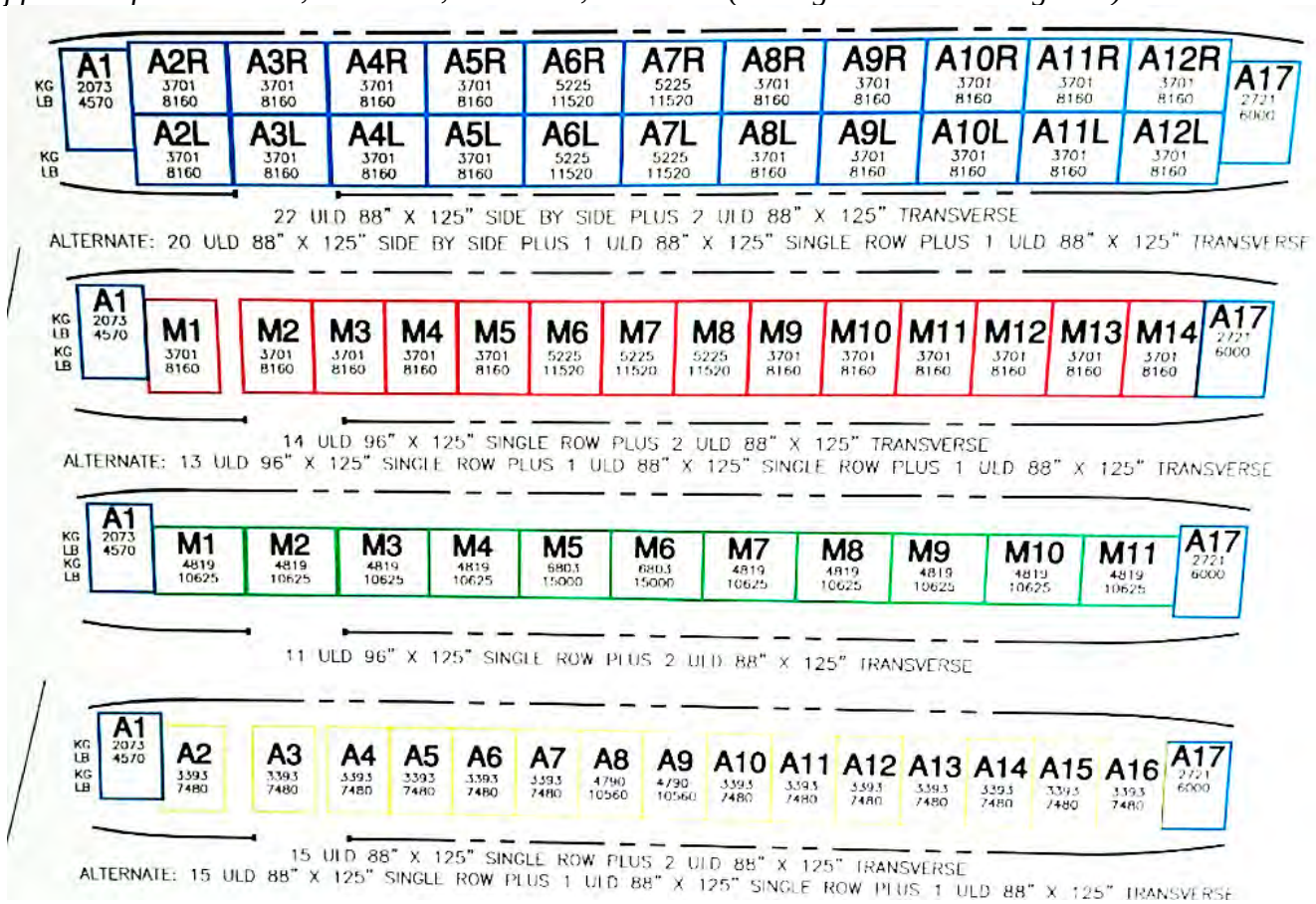
Pallet locks are installed in manner allows to secure different types of pallets in different variants (refer to ***Chapter 7.8 Part 3 GOCHM*** to have more information about possible ULD configurations).

Positions for appropriate ULD configurations (A, C, D, E, F) are mentioned on General Layout, attached to Main Deck wall on positions A3 or A2 (depends on aircraft). Specific color is applied to each specific configuration. Lines of same color on the floor marked appropriate borders of specific ULD positions. Lines of same color on the walls around the ULD position ID (for example, M5 or A12) are also marked appropriate positions.

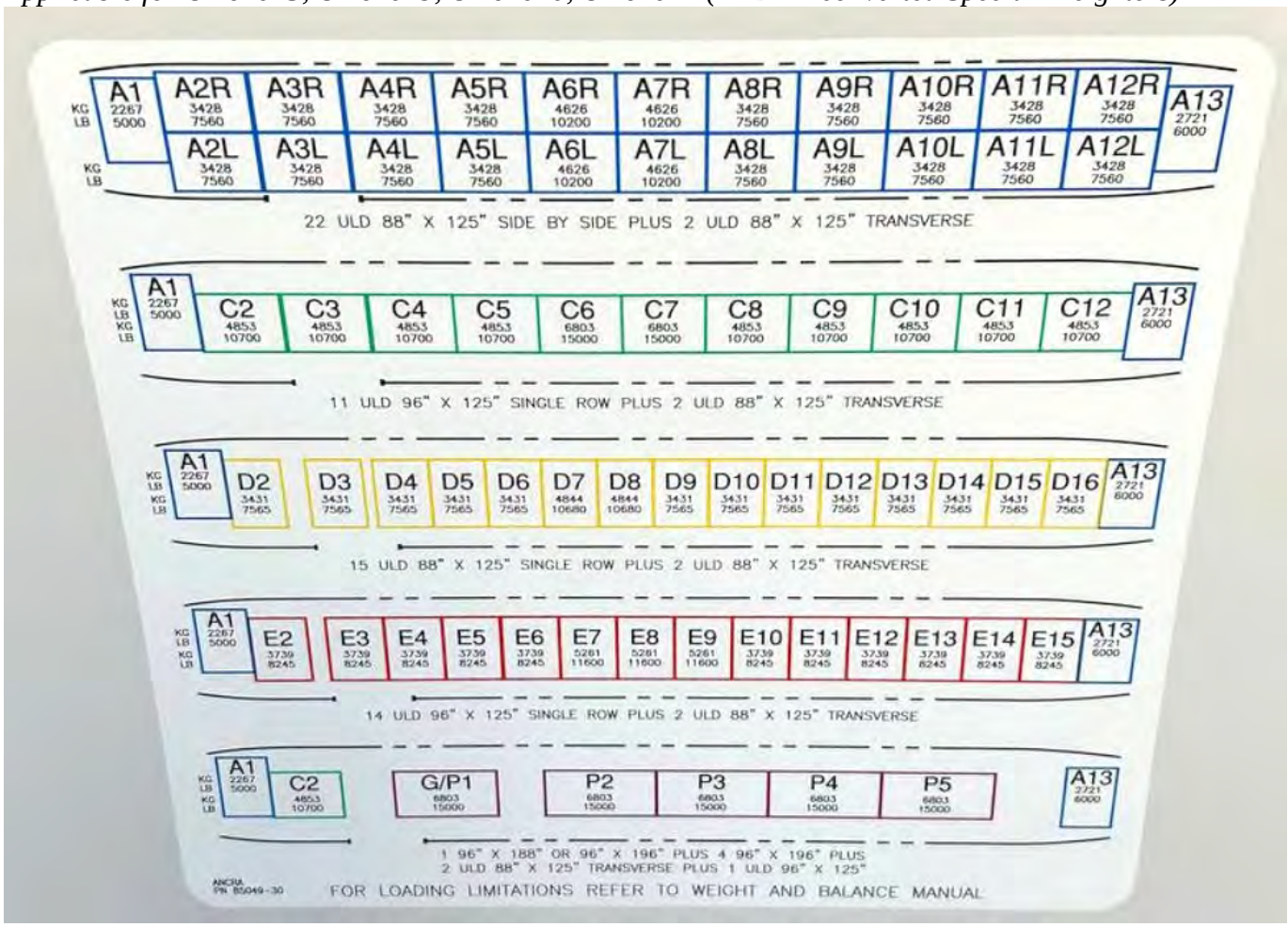
For example, red color on layout below is applicable for laterally loaded 125x96'' ULDs. Lines of same color on the floor marked borders of each positions, and locks positions on these lines must be used to secure these ULDs. Lines of same color around the ULD designation code (ID) on the walls also marked applicable positions.

Refer to examples below. <u>Different positions ID are applicable for B767-300BCF and B767-300BDSF.</u>

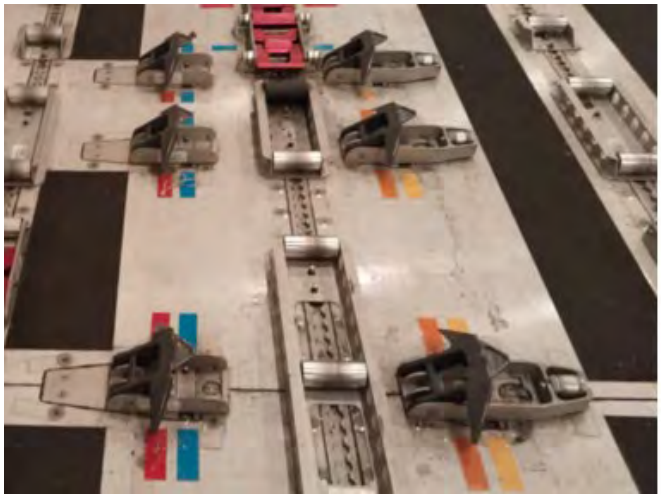
Applicable for UK67009, UK67010, UK67017, UK67018 (Boeing Converted Freighters)



Applicable for UK67015, UK67019, UK67020, UK67021 (BEDEK converted Special Freighters)



Example of color lines on the floor and position markings with same colors on Main Deck walls



CARGO LOCKS (ALL MAIN DECK POSITIONS) & CENTERLINE RESTRAINS (POSITIONS A3L & A3R ONLY)

Applicable for: ALL

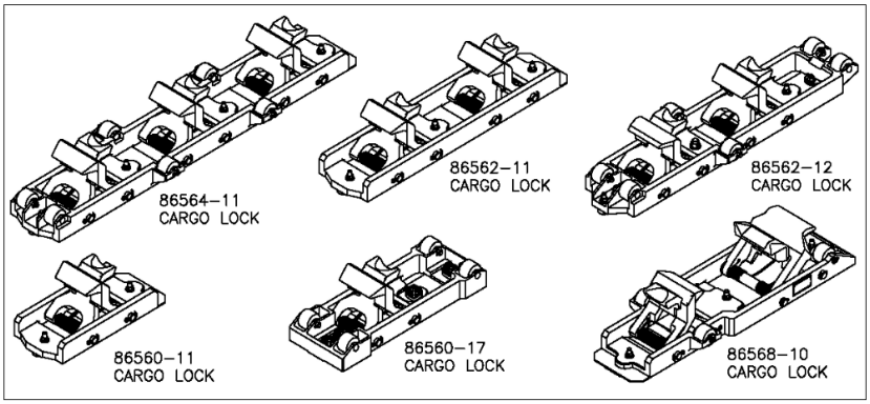
Provides ULD locking on position against shift in Forward, Aft, Side and Upward directions.

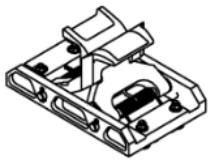
To raise Cargo Lock (all Main Deck positions) or Centerline Restrain (positions A3L/A3R):

1. Lift movable part of the lock up and pull it until the locked in the raised position.
2. Manually make sure the raised lock is locked.

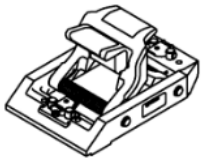
To open and retract Cargo Lock (all Main Deck positions) or Centerline Restrain (positions A3L/A3R):

1. Press to small upper part of lock until open.
2. Manually rotate lock and put it into retracted position. *Normally lock is moved into retracted position automatically by inner spring.*
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.





86093–20
CENTERLINE RESTRAINT



84011–40
CENTERLINE RESTRAINT

ENGINE PALLET CARGO LOCK (POSITIONS A3R & A4R ONLY)

Applicable for: UK67009, UK67010, UK67017, UK67018

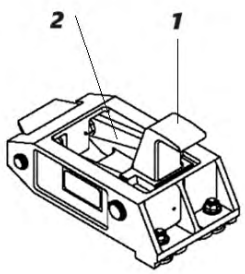
- Engine Pallet Cargo Locks provide Side and Upward restrain for 188x96'' & 196x96'' ULDs loaded as centerload on position R1/E1.
- Not applicable for UK67015.

To raise Engine Pallet Cargo Lock (positions A3R & A4R only):

1. Lift movable part of the lock (1) up and pull it until the locked in the raised position.
2. Manually make sure the raised lock is locked by fixing plank (2).

To retract Engine Pallet Cargo Lock (positions A3R & A4R only):

1. Lift fixation plank (2) up.
2. Manually rotate lock and put it into retracted position.
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.



86087–11
ENGINE PALLET CARGO LOCK

FOLDING OUTBOARD RESTRAIN (POSITION A3L ONLY)

Applicable for: ALL

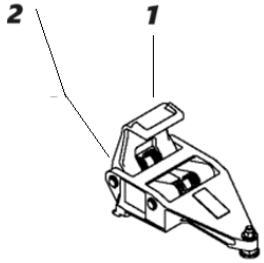
- Folding outboard restrain provides Side and Upward restrain for 125x88'' ULD loaded longitudinally on pos. A3L.

To raise Folding Outboard Restrain (positioned into the Side Cargo Door area):

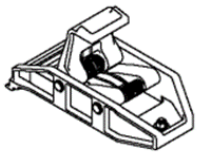
1. Lift movable part of the lock (1) up and pull it until the locked in the raised position.
2. Manually make sure the lock is locked in raised position.

To retract Folding Outboard Restrain (positioned into the Side Cargo Door area):

1. Press button on outer side of lock (2).
2. Manually rotate lock and put it into retracted position.
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.



84009–50
FOLDING OUTBOARD RESTRAINT



84015–61
FOLDING OUTBOARD RESTRAINT

ROLLOUT STOPS (POSITION A3L, SIDE CARGO DOOR PERIMETER)

Applicable for: UK67009, UK67010, UK67017, UK67018

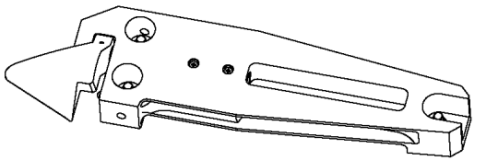
- The Rollout Stop help to prevent the ULDs from accidentally rolling off the aircraft floor at the cargo door area. Loading is still possible in case of engaged Rollout Stops as it automatically retracted after physical contact with ULD edge during the loading.

To raise rollout stop:

1. Pull the dome up past the spring plunger. The dome moves quickly to the raised position.
2. Make sure the rollout stop is raiseed into raised position.

To retract rollout stop:

1. Push the dome fully down below the spring plunger. The dome rests on the base below the roll-plane.
2. Manually make sure the rollout stop is retracted and not overlaps above lock frame surface.



Applicable for UK67015, UK67019, UK67020, UK67021

- The Rollout Stop help to prevent the ULDs from accidentally rolling off the aircraft floor at the cargo door area. Loading is still possible in case of engaged Rollout Stops as it automatically retracted after physical contact with ULD edge during the loading.

To raise rollout stop:

1. Pull the red lever up.
2. Make sure the rollout stop is rotated up into raised position. Move it manually to appropriate position in case of springer failure.

To retract rollout stop:

1. Push the lock down until secured by the latch stop.
2. Manually make sure the stop is secured by the latch stop and do not overlap above the lock frame.

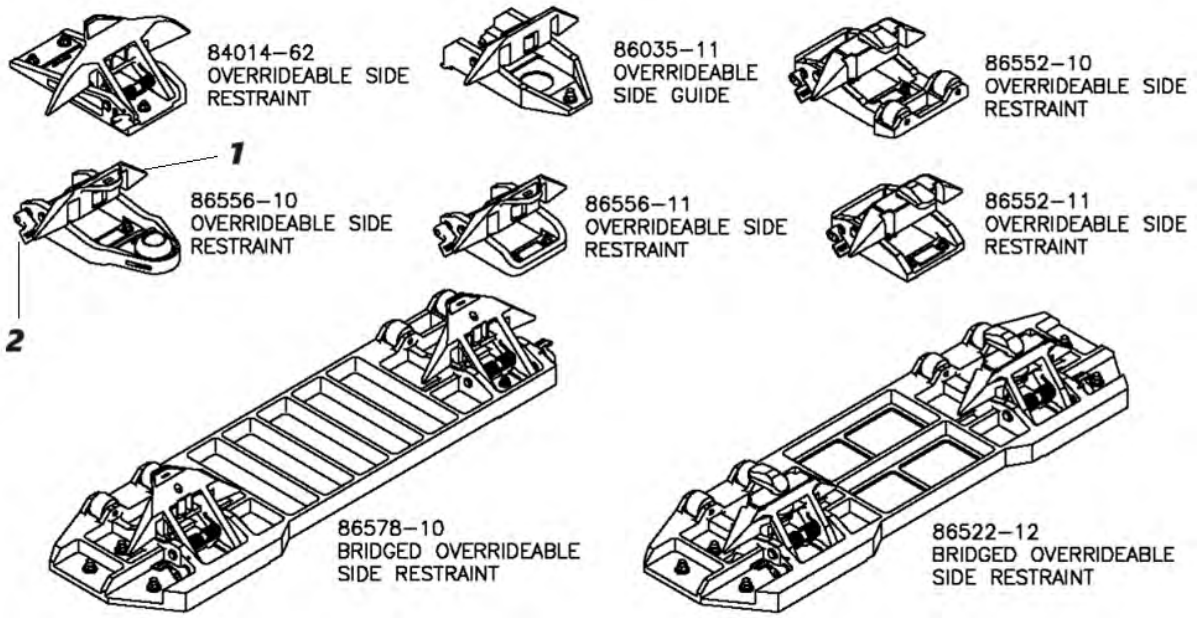
Anti-Roll-Out Stop in retracted position

Anti-Roll-Out Stop in erected position

OVERRIDEABLE SIDE RESTRAINS (POSITIONS A2 – A12)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018

- Overrideable side restrains provides Side and Upward restrain for ULDs loaded longitudinally or laterally to positions A2-A12 (and appropriate positions of other configurations).
- Upper movable “flag” must be serviceable (not broken or deformed) and must covers upper part of ULD perimeter once ULD is loaded to position.
- *ATTENTION: several overrideable side restrains on B767-300BCF have no special mechanism to secure it in retracted position and cannot be retracted and secured.*



Applicable for: UK67009, UK67010, UK67017, UK67018

To raise Overrideable Side Restrain (positions A2 – A12):

1. Push the “red flag” (2) into down position.
2. Make sure the lock (1) is raised into upper position.

To retract Overrideable Side Restrain (positions A2 – A12):

1. Press lock (1) down.
2. Manually rotate “red flag” (2) into upper position.
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.

Applicable for: UK67015, UK67019

To raise Overrideable Side Restrain (positions A2 – A12):

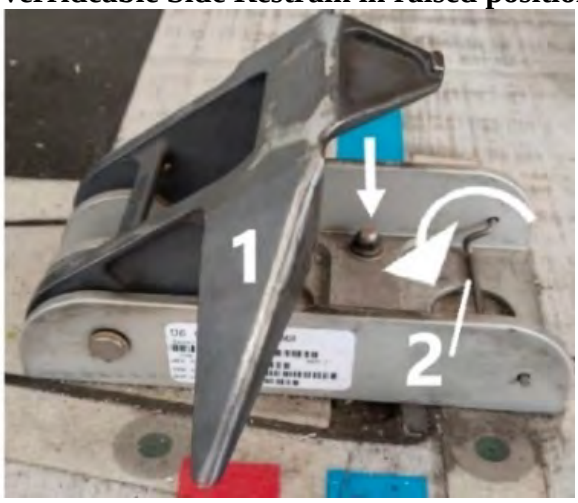
1. Push the restraint body (1) into most down position (to reduce load to latch stop (2)).
2. Rotate latch stop and move overrideable restraint into raised position.

To retract Overrideable Side Restrain (positions A2 – A12):

1. Press restraint body (1) down.
2. Rotate latch stop (2) and secure lock by this stop.
3. Manually make sure the lock is retracted and secure by latch stop.

Overrideable Side Restrain in retracted position

Overrideable Side Restrain in raised position



COLLAPSIBLE PALLET LOCKS (POSITIONS A3L & A3R)

Applicable for: UK67009, UK67010, UK67017, UK67018

- Collapsible pallet locks provides Forward, Aft and Upward restrain of ULDs loaded to positions A2, A3, A4.
- There are no Collapsible Pallet Locks on UK67015, but the special Lateral Guides are installed instead of it on same positions to provide appropriate restrains.
- Upper movable “flag” must be serviceable (not broken or deformed) and must covers upper part of ULD perimeter once ULD is loaded to position.

To raise Collapsible Pallet Lock:

1. Pull red plank (2) up past the lock is unlocked.
2. Manually move lock (1) up and make sure it is locked into raised position.

To retract Collapsible Pallet Lock:

1. Pull upper red plank (2).
2. Lock will automatically fall down due to the spring tension.
3. Manually make sure the lock is fully retracted.

LATERAL GUIDES (POSITIONS A3L & A3R)

Applicable for: ALL

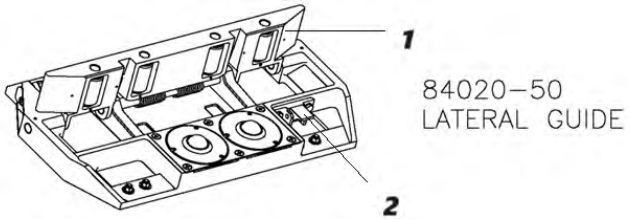
- Lateral guides on positions A3L & A3R provides correct lateral movement of ULDs during the loading & offloading.
- ***UK67015, UK67019, UK67020, UK67021 only****: lateral guides provides Forward, Aft and Upward restrain of ULDs loaded to positions A3L & A3R instead of Collapsible Pallet Locks. It must be operable and raised all the time.*

To raise Lateral Guide (on positions A3L & A3R):

1. Press button (2).
2. Lateral Guide (1) shall raises automatically by spring. If not lifted automatically, move it manually into raiseed position.
3. Manually make sure the Lateral Guide is locked into raiseed position.

To retract Lateral Guide (on positions A3L & A3R):

1. Manually rotate Lateral Guide (1) into retracted position until locked by button (2).
2. Manually make sure the Lateral Guide is retracted and not overlaps above lock frame surface.



ULD SPLITTER BETWEEN POSITIONS A3L & A3R

Applicable for: UK67009, UK67010, UK67017, UK67018.

Not applicable for UK67015, UK67019, UK67020, UK67021.

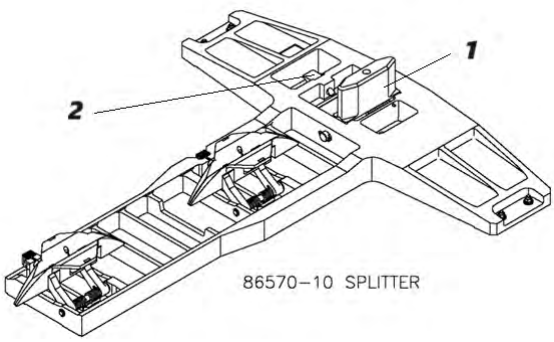
- Splitter provides separation of ULDs on left and right sides of Main Deck in case of side-by-side loading.

To raise Splitter between positions A3L & A3R:

1. Push the button (2).
2. Manually move splitter (1) into raised position.
3. Manually make sure splitter is locked into raised position.

To retract Splitter between positions A3L & A3R:

1. Press to splitter body (1) to retract it until locked by button (2).
2. Manually make sure the splitter is retracted and not overlaps above lock frame surface.



DIVERTER (POSITION A2R)

Applicable for: UK67009, UK67010, UK67017, UK67018

Not applicable for UK67015, UK67019, UK67020, UK67021

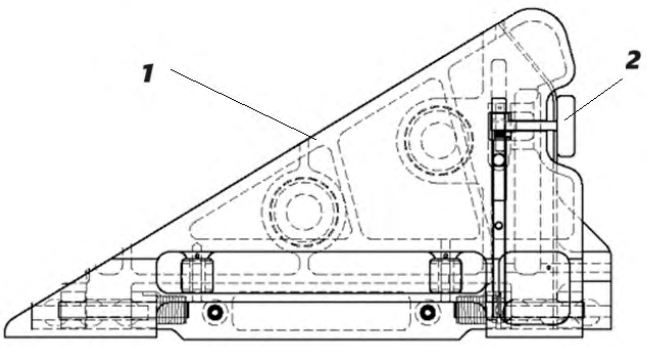
- Diverter provides correct ULD loading to pos. A1.

To lower Diverter into action position:

1. Pull the Handle (2) and lower Diverter (1) until it locked.
2. Manually make sure the Diverter (1) is locked into lowest position.

To retract Diverter into storage position:

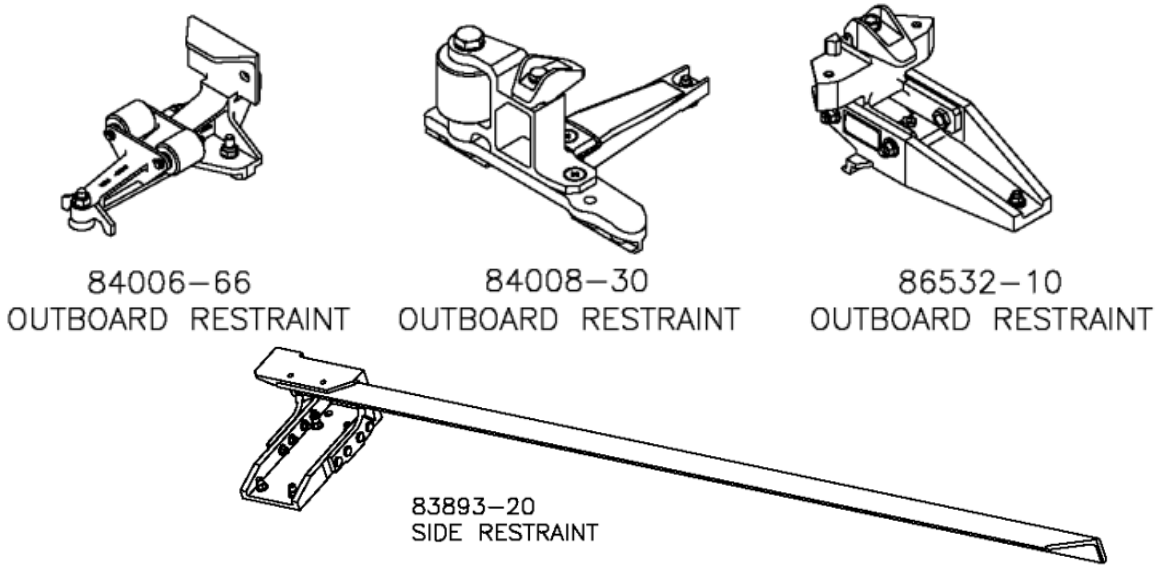
1. Pull the Handle (2) and lift Diverter (1) until it locked into upper position.
2. Manually make sure the Diverter (1) is locked into upper position.



OUTBOARD RESTRAINS & SIDE RESTRAINS

Applicable for: ALL

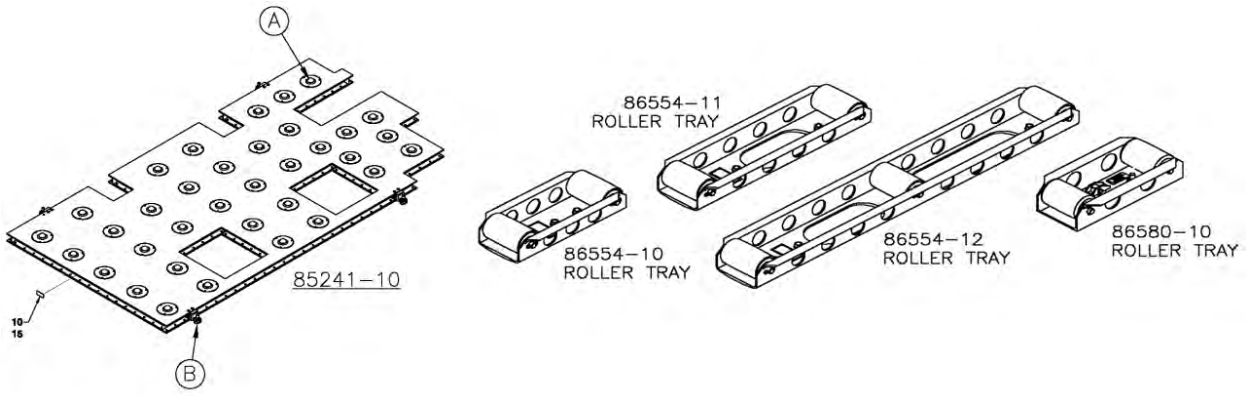
- Outboard restrains (different design) provides Forward, Aft, Left, Right & Upward restrain on appropriate positions.
- It does not require manual activation, but must be free of damage (not broken or deformed).
- Upper movable “flag” (if structurally designed) must be serviceable (not broken or deformed) and must covers upper part of ULD perimeter once ULD is loaded to position.



ROLLER TRAYS & BALL MATS

Applicable for: ALL

- Roller trays equipped by rollers provides appropriate ULD moving into cargo hold.
- Ball mats equipped by balls provides appropriate ULD moving into cargo hold and ULD rotation in case of needs.
- It does not require manual activation, but must be free of damage (not broken or deformed).

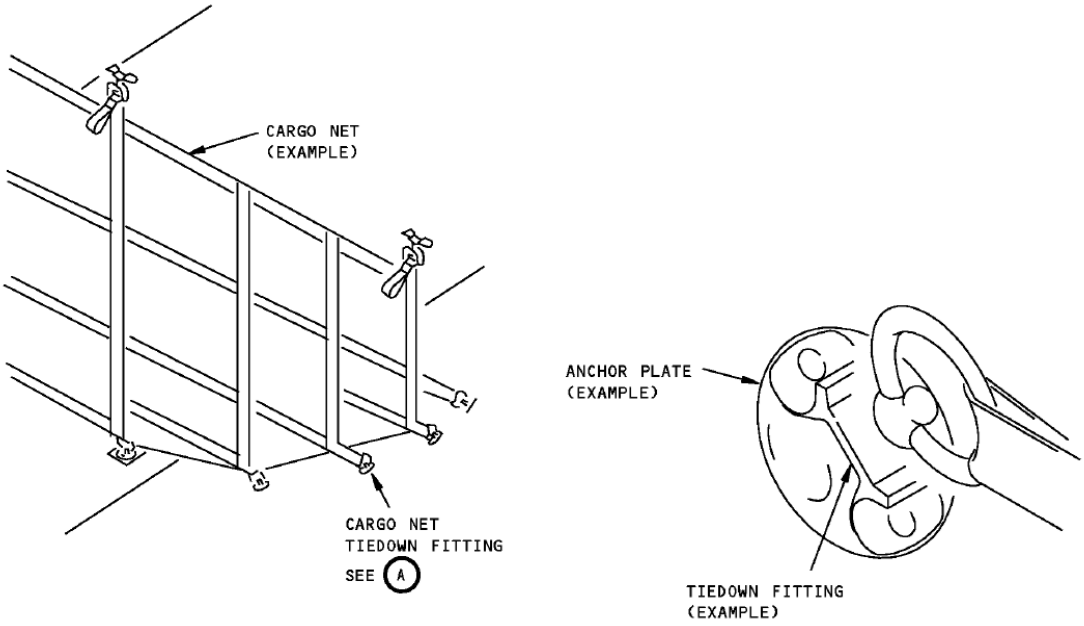


3.7.4 B757-200PCF - LOW DECK CARGO RESTRAIN SYSTEM

All Bulk Nets and Door Nets of B757-200PCF's LD Holds must be closed and tightened prior to doors closing (doesn't matter if holds are empty, or not).

Bulk Nets & Door Nets are equipped by standard single stud fittings on ends of its straps. These fittings must be attached to same type of fittings located on floor, walls and ceiling of cargo compartment.

In case of malfunction of any Bulk Net or Door Net – refer to provisions of ***Section 3.9.3 Part 3 GOCHM***.



CARGO NET TIEDOWN FITTING
(EXAMPLE)

3.7.5 B757-200PCF - MAIN DECK CARGO RESTRAIN SYSTEM

CARGO LOCKS (POSITIONS 1-15)

Applicable for: UK75001

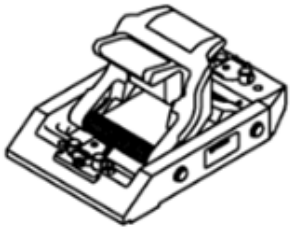
Provides ULD locking on position against shift in Forward, Aft and Upward directions.

To raise Cargo Lock (all Main Deck positions):

1. Lift movable part of the lock up and pull it until the locked in the raised position.
3. Manually make sure the raised lock is locked.

To open and retract Cargo Lock (all Main Deck positions):

1. Press to small upper part of lock until open.
2. Manually rotate lock and put it into retracted position. *Normally lock is moved into retracted position automatically by inner spring.*
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.



FOLDING OUTBOARD RESTRAIN (POSITIONS 2-4 ONLY)

Applicable for: UK75001

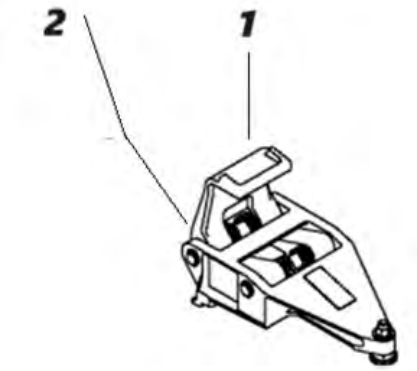
- Folding outboard restrain provides Side and Upward restrain for 125x88’’ ULD loaded longitudinally on pos. 2-4.

To raise Folding Outboard Restrain (positioned into the Side Cargo Door area):

1. Lift movable part of the lock (1) up and pull it until the locked in the raised position.
2. Manually make sure the lock is locked in raised position.

To retract Folding Outboard Restrain (positioned into the Side Cargo Door area):

1. Press button on outer side of lock (2).
2. Manually rotate lock and put it into retracted position.
3. Manually make sure the lock is retracted and not overlaps above lock frame surface.



3.8 LOADING & OFFLOADING OPERATIONS - LOW DECK HOLDS

3.8.1 B767-300BCF (-BDSF)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018, UK67019

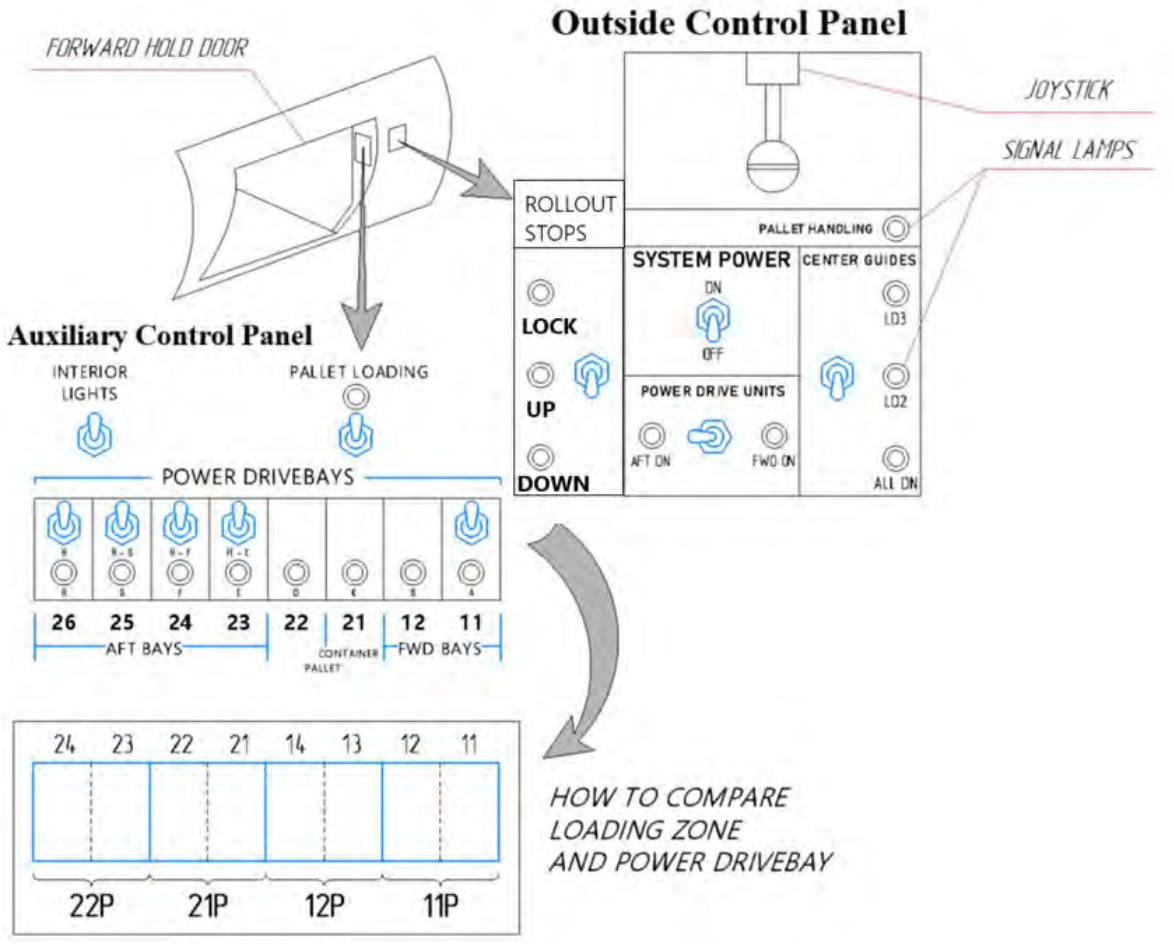
GENERAL RESTRICTIONS

1. Each Low Deck Hold is divided into zones named “drivebays” (marked on walls by figures and letters, for example, 33C or Drivebay C).
2. PDU control can be activated or disactivated in one or several drivebays during the loading & offloading operations.
3. Loading & offloading scenario is described below for situation “full in / full out” (when all positions are occupied).
4. In case of empty positions observe restrictions described into ***Chapter 3.6 Part 3 GOCHM***.
5. Follow to standard safety rules when perform loading & offloading. Never operate the loading equipment if any person has entered to compartment – to prevent injuries of personnel.
6. Be careful during the movement inside the cargo hold. Do not step to aircraft pipelines, electric wires, Cargo Handling System elements (PDU, rollers, locks and guides) and slippery floor (bottom parts of side walls).
7. Minor differences can be applied to control panels of different aircraft. General principles remain same for any aircraft.

If any transit loads remain onboard during the loading & offloading operations in transit airport, changes of CG must be calculated “step-by-step” before the start of handling operations to prevent possible tail tipping during the loading & offloading operations.

3.8.1.1 LOADING OPERATIONS - FORWARD LOW DECK HOLD

Applicable for: ALL



1. Open Cargo Door.
   - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

2. Open Outside Control Panel door.
3. Put external frames of Door Area Locks down.
4. Turn System Power on by tumbler on ***Outside Control Panel*** *(refer to drawing above).*
   Power drivebays tumblers will be turned on automatically, and lamps will be lightened.
5. Make sure if appropriate restraints required for current loading are raised and ready to action, or retracted (for example, collapsible side guides for ULD 125x88'' or center guides for ULD size K or V (or its analogs).
   - *Refer to **Chapter 3.7.2 Part 3 GOCHM** for details.*

6. Raise or put down appropriate locks and guides, if applicable *(manually and/or by appropriate tumbler on optional panel ROLLOUT STOPS on **Outside Control Panel**, if applicable).*
   - *In case of LD3 or LD1 containers loading place the switch on panel **Center Guides** to position "LD-3" before the loading. In case of LD2 containers loading place the switch on panel **Center Guides** to position "LD-2" before the loading. Move one container onto the ball transfer panels until it contacts the left side guide rail. Container can now be moved forward or aft in the compartment.*
   - *For loading of remain types of ULD switch on panel **Center Guides** must be turned to position "ALL DN".*

7. Choose ULD movement direction by tumbler POWER DRIVE UNITS: forward or aft from the cargo door area (regarding the flight direction). *Appropriate lamp will be lightened on **Outside Control Panel**.*
8. Once ULD movement from the highloader platform to cargo compartment is started, push and hold joystick on **Outside Control Panel** out of you.
   - *It takes up to 2-3 seconds for PDUs to start wheels rotation if joystick is held down in desired direction:*
     - *Push from you (in direction of left side of aircraft) – load ULD inside the cargo hold;*
     - *Pull to you (in direction of right side of aircraft) – offload ULD located in Cargo Door area from the cargo hold;*

9. Load ULD into cargo hold according to the loading plan:
   - *ULD 125x88'' & 125x96'' must be loaded in next sequence: 22P, 21P, 11P, 12P (alternative: 11P, 22P, 21P, 12P);*
   - *ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) must be loaded in next sequence: 24, 23, 22, 21, 11, 12, 13, 14 (alternative: 11, 12, 24, 23, 22, 21, 13, 14).*
   - *ULD size L (e.g., pallets PLA or PLB) occupies 2 container positions on left side of Low Deck must be loaded in next sequence: 24/23, 22/21, 11/12, 13/14 (alternative: 11/12, 24/23, 22/21, 13/14).*

10. Once ULD placed inside the cargo hold – push joystick into desired direction (forward or aft from the cargo door) and move ULD to desired position.
    - *It takes up to 2-3 seconds for PDUs to start wheels rotation if joystick is held down in desired direction:*

    - Push to right side (in flight direction) – move loaded ULD (s) to positions FWD of Cargo Door area.

    - Push to left side (opposite to flight direction) – move loaded ULD (s) to positions AFT of Cargo Door area.

11. Secure loaded ULD by appropriate locks and restraints.
    - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

12. Turn appropriate tumblers down on **Auxiliary Control Panel** after ULD loading (to deactivate appropriate drivebays and avoid excessive wheels tire wear):
    - *Zones 12, 21, 22 are always active and cannot be turned off;*
    - *Once ULD sizes M or A (125x96'' or 125x88'') is loaded to position 22P, zones 26 and 25 (also marked as zones H & G on some aircraft) must be deactivated;*
    - *Once ULD sizes M or A (125x96'' or 125x88'') is loaded to position 21P, zones 24 and 23 (also marked as zones F & E on some aircraft) must be deactivated;*
    - *Once ULD sizes M or A (125x96'' or 125x88'') is loaded to position 11P, zone 11 (also marked as zone A on some aircraft) must be deactivated;*
    - *Once ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) are loaded to position(s) 24 - zone 26 (also marked as zone H on some aircraft) must be deactivated;*
    - *Once ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) are loaded to position(s) 23 - zone 25 (also marked as zone G on some aircraft) must be deactivated;*
    - *Once ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) are loaded to position(s) 23 - zone 25 (also marked as zone G on some aircraft) must be deactivated;*

- *Once ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) are loaded to position(s) 22 - zone 24 (also marked as zone F on some aircraft) must be deactivated;*
- *Once ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) are loaded to position(s) 21 - zone 23 (also marked as zone E on some aircraft) must be deactivated;*
- *Once ULD sizes P (e.g., containers DPE or its analogs), Q (e.g., pallet FQA or container DQF or its analogs), K or V (e.g., containers AKE or AVE or its analogs) are loaded to position(s) 11 - zone 11 (also marked as zone A on some aircraft) must be deactivated;*
- ***URGENT! – if cargo system is turned off than turned on, all tumblers on Auxiliary Control Panel are moved up automatically, and all zones are activated again. Needs to deactivate appropriate drivebays manually if any ULDs are already located in appropriate zones of cargo compartment.***

13. Repeat steps 5-12 until loaded all planned ULDs.
14. Arrange additional tie-down to A/C structure for ULDs, requires extra tie-down.
    - *Refer to **Part 8 GOCHM**.*

15. Once loading has been finished, raise all locks on empty positions and in the door area *(manually and/or by appropriate tumbler on optional panel ROLLOUT STOPS on **Outside Control Panel**, if applicable).*
16. Turn the SYSTEM POWER off on ***Outside Control Panel*** and close the panel door.
17. Close the cargo door and cargo door control panel.
    - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

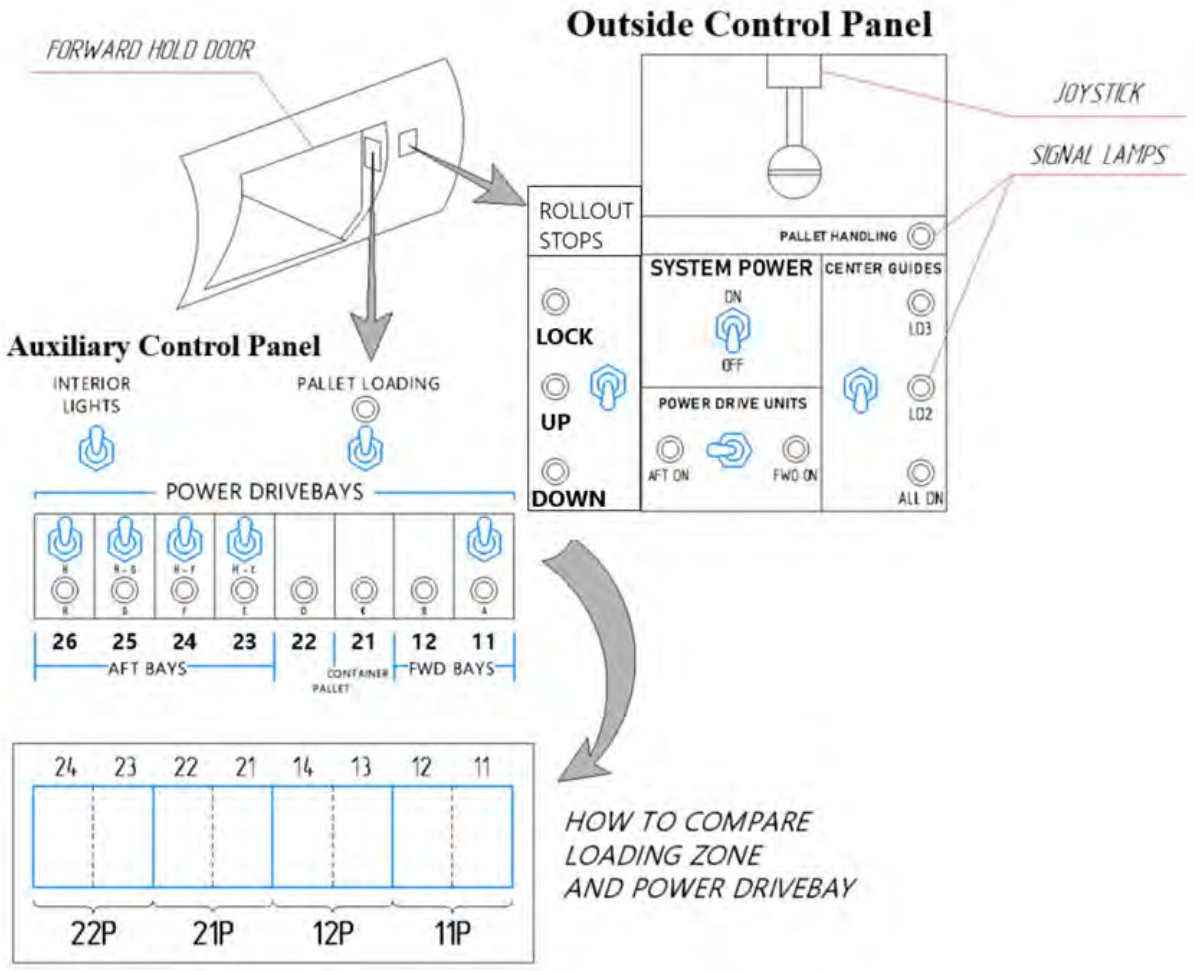
NOTE! – *you can perform manual loading of Forward Cargo Hold in case of needs, and you do not need to turn the SYSTEM POWER on for it.*

NOTE! – *if ULD is stacked on loading due to the contact with upper part of pallet lock, the safest way is to turn the power off and manually push it until contacted with locks appropriately.*

NOTE! – *if SYSTEM POWER was turned off than on, all tumblers on Auxiliary Control Panel are moved up automatically. Check and turn off tumblers control already loaded drivebays to avoid excessive wheels tire wear in case of loading continuing.*

3.8.1.2 OFFLOADING OPERATIONS – FORWARD LOW DECK HOLD

Applicable for: ALL



1. Open Cargo Door.
    - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

2. Open Outside Control Panel door.
3. Put external frames of Door Area Locks down.
4. Put Door Area Locks down and secure by hooks in down position.
    - Refer to ***Chapter 3.7.2 Part 3 GOCHM***.

5. Turn System Power on by tumbler on ***Outside Control Panel*** *(refer to drawing above).*
    - *Power drivebays tumblers will be turned on automatically, and lamps will be lightened.*

6. In case of LD1/LD2/LD3/LD4/LD8 containers offloading place the switch on panel “Center Guides” to position “ALL DN”. After that containers can be moved forward or aft in the compartment and offloaded from the cargo hold.
7. Choose desired ULD movement direction by tumbler POWER DRIVE UNITS: forward or aft from the cargo door area.
    - *Appropriate lamp will be lightened on **Outside Control Panel**.*

8. Retract appropriate locks and guides, if applicable *(manually or by appropriate tumbler on optional panel ROLLOUT STOPS on **Outside Control Panel**, if applicable).*

9. Turn appropriate tumblers down on **Auxiliary Control Panel** before ULD offloading (to avoid excessive wheels tire wear):
    - *Zones 12, 21, 22 are always active and cannot be turned off;*
    - *Remain zones shall be turned on only if you need to offload ULD loaded to appropriate zone, or transfer ULD through this zone.*
    - *Follow to instructions in table below to understand, which drivebay tumblers must be up during the offloading (assumed other zones of cargo hold are loaded).*

ULD TYPE	MUST BE OFFLOADED FROM POSITION	WHICH DRIVEBAY TUMBLERS MUST BE UP
PMC/PAJ/PAG	22P	All, except Zone A (11)
PMC/PAJ/PAG	21P	All, except Zone H & G (26 & 25)
PMC/PAJ/PAG	12P	Doesn't matter
PMC/PAJ/PAG	11P	Zone A (11)

ULD TYPE	MUST BE OFFLOADED FROM POSITION	WHICH DRIVEBAY TUMBLERS MUST BE UP
FQA/LD2/LD3	24	All
FQA/LD2/LD3	23	All, except Zone H (26)
FQA/LD2/LD3	22	All, except Zone H & G (26 & 25)
FQA/LD2/LD3	21	All, except Zone H, G, F (26, 25, 24)
FQA/LD2/LD3	14	All, except Zone H, G, F, E (26, 25, 24, 23)
FQA/LD2/LD3	13	N/A
FQA/LD2/LD3	12	All, except Zone A (11)
FQA/LD2/LD3	11	Zone A (11)

10. Remove tie-down of ULD to aircraft structure (if used) and store straps & single stud fittings on free space out of ULD movement area or even remove it from cargo compartment to prevent possible aircraft damage.

11. To transfer ULD from desired position(s) to cargo door area or offload from cargo hold - push joystick on **Outside Control Panel** into desired direction.
    - *It takes up to 2-3 seconds for PDUs to start wheels rotation.*
    - *Push from you (in direction of left side of aircraft) – load ULD inside the cargo hold;*
    - *Pull to you (in direction of right side of aircraft) – offload ULD located in Cargo Door area from the cargo hold;*
    - *Push to right side (in flight direction) – move loaded ULD (s) to positions FWD of Cargo Door area;*
    - *Push to left side (opposite to flight direction) – move loaded ULD (s) to positions AFT of Cargo Door area.*

12. Follow to next offloading sequence:
    - *ULD 125x88'' or 125x96'': offload ULDs from positions 12P, 21P, 22P, 11P.*
    - *ULD size K, Q, P: offload ULD from positions 13, 14, 21, 22, 23, 24, 12, 11.*
    - *ULD size L (each occupies 2 container positions): offload ULD from positions 3/14, 11/12, 21/22, 23/24.*

13. Repeat steps 5-12 until offloaded all planned ULDs.
14. Once offloading has been finished, raise locks into door area.

15. Turn the SYSTEM POWER off on ***Outside Control Panel*** and close the panel door.
16. Return straps and rings into cargo compartment (if it were used for tie-down of offloaded ULDs onboard) and attach Single Stud Fittings to fittings on aircraft structure.
17. Close the cargo door and cargo door control panel.
    - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

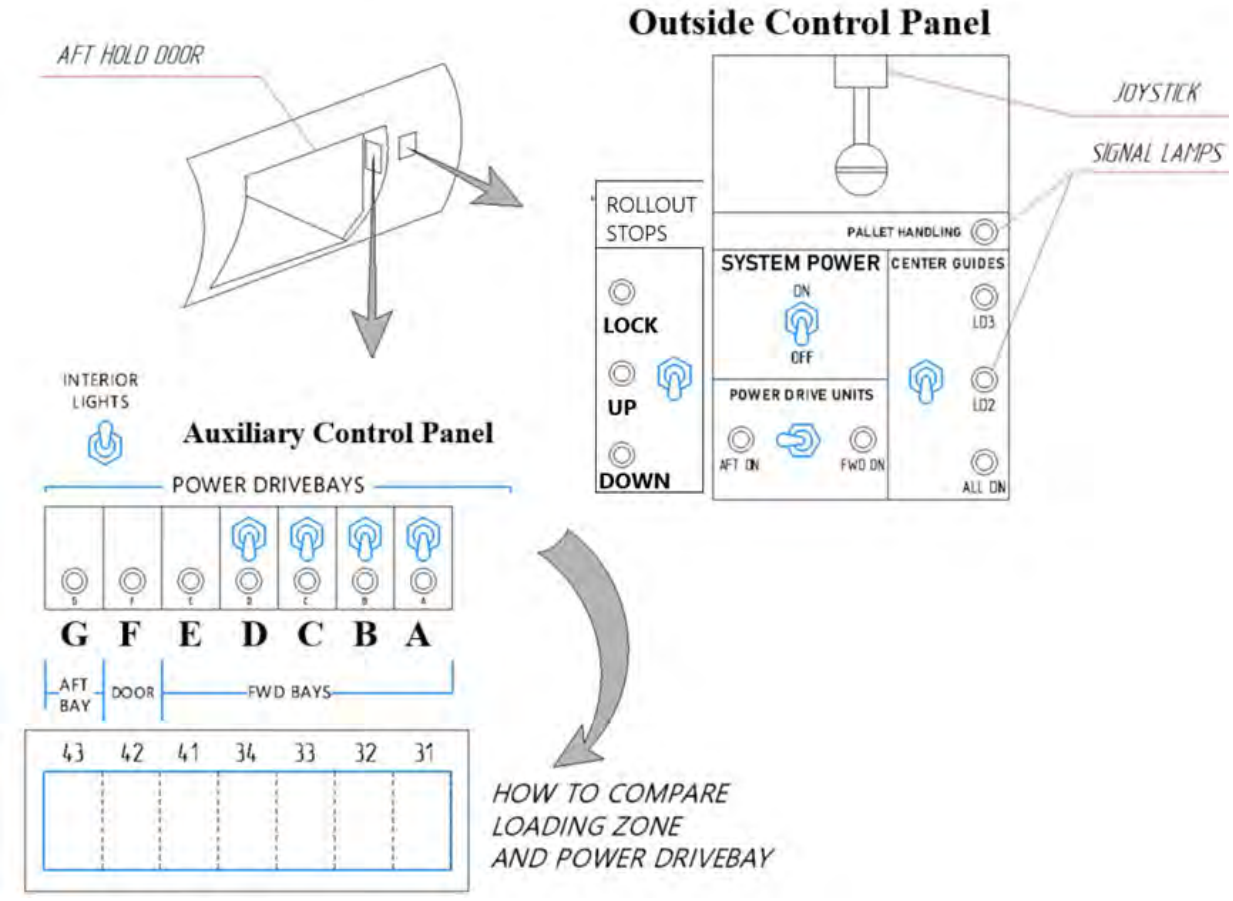
NOTE! *– you can perform manual offloading of Forward Cargo Hold in case of needs, and you do not need to turn the SYSTEM POWER for it.*

NOTE! *– if ULD is stacked on loading due to the ULD perimeter contact with upper part of pallet lock, the safest way is to turn the power off and manually push it until contacted with locks appropriately.*

NOTE! *– if SYSTEM POWER was turned off than turned on, all tumblers on Auxiliary Control Panel are also turned on automatically. Check and turn off appropriate tumblers to avoid excessive wheels tire wear in case of loading continuing.*

3.8.1.3 LOADING OPERATIONS - AFT LOW DECK HOLD

Applicable for: ALL



1. Open Aft Cargo Door.
   - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

2. Open Outside Control Panel door.
3. Put external frames of Door Area Locks down.
   - *Refer to **Chapter 3.7.2 Part 3 GOCHM** for details.*

4. Turn System Power on by tumbler on ***Outside Control Panel*** *(refer to drawing above).*
   - *Power drivebays tumblers will be turned on automatically, and lamps will be lightened.*

5. Choose ULD movement direction by tumbler POWER DRIVE UNITS: forward or aft from the cargo door area.
   - *Appropriate lamp will be lightened on **Outside Control Panel**.*

6. Engage appropriate locks and guides, if applicable *(manually or by appropriate tumbler on **Outside Control Panel**, if applicable).*
7. Load ULD into cargo hold. *It is recommended to load FQA pallets and/or LD2 and/or LD3/LD1/LD4/LD8 containers from position(s) 31 to position(s) 41 than load positions 43 & 42.*
8. In case of LD3 or LD1 containers loading place the switch on panel “Center Guides” to position “LD-3”. In case of LD2 containers loading place the switch on panel “Center Guides” to position “LD-2”. Move one container onto the ball transfer panels until it contacts the left side guide rail. Container can now be moved forward or aft in the compartment.

9. Push joystick on **Outside Control Panel** into desired direction.
    - *It takes up to 2-3 seconds for PDUs to start wheels rotation.*

10. Start ULD movement from highloader into cargo hold.
11. Once ULD placed inside the cargo hold – push joystick into desired direction (forward or aft from the cargo door) and move ULD to desired position.
12. Secure ULD by appropriate locks, if applicable.
13. Turn appropriate tumblers down on **Auxiliary Control Panel** after ULD loading (to avoid excessive wheels tire wear):
    - *Zones G, F, E are always active and cannot be turned off;*
    - *Remain zones shall be turned on only if you need to load ULD to appropriate zone, or transfer ULD through this zone.*
    - *Once ULD(s) loaded to position(s) 31 – turn off zone A.*
    - *Once ULD(s) loaded to position(s) 32 – turn off zone B.*
    - *Once ULD(s) loaded to position(s) 33 – turn off zone C.*
    - *Once ULD(s) loaded to position(s) 34 – turn off zone D.*

14. Repeat steps 4-13 until loaded all planned ULDs.
15. Perform tie-down of appropriate ULDs to aircraft structure.
    - Refer to ***Part 8 GOCHM***.

16. Once loading has been finished, raise all locks on empty positions and in the door area.
17. Arrange additional tie-down to A/C structure for ULDs, requires extra tie-down.
    - *Refer to **Part 8 GOCHM**.*
    - *It is recommended to perform tie-down for specific ULDs (e.g., FQA pallets) simultaneously with loading due to the contour and problem with access to APTs in case of full contoured pallets loading: load ULD, perform tie-down and continue loading.*

18. Turn the SYSTEM POWER off on ***Outside Control Panel*** and close the panel door.
19. Close the Aft Cargo Door and cargo door control panel.
    - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

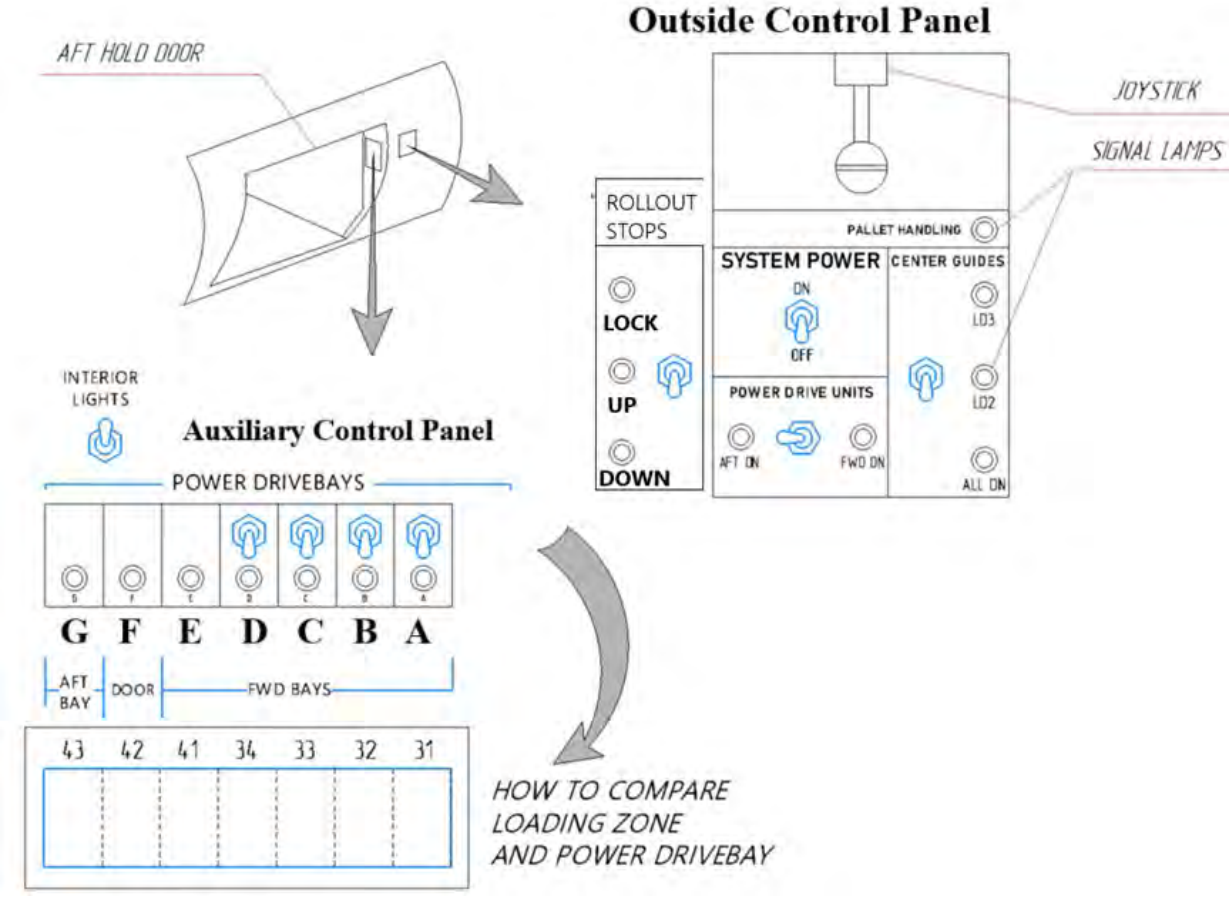
NOTE! – *you can perform manual loading of Aft Cargo Hold in case of needs, and you do not need to turn the SYSTEM POWER on for it.*

NOTE! – *if ULD is stacked on loading due to the ULD perimeter contact with upper part of pallet lock, the safest way is to turn the power off and manually push it until contacted with locks appropriately.*

NOTE! – *if SYSTEM POWER was turned off than turned on, all tumblers on Auxiliary Control Panel are also turned on automatically. Check and turn off appropriate tumblers to avoid excessive wheels tire wear in case of loading continuing.*

3.8.1.4 OFFLOADING OPERATIONS – AFT LOW DECK HOLD

Applicable for: ALL



1. Open Cargo Door.
   - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

2. Open ***Outside Control Panel*** door.
3. Put external frames of Door Area Locks down.
4. Turn System Power on by tumbler on ***Outside Control Panel*** (refer to drawing above).
   - *Power drivebays tumblers will be turned on automatically, and lamps will be lightened.*
   - *In case of LD1/LD2/LD3/LD4/LD8 containers offloading place the switch on panel "Center Guides" to position "ALL DN". After that containers can be moved forward or aft in the compartment and offloaded from the cargo hold.*

5. Choose desired ULD movement direction by tumbler POWER DRIVE UNITS: forward or aft from the cargo door area.
   - *Appropriate lamp will be lightened on **Outside Control Panel**.*

6. Retract appropriate locks and guides, if applicable *(manually or by appropriate tumbler on **Outside Control Panel**, if applicable).*
7. Turn appropriate tumblers down on **Auxiliary Control Panel** before ULD offloading (to avoid excessive wheels tire wear):
   - *Zones 12, 21, 22 are always active and cannot be turned off;*
   - *Remain zones shall be turned on only if you need to offload ULD loaded to appropriate zone, or transfer ULD through this zone.*
   - *Follow to instructions below to understand, which drivebay tumblers must be up during the offloading (assumed other zones of cargo hold are loaded).*

ULD TYPE	MUST BE OFFLOADED FROM POSITION	WHICH DRIVEBAY TUMBLERS MUST BE UP
FQA/LD2/LD3	31	All
FQA/LD2/LD3	32	Only Zones B, C, D
FQA/LD2/LD3	33	Only Zones C, D
FQA/LD2/LD3	34	Only Zone C
FQA/LD2/LD3	41	N/A
FQA/LD2/LD3	42	N/A
FQA/LD2/LD3	43	N/A

8. Remove tie-down (if used) and store out of ULD movement area (or even remove from compartment before ULD offloading).
9. To transfer ULD from desired position(s) to cargo door area or offload from cargo hold - push joystick on **Outside Control Panel** into desired direction.
    - *It takes up to 2-3 seconds for PDUs to start wheels rotation.*

10. Follow to recommended offloading sequence: positions 42, 43, 41, 34, 33, 32, 31.
11. Repeat steps 5-12 until offloaded all planned ULDs.
12. Once offloading has been finished, raise locks into door area.
13. Turn the SYSTEM POWER off on ***Outside Control Panel*** and close the panel door.
14. Return straps & rings (if were used for tie-down of inbound payload) to cargo compartment and attach single stud fittings to appropriate fittings on aircraft structure.
15. Close the cargo door and cargo door control panel.
    - *Refer to **Chapter 3.5.2 Part 3 GOCHM** for details.*

NOTE! – *you can perform manual offloading of Forward Cargo Hold in case of needs, and you do not need to turn the SYSTEM POWER for it.*

NOTE! – *if ULD is stacked on loading due to the ULD perimeter contact with upper part of pallet lock, the safest way is to turn the power off and manually push it until contacted with locks appropriately.*

NOTE! – *if SYSTEM POWER was turned off than turned on, all tumblers on Auxiliary Control Panel are also turned on automatically. Check and turn off appropriate tumblers to avoid excessive wheels tire wear in case of loading continuing.*

3.8.1.5 LOADING & OFFLOADING OPERATIONS – BULK HOLD

Applicable for: ALL

All payload planned for loading to the Bulk Hold must be moved manually to hold and out of hold.

Careful evaluation of package dimensions and weight requires to provide safe loading and offloading.

Extra cargo tie-down can be required for specific items – refer to ***Part 8 GOCHM***.

Long items can be loaded to bulk if it possible to rotate and/or tilt it. Follow to dimensions described in ***Table 3.8.7.1*** to check, if dimensions of cargo allow to move it into cargo hold through the Bulk Cargo Door.

Table 3.8.7.1. Maximum Bulk Cargo Dimensions

Height (cm) ↓	**Width (cm) ↓**						
	12,7	**25,4**	**50,8**	**76,2**	**88,9**	**91,44**	**92,964**
	Max Length (cm) ↓						
118,36	*302.2*						
115,5	*302.2*	*302.2*					
106,6	*302.2*	*302.2*	*302.2*				
90,6	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*		
50,8	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*		
25,4	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*	
12,7	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*	*302.2*

3.8.2 B757-200PCF

Applicable for: UK75001

GENERAL RESTRICTIONS

1. Each Low Deck Hold is divided into sections by Bulk Nets.
2. Doors are protected from loose packages shift by Door Nets (which must be installed and secured prior to door closing after payload offloading or loading).
3. All shipment must be loaded and offloaded manually.
4. Follow to standard safety rules when perform loading & offloading. Never close cargo doors until check, all staff left the hold or not – to prevent injuries of personnel.
5. Be careful during the movement inside the cargo hold.
6. Use **Table 3.8.2.1** in ***Section 3.8.2 Part 3 GOCHM*** to define possibility of long/big packages loading to Low Deck Cargo Holds.

If any transit loads remain onboard in Low Deck holds during the loading & offloading operations in transit airport, changes of CG must be calculated "step-by-step" before the start of handling operations to prevent possible tail tipping during the loading & offloading operations.

Table 3.8.2.1. Maximum Size Chart for FWD Low Deck Hold BC B757-200PCF (package rotation in the direction "to aircraft tail section")

HEIGHT (cm) ↓	WIDTH (cm) ↓										
	12,7	25,4	38,1	50,8	63,5	76,2	88,9	101,6	114,3	127	139,7
	MAX LENGTH (cm) ↓										
106,68	353,06	327,66	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
101,6	353,06	327,66	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
88,9	353,06	327,66	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
76,2	355,6	327,66	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
63,5	358,14	327,66	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
50,8	365,76	330,2	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
38,1	375,92	335,28	302,26	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
25,4	398,78	345,44	304,8	276,86	251,46	226,06	200,66	175,26	154,94	139,7	127
12,7	449,58	370,84	304,8	279,4	251,46	226,06	200,66	175,26	154,94	139,7	127

Maximum Size Chart for AFT Low Deck Hold BC B757-200PCF (package rotation in the direction "to aircraft nose section")

HEIGHT (cm) ↓	WIDTH (cm) ↓										
	12,7	25,4	38,1	50,8	63,5	76,2	88,9	101,6	114,3	127	139,7
	MAX LENGTH (cm) ↓										
106,68	363,22	335,28	309,88	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
101,6	363,22	335,28	309,88	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
88,9	365,76	335,28	309,88	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
76,2	368,3	335,28	309,88	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
63,5	373,38	335,28	309,88	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
50,8	383,54	342,9	309,88	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
38,1	398,78	350,52	312,42	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
25,4	429,26	365,76	320,04	284,48	259,08	233,68	208,28	182,88	162,56	144,78	129,54
12,7	490,22	398,78	335,28	292,1	259,08	233,68	208,28	182,88	162,56	144,78	129,54

3.9 MINIMUM EQUIPMENT LIST FOR CARGO HANDLING SYSTEM

3.9.1 GENERAL PROVISIONS

This section contains description of possible restrictions in case of any elements of cargo handling system malfunction or inoperative condition, or missed activation (e.g., due to the mistake of ground handling team who forgot to activate appropriate lock/restrain for loaded ULD). Such elements include, but are not limited to rollers, side guides, pallet locks, end stops, bulk section nets.

Definition "**Inoperative**" means impossibility to use installed restrain to secure ULD/payload on appropriate position due to the damage of restrain.

Definition "**Missed**" means physically removed lock/restrain or lock/restrain not activated by loading team for appropriate ULD/loading type due to the mistake.

3.9.2 B767-300BCF & -BDSF MEL LIMITS

Restraint systems of Low Deck Holds fall into 4 categories:

5. side restraints;
6. side/vertical restraints;
7. forward/aft restraints;
8. forward/aft/vertical restraints.

Restraint systems of Main Deck Holds fall into 3 categories:

1. side restraints;
2. side/vertical restraints;
3. forward/aft/vertical restraints.

Missing / inoperative restraints must not be adjacent to each other. Also, two restraints adjacent to a common corner cannot be missing / inoperable. If this condition exists, the allowable weight of the associated zone is 0 KG.

When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately (for each direction: upward, forward, aft, left, right) and using the most limiting resultant allowable weight.

NOTE: if primary restraint of payload on ULD are straps (not pallet net), it is not allowed to have even 1 missed or inoperative lock. All locks around ULD must be serviceable and must be closed, otherwise the gross weight of ULD must be secured by straps to A/C structure against 5 directions. Refer to ***Part 8 GOCHM*** for details.

EXAMPLE: *PMC pallet with car is loaded to position M4 on B767-300BCF. ULD gross weight is 2400kg. Car is secured to ULD against shifts in all 5 directions by straps only (pallet net is not used). 1 FWD lock is not serviceable. As per* ***Table 3.9.5A*** *in* ***Section 3.9.2 Part 3 GOCHM****, ULD weight limits with 1 missed lock are: for Side Locks - 2678kg, for FWD/AFT Locks – 2292 kg. Due to the limitation "no missed locks for ULD allowed, if primary restraints are straps" 100% of ULD gross weight must be secured to A/C structure by straps according to the rules in* ***Part 8 GOCHM****. Alternate solution is to plan ULD for loading to zone where all locks are serviceable.*

NOTE: if primary restraint of payload on ULD is a pallet net, and gross weight of ULD exceeds the limit mentioned in appropriate tables for appropriate ULD type and position, it is allowed to secure difference between weight limit and ULD gross weight. This difference must be secured to A/C structure for all 5 directions according to the ***Part 8 GOCHM***.

EXAMPLE: *PAG pallet with general cargo (boxes) is loaded to position A4R on B767-300BCF. ULD gross weight is 2400kg. Payload is secured to ULD by pallet net. 1 centerload lock is missed (GHA staff*

*forgot to close it during the loading). As per **Table 3.9.5A** in **Section 3.9.2 Part 3 GOCHM**, ULD weight limits with 1 missed lock are: for Side Locks - 2147kg, for FWD/AFT Locks – 1719 kg. Difference between ULD actual gross weight and is: 2400 – 2147 = 253 kg. This weight must be secured to A/C structure by straps against possible shift in 5 directions according to the rules shown in **Part 8 GOCHM**. Alternate solution is to close this lock to prevent possible overload to other locks in case of high accelerations occurred during flight (for example, due to the turbulence).*

Table 3.9.1. Loading restrictions due to the missed/inoperative equipment

MISSED/INOPERATIVE ITEM & LOCATION	RESTRICTIONS PER POSITION DUE TO THE MISSED/INOPERATIVE ITEM
Ball mat (Main Deck - positions A3/A4; Low Deck – positions 12P & 42)	**No restrictions, if less than 10% ball units are missed or inoperative**. **No loaded or empty ULD or light loose cargo must be placed on these positions, if more than 10% ball units are missed or inoperative**: ***Main Deck, Configuration A***: A3 & A4 ***Main Deck, Configuration C***: M2 & M3 ***Main Deck, Configuration D***: A3, A4, A5 ***Main Deck, Configuration E***: M2, M3, M4 ***Main Deck, Configuration G***: R1/E1 ***Low Deck, FWD Hold***: 12P ***Low Deck, AFT Hold***: 42
Any Roller Unit or Ball Unit (Main Deck and Low Deck)	ULDs cannot be carried in any locations with more than missed or inoperative one roller per every 20cm of deck length.
Sill Roller (Main Deck Cargo Door, Low Deck Cargo Doors)	No ULDs can be loaded or offloaded if 1 or more sill rollers are missed, jammed or inoperative in door area.
Guide Roller	• Loading of ULD is possible, if one or more guide roller(-s) is only jammed, but still located on its standard position. • Loading of ULD through this cargo door is prohibited, if one or more roller(s) are damaged or missed.
Power Drive Unit	Any type of ULD can be loaded and offloaded manually in case of PDU failure or missing. PDU system must be turned off, and PDU must be retracted before start of operations.
End Stop	**No loaded or empty ULD must be placed on these positions, if 1 or more end stops on these positions are missed/inoperative**: ***Configuration A***: A1, A2R, A2L, A12R, A12L, A13 (A17)
Side Guide (Main Deck)	**No ULD or light loose cargo must be placed on these positions, if any part of Side Guide is missed/inoperative**: ***Main Deck, Configuration A***: any positions from A2 to A12 where Side Guide(s) are missed/inoperative.
Side Guide (Low Deck)	No ULD must be placed on any positions, if any part of Side Guide contacts with ULD is missed/inoperative. ***For ULD A-size:*** *loading is prohibited if Left Side Guide is missed or inoperative.*
Retractable Side Guide (Low Deck, for A-size ULD)	No A-size ULD must be placed on any positions, where any part of Retractable Side Guide contacts with ULD A-size is missed/inoperative

Pallet Lock (any type) (ULD size A, M, R – Main Deck and Low Deck) * *** NOTE:** *if missed/inoperative pallet lock secures 2 adjacent ULDs simultaneously, limits must be checked for both ULDs to define restrictions for each involved position*	**Low Deck (any B767-300BCF & -BDSF):** *refer to* ***Table 3.9.2*** *for reference.* **Main Deck B767-300BCF:** *refer to* ***Table 3.9.5A*** *for reference* **Main Deck B767-300BDSF:** *refer to* ***Table 3.9.5B*** *for reference*
Pallet Lock or Partial End Stop or Center Guide (Low Deck - for containers LD1, LD2, LD3, ULD size "K", "L")	**Low Deck:** *refer to* ***Table 3.9.3, Table 3.9.4, Table 3.9.5*** *for reference:* ***- Table 3.9.3A & 3.9.3B – FWD Hold, ULD size K, L, Q*** ***- Table 3.9.4A & 3.9.4B – AFT Hold, ULD size K, L, Q***
Bulk Net or Door Net *(Bulk Net separates volumes of Bulk Section and remain AFT Hold.* *Door Net separates Bulk Cargo Door from Bulk Section).* *(Each net contains vertical straps and horizontal straps).*	***Max Bulk load weight = 0, if:*** 5. Two adjacent fittings and/or straps are damaged and inoperative. 6. Two or more vertical straps have cut 8mm or more. 7. Two or more adjacent horizontal straps have cuts more 8mm each in zone between two adjacent vertical straps. 8. Door Net is missed or removed. ***Aft Hold Max total weight = 0, if***: 1. Any vertical strap of Bulk Net has cut more 8mm on distance less 2.5cm from bulk net fitting. Bulk section still can be loaded. 2. One or more Bulk Net fittings are damaged. 3. Two or more adjacent horizontal straps have cuts more 8mm each in zone between two adjacent vertical straps. 4. Bulk Net is missed or removed. ***Possible solutions:*** *1. Secure 100% weight of payload in AFT Hold (loaded on uncertified ULD) against AFT shift.* *2. After Step 1 secure 100% weight of payload in Bulk Section against FWD shift.* *If it is impossible to follow restrictions mentioned in Steps 1 and/or 2, do not use AFT Hold for any payload.*

Applicable for UK67009, UK67010, UK67015, UK67017, UK67018

Table 3.9.2. Low Deck, FWD Hold (ULD size A, L, M): ULD gross weights in case of missed/inoperative pallet locks

DIRECTION	NUMBER OPERABLE	NO. OF RESTRAINS MISSING / INOPERATIVE		
		UNIT LOAD DEVICE SIZE CODE		
		A	L	M
Maximum ULD gross weight ►		5102	3175[1]	5102
VERTICAL	21-19			5102
	18	5102		5102
	17	5102		5102
	16	4802		4802
	15	4502		4502
	14	4202		4202
	13	3902		3902
	12	3601		3601
	11	3301	3175[1]	3301
	10	3001	3175[1]	3001
	9	2701	2857[1]	2701
	8	0	2540[1]	0
	7	0	2222	0
	6	0	1905	0
	5	0	1587	0
	4	0	0	0
FORWARD	5			5102
	4	5102		5102
	3	3827	3175[1]	3827
	2	2551	2118	2551
	1	0	0	0
AFT	5			5102
	4	5102		5102
	3	3827	3175[1]	3827
	2	2551	2118	2551
	1	0	0	0
LEFT	6-5	5102	3175[1]	5102
	4	4082	2540[1]	4082
	3	3061	1905	3061
	2	2041	1270	2041
	1	0	0	0
RIGHT	6			5102
	5	5102	3175[1]	5102
	4	5102	3175[1]	5102
	3	3827	2381[1]	3827
	2	2551	1587	2551
	1	0	0	0

[1]If ULD total height is less 163cm, this weight is limited to 2267kg.

NOTE: if primary restrain to ULD are straps (not pallet net), all locks must be operative. In such case 1 inoperative lock means zero load to position, and 100% of ULD gross weight must be restrained to aircraft structure.

Applicable for: ALL

Table 3.9.3A. Low Deck, FWD Hold (ULD size K, P, Q), FWD/AFT restrains: ULD gross weights in case of missed/inoperative Pallet Locks, End Stops and Partial End Stops

POSITIONS	LOAD TYPE	MAXIMUM LOAD (ALL RESTRAINS ARE OPERATIONAL)	NO. OF RESTRAINS MISSING / INOPERATIVE Only one restraint may be missing from each side. Missing / inoperative restraints must not be adjacent to each other.			
			1 FWD	2 FWD	1 AFT	2 AFT
11 (FWD Hold)	1*	**1224**	1224	816[4]	612	0
	2	**1587**	1587	1587	1056	530
	3	**2449**	2449	2449	1837	1224
Pair of ULD 11 + 12 (FWD Hold)[5]	1*	**2449**	1632	816[4]	1224	0
	2	**3175**	2381	1587	2118	1056
	3	**4898**	3919	2939	3674	2449
13 (FWD Hold)	1*	**1224**	612	0	612	0
	2	**1587**	1056	530	793	0
	3	**2449**	1632	816[4]	1224	816[4]
14 (FWD Hold)	1*	**1224**	1224	0	612	0
	2	**1587**	1587	0	1056	0
	3	**2449**	2449	1224	1837	1224
Pair of ULD 21 + 22 (FWD Hold)[5]	1*	**2449**	1224	0	1632	816[4]
	2	**3175**	2118	1056	2381	1587
	3	**4898**	3674	2449	3919	2939
22 (FWD Hold)	1*	**1224**	1224	0	816	408[5]
	2	**1587**	1587	530	1192	793
	3	**2449**	2449	1224	1959	1469
Pair of ULD 23 + 24 (FWD Hold)[5]	1*	**2449**	1632	816	2449	2041[5]
	2	**3175**	2381	1587	3175	3175
	3	**4898**	3919	2939	4898	4898
24 (FWD Hold)	1*	**1224**	612	0	1224	1224[5]
	2	**1587**	1056	530	1587	1587
	3	**2449**	1837	1224	2449	2449

LOAD TYPE LEGEND AND REMARKS:

Load type 1 – positions are occupied by LD2 containers (no LD4/LD8 are intermixed).

Load type 2 – positions are occupied by LD1 & LD3 containers.

Load type 3 – positions are occupied by LD4/LD8 containers or pair of LD2 containers.

Remark 4 – applicable for left side only. Right side load = 0.

Remark 5 – total weight of all ULDs in mentioned zone. Gross weight of each ULD must be observed. Refer to ***NOTE*** *after* ***Table 3.9.3B (Section 3.9.1 Part 3 GOCHM)****.*

*** NOTE:** *A missing / inoperative center lateral guide (BL 0.0) is equivalent to one missing restraint in the right lane and one missing restraint in the left lane when carrying all LD-2 containers in a zone. One missed restrain on one side of Low Deck shall not be interpreted as two adjacent missing restraints.*

Applicable for: ALL

Table 3.9.3B. Low Deck, FWD Hold (ULD size K, P, Q), SIDE restrains: ULD gross weights in case of missed/inoperative restrains

TYPE OF RESTRAINT	NUMBER OF INOPERATIVE RESTRAINTS	UNIT LOAD DEVICE SIZE CODE		
		K	P	Q
ROLL-OUT STOPS	2		1224	2449
	1		1224	2449
	0		0	0
CENTER GUIDE	3		1224	
	2		1224	
	1		1224	
	0		0	
AUXILLARY STOP	3	1587		
	2	1587		
	1	1587		
	0	0		
SIDE GUIDE	3	1587	1224	2449
	2	1587	1224	2449
	1	1587	1224	1587
	0	0	0	0

NOTE:

- Max gross weight of single ULD size "**K**" = 1587 kg
- Max gross weight of single ULD size "**P**" = 1224 kg
- Max gross weight of single ULD size "**Q**" = 2448 kg

Applicable for: ALL

Table 3.9.4A. Low Deck, AFT Hold (ULD size K, P, Q), FWD/AFT restrains: ULD gross weights in case of missed/inoperative Pallet Locks, End Stops and Partial End Stops

POSITIONS	LOAD TYPE	MAXIMUM LOAD (ALL RESTRAINS ARE OPERATIONAL)	NO. OF RESTRAINS MISSING / INOPERATIVE *Only one restraint may be missing from each side. Missing / inoperative restraints must not be adjacent to each other.*			
			1 FWD	2 FWD[5]	1 AFT	2 AFT[5]
31	1[7]	**1224**	1224	0	612	0
	2	**1587**	1587	1587	1056	530
	3	**2449**	2449	2449	1837	1224
Pair of ULD 31 + 32	1[7]	**2449[6]**	2449	0	1224	0
	2	**3175[6]**	3175	2644	2118	1056
	3	**4898[6]**	4898	4898	3674	2449
ULDs on positions 31, 32, 33	1[7]	**3674[6]**	3061	0	1837	0
	2	**4762[6]**	4762	2644	3175	1587
	3	**7348[6]**	7348	6123	5511	3674
ULDs on positions 31, 32, 33, 34	1[7]	**4898[6]**	3061	0	2449	0
	2	**6350[6]**	5293	2644	4232	2118
	3	**9797[6]**	9185	4898	7348	4898
ULDs on positions 31, 32, 33, 34, 41	1[7]	**6123[6]**	3061	0	3061	0
	2	**7937[6]**	5293	2644	5293	0
	3	**12246[6]**	9185	6123	9185	4082
42	1[7]	**1224**	612	0	612	0
	2	**1587**	793	0	793	0
	3	**2449**	1632	816	1632	816
43	1[7]	**1224**	612	0	612	0
	2	**1587**	793	0	1056	530
	3	**2449**	1632	816	1837	1224

LOAD TYPES LEGEND AND REMARKS:

Load type 1 – positions are occupied by LD2 containers (no LD4/LD8 are intermixed).
Load type 2 – positions are occupied by LD1 & LD3 containers.
Load type 3 – positions are occupied by LD4/LD8 containers or pair of LD2 containers.
Remark 4 – applicable for left side only. Right side load = 0.
Remark 5 – only one restraint may be missing from each side. Missing / inoperative restraints must not be adjacent to each other.
Remark 6 – total weight of all ULDs in mentioned zone. Gross weight of each ULD (shown below) must be observed and must not be exceeded:

- ✓ Max gross weight of single ULD size "**K**" = 1587 kg
- ✓ Max gross weight of single ULD size "**P**" = 1224 kg
- ✓ Max gross weight of single ULD size "**Q**" = 2448 kg

Remark 7: *A missing / inoperative center lateral guide (BL 0.0) is equivalent to one missing restraint in the right lane and one missing restraint in the left lane when carrying all LD-2 containers in a zone. This shall not be interpreted as two adjacent missing restraints.*

Applicable for: ALL

Table 3.9.4B. Low Deck, AFT Hold (ULD size K, P, Q), SIDE restrains: ULD gross weights in case of missed/inoperative Pallet Locks, End Stops and Partial End Stops

TYPE OF RESTRAINT	NUMBER OF INOPERATIVE RESTRAINTS	UNIT LOAD DEVICE SIZE CODE		
		K	P	Q
ROLL-OUT STOPS	2		1224	2449
	1		1224	2222
	0		0	0
CENTER GUIDE	3		1224	
	2		1224	
	1		1133	
	0		0	
AUXILLARY STOP	3	1587		
	2	1587		
	1	1451		
	0	0		
SIDE GUIDE	3	1587	1224	2449
	2	1587	1224	2449
	1	1587	1224	1632
	0	0	0	0

NOTE:

- Max gross weight of single ULD size "**K**" = 1587 kg
- Max gross weight of single ULD size "**P**" = 1224 kg
- Max gross weight of single ULD size "**Q**" = 2448 kg

Applicable for: UK67009, UK67010, UK67017, UK67018

Max load for any position is 0kg, if 2 or more locks/restraints are missed or inoperative.

If max load is defined as zero, reposition ULD to another zone (where all restrains are operative) or arrange tie-down of 100% weight of such ULD to aircraft structure (according to the ***Part 8 GOCHM***).

Table 3.9.5A. Main Deck, B767-300BCF: ULD gross weights in case of missed/inoperative restrains

LOADING CONFIGURATION	POSITIONS	MAXIMUM ULD GROSS WEIGHT, kg (IF ALL RESTRAINS ARE OPERATIONAL)	MAXIMUM LOAD, kg (1 ANY RESTRAIN IS MISSED OR INOPERATIVE) *NOTE: if primary restrain to ULD are straps (not pallet net), all locks must be operative. In such case 1 inoperative lock means zero load to position.*			
			FWD Restraint is missed	AFT Restraint is missed	LEFT Restraint is missed	RIGHT Restraint is missed
A	A1	2072	1054	1177	911	911
	A2	3701	1719	1719	1761	1761
	A3	3701	1719	1719	1752	1752
	A4	3701	1719	1719	2147	2147
	A5	3701	1719	1719	2057	2057
	A6	3701	1719	1719	2892	2892
	A7	5230	2401	2401	2743	2743
	A8	3701	1701	1719	2077	2077
	A9	3701	1719	1719	2012	2012
	A10	3701	1719	1719	2106	2106
	A11	3701	1719	1719	2172	2172
	A12	3701	1719	1719	1998	1998
	A17	1975	1610	1610	1254	1254
C	M1	4823	2292	2292	2496	2496
	M2	4823	2292	2292	2282	2282
	M3	4823	2292	2292	2840	2840
	M4	4823	2292	2292	2678	2678
	M5	4823	2292	2292	2691	2691
	M6	6804	3236	3236	3552	3552
	M7	4823	2292	2292	2691	2691
	M8	4823	2292	2292	2590	2590
	M9	4823	2292	2292	2696	2696
	M10	4823	2292	2292	2810	2810
	M11	4823	2292	2292	2654	2654

LOADING CONFIGURATION	POSITIONS	MAXIMUM ULD GROSS WEIGHT, kg (IF ALL RESTRAINS ARE OPERATIONAL)	MAXIMUM LOAD, kg (1 ANY RESTRAIN IS MISSED OR INOPERATIVE) *NOTE: if primary restrain to ULD are straps (not pallet net), all locks must be operative. In such case 1 inoperative lock means zero load to position.*			
			FWD Restraint is missed	AFT Restraint is missed	LEFT Restraint is missed	RIGHT Restraint is missed
D	A1	2072	1054	1177	911	911
	A2	3395	2000	2007	1627	1627
	A3	3395	2000	2007	1249	1249
	A4	3395	2000	2007	1563	1563
	A5	3395	2000	2007	1771	1771
	A6	3395	2000	2007	1512	1512
	A7	3395	2000	2007	1467	1467
	A8	4794	2000	2007	2127	2127
	A9	4794	2000	2007	2249	2249
	A10	3395	2000	2007	1561	1561
	A11	3395	2000	2007	1512	1512
	A12	3395	2000	2007	1493	1493
	A13	3395	2000	2007	1472	1472
	A14	3395	2000	2007	1465	1465
	A15	3395	2000	2007	1279	1279
	A16	3395	2000	2007	1499	1499
	A17	1975	1610	1610	1254	1254
E	M1	3704	743	2190	1665	1665
	M2	3704	765	2190	1612	1612
	M3	3704	2189	2190	1746	1746
	M4	3704	2189	2190	1900	1900
	M5	3704	2189	2190	1645	1645
	M6	5230	3092	3092	2443	2443
	M7	5230	3092	3092	2384	2384
	M8	5230	3092	3092	2623	2623
	M9	3704	2189	2190	1615	1615
	M10	3704	2189	2190	1645	1645
	M11	3704	2189	2190	1732	1732
	M12	3704	2189	2190	2004	2004
	M13	3704	2189	2190	1732	1732
	M14	3704	2189	2190	2002	2002

LOADING CONFIGURATION	POSITIONS	MAXIMUM ULD GROSS WEIGHT, kg (IF ALL RESTRAINS ARE OPERATIONAL)	MAXIMUM LOAD, kg (1 ANY LOCK IS MISSED OR INOPERATIVE) *NOTE: if primary restrain to ULD are straps (not pallet net), all locks must be operative. In such case 1 inoperative lock means zero allowable load to position.*			
			FWD Restraint is missed	AFT Restraint is missed	LEFT Restraint is missed	RIGHT Restraint is missed
G	R1/E1	7563	3594	3594	5221	5221
	R2/E2	10678	5074	5074	6304	6304
	R3	7563	3594	3594	5095	5095
	R4	7563	3594	3594	5107	5107
	R5	7563	3594	3594	5128	5128

Applicable for: UK67015, UK67019, UK67020, UK67021

Table 3.9.5B. Main Deck, B767-300BDSF: ULD gross weights in case of missed/inoperative restrains

LOADING CONFIGURATION	POSITIONS	MAXIMUM ULD GROSS WEIGHT, kg (IF ALL RESTRAINS ARE OPERATIONAL)	MAXIMUM LOAD (1 ANY LOCK IS MISSED OR INOPERATIVE), kg *NOTE: if primary restrain to ULD are straps (not pallet net), all locks must be operative. In such case 1 inoperative lock means zero allowable load to position.*			
			FWD	AFT	LEFT	RIGHT
A	A1	2072	1835	1835	2072	2072
	A2	3429	1504	1504	2315	2315
	A3	3429	0	0	1972	1972
	A4	3429	2048	2048	2935	2935
	A5	3429	2061	2061	3231	3231
	A6	3429	2281	2281	3648	3648
	A7	4627	2454	2454	3282	3282
	A8	3429	1420	1420	1855	1855
	A9	3429	1489	1489	2026	2026
	A10	3429	1656	1656	2859	2859
	A11	3429	1799	1799	2745	2745
	A12	3429	1370	1370	1977	1977
	A13	1975	1346	1346	1050	1050
C	C2	4823	2187	2187	2394	2394
	C3	4823	0	0	2390	2390
	C4	4823	2187	2187	2816	2816
	C5	4823	2826	2826	4076	4076
	C6	4823	2826	2826	3623	3623
	C7	6804	2134	2134	3689	3689
	C8	4823	2134	2134	3660	3660
	C9	4823	2826	2826	3149	3149
	C10	4823	2826	2826	3311	3311
	C11	4823	2826	2826	3329	3329
	C12	4823	2826	2826	2668	2668

LOADING CONFIGURATION	POSITIONS	MAXIMUM ULD GROSS WEIGHT, kg (IF ALL RESTRAINS ARE OPERATIONAL)	MAXIMUM LOAD (1 ANY LOCK IS MISSED OR INOPERATIVE), kg *NOTE: if primary restrain to ULD are straps (not pallet net), all locks must be operative. In such case 1 inoperative lock means zero load to position.*			
			FWD	AFT	LEFT	RIGHT
D	A1	2072	1835	1835	2072	2072
	D2	3395	2822	2822	2812	2812
	D3	3395	2165	2165	2064	2064
	D4	3395	2451	2451	2628	2628
	D5	3395	2591	2591	3431	3431
	D6	3395	2290	2290	3431	3431
	D7	3395	2350	2350	4370	4370
	D8	4794	2646	2646	4763	4763
	D9	4794	1998	1998	3431	3431
	D10	3395	1998	1998	3298	3298
	D11	3395	1994	1994	2889	2889
	D12	3395	1865	1865	2589	2589
	D13	3395	1755	1755	2330	2330
	D14	3395	1660	1660	2132	2132
	D15	3395	1516	1516	1953	1953
	D16	3395	1474	1474	1811	1811
	A13	1975	1346	1346	1050	1050
E	A1	2072	1835	1835	2072	2072
	E2	3740	2970	2970	2924	2924
	E3	3740	2165	2165	2064	2064
	E4	3740	2522	2522	2599	2599
	E5	3740	2646	2646	3740	3740
	E6	3740	2134	2134	3740	3740
	E7	5262	2486	2486	4472	4472
	E8	5262	2458	2458	4343	4343
	E9	3740	1791	1791	3144	3144
	E10	3740	1934	1934	3067	3067
	E11	3740	1804	1804	2689	2689
	E12	3740	1917	1917	2394	2394
	E13	3740	2646	2646	3740	3740
	E14	3740	1779	1779	1975	1975
	E15	3740	1998	1998	2797	2797
	A13	1975	1346	1346	1050	1050

3.9.3 B757-200PCF MEL LIMITS

Restraint systems of Low Deck Holds fall in 2 categories:

1. Bulk Net.
2. Door Net.
3. Attachment Points on the floor.

Restraint systems of Main Deck Holds fall into 3 categories:

1. side restraints;
2. side/vertical restraints;
3. forward/aft/vertical restraints.

Missing / inoperative restraints must not be adjacent to each other. Also, two restraints adjacent to a common corner cannot be missing / inoperable. If this condition exists, the allowable weight of the associated zone is 0 KG.

When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately (for each direction: upward, forward, aft, left, right) and using the most limiting resultant allowable weight.

NOTE: if primary restraint of payload on ULD are straps (not pallet net), it is not allowed to have even 1 missed or inoperative lock. All locks around ULD must be serviceable and must be closed, otherwise the gross weight of ULD must be secured by straps to A/C structure against 5 directions. Refer to ***Part 8 GOCHM*** for details.

NOTE: until next revision of GOCHM it is not allowed to use any position, if minimum 1 lock is missed or damaged.

Bulk Net or Door Net *(Bulk Net separates compartment's sections from each other).* *(Door Net separates Cargo Door from Hold volume).* *(Each net contains vertical straps and horizontal straps).*	***Max Hold Weight = 0, if:*** 1. Two adjacent fittings and/or straps are damaged and inoperative. 2. Two or more vertical straps have cut 8mm or more. 3. Two or more adjacent horizontal straps have cuts more 8mm each in zone between two adjacent vertical straps. 4. Door Net is missed or removed. ***Possible solutions:*** 1. Secure 100% weight of payload in Hold against shifts in 5 directions. *Refer to* ***Part 8 GOCHM***. 2. Do not use Hold for any payload (include FKT).

3.10 SEUQENCE OF LOADING & OFFLOADING OPERATIONS

B767-300BCF (-BDSF) & B757-200PCF

Refer to ***Section 11.5.3.3 Part 11 GOCHM*** to have detailed information about loading and offloading sequence for current aircraft types.

3.11 AIRCRAFT LIMITS

3.11.1 GENERAL RESTRICTIONS

Any package (light or heavy), or set of packages, placed into aircraft, provides a load to aircraft structure. Concentrated load of heavy and small package can damage aircraft structure, sometimes beyond repair.

Cargo loaded to aircraft must be properly built in Unit Loading Devices (ULD) – pallets or containers. Loose cargo can be loaded to bulk section only. Refer to ***Part 4 GOCHM*** to have information about ULD and its restrictions.

When loading ULD with cargo, load appearing on the elements of Cargo Handling System and transmitting through the floor panels to the airframe structure. Excessive stress on the floor beams caused by incorrect load distribution can result in permanent structural deformation or even destruction of the aircraft structure.

All limits mentioned in ***Chapter 3.11 Part 3 GOCHM*** must be observed during the weight & balance computations and ground handling operations to avoid possible airframe damages – with no exemptions.

Employee responsible for weight & balance computations must check whether the limits of the aircraft structure (described in Sections 3.11-3.12 Part 3 GOCHM), are not exceeded – before the issue of final flight documents.

Employee responsible for ground handling of appropriate flight must immediately inform employee responsible for weight & balance computations of this flight about any visible deviation from results of computations (if appeared any legitimate doubts about correctness of used ULD/cargoes weight or load values) – for example, different weights of same ULD shown on ULD tag and in LIR.

3.11.2 ULD MAXIMUM WEIGHT. LINEAR AND AREA LOAD LIMITS. PALLET LOCKS LIMITS

Maximum gross weight of ULD in any zone of aircraft is restricted by 3 main limits:

5. Maximum allowed Linear Load for appropriate aircraft zone;
6. Maximum allowed Area Load for appropriate aircraft zone;
7. Maximum allowed limits for Pallet Locks.

For specific aircraft, the **Unsymmetrical Linear Load limitations** must be observed as well. *Refer to **Section 3.11.3 Part 3 GOCHM** for details.*

LINEAR LOAD

The load per 1-meter length of the aircraft structure.
Units of measurement are kilograms per meter (kg/m).
Specific values are applicable for different aircraft on same zones.

B767-300BCF (-BDSF)

Refer to ***Table 3.11.2B***.

B757-200PCF
Refer to ***Table 3.11.2A***.

AREA LOAD
The load per 1 square meter of the aircraft cargo floor.
Units of measurement are kilograms per square meter (kg/m^2).
Specific values are applicable for different aircraft on same zones.

B767-300BCF (-BDSF)
Refer to ***Table 3.11.2B*** to have information about limits applicable for specific aircraft zones.

PALLET LOCKS LIMIT
The maximum designed load for all locks, secures appropriate ULD into specific zone of aircraft.
Units of measurement are kilograms.

B767-300BCF (-BDSF)
Refer to ***Tables 3.9.2 – 3.9.5 (Section 3.9.2 Part 3 GOCHM)*** to have information about pallet locks limits (all operative, or partially missed/damaged) applicable for specific aircraft, ULD type, ULD position and zones of cargo compartments.

B757-200PCF
Refer to ***Table 3.96 (Section 3.9.3 Part 3 GOCHM)*** to have information about pallet locks limits (all operative, or partially missed/damaged) applicable for specific aircraft, ULD type, ULD position and zones of cargo compartments.

Table 3.11.2.A Applicable Linear & Area Load Limits – B757-200PCF

Applicable for: UK75001

POSITIONS ►	1-7	8-9	10-15
Linear Load For Centerload, kg/m	1322	1909	1322
Area Load, kg/m²	415	600	415

POSITIONS ►	ALL FWD HOLD	ALL AFT HOLD
Linear Load, kg/m	838	838
Area Load, kg/m²	731.95	

Table 3.11.2.B Applicable Linear & Area Load Limits – B767-300BCF (-BDSF)

Applicable for: UK67009, UK67010, UK67017, UK67018

POSITIONS ►	A1	A2-A6	A7	A8-A12	A17
Linear Load For One Side Load, kg/m	925	Vary between 354.3 and 1641.7 kg/m (refer to **Section 3.10.4 Part 3 GOCHM**)			874
Linear Load For Centerload, kg/m	925	1515	2141	1515	874
Area Load, kg/m²	1219.5				

POSITIONS ►	ALL FWD HOLD	ALL AFT HOLD	BULK
Linear Load, kg/m	1606	1606	889
Area Load, kg/m²	976		731

Applicable for: UK67015, UK67019

POSITIONS ►	A1	A2-A6	A7	A8-A11	A12	A13
Linear Load For One Side Load, kg/m	1020	Vary between 433.07 and 1456.69 kg/m (refer to **Section 3.10.4 Part 3 GOCHM**)				1212
Linear Load For Centerload, kg/m	1020	1574	2141	1574	1212	1212
Area Load, kg/m²	1219.5					

POSITIONS ►	ALL FWD HOLD	ALL AFT HOLD	BULK
Linear Load, kg/m	1606	1606	889
Area Load, kg/m²	976		731

3.11.3 UNYMMETRICAL LINEAR LOAD LIMITS ON THE MAIN DECK OF AIRCRAFT

Load on left and right sides of wide body aircraft can be unsymmetrical: for example, higher load can be appeared on left side and lower load can appeared on right side. Higher linear load on one side of Main Deck results lower linear load (and also ULD max weight) on opposite side of Main Deck. Ultimate loads on both sides simultaneously can damage aircraft structure beyond repair.

The ratio of Linear loads on left/right sides of the Main Deck is shown below for reference *(Main Deck Unsymmetrical Linear Load Limits charts are differ for different aircraft types and modifications, so carefully check applied aircraft numbers before the start of computations).*

ATTENTION! - Actual cargo length (not whole ULD length) must be used to calculate Linear Load appropriately. Refer to ***Part 6 GOCHM*** to have full information about this issue.

B757-200PCF

Not applicable for all B757-200PCF

B767-300BCF (-BDSF)

Applicable for all B767-300BCF & -BDSF

Allowed pre-calculated simplified max values of ULD weights on left and right sides of Main Deck are shown in table "**Lateral imbalance restrictions**" placed on back page of any B767-300BCF (-BDSF) manual load plan form for Configuration "A". These weights must be observed during the manual weight & balance computations to avoid overload and damage of airframe structure. This restriction is not applicable to ULD size "P" loaded to LD Holds.

Same restrictions must be implemented into any DCS used for weight and balance computations.

LATERAL IMBALANCE RESTRICTIONS

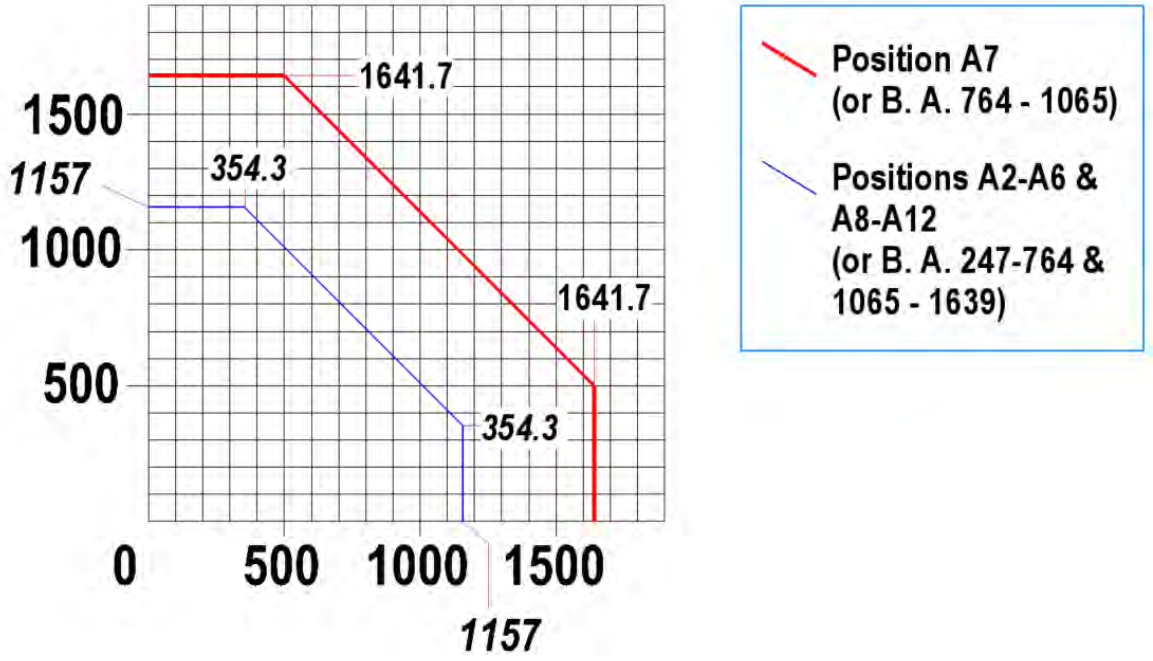
POS. A2-A6; A9-A11		POS. A7-A8	
LEFT or RIGHT SIDE	OPPOSITE SIDE	LEFT or RIGHT SIDE	OPPOSITE SIDE
2426	2426	3401	3401
2500	2353	3500	3303
2600	2253	3700	3103
2700	2153	3900	2903
2800	2053	4100	2703
2900	1953	4300	2503
3000	1853	4500	2303
3100	1753	4700	2103
3200	1653	4900	1903
3300	1553	5100	1703
3400	1453	5225	1578
3500	1353		
3600	1253		
3700	1153		
3800	1152		

SAMPLE

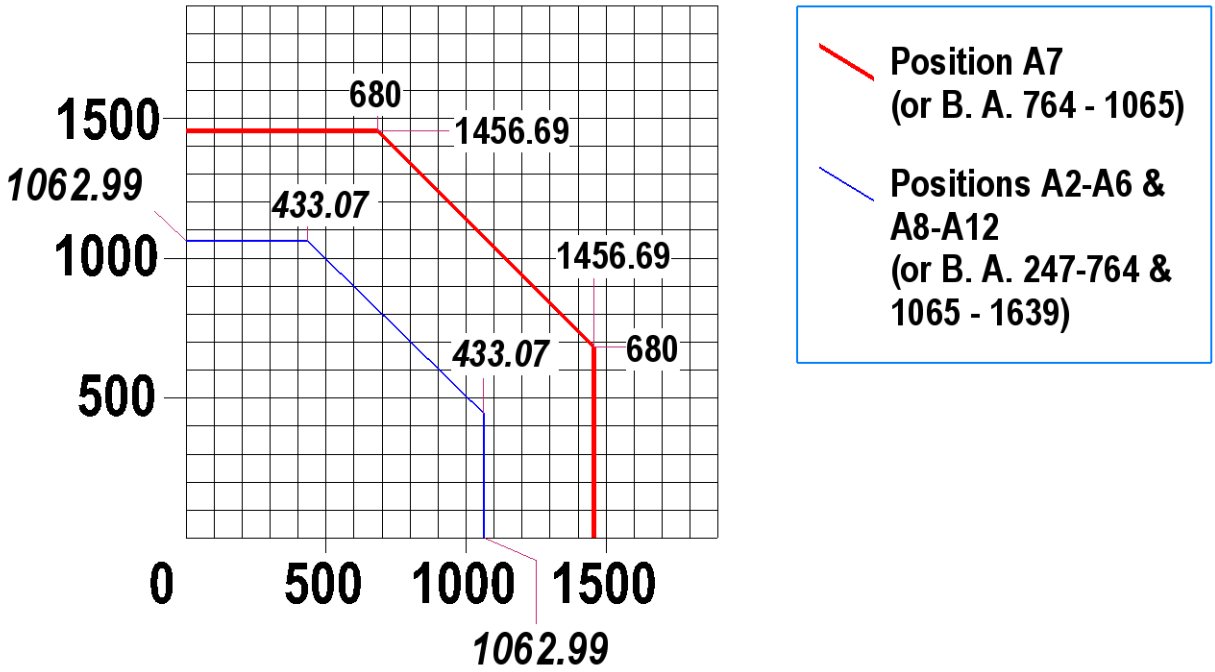
Example of Lateral Imbalance Restrictions Table.
<u>Not for operational use!</u>

B767-300BCF (-BDSF) – MAIN DECK UNSYMMETRICAL LINEAR LOAD LIMITS CHARTS

Applicable for: B767-300BCF (UK67009, UK67010, UK67017, UK67018)



Applicable for: B767-300BDSF (UK67015, UK67019, UK67020, UK67021)



3.11.4 LATERAL IMBALANCE LIMITATIONS

Aircraft lateral imbalance is a distribution of weights between left and right sides of the aircraft (along the aircraft centerline).

Aircraft lateral imbalance can be resulted by:

1. difference between the total weight of the loads on the left side and on the right side of cargo decks throughout the entire aircraft (MD and LD holds);
2. unsymmetrical fuel distribution between left- and right-wing tanks.

It is not possible to achieve ideal zero cargo imbalance on most flights due to the different weight of built ULDs and types of used ULDs. Anyway, loadplanners must try to reduce lateral cargo imbalance to ideal value during the weight & balance computations.

B757-200PCF

Not applicable to B757-200PCF if aircraft is loaded by 125x88'' ULDs (Main Deck) and evenly distributed loose packages (Low Deck holds).

B767-300BCF (-BDSF)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018, UK67019

1. The recommended ideal cargo lateral imbalance is 0 kg.
2. The recommended maximum cargo lateral imbalance is 1100 kg. This value can be exceeded in case of needs.
3. Lateral fuel imbalance must not exceed 1133 kg when total weight of fuel in main tank is less than or equal to 21771 kg.
4. ***Applicable for UK67009, UK67010, UK67015, UK67017, UK67018***: allowable fuel lateral imbalance is determined using linear interpolation between 1133 kg and 680 kg when the weight of fuel in main tank is greater than 21772 kg and less than or equal to 36196 kg respectively. To simplify calculations, it is allowed to use limit 680kg, if weight of fuel in main tank is vary from 21772 to 36196 kg.

   Applicable for UK67019: fuel lateral imbalance must be 680kg or less, when TOW not exceeds the line LIMIT B (*shown on Auxiliary Balance Chart on Trimback*). Fuel lateral imbalance must be equal to zero, when TOW exceeds the line LIMIT B.

5. ***Applicable for all aircraft***: total imbalance value affects to Take-Off Weight, so additional check "**Cargo Lateral Imbalance Control (CLIM)**" must be performed to avoid possible overload of aircraft structure and gear construction if TOW (take-off weight) of aircraft exceeds or equal to «Limit B» on Loadsheet. Different values are applicable for different aircraft (even same modification). *Refer to* ***Chapter 9 GOCHM*** *for details*.

3.11.5 LIMITATION OF MINIMUM WEIGHT OF PAYLOAD IN LOW DECK HOLDS

B767-300BCF (-BDSF)

Applicable for: UK67009, UK67010, UK67017, UK67018

When the aircraft's zero fuel weight (ZFW) is greater than 133809 kg, a minimum weight of payload is required in the lower deck cargo compartments (depends on exact value of ZFW).

Observe limits shown in ***Table 3.11.1*** (which is also copied to Trimback page of Loadsheet for appropriate aircraft).

Departure is prohibited if actual weight of payload in LD Holds is lower than required.

Table 3.11.1. ZFW vs. LD Holds Minimum (UK67009, UK67010)

ZFW vs. LD Holds Minimum	
ZFW	LD Holds Minimum
133809	0
134000	229
135000	1428
136000	2628
137000	3828
138000	4428
139000	5628
140000	7428
140160	7620

Applicable for: UK67015

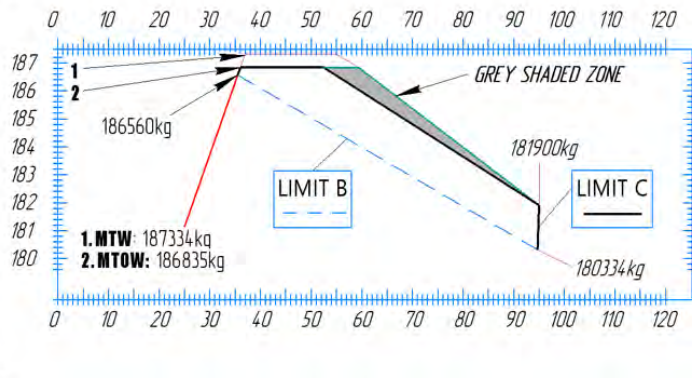
When the aircraft's Take-Off Weight (TOW) exceeds specific "**Limit B**", or "**Limit C**" on Loadsheet, or located in "**Grey Shaded Zone**", appropriate minimum weight of payload is required in the lower deck cargo compartments.

Observe limits shown in ***Table 3.11.2*** (which is also copied to Trimback page of Loadsheet for appropriate aircraft).

Departure is prohibited if actual weight of payload in LD Holds is lower than required.

Table 3.11.2. ZFW vs. LD Holds Minimum (UK67015)

TOW vs LD Payload	
Limit	Minimum Payloads, kg
Before Line "Limit B"	*MD: ≤ 57062* *LD: can be = 0*
From Line "Limit B" to Line "Limit C"	*MD: ≤ 45654* *LD: must be not less 11408*
Grey Shaded Zone	*MD: ≤ 40869* *LD:* must be not less 16193



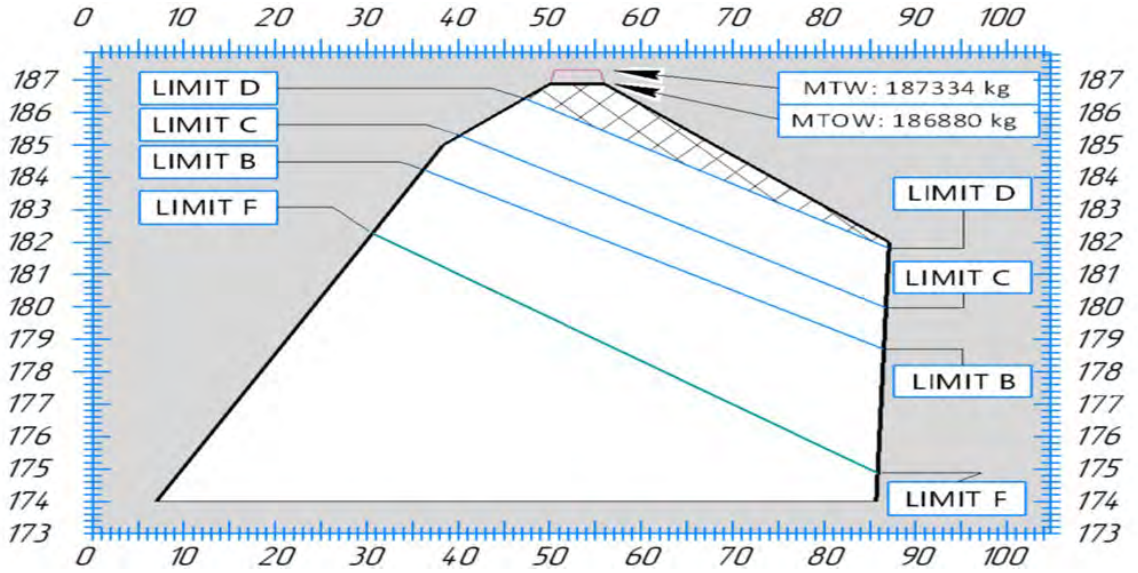
Applicable for: UK67019, UK67020, UK67021

When the aircraft's Take-Off Weight (TOW) exceeds specific "**Limit F**", fuel lateral imbalance must be checked (it must not exceed limit 680 kg, if TOW not exceeds the line "LIMIT B" and it must be equal to zero, if TOW exceeds the line "LIMIT B").

Observe minimum weight limits shown in ***Table 3.12.3*** (which is also copied to Trimback page of Loadsheet for appropriate aircraft).

Departure is prohibited if actual weight of payload in LD Holds is lower than required.

Table 3.12.2. TOW vs. LD Holds Minimum (UK67019)



TOW vs. MAIN DECK & LOW DECK LOADS + IMBALANCE					
LINE ID	**MAX ALLOWED CLIM, *IN-KG***	**MAX ALLOWED LATERAL FUEL IMBALANCE, *kg***	**MAX ALLOWED TAKE-OFF WEIGHT, *kg***	**MINIMUM CARGO IN LOW DECK HOLDS MUST BE LOADED, *kg***	**MAX LOAD OF MAIN DECK, *kg***
LIMIT F and above	671317	680	184236	0	54885
LIMIT B and above	671317	0	184236	0	54885
LIMIT C and above	671317	0	185300	9979	44896
LIMIT D and above	671317	0	186400	19731	35144
SHADED AREA ABOVE LINE D	671317	0	186880	25255	29620
NOTES: 1. Fuel imbalance control must be performed if TOW exceeds LIMIT F line. 2. Minimum amount of cargo in LD holds must be observed if TOW exceeds appropriate lines.					

3.11.5 COMBINED LINEAR LOAD LIMIT

The combined linear load is the linear load limits for the entire fuselage of the aircraft. The total load for the cargo compartments of the main deck and the lower deck should not exceed the total linear load limits specified in the load plan for the corresponding type of aircraft.

3.11.6 CUMULATIVE WEIGHT LIMIT

Summable weights by fuselage zones, increasing from the tail and nose of the aircraft to the center section. Restrictions on these weights are also given in the load plan of the respective aircraft. These limits must not be exceeded in any area of the aircraft fuselage.

Example of cumulative weight limits shown on Load Plan

ZONE NAME	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A17
ZONE WEIGHT	0	0	0	0	0	0	0	940	0	1075	0	1325	0
ZONE LIMIT	2072	8001	8001	8001	8001	4853	6854	4853	7871	9381	7871	6739	1975
ZONE INDEX	0	0	0	0	0	0	0	0,8	0	3,1	0	6,8	0
CUMULATIVE WEIGHT	0	0	0	0	0	0	0	3340	2400	2400	1325	1325	0
CUMULATIVE WEIGHT LIMIT	2072	10147	18416	26749	34179	43000	45346	41010	34035	25956	17937	8714	1975

Not for operational use!

3.11.7 TAIL TIPPING LIMIT

Tipping limit - the position of the center of gravity of the aircraft, in which it is dangerously close to the main landing gear, which leads to an unstable position of the aircraft. In this case, the load on the nose landing gear becomes equal to zero, and a sharp gust of wind, or the movement of cargo inside the aircraft, can overturn it on the tail.

The position of the center of gravity of the aircraft behind the main landing gear will inevitably lead to rollover onto the tail.

A number of factors can cause the tail tipping during ground handling operations and/or aircraft storage/parking between flights:

- ✓ Incorrect payload distribution;
- ✓ Incorrect sequence of loading or offloading operations;
- ✓ Specific fuel distribution (shifts aircraft CG aft);
- ✓ Simultaneous loading and offloading operations and replacement of wheels;
- ✓ Apron surface slope;
- ✓ Precipitation on the stabilizer (snow, sand, volcanic ash);
- ✓ Nose wind (creates wing lifting force).

It is necessary to take into account the influence of these factors when performing unloading and loading operations, preventing the aircraft from tipping over on its tail due to the action of one or more of these factors.

It is necessary to follow the correct sequence of loading and offloading operations to avoid tail tipping. Refer to ***Chapters 3.8-3.9 Part 3 GOCHM*** for detailed information.

B767-300BCF (-BDSF): critical values for different types of freighter aircraft

A/C TYPE	CLOSE TO TIPPING	ZERO NOSE GEAR LOAD	ABSOLUTELY TIPPING
B767-300BCF	40%	42%	52%
B767-300BDSF	40%	42%	52%
B757-200PCF	40%	42%	52%

3.11.8 NOSE GEAR LOAD LIMIT

Not applicable for B767-300BCF (-BDSF) or B757-200PCF.

3.11.9 CENTER OF GRAVITY OF A BUILT ULD

The locks and other elements of Cargo Restrain System perform their function only if the position of ULD center of gravity is positioned within the allowable ranges. Otherwise ULD shift from the locks and/or damage of Cargo Restrain System and damage of airframe may be occurred.

When the center of gravity shifts beyond the shown maximum ranges, whole gross weight of this ULD must be additionally secured by straps to aircraft structure (*refer to the **Part 8 GOCHM***). Also, IMP-code «**TIE»** must be used in UWS and LIR to mark ULD requires tie-down to A/C structure onboard.

B767-300BCF (-BDSF)

Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018, UK67019

Allowable ranges for different ULDs are shown in ***Tables 3.11.9A (Low Deck) & 3.11.9B (Main Deck)***.

- Permissible shifts of the center of gravity of the ULD are specified relative to its geometric center.
- The height of the CG is measured from the base of the ULD.

Example:

*Center of gravity for ULD size A build for loading to Low Deck Hold of B767-300BCF is shifted 25cm from the geometrical center of ULD. IMP-code «**TIE»** must be used in UWS and LIR to mark ULD requires tie-down to A/C structure onboard. This ULD must be restrained by straps to A/C structure against shift in any of 5 directions. If this ULD is loaded to Main Deck, limits of CG position must be double checked, because other limits can be applied to same size ULD (depends on ULD position onboard – longitudinal or lateral).*

B757-200PCF

Applicable for: UK75001

Allowable ranges for different ULDs are shown in ***Tables 3.11.9C (Main Deck).***

- Permissible shifts of the center of gravity of the ULD are specified relative to its geometric center.
- The height of the CG is measured from the base of the ULD.

Table 3.11.9A. Center of gravity position limits for built ULDs (Low Deck B767 Freighter)

DESIGNATION		BASE DIMENSION (cm)	ALLOWABLE CENTER OF GRAVITY RANGE (cm)		
ULD SIZE	CONTOUR		VERTICAL	LATERAL	LONGITUDINAL
K	LD-1	153,4 x 156, 2	86	± 15,7	± 15,2
	LD-3	153,4 x 156, 2	86	± 15,7	± 15,2
P	LD-2	153,4 x 119,3	86	± 11,9	± 15,2
Q	LD-4	153,4x244	86	± 24,3	± 15,2
	LD-8	153,4x244	86	± 24,3	± 15,2
M	LD-4	317x244	91	± 24,3	± 31,7
A	LD-4	317x224	91	± 22,3	± 31,7

Example of built ULD and allowable Center of Gravity Range

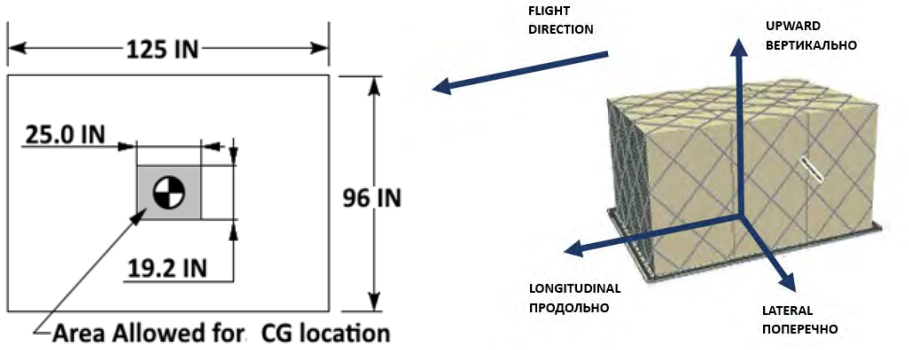


Table 3.11.9B. Center of gravity position limits for built ULDs (Main Deck B767 Freighter)

DESIGNATION		BASE DIMENSION (cm)	ALLOWABLE CENTER OF GRAVITY RANGE (cm)		
ULD SIZE	CONTOUR		VERTICAL	LATERAL	LONGITUDINAL
R	Q4	498x244	121	± 22	± 31
M	Q3	244x317	121	± 31	± 24
	Q6	317x244	121	± 24	± 31
A	Q1	224x317	121	± 31	± 22
	Q2	317x224	121	± 22	± 31
	Q3	224x317	121	± 31	± 22

Table 3.11.9C. Center of gravity position limits for built ULDs (Main Deck B757 Freighter)

DESIGNATION		BASE DIMENSION (cm)	ALLOWABLE CENTER OF GRAVITY RANGE (cm)		
ULD SIZE	CONTOUR		VERTICAL	LATERAL	LONGITUDINAL
A	Y	224x317	121	± 31	± 22

3.11.10 AIRCRAFT CENTER OF GRAVITY LIMITS FOR TOWING

B767-300BCF (-BDSF)

Aircraft (loaded or empty) must be towed when the AFT Center of Gravity (CG) position is not exceeds 35% MAC and FWD CG position not exceeds 14% MAC.

If CG is in range 32-35% MAC, towing must be performed with maximum care to avoid damage of nose gear parts.

Possible additional effect from snow, nose wind and apron slope must be also taken into account. If needs, aircraft can be additionally balanced by pallet stacks, or ULDs with cargo/ballast loaded onboard to achieve appropriate CG.

B757-200PCF

Aircraft (loaded or empty) must be towed when the AFT Center of Gravity (CG) position is not exceeds 30% MAC and FWD CG position not exceeds 14% MAC.

If CG is 25-30% MAC, towing must be performed with maximum care to avoid damage of nose gear parts.

Possible additional effect from snow, nose wind and apron slope must be also taken into account. If needs, aircraft can be additionally balanced by pallet stacks, or ULDs with cargo/ballast loaded onboard to achieve appropriate CG.

3.12 SEAT ALLOCATION FOR SUPERNUMERARIES

B767-300BCF (-BDSF)

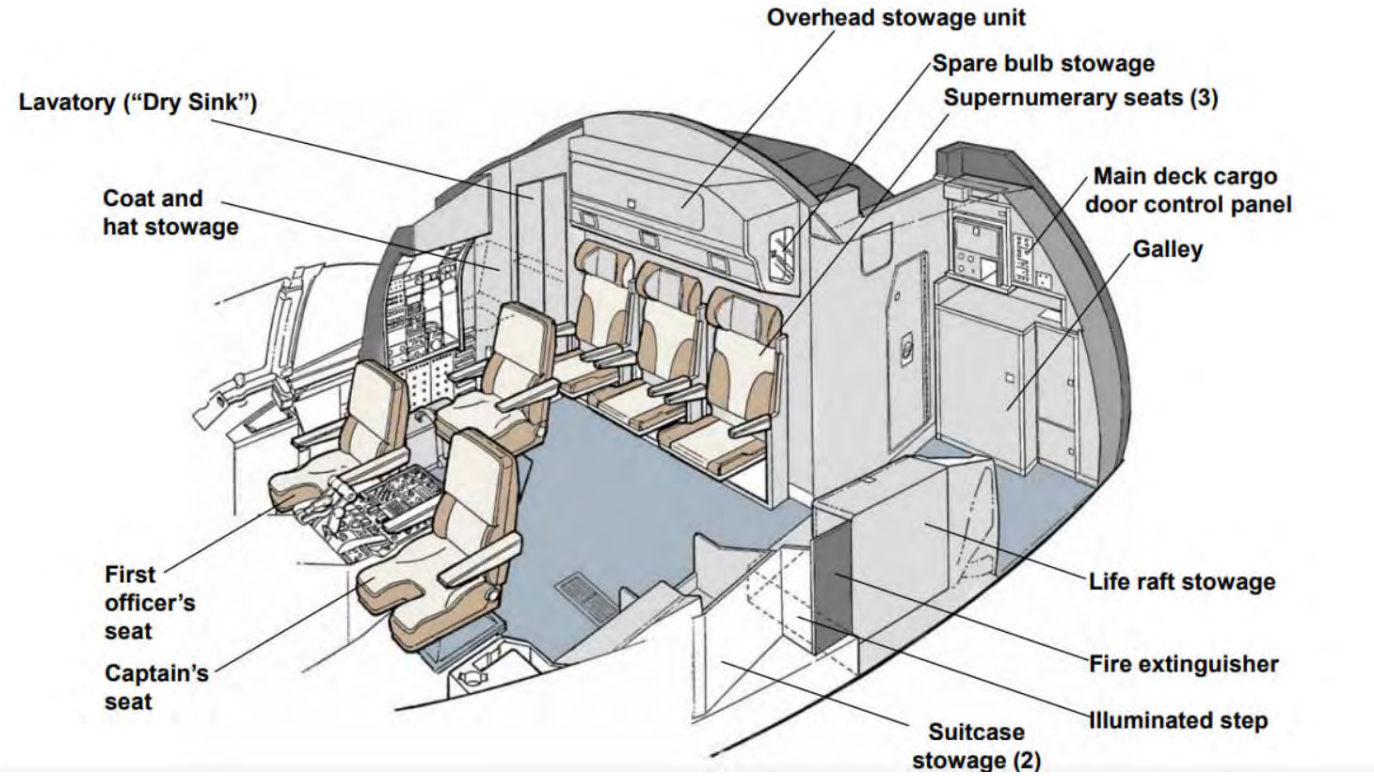
Applicable for: ALL

3 flight attendant seats (jumpseats) are available for supernumeraries on flight deck behind the flight crew seats. 4th seat can be used for extra Flight Crew.

Only airline crew who has valid Crew ID, or persons, additionally approved by Airline AVSEC for certain flight can occupy seats for supernumerary.

Total quantity of Flight Crew and supernumeraries onboard **cannot exceed 6 (six)** – subject to availability of full set of emergency equipment. This amount can be reduced for certain flights due to the operational issues.

Baggage of Flight Crew and any supernumeraries must be stowed and tie-downed on Suitcase Stowage or on Main Deck position A1 (together with furnishing equipment), or in Bulk section (tie-down in Bulk is not mandatory).



B757-200PCF

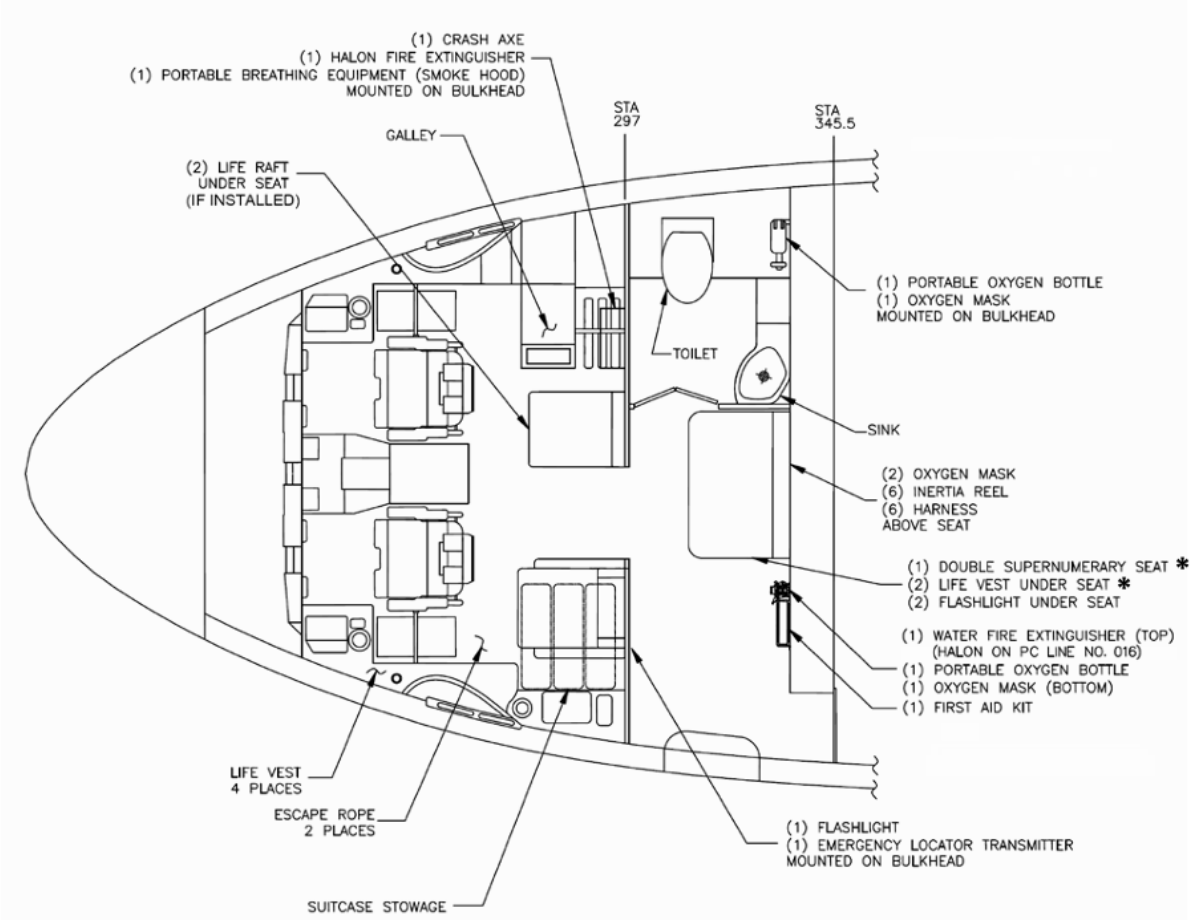
Applicable for: UK75001

3 flight attendant seats (jumpseats) are available for supernumeraries on flight deck behind the flight crew seats. 4th seat can be used for extra Flight Crew.

Only airline crew who has valid Crew ID, or persons, additionally approved by Airline AVSEC for certain flight can occupy seats for supernumerary.

Total amount of Flight Crew and supernumeraries onboard **cannot exceed 6 (six)** – subject to availability of full set of emergency equipment. This amount can be reduced for certain flights due to the operational issues.

Baggage of Flight Crew and any supernumeraries must be stowed and tie-downed on Suitcase Stowage or on Main Deck position A1 (together with furnishing equipment), or in Bulk section (tie-down in Bulk is not mandatory).



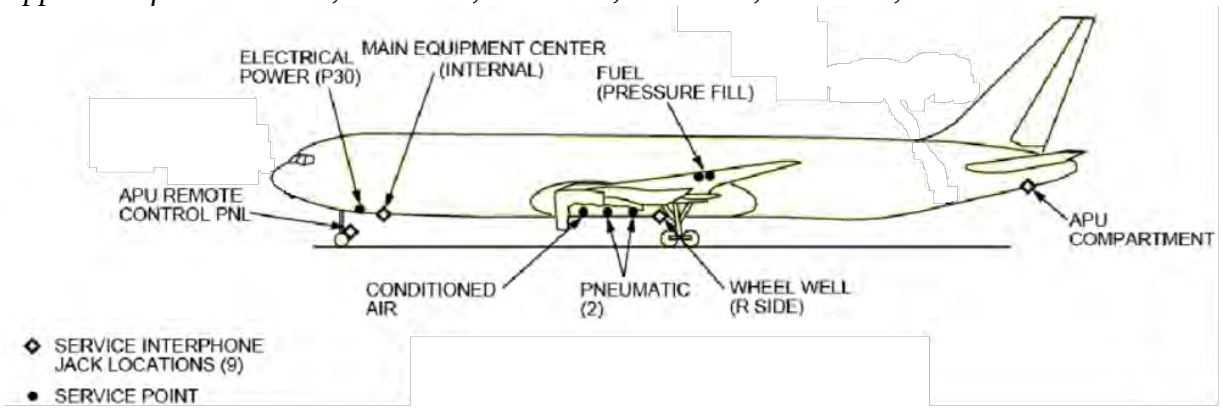
3.13 MAXIMUM ANGLE OF TURN OF NOSE GEAR DURING THE TOWING

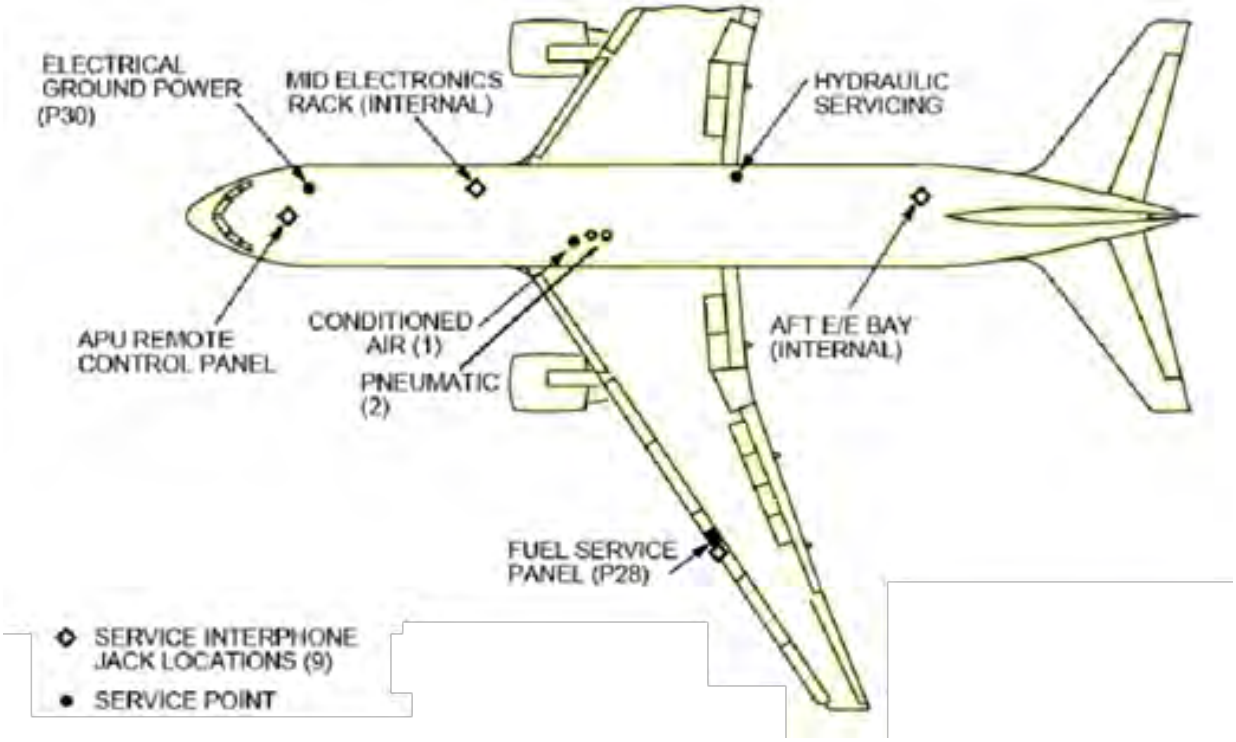
Max angle of nose gear turning must not exceed 65 degrees for any B757-200PCF and B767-300BCF (-BDSF).

3.14 SERVICING POINTS POSITIONS

3.14.1 B767-300BCF (-BDSF)

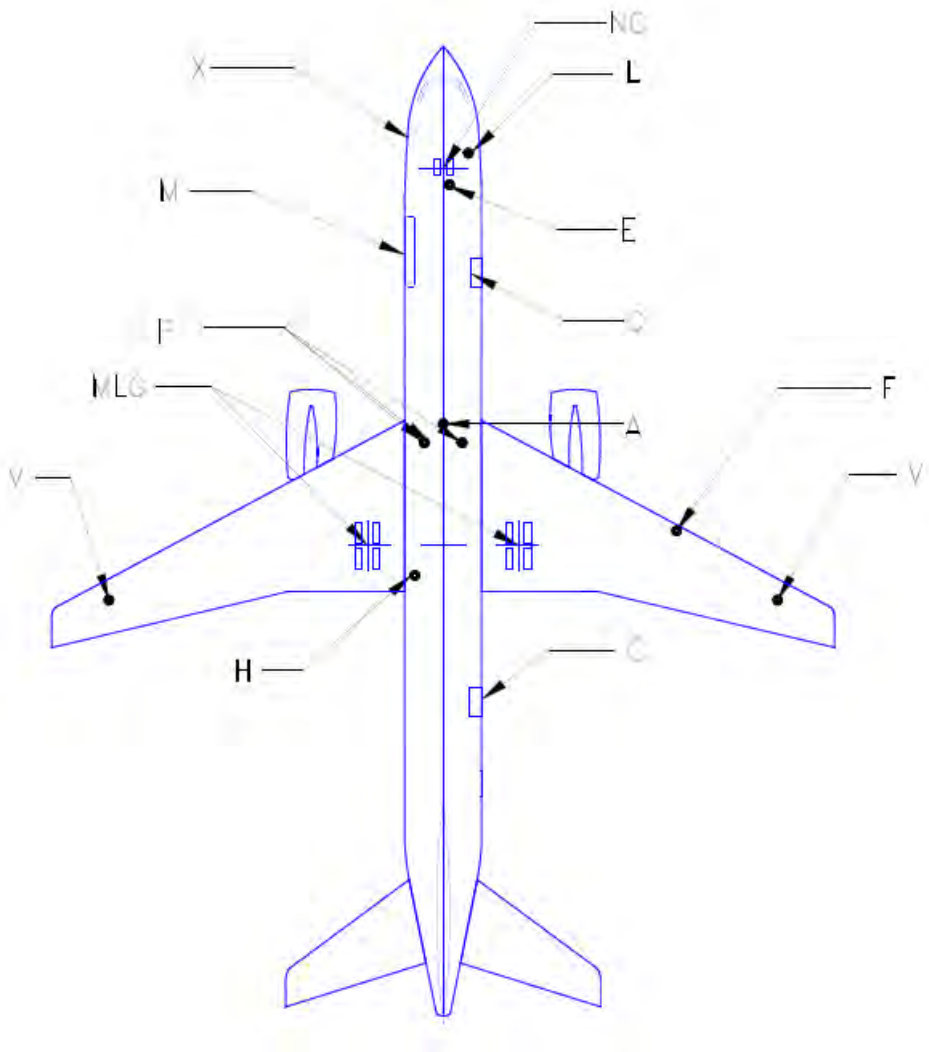
Applicable for: UK67009, UK67010, UK67015, UK67017, UK67018, UK67019





3.14.2 B757-200PCF

Applicable for: UK75001



LEGEND:

A – Air Condition Unit service point (ACU)
C – Cargo doors
E – ground power unit service point (GPU)
F – fuel service point
H – access panel of hydraulic system
M – Side Cargo Door
P – Air Starter Unit service point (ASU)
V – ventilation valves of fuel system
X – crew entry door
MLG – main landing gear
NG – nose landing gear

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PART 4. UNIT LOAD DEVICES AND APPLICABLE CONTOURS

4.1 GENERAL PROVISIONS

Unit Load Device (abbreviated as ULD) allows to simplify and speed up loading and unloading operations, as it combines separate packages that differ from each other into a single package that can move through the regular cargo system of the aircraft.

It also allows you to secure loads and distribute the load among the elements of the cargo system. Side rails, pallet locks and other elements of the aircraft cargo system ensure that the ULD is held in place during flight and prevents it from shifts, which can cause damage to the aircraft and crew, as well as change the center of gravity during flight maneuvers. Roller guides under the pallet ensure that the pallets move throughout the aircraft and the weight is distributed to the floor beams.

Cargo in containers is secured by walls and ceiling, it is also possible to partially secure the cargo inside by standard tie-down straps.

Cargo on pallets is secured using nets attached to the seattrack along the perimeter of the ULD using fittings, as well as straps attached to the same seattracks.

All pallet nets must have an attachable manufacturer's data tag.

All containers, pallets and pallet nets (as well as tie-down straps) used for cargo/mail/baggage/equipment shipping must be serviceable - within the limits specified by their manufacturer (include the expiry date). Exemption can be given only for damaged ULD shipped for repair (for example, damaged and unserviceable pallets can be stacked into pallet stack, but base pallet must be serviceable).

Passenger aircraft A319/A320/A321 operated by «My Freighter LLC» are not equipped by cargo handling system allows to load and secure ULD. Baggage, mail and cargo can be placed directly on the floor of cargo compartments (located at low deck).

Passenger aircraft A330 operated by «My Freighter LLC» equipped by cargo handling system allows to load and secure ULD in Low Deck Cargo Holds. Baggage, mail and cargo can be placed directly on the floor of Bulk section (located at Compartment 5, Aft Hold).

Freighter aircraft B767-300BCF (-BDSF) and B757-200PCF operated by «My Freighter LLC» are equipped by cargo handling system allows to load and secure appropriate types of ULD.

Loading right to the floor of cargo compartment (without ULD) is partially allowed for light items into bulk section (Aft Cargo Hold) and Main Deck of B767-300BCF (-BDSF). Specific types of packages must be restrained by straps to aircraft structure according to the requirements shown in ***Part 8 GOCHM***.

Loading right to the floor of cargo compartment (without ULD) is allowed for light items into Low Deck holds of B757-200PCF. Specific types of packages must be restrained by straps to aircraft structure according to the requirements shown in ***Part 8 GOCHM***.

There are certain restrictions on the weight of payload that can be placed on the ULD:

- limitation on floor loads (linear load and area load) – refer to ***Parts 2 & 3 GOCHM***;
- limitation on the capacity of pallet locks (for freighter aircraft) – refer to ***Part 3 GOCHM***.

NOTE 1*: ULDs are classified as detachable parts of the aircraft and are therefore subject to certification under certain requirements set by the regulatory authorities. A damaged ULD, especially one with sharp protrusions, poses a risk of damage to aircraft interiors, loading equipment, floor machinery, baggage, cargo and mail, and increases a risk of injure people handling the ULD.*

NOTE 2*: The ULD must be inspected for damage prior to picking and before loading on board and upon arrival and/or if the ULD is handed over.*

Refer to ***Section 4.7 Part 4 GOCHM*** to see ULD serviceability parameters.

Other requirements (for example, certification requirements) are shown in ULD manual provided by ULD supplier.

4.2 ULD SPECIFICATION ACCORDING TO IATA CLASSIFICATION

Each ULD is marked with its own identification code.

This code contains information regarding the category, size, contour, serial number and owner of the ULD.

A distinction is made between **certified ULDs** (have passed the appropriate tests) and **non-certified ULDs**. ULDs can be certified for a specific aircraft type or for a range of aircraft types. Certified ULDs, subject to the conditions mentioned in ***Part 9 GOCHM***, may be secured onboard only by standard pallet locks. Non-certified ULDs must be strapped to the aircraft structure in accordance with the limitations of the Aircraft Specific Weight and Balance Manual and ***Part 9 GOCHM***.

Each ID-code consists of 3 parts, each has its own meaning

3 characters-code type ULD, where each has its own meaning	**4 or 5 digits - serial number defined by each owner**	**2 or 3 owner/registrar characters (e.g. R7 for Unilode)**
PMC12345 R7		

ULD Category	
A	Certified air container
B	Certified pallet with «wings»
D	Non-certified air container
F	Uncertified air pallet
G	Non-certified pallet network
H	Certified cost for horses
J	Igloo heat protection pallet
K	Certified livestock stalls
L	Cert. multi-loop container
M	Thermo non-certified container
N	Certified pallet network
P	Certified air pallet
Q	Certified Rigid Air Container
R	Thermally certified container
S	Cert. multimod. air container
U	Non-structural igloo container
V	Certified ULD for Auto
W	Cert. ULD for aircraft engine
X	Reserved for the airline
Y	Reserved for the airline
Z	Reserved for the airline

Base size		
	inches	***mm***
A	88x125	2235 x 3175
B	88x108	2235 x 2743
G	96x238.5	2438 x 6058
K	60.4 x 61.5	1534 x 1662
L	60.4x125	1534 x 3175
M	96x125	2438 x 3175
N	61.5x96	1562 x 2438
P	47x60.4	1194x1534
Q	60.4x96	1534 x 2438
R	96x196	2438 x 4978
S	61.5x88	11562x2235
D	54x88	1372 x 2235
E	53x88	1346 x 2235
F	96 x 117.75	2438x2991
H	96 x 359.25	2438 x 9125
J	96x480	2438 x 12192
X	Other, largest size between 96" and 125"	
Y	Other, largest size ≤ 96"	
Z	Other, largest size > 125"	

Container Contour *
Example
F (e.g., DQF) *E (e.g., AKE)* *A (e.g., HMA)*
N (e.g., RKN)

** The standard IATA code is indicated for containers only. For pallet or mesh, the 3rd character indicates their compatibility with each other.*

***NOTE**: Rigid pallets - base thickness between 51mm (2in) and 63.5mm (2.5in). ULD sizes G and R are rigid. Size M ULDs can be either rigid or flexible.*

CODES INDICATING CONTAINER CONTOUR

Code	Height (inch)	Number of chamfers in the contour	Base Size Codes
A or B or 6	96	No (rectangular shape)	A, M, G
D or 7	118	One. Top bevel on the long side	A, M
C or E or N	64	One. Bottom bevel on the short side	K, V, P
G	45	One. Bottom bevel on the short side	K
F or U	64	Two. Bottom bevel on the short side	A, M, L, Q
H	45	Two. Bottom bevel on the short side	K
J2	96	One. Top bevel on the long side	A, M
K	64	Two. Top bevel on the short side	A, B, M, L
L	116	One. Top bevel on the long side	M
M	84	No	A, M
P	64	No	A, E, M, L, K, V, Q
C or N	64	Two. Bottom bevel on the short side	L
V	96	One (in the form of an arc). Top bevel on the long side	M
X	118	One. Top bevel on the long side	M

NOTE: *Gross weight of ULD includes tare weight of ULD, weight of shoring, cargo and tie-down materials used for build-up. Gross weight of ULD must never exceed position limit for appropriate position of aircraft. Gross weight of 88'' ULD is restricted by 4626 kg if ULD is loaded to Low Deck of B767 or A330. Gross weight of 96'' ULD is restricted by 5034 kg if ULD is loaded to Low Deck of B767 or A330. Gross weight of K-size ULD is restricted by 1587 kg if ULD is loaded to Low Deck of B767 or A330. Weight of exact ULD may be reduced due to the damaged locks or restraints, or Linear/Area Loads parameters.*

4.3 CERTIFIED ULD TYPES

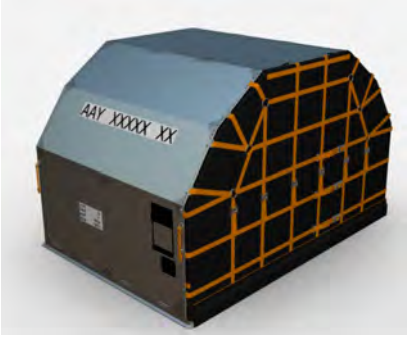
This section lists the options for certified ULDs.

Exact dimensions and weight limits may vary by manufacturer. External view of specific containers and general data are shown below for reference.

AAX container

External size: 317 x 224 x 236 cm
Max weight: 6804 kg
Tare weight: 278 kg
Contour: Q2
Loading option:

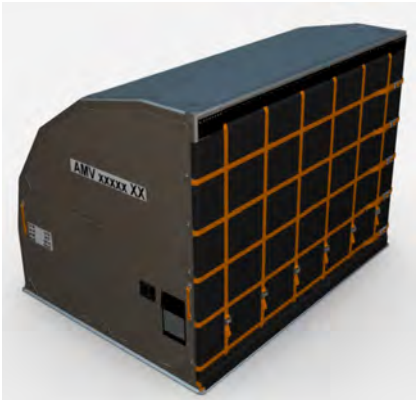
- ***B767-300BCF (-BDSF):*** side-by-side.



AAA & AAY containers

External size: 317 x 224 x 209 cm
Max weight: 6033 kg
Tare weight: 245 kg
Contour: Q3
Loading option:

- ***B767-300BCF (-BDSF):*** lateral centerload
- ***B757-200PCF:*** lateral centerload



AMV container

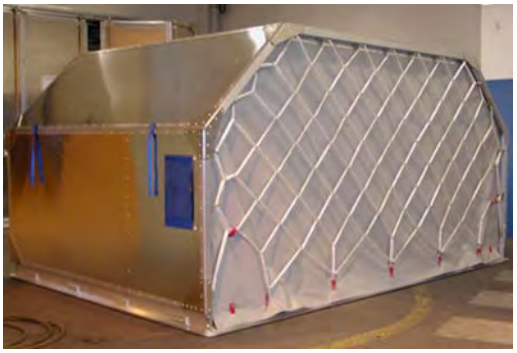
External size: 317 x 244 x 244 cm
Max weight: 6804 kg
Tare weight: 288 kg
Contour: Q6
Loading option:

- ***B767-300BCF (-BDSF):*** longitudinal centerload

LAY container

External size: 317 x 244 x 244 cm
Max weight: 6804 kg
Tare weight: 230 kg
Contour: Q6
Loading option:

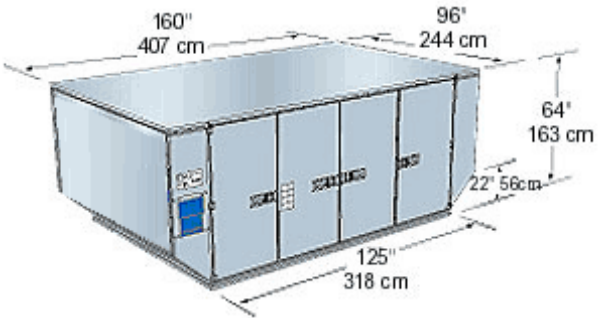
- ***B767-300BCF (-BDSF):*** longitudinal centerload



AAK container

External size: 317 x 224 x 163 cm
Max weight: 6033 kg
Tare weight: 210 kg
Contour: PLD (*UK67019, UK67020, UK67021: only Main Deck*)
Loading options:

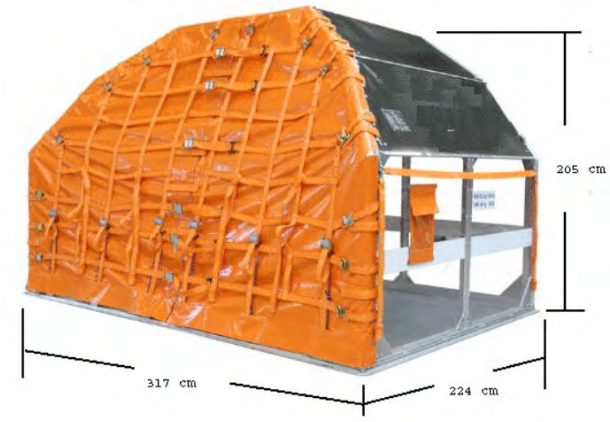
- **B767-300BCF (-BDSF) & B757-200PCF:** lateral centerload on Main Deck
- **B767-300BCF (-BDSF)** ***(except UK67019)***: longitudinal loading in FWD Hold (LD).



AMF & MMF containers

External size: 407 x 244 x 163 cm
Max weight: 5035 kg
Tare weight: 315 kg
Contour: Q3 / Q6 with overhangs 45 cm
Loading options:
A330: Low Deck – lateral loading.
B767-300BCF (-BDSF):

1) Main Deck: longitudinal centerload with B//S OHG 45cm FWD and AFT.
2) Main Deck: lateral centerload with B//S OHG 45cm LEFT and RIGHT.



AAC container

External size: 317 x 224 x 205 cm
Max weight: 6030 kg
Tare weight: 210 kg
Contour: Q2 & Y
Loading options:

- **B767-300BCF (-BDSF)**: longitudinal loading, one side of Main Deck.
- **B757-200PCF**: lateral loading.

ULD PARAMETERS

IATA code	ULD type [4]	Base size, Inch (mm)	Usable area (cm)	Tare weight [3], Kg	Pallet Net Weight, kg	Max Gross weight, kg	Max Volume, m^3	Max Contour	Compatibility [5]
AAF DAF MAF RAF	C	88 x 125 (2240 x 3175)	-		-	4625	12.7	Q3 with LAT OHG 46 cm B//S	MD B767 Freighter
AAX	C	88 x 125 (2240 x 3175)	-	278	-	6804	14	Q2	MD B767 Freighter
AAC	C	88 x 125 (2240 x 3175)	-	215		6030		Q2 / Y	MD B767 Freighter MD B757 Freighter
AAP RAP MAP	C	88 x 125 (2240 x 3175)	-	245	-	6804	11.6	PLD	LD B767 Freighter *(UK67019/20/21 – Main Deck only)*
AAY AAA AAZ LAZ LAY	C	88 x 125 (2240 x 3175)	-	245	-	6033	12.2	Q3	MD B767 Freighter MD B757 Freighter
AAM AAJ RAJ AAD	C	88 x 125 (2240 x 3175)	-	-	-	-	-	-	*Not loadable to B767 due to the base dimensions & contour*
AAK	C	88 x 125 (2240 x 3175)	-	210	-	6033	9.6	PLD / Q1	MD/LD B767 Freighter *(UK67019/20/21 – Main Deck only)* MD B757 Freighter LD A330
AKE AVA AVB	C	61.5 x 60.4 (1662 x 1534)	-	100	-	1587	4.3	LD3	LD B767 Freighter (left side only) LD A330
AKN AVN	C	61.5 x 60.4 (1662 x 1534)	-	127	-	1587	4.0	LD3	LD B767 Freighter (left side only) LD A330
AKH MKH	C	61.5 x 60.4 (1662 x 1534)	-		-	1134	3.9	LD3-45W *(Occupies 1x LD3 position)*	LD B767 Freighter (left side only)
AMA	C	96 x 125 (2438 x 3175)	-	255	-	6804	17.6	Q6	MD B767 Freighter (centerload only)
AMF MMF	C	96 x 125 (2438 x 3175)	-	315	-	5035	14.3	Q3 with LAT OHG 46 cm B//S Q6 with FWD/AFT OHG 46cm B//S	MD B767 Freighter (centerload only) LD A330
AMP	C	96 x 125 (2438 x 3175)	-	439	-	5103	11.8	PLD	MD/LD B767 Freighter *(UK67019/20/21 – Main Deck only)* LD A330
AMV	C	96 x 125 (2438 x 3175)	-	288	-	6804	14.2	Q6	MD B767 Freighter (centerload only)
AMX AMD AML	C	96 x 125 (2438 x 3175)	-	-	-	-	-	-	*Not loadable to B767 due to the height*

AMJ HMJ	C	96 x 125 (2438 x 3175)	-	241	-	6804	16.5	Q6	MD B767 Freighter (centerload only)
ALF	C	60.4 x 125 (1534 x 3175)	-	-	-	-	-	-	*Not loadable to B767 due to the base dimensions & contour*
ALP	C	60.4 x 125 (1534 x 3175)	-	194	-	3175	7.2	PLD	LD B767 Freighter (left side / FWD Hold) (*except UK67019/20/21*)
DQP (*uncertified & must be tie-downed by straps to A/C structure*)	C	60.4 x 125 (1534 x 3175)	-	242	-	6804	11.5	LD4	LD B767 Freighter (FWD Hold, longitudinally to 2 positions on left side of deck) [2] (*except UK67019*)
FQA	P	96 x 60.4 (2438 x 1534)		66	10	2449	Variable	LD8	LD B767 Freighter [2]
PGA PGF	P	96 x238.5 (2438 x 6058)	592x230	570	29.5	*Contact GHOD HQ*	Variable	Only 3 ULD per stack (empty)	MD B767 Freighter [2] (*except UK67019/20/21*)
PMC, PQP PMA, PMP P6P, P6A, P6C, P6Q	P	96 x 125 (2438 x 3175)	304x230	120	18	6804	Variable	Q3, Q6, PLD	MD & LD B767 Freighter (*UK67019/20/21 – MD only*) LD A330
PRA, PZA P4A, P4M	P	96 x 196 (2438 x 4978)	485x230	469	27	11340	Variable	Q4	MD B767 Freighter [1] (*except UK67019/20/21*) LD A330
PRF	P	96 x 196 (2438 x 4978)	485x230	469	27	11340	Variable	Q4	MD B767 Freighter [1] (*except UK67019*)
HMA	C	96 x 125 (2438 x 3175)		835	-	6800	15	Q6	MD B767 Freighter
HMC	C	96 x 125 (2438 x 3175)		850	-	6800	14	Q6	MD B767 Freighter
PAG, PAJ PAA, PAD PAE, PAF PAH, PAK PAL, PAX P1P, P1A P1C, P1D P1G	P	88 x 125 (2240 x 3175)	304x200	110	18	6804	Variable	Q1, Q2, Q3, PLD	MD/LD B767 Freighter (*UK67019/20/21 – MD only*) MD B757 Freighter LD A330
PEB	P	53 x 88 (1346 x 2240)		43	12	1134	4.8	LD4	MD/LD B767 Freighter [2]

[1] If locks are available. Otherwise, this ULD can be loaded as a floating pallet.
[2] Only as a floating pallet with full tie-down to A/C structure.
[3] Including weight of pallet net for pallets.
***NOTE**: if the weight is indicated on the container, this information prevails over the data given in the table above, or UHM.*
***NOTE**: the tare in UHM can only be used to determine the intended payload (in the EFF message), including for pallets in the pallet stack.*
***NOTE**: to determine the maximum weight of the ULD, it is necessary to take into account the maximum weight for the planned position on the aircraft.*
*[4] **C** = Container, **P** = Pallet.*
*[5] **MD** = Main Deck, **LD** = Low Deck.*

4.4 TYPES OF APPLICABLE CONTOURS FOR VARIOUS ULDs

Actual contour of each built ULD (pallet) must be mentioned in CPM message.

Actual contour of built container is not required in CPM message.

Contours max size limits are mandatory - and must always be respected.

ULD contour includes thickness of ULD, shoring height and shipment height. For netted shipments (built on ULD) 1cm shall be added to final sum of ULD thickness, shoring and shipment heights to have final height of built ULD (due to the thickness of pallet net).

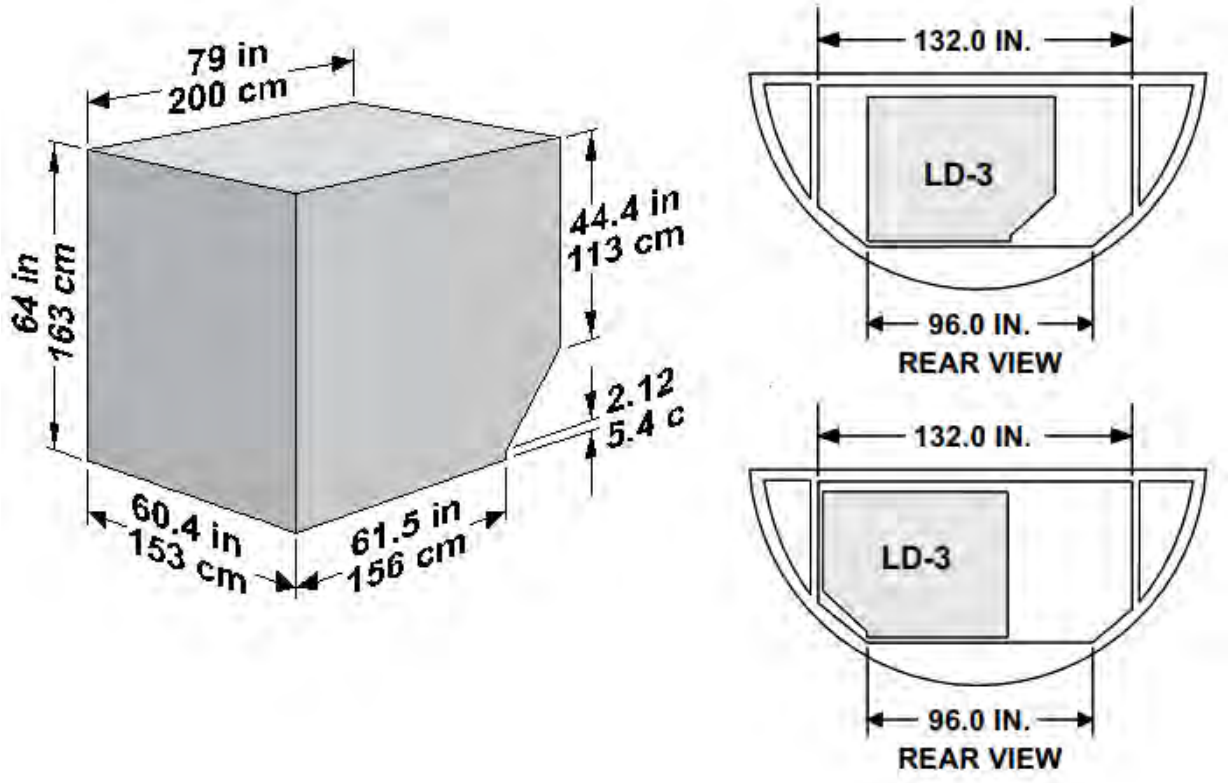
Exceeding the dimensions of any ULD contour is not allowed.

Max sizes of ULD contours are shown in ***Sections 4.5-4.6 Part 4 GOCHM***.

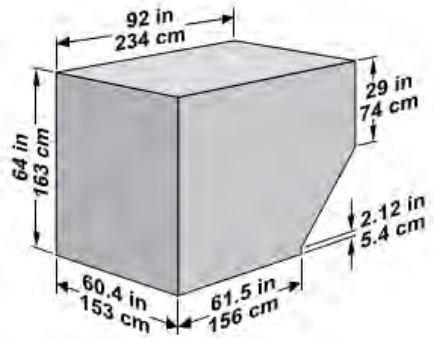
4.5 LOWER DECK CONTOURS

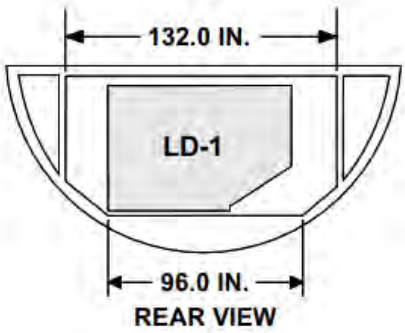
4.5.1 B767-300BCF (-BDSF) LOW DECK CONTOURS

Contour LD3 with one 17,5'' «wing».

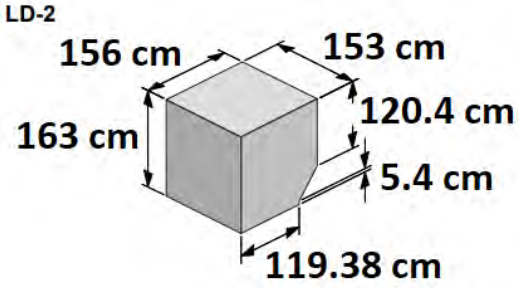


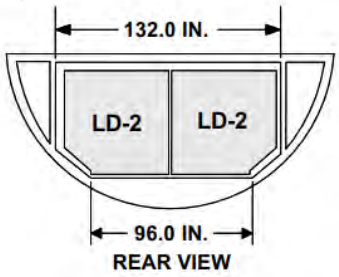
Contour LD1 with one 30,5'' wing.





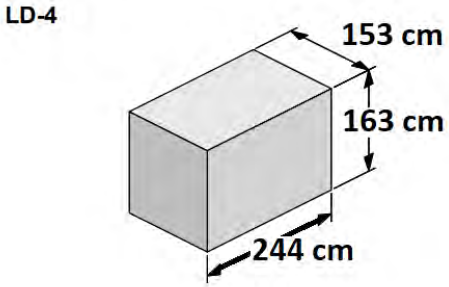
Contour LD2 (*can be loaded side by side in LD Holds of B767-300BCF (-BDSF)***)**

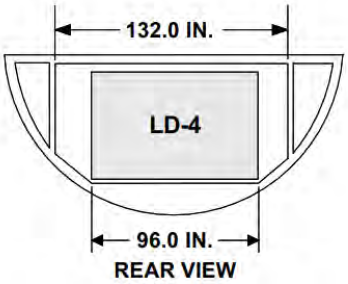




Contour LD4

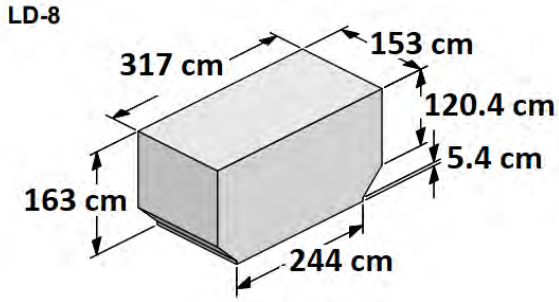
Contour for ULD size Q

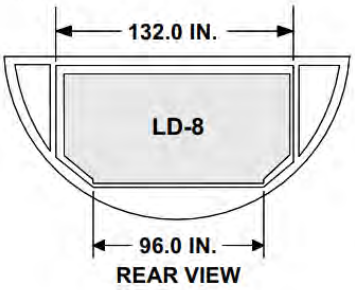




Contour LD8

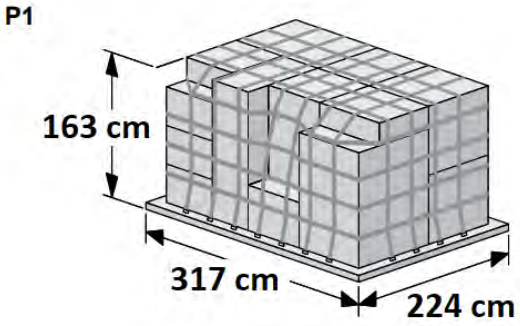
Maximum contour for ULD size Q

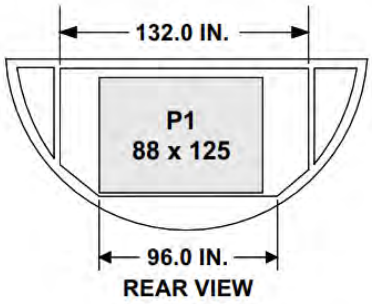




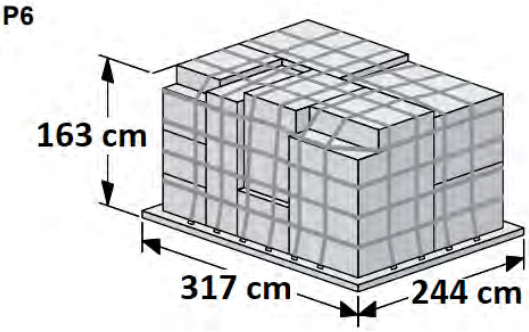
Contour "PLD" for 125x88'' ULD

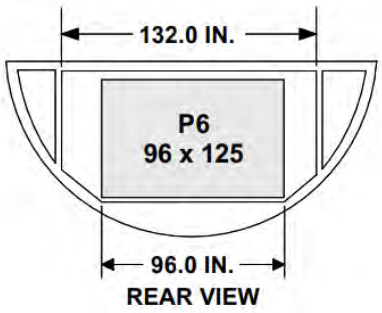
ULD of these contour and sizes are not loadable to LD Holds of UK67019/UK67020/UK67021.





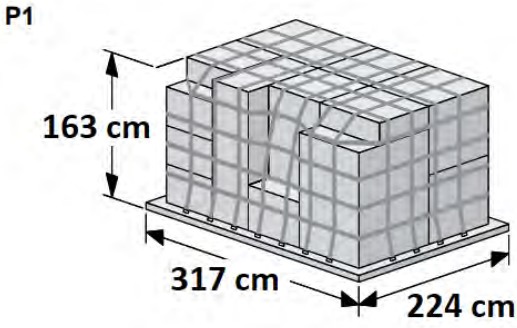
Contour "PLD" for 125x96'' ULD



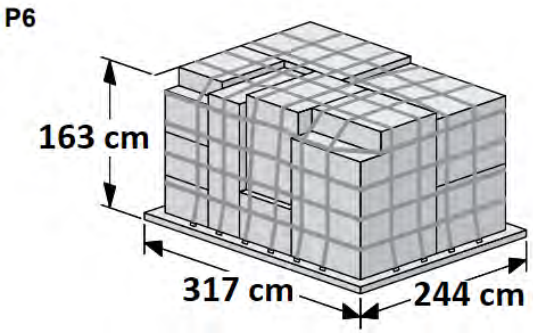


4.5.2 LOW DECK CONTOURS - A330-343

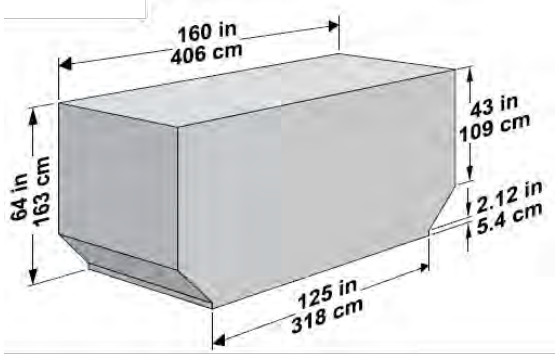
Contour "PLD" for 125x88'' ULD



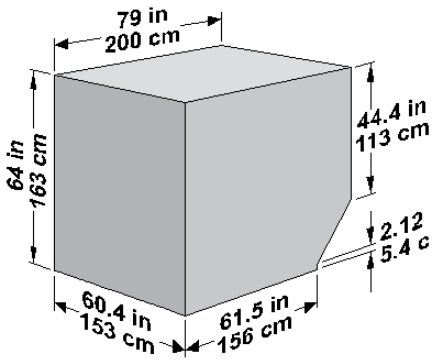
Contour "PLD" for 125x96'' ULD



Contour "PWG" для 125x88'' & 125x96'' ULD



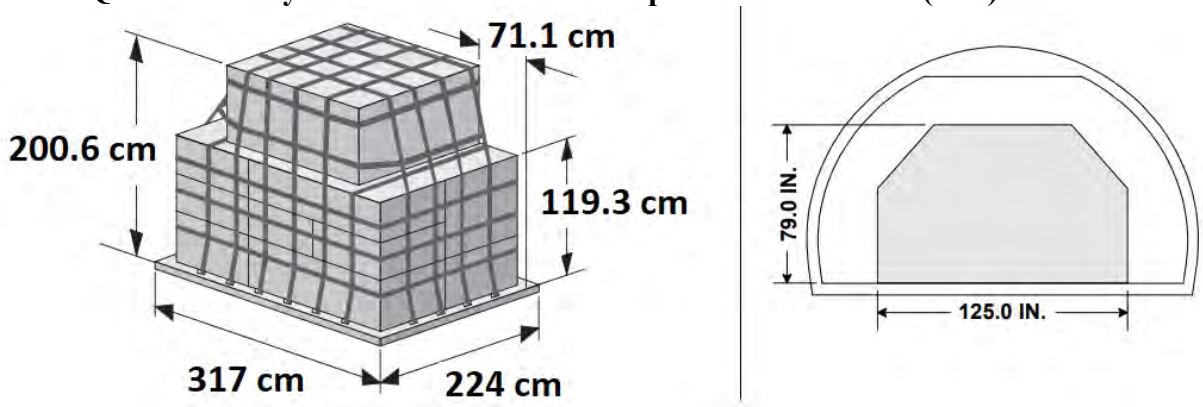
Contour LD3



4.6 MAIN DECK CONTOURS

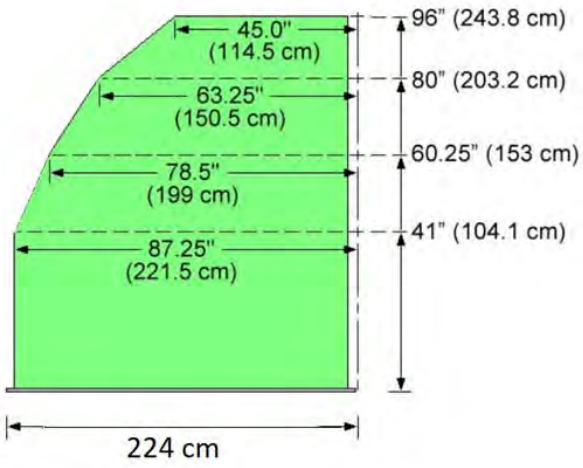
4.6.1 B767-300BCF (-BDSF) MAIN DECK CONTOURS FOR ULD SIZES "A" AND "M"

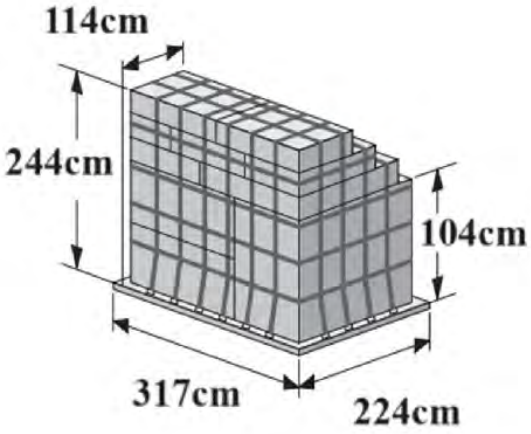
Contour Q1 for laterally loaded ULD 125x88'' on positions A1 & A17 (A13)



Contour Q2 for longitudinally loaded ULD 125x88'' ULDs on positions A2-A12 (located side by side)

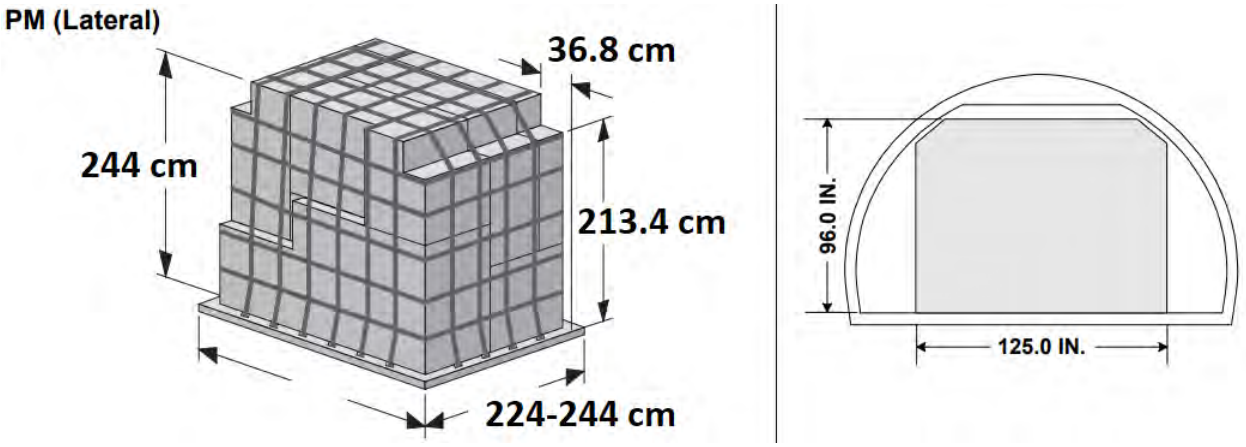
Maximum contour for longitudinally loaded 125x88'' wide ULDs on pos. A2R/A2L-A12R/A12L (Configuration A).





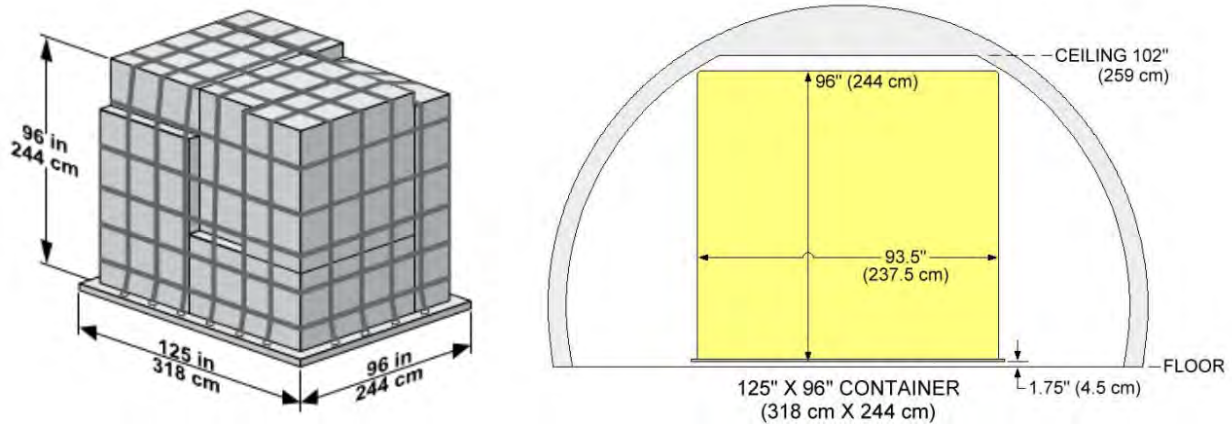
Contour Q3 for laterally loaded ULD 125x88'' & 125x96'' on positions A2-A16

Maximum contour for laterally loaded ULD 125x88 & 125x96'' on pos. A2-A16 and M1-M14 (Configurations D and E).



Contour Q6

Maximum contour for longitudinally loaded 125x96'' ULDs on pos. M1-M11 & C2-C12 (Configuration C).

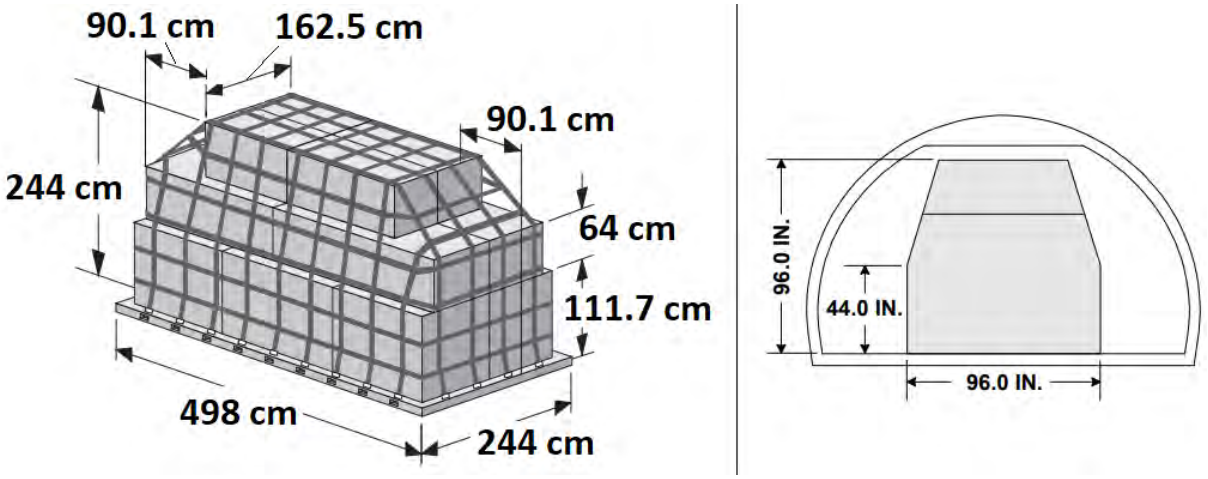


4.6.2 B767-300BCF (-BDSF) MAIN DECK CONTOURS FOR ULD SIZES "R"

***NOTE**: R-size pallets (196x96'') must be specifically contoured for safe loading to B767-300BCF (-BDSF). Loading may become too problematic or even impossible in case of contour violation.*
Decision about possibility of loading can be done on individual basis by Airline's Chief Loadmaster.

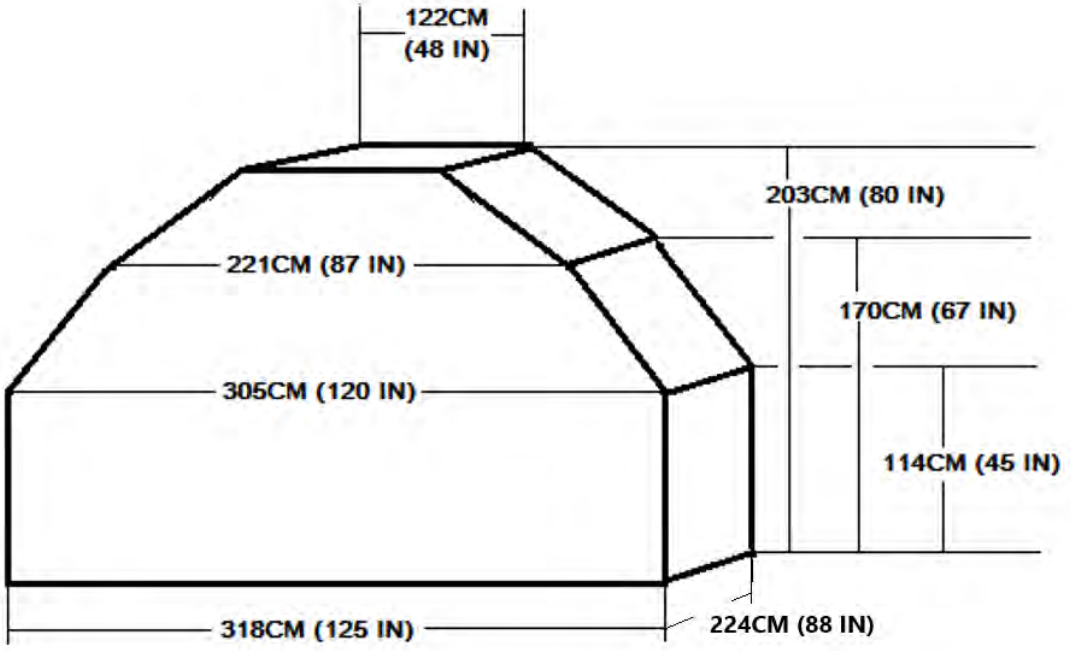
Contour Q4 for longitudinally loaded 16FT ULD

- *Maximum contour for longitudinal loading of ULD 196x96'' to pos. R1/E1 – R5 (Configuration G).*
- *ULD of this contour and size is not loadable to UK67019.*



4.6.3 B757-200PCF MAIN DECK CONTOURS FOR ULD SIZE "A"

Maximum contour Y is applicable to any A-size ULD planned for loading to Main Deck of B757-200PCF.



4.7. ULD SERVICEABILITY CHECK

ULD serviceability check must be performed:

1) When a ULD is received or accepted (delivered empty or loaded to GHA);
2) Prior ULD build-up or preparation for loading of empty ULD onboard of aircraft.
3) Prior to a ULD being released for loading into an aircraft (or trucks).

Personnel performs ULD serviceability check must follow to limits shown on ULD Operational Damage Limit Notice (ODLN). Refer to ***Fig. 4.7.1*** for reference.

DO NOT COVER THIS LABEL **FOR OPERATIONAL USE ONLY**

REFERENCE FOR ALL CERTIFIED CARGO CONTAINER TYPES (E)TS0 C90

This In-Service Checklist can be used by Operators and Handlers in the absense of ODLN ONLY when approved by the Operator

Location	Component	Code	THE ULD SHOULD NOT BE USED IF ANY OF THE BELOW CONDITIONS ARE EXCEEDED
ALL	NO SHARP PROTRUSIONS - NO DEFORMATION/DEFLECTION OUTSIDE THE IATA CONTOUR - NO BROKEN OR MISSING PARTS		
Base	Sheet	SB	NO MORE THAN 0.8 IN/20 MM SIZED HOLES; 2 IN/50 MM TEARS (1 EACH)
			NO LESS THAN 14 IN/350 MM BETWEEN DAMAGES
			NO LESS THAN 4 IN/100 MM BETWEEN DAMAGES AND FASTERNERS
	Extrusion	EB	NO MORE THAN 0.8 IN/20 MM SIZED HOLES (MAX 1 EACH)
			NO MORE THAN 3.2 IN/80 MM LONGITUDINAL CRACKS & NO LATERAL CRACKS
			NO DAMAGE WITHIN 4 IN/100 MM OF EXTRUSIONS END OR AIRCRAFT LOCKS
			NO MORE THAN 1.25 IN/32 MM SIZED BOWED, WARPED OR DEFLECTED EXTRUSION
	Tie Down	TB	NO LOOSE OR DAMAGED ATTACHMENTS TO THE CONTAINERS STRUCTURE
	Fasteners	FB	NO MORE THAN 2 BROKEN, LOOSE OR MISSING RIVETS PER EXTRUSION
	Corner	CB	NO BROKEN, DEFORMED OR MISSING CORNER CONNECTIONS
Fabric Door	Curtain	CD	NO MORE THAN 6 IN/150 MM SIZED HOLES OR TEARS (MAX 4 EACH PER CURTAIN)
			NO LESS THAN 14 IN/350 MM BETWEEN DAMAGES
			NO LESS THAN 2 IN/50 MM BETWEEN DAMAGES AND OUTER EDGE
All	Webbing, Velcro and Thread		NO DAMAGED, MISSING OR WORN OUT WEBBING, VELCRO OR THREAD
Solid Doors	Panel	PD	THE DOOR MUST BE ALIGNED WITHIN CONTOUR DEFLECTION/FULLY OPERATE/SHEET REQ BELOW
Panels	Sheet	SP	NO HOLES OR THROUGH CRACKS IN ROOF PANELS OF ALUMINUM SHEET ULD
			NO MORE THAN 6 IN/150 MM SIZED HOLES/CRACKS IN ALL OTHER PANELS
			NO LESS THAN 12 IN/300 MM BETWEEN DAMAGES
			NO HOLES OR THROUGH CRACKS WITHIN 2 IN/50 MM OF ANY FASTENER
	Extrusion	EP	NO MORE THAN 0.2 IN/5 MM SIZED INDENTATION/DENTS ON DOOR POSTS AND ROOF FWD EXT
			NO MORE THAN 0.4 IN/10 MM SIZED INDENTATIONS ON ALL OTHER EXT
			NO MORE THAN 0.8 IN/20 MM SIZED HOLES (MAX 1 EACH)
			NO MORE THAN 3.2 IN/80 MM LONGITUDINAL CRACKS & 0.6 IN/15 MM LATERAL CRACKS
			NO HOLES OR THROUGH CRACKS AT THE DOOR POSTS, ROOF FWD EXT, AND ROOF STIFFENER EXT
	Fastener	FP	NO MORE THAN 2 BROKEN, LOOSE OR MISSING FASTENER PER EXTRUSION
Corner Connect	Gusset	CP	NO BROKEN, CRACKED, BENT OR LOOSE CORNER GUSSETS
Other	Webbing	WP	NO DAMAGED, WORN-OUT OR MISSING PULL STRAPS OR STRAPS WITH HOOKS
	TSO	TM	THE TSO DATA PLATE MUST BE IN PLACE AND LEGIBLE
	CHECK ALL DOOR FASTENERS FOR PROPER OPERATION; CHECK ALL JOINTS, GUSSETS AND BRACKETS FOR LOOSE/MISSING FASTERNERS		

IF EVER A DOUBT, REFER TO THE OEM CMM THIS LABEL IS NOT AN OEM ODLN, IT IS IN-SERVICE REFERENCE ONLY

Fig. 4.7.1. Example of ODLN on ULD

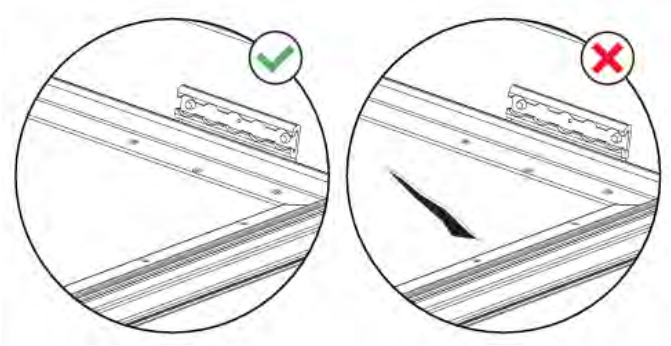
A pallet shall be deemed unserviceable if it exhibits one or several of the following defects:

- Missing or illegible manufacturer's data (TSO) marking;
- Missing or illegible ULD ID Code markings (e.g., plate with ULD number attached to ULD by rivets);
- A cracked, broken or missed corners (*refer to next pictures in this Chapter*);
- A missing or loose part of an edge profile (*refer to next pictures in this Chapter*);
- Missing rivets in excess of ODLN allowances on an edge profile or a corner (*refer to next pictures in this Chapter*);
- A worn through (holed) edge profile or worn below 1.5mm from edge profile;
- A hole in the ULD base;
- Any protrusion in ULD plate or any other element;
- Deflection more 50mm between 2 opposite points of for empty pallet / 25mm for loaded ULD
- Pallet net is contaminated by oil or fuel or any other chemical substances;
- More than 1 grid cell of pallet net is damaged;
- Pallet net fittings are broken (more 2 per pallet net, or 1 near the ULD corner);
- More 3 "lips" of seattrack are damaged or missed on all seattracks together;
- 1 or more tension hook missed or damaged on pallet net;
- 1 or more corner ropes are missed or damaged;
- Pallet net useful time (mentioned on pallet net tag) is expired. ***NOTE*** *– standard useful time for pallet net is 3 years since the manufacture date.*

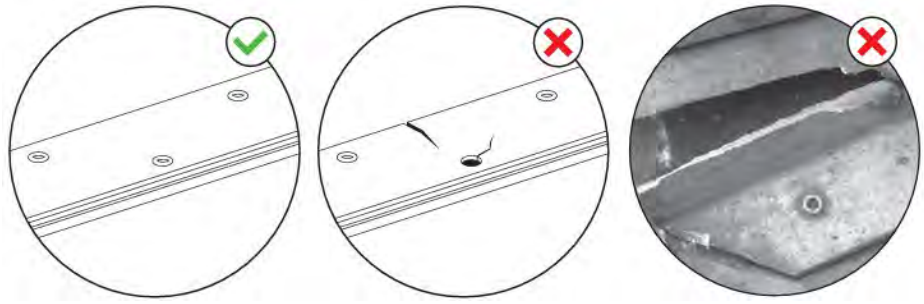
In addition to limits mentioned above, additional limitations are applied to containers. Container is mentioned as unserviceable if it exhibits one or several of the following defects in addition to above mentioned defects:

- Container frame is damaged (by any way).
- Container contour is deformed.
- More 3 holes are found on side panels (totally).
- More 2 holes per side panel is found.
- Holes bigger 20cm (length and/or width) are found on side panels.
- Distance between holes in side panel is less 10 cm.
- Distance from the any hole in side panel to nearest rivets is less 5 cm.
- Any holes found closer 5cm are found from container's frame or connection plates on corner.
- Any hole is found on ceiling of container.
- Any damages are found on base panel.
- Any damages are found on seattracks inside the container.
- Envelope for ULD tag is missed or damaged.

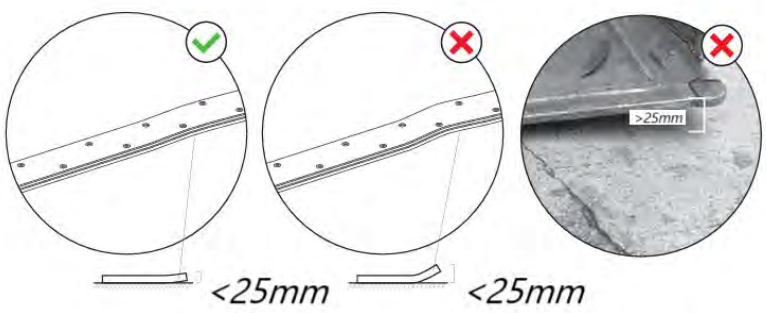
No cracks or holes on ULD base part



No broken or missing parts

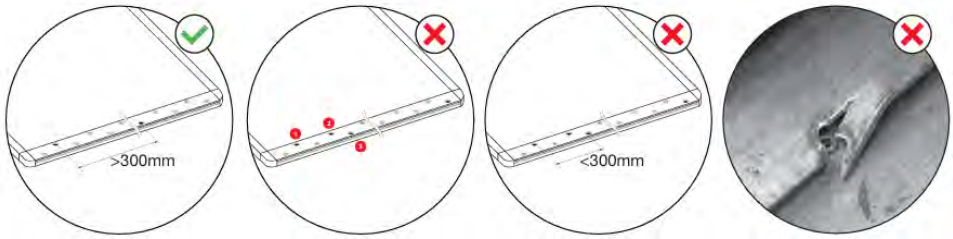


No deflections exceed 25mm for empty ULD / 50mm for loaded ULD

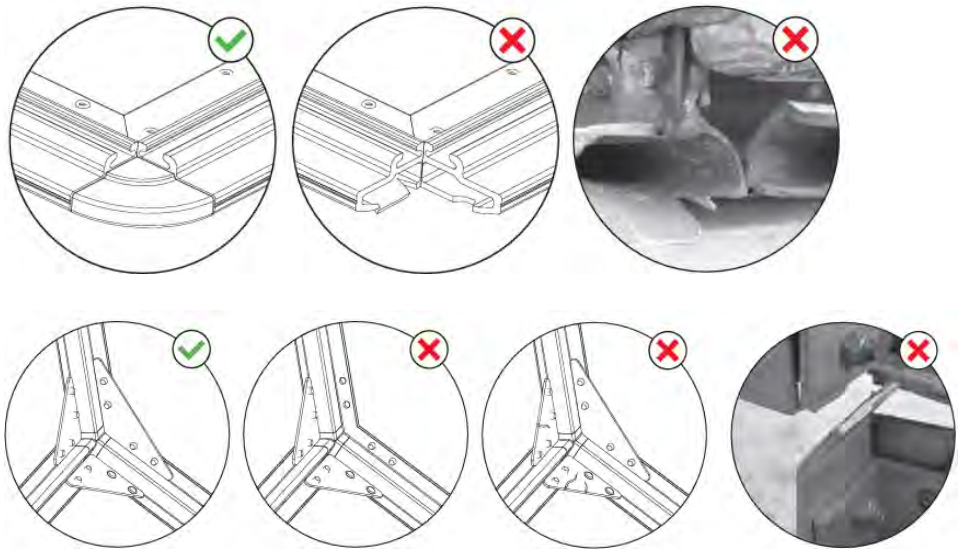


Not more 3 adjacent “clutches” of seattrack can be damaged on all ULD

No more than 3 broken or missing rivets per edge rail
No less than 12 inch / 300 mm between broken, lost or missing rivets

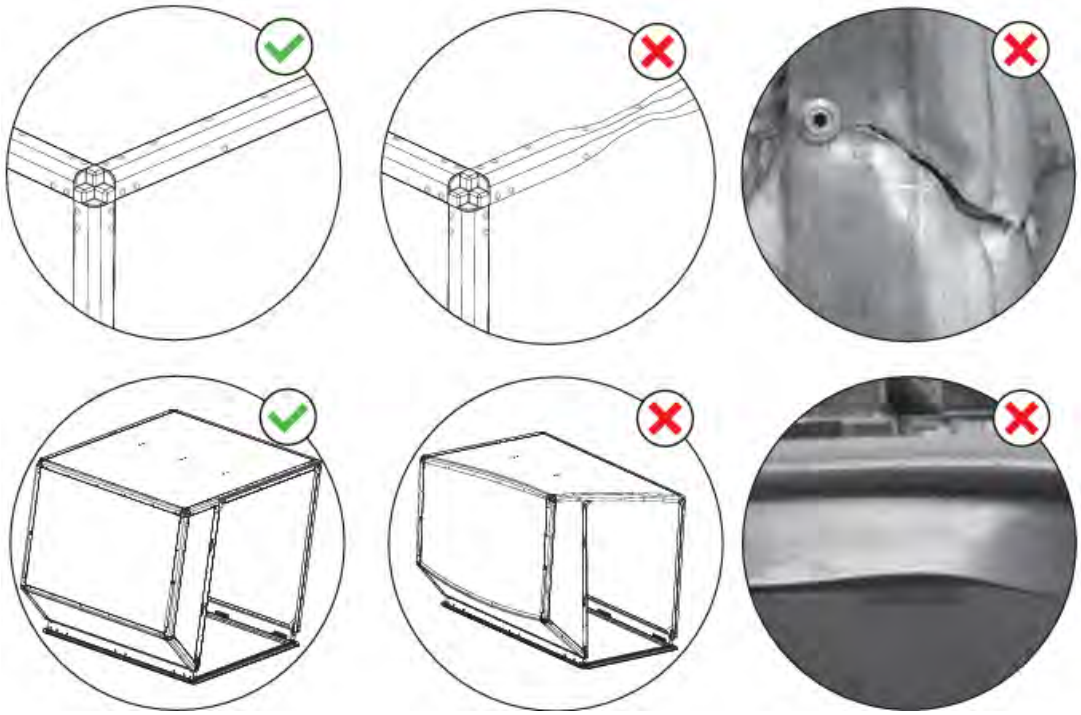


No deformed, broken or missing corner connections on pallets & containers

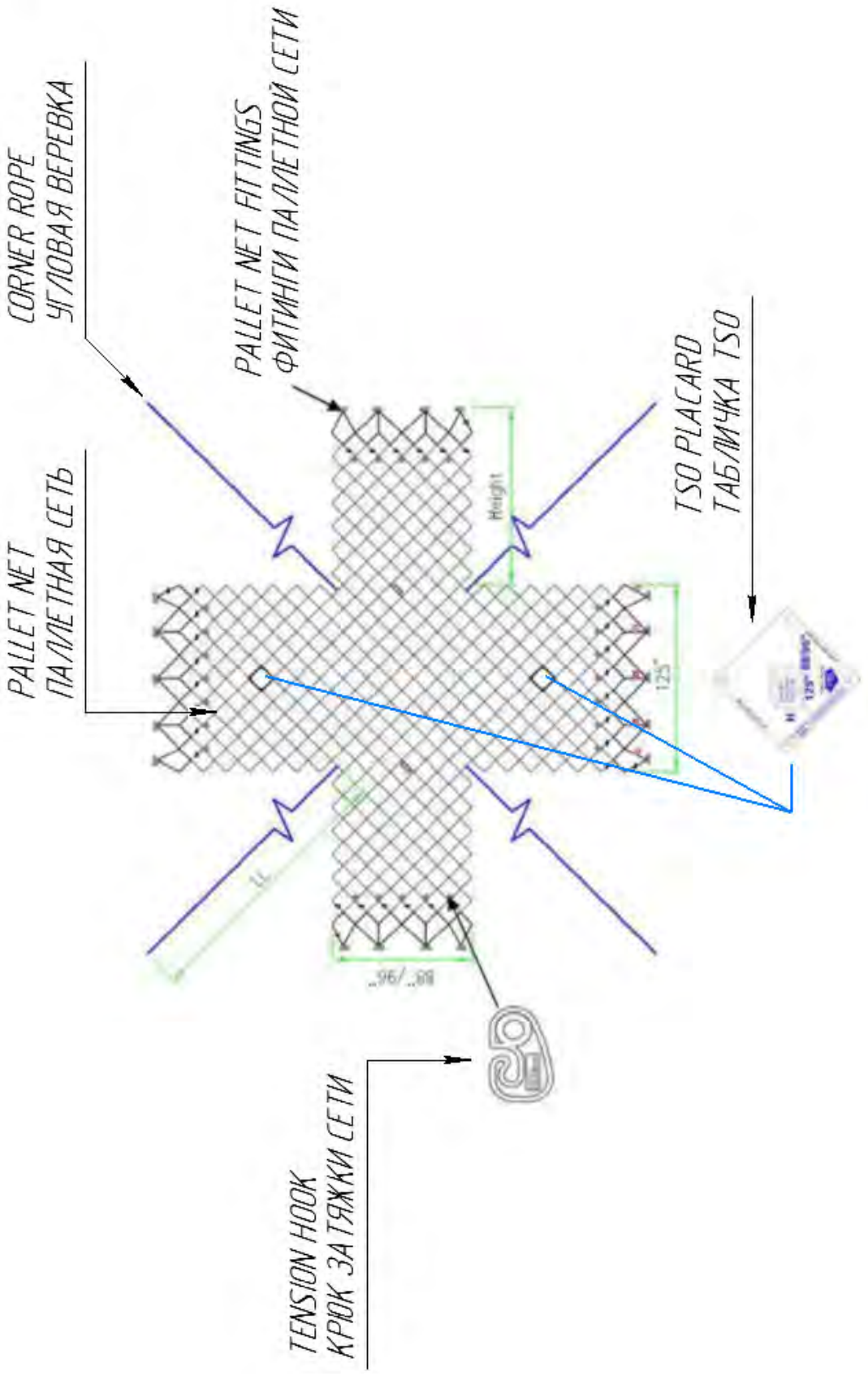


No more than 2 holes/cracks per sheet with no more than 8 inch / 200 mm size
No less than 4 inch / 100 mm between holes/cracks
No tears/holes within 2 inch / 50 mm of rivets

No deformed contour or broken/deformed container frame



Pallet net general view and design



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PART 5. GENERAL PROVISIONS FOR THE CARRIAGE OF PASSENGERS AND BAGGAGE

5.1 GENERAL INFORMATION

Current Part describes rules and processes of passengers and baggage handling.

5.2 HANDLING OF PASSENGERS

5.2.1 PRE-FLIGHT PROCEDURES

Ticket counters and airline representation

If the ticketing counter and/or the representative office of the airline is located at the airport, it is necessary to ensure there is an appropriate sign and an electronic or printed version of the following documents:

- information about dangerous goods/items prohibited in checked (hold) baggage/hand (carry-on) baggage and restrictions on the carriage of certain items in baggage in accordance with the requirements of ICAO TI / IATA DGR;
- forms of documents for servicing the aircraft, passengers and baggage;
- information about the rights and obligations of passengers;
- marketing materials.

Passenger and baggage check-in desks

The service company personnel must ensure that a sufficient number of notifications and alerts to passengers regarding the transport of dangerous goods and flight safety issues are used.

Textual information about the prohibition of the carriage of dangerous items in hold baggage and the restrictions on the carriage of certain items in carry-on baggage in accordance with the requirements of TI ICAO / DGR IATA - must be included in the content of passenger tickets.

Illustrated posters with information about the prohibition of carrying dangerous items in baggage and the restrictions on carrying certain items in carry-on baggage according to the requirements of **ICAO TI / DGR IATA must be located where tickets and/or boarding passes are issued; where passenger baggage is dropped off; in aircraft boarding areas (boarding gates); baggage claim areas.**

To inform passengers about the prohibition of the carriage of dangerous items in baggage and the restrictions on the carriage of certain items in carry-on baggage in accordance with the requirements of ICAO TI / IATA DGR - use the ***Appendix 5.1 GOCHM*.**

Also, to inform and advise passengers, it is necessary to use ***Table 2.3A*,** located in ***Section 7.4.9 Part 7 GOCHM*.**

5.2.2 PASSENGERS CHECK-IN

5.2.2.1 PREPARATION FOR CHECK-IN

The goal of preparing for check-in is to provide a balanced passenger accommodation and optimal usage of the available aircraft capacity. Attention should be paid to passenger requests for seating in superior seats, front row seats and CIP/VIP seats.

Airline representative must:

1. Make sure that all the necessary information is correctly transferred to the electronic check-in system for passengers and baggage;
2. Check booking status;
3. Make sure Passenger Name List (PNL) and Additions and Deletions List (ADL) are correctly transferred to DCS and match the booking status;
4. Block seats for DHC (if applicable), defective seats and seat blocks indicated by the HUB OPS;

5. Make sure that the aircraft seating and loading plans specified in the DCS corresponds to the actual type and layout of the aircraft;
6. Check additional notes, if applicable;
7. Indicate the status of the passenger in the PNR (Passenger Name Record), if applicable;
8. Enter payload restrictions into the system, if applicable;
9. Check the arrival time, departure time, enter the number of the boarding gate into the system;
10. Check the list of passengers for special categories (for example, VIP passengers, disabled people, unaccompanied children), families with children (CHD and INF codes) and block seats for them in advance in accordance with the type of aircraft and airline rules;
11. If not provided earlier, block places for families with children;
12. If not provided earlier, block suitable seats for passengers with animals transported in the passenger cabin of the aircraft;
13. If not provided earlier, block suitable seats for airline crew (DHC);
14. Check the list of airline employees booked on the flight with service tickets (if applicable);
15. Perform briefing for involved GHA personnel and inform about all the features of the flight, including (but not limited to) the number of passengers booked, possible overbooking (oversale of tickets), the presence of special categories of passengers, restrictions on a particular flight, delay reasons (if applicable);
16. If applicable, prepare manual passenger manifests and manual baggage tags.

Personnel performing check-in of passengers and baggage must:

1. Ensure that all requests and instructions for a particular flight are received from the airline;
2. Computers and printers are ready for action.

Before check-in of passengers and baggage:

1. Ensure that all requests and instructions for a particular flight are received from the airline;
2. Make sure that the equipment (computers) is working;
3. Make sure that the scales are working and calibrated.

NOTE: *weighing equipment must be calibrated and checked once a year, as required by the manufacturer or local authorities. After calibration, a sticker (if applicable) is placed on each scale. The responsible check-in agent must verify that the weighing equipment is working correctly prior to opening check-in: checking that the airport authority's calibration sticker is up to date (if applicable), checking the weight indicator on site to ensure it reads "0.0 kg". If the weight indicator shows otherwise, report it to the appropriate department of the airport authority.*

4. Inform the airport administration about the faulty equipment, if any;
5. In case of equipment malfunction and impossibility to eliminate the detected defects, request the airport administration to provide other check-in counters;
6. Check for empty boarding passes, as well as ribbons in printers that print baggage tags;
7. If required by the airline, make sure you have branded tags for carry-on baggage;
8. Make sure that the scoreboard above the registration desks correctly displays:
   - *airline name and airline logo;*
   - *destination and flight number;*
   - *departure time;*
   - *class of service;*
   - *the inscription "Online baggage drop off" for the corresponding counter, if applicable.*
9. Verify that check-in counters, self-check-in machines and airline ticketing counters display visible forms of information about the prohibition of carrying dangerous goods in baggage and restrictions on certain items in carry-on baggage;
10. Make sure that in case of a failure situation, information about rights of passengers is placed in the area of check-in counters (***Appendix 2.4 GOCHM***);

11. Ensure that there are enough check-in and baggage check-in desks open (approximately 1 check-in desk for 60 booked passengers);
12. Make sure that the counters and the passenger and baggage check-in area look neat and presentable.

5.2.2.2 CHECK-IN

5.2.2.2.1 GENERAL INFORMATION

Passenger and Baggage Check-in - a sequence of operations that includes checking in passengers and their baggage in the Electronic Check-In System (DCS), either manually, marking their baggage and issuing one or more boarding passes for each checked-in passenger.

- Boarding passes containing the name and surname of the registered passenger and additional unique information for identification must be issued in printed or electronic form for each registered passenger.
- Registration must be carried out by trained and qualified personnel.

TIME LIMITS FOR CHECK-IN

Flight Type	Start	End
Domestic	At least 120 minutes before scheduled departure (STD)	30 minutes before the scheduled departure (STD)
International	At least 180 minutes before scheduled departure (STD)	40 minutes before the scheduled departure (STD)

Domestic flight must be closed and finalized in DCS maximum 10min before the STD.

International flight must be closed and finalized in DCS maximum 15min before the STD.

Passengers who arrive at the check-in counter later than the specified time may be denied transportation. By decision of the representative of the airline, such passengers as an exception may be accepted to flight after the flight is closed in the system, and such a change in the total number of registered passengers is made through the LMC (Last Minute Change) procedure, and number of passengers must be defined based on restrictions, mentioned in ***Sections 9.11*** and ***9.13*** of ***Part 9 GOCHM***.

Passenger baggage (if presented) must be delivered to aircraft based on DAA procedure (in compliance to all aviation security procedures). *Refer to* ***Section 5.3.10.2 Part 5 GOCHM***.

Acceptance for transportation of late passengers admitted to the flight by the decision of the airline representative should not entail a delay in the departure of the aircraft (except for the case when this delay is agreed with PIC and OCC) or additional costs (include passengers transportation from terminal to aircraft).

OPERATING CARRIER AND MARKETING CARRIER

In the event that the flight is actually operated by a carrier that differs from that indicated on the ticket, the passenger must be informed of this difference no later than at the time of check-in.

5.2.2.2.2 CHECK-IN OPERATIONS

1. Check-in of passengers and baggage can be carried out by the staff of the handling agent at check-in counters, or independently (for example, at self-check-in kiosks, or through online check-in on the carrier's website, if applicable).
2. If check-in is performed by the handling agent, Airline representative must perform briefing for involved GHA personnel and inform about all the features of the flight, including (but not limited to) the number of passengers booked, possible overbooking (oversale of tickets), the presence of special categories of passengers, restrictions on a particular flight, delay reasons (if applicable).
3. Ground handling agent personnel can perform check-in using the electronic passenger and baggage check-in system (DCS), or manually (in compliance with all rules and regulations of the airline, by the aid of **Manual Passenger Manifest** (***Appendix 5.7***)).

4. If it is technically possible, through check-in passengers and their baggage can be performed (e.g., check-in for several consecutive flights of one carrier, or different carriers having an interline agreement). Check-in agent is obliged, prior to check-in, to check that the passenger has the appropriate travel documents for the specified transportation.
5. Check-in for passenger and baggage are not acceptable if first leg is domestic and second is international (or vice versa), or next leg is performed by another airline (which has no agreement with airline performs first flight). Passenger must receive baggage, pass immigration and custom formalities and perform separate check-in in transfer airport for next flight.
6. Check-in for direct and return flights implies that the passenger checks in and receives boarding passes for both flights operated by the same aircraft. If the flight is open in the system, then such registration is allowed.
7. Self check-in is allowed, if:
    - the passenger has an electronic ticket;
    - the passenger checks in for a flight operated from an airport that has an electronic passenger and baggage check-in system;
    - the passenger complies with the requirements and restrictions of the airline.
8. Check-in out of airport is not allowed.
9. In the event of a failing situation and the impossibility of DCS usage to check in passengers and baggage, the back-up approved check-in procedures must be used. Manual passenger manifest (***Appendix 5.7 GOCHM***) must be used. Refer to ***Section 5.3.8.2 Part 5 GOCHM***.
10. Final information about passengers' distribution, quantity of adults, children and infants, quantity of baggage pieces and its total weight must be transferred to personnel responsible for weight & balance computations (use the form ***Appendix 5.13 GOCHM***). *Refer also to* ***Section 9.6 Part 9 GOCHM***.

5.2.3 PASSENGER ACCEPTANCE

5.2.3.1 REQUIREMENTS FOR PASSENGER ACCEPTANCE

Ground handling staff performs check-in of passenger and baggage, must:

1. Welcome and greet the passenger.
2. Ask for an itinerary/booking confirmation and an official travel document (e.g., passport), if necessary and verify validity.
3. Pay attention to any signs that the passenger might not be allowed to travel (e.g., unruly behavior, illness). Certain categories of passengers may be refused travel at the operating airline's discretion.
4. Identify the passenger in the check-in system (DCS), accept the passenger and assign a seat in line with airline procedures.
5. Clarify information about prohibited items and substances (dangerous goods) in the baggage and carry-on baggage of passengers, pointing to the sign located at the counter with notifications of prohibitions and restrictions on the transport of certain items in carry-on baggage and baggage (in accordance with ***Section 5.2.2 Part 5 GOCHM***).
6. Update passenger and baggage information to add any SSR to the DCS, add the required requests for special services (Special Service Requests, abbreviated SSR), if required, and apply any related fees in line with airline procedures.
7. If required, apply irregularity handling in line with airlines procedures, (e.g., search for volunteers in case of over-sales).
8. If necessary, use the Limited Release tag in accordance with ***Section 5.3.8.2 Part 5 GOCHM***;
9. Observe through check-in or return check-in, if applicable, and issue all related boarding passes.
10. Hand the boarding passes to the passenger and give information about the departure gate, boarding time and any flight irregularities, if applicable, in line with operating airline procedures.
11. Say «goodbye» and show the direction to the boarding gate.

5.2.3.2 SEATING

Each passenger (except infants not occupying a separate seat) is assigned an individual seat number on each flight.

Choose of seat is a fee-based service before the check-in beginning. Choose of seat is a free of charge after the check-in beginning.

Passenger can change assigned seat onboard of aircraft if officially paid for it to Cabin Crew (only cash-free payment allowed). Voluntary change of assigned seat onboard of aircraft (after boarding) is not allowed.

If flight is full, seats on rows 1-5 must be used at last order.

If flight is not full, passengers must be distributed equally between all sections of passenger cabin (if other instructions were not received from Airline representative, or crew, or OCC).

If specific instruction has been received from airline, specific passenger seats must be blocked for DHC (deadhead crew). *Refer to* ***Section 5.2.3.5 Part 5 GOCHM***.

At the time of passenger acceptance:

1. Check to confirm if a seat has been allocated already.
2. If not, allocate a passenger seat observing passenger requests, make sure that there are no restrictions (for example, in rows near emergency exits, or in places of increased comfort).
3. Observe seating restrictions for the emergency exit rows (these seats can be assigned to passengers only in strict compliance with the rules and restrictions of the airline).

Follow to ***Table 5.2.3.2*** to have information about seats assigning for specific categories of passengers onboard of different aircraft.

ATTENTION: *jump-seats (flight attendant folding seats) can be assigned only to service passengers meet specific requirements (for PAX on emergency exits rows) mentioned in* ***Section 5.2.3.5 Part 5 GOCHM*** *(only if no free passenger seats are available in passenger cabin). Cabin crew must perform additional briefing for such passengers – and may refuse*

their transportation on jump-seats, if have any doubts in readiness of these passengers to follow cabin crew's instructions during the transportation.

Refer also to ***Section 5.2.3.3 Part 5 GOCHM*** *to see requirements for passengers who located on seats on emergency exits.*

ATTENTION: *it is prohibited to place more than 1 children (age 0-2 years) to single block of 3 seats due to the limited amount of oxygen face masks (4 per block).*

Table 5.2.3.2. Seats allocation (onboard of passenger aircraft)

Aircraft registration numbers ►	UK32070, UK32071, UK32072, UK32073	UK32074, UK32075	UK32130	UK32131, UK32132	UK33030, UK33031, UK33032
Seats allocation restrictions ▼	***A320-214, -232, -233***	***A320-251N***	***A321-251N***	***A321-253NX***	***A330-343***
Emergency exits	12-13/A-F	12 и 14/A-F	10D/10E 11/A-F 24D/24E 25/A-F	17/A-F 27/A-F	48AB 48JK
Deadhead crew (DHC)	Rows 04-05/A-F Прочие свободные места (при отсутствии свободных на 4-5 рядах)				03-10/DEFG 03-10/AB/JK 58-63/JK
	ATTENTION: DHC must be located together, not separately from each other.				
Unaccompanied Minors	Rows 2-3, места A/F				4-6 A/K
Passengers with disabilities	Any Rows, except 12 & 13: preferrable seats A; F. Most preferrable seats: 2C/2D/27C/27D	Any Rows, except 12 & 14: preferrable seats A; F. Most preferrable seats: 2C/2D/27C/27D	Any Rows, except 10, 11, 24, 25, preferrable seats A; F. Most preferrable seats: 2C/2D/33C/33D	Any Rows, except 10, 11, 17, 27, preferrable seats A; F. Most preferrable seats: 2C/2D/33C/33D	Any Rows, except seats 48 AB/JK Rows 31 (seats A-K) и 48 (seats DEFG) – recommends for people of medium constitution
Passengers with infants (0-2 years old at the day of flight)	Any rows, except 12 & 13: preferrable seats A; F	Any rows, except 12 & 14: preferrable seats A; F	Any rows, except 10, 11, 24, 25: preferrable seats A; F	Any rows, except 10, 11, 17, 27: preferrable seats A; F	Any rows, started from 31, except 48AB/JK
Passengers with cabin baggage, located on the passenger seat (CBBG)	Any rows, except 12 и 13: only seats A/B & E/F	Any rows, except 12 и 14: только места A/B & E/F	Any rows, except 10, 11, 24, 25: места A/B & E/F	Any rows, except 10, 11, 17, 27: места A/B & E/F	Any rows, except 48AB/JK; только места A/B и J/K
Passengers with live animals in passenger cabin (PETC)	Any rows, except 12 и 13: only seats A/B & E/F	Any rows, except 12 и 14: only seats A/B & E/F	Any rows, except 10, 11, 24, 25: seats A/B & E/F	Any rows, except 10, 11, 17, 27: seats A/B & E/F	Any rows, except 48AB/JK; only seats A/B и J/K
Passengers authorized for carriage of weapon in cabin during the flight (WEOB)	Rows 28-30	Rows 30-32 Rows	Rows 36-38	Rows 34-36	Rows 63-64
Deported and inadmissible passengers (DEPA, DEPU, INAD)	Rows 23-26	Rows 23-26	Rows 28-30	Rows 28-30	Rows 50-55
Passengers under custody	Rows 28-30	Rows 30-32	Rows 36-38	Rows 34-36	Rows 63-64

5.2.3.3 EXIT ROW SEATING

Passengers occupying seats in rows at emergency exits must be capable and physically healthy, as well as confidently understand and communicate in English/Russian/Uzbek (to understand orders and instructions of cabin crew in case of emergency situation and follow to it).

Check-in agents must estimate correspondence of any passenger to airline requirements before the assignment of seat on emergency exit. These requirements apply to all seats in rows at emergency exits.

Occupancy of emergency exit rows is restricted in accordance with airline procedures and host state requirements.

It is forbidden to place the following categories of passengers in rows near emergency exits:

Category of passengers	Applicable codes
General code for passengers with disabilities	PWD
Passengers whose physical or mental condition does not allow them to move quickly if necessary	WCHR/S/C, DPNA, MEDA, STCR
Passengers whose sight or hearing does not allow them to recognize the instructions given by crew members to begin evacuation from the aircraft	BLND, DEAF
Passengers who require the use of an oxygen concentrator during the flight	PPOB
Passengers who require the use of an oxygen tank during the flight	POXY
Small children (under 2 years old) carried without a seat in the arms of an accompanying adult (age indicated at the time of flight departure)	INF
Children under the age of 12 - it does not matter, accompanied by an adult, or without (age indicated at the time of flight departure)	CHD
Passengers in custody and deported passengers	DEPA, DEPU
Inadmissible passengers	INAD
Passengers with PETC or pieces of baggage placed on an extra seat	PETC, CBBG
Passengers whose physique and size require the use of an additional extension seat belt and/or passengers unable to move quickly if necessary	*No code*
Pregnant women (regardless of the term)	PREG
Obese	*No code*
Unaccompanied Minors under the age of 14 (up to 16 by decision of parents or guardians)	UMNR
Passengers who do not speak English or Russian	*No code*
Passengers with inadequate behavior and/or under influence of alcohol and/or drugs	*No code*

An emergency exit should only accommodate passengers who are strong and healthy enough to assist the crew in the unlikely event of an emergency.

5.2.3.4 NOREC PASSENGERS (NOT LISTED PASSENGERS)

Each passenger presenting a status-confirmed (OK) ticket at check-in, but not included in the PNL list, can be accepted for carriage as a NOREC passenger (out of the lists).

GHA Staff that performs check-in must request Airline Representative to confirm acceptance/denial of passenger.

Airline representative must:

For regular flights: check correctness of passenger ticket issue via the airline HUB OPS and confirm to GHA Staff, if ticket is acceptable (to avoid acceptance of passenger with fake ticket or ticket, issued for flight of another airline).

For charter flights: receive confirmation of charterer for passenger acceptance to flight.

5.2.3.5 SERVICE PASSENGERS

Service passengers are airline employees or family members of airline employees traveling on a business trip or traveling on a service ticket (if there are free seats on the flight).

Information about service passengers must be communicated to the handling company on time via DCS or via e-mail.

Each service passenger has the right to carry 1 piece of carry-on baggage weighing no more than 8 kg and 1 piece of hold baggage weighing no more than 23 kg.

***Note**: Additional equipment and services can be provided only at an additional cost.*

5.2.3.5.1 SERVICE PASSENGER CATEGORIES

- **Service passengers - airline crew members**, moving to perform flights, or returning home / to the home airport after the flight. They travel as a relay crew, are included in the General Declaration and do not have tickets.
  - The belonging of these passengers to the company is confirmed by the presence of a crew member certificate (Crew ID).
  - These passengers cannot be disembarked without the written permission of the airline OCC.
  - As an exemption, these passengers can be placed on Crew jumpseats (if it approved by Head of Cabin Crew Department and PIC).
- **Service passengers - employees of the airline traveling on a business trip**. They are accepted for carriage as ordinary passengers and also have issued tickets.
  - These passengers must present a valid airline employee or crew member identification (ID-card or Crew ID).
  - These passengers may be placed on jump-seats for crew members, if it approved by PIC.

5.2.3.5.2 SERVICE PASSENGER PRIORITY

1. **HIGHEST PRIORITY. Service passengers - airline crew members**, moving to perform flights, or returning to the base airport after the flight. The highest priority among other service passengers. Must be accepted for carriage subject to availability.
2. **MEDIUM PRIORITY. Service passengers - employees of the airline traveling on a business trip**. They can be accepted for transportation only if there are free seats, if there is no need to send service passengers - crew members on this flight.

5.2.3.5.3 DEADHEAD CREW AND SERVICE PASSENGERS SEATING ON JUMP SEATS

Airline employees can be shipped onboard of aircraft as “deadhead crew”.

They must have valid Crew IDs. Airport Ramp Pass, office pass or other types of ID cards are not acceptable to be used instead of Crew ID.

DHC must be located on standard passenger seats (preferably in section 0A). As an exemption, DHC can be located on jump-seats.

During the final check of quantity of passengers prior to flight departure:

- DHC placed on passenger seats are counted as normal passengers;

- DHC place on jump-seats are counted as crew members (and not included into total quantity of passengers).

5.2.4 TRAVEL DOCUMENTS AND THEIR VERIFICATION. API INTRODUCTION

5.2.4.1 PASSENGER DOCUMENTS

Each passenger is personally responsible for providing appropriate travel documents that meet the requirements of the airline and country/region of destination of the flight(s).

To check in for a flight, the passenger must provide the original document for which the ticket was issued, as well as additional passenger documents:

Document Type	Domestic flights	International flights
Passport	X	
Birth certificate (for children under 16)	X	
International passport	X	X
Passport of a stateless person	X	
Military identity document (for military personnel only)	X	
Service certificates of employees of the Office of the President of the Republic of Uzbekistan, the Cabinet of Ministers of the Republic of Uzbekistan, the National Security Service, the Ministry of Internal Affairs, the Ministry for Emergency Situations, Prosecutor's Office of the Republic of Uzbekistan	X	
ID of Uzbekistan Deputy Staff	X	
Certificate of release for persons released from places of deprivation of liberty	X	
Certificate for return to the Republic of Uzbekistan (for flights to Uzbekistan only)	X	X
Foreign Citizen’s Resident Card	X	
Stateless Person’s Resident Card	X	

Only for minor citizens of the Republic of Uzbekistan:

Needs “stamp of accompanying” in passport in case of travel with adult accompanying person (guardian or parent). Refer to ***Fig. 5.2.4.1A***. If both guardians or parents are travel with minor citizen, the stamp is not required.

Next documents must be available on hands for passengers and shown to check-in staff in case of minor citizens (age up to 16 years old) of Republic of Uzbekistan travels on international flights:

1. Biometrical passport for international travels;
2. Notarized consent (application) of parents or other legal representatives for the departure of a citizen under 16 years old, issued to accompanying persons;
3. Notarized obligation (statement) of the adult accompanying person “On consent to accompany children during the travel”;
4. “Stamp of accompanying” in passport of adult accompanying person.

Next documents must be available on hands for passengers and shown to check-in staff in case of minor citizens (age from 16 to 18 years old at the moment of flight departure) of Republic of Uzbekistan:

1. Passport;
2. Notarized consent (application) of parents or other legal representatives for the departure of a citizen 16-18 years old without accompanying by any other person.

Rules above are not applicable for foreign minor citizens.

Fig. 5.2.4.1A. Example of Stamp of Accompanying

Additional passenger documents include:

- if applicable, a residence permit or visa(s) (transit or entry);
- medical documents, if applicable (for example, vaccination data, or other medical documents confirming the fulfillment of certain requirements of countries of transit or destination);
- other additional documents, which may include (but are not limited to): confirmation letters, confirmation of a hotel reservation for accommodation or medical quarantine, etc.

NOTE: *the ground handling provider at the airport is responsible for checking travel documents and refusing to carry a passenger with incorrectly issued travel documents.*

NOTE: *the carrier is obliged to refuse transportation to the passenger in the absence of the originals of the necessary transportation documents, or the expiration of their validity. Acceptance of a passenger for carriage on the basis of photocopies or electronic copies of documents is not allowed.*

For transportation without the permission of the airline should not be accepted passengers with incorrectly issued travel documents (for example, with a missing signature in the passport, an incorrect visa, or its absence if required by the country of transit / destination, an expired passport, no passport / national identity card.

A message about passengers not accepted for carriage due to incorrectly issued travel documents must be immediately sent to the airline.

5.2.4.2 VERIFICATION OF DOCUMENTS

Document checks are the responsibility of the airport ground handler and include checks during check-in and when passengers boarded the aircraft.

Various methods and technologies can be used to check documents (starting with the initial check when buying a ticket on the website or in a mobile application and continuing with checking at check-in at a self-check-in kiosk, or at the check-in counter at the airport, or directly at the gate when boarding the aircraft).

The degree of verification also depends on the requirements of the countries of transit and destination and the level of risk.

When starting check-in or boarding, the service provider's agent at the airport must:

1. check the conformity of the submitted identity document;
2. make sure that the photo in the presented document belongs to the passenger;
3. make sure that the validity of the submitted document has not expired;
4. check citizenship and date of birth;
5. check whether the passenger has a ticket and its status (OK, SBY, RQ);
6. make sure that the correct number of the presented identity document is included in the ticket;
7. make sure that the full name of the passenger entered on the ticket corresponds to the full name in the passport;
8. if there is a requirement of the country of transit or destination - to clarify the availability of a return ticket;
9. check the route according to the ticket, clarify with the passenger its compliance;
10. make sure you have the required visas for transit and destination countries;
11. make sure that you have a residence permit for the countries of transit and destination (if applicable);
12. check that the visa complies with the requirements of the countries of transit and destination (if applicable).
13. check medical documents (if applicable) for countries of transit and destination;
14. clarify whether preliminary information about the passenger (Advance Passenger Information, abbreviated API) has been entered into the check-in system - and enter it in its absence;
15. make sure again that all the necessary documents are provided, belong to this particular passenger, are not forged or altered, the validity period of the passenger's documents has not expired.

In case of reasonable doubts about the authenticity of documents, the employee is obliged:

1. notify the representative of the airline;
2. contact the relevant local authorities to recheck the documents, if applicable;
3. refuse to check-in a passenger at the airport of departure or boarding at a transit airport until all circumstances are clarified.

Note: information about passengers denied boarding due to missing or incorrect travel documents must be sent by the GHA to the airline via email as soon as possible.

5.2.4.3 ADVANCE PASSENGER INFORMATION (API)

A number of states require airlines to enter into the system advance passenger information (Advance Passenger Information, abbreviated as API), including date of birth, nationality, and information about travel documents, including the number of the identity document and its validity period. Information is entered into the system when checking in for a flight, or when buying a ticket, and is checked upon presentation of travel documents.

- ***The API must be entered and verified when a passenger checks in for a flight.***
- ***API cannot be transferred to third parties in order to avoid disclosure of personal data of passengers.***

5.2.5 PASSENGER BOARDING

5.2.5.1 GENERAL PROVISIONS

On an airline's flights, boarding must be open 50 minutes before STD for an international flight and 40 minutes for a domestic flight.

1. Verify that boarding controls and exit monitors display flight information correctly.
2. Ensure that Dangerous Goods and Prohibited Items notices are posted at the boarding desk at the exit.
3. Make sure passengers and their carry-on baggage passed aviation security screening.
4. If a standard passenger step is used to board passengers to the aircraft, make sure that the way from terminal (from bus) to the aircraft is safe.

5. If an air bridge is used to board the aircraft, make sure that it is correctly fitted to the aircraft and placed at the front door, and all unused exits are blocked.
6. Make sure that the passenger step (air bridge) does not touch the aircraft structure, and the distance between the aircraft structure and the airstairs (airstairs) does not exceed the allowable (5 cm / 2 inches). Distance from the steps/bridge platform level to bottom side of the door must be equal to 17-20cm.
7. Make sure that the service personnel are trained and qualified to operate the air bridge.
8. Obtain permission from the aircraft crew to start passengers boarding.
9. Inform the crew of any special categories of passengers.
10. Inform the employees who load baggage, mail and cargo into the cargo compartments of the aircraft about the permission to start loading.
11. Make sure that the employees who load baggage, mail and cargo into the cargo hold of the aircraft have an approved loading plan (LIR).
12. When refueling an aircraft at the same time, follow standard precautions. *Refer to* ***Section 10.2.3 Part 10 GOCHM***.
13. Make announcements about the start of boarding in accordance with the requirements of the airline.
14. Make sure if passengers follow to airline rules (regarding the hand baggage) during the boarding. *Refer to* ***Section 5.3.1 Part 5 GOCHM***.
15. Before the boarding, check the transportation documents of each passenger:
    a. visually check the conformity of the passenger's appearance with the photo in the passport;
    b. check the correspondence of the passenger's name and surname in the ticket/boarding pass and in the identity document.
16. Prioritize boarding for DEPA/DEPU passengers, passengers with disabilities (PWD), unaccompanied minors (UM), families with infants or infants (CHD/INF), and other passengers in need of assistance.
17. Confirm acceptance of each passenger for carriage in the DCS before allowing him to board the aircraft.
18. When manual boarding is planned to be performed (in case of DCS failure, or inability to use it), check the flight number and date on each presented boarding pass.
19. Provide sufficient control if passengers are stayed on passenger step or air bridge.
20. Make sure that not more 10 passengers are stays simultaneously on passenger steps (not more 20 passengers in air bridge, if used).
21. Make sure that passengers are not walking on airfield around the aircraft, under the wings, close to wheels and engines when waiting boarding.
22. At the end of the boarding – check the number of passengers according to the data in the system/manual accounting form and the calculations of the crew members.
23. If necessary, make LMC, if the removal / addition of baggage and / or the removal / addition of passengers / crew members was carried out.
24. Transfer the final information on the number of passengers, special categories of passengers and load to the aircraft crew members.
25. Send the necessary messages after the flight after the flight is closed.

5.2.5.2 PASSENGER BOARDING PROCESS

The procedure for controlling and counting passengers when boarding an aircraft can be done manually or using special software (DCS).

The procedure for boarding passengers on board the aircraft:

1. Determine landing sequence: DEPA/DEPU, PWD, PAX with INF/CHD, then all other PAX.
2. Perform boarding announcements.
3. Ensure boarding of priority categories of passengers.
4. Check the travel documents and verify the identity of each passenger:
    a. check the name on the passenger's identity document with the name on the boarding pass;

b. visually check the conformity of the passenger's appearance with the photo in the passport;
c. check the compliance of the actual number and date of the flight with the data on the boarding pass.

5. Enter information about each passenger accepted for transportation in DCS.
6. When carrying out a manual boarding (in case of DCS failure, or inability to use it), check the flight number and date on each presented boarding pass.
7. Check compliance with the rules and requirements of the airline regarding carry-on baggage.
8. If necessary, organize the placement of passengers' carry-on baggage in the baggage compartment, providing it with Limited Release tags and making appropriate notes in the DCS. *Refer to* ***Section 5.3.1 Part 5 GOCHM***.
9. Warn the personnel responsible for loading the aircraft of the presence of DAA baggage. *Refer to* ***Section 5.3.10.2 Part 5 GOCHM***.
10. If the DCS system fails to board a passenger, check the legitimacy of the refusal (for example, the presence of two boarders with the same seat number) and, if necessary, confirm the passenger boarding manually.

5.2.5.3 PASSENGER BOARDING IRREGULARITIES

Regardless of the nature of the problem, the pilot-in-command (PIC) must be kept informed of the problem and its progress in order to avoid delaying the flight. The pilot-in-command has the authority to issue all commands he deems necessary to ensure the safety of the aircraft and persons or property on board.

The detected discrepancy between the number of registered passengers and those actually placed on board must be eliminated before the aircraft doors are closed.

1. Departure with a number of passengers that does not correspond to that specified in the passenger manifest is not allowed.
2. Departure without removing the baggage of passengers who did not appear for boarding is not allowed.
3. Departure without correction of the passenger manifest and Loadsheet is not allowed.
4. Any discrepancies, as well as the reasons and duration of the flight delay, must be reflected in the SFR completed and sent by the representative after the flight has departed.
5. Refer to ***Section 11.10 Part 11 GOCHM*** to see reasons of delays.

5.2.5.3.1 DIFFERENCE BETWEEN THE NUMBER OF CHECKED-IN PASSENGERS AND THE NUMBER OF ACTUALLY ACCOMMODATED PASSENGERS

In the event of a lower discrepancy (less passengers accepted/boarded than checked-in), the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) is obliged to:

1. check if the missing passenger is at the customs, immigration or security checkpoints;
2. take all measures to search for late passengers in the passenger terminal building, including the announcement of their names and surnames through the public address system (loudspeaker);
3. re-count the number of passengers on board;
4. in the event of a decision to refuse transportation, notify the crew and employees responsible for the weight & balance computations about change in the number of passengers and baggage loading;
5. mention reasons of delay in SFR.

In the event of an upward discrepancy (more passengers accepted/boarded than checked-in), the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) must:

1. recalculate the number of passengers on board and check with the current Passenger List (Onboard List);

2. determine whether there are passengers on board who were mistakenly accepted for transportation on other flights, or passengers without appropriate tickets / boarding passes (if necessary, by asking all passengers to present boarding passes and comparing them with the passenger manifest);
3. mention reasons of delay in SFR.

5.2.5.3.2 DUPLICATION OF A BOARDING PASS

When boarding passes are duplicated, the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) must:

1. using boarding passes to determine whether one of the passengers with a duplicated boarding pass is mistakenly accepted for transportation by a passenger of another flight;
2. if both passengers are correctly accepted for transportation on this flight, then offer one of them to sit in an empty seat in the aircraft cabin (if any) and manually correct the seat number in his boarding pass, confirming the correction with his signature;
3. if one of the passengers was accepted for carriage by mistake, notify the AVSEC officer and follow the established procedures for removing the passenger from the aircraft;
4. if there are no vacant seats on board the aircraft (actually accepted number of passengers exceeds the number of vacant seats on board the aircraft), check the passenger manifest for the presence of service passengers on board who can be refused carriage (refer to ***Section 5.2.3.5 Part 5 GOCHM*** to send a commercial passenger instead of one of them);
5. correct the passenger manifest (mandatory) and the LMC in the Loadsheet (if applicable);
6. mention reasons of delay in SFR.

5.2.5.3.3 PASSENGERS WITH INADEQUATE BEHAVIOUR

In case of inappropriate behavior of a passenger that threatens the safety of the flight, the safety and comfort of other passengers and aircraft crew members, the serviceability of the aircraft and airport infrastructure, the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) is obliged to:

1. perform a verbal warning to the passenger about the need to follow the established rules of conduct and fulfill the requirements of the crew members;
2. in case of refusal of the passenger / ignoring the requirements - notify the PIC and the employee of the AVSEC service about the presence of a rowdy passenger;
3. in the event that PIC or an AVSEC officer has made a decision to disembark a passenger from an aircraft, follow the established procedures for disembarking a passenger from an aircraft;
4. when removing a passenger and his baggage (if any), make the necessary LMC corrections in the Loadsheet and the correction in the passenger manifest, or issue new documents (if LMC is not possible / not applicable);
5. mention reasons of delay in SFR;
6. fill the form “Refusal in transportation” (***Appendix 5.3 GOCHM***), give 1 copy to passenger, send 1 copy to airline together with SFR.

5.2.5.3.4 NON-COMPLIANCE OF THE PASSENGER WITH THE REQUIREMENTS OF SEATING IN ROWS AT EMERGENCY EXITS

If the passenger does not comply with the requirements of *Section 5.2.3.3 Part 5 GOCHM*, the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) is obliged to:

1. politely notify of the reasons for which the passenger does not meet the requirements for being placed on the rows at the emergency exits;
2. offer this passenger to voluntarily change seats with another passenger who meets the requirements of ***Section 5.2.3.3 Part 5 GOCHM*** (preferably from the 1st row of the cabin);
3. if the passenger refuses, notify him of the need to comply with the airline's transportation rules and that if the request is ignored, he will be denied transportation;

4. if the passenger further refuses to comply with the transportation rules, notify the AVSEC officer and follow the established procedures for disembarking of the passenger from the aircraft;
5. when disembarked a passenger and offloaded his baggage (if any), make the necessary LMC corrections in the Loadsheet and the correction in the passenger manifest (or issue new documents (if LMC is not possible / not applicable);
6. mention reasons of delay in SFR;
7. fill the form “Refusal in transportation” (***Appendix 5.3 GOCHM***), give 1 copy to passenger, send 1 copy to airline together with SFR.

5.2.5.3.5 NON-COMPLIANCE OF DIMENSIONS / WEIGHT / NUMBER OF CARRY-ON BAGGAGE WITH THE ESTABLISHED NORMS, OR A TOTAL EXCESS OF THE AMOUNT OF CARRY-ON BAGGAGE ON THE FLIGHT

If the dimensions of carry-on baggage do not correspond to the maximum allowable dimensions, or if passengers receive information from the aircraft crew members during boarding that there is no more room for carry-on baggage in the passenger cabin, the representative of the airline (in his absence, the agent of the ground handling service provider who carries out the landing passengers on board the aircraft) must:

1. Notify passengers arriving for boarding that due to the excess of carry-on baggage dimensions (or the fact that the flight is full, and there is no place to place all carry-on baggage in the passenger cabin) - it is necessary to place their carry-on baggage in the cargo hold;
2. Make sure that the cabin baggage prepared for loading into the cargo compartments of the aircraft does not contain items prohibited for transportation (in accordance with the requirements of IATA DGR and ***Table 2.3.A*** in ***Section 7.4.9 Part 7 GOCHM***);
3. Inform each passenger, whose carry-on baggage is placed in the cargo compartments of the aircraft, of the need to remove any personal documents, medicines, as well as any valuable and fragile items from the carry-on baggage planned for loading into the cargo compartments of the aircraft;
4. Also, each passenger whose carry-on baggage is placed in the cargo compartments of the aircraft, about the need to remove from carry-on baggage any items prohibited for carriage in hold baggage (for example, lithium-ion batteries, power banks, etc.);
5. Make sure that each passenger whose cabin baggage is placed in the cargo compartments of the aircraft has removed from the cabin baggage any items prohibited for carriage in hold baggage (for example, lithium-ion batteries, power banks, etc.);
6. Accept each item of carry-on baggage for carriage as hold baggage, with the appropriate fee charged, if applicable (except in cases where the passenger's carry-on baggage does not exceed the size and weight of the permitted baggage allowance, but the flight is so full that the cabin crew advises the need for accommodation parts of carry-on baggage of passengers in the cargo compartments of the aircraft);
7. Label each piece of cabin baggage with a Limited Release tag in accordance with ***Section 5.3.8.2 of Part 5 GOCHM***;
8. Complete each Limited Release tag in accordance with ***Section 5.3.8.2 Part 5 GOCHM***;
9. Make sure that the information about carry-on baggage loaded into the cargo compartments of the aircraft is brought to the attention of the employees who balance the aircraft (number of pieces and their weight) - by entering information into the DCS, or by using DAA (Delivery at Aircraft) tags. Weight of 1 piece of carry-on baggage placed in the cargo compartments of the aircraft, for the introduction of LMC, shall be taken equal to 8 kg;
10. If necessary, make an LMC correction in the Loadsheet by adding the number and weight of pieces of carry-on baggage loaded into the cargo compartments of the aircraft to the number and weight of pieces of baggage (final amount of baggage in the cargo compartments = amount of hold baggage + amount of carry-on baggage placed in the cargo compartments);
11. Inform passengers about the need to pick up this baggage at the airport of destination directly from the aircraft ladder upon arrival, or in the baggage claim area;

12. Inform the employees who load the aircraft of the need to load this carry-on baggage into the cargo compartments of the aircraft;
13. mention reasons of delay in SFR.

EXAMPLE: *on the flight operated by A320-232, according to the decision of the cabin crew, 30 pieces of carry-on baggage were placed in the cargo compartments of the aircraft. The total weight is: 30 x 8 = 240 kg. The LMC limit for narrow body aircraft is 500 kg. A change is made to the Loadsheet: BAGS + 240 kg / + 30 pcs - and it is indicated in which section and in which cargo compartment this carry-on baggage was placed.*

5.2.5.3.6 BOARDING OF PASSENGERS IN THE EVENT OF THE ABSENCE/FAILURE OF THE DCS SYSTEM

1. In the absence or failure of the DCS system, control the boarding of passengers manually.
2. Make sure that the number of passengers on board the aircraft at the end of boarding matches the number of passengers in the final passenger manifest.

5.2.5.3.7 REMOVING A PASSENGER FROM A FLIGHT DUE TO MEDICAL REASONS

If a passenger refuses to perform a flight due to deterioration of health (regardless of the passenger's location at the time of refusal), the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) is obliged to:

1. Clarify if the passenger needs urgent medical care;
2. Call the doctors;
3. If doctors considered the passenger's condition unsatisfactory for the flight, then, in agreement with the crew and physicians, disembark the passenger from the aircraft;
4. At the same time, without fail, notify the AVSEC employees and follow their instructions;
5. Search and remove the passenger's baggage (if any);
6. Make LMC correction in Loadsheet and correction in passenger manifest;
7. Mention reasons of delay in SFR;
8. Fill the form "Refusal in transportation" (***Appendix 5.3 GOCHM***), give 1 copy to passenger, send 1 copy to airline together with SFR.

5.2.3.8 VOLUNTARY REFUSAL OF A PASSENGER TO PERFORM A FLIGHT (DURING BOARDING OR BEFORE DEPARTURE)

If a passenger voluntarily refuses to perform a flight, the representative of the airline (in his absence, the agent of the ground handling service provider who boards passengers on board the aircraft) is obliged to:

1. Clarify with the passenger the reason for the refusal to perform the flight;
2. In case of refusal after check-in for the flight, but before passing the pre-flight inspection, perform the check-in cancellation procedure in DCS, return baggage from the package (if any), collect the issued boarding passes from him and destroy them;
3. If a passenger refuses to perform a flight after passing the pre-flight inspection, notify the aviation security service (AVSEC) employees and follow the instructions of the AVSEC employees and the established local procedures of the AVSEC;
4. Mention reasons of delay in SFR.
5. Fill the form "Refusal in transportation" (***Appendix 5.3 GOCHM***), give 1 copy to passenger, send 1 copy to airline together with SFR.

5.2.5.4 END OF BOARDING

5.2.5.4.1 END OF BOARDING PROCEDURES

<u>Until the final closure of the flight in the program</u>:

1. Make sure that all passengers accepted for transportation have boarded the aircraft;

2. Correlate the number of accepted (registered) passengers for transportation with the number of passengers actually on board the aircraft;
3. Add information about additional DAA baggage tags (manually issued or through DCS) to DCS;
4. Notify the aircraft crew of the final number of passengers on board the aircraft;
5. Make sure that the final data on the number of passengers and baggage have been provided to the staff responsible for the balance;
6. Provide the crew with the required final flight documents;

Upon completion of the specified actions, close the flight in the system.

1. All passengers must be accommodated on board the aircraft, and the flight must be finalized and closed in the DCS system:
   - within 10 minutes before STD on domestic flights;
   - within 15 minutes before STD on international flights.
2. Information about DAA baggage must be provided from GHA/airline representative to OCC.
3. OCC must provide information about DAA baggage to LDM message and send it to destination airport.

5.2.5.4.2 “END OF BOARDING” ANNOUNCEMENT
ENGLISH:

Boarding announcement:

Good morning/Good afternoon/Good evening, Ladies and Gentlemen.

THE AIRLINE flight…. (flight no) to (destination) is ready for boarding at the gate number… (gate number).

Please prepare your boarding card and open passport ready for inspection at the gate.

On behalf of THE AIRLINE we wish you a pleasant flight.

Personal announcement:

Attention, attention, passenger (name/surname) taking THE AIRLINE flight ...(flight no) to (destination) is requested to proceed to the gate number (gate number).

This is the final call for your flight.

Final call announcement:

Attention, attention passengers, taking THE AIRLINE flight …. (Flight no) to (destination) is requested to proceed to the gate number (gate number) immediately. This is the final call for your flight.

UZBEK:
Landing announcement:

Assalomu alaykum, Hurmatli yo'lovchilar!

Diqqat qilin (Reys nomeri) reys bilan (qo'nish aeroporti nomi”ga) uchuvchi yolovchilar sizni (yo'lak nomeri) yol bilan havo kemasiga chiqishingizni soraymiz.

Iltimos havokemasiga chikish uchun utirish talon va passportni tayorlab koying.

Aviakompaniya nomidan sizga maroqli parvoz tilaymiz.

Personal announcement:

Diqqat qiling (Reys nomeri) reys bilan uchuvchi (yolovchini IFO) sizni zudlik bilan (Yo'lak nomeri) yol bilan aviakemaga chiqishingizni soraymiz. Sizning parvoz uchun ohirgi qongiroq.

Final call announcement:

Diqqat qiling (Reys nomeri) reys bilan uchuvchi yo'óvchilar sizlarni zudlik bilan (Yo'lak nomeri) yol bilan aviakemaga chiqishingizni soraymiz. Bu so'ngi ogoxlantirish.

5.2.5.4.3 ANNOUNCEMENTS TO PASSENGERS IN THE EVENT OF FLIGHT DELAY

1. In the event of any delays, passengers must be provided with information on the new boarding time and expected departure time.
2. A content-neutral announcement should be made of the reasons for the delay, confirmed by an airline representative.
3. The representative of the company must first agree on the content of the announcement about the reasons for the delay with the airline's traffic control center.

5.2.6 FLIGHT DOCUMENTS

Before departure, the flight crew must be provided with flight documents in accordance with the procedures of the airline. Refer to the ***Section 1.6.1.3 Part 1 GOCHM***.

5.2.6.1 PASSENGER INFORMATION LIST (PIL)

Passenger Information List (PIL) - a list generated by DCS that summarizes for cabin crew information about passengers accepted for carriage and their characteristics (including first name, last name, seat number, service and catering details).

PIL must be printed out at the end of boarding and provided to the senior flight attendant before departure (closing the doors of the aircraft) in the amount of 3 copies.

Manual correction of PIL by ground handling agents at the last moment is allowed - in case of removal of passenger (s) and baggage.

5.2.6.2 OTHER FLIGHT DOCUMENTS

Not applicable.

5.2.6.3 MESSAGES FOR PASSENGER FLIGHTS

Make sure that all required messages are sent to the required addresses in a timely manner. *Refer to* ***Section 1.5.2 Part 1 GOCHM***.

5.2.6.4 ACTIONS AFTER DEPARTURE

1. Send all required flight messages. *Refer to* ***Section 1.5.2 Part 1 GOCHM***.
2. Change flight status in DCS.
3. Collect a package of reporting flight documents for the flight for storage in the office at the departure station (for at least 90 days from the date of the flight).

Storage of flight reporting documents is carried out in accordance with the provisions of ***Section 1.6.2 Part 1 GOCHM***.

5.2.7 PASSENGER SECURITY

5.2.7.1 DOCUMENT SECURITY

5.2.7.1.1 BOARDING PASSES AND BAGGAGE TAG

To avoid unauthorized access to the airport premises after the check-in of passengers and baggage, baggage tags and blank boarding passes must be removed from the printers and stored separately in a safe place (under the control of the ground handler staff).

5.2.7.1.2 PRINTED DOCUMENTS

1. Printed flight documents (e.g., boarding passes, passenger lists and ground handling order forms, etc.) may be copied or corrected by third parties. The destruction of such documents must be carried out in accordance with data protection regulations, since they contain personal data of passengers.
2. Unauthorized personnel and third parties must not have access to printed documents containing personal information, as well as to electronic databases containing such information.

5.2.7.2 INFORMATION SECURITY WHEN WORKING AT THE CHECK-IN DESK AND BOARDING GATE

1. Access to the DCS and passenger lists on any flight must not be granted to personnel not authorized to perform maintenance work on the airline's flights.
2. Access to DCS should not be provided to persons not directly involved in servicing this flight.
3. Before leaving the check-in counter (or boarding counter) - remove boarding passes and baggage tags from the printers, log out of the system and lock the computer.
4. Follow the information security rules when working in the DCS system:
   - ✓ Use only personal login and password to identify the employee in the system;
   - ✓ Do not share your username and password with others;
   - ✓ Do not leave records containing login and password in public places, including at the workplace;
   - ✓ Log out of the system and lock the computer when leaving the workplace.

5.2.7.3 PASSENGER READINESS TO FLIGHT

Each passenger is personally responsible for his physical and psycho-emotional state during the flight - and must independently determine whether he is ready for the flight.

The agent carrying out the check-in of passengers and baggage must track:

- Potential unpreparedness of the passenger for the flight (including unstable psycho-emotional state and problems in communication);
- Potentially sick (including those in need of medical care during the flight);
- Potentially under the influence of drugs and/or drugs and/or intoxicated.

Upon detection of one or more clear signs from the list above, the agent must:

- Stop the check-in process (or boarding the passenger on board the aircraft);
- Notify the representative on the flight.

Upon receipt of a problem report from an agent, the supervisor must:

- Take measures to clarify the situation and obtain assistance from the relevant services (if necessary).

5.2.7.4 REFUSAL OF CARRIAGE

Carriage may be denied to passengers who:

1. Shows inappropriate social behavior in such manner that it may be dangerous for people around, crew, other passengers, aircraft and flight safety (for example, drink alcohol and/or smoke in terminal, threaten someone with physical violence, threaten by information about mining, etc.);
2. Present discomfort to others to such an extent that it may interfere with or endanger flight (for example, smokes in the terminal, drink alcoholic beverages, says about bomb in aircraft or terminal, etc.);
3. Are in such a physical and/or psycho-emotional state that they cannot take care of themselves on their own without special assistance, but do not have an escort capable of providing sufficient and adequate assistance during the flight;
4. Infected by any dangerous infection (which is dangerous for people around the passenger);
5. Are a source of a dangerous infection, or are infected with diseases that pose a danger to others;

6. Due to their physical condition, they cannot use a standard aircraft seat in an upright position (sitting during takeoff and landing);
7. Possess insufficiently complete, invalid, or fraudulent travel documents (including not having the necessary medical documents described in ***Section 5.2.9.5 Part 5 GOCHM***);
8. Refuse to pass the pre-flight screening of passengers and carry-on baggage;
9. Refuses to pay for excessive checked baggage and hand baggage.
10. Do not follow to airline rules and instructions of cabin/flight crew/airline representative (include the requirement to follow to socially acceptable rules of behavior and requirement to pay for excessive checked baggage and hand baggage).

The final decision to refuse transportation is made by:

- During the check-in formalities or during passengers presence in terminal (before the boarding to aircraft) – Airline Representative;
- Onboard of aircraft or during the boarding - the chief flight attendant based on confirmation of PIC.

Hold baggage and carry-on baggage of a passenger who is denied transportation must be unloaded from the aircraft if they are already loaded there. Departure of a flight with baggage and/or carry-on baggage of a passenger removed from the flight is not allowed.

If there is any doubt as to whether the crew will accept the passenger for carriage, the representative is obliged to instruct the agents who carry out the assembly of hold baggage into a container / onto a baggage trolley that the hold baggage of this passenger is loaded on board the aircraft last.

Appropriate corrections when removing a passenger from an aircraft / denied boarding an aircraft must be included in all final flight documents.

Once it decided to refuse a passenger transportation - form “Refusal in transportation” (***Appendix 5.3 GOCHM***) must be filled, 1 copy must be given to passenger, another copy must be sent to airline together with SFR for mentioned flight.

5.2.7.5 SECURITY OF PASSENGERS AND THEIR BAGGAGE

Ground handler employees are required to promptly report all service anomalies to airline representatives, aircraft crew and the appropriate local authorities.

When handling passengers and baggage, established local security procedures must be applied in the event of:

- bomb threat (use of an explosive device);
- an increased level of terrorist threat (an act of unlawful interference).

In case of receiving information about the threat of mining or other impending terrorist act - without allowing the development of panic, immediately inform the airline representatives, aircraft crew members (if applicable) and representatives of local authorities, informing the circumstances and the method of obtaining this information (by phone, via the Internet, in writing, orally, etc.). Then follow their instructions. Refer to ***the Part 15 GOCHM***.

5.2.7.6 RESTRICTED ZONES

- Regardless of the level of terrorist threat, always close all unused terminal doors, including exits to the platform and boarding bridges, not allow passengers or other staff passing through these doors.
- To organize a controlled flow of passengers at check-in counters and boarding gates, use appropriate barriers, which are barrier posts with a pull tape.
- In the case of passenger movement along the apron, organize sufficient staff to direct the flow of passengers and prevent them from moving uncontrollably around the aerodrome.
- In the case of passengers moving by car through the territory of the airfield, make sure that only passengers who have passed the screening and employees who have the right to access the territory of the airfield to perform their official duties are accepted for transportation.
- It is prohibited to give ramp (airport) pass to anybody, or allow anybody to pass into the restricted zone.

5.2.7.7 FORGOTTEN OBJECTS ONBOARD AIRCRAFT

If forgotten things are found on board the aircraft during a domestic flight on the territory of the Republic of Uzbekistan, or when an international flight returns to the territory of the Republic of Uzbekistan:

- the representative of the airline at the airport (in his absence - the senior flight attendant of the crew) must notify the aviation security officer (AVSEC);
- the representative of the airline at the airport (in his absence - the senior flight attendant of the crew) together with the security officer must draw up and sign the "Act on the discovery of forgotten things" in 3 copies (***see Appendix 5.6 GOCHM***);
- if a bag, jacket, purse, other means of storing things is forgotten, the representative of the airline (in his absence, the senior flight attendant) must enter into the "Act" a detailed inventory and the number of items contained in it;
- if there are funds/payment cards among the forgotten things, the representative of the airline (in his absence, the senior flight attendant) must enter into the "Act" a detailed inventory of the amount of money indicating the currency, payment card numbers, full name of the owner (s) indicated on them;
- 1 signed copy of the completed and signed "Act" together with the forgotten things must be transferred together with the forgotten thing (things) to the Lost and Found room of the airport where this thing was found;
- 1 signed copy of the completed and signed "Act" - must be handed over to the senior flight attendant;
- 1 copy of the completed and signed "Act" - hand over to the representative of the airline (in his absence - to the senior flight attendant for further transfer to the office of the airline);
- a representative of the airline, or a person acting as his/her representative (in his absence, a senior flight attendant) must transfer the forgotten item (items) against signature, along with 1 copy of the completed and signed "Act" to the Lost and Found room of the airport where it was found this thing. If the room of forgotten things is located outside the restricted access zone of the airport, the representative must go there, accompanied by an AVSEC employee.
  - if there is no representative of the airline at the off-base airport, and the flight is a roundabout, then the forgotten items are transferred according to the “Act” to the local AVSEC employee, or to the ramp agent servicing the flight for further transfer to the Lost and Found room of the airport where this item was found;
  - about the presence of forgotten things on board - the representative of the airline and the senior flight attendant of the crew make the appropriate notes in the flight reports with a copy of the completed and signed "Act".

If forgotten things are found on board the aircraft during an international flight (detection of an object at a foreign airport):

- the representative of the airline (in his absence - the senior flight attendant of the crew) - notify the employee of the airport aviation security service (AVSEC);
- follow his instructions;
- representative of the airline (in his absence - the senior flight attendant of the crew), together with the aviation security officer, draw up and sign the "Act on the discovery of forgotten things" in 3 copies (refer to the ***Appendix 5.6***), indicating the number and date of the flight, airport, place of discovery on board the aircraft (with seat number, if applicable);
- if the bag is forgotten, enter into the "Act" a detailed inventory and the number of items contained in it.

- if there are funds / payment cards among the forgotten things - enter into the "Act" a detailed inventory of the amount of funds indicating the currency, payment card numbers, full name of the owner (s) indicated on them;
- 1 signed copy of the completed and signed "Act" together with the forgotten things must be handed over along with the forgotten thing (things) to the Lost and Found room of the airport where this thing was found;
- 1 signed copy of the completed and signed "Act" - must be handed over to the senior flight attendant;
- 1 copy of the completed and signed "Act" - hand over to the representative of the airline (in his absence - to the senior flight attendant for further transfer to the office of the airline);
- the representative of the airline, or the person acting in his capacity (in his absence, the senior flight attendant) must hand over the forgotten item(s) against signature to the Lost and Found room of the airport where the item was forgotten. If the room of forgotten things is located outside the restricted area of the airport, you must go there accompanied by an employee of the AVSEC.
- if there is no representative at the out-of-base airport and the flight is reversal, then the forgotten item (items) is transferred under the "Act" to the AVSEC employee, or to the ramp agent servicing the flight for further transfer to the Lost and Found room of the airport where this item was forgotten. - about the presence of forgotten things on board - the representative of the airline and the senior flight attendant of the crew make the appropriate notes in the flight reports with a copy of the completed and signed "Act".

5.2.8 PASSENGER ARRIVAL, TRANSFER AND TRANSIT

5.2.8.1 ACTIONS BEFORE ARRIVAL OF PASSENGERS

- Check the list of passengers in DCS.
- Prepare a list of passengers with short connections (if applicable).
- Organize the necessary additional equipment and personnel (if applicable) for certain categories of passengers requiring additional assistance (for example, UMNR, PWD, etc.).
- Check the need to deliver additional aids (for example, wheelchairs) to the aircraft/air bridge.

5.2.8.2 ARRIVAL

- Prior to the arrival of the aircraft, the agent of the ground handling service provider responsible for servicing the flight must make sure that the boarding bridge (or boarding bridge) is in good condition and that there are personnel to bring the boarding bridge (or boarding bridge) to the aircraft.
- After the arrival of the aircraft and the placement of the ladder (auto ladder) at the side of the aircraft, control the disembarkation of passengers and their movement across the apron to the buses (or the passenger terminal).
- Disembarkation procedure:
  - ✓ Passengers;
  - ✓ UNMR passengers;
  - ✓ PWD passengers;
  - ✓ deported passengers.
- Provide passengers with the necessary assistance.

5.2.8.3 AIRPORT TRANSFER SERVICES

If there are passengers on the flight who have a connection at this airport with other flights of the airline, or partner companies, ensure in accordance with the rules of the airline:

- informing the personnel providing service for the arriving flight about the presence of passengers with short connections on board.
- during the disembarkation of passengers, provide audio announcements on which counters or boarding gates transfer passengers with short connections should proceed to. If necessary, place an

employee directly at the boarding gate, through which passengers of the arriving flight enter the airport terminal.

5.2.8.4 TEMPORARY DISEMBARKATION OF TRANSIT PASSENGERS

If it is necessary to temporarily disembark transit passengers from the aircraft (for example, for maintenance, refueling of the aircraft, or when performing a connecting flight on the same aircraft, etc.), perform the following procedures:

- inform passengers about the need to keep the original boarding pass or the transit boarding pass received at the check-in counter at the airport of departure;
- inform passengers about the start time of boarding and exit number;
- re-check passenger transportation documents (passports, visas, boarding passes);
- provide the necessary assistance to the relevant categories of passengers.

5.2.8.5 PASSENGERS STAYING ONBOARD IN TRANSIT

Unless prohibited by local rules and procedures, passengers in transit may remain on board the aircraft at the transit airport subject to the following rules:

- the cabin crew must be informed about the presence of transit passengers on board the aircraft during the aircraft parking at the airport and their number;
- the cabin crew must check the compliance of the declared number of transit passengers on board the aircraft with their actual number;
- cabin crew must inform passengers of the need to check their carry-on baggage and confirm that it belongs to these passengers. The presence of ownerless carry-on baggage on board is not allowed;
- ladders (or boarding bridges) must be placed at the aircraft entrance doors and ready for use;
- exit of transit passengers from the aircraft without a good reason is not allowed.

5.2.8.6 BOARDING PASSENGERS IN TRANSIT

If transit passengers were disembarked from the aircraft at the transit airport, then when passengers are boarded at the transit airport, transit passengers should be boarded before other passengers.

- It is necessary to re-check the transportation documents of transit passengers (passports, visas, boarding passes).
- To perform such a check, it is possible to use information from the passenger manifest (available in DCS).

5.2.8.7 NO-SHOW OF TRANSIT PASSENGERS FOR BOARDING AT TRANSIT AIRPORT

If transit passengers fail to show up for boarding at the transit airport, proceed in accordance with ***Section 5.2.5.3 Part 5 GOCHM***.

5.2.8.8 AIRCRAFT CHANGE AT A TRANSIT AIRPORT

When replacing an aircraft at a transit airport, perform the following procedures:

- Inform the cabin crew of the aircraft that passengers must leave the aircraft with their carry-on baggage;
- Hand over to passengers the appropriate boarding passes for the transit flight (or instruct them to keep boarding passes already received) and inform passengers of the boarding start time and gate number;
- Ensure that the necessary assistance is provided to the relevant categories of passengers;
- In the event of a change in the cabin configuration, ensure that passengers receive the appropriate boarding passes.

5.2.9 SPECIAL CATEGORIES OF PASSENGERS

A number of categories of passengers require special attention during check-in and ground handling.

A number of categories of passengers require special attention of cabin crew members during the flight for reasons of flight safety. Due to the fact that the number of flight attendants is limited, in some cases described in this section, the total number of passengers of such categories on one flight will be limited.

5.2.9.1 UNACCOMPANIED MINORS (UNMR)

5.2.9.1.1 GENERAL PROVISIONS

Children 5-16 years old travelling without an adult escort require additional supervision and assistance from airline personnel throughout the entire journey.

For passengers 16-18 years old, at the decision of their parents (or guardians), supervision and assistance from airline personnel may also be required throughout the entire journey.

The age of the minor is determined on the date of the flight.

Transportation of an unaccompanied minor is carried out upon payment of an additional fee for the service of transportation of an unaccompanied child.

- *Refer to* ***Chapter 5.2.6 Part 5 GOCHM*** to have information about documents for UM.
- Transportation of an unaccompanied minor citizen of the Republic of Uzbekistan on international flights (on the flights from Uzbekistan) is not allowed.
- Transportation of UM passenger on domestic flights is free of charge.
- Transportation of UM passenger on international flight is subject of additional fee.

Airline personnel must comply with the following rules:

- The **UNMR** SSR must be used on the DCS and all flight documentation to identify an unaccompanied minor;
- An unaccompanied minor passenger must arrive at the check-in counter at the airport of departure accompanied by an adult (relative or guardian);
- An employee who checks in an unaccompanied minor passenger and their baggage for a flight must instruct the accompanying adult to remain at the airport until the flight departs (due to the fact that, under certain circumstances, his assistance may be required);
- An unaccompanied minor passenger at the airport of destination must also be met by a relative (or guardian), whose full name and passport number were provided to the airline in advance when booking the carriage;
- The identity of relatives (guardians) who transfer an unaccompanied minor passenger and his baggage under the responsibility of the airline at the airport of departure, and also meet at the airport of destination - must be identified by the airline's employees (or handling agent) who escort UNMR at the airport before departure / after departure;
- **Handling Advice for UM** (***Appendix 5.2 GOCHM***) must be filled (minimum 4 copies) and be shipped together with UM passenger.

5.2.9.1.2 PROVIDING A SEAT FOR UNMR PASSENGERS

- ✓ It is forbidden to provide a UNMR passenger with seats in rows at emergency exits.
- ✓ It is forbidden to provide a UNMR passenger with a seat next to an adult male passenger. It is preferable to place the UNMR next to an adult female passenger who speaks the same language as the UNMR.
- ✓ It is forbidden to provide a UNMR passenger with seats next to PWD passengers, passengers with INF, deported passengers, pregnant women, passengers with animals, VIP passengers.
- ✓ Co-occupancy of two UNMR passengers next to each other is allowed if there are 2 or more UNMRs on the flight.

- ✓ It is recommended that the UNMR passenger be placed in seats in the forward part of the cabin, where it is easier for the chief flight attendant to observe him during the flight and provide assistance if necessary.

Refer to the ***Section 5.2.3.2 Part 5 GOCHM***.

5.2.9.1.3 UNMR CARRIAGE RESTRICTIONS

- It is allowed to transport no more than 4 UNMR on 1 flight operated on a narrow-body aircraft with a standard cabin crew of 4 flight attendants not exceeding the number of cabin crew members).
- If there are several UNMR passengers and unaccompanied PWD passengers (categories WCHR, WCHS, WCHC, BLND) on the flight at the same time (see ***Sections 5.2.9.4 Part 5 GOCHM***), the total number of unaccompanied PWD and UNMR passengers must not exceed the number of cabin crew members (out of calculation of no more than 1 passenger of special categories per 1 member of the cabin crew).
- Transportation of UNMR on cargo aircraft is not allowed.

5.2.9.1.4 OPERATIONS FOR DEPARTING PASSENGERS UNMR

- Make sure that the information about the UNMR passenger is entered in the DCS;
- Fill in the declaration form “Handling Advice for Unaccompanied Minor” (***Appendix 5.2 GOCHM***), confirming the data of the accompanying adults (accompanying the minor unaccompanied passenger at the airport of departure and meeting him at the airport of arrival) and verify the full name and passport data of each accompanying adults declared when booking the transportation with the actual ones;
- Receive a signature of adult, who accompanies UM passenger in the departure airport);
- Distribute and keep copies of the declaration based on:
  - ✓ **1 -** to obtain the signature of the crew member to whom the unaccompanied minor passenger is handed over, and further storage at the departure station as part of the package of flight documents within 90 days from the date of the flight;
  - ✓ **2 -** is handed over to the crew members to obtain the signature of the ground handling agent staff at the final destination of the route;
  - ✓ **3 -** after receipt of all signatures, it must be kept by the representatives of the airline at the flight arrival station as part of the package of flight documents for 90 days from the date of the flight;
  - ✓ **4 -** with all signatures is transferred to the UNMR passenger.
- Verify that the airline has received the additional payment for the UNMR passenger service and that the passenger has a receipt confirming payment (if applicable). If payment is received, the corresponding SSR (UNMR) will be shown in DCS. If there is no SSR, payment has not been received, and the provision of services along the flight route has not been confirmed, the passenger should be directed to the airline's cash desk to receive payment;
- Make sure that the baggage of the UNMR passenger is additionally marked with the “Assistance Label” tag;
- Instruct the accompanying adult about the need to stay at the airport until the flight departure (due to the fact that, under certain circumstances, his assistance may be required);
- Provide control and escort of the UNMR (if necessary) until its direct transfer to the cabin crew members of the flight;
- Ensure priority boarding of an unaccompanied passenger on board the aircraft after the start of boarding;
- Inform the accompanying adult about the aircraft departure;
- Send a PSM message to the destination airport informing about the presence of a UNMR passenger on board the aircraft.

5.2.9.1.5 TRANSFER PASSENGERS UNMR

Not applicable on airline's flight. Transportation of unaccompanied children is carried out only on direct flights operated by airline (with no exemptions for transfer or transit flights).

5.2.9.1.6 ARRIVING PASSENGERS UNMR

- Meet the arriving UNMR passenger on board the aircraft and receive a set of documents from the cabin crew;
- Sign in the appropriate boxes of the declaration "Handling Advice for Unaccompanied Minor" and remove the red copy of the declaration;
- Assist the UNMR passenger with passport control, customs formalities and assistance with the collection of hold baggage (if applicable);
- Verify the full name and passport data of the adult accompanying person meeting the UNMR passenger, declared when booking the transportation, and hand over the UNMR passenger together with documents and baggage to him only if the declared data match;
- Receive signature of person, meets the UNMR in destination airport, in filled «Handling Advice for UM» and store it together with other flight documents minimum 90 days.

5.2.9.1.7 SERVICE OF UNACCOMPANIED MINORS IN CASE OF DISRUPTIONS

Disruption, as forced change in the conditions of carriage, is considered to be:

a) delay and cancellation of the flight;

b) flight not performed according to schedule;

c) missed boarding and failed carriage caused by prolonged aviation security procedures, if during the inspection of baggage or personal search of the unaccompanied minor no substances and items prohibited for carriage were found;

d) change of the transportation route in order to ensure aviation security or safety, as well as at the request of state authorities in accordance with their competence;

e) failed dispatch of an UNMR due to the impossibility of providing him/her with a seat on the flight and date indicated in the ticket;

f) failure to provide an unaccompanied minor with the class of service indicated in the ticket;

g) illness of an unaccompanied minor, confirmed by medical documents, or death of a member of his/her family or close relative, confirmed by documents, of which the airline is notified before the end of the established time for passenger check-in for the flight indicated in the ticket;

h) incorrect ticket issuance by the My Freighter or its authorized agent (cashier).

The airline representative is obliged to inform the legal representatives of the child about the circumstances listed above. Refusal of carriage in these cases is considered forced.

The airline representative:

1. in case of a flight departure delay from the airport of departure, informs the legal representatives of the child in order to notify the meeting person or make a decision on further actions;

2. in case of cancellation of the flight at the airport of departure, informs the legal representatives in order to make a decision on further actions and transfers the child to the legal representative until further actions are clarified;

3. in case of a missed connection at the transfer airport/delay of the flight departure for 2 hours or more, inform the legal representative of the delay in order to notify the person meeting UNMR or to decide on further actions. Until that an unaccompanied minor is under the supervision of an airline representative. The transfer of the UNMR between responsible persons is carried out against signature.

In case of a landing on an alternate, the unaccompanied minor stays under the responsibility of an airline representative until clarification of further actions.

5.2.9.2 CARRIAGE OF YOUNG CHILDREN AND CHILDREN UNDER THE AGE OF 2

5.2.9.2.1 GENERAL PROVISIONS

- Children 2-12 years old are transported in a separate seat on board the aircraft.
- Children younger than 2 years old are transported only on the lap of an accompanying adult who is at least 16 years old. One adult may carry no more than one child under 2 years of age.

When booking the transportation of a group of children, the authorized agent (cashier)/tour operator must comply with the airline's requirements regarding the number of accompanying persons for a certain number of children.

Number of children	Number of accompanying adult persons
2 to 11	1 accompanying adult person
12 to 23	2 accompanying adult persons
24 to 35	3 accompanying adult persons
More than 35	1 accompanying adult person per each12 children

5.2.9.2.2 CHILDREN UNDER 2 YEARS (INFANT)

- Children under the age of 14 days are accepted for carriage on the airline's flights.
- A child under the age of 2 (Infant) can only be transported on the lap of an accompanying adult who is at least 16 years old. One adult may carry no more than one child under 2 years of age.
- **Use SSR**: INF.

5.2.9.2.3 PROVIDING A SEAT FOR PASSENGERS WITH CHILDREN

The maximum number of children under the age of 2 (Infant) is limited by the number of additional oxygen masks, life jackets for children and additional seat belts for passengers.

Total allowed number of INF on flight is 20 due to the total amount of additional seat belts onboard.

Due to the lack of additional seat belts or its malfunction the total amount of INF can be reduced appropriately.

In case of lack or malfunction of additional seat belts Chief Flight Attendant shall inform Captain about this problem, and Captain shall inform OCC immediately.

OCC shall inform Commercial service and Airline Representatives to reduce amount of INF on nearest flights appropriately.

Children under the age of 2 are transported only on the laps of accompanying adults and are fastened with a special additional belt provided by cabin crew members.

When choosing seats for passengers with children under 2 years old, the following requirements must be observed:

- ✓ It is not allowed to place more than 1 INF on one block of 3 seats;
- ✓ Placement on rows at emergency exits is not allowed;
- ✓ It is not allowed to sit next to passengers PWD, UNMR, INAD, DEPA, DEPU, as well as passengers with animals (PETC).

5.2.9.2.4 BABY STROLLERS

- 1 stroller per 1 INF is allowed (may consist of 2 parts).
- It is allowed to check this stroller as baggage delivered at aircraft (using the DAA procedure is required). ***Refer to Section 5.3.10.2 Part 5 GOCHM.***

5.2.9.2.5 BASSINETS ONBOARD

Not applicable for aircraft A319, A320.

A321-251N & -253NX equipped with 2 standard bassinets. Only babies under 24 months of age and less than 15 kilos are allowed to use bassinets.

5.2.9.2.6 CHILDREN 2-12 YEARS OLD

- A child aged 2 to 12 years shall be transported in a separate seat on board the aircraft.
- A child under the age of 5 is transported only when accompanied by an adult at least 16 years of age (at the time of the flight) who is able to assist him and take care of him during the flight.
- A child between the ages of 5 and 16 (up to the age of 18 by parent/guardian decision) may be transported as a UNMR passenger. See ***Section 5.2.9.1 Part 5 GOCHM***.
- When transporting children under 12 years old in groups, they must be accompanied by adults (over 18 years old) in the amount of at least 10% of the number of children in the group.

5.2.9.2.7 ALLOWING A SEAT FOR CHILDREN AGED 2 TO 12

- ✓ Placement on rows at emergency exits is not allowed;
- ✓ It is not allowed to place next to passengers PWD, UNMR, INAD, DEPA, DEPU, as well as passengers with animals (PETC);
- ✓ It is not allowed to place a child next to an adult male passenger who is not accompanying him;
- ✓ Accommodation is required strictly next to the accompanying adult (if any).

5.2.9.2.8 SECONDARY RELAY DEVICES FOR THE CARRIAGE OF CHILDREN (CDR)

Not available on company's flights.

5.2.9.3 GROUPS

A passenger group is a group of passengers travelling together for the same purpose on one or more legs of a route.

The minimum number of passengers in a group (excluding INF) is 20 people.

5.2.9.3.1 CHECK-IN PROCEDURES

Check-in of a group of passengers is carried out on a general basis. The following requirements shall be met when checking in and registering baggage:

a) during flight check-in, each passenger in the group must personally present their baggage. Each passenger and their baggage is checked in individually;
b) baggage tags are issued individually for each passenger;
c) each passenger in the group receives their own boarding pass and a tear-off baggage tag;
d) baggage data is entered for each passenger separately;
e) passengers are seated, if possible, in close proximity to each other, seats are provided in accordance with the requirements of ***Section 5.2.3.2 of Part 5 GOCHM***.
f) adjacent seats are provided for parents with children and all categories of passengers requiring assistance from accompanying persons during the flight (e.g. passengers with behavioral disabilities (DPNA), passengers with disabilities (BLND, DEAF, etc.)).
g) adjacent seats are provided to accompanying persons for escorted passengers (DEPA) performing the flight accompanied by law enforcement officers.
h) for unaccompanied minors (UNMR) travelling in a group – shared seating is required. See the provisions of ***Section 5.2.9.1 of Part 5 GOCHM***.

5.2.9.3.2 NON-STANDARD GROUPS

Not applicable.

5.2.9.4 PASSENGERS WITH DISABILITIES (PWD)

Transportation of passengers with disabilities is carried out only on passenger aircraft. Transportation of these categories of passengers on cargo aircraft is prohibited.

If there are disabled passengers on the flight:

- Clarify what assistance is needed and how they can be helped;
- Clarify preferences in choosing a seat on board due to their limitations (observing the rules for placing other categories of passengers and the rules for seating in rows at emergency exits);
- Inform the passenger about the available auxiliary equipment at the airport and on board the aircraft;
- Verify that the appropriate SSR codes are included in the DCS and PNR;
- Tag PWD passengers' baggage with the "Assistance label".

5.2.9.4.1 PASSENGERS WITH REDUCED MOBILITY (PRM)

Passengers with reduced mobility may need to use wheelchairs.

There are three categories of passengers with limited mobility, depending on the degree of restriction of their ability to move independently.

An SSR corresponding to the degree of mobility impairment must be included in the DCS:

- **WCHR** – can move independently inside the aircraft, go up and down stairs, but they require a wheelchair to travel long distances.
- **WCHS** – can move independently inside the aircraft, but cannot go up and down the stairs, and they need an ambulift to get on board the aircraft (if boarding / disembarking is not carried out through a telescopic ladder) and a wheelchair for moving over long distances.
- **WCHC** – are completely immobilized, unable to independently climb and descend the ladders, and they need an ambulift to board the aircraft (if boarding / disembarking is not carried out through a telescopic ladder) and a wheelchair to travel long distances.

5.2.9.4.2 PASSENGERS WITH DISABILITIES WHO HAVE OWN WHEELCHAIRS

Transportation of own wheelchairs is carried out in accordance with ***Sections 5.3.10.16 of Chapter 5 GOCHM***.

The SSR corresponding to the type of wheelchair drive must be entered in the DCS:

- **WCMP** – a passenger with a wheelchair with a manual wheel drive.
- **WCBD** – a passenger with an electric wheelchair powered by a dry battery.
- **WCBW** – a passenger with an electric wheelchair powered by a spilled battery.
- **WCLB** – a passenger with an electric wheelchair powered by a lithium-ion battery.

5.2.9.4.3 ALLOCATION OF SEATS AND LIMITATIONS

- If there are several unaccompanied PWD passengers (categories WCHR, WCHS, WCHC, BLND) and UNMR on the flight at the same time, the total number of unaccompanied PWD and UNMR passengers must not exceed the number of cabin crew members (based on a maximum of 1 special category passenger per 1 cabin crew member). The standard cabin crew of a narrow-body aircraft is 4 flight attendants.
- Transportation of PWD passengers on cargo aircraft is not allowed.
- If there are legally competent escorts, the number of passengers with disabilities on board a passenger aircraft is limited only by the total number of serviceable seats on board the aircraft. At the same time, 1 legally competent person 16 years old or older is required for each passenger of any PWD category, which requires escort during the flight.

When accommodating passengers of PWD categories, the following restrictions must be observed:

- ✓ Placement on the rows at emergency exits and on the rows in front of them is not allowed;

- ✓ It is not allowed to place next to INF, CHD, UNMR, INAD, DEPA, DEPU passengers, as well as passengers with animals (PETC);
- ✓ It is recommended to place PWD passengers at the porthole, closer to the exits and toilets in the bow or tail parts of the aircraft;
- ✓ Accompanying is required to be placed next to the PWD passenger;
- ✓ Service dogs (SVAN), if available on the flight, are placed only next to their owners. **Refer to *Section 5.3.11.3, Part 5 GOCHM*.**

5.2.9.4.4 PROCEDURES FOR DEPARTING PWD PASSENGERS

The ground handling agent personnel must communicate to cabin crew members the availability of PWD passengers, including their restrictions, provide seat numbers and agree on priority seating on board the aircraft at the start of passenger boarding.

- Boarding of PWD passengers on board the aircraft is carried out separately from other categories of passengers at the beginning of the boarding procedure. First, PWD passengers are placed, then other categories of passengers in accordance with the requirements of the airline.
- A PSM message indicating the type of wheelchair carried and the nature of the disability carried by PWD passengers.

5.2.9.4.5 PASSENGERS WITH VISUAL, HEARING, INTELLECTUAL, OR BEHAVIOR IMPAIRMENTS

Passengers with vision, hearing, intellect or behavioral disorders should be provided with information taking into account the presence of a particular disorder.

The DCS must use an SSR describing the relevant feature of the passenger.

5.2.9.4.6 PASSENGERS WITH VISUAL IMPAIRMENTS (BLND)

Passengers with significant visual impairment, or its complete absence, in need of assistance. May be accompanied by a service dog during the flight.

It is recommended to fly with an accompanying person (this condition is not a mandatory requirement). If there are accompanying persons, provide them with seats strictly next to this passenger when placed on board the aircraft.

In the absence of accompanying persons, it is recommended to provide a seat next to this passenger to another capable passenger who is able to provide assistance in an emergency.

If passenger with visual impairments is presented on flight, airline representative must:

1. Ask passenger, if he needs assistance to perform check-in, pass the aviation security and formalities, escort from the passenger terminal to aircraft and vice versa.
2. Arrange escort and assistance (from airport passenger handling service side), if passenger asked about it.
3. Inform transit and destination airports about such passenger by PSM message.
4. Send same information to airline OCC, mention PAX name and seat number, asked to also inform next airports on route (to arrange required assistance on arrival).

If passenger asked about assistance on arrival flight:

1. Arrange escort and assistance (from airport passenger handling service side), if passenger asked about it.
2. Mention this information in SFR.

- **Use SSR**: BLND.
- **Optionally use SSR**: SVAN (if the passenger is accompanied by a service dog during the flight).

5.2.9.4.7 PASSENGERS WITH A HEARING IMPAIRMENT (DEAF)

Passengers with significant hearing impairments, or a complete lack thereof, in need of outside assistance (because they do not hear announcements over the speakerphone and other voice instructions in the passenger terminal and on board the aircraft). May be accompanied by a service dog during the flight. If there are accompanying persons, provide them with seats strictly next to this passenger when placed on board the aircraft. In the absence of accompanying persons, it is recommended to provide a seat next to this passenger to another capable passenger who is able to provide assistance in an emergency.

- **Use SSR**: DEAF.
- **Optionally use SSR**: SVAN (if the passenger is accompanied by a service dog during the flight).

5.2.9.4.8 PASSENGERS WITH INTELLECTUAL OR BEHAVIORAL DISORDERS (DPNA)

Passengers with significant intellectual or behavioral disorders.
Must fly only with an escort.

- **Use SSR**: DPNA.
- **Provide the accompanying person with a place strictly nearby (on the next chair)**.
- **Unaccompanied passenger DPNA will not be accepted for transportation**.

5.2.9.4.9 ALLOCATION OF SEATS AND LIMITATIONS

If there is an escort, the number of passengers with disabilities on board a passenger aircraft is limited only by the total number of serviceable seats on board the aircraft. In this case, 1 capable escort is required for each passenger of the DPNA category (for DEAF and BLND categories, accompaniment is only a recommendation).

If unaccompanied, DPNA passengers will not be transported.

When placing BLND, DEAF, DPNA passengers, the following restrictions must be observed:

- ✓ Placement on the rows at emergency exits and on the rows in front of them is not allowed;
- ✓ It is not allowed to place next to INF, CHD, UNMR, INAD, DEPA, DEPU passengers, as well as passengers with animals (PETC and SVAN);
- ✓ Accompanying persons must be placed strictly next to (on adjacent seats) passengers of categories BLND, DEAF, DPNA;
- ✓ Service dogs (SVAN) are only placed next to their owners.

5.2.9.4.10 PROCEDURES FOR HANDLING PASSENGERS WITH VISUAL, HEARING, INTELLECTUAL, OR BEHAVIOR IMPAIRMENTS

Before boarding passengers

- The ground handling agent must notify the crew of special categories of passengers, their features, seat number - and agree on a landing time, if necessary.

Passenger boarding

- Due to the peculiarities of these passengers, additional time may be required for their accommodation on board. Therefore, the accommodation of these categories of passengers is recommended to be provided separately. It is recommended to board such passengers in the beginning, before the boarding of other passengers.
- If the boarding of the specified categories of passengers is carried out simultaneously with the boarding of other passengers, for the time of boarding passengers with various disorders / deviations in behavior, or passengers with disabilities, it is necessary to stop the boarding of other passengers until the end of the placement of passengers of special categories and their carry-on baggage on board the aircraft.

After aircraft departure

- Within 15 minutes after departure, inform the destination station of the flight by means of a PSM message including the correct SSR and IATA codes describing the nature of the passenger's distress.
- Inform destination airport staff about required service for passenger (for example, escort from aircraft through the formalities, assistance in terminal, etc.).
- Get confirmation from the flight destination station that the message has been received.

5.2.9.5 PASSENGERS REQUIRING A MEDICAL CLEARANCE (MEDA)

5.2.9.5.1 GENERAL PROVISIONS

Medical examination is required for the following categories of passengers:

- Passengers in a condition that may directly threaten the health and safety of other persons in flight (for example, with suspected infectious diseases);
- Passengers for whom there is reasonable doubt that they will survive the flight without additional medical attention (for example, persons with acute illnesses such as a recent heart attack, stroke, embolism, or recent surgery);
- Passengers who require additional medical assistance during the flight (for example, oxygen for breathing for medical purposes).

Not to be used for passengers with disabilities or reduced mobility who only require assistance or handling and who do not require a medical clearance.

5.2.9.5.2 PREGNANT WOMEN

- A pregnant woman must determine the possibility of using air transport herself, based on her state of health.
- Carriage of pregnant women is carried out on the condition that the Airline does not bear any responsibility to the passenger for the adverse consequences that may arise for the passenger and the fetus during transportation and as a result of transportation.
- Restrictions on the carriage of pregnant women depending on the duration and type of pregnancy and the need for examination under certain circumstances are indicated in the table below.

Gestational age	Clearance
0-31 weeks (singleton pregnancy)	Clearance is not required
32-35 weeks (singleton pregnancy)	Clearance required
36-40 weeks (singleton pregnancy)	Flight not allowed
0-27 weeks (multiple pregnancy)	Clearance is not required
28-32 weeks (multiple pregnancy)	Clearance required
33-40 weeks (multiple pregnancy)	Flight not allowed

Medical clearance for a woman traveling during pregnancy must meet the following requirements:

- Written in Russian, Uzbek or English (can be duplicated in other languages);
- Issued no more than 2 weeks before the date of the flight;
- Written on clinic/hospital letterhead and/or stamped by a doctor or attending physician;
- Signed by the passenger's doctor or accompanying midwife;
- Contains information about pregnancy (multiple or single), gestational age and expected date of delivery;
- Contains confirmation that the passenger is fit to fly.

5.2.9.5.3 ALLOCATION OF SEATS AND LIMITATIONS

When registering pregnant women, you must use SSR: PREG.

Pregnant women are subject to the following restrictions:

- ✓ It is not allowed to place them on the rows at emergency exits and on the rows in front of them;
- ✓ They are not allowed to be placed next to UNMR, INAD, DEPA, DEPU passengers, as well as passengers with animals (PETC).

***Refer to Section* 5.2.3.2-5.2.3.3*, Part 5 GOCHM*.**

5.2.9.5.4 INFORMATION FORM ON THE NEED OF MEDICAL ASSISTANCE DURING THE FLIGHT

The IATA Medical Information Form (MEDIF) is a standard form used to assess the condition of passengers requiring medical attention.

The agent must use the standard MEDIF form provided by the airline (refer to the ***Appendix 5.5*** to this manual – in Russian and English variants).

5.2.9.5.5 USING A FREQUENT FLYER MEDICAL CARD

Not applicable on company's flights.

5.2.9.5.6 AIRLINE ADVANCE NOTICE

- The passenger (or persons booking transportation) must notify the airline of their needs at the time of booking the transportation.
- The airline must confirm the carriage of these categories of passengers.
- Prior approval is required for the following categories of passengers:
  - passengers on stretchers (forbidden in normal conditions on airline flights, ***refer to Section 5.2.9.6 Part 5 GOCHM***);
  - passengers who, for medical reasons, require an oxygen concentrator or a respirator during the flight;
  - transportation of children in an incubator.

5.2.9.5.7 SEAT ALLOCATION AND LIMITATIONS FOR MEDA PASSENGERS

Seats for passengers requiring additional medical assistance during the flight must be provided in accordance with their needs, including the placement of related medical equipment.

Appropriate seats must be provided:

- passengers who require oxygen for medical purposes during the flight;
- passengers carried on stretchers (forbidden in normal conditions on airline flights, ***refer to Section 5.2.9.6 Part 5 GOCHM***);
- completely immobilized passengers;
- passengers with a service animal;
- passengers with an injured or immobilized leg.

Seats next to the specified categories of passengers must be provided:

- personal accompanying passengers;
- accompanying persons for medical reasons (due to visual and / or hearing impairments).

When accommodating these categories of passengers, the following restrictions must be observed: it is not allowed to place them on the rows at emergency exits and on the rows in front of them (*Refer to **Section 5.2.3.3, Part 5 GOCHM***).

5.2.9.5.8 REQUEST FOR MEDICAL ASSISTANCE DURING THE FLIGHT WITHOUT PRIOR NOTICE

- In the event of a passenger's request for medical assistance during the flight without prior notice, provide all possible assistance in the transportation of the passenger.
- Clarify the necessary nuances of transportation and put down the appropriate codes in DCS.

5.2.9.5.9 PWD PASSENGERS REQUIRING A MEDICAL CLEARANCE

- Ensure that information about special needs of passengers is received in a timely manner and the relevant SSRs are entered into the DCS.
- Ensure that the necessary escort is arranged (if applicable).

5.2.9.5.10 REFUSAL PWD/MEDA PASSENGERS TRANSPORTATION

It is forbidden to refuse transportation of PWD / MEDA passengers without special grounds. Denial of carriage to PWD/MEDA passengers must be carried out in case of non-compliance with the General Conditions of Carriage. *Refer to* ***Section 5.2.7.4 Part 5 GOCHM***.

5.2.9.5.11 REASONS FOR DENIAL OF CARRIAGE

The main reasons for denial of carriage for PWD/MEDA passengers are:

- The physical condition of the passenger is such that the operation of the flight may lead to the death of the passenger, or a serious deterioration in the condition, which will cause the aircraft to go to an alternate aerodrome;
- The psycho-emotional or medical condition of the passenger is such that it directly threatens the health or safety of other passengers and crew members, their property, as well as the technical condition of the aircraft;
- The passenger does not comply or refuses to comply with specific conditions of carriage;
- The passenger's attending physician refuses to disclose information about the passenger's state of health (diagnosis), if such information is required to make a decision on transportation;
- The presence of an infectious disease in a passenger that threatens the health of other passengers and crew members.

Before refusing to transport a passenger due to obvious signs of alcohol or drug intoxication, or because of his non-standard behavior, it should be taken into account that the passenger may suffer from a chronic disease, have somatic or neurological disorders, and not be in a state of intoxication. *Refer to* ***Section 5.2.7.4 Part 5 GOCHM***.

5.2.9.5.12 ACTIONS IN THE EVENT OF DENIED CARRIAGE

In case of refusal of carriage, PWD/MEDA passengers must explain the reasons with reference to the actual non-compliance with the General Conditions of Carriage.

- Enter all relevant information about the reasons for the failure in the DCS and SFR.
- Issue the form “Refusal of transportation” and provide 1 copy to passenger, send another copy to airline together with SFR.

5.2.9.6 CARRIAGE OF PASSENGERS ON A STRETCHER

Forbidden on company’s flights. There is no equipment to carry such type of passengers.

5.2.9.7 MEDICAL USE OF OXYGEN DURING FLIGHT

5.2.9.7.1 GENERAL PROVISIONS

When accommodating passengers who require the use of oxygen for medical purposes during flight, the following procedures must be observed:

- The crew must be notified prior to embarkation of passengers of the location of accommodation for passengers who require oxygen for medical purposes;
- Priority boarding should be organized for the specified category of passengers;
- For the specified category of passengers
- The relevant SSR must be entered in the DCS for the relevant passenger.

When accommodating passengers who require the use of oxygen for medical purposes during flight, the following restrictions must be observed:

- ✓ It is not allowed to place them on the rows at emergency exits and on the rows in front of them;
- ✓ They are not allowed to be placed next to passengers with the remark INF, UNMR, INAD, DEPA, DEPU and PETC.

5.2.9.7.2 PORTATIVE OXYGEN CONCENTRATORS (POC)

- Passengers may use their own portable oxygen concentrators (POCs) on board the aircraft.
- The passenger must notify the airline in advance of the need to use an oxygen concentrator on board the aircraft.
- The airline must confirm in writing the possibility of using and using an oxygen concentrator on board the aircraft before the start of check-in of passengers and baggage.
- The use of oxygen concentrators in the absence of confirmation is not allowed for reasons of flight safety.
- **Only the following oxygen concentrators are allowed to be used on board the aircraft by prior agreement:**

  - ✓ AirSep FreeStyle
  - ✓ AirSep Lifestyle
  - ✓ AirSep Focus
  - ✓ AirSep Freestyle 5
  - ✓ (Caire) SeQual eQuinox/ Oxywell (model 4000)
  - ✓ Delphi RS-00400/Oxus RS-00400
  - ✓ DeVilbiss Healthcare iGo
  - ✓ Inogen One
  - ✓ Inogen One G2
  - ✓ Inogen One G3
  - ✓ Inova Labs LifeChoice Activox
  - ✓ International Biophysics LifeChoice/ Inova Labs LifeChoice
  - ✓ Invacare Solo 2
  - ✓ Invacare Solo 2
  - ✓ Oxylife Independence Oxygen Concentrator
  - ✓ Precision Medical EasyPulse
  - ✓ Respironics EverGo
  - ✓ Respironics Simply Go
  - ✓ SeQual Eclipse
  - ✓ SeQual SAROS
  - ✓ VBox Trooper

A passenger who requires the use of an oxygen concentrator during the flight must carry a confirmation letter from the attending physician, retained throughout the flight, provided to airline personnel upon request, containing the following information:

- Confirmation that the physical condition of the passenger allows him to fly;
- Type and make/model of portable oxygen concentrator;
- Medical justification for the need to use a portable oxygen concentrator on board the aircraft;
- The passenger's physical ability to hear, see and understand alarms on board the aircraft in the event of an emergency;
- Data on the maximum oxygen consumption in accordance with the pressure in the passenger cabin under normal flight conditions;
- Data on the estimated total operating time of the oxygen concentrator in hours and minutes;
- Data on the need to use oxygen at all stages of the flight, or its individual stages.

Other portable oxygen concentrators are not permitted on board the aircraft, but subject to the following conditions, they are allowed to be transported in cabin or hold baggage:

- The concentrator is empty and not pressurized;

- The electric battery is taken out and packed separately so as to exclude short circuit;
- The battery terminals are recessed into the case or protected from contact with metal objects.

5.2.9.7.3 CHECK-IN QUESTIONNAIR FOR A PASSENGER WITH PORTABLE OXYGEN CONCENTRATOR NOT LISTED ABOVE

Check with the passenger with an oxygen concentrator that is not listed in *Section 5.2.9.7.2 Part 5 GOCHM*:

- Is the concentrator discharged?
- Is the concentrator under pressure?
- Has the battery been removed from it?
- Is the battery packaged separately?
- If the answer is “NO” to at least one question, the oxygen concentrator cannot be accepted for carriage in hold baggage or carry-on baggage.
- The remark must be corrected before the passenger and his/her baggage/carry-on baggage accepted for carriage.

5.2.9.7.4 LIQUID OXYGEN

Prohibited on company’s flights.

5.2.9.7.5 PASSENGER OWN OXYGEN (POXY)

- Passengers may request the use of a portable oxygen bottle during the flight;
- **Mandatory SSR**: **POXY (only to be used in conjunction with SSR code MEDA)**;
- The passenger must notify the airline in advance in writing about the need to use an oxygen cylinder on board the aircraft;
- The airline must confirm in writing the possibility of using and using an oxygen bottle on board the aircraft before the start of check-in of passengers and baggage;
- The use of oxygen bottles in the absence of confirmation is not allowed for safety reasons, because they are dangerous goods;
- The cabin crew must be warned about the presence on the flight of the specified category of passengers and the numbers of their seats;
- The passenger must have a completed and signed medical examination form that meets the following requirements;
- The accommodation of passengers on board the aircraft before boarding the rest of the passengers, or after it is completed, is carried out in accordance with the instructions of PIC.

By prior agreement, only oxygen bottles that meet the following requirements are allowed for use on board the aircraft:

- Designed specifically for medical purposes;
- It has a mass of not more than 5 kg and does not contain liquid oxygen;
- The bottle has not expired;
- The bottle has a length of not more than 50 cm and a diameter of not more than 10 cm;
- The bottle structurally has a regulator;
- Bottle valves and regulators are protected from damage that could lead to leakage of contents;
- The bottle has no damage, cracks or other defects.

Medical examination meets the following requirements:

- Written in English (may be duplicated in other languages);
- Issued no more than 2 weeks before the date of the flight;
- Contains confirmation that the passenger is fit to fly;

- Written on clinic/hospital letterhead and/or stamped by a doctor or attending physician;
- Signed by the passenger's physician.

5.2.9.8 INADMISSIBLE PERSONS AND DEPORTEES

5.2.9.8.1 GENERAL PROVISIONS

- **Inadmissible persons** – passengers who were not admitted to the country of destination, or transit, or were not accepted for transportation. For this category of passengers, **SSR: INAD** is used.
- **Deportees** – passengers who are expelled from the country at the request of the authorities and / or transported from country to country at the request of the authorities (with or without arrest). For this category of passengers, the following **SSRs are used: DEPA** (accompanied deported passenger transported accompanied by law enforcement officers) **or DEPU** (unaccompanied deported passenger).

Responsibility for any kind of deportees (also abbreviated DEPO for short) lies entirely with the state(s) concerned. Deported passengers are accepted for transportation only at the request of the authorized governmental organization.

5.2.9.8.2 ACCOMPANYING INAD / DEPU PASSENGERS DURING TRANSPORTATION

Travel escort for INAD / DEPU passengers is required if:

- The passenger physically resists carriage;
- The passenger was denied transportation by another airline;
- A passenger may directly threaten the health or safety of other passengers and crew members, their property, as well as the technical condition of the aircraft.

For the above reasons, unaccompanied INAD/DEPU may be refused at any stage.

5.2.9.8.3 REFUSAL OF CARRIAGE TO INAD / DEPU / DEPA PASSENGERS

INAD or DEPA/DEPU passengers may be denied boarding by the airline if:

- There is a risk of a threat to the health or safety of other passengers and crew members, their property, as well as the technical condition of the aircraft;
- There is a risk of a threat to flight safety;
- Causes discomfort to other passengers of the flight;
- Requires special attention and assistance from ground personnel or cabin crew members.

For the above reasons, INAD/DEPU/DEPA shall be refused.

- Follow to ***Section 5.2.7.4 Part 5 GOCHM*.**

PIC has the right to refuse to transport a passenger against whom judicial or administrative actions have been taken (person in custody) on a specific flight if there are justified reasons related to ensuring safety and security during the flight.

5.2.9.8.4 ALLOCATION OF SEATS AND LIMITATIONS

When accommodating INAD / DEPA / DEPU passengers, the following restrictions must be observed:

- ✓ It is not allowed to place them on the Emergency Exits Rows (12-13 on A320) and on the rows in front of them, as well as directly at the exit;
- ✓ Optimal allocation is on rows 28-30 (which is mandatory for DEPA passengers, who is accompanied by armed persons, authorized to carry firearm weapon onboard);
- ✓ It is not allowed to place them next to passengers with the remark INF, CHD, UNMR, PETC;
- ✓ When placing passengers in a block of 3 seats - the DEPA passenger is placed in the middle seat, and the security officers / policemen accompanying him in the seats to the left and right of him;

- ✓ When placing passengers in a block of 2 seats - the DEPA passenger is seated in the seat at the window, and the security officers / policemen accompanying him in the seat to his left and the seat in the next row behind him.

5.2.9.8.5 TRANSFER OF DOCUMENTS OF A DEPORTED/INADMISSIBLE PERSONS

A set of documents of the deported passenger, including his passport or other identity card (if any) is transferred to the senior flight attendant of the crew in accordance with local regulations.

If passenger documents are not given to Cabin Crew (for example, passenger holds it), passenger or governmental organization in the departure airport are responsible for these documents.

It is not allowed to accept INAD/DEPA/DEPU passenger for the flight with no documents confirms his identity.

5.2.9.8.6 INAD / DEPU / DEPA HANDLING PROCEDURES

Before check-in begins

- **Airline representative must** inform OCC about requested transportation of INAD/DEPA/DEPU passenger (-s). Airline Representative can assign seat (-s) for passenger (-s) and escorting officers (if applicable), but not finalize check-in without confirmation of OCC.
- **OCC must** immediately contact duty officer of airline AVSEC and receive confirmation for carriage of these passenger (-s) on flight.
- **After confirmation from AVSEC, OCC must** confirm to Airline Representative possibility of carriage (or inform about refusal of transportation).
- **After confirmation from OCC, Airline Representative** performs check-in or refuse transportation according to the GOCHM.
- If the transportation was confirmed, **OCC shall personally inform PIC and Chief Flight Attendant by e-mail and/or phone;**
- The corresponding SSR must be entered in the DCS during check-in.

During passenger check-in

- In accordance with the standard check-in rules for passengers and baggage;
- Documents are checked in the usual way.

Before boarding passengers

- Inform the crew about the presence of passengers of the specified categories on the flight;
- Make sure that there is an appropriate SSR in PNL and make a correction if it is missing;
- If INAD passenger has no ticket, Airline Representative must fill the “Payment form” (***Appendix 5.9***) and ask passenger to sign it (any – in Russian, English or Uzbek). In case of refusal from passenger’s side Airline Representative must mention it in SFR and inform about possible results (includes legal claim from airline);
- For passengers of INAD/DEPU categories - hand over the package of passenger's documents to the senior flight attendant of the crew;
- For DEPA passengers - if possible, ensure priority boarding of the specified categories of passengers before the start of boarding of passengers of other categories.

After aircraft departure

- Within 15 minutes after departure, inform the destination station of the flight by means of a PSM message including the correct SSR and IATA codes describing the category of passenger(s);
- Get confirmation from the flight destination station that the message has been received.

Upon arrival

- For INAD/DEPU - receive a package of documents from the senior flight attendant of the crew and hand it over to the representative of the border service;
- For DEPA - if possible and in agreement with the escort, ensure that the passengers being escorted are disembarked last.

5.2.9.8.7 CARRIAGE RESTRICTIONS

When carrying passengers of these categories, the following quantity restrictions must be observed:

- DEPU – not more than 4 persons.
- DEPA – not more than 4 persons.
- INAD (unaccompanied) – 30 persons.
- INAD (with escort) – not more than 2 persons.

5.2.9.8.8 REQUIRED DOCUMENTATION FOR INAD

To objectively consider claims and make timely decisions, airline representatives must:

- pay special attention to INAD/DEPA/DEPU passengers, communicate with them and inform them about their responsibility for expenses to the airline, according to the air carriage agreement;
- work out the issue of paying for an air ticket with INAD/DEPA/DEPU passengers before the departure of the corresponding flight (if the passenger has the opportunity);
- interact with the government authorities of the destination country and take measures to prevent/mitigate administrative consequences (fines) for the airline;
- timely take measures to resend the baggage of INAD/DEPA/DEPU passengers in order to avoid claims and additional costs for storing baggage;
- pay attention to the work of service companies in checking travel documents (visa, validity, expiration date, etc.) when registering passengers in accordance with the IATA TIMATIC and SGHA;
- take into account the available results of preliminary information from the authorities of transit and destination countries about passengers who have restrictions on entry into transit and destination countries.

In the absence of payment for the ticket by INAD/DEPA/DEPU, collect the following documents:

Written notification of the authorities' refusal of entry (received from the relevant authorities);

- Passenger's obligation to pay for return transportation and no claims against the airline (original with date of completion) - see ***Appendix 5.9 "Obligation to reimburse expenses"***;
- Passport (readable copy with series and number);
- Issued departure and arrival tickets;
- Boarding pass (copy);
- Baggage tags (where applicable).

Documents are required for inclusion in a passenger's claim, for taking measures for pre-trial settlement of the issue and for filing a claim with the courts (Article 191 of the Civil Procedure Code of the Republic of Uzbekistan).

5.2.9.9 UNRULY PASSENGERS

5.2.9.9.1 GENERAL PROVISIONS

Unruly passenger (or Disruptive Passenger) is a passenger who fails to respect the rules of conduct at an airport or on board an aircraft or to follow the instructions of the airport staff or aircraft crew members, thereby disturbing the good order and discipline at an airport or on board an aircraft.

A passenger may be denied a flight for safety reasons if:

1. There are good and sufficient grounds to believe that the passenger is intoxicated with medication and/or drugs and/or alcohol;
2. Passenger consumes alcoholic beverages in public and/or smoking and/or threatens bomb placing in passenger terminal, baggage, aircraft or anywhere else;
3. The behavior of a passenger deviates from generally accepted norms to such an extent that it threatens the life and health of other passengers, crew members, the serviceability of the aircraft and flight safety, and also violates the peace and comfort of other passengers (including appearance and compliance with sanitary and hygienic standards, for example, arriving on a flight in dirty or dirty clothes).

In case of refusal of transportation – Airline representative must follow to ***Section 5.2.7.4 Part 5 GOCHM***.

5.2.9.9.2 HANDLING OF UNRULY PASSENGERS

1. Inform the representative of the airline about the uncontrollable behavior of unruly passengers, or the presence of passengers causing discomfort to others;
2. In the presence of hold baggage - inform the representative of the baggage tag numbers;
3. If the baggage is not handed over for picking, leave it at check-in in Stand-By mode until a decision is made to accept the passenger for transportation;
4. If the baggage is handed over for packing, follow the decision of the representative of the airline if he instructs to return the baggage for check-in.

5.2.9.9.3 UNRULY PASSENGER DENIED CARRIAGE

1. Disembark the passenger and his hold baggage from the flight in DCS;
2. Ensure the unloading of baggage from the aircraft (if any);
3. Inform PIC of a possible delay caused by the search for baggage (if it was already loaded on board the aircraft, and the passenger was denied transportation before boarding, during boarding, or after boarding was completed);
4. Draw up an act of denial of transportation (***Appendix 5.3***).
5. Inform the airline of the denied of carriage. Copy of filled form (Appendix 5.3) must be sent to airline together with SFR. Also free text report must be sent to Director of GHD and Director of airline AVSEC must be sent by email within 2 hours after ATD.

5.2.9.9.4 RESPONSIBILITY TO DENY THE CARRIAGE

- If the passenger violates the rules of conduct in the terminal, the decision to refuse transportation is made by the representative of the airline. See ***Section 5.2.7.4, Part 5 GOCHM***.
- If the passenger violates the rules of conduct during boarding the aircraft, or on the way from the terminal to the aircraft and on board the aircraft, the decision to refuse transportation is made by PIC. When deciding to remove a passenger from a flight, follow the instructions in ***Section 5.2.7.4 Part 5 GOCHM***.
- Person made a decision to deny the boarding of passenger – must issue the report into the airline's Safety Manager via ICARUS system as described in ***Chapter 5 of Safety Management Manual MF.SMS2-01***.

5.2.9.10 PASSENGERS WITH INJURIES OR ILLNESS

5.2.9.10.1 PASSENGERS WITH INJURIES

When booking passengers with injuries for a flight, the authorized agent (cashier)/tour operator enters the SSR request code into the passenger's PNR: for a passenger with a plaster cast, orthosis, Ilizarov apparatus on the lower limbs - MEDA/LEGB, LEGR, LEGL, on the upper limbs - MEDA/ARMR, ARML, ARMB.

The agent at check-in must:

a) To interview the passenger at check-in regarding the provision of the necessary special services;
b) To provide passengers of this category window seats, closer to the exits and lavatories in the nose or tail of the section of the aircraft, in order to cause minimal inconvenience to passengers sitting in adjacent seats and not restrict movement along the aisles and access to emergency exits;
c) If a passenger has an injury on one side of the body (semi-paralyzed, with artificial limbs, an arm or leg in a plaster cast, splint or with a support, etc.), if possible, provides a seat that allows the passenger to be positioned so that the uninjured side faces the aisle.

5.2.9.10.2 PASSENGERS WITH ILLNESS

The agent at check-in should suspect a contagious disease when a passenger:

a) Has a fever (a measured temperature of 100.4 °F (38 °C) or greater, or feels warm to the touch, or gives a history of feeling feverish) and one or more of these signs or symptoms:
    1. skin rash;
    2. difficulty breathing;
    3. persistent cough;
    4. decreased consciousness or confusion of recent onset;
    5. new unexplained bruising or bleeding (without previous injury);
    6. persistent diarrhea;
    7. persistent vomiting (other than air sickness);
    8. headache with stiff neck; or
    9. appears obviously unwell.
b) Has a fever that has persisted for more than 48 hours (this information can be obtained by asking a passenger simple questions).
c) Has symptoms or other indications of communicable disease, as the local Health Agency may announce through posting of a notice in the media.

In case of reasonable suspicion of a passenger having an infectious disease, the check-in agent must contact the airport medical service to conduct a medical examination of the passenger.

After receiving recommendations for admitting the passenger to the flight, the check-in agent must fill out the MEDIF form (***Appendix 5.5, GOCHM***). If, based on the results of the medical examination, the passenger is not admitted to the flight, the check-in agent must fill out the Refusal of Carriage Report (***Appendix 5.3 to GOCHM***). *Refer to* ***Section 5.2.7.4 Part 5 GOCHM***.

5.3 HOLD BAGGAGE AND CARRY-ON BAGGAGE

5.3.1 CARRY-ON BAGGAGE

(a) Carry-on baggage. Passenger's baggage, which is during transportation in the cabin of the aircraft with the consent of the airline and under the responsibility of the passenger for its safety.

(b) Carry-on baggage may include:

- Carry-on baggage carried within the free baggage allowance.

- Items allowed by the airline to be transported free of charge on board the aircraft in addition to standard carry-on baggage (for example, a laptop, goods from duty-free shops, winter clothes, etc.).

- Permitted special cargo, the carriage of which requires prior approval from the airline, notification to the airline and / or special screening measures or additional payment (for example, urns with human ashes, animals carried on board the aircraft, medical equipment and valuables).

- Dangerous goods permitted for carriage in cabin baggage, including items requiring prior approval from the operating airline in accordance with the requirements of DGR IATA, table 2.3A (*refer to* ***Section 7.4.9 Part 7 GOCHM***). **Certain items of dangerous goods must be removed from cabin baggage when cabin baggage is transported as hold baggage.**

FLIGHT TYPE	WEIGHT LIMIT	QTY PER PASSENGER	COMMENTS
International or Domestic Charter	5 kg (*if another restriction is not confirmed by charter agreement*), size no more than 55x40x20 cm	1 PC (*if another restriction is not confirmed by charter agreement*)	In addition to the specified 1 piece of carry-on baggage, the passenger is entitled to carry a small backpack / bag / laptop bag (over 30x40x10 cm), a blanket, reading materials, baby food, an umbrella, a cane, a collapsible wheelchair for passengers with disabilities and one bag with duty free shopping
International or Domestic Regular	8 kg, size no more than 55x40x20 cm	1 PC	

***NOTE 1**: instead of carry-on baggage, a passenger can carry a collapsible baby stroller.*
***NOTE 2**: specific restrictions for carry-on baggage could be applied for specific charter flight (-s). Information about these restrictions applicable for specific flights (-s) must be send from appropriate departments in advance.*

(c) Carry-on baggage may only be accepted for carriage if it:
- is suitable for transportation in the cabin due to its characteristics, weight and dimensions (shown in table above);
- can be placed under the seat or on the baggage shelf above the passenger's head;
- is suitably packaged;
- meets the requirements and standards of aviation security.

Some items, due to their weight, size or nature of the contents, **may only be accepted for carriage with the permission of the airline**. For reasons of aviation security, many countries restrict the carriage of liquids, aerosols and gels in carry-on baggage. Items confiscated during the pre-flight inspection are not subject to transportation in carry-on baggage (or even in hold baggage, if the transportation of such items is prohibited by air or on passenger aircraft).

Transportation of dangerous goods in hold baggage and carry-on baggage is carried out in accordance with ***Table 2.3A*** of the IATA Dangerous Goods Regulations (DGR), shown in ***Part 7 GOCHM***.

(d) Procedure for accepting carry-on baggage for carriage:
1. weigh the presented carry-on baggage;
2. estimate the size of the carry-on baggage presented;
3. if the dimensions and/or weight of the presented carry-on baggage do not comply with the airline's restrictions, then accept it for transportation as hold baggage (with the appropriate payment in case of exceeding the free baggage allowance limits);
4. clarify with the passenger the presence of dangerous goods prohibited for carriage in carry-on baggage, pointing to the information plate at the counter (in the check-in area).

***NOTE:** the personnel of the service company must ensure that a sufficient number of notifications and alerts to passengers regarding the transport of dangerous goods and flight safety issues are used.*
- *Textual information about dangerous goods prohibited for carriage in carry-on baggage and hold baggage must be included in the content of passenger tickets.*
- *Illustrated posters with information about dangerous goods prohibited for carriage in carry-on baggage and hold baggage are also located at the passenger and baggage check-in counters and passenger boarding areas on the aircraft (gates). Refer to **Appendix 5.1 GOCHM**.*
- *Items prohibited for carriage in carry-on baggage and seized from passengers during pre-flight screening can only be accepted for carriage in hold baggage, unless they are prohibited for carriage by air.*

(e) Checking procedure for carry-on baggage when boarding passengers:

1. Check if passengers have items that cannot be accepted for carriage due to size and/or weight and/or excess carry-on baggage allowance.
2. Indicate to passengers the pieces of carry-on baggage that cannot be accepted for transportation.
3. If any passenger exceeds the allowed limit for hand baggage (for example, have extra pieces or too heavy/big items as hand baggage) – inform such passengers about necessity to carry such items as checked baggage.
4. If passenger refused transfer of excessive hand baggage for carriage as checked baggage – inform passenger about necessity to follow the airline rules (shown in "General coditions of carriage" available on airline web-site and in ***Appendix 5.14 GOCHM***). Do not perform boarding of such passengers until the issue is not solved.
5. If passenger agree to transfer the excessive hand baggage for carriage as checked baggage – make sure if passenger has free allowance of baggage shipping (and it not used yet). If free allowance is not used fully, appropriate quantity of pieces of hand baggage can be accepted for carriage free of charge. If free allowance is already used, or even not available according to the ticket, passenger must pay for carriage of excessive hand baggage according to the airline tariffs. Do not perform boarding of such passengers until the issue is not solved.
6. Prepare to carry out the procedure for loading this carry-on baggage into the cargo compartments of the aircraft in case of exceeding the number/dimensions/weight of carry-on baggage or the total excess of the carry-on baggage on the flight (upon receipt of an appropriate instruction from the cabin crew of the aircraft). In doing so, follow the provisions of ***Section 5.2.5.3 Part 5 GOCHM***.

(f) Procedure for loading carry-on baggage into the cargo hold of the aircraft

- It is carried out in accordance with the provisions of ***Section 5.2.5.3.5 Part 5 GOCHM***.

5.3.2 HOLD BAGGAGE (CHECKED BAGGAGE)

(a) Checked baggage:

- is transported under the responsibility of the airline accepting it for transportation and issuing or renewing the baggage tag;

- is transported in the cargo compartments of the same aircraft on which the passenger is carried, but to which the passenger does not have access during the flight.

Unaccompanied baggage:

- is transported under the responsibility of the airline accepting it for transportation and issuing or renewing the baggage tag;

- is transported in the cargo compartments (to which passengers do not have access during the flight).

- can be transported separately from the passenger, provided that it is returned to the passenger after being lost / mishandled.

<u>The airline has the right to refuse carriage of baggage if</u>:

- Baggage is improperly packed;
- Baggage may harm the aircraft, cargo, other baggage, crew members, or passengers;
- Baggage has dimensions and/or weight that do not allow it to be placed in the cargo compartments of the aircraft;
- Baggage is subject to local or international restrictions, prohibitions and security standards of the countries of departure, overflight, transit and destination.
- Passenger is not the owner of baggage (for example, it is a baggage of another passenger).
- Passenger did not paid extra fee for excessive/oversized baggage transportation according to the airline rules.

Each piece of hold baggage must have a baggage tag with the tag number, flight number and passenger's name.

Maximum weight of one piece of baggage is 32 kg.

NOTE: *this limitation does not apply to:*
- *AVIH (live animals);*
- *WCHC (handicapped baggage);*
- *SPEQ (special equipment).*

Maximum dimensions of one piece of baggage: 158 cm by the sum of measurements (length + height + width).

NOTE: *this limitation does not apply to:*
- *AVIH (live animals);*
- *WCHC (handicapped baggage);*
- *SPEQ (special equipment).*

(b) Standard Procedure for Accepting Hold baggage for Carriage:

- Make sure that baggage is properly packed and labeled;
- Check for damage, and if any, fill in the appropriate fields of the Limited Release Tag;
- Ask passenger to take a look to illustrated posters with information on the carriage of dangerous goods in hold baggage and carry-on baggage;
- Check with the passenger if there are any prohibited items in the hold baggage and carry-on baggage;
- Check with the passenger whether this is their baggage and whether they are sure that there are no items prohibited for transportation;
- When presenting for transportation items containing dangerous goods, act in accordance with the requirements of ***Appendix 5.1 GOCHM*** and ***Table 2.3A***, located in ***Section 7.4.9 Part 7 GOCHM***;
- Notify the passenger that it is not recommended to carry valuables and fragile items (for example, money, jewelry, household appliances, laptops, documents, etc.) in the baggage;
- Clarify baggage restrictions (for example, baggage only for an additional fee) and notify the passenger of the need to pay for excess baggage (if applicable);
- Make sure if weight of each baggage piece is not exceed allowed limit (max 32 kg per item; exemption – wheelchairs which can be up to 50 kg).
- Enter the weight and number of pieces of baggage into the system;
- Attach an individual baggage tag to each piece of baggage accepted for carriage (by issuing a number of baggage tags corresponding to the number of pieces of baggage accepted);
- Attach additional tags, if applicable;
- Attach the "HEAVY" tag to each piece of baggage heavier than 23 kg;
- Give the baggage tags to passenger (only after extra fees are paid if applicable);
- Make sure that the number and weight of pieces of hold baggage accepted for transportation are handed over to the employees who carry out the loadplanning of the aircraft and control the loading of the aircraft;
- Make sure that the staff performing the loadplanning of the aircraft are notified about special baggage (if any).

(c) Baggage Drop Desk and Self Check-In Kiosks

Not applicable until further notice.

5.3.3 DANGEROUS GOODS IN HOLD BAGGAGE AND CARRY-ON BAGGAGE

Certain items of dangerous goods:

a. Are specifically prohibited in hold baggage;
b. Must be removed from cabin baggage when cabin baggage is transported as hold baggage (*refer to **Section 5.2.5.3.5 Part 5 GOCHM***).

When dangerous goods not permitted for carriage on board the aircraft as per TI ICAO/IATA DGR are discovered on the person of or in the baggage of a passenger **report shall be done** as per ***Section 7.10.4, Part 7 GOCHM***.

Transportation of dangerous goods in baggage is carried out **strictly in accordance with the instructions of Part 7 of this GOCHM based on the requirements of TI ICAO, DGR IATA.**

Transportation of "Cargo Aircraft Only" shipments as cargo or in baggage on a passenger aircraft is strictly prohibited at any time!

Whenever any person on board the aircraft has suspicions that CAO shipment is present on flight in any form, the following actions shall be done immediately:

1. Stop any cargo/baggage loading activities;
2. Inform PIC, Chief Flight Attendant and Airline Representative;
3. Offload CAO shipment immediately;
4. Report to the GOCHD (Station Manager at the base airport, Head of Ground Operations Division at airports other than base);
5. Add information to the SFR.

5.3.4 CONSOLIDATION OF BAGGAGE

Baggage pooling for non-family passengers is only allowed if the tickets were purchased as part of the same booking. Maximum quantity of "pool group" is 5 people.

Combining the weight of baggage marked as SPEQ with the weight of other baggage is not allowed.

When combining baggage, it is required to issue an individual tag(s) for each passenger.

***NOTE**: in the case of charter flights during the winter period, it is allowed to combine the weight of baggage marked SPEQ with the weight of other baggage.*

5.3.5 LARGE, HEAVY, OVERSIZED BAGGAGE

Large baggage – baggage exceeds size 158 cm (after sum of 3 dimensions – length, width, height). This baggage is always transported for a separate fee, regardless of the free baggage allowance according to the issued ticket.

Oversized baggage – baggage exceeds size 203 cm (after sum of 3 dimensions – length, width, height). This baggage is always transported for a separate fee, regardless of the free baggage allowance according to the issued ticket.

Heavy baggage – baggage exceeds weight 23 kg (but not exceeds 32 kg). This baggage is always transported for a separate fee, regardless of the free baggage allowance according to the issued ticket.

***Exemption from all rules above**: wheelchairs (max 50 kg) – which must be shipped free of charge, if passenger had disabilities requires usage of wheelchair.*

Maximum weight of one piece of baggage 32 kg.

Procedure for accepting bulky or heavy baggage:

- Follow the standard check-in procedure for passengers and baggage at the passenger check-in counter;
- Attach a baggage tag to oversized or heavy baggage;
- Instruct the passenger on their own, take such baggage to the place of reception of bulky or heavy baggage in the terminal.

5.3.6 HOLD BAGGAGE RATES

Passengers are entitled to a pre-determined hold baggage allowance, which may vary depending on the fare paid, passenger category, itinerary, group status or class.

The airline has adopted a “piece concept” approach: a passenger is entitled to a certain number of pieces of hold baggage of a certain weight (indicated as “PC” on the ticket).

Tolerance when weighing baggage = 0 kg.

<table>
<tr><th>FLIGHT TYPE</th><th>MAX. DIMS/WEIGHT</th><th>Q-TY PER PAX</th><th>COMMENTS</th></tr>
<tr><td>International charter</td><td rowspan="2">• 20 kg (maximum 158 cm over the sum of 3 measurements (length/width/height), if another restriction is not applied due to the charter agreement.
• Several types of baggage are carried on additional fee basis.</td><td rowspan="2">1 pcs, if another restriction is not applied due to the charter agreement.</td><td rowspan="4">The maximum weight of one piece of baggage is 32 kg</td></tr>
<tr><td>Domestic charter</td></tr>
<tr><td>International regular</td><td rowspan="2">• Based on restrictions mentioned in issued ticket. There is no free baggage allowance for specific types of baggage.
• Several types of baggage are carried on additional fee basis.</td><td rowspan="2">Based on restrictions mentioned in issued ticket.</td></tr>
<tr><td>Domestic regular</td></tr>
</table>

***NOTE**: specific restrictions for hold baggage could be applied for specific charter flight (-s). Information about these restrictions applicable for specific flights (-s) must be send from appropriate departments in advance.*

5.3.7 EXCESS BAGGAGE

If the free hold baggage allowance is exceeded, the excess baggage handling procedures must be applied.

The transportation of excess baggage is paid by the passenger in advance, or at the airline's ticket office, and the receipt is confiscated during check-in for the flight, or when passengers boarding the aircraft.

Specific types of baggage can be carried only on extra fee basis.

Transportation of excess baggage is paid on the basis of "per kilogram of weight", or "for the carriage of a particular type of baggage".

*Refer to **Chapters 5.3.10 Part 5 GOCHM**.*

5.3.8 MARKING OF BAGGAGE

5.3.8.1 GENERAL PROVISIONS

- Remove all old baggage tags and duplicate mini barcode tags.
- Attach a new baggage tag to the piece of baggage in a place where it will not be accidentally torn off during transportation and handling.
- Attach additional tags, if applicable (*for example, tag "Assistance required" or "Firearm"*).
- Use Limited Release tags if necessary. *Refer to* ***Section 5.3.8.2 Part 5 GOCHM***.

Situation	Issuing a transfer tag	Remarks
Customs clearance required at destination	YES	Remind the passenger to collect their baggage at the transfer airport. Follow to TIM/TIMATIC regulations
Passenger asks register baggage to the intermediate point of the route	NO	Remind the passenger of the risk of missing a connecting flight
Animals in the cargo compartment	NO	Transportation of live animals in the cargo compartments on MFX passenger aircraft is not allowed.

5.3.8.2 LIMITED RELEASE TAG

The LIMITED RELEASE tag is used in the following cases:

1) Carry-on baggage and things exceeding the established norms are accepted for transportation in the cargo hold of the aircraft as hold baggage. All baggage carried in the cargo compartment of the aircraft must be inspected by the aviation security service (transport security unit) for the absence of prohibited items and substances;

2) Fragile, improperly packed baggage is carried, as well as baggage with damaged structure/package contents, in respect of which the Airline declares the limitation of its liability. In this case, the tag shall contain notes on the type of baggage, place, nature of damage to the package, as well as the passenger's signature, which confirms the acceptance of the Airline's limited liability for the carriage of such baggage.

3) If DCS cannot be used during the check-in and boarding.

4) If baggage is accepted for transportation during the passengers boarding (for example, baggage of DHC or airline crew travelled onboard).

The "Limited Release" tag is the baggage identification tag and must contain the information:

– full name of passenger

– the route, the destination to which the baggage is checked in (airport codes);

– flight number with airline code;

– connecting point, if available (airport code);

– number (*manually written on tag, contains flight number (figures only) and seq. number of passenger (shown in his boarding pass). For example, flight C62504 and seq. number 36 – so you need to manually write on tag number "250436" after the abbreviation "C6*".

"Limited Release" tag must be provided by the airline.

An example of such a tag is shown in ***Section 5.3.8.4.8 Part 5 GOCHM***.

5.3.8.3 TYPES OF BAGGAGE TAGS

A carry-on baggage tag is issued in accordance with IATA Resolution 740:

- Fill in the fields of the tag with a pen with waterproof ink;
- If there are connecting flights, prepare a second tag for connecting flights.
- Inform the personnel loading baggage on board the aircraft about the availability of pieces of baggage checked in at the gate (below the aircraft) - if applicable.

Baggage tag generated by DCS during passenger and baggage check-in: contains the information entered in the DCS, including the weight of the bag, the name of the passenger, the destination of the checked bag, and the bag tag number.

Other types of baggage tags: not allowed.

5.3.8.4 ADDITIONAL BAGGAGE TAGS

When checking in passengers, in some cases it is necessary to use additional baggage tags for hold baggage. Design of such tags may be different, but main purpose remains same.

5.3.8.4.1 ASSISTANCE TAG

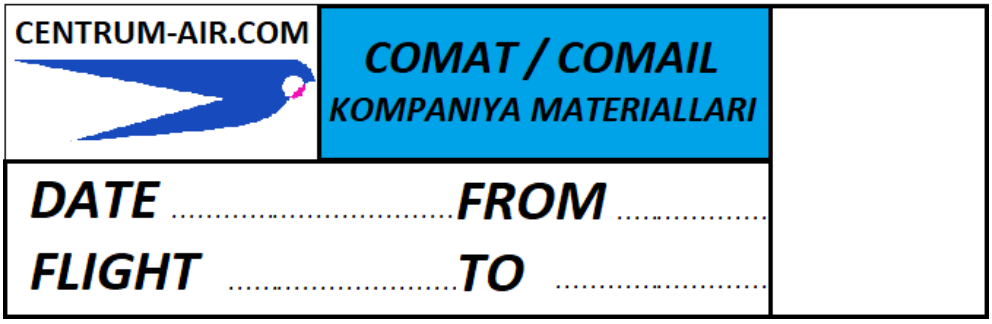
5.3.8.4.2 TAG "DELIVERY AT AIRCRAFT" ("DAA")

5.3.8.4.3 TAG “HEAVY”

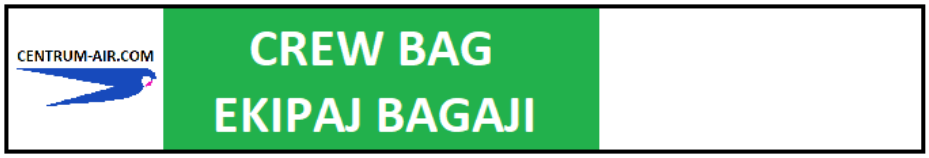
Manually enter the mass of the space in the sign with the inscription "KG" when using this tag.

5.3.8.4.4 FIREARM TAG

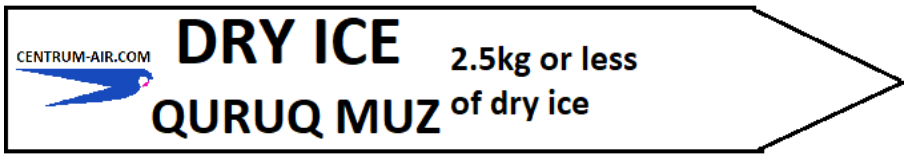
5.3.8.4.5 AIRLINE MATERIALS TAG (COMAT / COMAIL TAG)



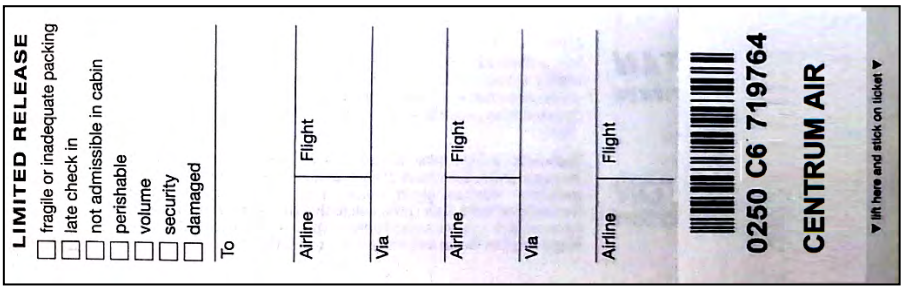
5.3.8.4.6 CREW BAG TAG



5.3.8.4.7 DRY ICE TAG



5.3.8.4.8 LIMITED RELEASE TAG



5.3.8.4.9 BAGGAGE CARRIED IN THE PASSENGER SEAT (CBBG) TAG

5.3.8.4.10 CARRY-ON BAGGAGE TAG

5.3.9 PASSENGER BAGGAGE HANDLING

5.3.9.1 GENERAL PROVISIONS

Passenger's baggage must be checked in to one of the following points of the route according to the purchased (issued) ticket:

- The first intermediate point of the route (where it is planned to leave the airport);
- The point of the itinerary to which transportation is confirmed (if the ticket status is “OK”), requested (if the ticket status is “QR”) or previously specified (if the ticket status is “SA”);
- Route point where the change of airport is planned;
- End point of the route.

Additional critical points:

- Minimum connection time between flights (for guaranteed reloading of hold baggage from one flight to another at the transit point);
- By individual agreement with the airline, baggage can be checked in to the transfer point according to the purchased (issued) ticket;
- If there is no relevant agreement between different airlines, and the passenger is transported on different tickets, then baggage reloading from flight to flight at the point of connection is not possible.

5.3.9.2 HANDLING OF HOLD BAGGAGE

5.3.9.2.1 GENERAL PROVISIONS

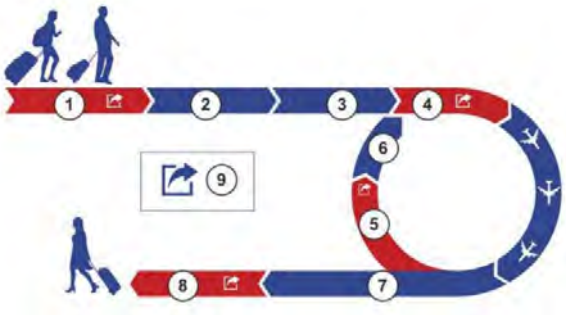
At the airport of departure, the following operations are performed with hold baggage:

- Acceptance of baggage from passengers at check-in;
- Baggage handling at the passenger terminal;
- Loading baggage on board the aircraft.

***NOTE**: Passenger baggage should be considered baggage that remains with the passenger during his transportation and follows with him on the same flight.*

The diagram below shows the overall process of hold baggage from the moment the baggage is accepted at check-in at the airport of departure to the moment the baggage is released to the passenger at the airport of destination. In some cases, baggage may be subject to additional security measures between airports of departure, transfer and arrival (screening).

NUMBER	DESCRIPTION
1	CHECK-IN AND TRANSFER BAGS
2	SECURITY
3	SORT
4	LOAD
5	TRANSFER
6	SECURITY
7	UNLOAD
8	ARRIVAL
9	INFORMATION SHARING



5.3.9.2.2 ALLOCATION OF RESPONSIBILITIES

The airline has adopted the following distribution of roles and responsibilities in baggage handling:

- **Management staff** (airline representative on the flight): is responsible for monitoring the work performed and making decisions on the course of action based on feedback from operational personnel;

- **Baggage handler** (Ground Handling Agent Representative): Operational personnel responsible for scheduling and retrieving baggage (including handling baggage from canceled and delayed flights), ensuring smooth baggage handling activities;
- **Baggage Claim Officer** (Ground Handling Agent Representative): operational personnel responsible for moving and controlling baggage through dedicated baggage claim areas (including immediate notification of any unauthorized persons in the baggage claim area), coordinating baggage handling and preparation for loading on board the aircraft, and baggage delivery from / to the aircraft;
- **Apron agent (representative of the ground handling agent)**: operational personnel responsible for loading and/or unloading baggage to/from the aircraft and immediately notifying any unauthorized persons on the airstairs.

5.3.9.2.3 SAFE BAGGAGE HANDLING

- Baggage handling operations require personnel to manually handle equipment and baggage, such as pushing and pulling non-motorized GSEs, loading heavy pieces of baggage and packed ULDs with baggage;
- The personnel involved in the work must be aware of the safe and convenient methods of lifting heavy and oversized baggage, which should be used at all times in order to reduce the risk of injury during baggage handling;
- Handling methods and manual handling principles are given in IATA AHM 462;
- Baggage handlers must not lift more than their physical capacity to avoid injury.
- Where possible, use assistive devices to move heavy loads.
- Make sure baggage is handled properly, such as being placed on the belt instead of being thrown.
- Be careful when using baggage carts.
- Check the coupling/disengagement of baggage carts, carts/trailers and make sure no one is working between or nearby.

NOTE: *Take precautions when moving and connecting the baggage carts to the tractor or other equipment to avoid injury!*

5.3.9.3 DEPARTURE BAGGAGE HANDLING

5.3.9.3.1 PLANNING

Depending on the type of operation at the station along the airline's route network, it is important that a pre-planning process is implemented for each departing flight, namely:

- It is necessary to predict the baggage expected to be sent on the flight and plan the number of pieces of baggage and their type (transfer/baggage for the final destination);
- It is necessary to predict the availability of the necessary equipment (baggage trolleys and ULD) at the agent;
- Clarify on readiness to handle any special (non-standard) types of baggage;
- Determine the personnel assigned to deliver baggage from the transit/transfer area;
- Determine passenger arrival connections for a departing flight:
- Determine which arrival flights have transfer bags for subsequent flights.
- Monitor flights for transfer baggage to ensure that transfer baggage is loaded onto the aircraft.
- Plan a short-term connection of baggage to the baggage sorting system or, as necessary, reload baggage from aircraft to aircraft on the platform.
- Check the destination of the parking lot for the departure of the flight in order to plan the timely delivery of the baggage.
- Determine the travel time to the aircraft parking place.

5.3.9.3.2 PREPARATION FOR DEPARTING BAGGAGE

- Check the baggage collection point that has been determined for the departure of the planned flight:
- For a flight, several baggage collection points can be defined, for example, for oversized, sports, live animals;
- Make sure that the staff working at the bulky baggage claim are aware of the design and/or dedicated baggage delivery counter that arrives at the bulky baggage claim.
- Make sure that the signs indicating the departure of the flight are correct (the information on the stand is displayed accordingly);
- Make sure ground personnel handling the flight are aware of any special baggage handling, especially mobile devices (wheelchairs).

5.3.9.3.3 EXECUTION OF DEPARTING BAGGAGE

- Check that the baggage collection point (e.g. baggage chute/carousel) for the departing flight is correct by referring to the baggage sorting plan. If baggage destined for another collection point arrives at your sorting point, then:
- The baggage handling team has been notified.
- Move bags to the correct collection point/hand over to baggage handlers.
- Make sure that ULDs for baggage loading are in good working order (if used);
- Make sure all baggage carts are in good working order.
- Make sure that all mandatory screening and baggage securing is carried out as required.
- Prepare identification tags for the ULD showing the correct flight and baggage class division.
    a) Priority baggage;
    b) Heavy baggage;
    c) Transfer baggage;
    d) Baggage accepted for carriage after check-in is closed;
    e) Fragile baggage;
    f) Sport equipment;
    g) Means or devices for the movement of passengers with limited mobility;
    h) Animals in the baggage compartment;
    i) Crew baggage;
    j) Baby carriages/Strollers;
    k) Baggage that is checked into the baggage compartment at the entrance to the aircraft;
    l) Standby baggage;
    m) Baggage with a limited release tag.

Baggage handling upon boarding

The boarding agent will identify and label any baggage that is collected from the passenger at the boarding gate due to size and weight restrictions.

- Pick up baggage from the gate area and take it to the aircraft for loading.
- Scan baggage for tracking and/or verification;
- Passengers with disabilities may wish to continue using their wheelchair until they board the aircraft. In such circumstances, make sure that this mobility aid has been loaded onto the aircraft.
- Handle the mobile vehicle in accordance with IATA DGR table 2.3A, if batteries (lithium-ion, acid-base, etc.) are present;
- Ensure that the person responsible for planning and loading the aircraft is informed of the number and types of mobility aids available for transport.
- Carry baggage from the boarding area and take it to the aircraft hold for loading.

5.3.9.4 TRANSFER BAGGAGE HANDLING

5.3.9.4.1 TRANSFER BAGGAGE CONTROL

Baggage handling quality control is a key element of an airline's operations and baggage handling procedures. There are a number of metrics that can be captured and applied to KPIs such as:

a) Unloaded and abandoned baggage;
b) Number of bags late accepted for transportation in check-in systems;
c) The number of accepted pieces of baggage that do not have a tag;
d) Loading the first baggage;
e) Loading the last baggage;
f) The amount of baggage to be loaded on boarding;
g) The amount of baggage delivered due to an error in the system.

Transfer baggage

Load planning

Transfer baggage must be considered baggage for the departing flight. This baggage can be delivered up to 24 hours before the flight departure, but may also arrive closer to the flight departure time. Transfer baggage scheduling can have a significant impact on the overall performance of an airport or airline.

View the list of arrival flights to get:

- Number of transfer bags arriving before flight departure;
- Determine a place to store baggage;
- Determine the amount of transfer baggage that will arrive within a certain time when the outbound flight is open.

In collaboration with other stakeholders, as appropriate, decide if:

- These bags are processed through the baggage handling system or are delivered tail-to-tail at the aircraft stand, if applicable;
- Baggage handling staff will be dedicated to deliver bags quickly;
- If tail-to-tail operations are planned, inform baggage and ramp personnel of agents that additional loading facilities are available on the apron;
- The number of transfer bags that will arrive after the departure flight;
- Number of pieces of special baggage (for example, oversized, aviation, etc.) and determines how many personnel are needed to handle special items and plan these activities;
- Plan to use equipment such as baggage carts and ULDs;
- Plan the use of any special handling equipment and instruct personnel on its use as needed;
- Determine the duration of planned activities so that personnel and equipment can be scheduled for further tasks.

For transfer according to the principle: "from tail-to-tail"

- Plan your baggage according to arrival flights;
- Allocate drop-off points for drivers moving baggage on departure flights on a tail-to-tail basis;
- Define baggage division for outbound flight, such as premium/economy class baggage. Make sure there are enough ULDs and/or baggage carts in picking areas to allow assembly to begin.

Preparing for baggage transfer

Make sure that the storage locations for bags arriving before the opening of the departure flight are known to the baggage handling teams (including the baggage collection team at departure, so that they can pick up the bags for transfer if necessary).

Send a baggage team (and any necessary equipment) according to their assigned tasks (collection, delivery, etc.).

5.3.9.4.2 TRANSFER BAGGAGE HANDLING

- Pick up your transfer baggage from your arrival flight;
- Deliver the baggage to the appropriate place for completing the outbound flight;

From tail-to-tail

- Scan your baggage at the baggage claim;
- Deliver baggage to the departure of the aircraft;
- Scan baggage when loading onto a departing aircraft.

Baggage handling system

- Deliver your baggage to the transfer baggage claim area.
- Unload your baggage to the transfer baggage storage area.
- Scan the baggage to register the delivery in the handling system.

Storage locations

- Take the bag to the storage room.
- Scan your baggage to take it to the storage area.

Transfer baggage should be monitored in terms of the number of transferred pieces. Transfer baggage may be subject to the same security measures as outbound baggage.

5.3.9.5 ARRIVING BAGGAGE HANDLING

5.3.9.5.1 PLANNING

- Review the information messages (Baggage Manifest, ULD Message, Cargo Distribution Message, etc.) for the arriving flight to determine the amount and location of baggage on the flight;
- Read the arrival flight parking information;
- Determine the duration of planned activities so that the teams and resources used in these activities can be scheduled for further tasks later.

5.3.9.5.2 PREPARING FOR BAGGAGE DELIVERY

- Determine and confirm the seat (tape) for the flight based on the expected number of pieces of baggage;
- Make sure all equipment is in good working order;
- Make sure the baggage team is aware of the baggage claim delivery locations;
- Make sure the arrival flight signs are up to date and displaying properly.

5.3.9.5.3 PROCEDURES UPON ARRIVAL

- Keep in touch with ramp agents for baggage claim in accordance with the unloading plan, namely CPM, LDM, etc.
- Ensure that the collected cargo is in accordance with the unloading plan/ULD marking and/or baggage marking.
- Arrange the transfer accordingly.

5.3.9.5.4 BAGGAGE DELIVERY

- Deliver your baggage to the specified location
- Follow the priority unloading plan. As a general rule, the priority plan is to put commercially important baggage (first class, business) on the return first, followed by economy class baggage;
- Comply with the requirements for screening and securing baggage;
- If a system is provided that requires manual control to indicate delivery baggage, use it when delivering your first baggage.

- If the system does not exist, write down the flight number and the delivery time of the first bag manually.
- Once the baggage delivery is complete, record the time you received the last bag manually or using the system, if such a system is provided.
- If necessary, indicate that the last bag has been delivered by placing a baggage basket on the return labeled “Last Baggage Delivered” or, alternatively, by tagging the last baggage entered in the return with the tag “Last Bag”.
- Make sure there is good communication between the ramp agent and loader teams and the passenger service team regarding the unloading process, especially in the event of problems or delays.
- If the bag is visibly damaged, it must be secured in accordance with local regulations.
- Baggage delivered to the arrivals hall must be re-screened before being loaded onto another aircraft.
- Transfer baggage accidentally delivered to the arrivals hall must be securely stored until it is checked in for transfer to the next flight.

5.3.9.5.5 ARRIVALS HALL

- If the delivery belt is overloaded with bags, then the bags should be removed from the belt and stored securely in an area that does not pose a safety hazard to passengers.
- After all bags have been delivered to the point of collection and passengers have left the area, a baggage check should be carried out to collect the express delivery bags and any unclaimed/leftover bags to the Baggage Tracing Department.

5.3.10 BAGGAGE REQUIRING SPECIAL HANDLING

- Ensure proper health and safety concerns are in place to ensure personnel are not injured while handling baggage.
- Make sure that special baggage accepted meets the dimensions requirements (size, weight, volume) in accordance with the policies and procedures of the airline.
- Ensure that appropriate personal protective equipment is available and used.
- Make sure that any special baggage accepted for carriage that has not been previously declared has the necessary documentation.
- Please make sure that all special baggage items are packed in such a way that they are suitable for transport.

The personnel of the ground handling service provider responsible for the check-in of passengers and baggage must inform the employees responsible for loadplanning and loading baggage on board the aircraft about all non-standard and heavy pieces, indicating their number and actual weight.

5.3.10.1 BAGGAGE CARRIED IN THE PASSENGER SEAT (CBBG)

Baggage carried in the passenger seat, due to its size or other characteristics, is marked with the CBBG code.

Examples of CBBG Baggage:

- musical instruments;
- works of art;
- electronic equipment;
- diplomatic mail;
- valuables.

The airline is responsible for compliance with aviation security measures, loading and securing CBBG baggage in the passenger cabin.

CBBG baggage must be secured by a seat belt or other certified device strong enough to prevent any movement of the item secured by it during any maneuvers of the aircraft on the ground and in the air.

CBBG baggage must be packed or covered in a manner to avoid possible injury to passengers, cabin crew members and the structure of the aircraft.

Such baggage must be compulsorily marked with the “CBBG” tag at the time of passenger and baggage check-in (***see section 5.3.8.4.9***).

The passenger must notify the airline of his intention to carry a piece of CBBG baggage at least 24 hours before the flight, and receive a written confirmation from the airline about the possibility of such transportation.

To carry CBBG baggage, an additional standard fare ticket must be issued in the name of the passenger.

No more than 1 piece of CBBG for 1 passenger is allowed.

The seating of a passenger carrying a piece of CBBG baggage is only allowed on the seat next to this piece of baggage.

It is allowed to place CBBG baggage only in seats "A" or "F" (near the windows).

Forbidden:

- load into the seat pieces of baggage CBBG, which weight exceeds the maximum limit for the seat;
- load pieces of CBBG baggage on the rows at the emergency exits, or adjacent to them, and on any places along the aisle;
- load pieces of CBBG baggage in such a way that they block the view and movement of other passengers, preventing them from visually noticing the inclusion of the “Fasten seat belts”, “No smoking”, “Exit” lights, or leave the seat if necessary.
- place CBBG baggage next to such categories of passengers as UMNR, INF, VIP, DEPA, DEPU, PWD.

Maximum dimensions and weights of CBBG baggage:

Aircraft type	CBBG Limits (excluding cello and guitar)	Maximum cello and guitar dimensions	Weight Limit
Any	43x45x95 cm	35x50x150 cm	75 kg

5.3.10.2 DELIVERY AT AIRCRAFT (DAA)

Self-delivery of baggage on board (Delivery at Aircraft, or DAA) can only be applied to the following categories of baggage:

- Collapsible baby stroller (***NOTE:*** *if the stroller does not fully fold, it must be accepted for carriage as hold baggage at the time of passenger check-in*).
- A wheelchair and other mobility aids not used during the flight, which cannot be safely placed in the passenger cabin of the aircraft;
- Carry-on baggage and personal items (on small aircraft with limited space for carry-on baggage).

Each piece of such baggage must be marked with a DAA tag during the check-in of passengers and baggage (refer to the sample in ***Section 5.3.8.4.2 Part 5 GOCHM*****).**

NOTE 1: *it is forbidden to use the DAA procedure for valuable items (for example, laptops, large video cameras, important documents) - they must remain with the passenger.*

NOTE 2: *when using the DAA procedure, the restrictions of a particular airport should be taken into account and the departing passengers should be informed about them.*

NOTE 3: *when using the DAA procedure, passengers must be informed that DAA-tagged baggage must not contain any dangerous goods that are prohibited for carriage by air or in carry-on baggage. Use Table 2.3A in Part 7 of this Manual.*

5.3.10.2.1 SECURITY PROCEDURES FOR DAA BAGGAGE OF DISEMBARKED PASSENGER

If the passenger was removed from the flight, check if baggage marked DAA was checked in his name.

If in doubt, follow the procedure for identifying all DAA baggage on the flight.

5.3.10.2.2 DAA BAGGAGE PROCEDURES ON ARRIVAL

- Unload DAA baggage from the cargo compartments of the aircraft and deliver it to the airstairs (to the airstairs, if applicable) at the request of the crew members, or according to the received LDM message;
- If the disembarkation of passengers was completed, but there was unclaimed baggage with DAA tags, check the tag indicating the information on the flight;
- If the baggage tag contains correct information about the flight number and destination, but the DAA tag does not, deliver the baggage to the baggage claim area;
- If the baggage tag contains incorrect information about the flight number and destination, and the DAA tag is correct, use the expedited baggage procedure.

5.3.10.3 TRANSPORTATION OF SPORTING EQUIPMENT / CARRIAGES / OTHER BAGGAGE REQUIRING SPECIAL HANDLING

- Sports equipment, baby carriages and other special baggage must be checked in as separate items.
- Sports equipment, prams and other special baggage must be packed in such a way as not to cause damage to other passengers, crew members and the structure of the aircraft.
- Sports equipment, baby strollers and other special baggage must be checked in individually by each passenger.
- Sports equipment, baby strollers and other special baggage are subject to payment when booking at the ticket office / on the airline's website, or at the airline's ticket office when checking in for a flight (if the transportation of this baggage was not booked in advance). When transporting the specified categories of special baggage, the corresponding SSR code (special remark) is marked in PNL.
- In case of unsatisfactory packing of baggage, or damage, the LIMITED RELEASE procedure must be used.

The following categories of sports equipment are not accepted for transportation on the aircraft of the airline: kayak, canoe, oars, hang gliders, spears, jumping poles.

5.3.10.4 TRANSPORTATION OF SKI EQUIPMENT / SNOWBOARDS / WATER SKI

DESCRIPTION	• 1 pair of skis + 1 pair of ski poles + 1 pair of ski boots + 1 helmet, OR • 1 snowboard + 1 pair of boots + 1 helmet, OR • 1 pair of water skis, OR • 1 standard water slalom set including wakeboard NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required when booking a ticket
PACKAGE	No more than 1 set per pack (ski bag)
WEIGHT LIMIT	10 kg
SSR FOR DCS	SPEQ

NOTE: *ski boots can be accepted for carriage as a Part of special equipment (not exceeding a total weight of 10 kg), as a Part of hold baggage (not exceeding a total weight of 18 kg), or can be included in carry-on baggage (with a total weight of not more than 5 kg). A prior request for the carriage of special equipment is not required if the passenger is only carrying ski boots (no skis). Boots may be packed individually, but the total weight must not exceed the permitted weight of hold baggage.*

5.3.10.5 TRANSPORTATION OF UMBRELLAS / CANES

DESCRIPTION	• 1 beach umbrella, OR • 2 canes NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Not required
PACKAGE	According to the nature of the cargo to prevent damage in transit
WEIGHT LIMIT	Not more than 32 kg
SSR FOR DCS	SPEQ

5.3.10.6 TRANSPORTATION OF EQUIPMENT FOR SURFING / KITE SURFING / SUP

DESCRIPTION	• 1 surfboard, OR • 1 kite surf kit including board and related equipment. NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	According to the nature of the cargo to prevent damage in transit
WEIGHT LIMIT	Not more than 32 kg
SSR FOR DCS	SPEQ

5.3.10.7 TRANSPORTATION OF WINDSURFING EQUIPMENT

DESCRIPTION	1 windsurf board, 1 mast, 1 sail NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	According to the nature of the cargo to prevent damage in transit
WEIGHT LIMIT	Not more than 32 kg
SSR FOR DCS	SPEQ

5.3.10.8 TRANSPORTATION OF EQUIPMENT FOR SCUBA DIVING

DESCRIPTION	1 scuba tank (empty, switched off, power source packed separately, battery removed with short circuit protection) + 1 pressure relief valve + 1 regulator + 1 buoyancy compensator + 2 fins + 1 mask + 1 knife + 1 harpoon + 1 life jacket. NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	According to the nature of the cargo, to prevent damage in transit
WEIGHT LIMIT	Not more than 32 kg
SSR FOR DCS	SPEQ

5.3.10.9 TRANSPORTATION OF BICYCLES

DESCRIPTION	1 bike (mountain, road or racing), without engine. NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	Cardboard box or bag
ADDITIONAL REQUIREMENTS	• The handlebar must be turned parallel to the frame. • The pedals must be removed. • Tires must be deflated.
WEIGHT LIMIT	Not more than 20 kg
SSR FOR DCS	BIKE

5.3.10.10 TRANSPORTATION OF FISHING EQUIPMENT

DESCRIPTION	2 rods + 1 reel + 1 landing net + 1 pair of fishing boots + 1tackle box. NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	According to the nature of the cargo, to prevent damage in transit
WEIGHT LIMIT	Not more than 20 kg
SSR FOR DCS	SPEQ

5.3.10.11 TRANSPORTATION OF GOLF EQUIPMENT

DESCRIPTION	1 golf bag with 14 clubs + 12 golf balls + 1 pair of golf shoes. NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	According to the nature of the cargo to prevent damage in transit
WEIGHT LIMIT	Not more than 20 kg
SSR FOR DCS	SPEQ

5.3.10.12 TRANSPORTATION OF BOWS

DESCRIPTION	1 bow and arrow NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Required at time of booking
PACKAGE	Standard case for packing bows and arrows
WEIGHT LIMIT	Not more than 20 kg
SSR FOR DCS	SPEQ

5.3.10.13 TRANSPORTATION OF SPORTS EQUIPMENT WITH WHEELS

DESCRIPTION	• 1 scooter, OR • 1 skateboard, OR • 1 pair of roller skates, OR • 1 balance bike, OR • 1 tricycle. NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE
ADVANCE APPROVAL	Not required when booking
PACKAGE	According to the nature of the cargo, to prevent damage in transit
WEIGHT LIMIT	Not more than 20 kg
SSR FOR DCS	SPEQ

5.3.10.14 TRANPORTATION OF STROLLERS AND CHILD SEATS

Passengers traveling with infants (under 2 years of age) may bring one additional folding stroller OR infant car seat free of charge.

DESCRIPTION	• 1 folding stroller, OR • 1 large folding stroller, OR • 1 child car seat. **FOR PASSENGERS TRAVELING WITH A CHILD UNDER 2 YEARS (INF):** ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE. **FOR PASSENGERS TRAVELING WITH A CHILD OVER 2 YEARS (CHD):** NOT ALLOWED TO BE INCLUDED IN THE FREE BAGGAGE ALLOWANCE.
ADVANCE APPROVAL	Not required when booking
PACKAGE	According to the nature of the cargo, to prevent damage in transit. In case of unsatisfactory packing, use the LIMITED RELEASE procedure.
WEIGHT LIMIT	Not more than 20 kg
SSR FOR DCS	SPEQ

5.3.10.15 TRANSPORTATION OF FOLDING BABY STROLLERS

A folding baby stroller not exceeding the dimensions of 55x40x20 cm and a mass of 5 kg can be accepted for carriage instead of the standard carry-on baggage allowance.

Collapsible pushchairs of large dimensions and/or mass must be accepted for carriage as hold baggage.

5.3.10.16 TRANSPORTATION OF WHEELCHAIRS AND OTHER ACCESSORIES

Transportation of wheelchairs and other similar devices for people with disabilities is subject to prior reservation. It must be completed when booking a ticket, or before the passenger checks in for the flight.

A passenger whose mobility is restricted by a disability, health, age condition or temporary mobility problem (e.g. broken leg) is allowed to transport battery-powered wheelchairs or other similar mobility aids equipped with batteries, that comply with applicable IATA DGR restrictions listed below.

Wheelchairs and other devices may be electrically powered. Wheelchair/Mobility aid containing batteries shall be prepared for transport to prevent unintentional activation.

Transportation of electric wheelchairs and their batteries is carried out in accordance with the requirements of the current edition of IATA DGR.

PIC shall be informed of a location of mobility aids with installed batteries, removed batteries and spare batteries.

5.3.10.16.1 TYPES OF BATTERIES FOR WHEELCHAIRS AND ACCESSORIES

BATTERY TYPE	DESCRIPTION	SSR IN DCS
Non-spillable	• Dry battery • Gel battery • Wet non-spillable battery	N/A
Spillable	• Wet spilling battery	N/A
Lithium	• Li-ion battery	N/A

5.3.10.16.2 TRANSPORTATION OF WHEELCHAIRS/MOBILITY AIDS WITH NON-SPILLABLE WET BATTERIES, NICKEL-METAL HYDRIDE BATTERIES OR DRY BATTERIES

Transportation of wheelchairs and other devices is carried out in the cargo compartments of the aircraft.

- Non-spillable wet battery must comply with special provision A67 IATA DGR; or
- Nickel-metal hydride must comply with special provision A199 IATA DGR; or
- Dry batteries must comply with special provisions A123 IATA DGR.

Together with mobility aid a passenger may carry:

– 1 spare wet battery prepared according to A67 IATA DGR;
– 2 spare nickel-metal hydride battery prepared according to A199 IATA DGR;
– 1 dry battery prepared according to A123 IATA DGR.

Before acceptance Operator shall verify A67, A99, A123.

When accepting a wheelchair for transportation, the staff of the handling agent who checks in passengers and baggage must make sure that:

- The passenger has confirmed the type of battery (non-spillable wet battery, or nickel-metal hydride battery, or dry battery);
- The battery terminals are insulated to prevent accidental short circuits (for example, the battery is packed in a special container).
- Battery either:
  - Securely attached to wheelchair or mobility aid and electrical circuits insulated according to manufacturer's instructions;
  - Removed by the user if the vehicle is specifically designed for it, in accordance with the manufacturer's instructions.
- The passenger carries no more than one spare battery;
- Any batteries removed from the wheelchair or replacement batteries are intact and are shipped in strong, correct and undamaged package;
- The chair and batteries are marked with a special tag.

The personnel of the ground handling agent preparing the loadplan must:

- Report to the PIC the location of the wheelchair and removed/spare batteries. *Use the **Table 2.3A (Section 7.4.9 Part 7 GOCHM)***.

Handling agent personnel loading cargo and baggage on board the aircraft must:

- Secure mobility aid containing batteries on the Lower Deck cargo holds with straps/ropes. The mobility aid, the battery(ies), electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

Operator must ensure any battery removed from wheelchair/mobility aid or spare battery are carried in a strong, rigid packagings which must be carried in the cargo compartment.

5.3.10.16.3 TRANSPORTATION OF WHEELCHAIRS AND ACCESSORIES EQUIPPED WITH A LITHIUM-ION BATTERY

When accepting a wheelchair with lithium-ion for transportation, the staff of the handling agent who checks in passengers and baggage must ensure that:

- The battery meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3;
- The battery terminals are protected from short circuits, e.g by being enclosed within a battery container;
- The wheelchair is marked with a special tag;
- Batteries removed from the stroller or spare batteries are marked with a special tag and accepted for transportation in the passenger cabin;
- The passenger carries no more than one spare battery with a capacity not exceeding 300 Wh or a maximum of two spare batteries with a capacity not exceeding 160 Wh each;
- Any battery(ies) removed from mobility aid and any spare battery(ies) are carried in the passenger cabin. The removed or spare battery(ies) must be protected from damage (e.g. by placing each battery in a protective pouch);
- The battery(ies) is either:

1. adequately protected against damage by the design of the mobility aid and securely attached to the wheelchair or mobility aid. The electrical circuits must be isolated following the manufacturer's instructions; or
2. removed from the mobility aid following the manufacturer's instructions (*refer to IATA DGR p.2.3.2.4*). Each battery removed from the mobility aid must not exceed 300Wh.

The personnel of the ground handling agent preparing the loadplan must notify the PIC of the location of the wheelchair and removed/spare batteries. *Use the **Table 2.3A (Section 7.4.9 Part 7 GOCHM)***.

***Handling agent personnel loading cargo and baggage on board the aircraft must** secure, by use of straps or ropes, a battery-powered mobility-aid with installed battery(ies). The mobility aid, the battery(ies), electrical cabling and controls must be protected from damage including by the movement of baggage, mail, cargo.*

For more information about the rules for transporting batteries, refer to *Part 7 GOCHM.*

5.3.10.16.4 TRANSPORTATION OF WHEELCHAIRS/MOBILITY AIDS WITH SPILLABLE BATTERIES

When accepting a wheelchair/mobility-aids with spillable batteries for transportation, the staff of the handling agent who checks in passengers and baggage must ensure that:

a. The battery terminals are protected from short circuits, e.g by being enclosed within a battery container;
b. The battery(ies) is fitted, where feasible, with spill-resistant vent caps;
c. The battery(ies) is either:
   1. adequately protected against damage by the design of the mobility aid and securely attached to the wheelchair or mobility aid. The electrical circuits must be isolated following the manufacturer's instructions; or
   2. removed from the mobility aid following the manufacturer's instructions when mobility aid cannot be maintained in an upright position (refer to IATA DGR p.2.3.2.3).

Handling agent personnel loading cargo and baggage on board the aircraft must load, stow, secure and unload a mobility aid with a spillable battery in an upright position. If the wheelchair or mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position or if the mobility aid does not adequately protect the battery(ies), Operator must remove the battery(ies). The battery(ies) must be carried in a strong, rigid packaging as follows:

a. packaging shall be leak-tight, impervious to battery fluid and be protected against upset by securing to pallets or by securing them in cargo compartments using straps/ropes;
b. battery(ies) must be protected against short circuits, secured upright inn these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and
c. these packagings must be marked "BATTERY, WET, WITH WHEELCHAIR" or "BATTERY, WET, WITH MOBILITY AID" and be labelled with "Corrosive" label and package orientation label.

5.3.10.17 FIREARMS AND OTHER WEAPON

Refer to ***Chapter 5.3.12 Part 5 GOCHM***.

SSR for weapon carried in cargo holds: WEA**.**

SSR for weapon, which is hold by passenger, authorized to have firearm onboard in passenger cabin during the flight: WEOB.

5.3.10.18 CREW BAGGAGE

The baggage of the crew must be delivered to the check-in counters, or directly under the aircraft.

The baggage of the crew must be marked with appropriate tags indicating the number, date and route of the flight.

Crew baggage must also be tagged with an additional CREW BAG TAG (see sample in ***Section 5.3.8.4.6 Part 5 GOCHM***).

5.3.11 TRANSPORTATION OF LIVE ANIMALS

5.3.11.1 GENERAL PROVISIONS

- Transportation of live animals is carried out in accordance with the requirements of IATA LAR (in terms of documentation, shipping containers, etc.).
- Only dogs and cats can be transported as live animals on passenger aircraft of the airline, and **only in the passenger cabin (not in cargo compartments)**.
- Shipping of other animals (e.g., falcons in cages as CBBG) must be confirmed in written form by Director of GHD.
- Transportation of an animal is always carried out only upon receipt of the consent of the airline. In the absence of an agreement from the airline, the acceptance of a live animal for transportation is not performed.
- The possibility of transporting live animals depends on the local requirements of the countries of departure, transit and destination.
- The passenger is responsible for compliance with all the rules of all countries along the flight route and the preparation of relevant accompanying documents that meet the requirements of the countries of departure, transit and destination.
- A passenger may be refused transportation of an animal in the absence or incorrect filling of accompanying documents: veterinary passport, health certificate with vaccination records and other documents required by local authorities of all countries on route (departure, transit and destination).
- Transportation of an animal must be requested from the airline in advance, but not less than 24 hours before the flight departure.
- Transportation of an animal is an additional service and is paid separately.
- Upon receipt of approval and payment, the corresponding SSR code (**PETC** or **SVAN**) automatically appears in PNL.

5.3.11.2 PETC (PASSENGER COMPARTMENT ANIMALS) AND SVAN (PASSENGER COMPARTMENT SERVICE ANIMALS)

When transporting PETC (animal in the passenger cabin):

- Check the shipping container according to the instructions below;
- Check the availability of all necessary documentation for the animal: veterinary passport, health certificate with vaccination records and other documents required by local authorities of all countries on route (departure, transit and destination).
- Before checking in a passenger, make sure that the relevant SSRs are included in the booking. **Mandatory SSR**: PETC.

The shipping container must comply with IATA LAR requirements:

- be suitable in design for the type of animal being transported;
- have a door with locking devices that prevent its spontaneous opening or opening by the animal itself during transportation;
- have adequate ventilation;
- have a base that protects against leakage of liquids and covered by soft adsorbent material (not granulated);
- be of sufficient size for the animal (which must be able to stand up, turn around and lie down inside);

- have a maximum size of 44×30×26 cm;
- have a maximum weight with an animal of not more than 10 kg.

The shipping container must be completely closed and the animal must remain inside throughout the flight.

This container (or animal shipping soft package, depending on the type and size of the animal) must be provided by the owner and placed under the front passenger seat for the duration of the flight.

Thus, only 1 container of PETC can be accepted per passenger in normal conditions. 2 and more PETC can be accepted, if 1 cage is accepted as CBBG package (on extra fee basis).

If cage(s) size not allowed its locating under the seat forward of passenger seat – each cage must be located on adjacent passenger seat (this is subject of extra fee basis for CBBG package transportation).

Transportation of 2 animals in one cage is allowed subject to the above restrictions. In this case, both animals must be of the same species.

It is strictly prohibited to remove animal (-s) from the transportation container/package and feed the animal (-s) during the check-in and transportation.

Passengers carrying animals must have a complete set of valid documents:

- passport of the animal;
- vaccination certificates;
- veterinary documents;
- other documents required for presentation in the countries of departure, transit and destination.

When carrying a SVAN (certified service animal in the passenger cabin):

- Check the availability of all necessary documentation;
- Check the availability of documents confirming that the presented animal has trained to be a service, and is necessary for the traveling passenger.
- **Mandatory SSR**: SVAN.

Passengers carrying service animals must have a complete set of valid documents:

- passport of the animal;
- vaccination certificates;
- veterinary documents;
- other documents required for presentation in the countries of departure, transit and destination.

5.3.11.3 ACCOMMODATION OF PASSENGERS WITH ANIMALS (PETC OR SVAN)

When accommodating these categories of passengers, the following restrictions must be observed:

- ✓ Do not place more than 1 passenger with a pet (pets) on 3 seats in one row;
- ✓ It is not allowed to place them on the rows at emergency exits and on the rows in front of them;
- ✓ They are not allowed to be placed next to passengers with the remark INF, UNMR, INAD, DEPA, DEPU and PETC;
- ✓ It is not allowed to place more than 1 SVAN on a flight;
- ✓ They are not allowed to be placed next to VIP passengers;
- ✓ They are not allowed to be placed next to passengers with disabilities (PWD);
- ✓ They are not allowed to be placed on the first row of passenger seats.

5.3.11.4 PROCEDURES FOR SERVING PASSENGERS WITH ANIMALS (PETC/SVAN)

During registration:

- Make sure that the appropriate SSR "PETC" or "SVAN" is entered in the passenger and baggage check-in system.

When boarding a flight:

- Inform the crew members about the presence of a passenger with animals;
- Coordinate with the crew and ensure advance accommodation of a passenger with an animal.

After departure:

Within 15 minutes after the ATA, a PSM message must be sent from the departure station to the destination station informing about the carriage of a passenger with an animal (including information about PWD passengers with a service animal (SVAN)).

5.3.11.5 RESTRICTIONS ON THE CARRIAGE OF ANIMALS

Type of transportation	Restrictions
PETC (animal in the passenger compartment)	Not more than 4 per flight *
PETC – hunting hawks (animal in the passenger compartment)	Not more than 56 per flight **
SVAN (certified service animal in the passenger compartment)	Not more than 1 per flight *
AVIH (animal in the aircraft cargo hold)	Prohibited on passenger aircraft of the airline. Transportation on cargo aircraft of the airline is carried out only upon prior agreement.

**** When SVAN and PETC are transported together: no more than 3 PETC + 1 SVAN are allowed to be carried on single flight.***

- ***PETCs are not accepted for carriage on Flights to/through the UAE (including DWC airport).***
- ***Passenger must check restrictions on the carriage of live animals on other charter and regular flights of airline when booking the carriage at the ticket office or on the airline's website - due to the possible existence of restrictions on the carriage of live animals for the countries of departure, transit and destination.***

5.3.11.6 CARRIAGE OF LIVE ANIMALS IN CARGO COMPARTMENTS OF PASSENGER AIRCRAFT

- Prohibited on MFX passenger aircraft.
- Transportation of AVIH on MFX cargo aircraft must be done according to the requirements of ***Part 6 GOCHM***.

5.3.11.7 TRANSPORTATION OF SERVICE AND EMOTIONAL SUPPORT ANIMALS

- The carriage of live emotional support animals is prohibited on all airline flights.
- Service animals are permitted subject to the restrictions set out in ***Section 5.3.11.5 Part 5 GOCHM***.

5.3.12 TRANSPORTATION OF FIREARMS AND AMMUNITION

5.3.12.1 GENERAL PROVISIONS

a. Transportation of weapons (pneumatic, gas, firearms, training, or blank (disabled for firing), traumatic (shockers, tasers, traumatic weapons), hunting, as well as any models, copies and imitations of military weapons (which can be mistaken for real ones), crossbows, bows, spearguns, any edged weapons, special equipment - are allowed only in the cargo compartments of the aircraft as hold baggage. Exceptions are specified in ***Section 5.3.12.2 Part 5 GOCHM***;
b. These items are prohibited from carriage in the passenger cabin and cockpit on all airline flights. Exceptions are specified in ***Section 5.3.12.2 Part 5 GOCHM***;
c. Transportation of any toy weapons and weapon models is allowed only in hold baggage;
d. If passenger intends to transport a weapon (of any type) and/or firearms cartridges, or deactivated weight and size mock-ups of firearms, or a blanked firearm, or special equipment, the passenger must in advance (at least 12 hours before STD) notify the airline by e-mail and obtain confirmation of the possibility of carriage (including the possibility of authorization to carry firearms onboard the aircraft during the flight, if applicable);
e. An airline employee who has received a request from a passenger must immediately transfer it via e-mail to the Director GOCHD and Director of the AVSEC Department, duplicating the e-mail with a phone call (indicating the route of the aircraft, information about the passenger, the type of weapon and the amount of ammunition carried; for other categories of weapons - indicate the type of weapon);
f. Carriage confirmation could be granted based on decision of Director GOCHD and Director of the AVSEC Department;
g. The following restrictions apply when transporting cartridges for firearms, traumatic weapons, and blanked weapons:
   - ✓ Each passenger can carry no more than 5 kg of ammunition for their personal use (the weight is checked when accepting weapons and ammunition for transportation).
   - ✓ Only class 1.4S cartridges with UN numbers UN0012 or UN0014 are accepted for carriage (cartridges with other UN numbers are not allowed).
   - ✓ Ammunition carried on passenger aircraft must be intended for personal use only for sporting and/or hunting purposes;
   - ✓ Transportation of cartridges and other ammunition for gas weapons is not allowed.
h. Transportation of firearms (including blanks) is subject to an additional charge only, except for the following cases:
   - ✓ when service weapons are transported by law enforcement officers on duty;
   - ✓ when sports weapons are transported by athletes who have citizenship of the Republic of Uzbekistan (subject to the availability of relevant documents confirming the flight for the purpose of participating in competitions or sports camps).
i. The passenger is responsible for obtaining all necessary relevant documents, permits and approvals for the transportation of weapons, ammunition, special equipment from the countries of departure, transit and destination along the flight route.
j. Passenger may be refused transportation in case of absence or shortage of the necessary relevant documents, permits and approvals for the transportation of weapons, ammunition, special equipment from the countries of departure, transit and destination along the flight route.
k. The passenger must carry all necessary permits, including:
   - ✓ **for service weapons and special equipment** - an official certificate with a record of permission to carry and store firearms, travel certificates (orders) with a record of information in them about the weapon being transported (type, serial number) and the amount of ammunition;
   - ✓ **for hunting and sporting weapons and ammunition for them when transported on domestic flights, as well as blanked weapons** - identification documents of the owner and permission from law enforcement agencies of the Republic of Uzbekistan to carry and store weapons and ammunition for them;
   - ✓ **for the transportation of weapons (including chilled ones), or their mass-size models, or**

special equipment on international flights operated from the territory of the Republic of Uzbekistan - all the documents specified in the previous paragraph, plus an additional permit is required for the export of weapons and ammunition for them outside the country, as well as a permit for the import of weapons and ammunition by countries of transit and destination (in case of temporary importation of weapons and ammunition into the territory of the Republic of Uzbekistan by a foreign citizen, it is necessary to issue in advance a single written permit for the import and export of weapons and ammunition supplies from the territory of the Republic of Uzbekistan).

ATTENTION! *If carriage of weapon is performed on flights operated out of territory of Republic of Uzbekistan, airline representative must follow to local rules and restrictions applied by local authorities.*

5.3.12.2 CARRYING A FIREARM ON BOARD AIRCRAFT

a. **Prohibited on all flights of the airline to all persons on board the aircraft, <u>with the exception of such categories of passengers as</u>**:
   - ✓ employees of the governmental special courier service, accompanying special cargo and postal items, official correspondence in domestic and international directions;
   - ✓ law enforcement officers flying for the purpose of escorting the escorted passenger (s) transported on this flight.

b. For these categories of passengers, if authorized by the company, it is allowed to transport and carry firearms and ammunition in the passenger cabin of the aircraft, provided that they familiarize themselves with the rules of conduct set out in ***Appendix 5.10***, and their observance;

c. Employees of the governmental special courier service flying without accompaniment of special cargo and mail, or official correspondence, or law enforcement officers flying without escorting specific passengers to domestic and international destinations - must transport special equipment, weapons and ammunition in hold baggage on a general basis. Authorization to carry firearms on board is not granted for this category of passengers.

5.3.12.3 AUTHORIZATION OF PASSENGERS TO CARRY FIREARMS ON BOARD AIRCRAFT

- Permitted only to law enforcement and courier personnel;
- Prohibited for all other categories of passengers;
- In order to obtain authorization to carry firearms on board the aircraft during the flight, the passenger (or the organization paying for his flight) must send a written request to the airline addressed to the General Director (in his absence, to the Deputy General Director for Aviation Security) – no later than 12 hours before the scheduled flight departure;
- An airline employee who receives a request must immediately forward it to the General Director and Deputy General Director for Aviation Security, duplicating the request by phone call to the Deputy General Director for Aviation Security;
- The decision on the possibility of a flight is made by the Deputy General Director for Aviation Security;
- On the approval of the flight of a passenger authorized to carry firearms and cartridges on board the aircraft, Duty OCC officer and the Director GOCHD must be notified in written form (by e-mail);
- Upon receipt of an agreement from the airline - the passenger is allowed to carry firearms in the passenger cabin of the aircraft during the flight, provided that he/she has familiarized himself/herself with the rules of conduct set forth in ***Appendix 5.10*** and complied with them;
- Courier carries CBBG baggage (if any) is carried out in accordance with ***Section 5.3.10.1 Part 5 GOCHM***;

- Authorization to carry firearms on board the aircraft does not give the passenger the right to carry special equipment and edged weapons in the passenger cabin during the carriage.

Airline representative at check-in (airport of departure):

- Prior to check-in for an authorized passenger to carry a firearm, the airline representative at check-in (airport of departure) must verify that the relevant SSR is on that passenger's booking: WEOB;
- Place passenger authorized to carry firearms on the 28-30 rows of the passenger cabin;
- When accommodating a passenger authorized to carry a firearm with their accompanying CBBG baggage, follow the provisions of ***Section 5.3.10.1 Part 5 GOCHM***;
- Must notify the Duty OCC officer about the check-in of a passenger authorized to carry firearms, providing the flight number, flight route, full name of the passenger, seat number, type of weapon and the number of cartridges for it.

Duty OCC officer:

- Must notify the pilot-in-command of the presence of a passenger authorized to carry firearms on board, stating the flight itinerary, the passenger's name, seat number, type of weapon and the number of cartridges for it. This information must be communicated by including it in the briefing to the crew, as well as by sending an e-mail. A copy of this message should include the Deputy Director General for Aviation Security and representatives of the airports of departure and destination (*refer to the contacts in MF Station Info, or check via the Director GOCHD*);
- Should notify the senior flight attendant of the airline and the relevant authorities at the airports of transit and destination by sending a message by e-mail about the presence of such a passenger.

5.3.12.4 LOCATION OF WEAPONS IN THE COCKPIT (FLIGHT DECK)

- Prohibited on all airline flights under any circumstances.
- If any person tried to place weapons and ammunition of any type in the cockpit for transportation (e.g., GHA staff, airline representative, the airport aviation security service staff, or other persons), it is prohibited to transport weapons and ammunition in the cockpit. The PIC must immediately notify the duty OCC, the Deputy General Director Operations and the Deputy General Director AVSEC about the fact of an attempt to place weapons and ammunition in the cockpit and follow their instructions.

5.3.12.5 MILITARY PRODUCTS (WEAPONS, AMMUNITION, EQUIPMENT)

- Normally prohibited from carriage on all airline flights;
- In an exceptional case, the transportation of such products on the aircraft of the airline is allowed only if there is a special request from the authorities of the Republic of Uzbekistan and the written approval of the Director General of the airline, taking into account the requirements of Table 2.3A IATA DGR (duplicated in ***Part 7 GOCHM***);
- When attempting to transport such military products (by the transportation service, the airport aviation security service, or other persons), transportation is prohibited. The PIC must immediately notify the duty officer of the OCC, the DGD for production and the DGD for AVSEC of the fact of an attempted such transportation, and follow their instructions.

5.3.12.6 CARRIAGE OF WEAPONS IN CARGO COMPARTMENTS OF AIRCRAFT

When transporting weapons of any type and cartridges for them (if any), as well as blanked firearms and mass-size models simulating firearms:

- A special remark “WEAP” must be added for a passenger with a firearm (including a blanked one) or a mass-size model of a firearm in DCS when booking a flight. The presence of such a note must be verified by the representative of the airline at check-in during check-in of the passenger and baggage.

- Cartridges (if any) must be securely packaged separately from firearms (including blanked weapons);
- At the time of check-in, baggage containing firearms, including blanks, and cartridges must be additionally marked with the tag "FIREARMS" – refer to the ***Section 5.3.8.4.4 Part 5 GOCHM***).

When a passenger transports weapons and ammunition, as well as blanked firearms, or special equipment of any type, mass-size models imitating firearms, on domestic flights or international flights departing from the territory of the Republic of Uzbekistan, the airline representative at check-in is obliged:

- notify the operational controller of the screening service about this for aviation security to perform relevant procedures in a specially equipped room in the airport building, as well as to deliver weapons and ammunition to them to the aircraft parking place and load them on board the aircraft in accordance with ***Sections 5.3.12.6*** and ***Section 5.3.12.7 Part 5 GOCHM***;
- notify the personnel responsible for the balance of the aircraft about this in order to enter the relevant data into the NOTOC:
  - type of weapon, type of ammunition;
  - weight and number of seats;
  - destination of this baggage (cargo);
  - the place of loading of this baggage (cargo);
  - placement on board the aircraft (sections and compartments of cargo compartments).
- when accepting for carriage a passenger (s) authorized to carry firearms and ammunition on board the aircraft during the flight, inform the representative of the airline in charge of the ground handling of the aircraft (or the supervisor for ground handling of the aircraft in the absence of a representative on the ground); MS VS), indicating the surname and name of the passenger (s), as well as the number (s) of the seats.
- if there are passenger(s) on the flight authorized to carry firearms and ammunition on board the aircraft during the flight, duplicate the above information in the MCC, confirming the arrival of these passengers and their acceptance for carriage.

When performing the procedures, the inspection service officers for each weapon must issue a "Card for the inspection of weapons transported on board the aircraft" (*Appendix 5.11*), in the amount of 3 copies:

1. one for the passenger (is the basis for issuing weapons and ammunition to him at the airport of destination);
2. one for the aircraft crew (attached to the flight documentation and handed over together with other documents to the office of the airline upon completion of the flight; a copy of the card is handed over to the Deputy General Director for Aviation Security and Regime of the airline);
3. one for the airport of departure (kept at the screening service).

When a weapon is placed in the cargo compartment outside a regular lockable box (in a special sealed and closable bag provided by the airline), the seal number must be reflected in the "Inspection Card for Weapons Carried on Board the Aircraft" (***Appendix 5.11***).

When transporting weapons and ammunition, the representative of the airline controls the ground handling activities onboard of aircraft at the airport of departure (or the supervisor for ground handling of the aircraft in the absence of a representative on the parking position of the aircraft) must:

- personally supervise the loading of weapons, ammunition, special equipment in the presence of the aviation security controller, in strict accordance with the LIR and NOTOC and the closing of the cargo door of the corresponding cargo compartment immediately upon completion of the loading. Re-opening of the cargo door must be provided in the presence of the aviation security controller as

well;
- notify the PIC about weapons, ammunition, special equipment loaded in accordance with LIR and NOTOC, indicating their location;
- if the passenger(s) authorized to carry them on board have firearms and ammunition, provide the numbers of their assigned seats.

When transporting weapons and ammunition, the representative of the airline controls the ground handling activities onboard of aircraft at the airport of destination/transit (or the supervisor for ground handling of the aircraft in the absence of a representative on the parking position of the aircraft) must:
- personally supervise the unloading of weapons, ammunition, special equipment in the presence of the airport security controller and transfer them under his responsibility;
- in case of weapon offloading obtain the controller's signature on each verification card received for each item of weapons/special equipment, confirming the transfer of these items under his responsibility.

When transporting firearms and ammunition (including blanked firearms), as well as weight-and-size models simulating firearms in the cargo compartments of the aircraft, the following restrictions must be observed:
a. The weapon (including the blanked) must be completely unloaded;
b. Magazine or cylinder (if any) must be unlocked;
c. There should be no cartridges of any type in the chamber and in the magazine(-s) or cylinder (-s);
d. Cartridges of any type must be placed separately from firearms (including chilled ones);
e. Weapons of any type (including blank firearms) and/or cartridges for them, as well as special equipment of any type and weight and size models of weapons - must be packed in cases or hard cases (transportation without external packing is not allowed);
f. Ammunition of any type must be packed in closed and labeled containers in accordance with the requirements of ***IATA DGR***, ***Part 7*** and ***Part 6 GOCHM***;
g. Weapons of any type (including blanked firearms) and/or cartridges for them, as well as special equipment of any type and weight and size models of weapons must be transported only in the cargo compartment of the aircraft, inaccessible to unauthorized persons during the flight;
h. Weapons of any type (including blank firearms) and/or cartridges for them, as well as special equipment of any type and weight and size mock-ups of weapons during the flight and when the aircraft is parked at the airport, must not be in the cockpit and must not be kept by any crew member;
i. Carriage of weapons of any type (including blank firearms) and/or cartridges for them, as well as mass-size mock-ups of weapons and special equipment of any type must be permitted by all participating states (including states of departure, transit and destination), and the passenger must have with him all the necessary documentation;
j. The pilot-in-command must be notified of the presence on board of weapons of any type (including blanked firearms) and/or cartridges for them, as well as special equipment of any type and weight and size mock-ups of weapons and their placement before the start of the flight by including this information in the NOTOC;
k. The aircraft commander must be provided with a completed copy of the inspection card for weapons carried on board the aircraft (separately for each weapon);
l. The commander of the aircraft, or a person appointed by him from the crew members of the aircraft, is responsible for the safe transportation of weapons of any type (including cooled firearms) and / or cartridges for it, as well as weight and size models of firearms and special equipment of any type accepted for transportation;
m. Firearms (including blanked ones) and/or cartridges for them, as well as mass-size models of firearms must be delivered on board the aircraft by the airport aviation security controller separately from the passengers;
n. Loading and unloading weapons of any type (including blanked firearms) and/or cartridges for

them, as well as mass-size mock-ups of firearms and special equipment of any type must be carried out only in the presence of the airport aviation security controller;

o. In the case of landing/parking at a transit airport in the presence of weapons/ammunition/special equipment, the cargo door of the corresponding cargo compartment should not be opened without the presence of the airport's aviation security controller. In case of a long parking (more than 30 minutes), the aircraft, by decision of the PIC, must be guarded in order to prevent unauthorized access to weapons and ammunition. The decision on the issue of protection is made by the PIC and organized through the OCC. The OCC must notify the Director of the GHD about the need to organize the security of the aircraft, and the Director of GHD must take measures to organize the security of the aircraft at this airport. For the period of parking, the door of the cargo compartment must be sealed.

p. When transferring weapons of any type (including blanked firearms) and/or cartridges for them, as well as mass-size models of firearms and special equipment of any type, to the aviation security controller at the airport of destination, an employee of the airline (PIC, or a person appointed by him from the members of the aircraft crew) must obtain the signature of the inspector in each received inspection card for each unit of weapons / special equipment, confirming the transfer of these items under his responsibility;

q. One copy of the verification card for each weapon unit accepted for transportation remains with the PIC (or a responsible person appointed by him from the aircraft crew members) and is attached to the flight documentation and handed over together with other documents to the airline office upon completion of the flight; a copy of the card - is transferred to the Deputy General Director for Aviation Security of the airline.

5.3.12.7 PROCEDURES FOR HANDLING AMMUNITION IN CARGO COMPARTMENTS OF AIRCRAFT

- Weapons of any type and special equipment of any type (including blanked firearms), as well as cartridges for them, must be placed in lockable and sealed metal boxes installed on board the aircraft;
- Edged weapons, weight and size models of firearms, other special equipment must be placed in the same boxes;
- It is allowed to place weapons of any type and cartridges for them in special sealed (sealed) bags made of durable fabric without access to the contents (reflecting the number of the act, flight, flight route, date, surname, name and patronymic of the owner of the weapon). This packing must be provided by the airline. In this case, the number of the seal must be reflected in the "Card for the inspection of weapons carried on board the aircraft" (***Appendix 5.11 GOCHM***).

5.3.13 PLANNING SPECIAL BAGGAGE

- Check the load on the departure flight for the number of pieces and type of special baggage;
- Check out the departure flight parking information;
- Schedule special baggage to be delivered by staff to a dedicated baggage claim area.
- If necessary, plan any special handling equipment and briefings on its use.
- Determine the duration of activities so that follow-up activities can be planned.

5.3.14 HANDLING

Wheelchairs and mobility devices in baggage

Passengers with reduced mobility may wish to continue using their own mobile devices until they board the aircraft. In such circumstances:

- Confirm with the passenger that the mobile device is delivered to the aircraft door upon arrival.
- Tell the team about the type of wheelchair and the battery it contains

- Inform the passenger service team of the passenger's boarding needs and make sure they are available to assist the passenger.
- Pick up the stroller as soon as the passenger boards the aircraft;
- Plan the loading and transportation of the stroller in accordance with IATA DGR;
- Report the type of wheelchair to the next station.

Wheelchairs and mobility aids as carry-on baggage

- Pick up your mobile device at the check-in area and bring it on board the aircraft via the designated oversized baggage route.
- Small mobile devices can be sent through a belt conveyor system.
- Larger mobile devices must be transported through a security checkpoint and then taken to the baggage claim area.
- Handle mobile devices in accordance with ***DGR IATA Table 2.3***;
- Report the type of wheelchair to the next station.

5.3.15 ARRIVAL HALLS

- Check incoming baggage for the number of special items of baggage and their type;
- View parking information for an incoming flight;
- Plan for staff to meet the aircraft at the parking lot;
- Plan the necessary special handling equipment;
- Determine the duration of activities.

5.3.16 DELIVERY OF SPECIAL BAGGAGE

- Check the baggage claim area;
- Make sure all dedicated hardware is in good working order;
- Make sure ground personnel meeting aircraft are aware of any special handling procedures for items, especially wheelchairs

5.3.18 BAGGAGE HANDLING SYSTEMS

5.3.18.1 BAGGAGE CHECKING SYSTEMS

- Baggage reconciliation ensures that baggage is carried accompanied or permitted unaccompanied;
- Baggage reconciliation systems automate the process of checking that bags are loaded onto an aircraft by matching baggage data with passengers.
- If the passenger is not on board at departure, the bag shall be removed from the AC.
- Baggage reconciliation system usually supports passenger/baggage reconciliation as required, including: STANDBY passengers; Passengers outside the airport and with group check-in; Voluntary or involuntary removal from the flight; Transit passengers;
- The hold baggage of any passenger who is removed from the flight or did not board (no-show) is considered unaccompanied and is processed in accordance with the procedures of the airline.

5.3.18.2 BAGGAGE HANDLING SYSTEMS

The baggage handling system is used to move baggage around the airport. The system is also often responsible for key aspects of baggage security, as baggage screening machines are integrated into the system. Baggage handling systems often have multiple outlets that allow baggage to be collected for a single flight or split into separate flights. Other baggage handling systems put bags on carousels where multiple flights can be built at the same time

5.3.18.3 BAGGAGE REPORTING SYSTEMS

Baggage messaging is at the heart of the entire baggage movement and handling process. Baggage messages are defined in IATA RP 1745 and IATA RP 1755. Baggage messages are sent to the airport from the airline, either directly or through a messaging provider such as SITA or ARINC

5.3.18.4 BAGGAGE MANAGEMENT SYSTEMS

The baggage management system combines the source of baggage messages and the messages of the baggage handling process to provide a real-time picture of the movement of baggage through the airport, often integrating information from other systems (such as security, processing, reconciliation, flight data, etc.)) to provide a complete picture for registration, processing and loading into the aircraft.

The system can also allow tasks to be distributed among different baggage handling teams. The baggage management system is often a component of the overall
airport management systems.

5.3.18.5 BAGGAGE RETURN SYSTEMS

The baggage return system is used to distribute baggage to a new flight in case of mishandling. The system will typically have a complete flight schedule for the airport and be able to generate baggage messages and tags to support the new baggage movement.

Some baggage handling systems include baggage re-check-in, which allows bags to be automatically assigned to a new flight and sent directly to the pickup for that flight.

5.4 PASSENGER DISRUPTIONS

5.4.1 GENERAL PROVISIONS

In case of failure situations, all reasonable and possible measures must be taken to resolve them as soon as possible and effectively in order to maintain a positive impression of the airline among passengers.

Disruptions include:

- flight delays;
- flight cancellations;
- flight interruption / flight redirection / return to the parking stand;
- rebooking (overbooking).

The resolution of disruptions is performed in accordance with:

- Montreal Convention;
- Conditions of carriage;
- Regulation (EC) No 261/2004.

5.4.2 INFORMATION AND COMMUNICATION

TO PASSENGERS

- Make sure that the staff of the handling agent is instructed on informing passengers and the content of the information;
- Ensure regular and accurate informing of passengers;
- Provide information in alternative ways for passengers with hearing and/or visual impairments;
- Inform passengers about the disruption and the expected time of its resolution no later than 15 minutes before STD (scheduled departure time);
- Repeatedly inform passengers about the status and expected time of disruption resolution at regular intervals (not exceeding 30 minutes);

- Airline representative must be present at the check-in counter or counter at the boarding gate.

TO THE AIRLINE

The representative of the airline and the airline's OCC must be immediately informed of any disruption that could lead to flight delay.

Airline contacts in case of failure situations

Contacts	Telephone	Email
OCC 24/7	+998992071125	occ@centrum-air.com
OPS	*Refer to MF Station Info*	*Refer to MF Station Info*
HUB OPS	+998992072252	Hub.ops@centrum-air.com

5.4.3 FLIGHT DELAY PROCEDURES

- Passengers must be notified of the flight delay;
- The ground handling agent must ensure that the status of the flight is kept up to date and accurate in the event of an extended flight delay;
- Information communicated to passengers must be agreed with the OCC and the representative of the airline.

5.4.3.1 LONG FLIGHT DELAYS

- In case of a long flight delay, additional services must be provided to passengers at the expense of the airline;
- The provision of such services is permitted only with the direct approval of the duty supervisor of the OCC;
- Increased attention should be paid to special categories of passengers: UNMR, WCHR/C/S, DEAF, BLND (as well as persons accompanying them);
- Passengers must be provided with written information about their rights in this situation (***Appendix 5.4 GOCHM***);

Delay time / Waiting time at the airport	Provided by the airline services
Delay more than 2 hours	Based on OCC instructions

- MFX Service Department is responsible to arrange supply of passengers by catering & beverages in case of delays according to the standards given below.
- Airline representative is responsible for appropriate informing of OCC and MFX Service Department about necessity of supply delivery and monitoring of supplies delivery to terminal.

Delay	Standards of supply
0-2 hours	Not provided
2-4 hours	Beverages (0.5L per person) and sandwich (1 pcs per person)
4-6 hours	Beverages (0.5L per person) and hot meals (1 portion per person)
Over 6 hours	Hotel accommodation (minimum 3*, 1 bed per PAX, 3 meals per day included for each PAX)

5.4.3.2 AIRLINE REPRESENTATIVE CHECK LIST FOR FLIGHT DELAYS

In case of flight delays, the airline representative must perform the following procedures:

- Obtain information from the OCC regarding the time of delay and the provision of services and information from the airline, as well as the time of announcement of when to expect a new departure time, or extend the delay;
- Prepare an appeal to passengers explaining the reasons for the delay and notifying them of the new departure time;
- Prepare meal vouchers, printouts informing passengers about the rights of passengers during the delay, data on the transportation of passengers to the hotel, etc.;
- Inform the airport services about the delay;
- Inform the ground handling agent personnel about the procedures for dealing with passengers of a delayed flight and the procedure for servicing special categories of passengers;
- Ensure that updated flight delay information is displayed on airport information boards (including at the boarding gate and at check-in counters, if applicable);
- If it is necessary to provide food vouchers, inform passengers about the restaurants/ cafes/catering outlets at the airport where these vouchers can be used;
- If it is necessary to provide a hotel for passengers, contact the hotel with which the contract has been signed and notify of the need to accommodate the specified number of passengers of various categories. If the hotel on this flight is provided by the tour operator, notify the passengers and the representative of the tour operator;
- Monitor the progress of the provision of services and passenger service;
- As soon as all the specified points are completed, inform the OCC.

5.4.4 DISRUPTIONS PRIOR TO OR DURING CHECK-IN

- Update landing and departure times in DCS;
- Print out forms for informing passengers about the rights in case of delay and ensure their availability at check-in counters (***Appendix 5.4***);
- Draw the attention of passengers to the occurrence of a departure delay and ensure that they are informed about the new landing and departure times;
- If necessary, allocate food vouchers according to the list of registered passengers;
- Ensure that passengers are informed about the new boarding and departure times.

5.4.5 INVOLUNTARY CHANGE OF CLASS OF SERVICE

Not applicable on airline flights.

5.4.6 DISRUPTION PRIOR TO OR DURING BOARDING

Passengers with a confirmed booking may be denied boarding for a number of reasons, including:

- Overbooking (oversale of tickets);
- Reducing the number of used seats due to a malfunction of a part of the onboard equipment;
- Reducing the number of used seats due to loading restrictions;
- Replacement of a previously planned aircraft for another aircraft with a different cabin layout.

In case of denied boarding due to lack of seats:

- Obtain up-to-date information about the situation from the airline’s Operational Control Center (OCC);
- In accordance with the information from the OCC - inform passengers about the available options: rebook a ticket for another flight, or fly in a jump seat (subject to the consent of the crew members and the availability of such seats).
- Follow the instructions in ***Section 5.4.3 Part 5***.

NOTE: *in this situation, service passengers should be denied transportation first (in accordance with the instructions in* ***Section 5.2.3.5 Part 5 GOCHM****).*

5.4.7 DISRUPTION UPON ARRIVAL

In the case of the delayed arrival of a flight:

- The misconnecting passenger and baggage shall be rebooked and re-flighted accordingly.
- Update airport flight information display system.
- Arrange the needed amenities (e.g., meals, HOTAC, transportation, passenger assistance, lounge access) according to the nature of the disruption.

5.5 MISHANDLED BAGGAGE

5.5.1 GENERAL INFORMATION

When planning for failure situations, consider all known failures planned for the operation. Any possible failure scenarios should be anticipated.

Plan for any additional hardware needed to handle expected failures. In the event that scheduled software maintenance is being performed, ensure that manual workflows are available in case systems being modified fail to restart.

Baggage Reconciliation System (BRS) malfunctions

The baggage control system usually registers the loading of baggage into the ULD or hold of the aircraft. Failure of the BRS can seriously disrupt operation as the manual process is time consuming. Some BRSs may fail, but the latest data remains available on the system, and the bags are checked against that data with the changes highlighted when the connection is restored. If a smooth transition is not possible, manual processes using bingo cards and baggage check stubs should be used.

Baggage Handling System (BHS) malfunctions

Most major airports have a baggage handling system that allows you to move bags from the check-in area to the baggage handling area for flights. These systems vary in complexity, often with standby modes and modes of gradual degradation before the system comes to a complete shutdown.

When the baggage handling system fails, there are 2 problems that need to be addressed. These are bags that are stuck in the baggage handling system and need to be removed, as well as bags that are waiting to be checked in.

Procedures in case of a malfunction depend on BHS. Determine the baggage status when a malfunction occurs.

When the key stages of baggage handling (obtaining permission to transport, store and collect bags) can be completed without a baggage handling system, airport capacity will be reduced.

Hardware problems

If equipment is found to be unusable, damaged or non-functional during the planning stages of the baggage handling operation, then the equipment must be marked as unusable and moved to a location where it can be collected for repair.

Lack of staff

In the event that there is a shortage of personnel on a shift, and when this occurs, there is a risk that the operational handling of baggage may lead to flight delays. Where possible, have a prepared list of duty officers who can be contacted to fill in the missing staff.

Flight diverted to alternate (diverted)

When the flight is redirected to the station, you need to do the following:

- Review flight documentation (CPM, LDM) for special baggage handling.
- Follow the information in ***Section 5.4.3 Part 5***.

There is a plan to unload baggage from the flight in accordance with the procedure for moving passengers: if the aircraft is changed, then arrange for the transfer of baggage to the new aircraft.

If passengers are being transferred to other flights, arrange for baggage transfer to the next flight, or designate an on-flight baggage return belt so that passengers can collect their bags before continuing their journey.

If passengers will be transported by ground, make sure there is a designated return belt for baggage and deliver the baggage to this return carousel.

Flight cancellation

When a flight is cancelled, do the following:

- Deliver baggage to an alternative provided flight;
- Deliver the bags to the return point designated for the original flight in order to passengers could pick up bags.

5.5.2 INCORRECT BAGGAGE HANDLING

Predeparture Mishandling

There are 2 possible problems with baggage before it is sent - bags without a tag, when the baggage tag is detached from the bag, bags that were delivered to the wrong assembly location, or the baggage system gives out data by default.

Bags without tag:

- Take the bag to a lost and found baggage claim (please note that a special handler must be assigned for untagged baggage as the actual intended flight is not known).;
- Create a Lost Baggage Report (PIR) for the bag in World Tracer;

Bags with tags in the wrong place:

- Redirect the baggage to the correct assembly location.

Mishandling on departure

Baggage arriving on a flight after departure:

- load the bag on the next available flight to the same destination, regardless of the carrier, in accordance with IATA Resolution 780
- Send a baggage message (FWD) to your destination's lost baggage compartment and any docking stations.
- Send a Baggage Transfer Message (BTM) to re-enable.
- Comply with any additional verification requirements in accordance with the plant's internal regulations.

Baggage "from tail-to-tail"

If possible, check with ground control to make sure flights with baggage, which will be transshipped on a tail-to-tail basis are parked close together to minimize the chance of mishandling.

Lost baggage

Lost baggage is baggage that was expected on a departing flight but was not received by the operating carrier.

Create appropriate tracking files in the baggage tracking system. Create a baggage claim (OHD) and forward (FWD) message after you receive it.

Procedures for Handling a Report of Infringement of Property Rights
Airline policy regarding filling in PIR (PROPERTY IRREGULARITY REPORT)

- The PIR is completed by the baggage tracing agent with the passenger who reports their damaged or lost baggage at the arrival station.
- The PIR must be filed on behalf of the same person in whose name it was registered. If the owner is different, his name should be listed next to it.
- PIR can only be completed at the time of arrival before leaving the airport at the Baggage Tracing Department. It cannot be filled in later or remotely.
- The PIR cannot be completed unless the passenger provides a baggage identification tag or boarding pass.
- PIR must be completed properly.
- After completing the PIR, provide passengers with a copy of the Passenger Baggage Instructions.

5.5.3 POORLY SERVED OR UNCLAIMED BAGGAGE

5.5.3.1 GENERAL PROVISIONS

Incorrect baggage handling includes:

- Delay in the issuance of hold baggage;
- Loss of hold baggage;
- Damage or partial loss of hold baggage;
- Loss of items carried in hold baggage.

5.5.3.2 STORING INCORRECTLY SERVED BAGGAGE

- Allowed only in a secured and secure area with controlled access.
- All established aviation security regulations must apply to such baggage.

5.5.3.3 HANDLING FOR PREVIOUSLY IMPROPERLY SERVED BAGGAGE

- Produced at no additional cost.
- Delivery is carried out by any earliest means to the airport closest to the place of residence (location) of the passenger (including possible delivery by partner airlines).
- When calculating the balance of the aircraft, the number of pieces and the weight of the hold baggage are included in the total amount of hold baggage.

5.5.3.4 DELIVERY OF PREVIOUSLY IMPROPERLY SERVED BAGGAGE

- It can be done in any way possible.

5.5.3.5 TRACKING LOST/POORLY SERVED BAGGAGE

- If the passenger's hold baggage was not loaded onto the flight on which it was supposed to be carried, during the first 5 days, the ground handling agent's personnel at the stations of departure, destination, docking, transit are subject to primary tracking.
- If such baggage has not been found within 5 days, it is further searched for at least 21 days by the same agents.

5.5.3.6 SEARCHING FOR LOST WHEELCHAIRS AND OTHER ACCESSORIES

- Produced on a priority basis.
- Instead of lost wheelchairs and other devices, it is necessary to temporarily provide similar ones.
- In the event of a breakdown of wheelchairs and other equipment, proper repairs must be ensured.

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PART 6. GENERAL TERMS OF CARRIAGE OF GOODS

6.1 GENERAL PROVISIONS

This chapter defines the basic requirements for the carriage of goods by LLC "My Freighter" and is written in accordance with the Rules for the carriage of goods by air (AR RUz-197).

Any carriage, including all ancillary services, carried out by or on behalf of a carrier is subject to:

a) applicable international conventions, provided that such carriage is an international carriage;

b) national and/or international laws and regulations, if applicable;

c) this chapter.

Under no circumstances shall the carrier assume any additional obligation or liability that arises by virtue of the fact that shippers or agents issue AWBs or documents of dispatch for the carriage of goods on the carrier's flight, which claim to waive or limit the carrier's right to rely on this chapter, and the shipper agrees to indemnify and hold the carrier harmless from any increased liability, loss, damage, costs or expenses arising from the issuance of such AWBs or shipping records.

6.2 SHIPPER RESPONSIBILITIES

The shipper is responsible to the carrier for the correctness and completeness of the information and statements relating to the goods entered by him or on his behalf in the AWB or provided by him or on his behalf on behalf of the carrier for inclusion in the waybill. This also applies when the person acting on behalf of the shipper under the contract is also the carrier's agent.

The shipper must provide such information and documents as are necessary to complete the formalities of customs, police and any other government authorities before the goods can be delivered to the consignee.

The shipper must inform the carrier at the time of booking if the shipment requires any licenses/permits under the laws and regulations of countries in transit and/or if the shipment is on the Sanctions List of countries in transit.

The carrier is under no obligation to verify the correctness or sufficiency of such information or documents, but the carrier reserves the right to verify the correctness or sufficiency of the information or documents provided in relation to any carriage.

The shipper shall comply with requirements of applicable ICAO and IATA standards.

6.3 CONTRACT FOR THE CARRIAGE OF CARGO (AIR WAYBILL)

The shipper draws up an air waybill himself or on his own behalf, which must meet the following requirements:

- The AWB must be completed in accordance with the TACT Rules, Section 6.1;
- Safety regulations of countries in transit (e.g. ACC3 for the EU, Safety Statements for the USA); and
- Dangerous Goods Regulations IATA
- Live Animals Regulations IATA
- Perishable cargo regulations IATA
- IATA rules for the transport of temperature-sensitive goods (Temperature control regulations).

AWB is issued in 8 copies.

The carrier may require the shipper to issue or issue on his behalf separate air waybills if there is more than one parcel.

Shipment with live animals, human remains, military/strategic cargo, valuable cargo must contain only one type of cargo.

The correct airline name and registered address must be on the AWB.

The two-letter carrier code appears in the AWB flight and carrier information; if the parcel must be carried by two or more carriers, correctly indicate the codes of carriers by sector; description of goods.

In case of consolidation, the consolidation manifest must be attached to the MAWB.

6.4 PROCEDURE FOR CALCULATION OF CARGO LOADING CAPACITY AND POSSIBILITIES FOR CARRIAGE OF CARGO

In order to calculate the possibility of loading cargo and carrying out cargo transportation, representatives of the commercial service must provide the airline's loadmaster on duty with the following information (by sending it to the email address **Loadrequest@centrum-air.com**):

- ✓ transportation route;
- ✓ planned type of aircraft;
- ✓ aircraft number;
- ✓ cargo list including:
  - *length, width, height of each package;*
  - *weight of one package;*
  - *the number of packages of each type;*
  - *indications of the possibility of stacking cargo (placement in 2 or more tiers);*
  - *indications of the ability to tilt (rotate) cargo packages;*
  - *indications of the nature of the cargo (what kind of cargo in principle (for example, a car, an aircraft engine, etc.), dangerous, non-dangerous, special, etc.);*
  - *indication of UN numbers and proper shipping name for dangerous goods.*
  - *for aircraft engines - engine model, stand model, external dimensions and total weight;*
  - *any additional features of cargo that can influence loadability (temperature requirements, ventilation requirements, offset load (displaced center of gravity), etc.).*

If there is no information about stackability, the loadmaster on duty considers the general cargo to be stackable within reasonable limits without restrictions (taking into account the height of the ULD contour, the cargo compartment, the dimensions and weight of packages with cargo).

If there is no information about the possibility of tilting (turning to one side), the loadmaster considers it to be tilted without restrictions within reasonable limits. ***Exceptions***: cars, aircraft and other engines, any other machinery.

If there is no direct prohibition on a certain position of the cargo in flight (for example, across the cargo deck of the aircraft), the loadmaster considers that the cargo can be positioned without restrictions. ***Exceptions***: aircraft engines and other types of engines.

- ✓ **IMPORTANT:** Whenever possible, the list of shipments from the shipper should be obtained in the form of an editable Excel spreadsheet, brought to a standard format according to the example below.
- ✓ **IMPORTANT:** Receiving a list of goods in the form of a picture, a printout scan, or in another non-editable form **increases the response time by 30-40%**.

Number	*Length, cm*	*Width, cm*	*Height, cm*	*Piece weight, kg*	*Number of pieces*	*Stackable*	*Can be tilted*	*DG/ non DG*
1	300	200	200	2000	2	NO	NO	NO
2	100	120	120	850	4	YES	NO	N.I.
3	250	120	120	423	15	YES, 2 layers	YES	UN0171

1. If necessary, the loadmaster on duty must request additional data on the necessary cargo:
   - ✓ blueprints;
   - ✓ photos;
   - ✓ lifting plan (for crane or forklift operations);
   - ✓ an indication of the necessary actions for warehouse and production processing (for example, the need to change the configuration of the cargo by removing or installing certain additional elements for safe transportation).

2. The loadmaster on duty must calculate the load capacity based on the airline's GOCHM and the data provided, using software approved by the Head of Ground Handling Standards Division.

3. If necessary, the loadmaster on duty must draw up graphic plans for the placement of cargo and shoring on the ULD or in cargo hold (Bulk section), as well as diagrams for cargo tie-down, allowing the ground handling agent to complete safe loading and tie-down of the specified cargo. Plans must be provided with the necessary brief explanations in Russian and / or English (depending on the region in which it is planned to perform cargo build-up/loading). *Refer to **Section 6.9.2.3 Part 6 GOCHM** to have information about shoring usage.*

4. If the request considers transportation of oversized or very heavy items, the loadmaster on duty must get confirmation from the Head of Ground Handling Operations Division:

- **For freighter aircraft B767-300BCF (-BDSF)**:
✓ **Oversized items**: length ≥317cm and/or width ≥223cm and/or height ≥155cm.
✓ **Very heavy item**: 1000kg per unit.

- **For freighter aircraft B757-200PCF**:
✓ **Oversized items for Main Deck loading**: length ≥317cm and/or width ≥223cm and/or height ≥100cm.
✓ **Oversized items for Low Deck loading**: length ≥120cm and/or width ≥40cm and/or height ≥80cm.
✓ **Very heavy item**: ≥600kg per unit for ULD / ≥23kg for Low Deck holds.

- **For passenger aircraft A330-343:**
✓ **Oversized items**: length >317cm and/or width >223cm and/or height >155cm.
✓ **Very heavy item**: 1000kg per unit.

- **For passenger aircraft A319/A320/A321:**
✓ **Oversized items**: length ≥120cm and/or width ≥80cm and/or height ≥40cm.
✓ **Very heavy item**: 23kg per unit.

5. In the case of loading oversized and heavy cargo at base station, additionally check the possibility of loading / unloading and ground handling with a ground handling agent (airport) and obtain their written confirmation of the possibility of carrying out these operations and existing restrictions (for example, lack or shortage of equipment, impossibility carrying out these operations at specific hours and dates, etc.).

6. In the event of a request to operate a flight to/from off-base airports, escalate the issue of the possibility of ground handling at the indicated airports to the Head of Ground Handling Operations Division.

7. As the information and confirmations of the leading loadmaster are consolidated, respond to the request of the commercial service by e-mail, according to the template below (based on the confirmation of the company's lead loadmaster, or own calculations), as well as attaching graphic diagrams (if any). The copy of the response to the request must contain email address **Loadrequest@centrum-air.com**:

- number of positions and their type/contour: …
- type(s) of ULDs used: …
- shoring material (if required): ...
- number and type of straps: ...
- increase in aircraft parking time: ...
- other requirements (if applicable): …

8. Fill in the "**LOADREQUEST STATISTIC**" table on the airline's common disk, including the following data:

- date and time of receipt of the request;
- date and time of the response;
- full name of the customer of the calculation (representative of the commercial service);
- transportation route;
- aircraft type;
- cargo data (briefly);
- answer by downloadability (“loading”, or “not loading for such and such a reason (-us)”).
- a note on the inspection of non-base airports (in the case of transportation to / from non-base airports (“carried out”, “not carried out”).

9. Save the calculation results and all information upon request (lists of cargo, provided drawings, photographs, diagrams, etc.) to the “LOADREQUESTS” folder on the airline's shared disk.

- For the convenience of searching for data in the "LOADREQUESTS" folder, subfolders are created by years, which, in turn, contain subfolders by months. See fig. 6.4 below.

- The results of each calculation and the information provided are saved in an individual folder, which is named according to the format: "Date - Route - Loadmaster's last name" (for example, "19MAR - TAS-IST - EFIMOV".

***NOTE:** the above paragraphs 1-9 are mandatory for any employee who calculated the load capacity (regardless of position).*

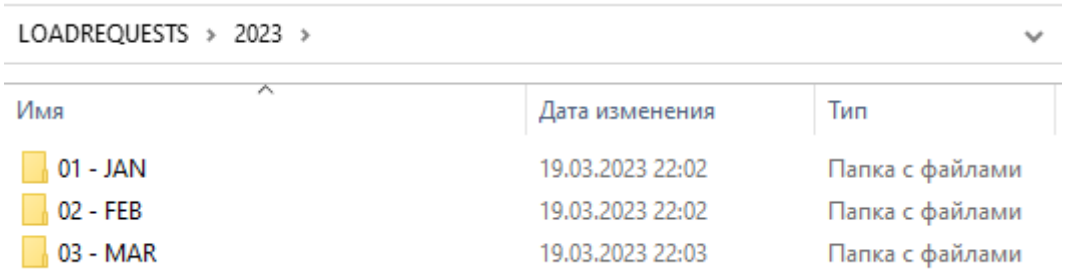


Fig. 6.4. Folder layout example"LOADDREQUESTS"

6.5 WEIGHING

All cargo and additional FKT items scheduled to be loaded onto any aircraft must be properly weighed prior to loading.

The weight of the shipment is measured by gross weight, the unit of which is "kg" (kilogram), and the minimum rounding unit is 0.01 kilograms.

The permissible weight and dimensions of the cargo are determined by the route, types of aircraft, storage and handling facilities of the airport of departure, transfer and destination.

Requirements to weighs and weighing are described in ***Section 6.10.8 Part 6 GOCHM***.

6.6 BASIC REQUIREMENTS FOR ACCEPTANCE OF CARGO FOR CARRIAGE

The carrier undertakes to carry any type of cargo, unless otherwise excluded by the rules of the carrier and provided that:

- their carriage, export or import is not prohibited by the laws or regulations of any country from, to or through which the flight is made;
- The necessary permits of the relevant authorities for the import, export or transit of cargo are provided to the carrier prior to acceptance of the cargo. All necessary notifications are made and receipt is confirmed by the relevant authorities, confirmation of which is provided to the carrier before acceptance of the goods;
- The consignment is packed, marked and supplied with all required documentation;
- There is no likelihood that the cargo will endanger aircraft or any other means of transport, people or property, or cause inconvenience to maintenance personnel and/or supernumeraries;
- Delivery is carried out after booking confirmation and availability of suitable equipment and space;
- A shipment declared under a general description may contain dangerous items that are not visible. The shipper is solely responsible for the contents of the package and assumes all risks associated with undeclared dangerous goods.

6.7 PACKING, MARKING, DOCUMENTATION

The shipper is responsible for complying with the following requirements:

- The package of the cargo must ensure the safety of the aircraft, crew, passengers, other cargo and service personnel, as well as ensure the proper securing of the cargo. Package must prevent personal injury, damage or property damage. Package must ensure the safety of the contents throughout the handling of the cargo and during transport from the point of departure to the point of destination, with the usual care in handling;
- The package of the cargo must protect its contents from all weather conditions to which it may be exposed at the points of origin, transshipment and destination, including, but not limited to, rain, wind, heat and cold;
- Packages should not have damage, cuts, tears, openings, traces of leaks / spills, protruding wires. Packages must be dry, not have wet places and correspond to the nature of the cargo. Packages must withstand the following overloads during ground handling of cargo and in flight: forward - 3g, backward - 3g, sideways - 0.5g, up - 3g, down - 6g.
- By agreement with the carrier, heavy, oversized cargo, vehicles can be transported without outer packing;
- Packing, labeling and labeling of dangerous goods, live animals and perishables, time and temperature sensitive medical products must comply with the IATA Dangerous Goods Regulations, the Live Animals Regulations, the IATA Perishable Goods Regulations and the IATA Temperature Control Regulations;
- The package of any piece of cargo must be in good condition to withstand normal conditions of transport and to withstand air transport overload.
- Each package must be clearly and durably marked with the name and full address of the shipper and consignee, the number of packages in the shipment, the gross weight of the package, the AWB number, and the airport of origin and destination.

- The shipper must provide the necessary shipping documents in accordance with the requirements of any applicable law for the export, import, transfer or transit of cargo.

6.8 PROCEDURE FOR CONSIDERATION OF CLAIMS

Receipt by a person of the cargo without claims is prima facie proof that it was delivered in proper condition and in accordance with the contract of carriage.

To improve the efficiency of claims handling, claims must be submitted in accordance with IATA and national requirements, accompanied by supporting documents in accordance with the IATA List and accompanied by an English translation.

All documents must be coherent and readable.

Procedure of claims is described in airline's "Claims Handling Instruction".

6.9 ACCEPTANCE OF CARGO FOR CARRIAGE

Each consignment accepted on My Freighter flights must be in the "READY FOR CARRIAGE" condition, which means:

- The air waybill is issued in accordance with the IATA TACT rules, completed and signed;
- All necessary documents are available (cargo manifest, list of consolidation, invoices, other documents required for export, import or transit by customs or other government authorities);
- The shipping documents are attached to the air waybill;
- All necessary declarations for special cargoes have been completed (declaration for dangerous goods, live animals);
- Packages are free from damage, cuts, tears, holes, signs of leakage/spillage, or protruding parts. Packages must be dry, not have wet places and correspond to the nature of the cargo;
- The signs on the packages must be fully visible, all old signs and markings must be removed;
- When transporting special goods (dangerous goods, perishable goods), special necessary signs and markings are applied;
- The consignment must be prepared for transport in accordance with the security control instructions provided by the national authority.

6.10 CARGO BUILD-UP ON A ULD

6.10.1 GENERAL PRINCIPLES

This section contains the procedures and standards for cargo build up on ULD in accordance with Technical Service Order (TSO) C90c.

The principles set out in this section must be followed by My Freighter customers, ground handlers, airline employees and contractors.

According to airworthiness regulations, all ULDs, pallet nets, straps and their components must be checked before being assembled and loaded on board the aircraft. If the ULD, pallet nets, straps and their components are not airworthy, they must not be used for loading and/or securing any kind of load on board the aircraft. Inspection guidelines and airworthiness criteria are set out in section 2.8 of the IATA ULD Regulations.

Inspection guidelines and airworthiness criteria of ULD are shown in ***Section 4.7 Part 4 GOCHM***.

Inspection guidelines and airworthiness criteria of tie-down straps are shown in ***Section 8.7 Part 8 GOCHM***.

All operators of loading equipment (such as a forklift) should be aware of the need to handle the ULD with due care during cargo build-up and break-down. Only qualified loader operators who have already received ULD training are authorized to load cargo onto the ULD. Under no circumstances should the forklift forks come into contact with the ULD.

Any build-up and break-down methods that could damage the ULD and/or the load must be avoided.

When build-up and break-down on the ULD, make sure that there is a support surface under the ULD that meets the requirements of IATA AHM911 (roller or ball surfaces).

Placement of the ULD directly on the floor of the warehouse / apron surface / truck is not allowed!

Any kind of load placed on any type of ULD must be secured to the ULD to prevent possible shift in any of five directions:

1. Forward (flight direction).
2. Aft (backward from flight direction).
3. Left (from flight direction).
4. Right (from flight direction).
5. Upward.

Any load which is not properly secured to ULD must be reported to loadmaster on duty or loadmaster onboard of aircraft to develop and complete tie-down plan. If load is not secured to the ULD properly, it requires additional tie-down to aircraft structure onboard of aircraft. *Refer to* ***Part 8 GOCHM***.

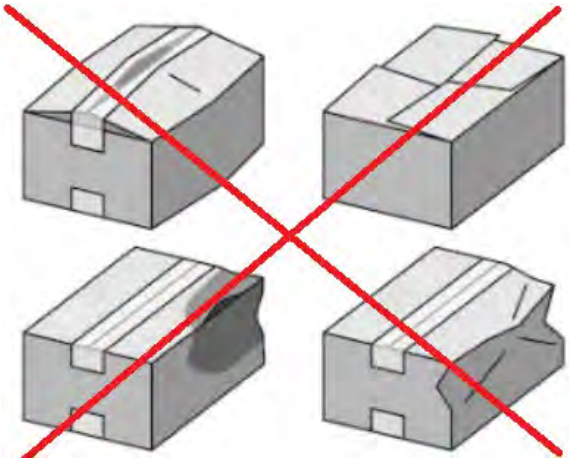
Several types of heavy loads require usage of shoring materials to engage adequate weight spread on ULD surface and cargo handling system. *Refer to* ***Section 6.10.3 Part 6 GOCHM*** *to have information about rules & restrictions of shoring usage.*

6.10.2 GENERAL BUILD-UP RULES

The following rules must be observed when performing cargo build-up on an any type of ULD.

If the consignment contains dangerous goods, the requirements of ***Part 7 GOCHM*** must also be observed.

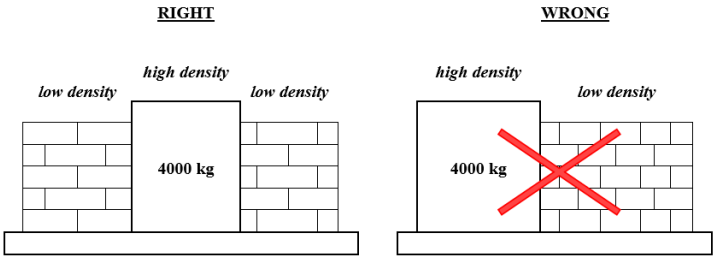
1. Linear and Area Loads of each package or group of packages must be checked for any shipment. *Refer to* ***Section 6.10.3.2 Part 6 GOCHM***.
2. Do not build up or load damaged or potentially damaged cargo (especially with visible damages, leakages, specific smell, etc.).



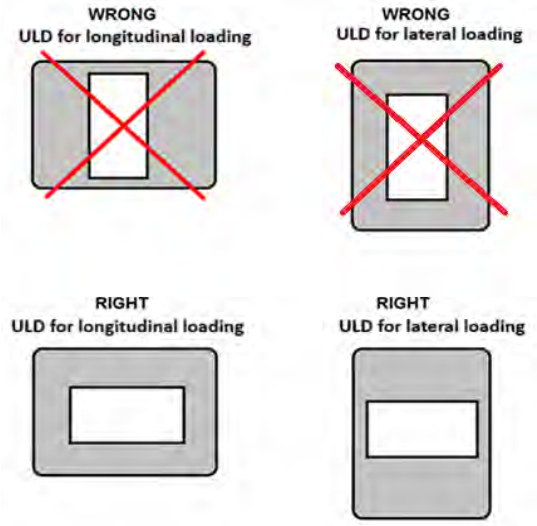
3. Observe additional markings on cargo describes specific rules of package handling (*for example, "This Side Up", "Fragile", "Keep dry", "Keep away from heat", "Maximum Stacking Quantity", etc.*).

4. A heavier load must be placed on the base of the ULD, while a lighter load must be placed on top of the heavy one or around the heavier load. A heavy load placed on top of a light one will cause the lighter load to deform and move. It will also limit the maximum load on the ULD and may result in damage to the aircraft.

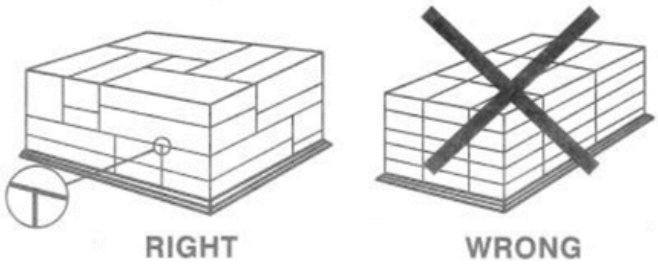
5. Loads should be placed evenly around the center of gravity on the ULD.



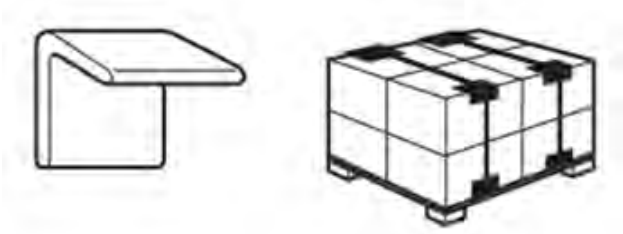
6. As a general rule, a long load and shoring material in bottom layer should be placed on the ULD so that it is loaded along the direction of flight. The heavier the load, the more stringent this rule is.



7. Whenever rectangular boxes and crates must be stacked, they shall be “T” stacked in overlapping alternate layers.



8. To avoid cuts or other damage to the tie-down straps, ropes or pallet net, cover the sharp edges of the load with thick paper, cardboard, cloth or other protective material.

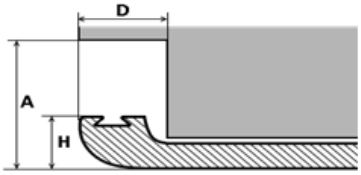


9. Drums, canisters, barrels and similar cylindrical packages must not be stacked horizontally (unless they are fastened together and packed on a common base such as a wooden pallet). Such packages must be stacked vertically at the bottom level of the pallet with the obligatory use of shoring material. When stacking two or more layers consisting of drums, cans or drums, it is necessary to provide a horizontal intermediate shoring between the layers, consisting of lumber, a wooden pallet or plywood to ensure greater stability of the top layer.
   Vessels and containers (contain liquid, powder, gel, gas) must either be located at least 15 cm above the level of the pallet, for example, on a wooden pallet, or clamped around with other rigid cargo.
   *Refer to **Section 6.10.3 Part 6 GOCHM** for information about rules & restrictions of shoring usage.*

10. Load must not overlap from aircraft pallet wherever it possible. Ideal way is to build load in manner when it not positioned above the pallet seattrack. If space utilization still requires usage of whole ULD square, observe requirements of next paragraph. Any overhang and indent on any ULD must be exactly mentioned in UWS and CPM with no tolerance.
    *Refer to **Section 6.10.3 Part 6 GOCHM** to have information about rules & restrictions of shoring usage.*

11. Shoring and/or shipment footings must not press to ULD seattracks (except rigid ULDs).

12. Observe minimum distances A, H, D if dimensions of load exceed dimensions of pallet usable area and load positioned above the seattracks on ULD perimeter. Use shoring to lift load above the ULD surface, if needs, otherwise it will be impossible to attach straps and/or pallet net to ULD seattracks.
    - ✓ *This rule is not applicable to rigid ULDs (16FT & 20FT).*
    - ✓ *Refer to **Section 6.10.3 Part 6 GOCHM** to have information about rules & restrictions of shoring usage.*



A = 32 mm (1.25 in.) maximum
H = 150 mm (6 in.) minimum
D = 50 mm (2 in.) minimum

13. Shoring material (plywood, wooden planks, wooden skids, wooden or metal beams) must be used to spread the weight of heavy loads on ULD surface and avoid exceeding of aircraft Linear/Area Load limits.
    - ✓ *Refer to **Section 6.10.2 Part 6 GOCHM** to have information about Linear, Area and Point Loads.*

- ✓ *Refer to **Section 6.10.3 Part 6 GOCHM** to have information about rules & restrictions of shoring usage.*
- ✓ *Refer to **Section 2.9.2 Part 2 GOCHM** to have information about Linear & Area Load limits for passenger aircraft A319, A320, A321, A330.*
- ✓ *Refer to **Section 3.11.2 Part 3 GOCHM** to have information about Linear & Area Load limits for freighter aircraft B757-200PCF, B767-300BCF (-BDSF).*

14. The completed palletized load must comply with the possible contours defined in Part 4 GOCHM and applicable for appropriate aircraft. Actual ULD contours must be mentioned in UWS and CPM.

15. All cargo on ULD must be secured to ULD against possible shift in 5 directions (upward, forward, aft, left, right) – by a pallet net (on pallets) or by straps (on pallets and in containers). If cargo is not properly secured to ULD, IMP-code TIE must be mentioned in UWS, CPM and on pallet tag.
    - ✓ *Refer to **Section 6.10.4 Part 6 GOCHM** to have information about rules & restrictions of tie-down usage.*
    - ✓ *It is not allowed to load unsecured or improperly secured cargo in container or box to aircraft.*

16. Plastic film used to protect palletized cargo or container packing must comply with the burn rate parameter and other requirements of FAR CS25 Appendix F, ISO 16412. The recommended minimum thickness of PE film is 0.05 mm.

17. If the center of gravity of the cargo assembled on the pallet is outside the specified limits, then the cargo must be additionally secured with straps to the aircraft structure.
    - ✓ IMP-code TIE must be used in UWS to specify such pallet.
    - ✓ Center of gravity out of limits is not allowed for containers.

18. Do not use heavy loading tools (such as loaders) and any type of vehicles (such as forklifts) directly on the surface of the ULD. If the use of heavy loading tools is unavoidable, then the ULD floor must be protected from damage by wood planks or plywood sheets.

6.10.3 SHORING USAGE

6.10.3.1 GENERAL PROVISION

The loads on the floors of the cargo decks of any aircraft are strictly limited.

The possibility of placing any cargo in one or another area of the aircraft cargo deck directly depends on the weight and dimensions of the package.

A short but heavy load can create a critically high load on the ULD and cargo handling system results deformation of the ULD, the impossibility of its movement through the cargo handling system inside the compartment, or even damage aircraft structure beyond of repair.

Additional approved materials positioned under the load allows to spread weight to larger area and comply with the design limits of loads on the aircraft floors. These materials shortly named “shoring”.

Typical shoring materials approved by different aircraft manufacturers include:

- standard wooden skids of different sizes, also called “europallets”;
- wooden planks (mostly 200-300cm long & 2-2.5cm thickness);
- plywood sheets (mostly 2-2.5cm thickness);
- wooden beams and metal I-beams of various cross-sections & lengths).

*Refer to **Fig. 6.10.3.1 & 6.10.3.2**.*

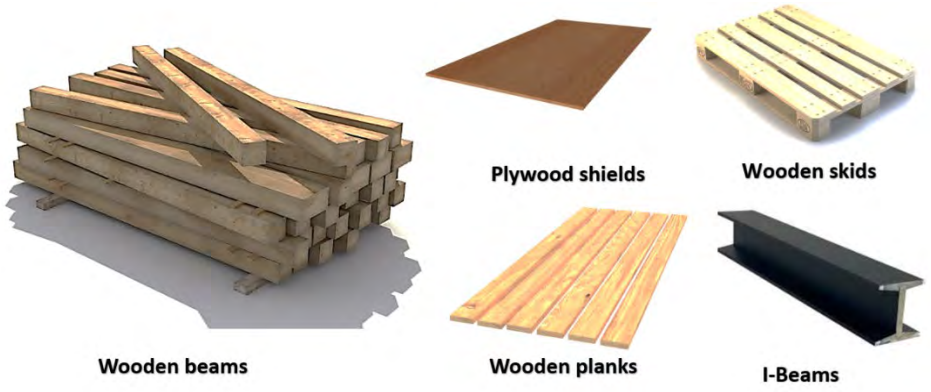


Fig. 6.10.3.1. Examples of shoring materials.

Fig. 6.10.3.2. Examples of a heavy loads placed on a shoring

Shoring also may be used to lift the load above the ULD surface to fit it into contour and/or use full volume of ULD applicable contour / compartment maximum contour or avoid load pressure to ULD seattracks or allow forklift operations – because pallet usable area is less than external ULD size (*refer to* ***Fig. 6.10.3.3***). Shoring also can be used to stabilize loads with unevenly distributed supporting elements (for example, towed trailers or boats) (*refer to* ***Fig. 6.10.3.4***).

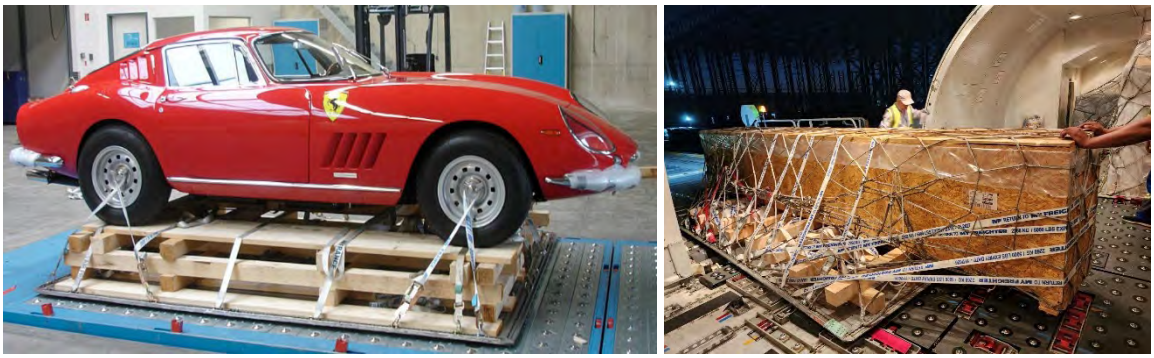


Fig. 6.10.3.3. Examples of shoring lifts load above the ULD surface

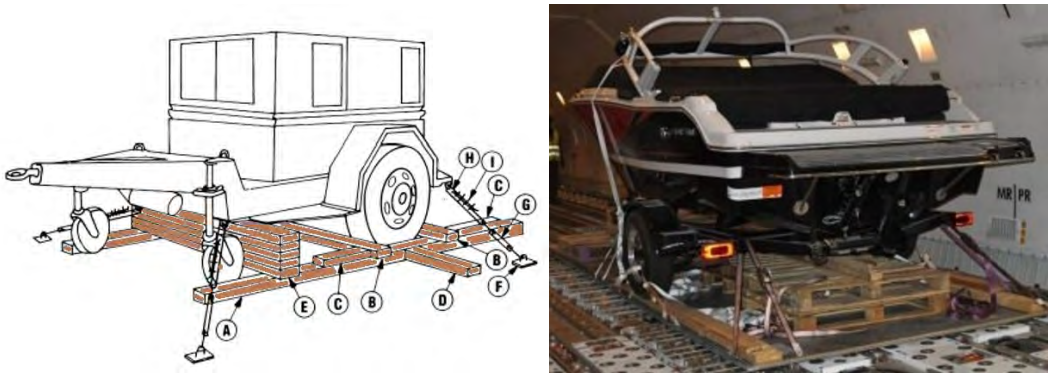


Fig. 6.10.3.4. Examples of shoring stabilize loads which have unevenly distributed supporting elements

The choice of a specific type of shoring material depends on:

- the nature of the item base configuration;
- the weight and dimensions of the item;
- the Linear & Area Load limits of the selected section of the aircraft deck/compartment;
- the type of ULD (if applicable for a particular aircraft and the selected cargo compartment);
- availability of specific shoring materials on station/in current location.

Necessity of shoring usage must be checked for any kind of load planned for loading to Bulk section or on ULD to any aircraft. Even light package could damage aircraft structure in case of high concentrated load on a small footprint area.

Shoring weight is included to ULD gross weight, as well as ULD own weight. It recommended to make double calculations each time (actual loads of shipment and actual loads of built ULD). Preliminary calculation of shoring weight can be done according to the next formula:

$$\boldsymbol{Shoring\ Weight = Shipment\ Weight\ x\ 1.03}$$

For heavy shipments it is recommended to multiply Shipment Weight to 1.05 instead of 1.03.

Refer to ***Section 6.10.3.5 Part 6 GOCHM*** to see general requirements to shoring material and its placement on ULD under the load.

6.10.3.2 RESPONSIBILITY AND SOURCES FOR SHORING CALCULATIONS

Calculations for items with individual weight up to 1000 kg on freighter aircraft and 100 kg on passenger aircraft must be calculated by Airline duty loadmaster / Airline ground operational personnel (trained and qualified for this task).

Calculation for items which individual weight exceeds mentioned limits must be calculated by duty loadmaster / ground operational personnel and additionally confirmed by Head of Ground Operations Division or Head of Ground Operations Standards and Compliance Division.

Most complicated requests (when provisions of ***Part 6 GOCHM*** are not sufficient for safe solutions, or load parameters are beyond the limits described in GOCHM) must be calculated and confirmed by Head of Ground Operations Division or Head of Ground Operations Standards and Compliance Division.

Additional graphical plan can be done for complicated cargoes to ensure if shoring elements are properly positioned under package (*refer to* ***Fig. 6.10.3.5***).

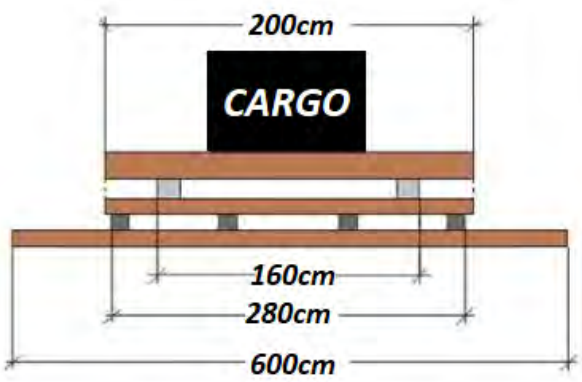


Fig. 6.10.3.5. Example of shoring graphical plan.

General shoring guidelines (with comments for appropriate aircraft types) are shown in ***Section 6.10.3.4 Part 6 GOCHM***.

Detailed sources are mentioned in ***Table 6.10.3.2***.

Table 6.10.3.2. Applicable GOCHM sections

AIRCRAFT TYPE	PAX/FREIGHTER	REFERENCE DOCUMENTATION
A319, A320, A321	Pax	Weight & Balance Manual
A330	Pax	Weight & Balance Manual
A321P2F	Freighter	Supplement to Weight & Balance Manual
B757-200PCF	Freighter	*TBA in next revision*
B767-300BCF (-BDSF)	Freighter	Boeing Document «D636T002 - Shoring Guidelines for Outsized Cargo, Model 767»

6.10.3.3 DEFINITIONS OF LINEAR LOAD, AREA LOAD, POINT LOAD

Specific aircraft limits must be observed during the build up or loading of loose cargo to appropriate aircraft compartments. Actual loads and necessity of shoring materials usage must be checked for any kind of load planned for loading to Bulk section or on ULD to any aircraft.

Even light package could damage aircraft structure in case of high concentrated load on a small footprint area.

Refer to ***Table 2.10.2*** (***Section 2.9.2 Part 2 GOCHM***) to have information about limits applicable for specific aircraft zones of passenger aircraft.

Refer to ***Tables 3.11.2.1-3.11.2.3*** to have information about limits applicable for specific aircraft zones of freighter aircraft.

Refer to rules of actual loads calculation below.

LINEAR LOAD (also can be named LOCAL LOAD)

The load per 1-meter length of the aircraft structure.

Units of measurement are kilograms per meter (kg/m).

Specific values may be applicable for different aircraft on same zones.

Linear Load must be calculated according to the next formula:

$$\boldsymbol{Linear\ Load} = \frac{Package\ weight\ (kg)}{Package\ Length\ (meters)}$$

where:

- **Package weight** = actual individual weight of package.
- **Package length** = actual length of package footings (base part contacts with ULD, aircraft floor or ground).

Final Linear Load calculated for built ULD is a **Linear Load Peak** (shortly named “LLP”). It must be mentioned for any ULD built for loading to freighter or passenger aircraft, if LLP of ULD exceeds 500 kg/m.

***Also observe and follow to additional instructions mentioned in Notes 1-7 in this Section*.**

Example of calculations:

Package has dimensions 3 x 0.6 x 0.6m. Package is built on europallet which has dimensions 1,2 x 0.8 x 0.15 m. Total weight of package and europallet is 600kg. Package is planned for loading to Main Deck of B767-300BCF on PAG pallet (max Linear Load on desired position is 1515 kg/m).

Length of base part is 1.2m only. This value must be used for calculations instead of value 3m, because only this part of package contacts with ULD.

Linear Load is equal to: 600 / 1.2 = 500 kg/m.

AREA LOAD (also can be named DISTRIBUTED LOAD)

The load per 1 square meter of the aircraft structure.

For Airbus aircraft: units of measurement are kilograms per square feet (kg/ft^2).

For Boeing aircraft: units of measurement are kilograms per square meter (kg/m^2).

Specific values may be applicable for different aircraft on same zones.

$$\boldsymbol{Area\ Load} = \frac{Package\ weight\ (kg)}{Square\ of\ package\ footings\ (square\ meters)}$$

Example of calculations:
Package has dimensions 3 x 0.6 x 0.6m. Package is built on europallet which has dimensions 1,2 x 0.8 x 0.15 m. Total weight of package and europallet is 600kg. Package is planned for loading to Main Deck of B767-300BCF on PAG pallet (max Area Load on desired position is 1219.5kg/m^2).
Square of base part has square: 1.2 x 0.8 = 0.96 m^2.
Area Load is equal to: 600 / 0.96 = 625 kg/m.

Also observe and follow to additional instructions mentioned in Notes 1-7 in this Section.

POINT LOAD

Concentrated load on any element on the aircraft cargo floor or ULD.
For any aircraft: units of measurement are kilograms per square centimeter (kg/cm^2).

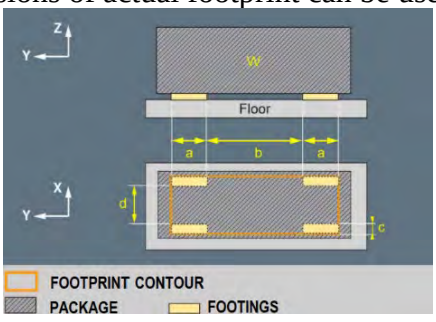
$$\textbf{Point Load} = \frac{Package\ weight\ (kg)}{Package\ Base\ Square\ (square\ cm)}$$

Example of calculations:
Package has dimensions 3 x 0.6 x 0.6m. Package is built on europallet which has dimensions 1,2 x 0.8 x 0.15 m. Total weight of package and europallet is 600kg. Package is planned for loading to Main Deck of B767-300BCF on PAG pallet (max Area Load on desired position is 1219.5kg/m^2).
Square of base part has square: 120 x 80 = 9600 cm^2.
Limit for desired position is 1 kg/cm^2.
Point Load is equal to: 600 / 9600 = 0.0625 kg/cm^2.

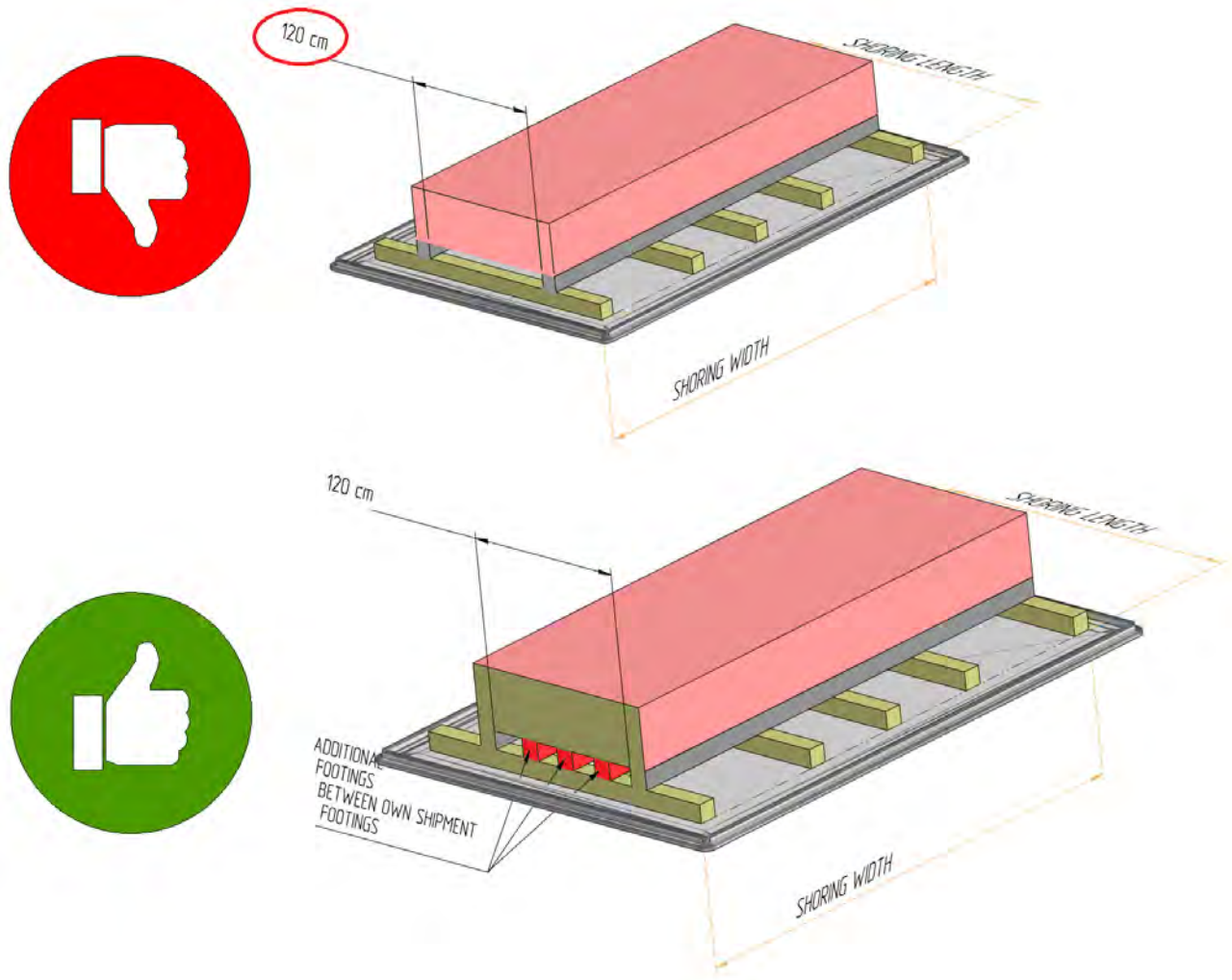
Also observe and follow to additional instructions mentioned in Notes 5 & 6 in this Section.

NOTE 1:

1. Actual configuration of base part must be checked prior to shoring calculations. Actual configuration includes information about quantity of support elements, its dimensions, its position under package and distances between elements and ends of package.
2. If distance between own shipment supports (footings) is 20cm or less, shipment footprint can be counted as “solid”, and dimensions of actual footprint can be used for actual loads calculations.



3. If distance between own shipment supports (footings) is >20cm, additional footings (equal size and cross section to shipment footings) must be used to avoid high concentrated load on available shipment footings. Distance between adjacent footings (own & additional) must be ≤ 20cm.



NOTE 2:

Actual Linear Load Peak (LLP) must be mentioned in UWS and CPM as a remark: for example, LLP 2108 (means maximum Linear Load for mentioned ULD is 2108 kg/m).

NOTE 3:

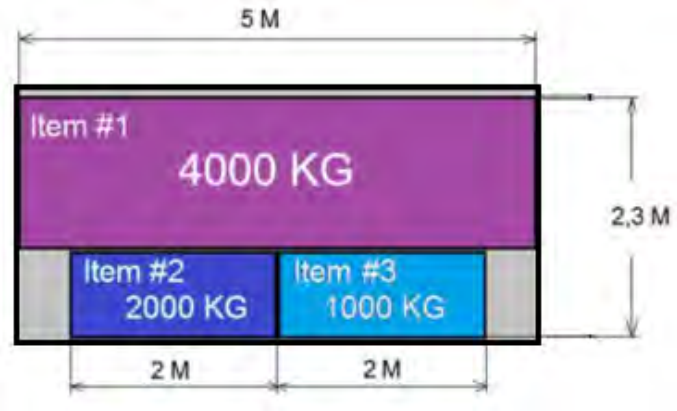
When several packages are placed side by side on one ULD or in one section, it is necessary to make sure that the total Linear Load of all cargoes is calculated for appropriate ULD (or zone of cargo hold). Total Linear Load created by ULD (portion of shipments) per 1 meter of aircraft length must not exceed aircraft limits specified in appropriate ***Sections of GOCHM***.

If several shipments are placed side by side, total Linear Load must be calculated.

Example of calculations:

- *Several items of different sizes are placed together on a 16FT ULD weighing 430 kg;*
- *Item #1 has weight 4000kg. Item #2 has weight 2000kg. Item #3 has weight 1000kg;*
- *50% of Item #1 length is located on same part of ULD as Item #2. So total load of this part of ULD is: 2000 + 2000 = 4000 kg.*
- *50% of Item #1 length is located on same part of ULD as Item #3. So total load of this part of ULD is: 2000 + 1000 = 3000 kg.*
- *Length of FWD part of ULD (occupied by Items #1 & #2 at same time) is 2 meters. For safety we can count the total weight of whole this half of ULD with involved shipment concentrated on these 2 meters:* ***1/2 Weight*** $_{ULD}$ ***+ Weight*** $_{CARGO}$ ***= (430/2) + 4000 = 4215 kg***.

- *Linear Load of this part of ULD is: 4215 / 2 = 2107.5 kg/m.*
- *Length of AFT part of ULD (occupied by Items #1 & #3 at same time) is 2 meters. For safety we can count the total weight of whole this half of ULD with involved shipment concentrated on these 2 meters:* ***1/2 Weight*** $_{ULD}$ ***+ Weight*** $_{CARGO}$ ***= (430/2) + 3000 = 3215 kg****.*
- *Linear Load of this part of ULD is: 3215 / 2 = 1607.5 kg/m.*
- *Therefore, center of gravity is shifted from ULD center, and one side of ULD has higher Linear Load limit (rather than other one). Highest value (2107.5 kg/m) must be used for further loadplanning computations to define suitable position for this ULD onboard of freighter aircraft.*
- *This information also must be mentioned in UWS message - as remark* ***LLP 2108****.*
- *If just sum all weights of shipments on this ULD and calculate it as per standard formula, we will have wrong result: (7000 + 430) / 4 = 1857.5 kg/m.*



NOTE 4:

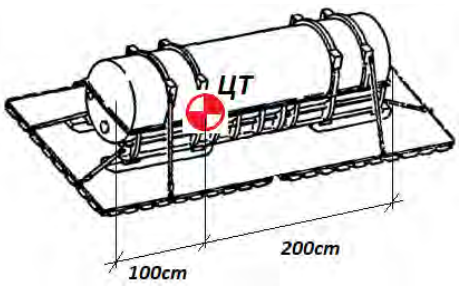
Observe actual position of shipment's center of gravity and total center of gravity for built ULD. If center of gravity is shifted to one end of shipment, it means, short part has same weight as long one, and the linear and area load must be calculated separately for each part of the load.

Highest value should be used for further checks and calculations of shoring.

Highest value must be mentioned in UWS and CPM.

Example of calculations:

- *Heavy item (300cm long/3000kg) located on 10FT ULD has center of gravity located in 100cm from one of item's ends;*
- *Left part of shipment has same weight as right one. 50% of cargo weight is located in right part and 50% of cargo weight is located in left part;*
- *Linear Load under short part is: (3000/2) / 1 = 1500 kg/m;*
- *Linear Load under long part is: (3000/2) / 2 = 750 kg/m;*
- *Highest value 1500kg/m must be used as an actual Linear Load and mentioned as LLP in UWS and CPM.*



Observe requirements and follow to limits mentioned in ***Section 2.9.2 Part 2 GOCHM*** for passenger aircraft.
Observe requirements and follow to limits mentioned in ***Section 3.11.9 Part 3 GOCHM*** for freighter aircraft.

NOTE 5:

Small and narrow footings of shipments are potentially dangerous for ULD and cargo floor (especially if shipment has wooden and metal footings, or only metal footings). *Refer to* ***Fig. 6.10.3.6***.

Such shipment shall be built with shoring even if Linear/Area/Point Load limits are not exceeded (to prevent damage of ULD and aircraft).

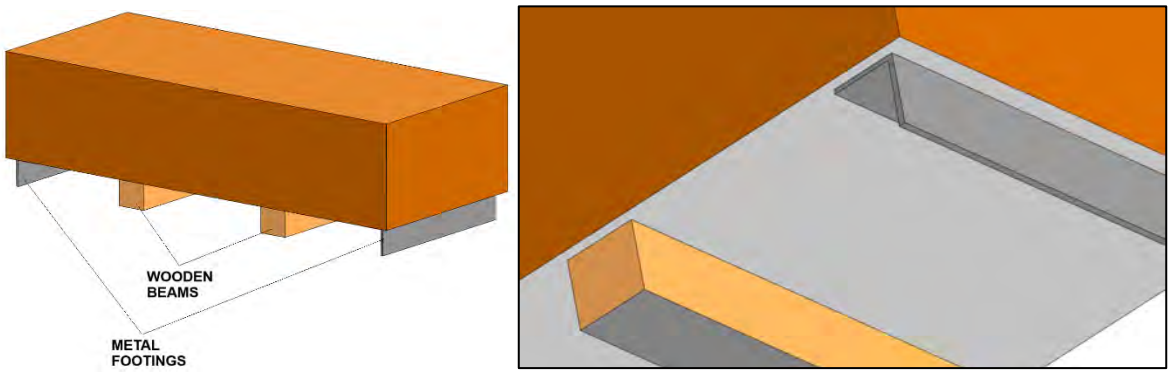


Fig. 6.10.3.6. Example of shipment with narrow metal footings

NOTE 6:

Shipments on wheels are potentially dangerous for ULD and cargo floor – which can be damaged due to the high concentrated load. *Refer to* ***Fig. 6.10.3.7***.

As minimum Simplified shoring, or even Longitudinal / Combined shoring requires to be placed under shipment. Shipment must stay stable during the handling and air shipping procedures.

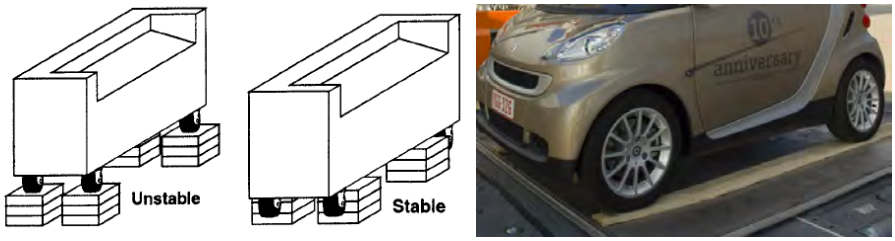


Fig. 6.10.3.7. Example of shipment with wheels

NOTE 7:

In case of Linear or Area Loads exceeding needs to calculate Minimum Required Length and Minimum Required Width according to the next formulas (recommends to calculate a ULD gross weight with expected shoring weight and shipment weight):

$$\boldsymbol{Minimum\ Required\ Length = \frac{Shipment\ Weight}{Linear\ Load\ Limit}}$$

$$\boldsymbol{Minimum\ Required\ Width = \frac{Shipment\ Weight}{Area\ Load\ Limit}}$$

Example of calculations:

- *Heavy item (300cm long/200cm wide/6500kg heavy) located on 16FT ULD which is planned for loading to freighter aircraft B767-300BCF (position R1/E1);*
- *Linear Load limit for mentioned zone is: 1515 kg/m;*
- *Area Load limit for mentioned zone is: 976 kg/m^2;*
- *Linear Load of item (without ULD) is: 6500 / 3 = 2167 kg/m.*
- *Area Load of item (without ULD) is: 6500 / (3 x 2) = 1084 kg/m^2.*
- *Both limits look exceeded. Shoring required.*
- *Expected gross weight is: Weight $_{ULD}$ + Weight $_{SHORING}$ + Weight $_{SHIPMENT}$ = 430 + (6500 x 1.03) = 7125 kg. This value shall be used as LLP.*
- *Minimum Required Length: 7125 / 1515 = 4.71 m.*
- *Minimum Required Width: 7125 / 976 = 7.3 m^2.*

6.10.3.4 SHORING TYPES

Types of shoring are described in ***Table 6.10.3.4***.

Table 6.10.3.4. Shoring types

SHORING TYPE	APPLICABLE SHORING MATERIAL	WHEN PREFERRABLY USED
Longitudinal	Wooden beams (cross section 10x10cm or more) For heavy loads – metal I-beams	When Linear Area is exceeded
Lateral		When Area Load is exceeded
Combined (longitudinal + lateral – into 2 layers)		When both Linear & Area Loads are exceeded
Pyramidal shoring (more 2 layers of longitudinal & lateral elements)		When both Linear & Area Loads are exceeded, but Combined shoring does not provides sufficient weight spreading
Simplified (for light items only)	Plywood shields or wooden planks	Only if Area Load is exceeded for light items (up to 400-500kg) on palletized aircraft (passenger aircraft A330, freighter aircraft B767 & B757). Also, can be used for cars with individual weight >2200 kg loaded as centerloads by roll-in/roll-out method.

*Refer to **Section 2.9 Part 2 GOCHM** to have information about limits of passenger aircraft.*
*Refer to **Section 3.11 Part 3 GOCHM** to have information about limits of freighter aircraft.*

a. **Longitudinal shoring** is a shoring which elements are placed along the aircraft centerline and oriented in direction of flight when built ULD is loaded to desired position. *Refer to **Fig. 6.10.3.10.***
b. **Lateral shoring** is a shoring which elements are placed across the aircraft centerline and oriented across the flight direction when built ULD is loaded to desired position. *Refer to **Fig. 6.10.3.11***.
c. Both **Combined** and **Pyramidal shoring** variants include longitudinal and lateral elements, the difference is only in number of layers (only 2 for Combined and 3-4 for Pyramidal). *Refer to **Fig. 6.10.3.12 & 6.10.3.13***.
d. **Simplified shoring** can be used for light items only, if minor limits exceeding is found for specific package/item – to prevent damage of ULD and cargo handling system. In case of doubts needs to use longitudinal shoring or another shoring type. *Refer to **Fig. 6.10.3.14***.

Next definitions are used to describe shoring:

- **Free span** is a part of shoring not occupied by package. It cannot be used to place another cargo on same ULD – and must stay free.
- **Cargo length** is an actual length of item base side (bottom part) oriented along the aircraft (in flight direction). It can be shorter of actual item length. *Refer to **Fig. 6.10.3.8***.
- **Cargo width** is an actual width of item base side (bottom part) oriented across the aircraft (and across the flight direction). It can be shorter of actual item width.
- **Cargo footings** are own base elements of package which are directly places to ULD/shoring or another supporting surface.

Bottom layer of shoring is always must be longitudinally oriented along the aircraft centerline and flight direction. Therefore, ULD initially built for longitudinal loading and contains longitudinal shoring became a ULD with lateral shoring if finally planned to be loaded across the Main Deck - for example, on Main Deck of B757-200PCF or B767-300BCF (-BDSF) instead of Low Deck of B767-300BCF (-BDSF.

It is prohibited to load ULD in manner when bottom layer of shoring is oriented across the flight direction.

In case of item rotation, the length becomes a width and width becomes a length, what must be observed for appropriate loading limits check. *Refer to **Fig. 6.10.3.9***.

Additional restrictions must be observed for specific aircraft when build a ULD for loading to appropriate zones of Low Deck or Main Deck. *Refer to **Section 6.10.3.4 Part 6 GOCHM***.

Fig. 6.10.3.8. Example of long item with a short base part.

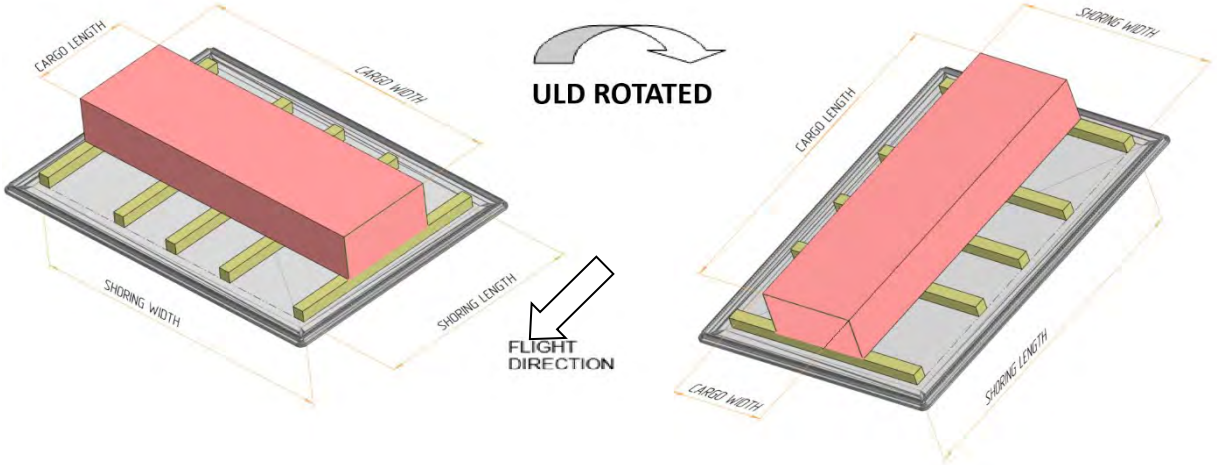


Fig. 6.10.3.9. Change of Cargo & Shoring Length & Width in case of ULD rotation.

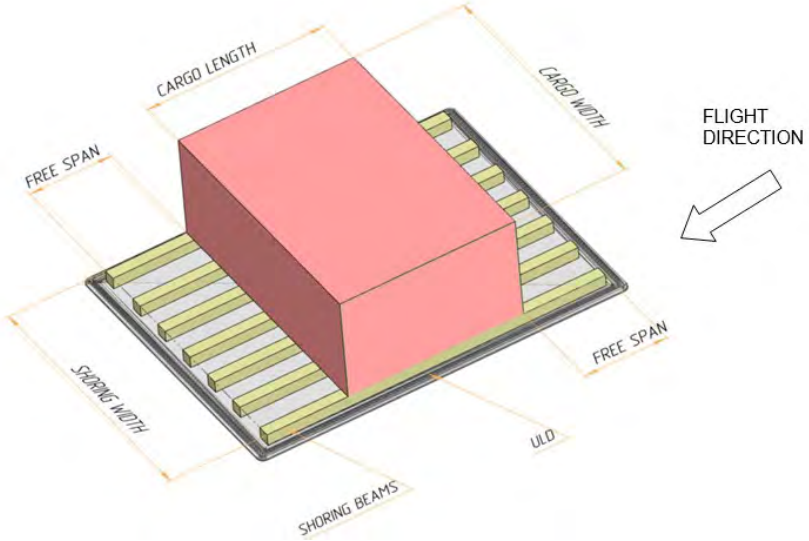


Fig. 6.10.3.10. Example of Longitudinal shoring.

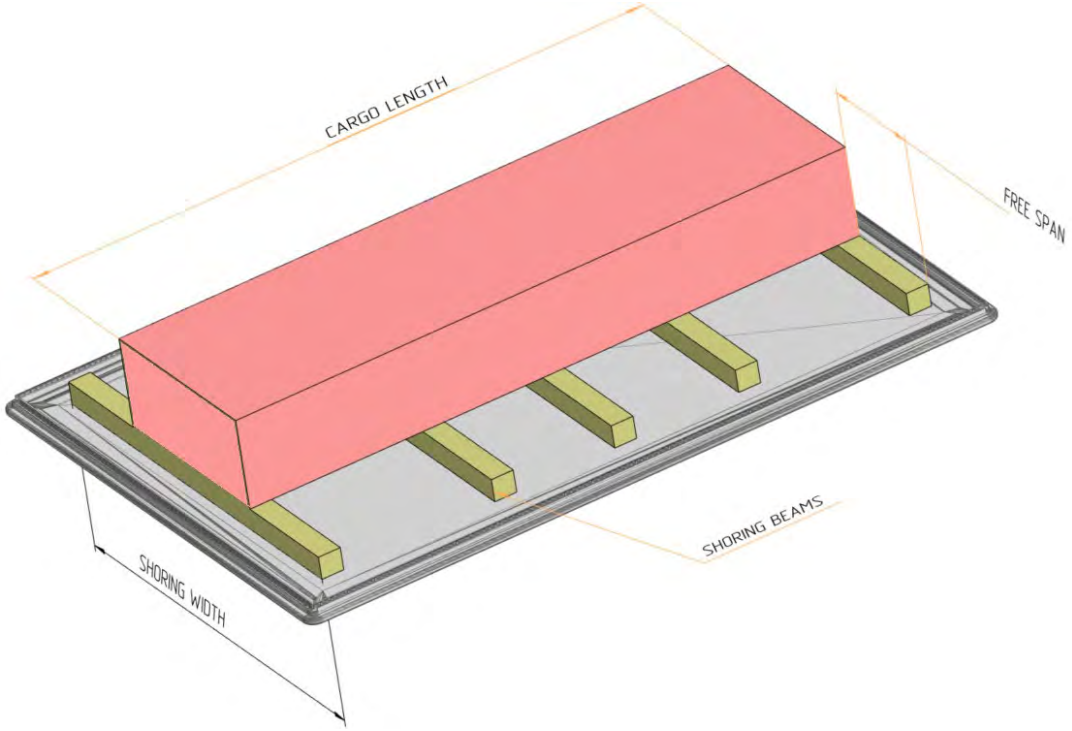


Fig. 6.10.3.11. Example of Lateral shoring.

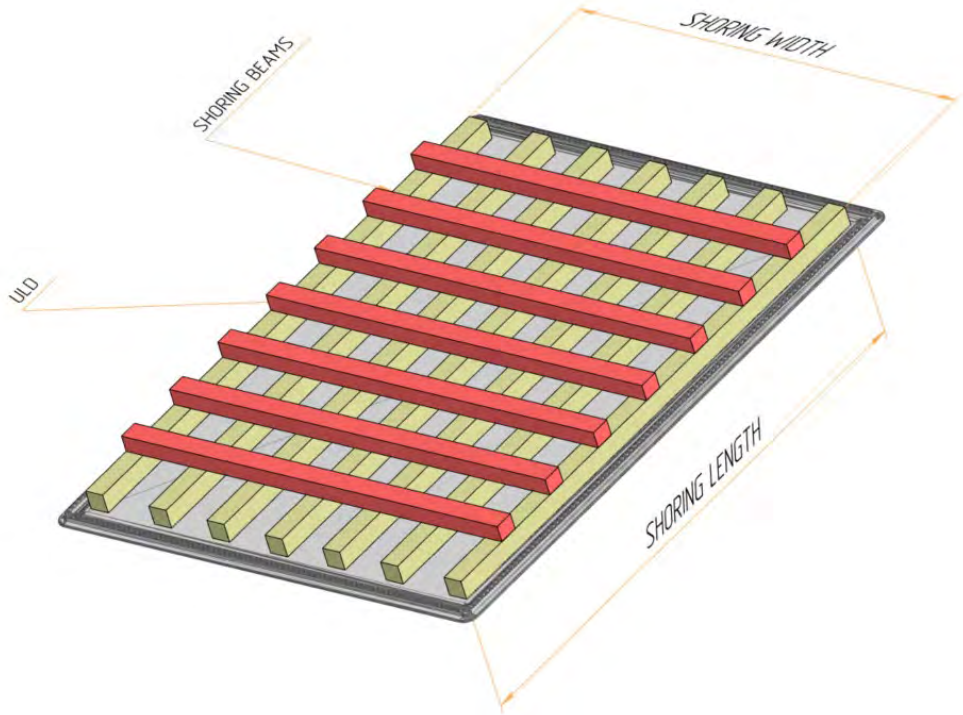


Fig. 6.10.3.12. Example of Combined shoring.

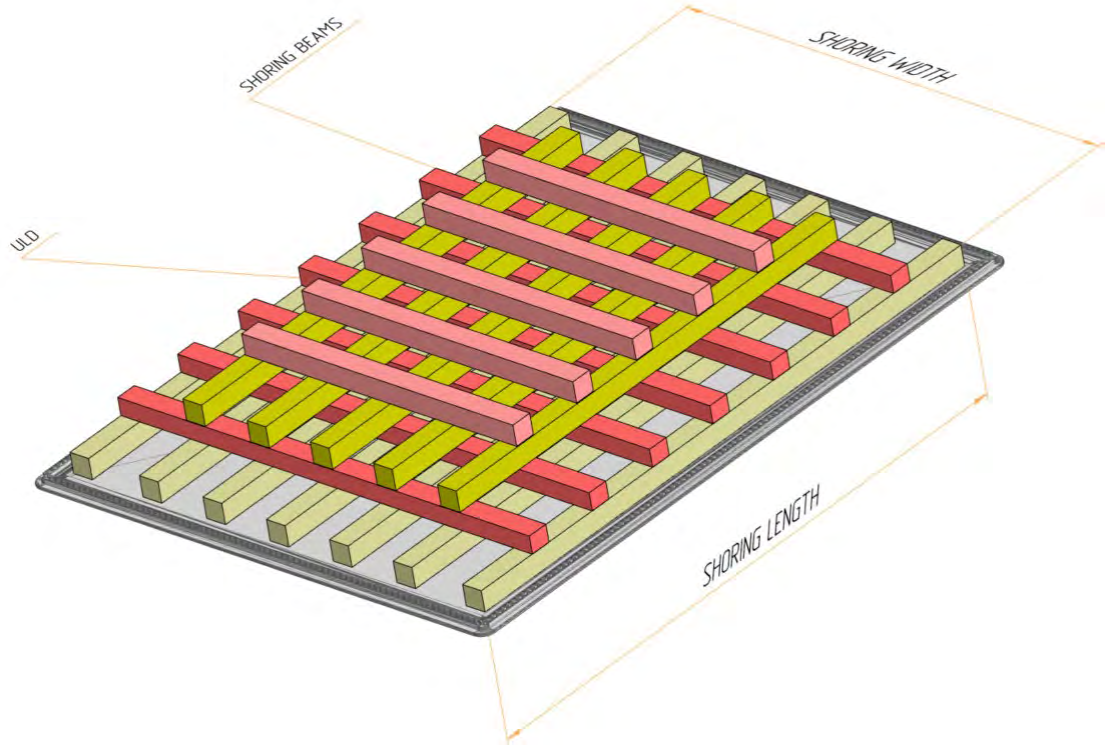


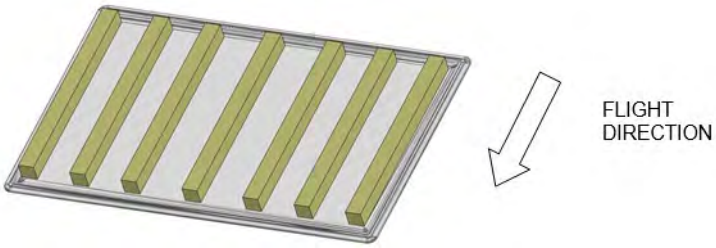
Fig. 6.10.3.13. Example of Pyramidal shoring.

Fig. 6.10.3.14. Example of Simplified shoring.

6.10.3.5 SHORING RESTRICTIONS FOR DIFFERENT AIRCRAFT

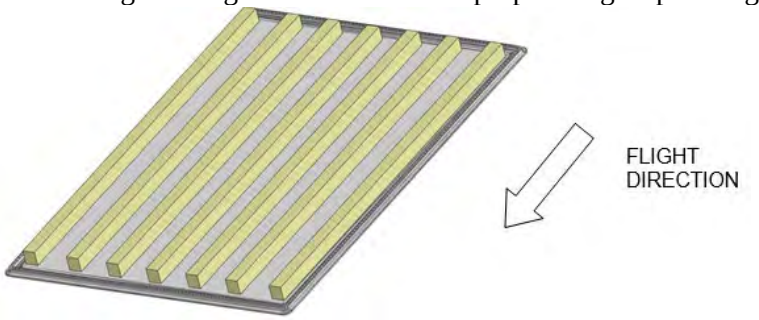
Freighter aircraft B767-300BCF (-BDSF) & passenger aircraft A330-343

Shoring for FQA pallets and other ULDs of sizes “Q” or “B” (planned for loading to FWD or AFT Hold) contains wooden beams must be oriented along the short side of ULD for proper weight spreading.

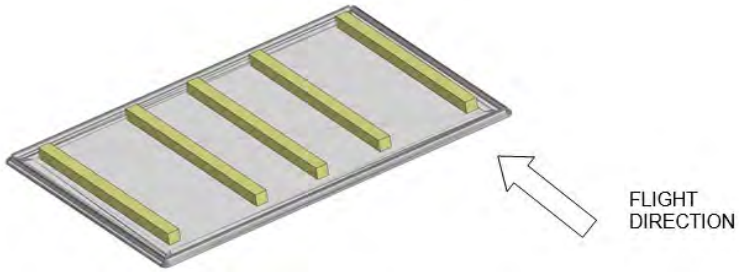


Shoring for A-size or M-size ULDs (planned for loading to FWD Hold (except UK67019) contains wooden beams must be oriented along the longest side of ULD for proper weight spreading.

Shoring for M-size ULDs (planned for loading to Main Deck as longitudinal centerloads) contains wooden beams must be oriented along the longest side of ULD for proper weight spreading.



Shoring for A-size or M-size ULDs (planned for loading to Main Deck as lateral centerloads) contains wooden beams must be oriented along the short side of ULD for proper weight spreading.

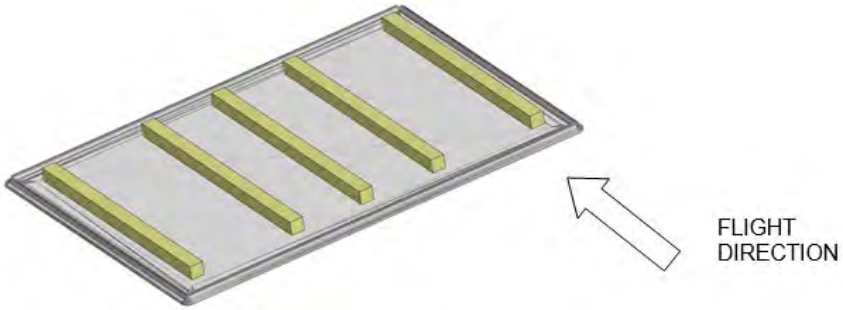


*Refer to **Part 4 GOCHM** to have information about ULD parameters.*

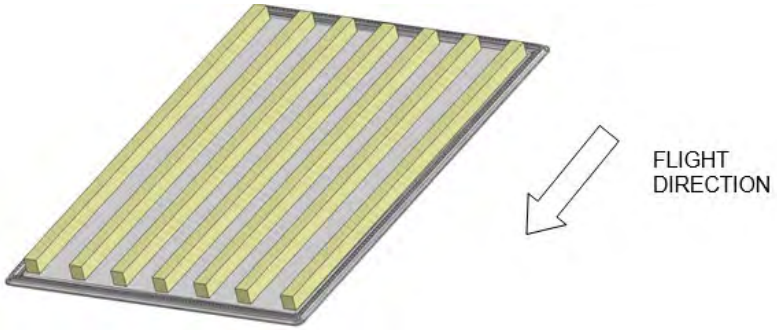
If wooden europallets are used as shoring, or any items are placed on europallets directly into cargo hold (for example, into Bulk section), bottom footings of europallet must be oriented in flight direction.

Freighter aircraft B757-200PCF & A321P2F

Shoring for A- or M-size ULDs (planned for loading to Main Deck as lateral centerloads) contains wooden beams must be oriented along the short side of ULD for proper weight spreading.



Shoring for A- or M-size ULDs (planned for loading to Main Deck as longitudinal centerloads) contains wooden beams must be oriented along the longest side of ULD for proper weight spreading.



*Refer to **Part 4 GOCHM** to have information about ULD parameters.*

If wooden europallets are used as shoring, or any items are placed on europallets directly into cargo hold (for example, into Bulk section), bottom footings of europallet must be oriented in flight direction.

Passenger aircraft A319, A320, A321

If any package (for example, metal crate with small wheels or barrel) is planned for loading to mentioned aircraft, wooden beams or plywood shields may be required to place heavy/short items or items with small footprint into the cargo hold.

Any shoring elements in bottom layer of shoring must be oriented in flight direction only.

If wooden europallets are used as shoring, or any items are placed on europallets directly into cargo hold, bottom footings of europallet must be oriented in flight direction.

6.10.3.6 GENERAL SHORING REQUIREMENTS

1. All shoring elements in one layer must be parallel and be same size and cross section.
2. Maximum distance between adjacent lateral or longitudinal elements of shoring (or shoring elements and own shipment footings, if applicable) in any layer must not exceed 20cm.
3. No cracks or holes or other kinds of deformation are allowed for shoring elements. All shoring elements must be free of damages.
4. Fumigation mark may be additionally required for wooden shoring by specific countries.

6.10.3.7 ACTUAL FLOOR LOADS & SHORING CALCULATIONS

1. Define actual dimensions of shipment base (length & width).
2. Make sure if distance between own shipment footings is ≤ 20cm. If more, add additional footings between own footings of shipment.
3. Calculate actual Linear Load, Area Load, Point Load, Point Load of shipment and compare with known aircraft limits to define, if shipment can be loaded to aircraft:
   - **Freighter aircraft**: any specific positions on Main Deck/in Low Deck or Bulk section.
   - **Passenger aircraft**: any positions in Low Deck or Bulk section.

$$Linear\ Load = \frac{Package\ weight}{Package\ Length}$$

$$Area\ Load = \frac{Package\ weight}{Square\ of\ package\ footings\ (base\ part)}$$

   Recommends to use expected ULD gross weight with shoring and shipment for these calculations. *Refer to* ***Section 6.10.3.1 Part 6 GOCHM*** *for reference*.
   For shipments planned to be loaded to left or right sides of Main Deck of freighter aircraft – define allowed Linear Loads on both sides of Main Deck according to the Unsymmetrical Loading Charts (*refer to* ***Section 3.11.3 Part 4 GOCHM***).

4. If any limit or several limits are exceeded, calculate **Minimum Required Length & Width** according to the next formulas:

$$Minimum\ Required\ Length = \frac{Shipment\ Weight}{Linear\ Load\ Limit}$$

$$Minimum\ Required\ Width = \frac{Shipment\ Weight}{Area\ Load\ Limit}$$

5. Once **Minimum Required Length & Width** are defined, calculate **Length Shortage & Width Shortage**:

$$Length\ Shortage = Minimum\ Required\ Length - Actual\ Length$$

$$Width\ Shortage = Minimum\ Required\ Width - Actual\ Width$$

6. Compare results of calculations with ***Table 6.10.3.6***.
7. If shoring solution is available according the ***Table 6.10.3.6***, use it (observe the limits described in ***Sections 6.10.3.1 – 6.10.3.6 Part 6 GOCHM***. Otherwise follow to instruction in Row 3 of ***Table 6.10.3.6***.
8. Mention actual Linear Load Peak for current ULD in UWS and CPM.

Table 6.10.3.6. Shoring solutions

LENGTH OR WIDTH SHORTAGE ▼	POSSIBLE SOLUTIONS ▼	
	WOODEN PLANKS 2.5cm THICKNESS OR MORE	WOODEN BEAMS (LENGTH 300cm FOR LONGITUDINAL SHORING & 200-230cm FOR LATERAL SHORING)
1-5 cm	1 layer	1 layer *
6-20 cm	-	1 layer *
21 cm and more	Request Head of Ground Operations Division or Head of Ground Operations Standards and Compliance Division about possible solutions.	

6.10.3.8 PARTICULAR CASES WHEN SHORING MUST BE USED

1. Cars and motorbikes.
2. Any other loads with wheels.
3. Heavy loads with small square of footings or base part.
4. Any loads with minimum number of footings and/or big distances between footings.
5. Any long loads exceed length of ULD.
6. Any loads potentially can damage aircraft floor or ULD surface due to the design of footings.
7. Any loads potentially able to press to ULD seattracks due to the dimensions and actual space utilization on current ULD.

6.10.4 TIE-DOWN TO ULD

6.10.4.1. GENERAL PROVISIONS

Any shipment on ULD must be secured against possible shift in any of 5 directions (Forward, Aft, Left, Right, Upward – regarding the flight direction). *Refer to* ***Fig. 6.10.4.1.1***.

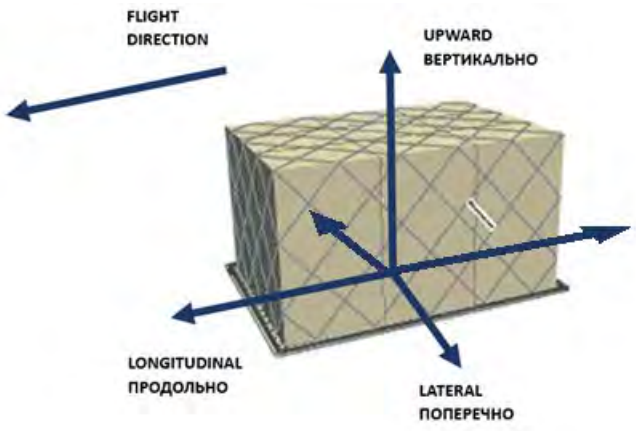


Fig. 6.10.4.1. Forces acting to shipment on ULD during the ground handling & flight operations

Shipment on pallets mostly secures by pallet nets (additionally it can be secured by straps). Straps as primary restrain (instead of pallet net) can be used for specific shipments which cannot be secured by pallet net (for example, non-packed helicopters or cars).

If straps are used as primary restrain, all pallet locks around the ULD must be serviceable and engaged, otherwise full tie-down of shipment and ULD to aircraft structure required.

6.10.4.2. STRAPS AND PALLET NET SERVICEABILITY

Pallet net serviceability:
Refer to ***Section 4.7 Part 4 GOCHM***.

Straps serviceability:

1. For loads tie-down on/in the ULD only certified tie-down straps, manufactured and tested according to the standard, are allowed (standard ISO 16049-1).
2. Straps must only be fitted with double Brownline fittings P/N 21035-54 with a minimum load of 2250 kg.
3. Hooks, fittings and straps rings must not be damaged or deformed.
4. Cuts, knots, oil or fuel contamination are not allowed.
5. The period of use of serviceable straps is 2 years from the date of production. Straps older than 2 years must not be used for any kind of tie-down.
6. It is allowed to use straps with double stud fittings for tie-down inside the container, if container is equipped by double stud fitting seattracks. Otherwise needs to use single stud fittings combined with straps with hooks.
7. For tie-down to ordinary fittings certified ropes or straps with hooks must be used.
8. The maximum load for certified strap is 2250kg.
9. When tie-down a load, straps of different types (for example, Kevlar and nylon) should not be mixed in order to avoid different loads due to different stiffness of materials.

6.10.4.3. TIE-DOWN REQUIREMENTS

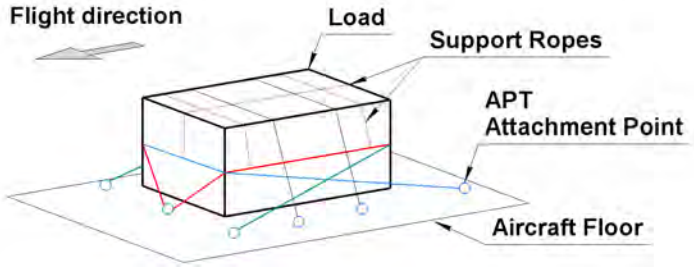
1. For loads tie-down on/in the ULD only certified tie-down straps (minimum capacity is 2250 kg) shall be used.
2. The usage of ropes, chains or non-certified straps for shipment tie-down is prohibited on all applicable ULDs.

3. Straps used for tie-down of shipment to ULD must be equipped by double stud fittings.

SINGLE STUD FITTING

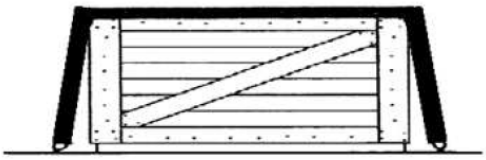
DOUBLE STUD FITTING

4. Any load tied-down to ULD must be restrained against shifts in any of 5 directions: forward, aft, left, right, upward. Quantity of straps (ropes) must be calculated separately for each direction.

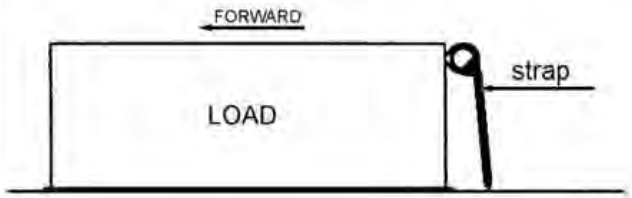


Example of package tie-down to ULD

5. A strap attached at one end to the ULD and at the other end to the load is called a **"direct strap"**. A strap fixed at both ends to the ULD and passed into the girth of the load is called an **"embraced strap"**.



Embraced strap



Direct strap

Embraced and direct tie-down

6. Tie-down straps/ropes must not deform or damage the secured load (package).

Example of wrong tie-down damages the load packing

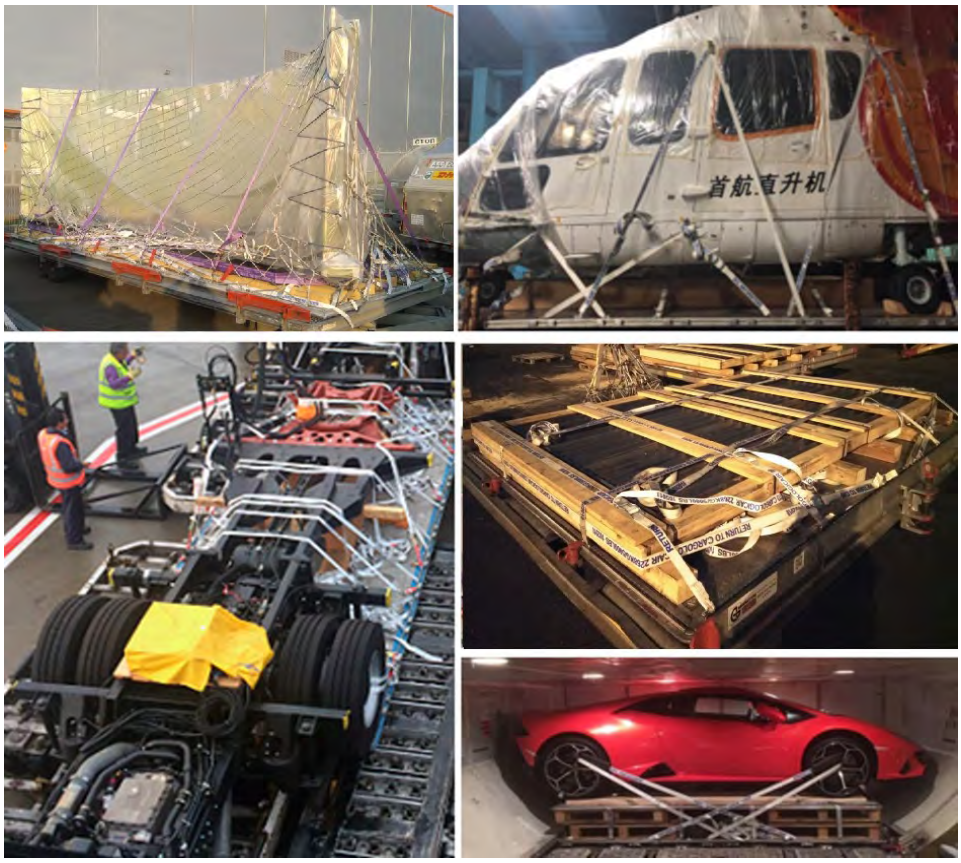
7. Normally straps/ropes embraces packed load itself, or attaches to approved parts of non-packed load (if it prohibited to embrace non-packed load by straps/ropes):
   - Rings (if installed) – for example, on heavy cars, aircraft engine stands, helicopters;
   - Rigid parts of construction – for example, on heavy machinery and aircraft engine stands;
   - Wheels or main frame rigid parts – for example, on heavy cars.

Good judgement requires to define appropriate part of non-packed load which is sufficiently rigid and safe for tie-down. Do not concentrate many straps against load shift in one direction on one part of

secured package – straps must be evenly distributed between several parts of package to prevent local overload and part damage/separation from load body.

8. Some complicated non-packed loads (for example, machinery or helicopters) require specific tie-down plan (and only specific approved attachment points on load body or rigid base part of load are allowed to be used for tie-down). Consult regarding the tie-down with shipper and Head of Ground Operations Division before tie-down arrangement of complicated and valuable loads (machinery, helicopters, cars, etc.).

   Sometimes it may be required change of actual configuration of some complicated non-packed loads before air shipping (and sometimes installation of additional tie-down rings on load) in some specific cases.



Examples of tie-down of complicated loads

9. If outer package of heavy load is not fully contacted with load inside and is too weak to resist a stress occurred during the flight (so can be broken by straps or pallet net), tie-down directly to load inside is required. In specific cases it means full removing of outer package, which must be discussed with shipper prior to tie-down. This question must be escalated to Head of Ground Operations Division of airline. Example – heavy machinery item inside a weak wooden frame or crate.

Weak external packing of heavy load

Same heavy load after removal of external packing

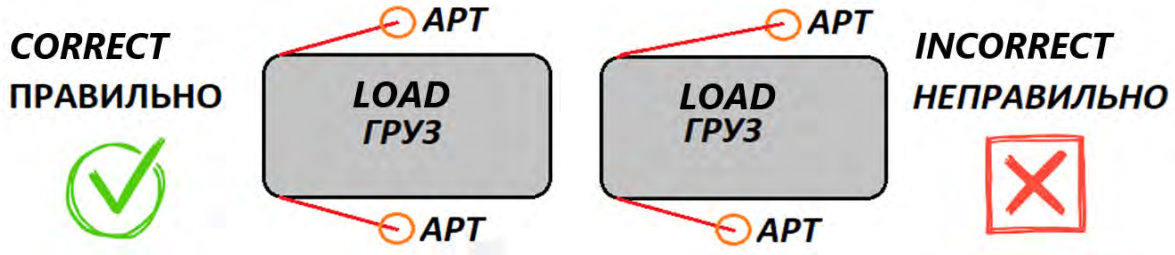
Heavy non-packed load with external weak wooden package

10. Strap must not be blocked and/or curved by hook contacts with aircraft structure or any other obstacle (for example, pallet net or other straps). Strap must as direct as possible (with minimum curves).

Example of incorrectly positioned strap
(hook stacked in wrong position during the strap tension)

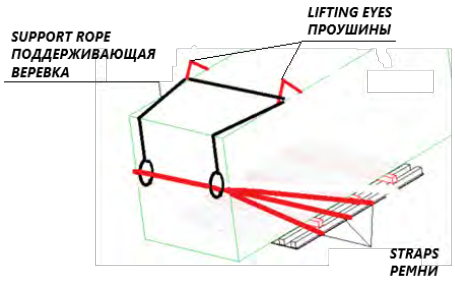
Example of wrong strap installation on load

11. Total weight of load and shoring material (if used) must be used to calculate tie-down plan for loads placed to ULD and located anywhere in cargo holds.
12. Tie-down straps and ropes must be tightened. Loose/weak straps and ropes are not allowed.
13. Position of straps secured load against shift in any direction must be symmetrical as much as possible for all directions (to avoid uneven load to any straps during the flight operations). Doesn't matter if it ends of one strap or different straps on both sides of load – tie-down must be symmetrical.

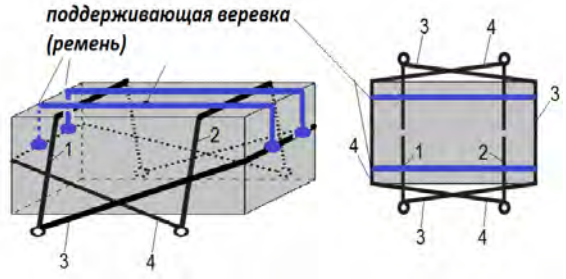


Symmetrical (correct) tie-down ***Non-symmetrical (wrong) tie-down***

14. Straps must not slip or fall from the load. If necessary, use support straps, or thread the straps through the structural elements of the load (wisely choosing suitable elements and taking into account the position of the center of gravity of the load). If load is also secured by pallet net, it allowed to pull the straps through the net, but strap must have no curves.



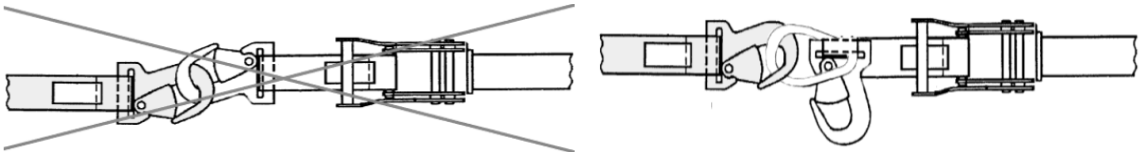
“Supporting” ropes or straps



“Supporting” ropes or straps

Supporting ropes

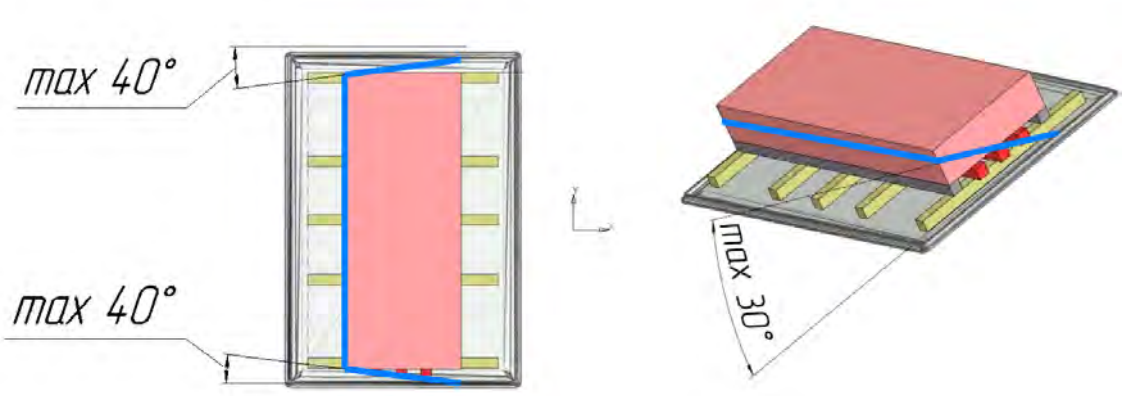
15. When connecting straps with hooks into one longer strap, it is forbidden to connect the straps using the “hook-in-hook” method or by knots or by another method. Only hook-to-ring connection is allowed.



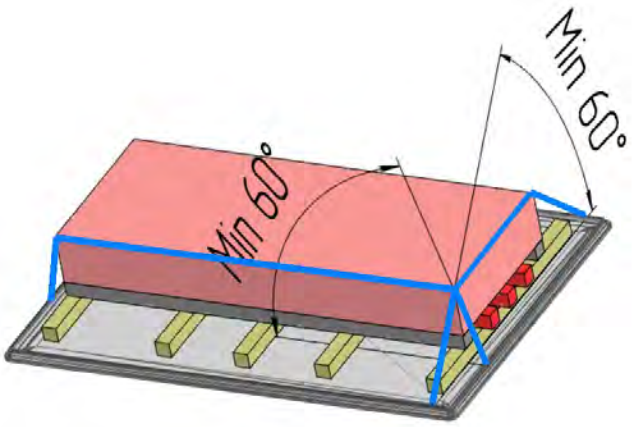
Wrong and correct connection methods for straps with hooks

Straps connection

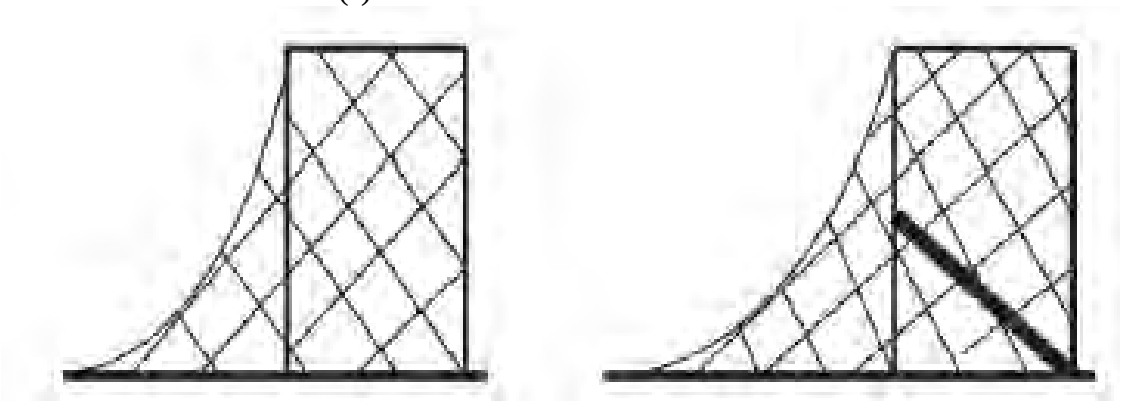
16. Angle between strap and restrained direction must not exceed 40 degrees for straps restrains shipment against possible shift in Forward, Aft, Left or Right directions. If angle between straps and floor is more 40 degrees, capacity of single embraced strap must be reduced to 2 times (so needs 2 times more straps to secure shipment on ULD).



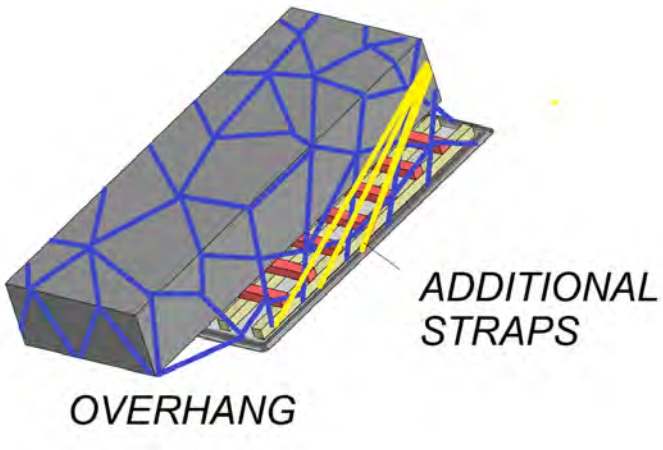
17. Angle between strap and floor must be in range 60-90 degrees for straps restrains shipment against possible shift in Upward direction. If angle between straps and floor is less 60 degrees, capacity of single embraced strap must be reduced to 2 times (so needs 2 times more straps to secure shipment on ULD).



18. Minimum 50% of tie-down straps must embrace shipment on same level where Center of Gravity is positioned.
19. If the load is unevenly distributed under the net so that there is free space on one side and there is a danger of the load moving in its direction(s), then the load must be additionally secured against movement in that direction(s).



20. If the load positioned on pallet with one side overhang (or both sides overhangs of different lengths) and secured by pallet net, it must be additionally secured by straps against possible shift in side without overhang (smallest overhang).



21. Long and narrow loads potentially able to pierce through the pallet net must be additionally secured by shields on both ends (stopped by additional straps). Same requirement is applicable to high and narrow loads potentially able to fall under pallet net during the air shipping or ground operations.

Examples of shields on ends of narrow loads / shields for load stability

22. Wooden shields (for example, plywood) must be placed on top of round items (for example, barrels) for proper tie-down.

Examples of barrels tie-down

23. Human remains in coffins (IMP-code HUM), live animals in hold (IMP-code AVIH) and any other items potentially able to be damaged due to the shift on ULD or damage aircraft structure and other shipments around during shift – must be additionally secured on ULD by straps (even if pallet net is used and correctly engaged).

24. Minimum distances between straps fittings mentioned in ***Section 6.10.4.4 Part 6 GOCHM*** must be observed.

6.10.4.4. CAPACITY OF STRAPS SECURED SHIPMENTS ON/IN ULD

Follow to ***Tables 6.10.4.2A, -B, -C (each for appropriate aircraft)*** when calculating the minimum quantity of straps to secure the load to ULD on any passenger or freighter aircraft (able to carry ULDs in Low Deck / on Main Deck).

NOTE – to calculate shipment tie-down **to aircraft structure** follow to provision of ***Part 8 GOCHM***.

Table 6.10.4.2.A. B767-300BCF (-BDSF): Max Loads for straps secured load on ULDs

ULD position onboard of B767-300BCF (-BDSF)	Restrained Direction	Max Load per embraced strap	Minimum spacing between fittings (+/-3 inches) when fittings are used in the same direction	Minimum distance from pallet corner to first belt (+/-3in)
All MAIN DECK positions	FWD/AFT	600	55 cm (22 inches)	41 cm (16 inches)
	RIGHT/LEFT	425		
	UPWARD	520		
FWD Low Deck Hold	FWD/AFT	1000	55 cm (22 inches)	41 cm (16 inches)
	RIGHT/LEFT	1000		
	UPWARD	750		
AFT Low Deck Hold	FWD/AFT	1000	55 cm (22 inches)	41 cm (16 inches)
	RIGHT/LEFT	1000		
	UPWARD	600		

Table 6.10.4.2.B. B757-200PCF: Max Loads for straps secured load on ULDs

ULD position onboard of B757-200PCF	Restrained Direction	Max Load per embraced strap	Minimum spacing between fittings (+/-3 inches) when fittings are used in the same direction	Minimum distance from pallet corner to first belt (+/-3in)
All MAIN DECK positions	FWD/AFT	500	55 cm (22 inches)	41 cm (16 inches)
	RIGHT/LEFT	400		
	UPWARD	500		

Table 6.10.4.2.C. A330-343: Max Loads for straps secured load on ULDs

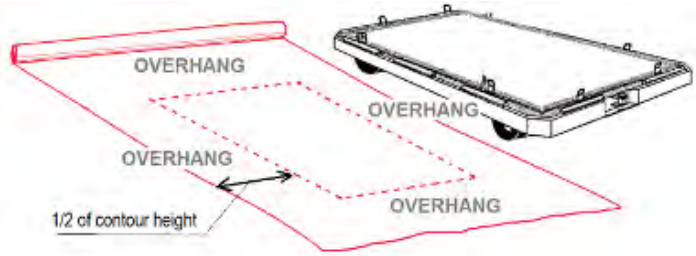
ULD position onboard of A330-343	Restrained Direction	Max Load per embraced strap	Minimum spacing between fittings (+/-3 inches) when fittings are used in the same direction	Minimum distance from pallet corner to first belt (+/-3in)
All MAIN DECK positions	FWD/AFT	500	55 cm (22 inches)	41 cm (16 inches)
	RIGHT/LEFT	400		
	UPWARD	500		

6.10.5 BUILD-UP ON A PALLET

Before starting the assembly, it is necessary to check the pallet and the grid for serviceability, according to section 2 IATA ULDR.

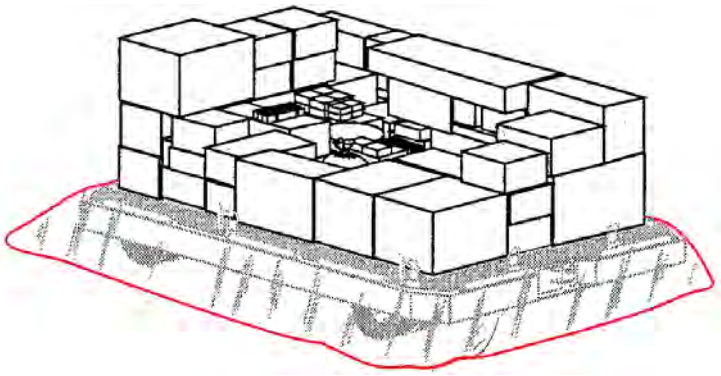
ULDs must be placed on the appropriate basis for ULDs in accordance with IATA AHM 911.

Before starting assembly on ULD it is necessary to put a layer of polyethylene film with projections on all 4 sides. The protrusions should be approximately ½ of the height of the contour of the load. In the case of picking dangerous goods, it is necessary to use only a transparent film.



For each piece of cargo, it is necessary to check the need to use shoring material and the need for tie-down.

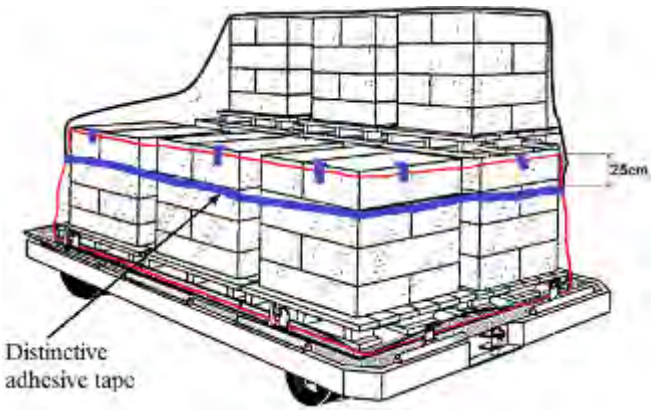
Cargo that requires load shoring and/or tie-down should be placed on the first layer. If necessary, lay shoring material to distribute the load and/or secure with straps.



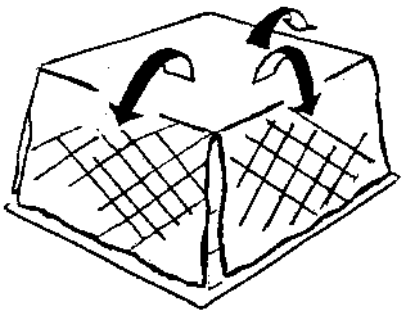
Packages and boxes with cargo must be stacked in a way to prevent their possible shift or deformation. Smaller packages should be placed "inside", larger ones "outside".

Each piece of cargo should be placed as evenly as possible to each other, so that the load does not slip or move.

Attach the bottom layer of polyethylene film to the sides of the pallet and fix it with adhesive tape. Prepare the top layer of film. The top layer should be large enough to allow a 25 cm overlap with the bottom layer on all four sides. Place the top film over the load and over the bottom film. Fix the corners and connect the top and bottom layers of the film with adhesive tape.



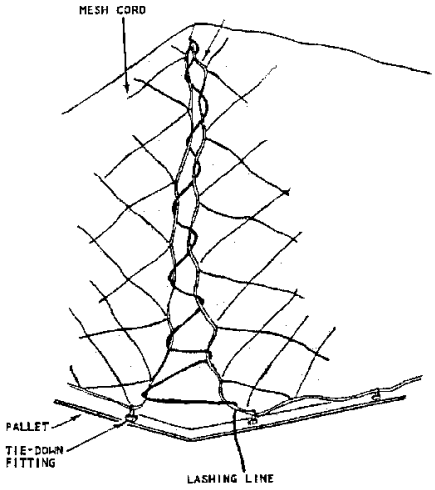
The pallet net must be placed on the top of the pallet, placing the edges of the net on all 4 sides of the pallet. The net must be attached to each side of the ULD base using fittings. The short sides of the net (88" or 96") have 4 double fittings, the long side (125") has 5 double fittings. Fittings must be evenly spaced.



It is necessary to fix the net with the adjusting hooks. Pull each hook as tight and as high as possible.

It is necessary to take the free end of the corner rope on the net and, starting from the upper end, tie 2 adjacent edges of the net together. The rope must pass through the corresponding cells on the net and be tied with a knot at the lower end. The rope must pass through the net so as to completely close the corner.

Stretch the net so that the tension on each side is the same and sufficient to secure the load, while not allowing the edge of the pallet to bend upwards.



Net Tension Estimation Method:

- Stretch the net with one hand in the center on one side to see if there is equal tension on the other sides.
- Adjust the tension so that when the net is pulled away from the load, the distance between the net and the surface of the load is between 50 and 75 mm. Make sure the edges of the pallet are not curled up.
- Ensure that the pallet net does not hang over the contour of the pallet as it could snag on ground equipment or the aircraft floor control system.

Pallet tag shall be filled and attached to each built-up ULD.

Water can cause corrosion and damage aircraft electronic equipment. Therefore, in case of precipitation at the station where the cargo is assembled or at the transit station, the following actions are required:

- During rain or snow, the cargo on the pallet must be covered with an additional layer of polyethylene film located above the pallet net.
- It must be ensured that the additional plastic sheeting is attached to the cargo or ULD so that it cannot be blown away by the wind.

6.10.6 PREVENT LOAD CONTOUR CHANGES

Changing the contour of the load can be dangerous, as the load may move under the net and damage the aircraft structure, or injure the operating personnel. The pallet net may not be sufficient to guarantee cargo is secured if:

- there are too many (usually more than 8) layers of stacked cargo on the ULD;
- soft cargo is present, such as textile bales, etc.

In this case, additional means of protecting the load from shifting must be used in accordance with one of the methods described below:

— Use of additional straps that form a triangle shape to resist possible net deformation: before installing the net, fasten the straps with the maximum available tightening in the horizontal direction, so that they cover half and two thirds of the load. In the event that small and medium-sized cargo packages are not stacked using the brickwork principle, it is necessary to install wooden planks at the corners of the pallet before the net is installed.

— If packages with cargo tend to deform or slide over each other, then they must be fastened with straps or connected with packing film.

— When stacking soft goods such as sacks, textile bundles, etc., an interlayer in the form of plank, plywood or wooden pallets must be inserted between layers of soft goods or loads in more rigid packages.

6.10.7 CARGO BUILD-UP IN A CONTAINER

The container must be checked for serviceability before build-up.

Heavy loads should not be loaded into a container. When performing a build-up of a load with sharp edges and/or corners, care should be taken not to deform or damage the container during loading.

The container door has an important function, on a certified ULD, it must be capable of withstanding heavy flight loads in addition to holding the contents inside the container. When performing a build-up of cargo into a container, the cargo must be stowed in such a way that it does not fall out of the doorway of the container. When closing the container, container door must not protrude beyond the doorway. The cargo should be assembled into the container in such a way that it does not fall on the door during the flight, as this may cause the door and the cargo to go beyond the contour of the container.

The container door must be closed and secured. The door locks must be fully engaged and the door fully closed. The container door should close normally, without using excessive force - and in case the door does not close easily, then the cargo stowage in the container should be rechecked.

The use of any non-standard solution for closing and securing the container door is prohibited.

In case of precipitation, the container placed for storage outside the warehouse or under the side of the aircraft must be covered with polyethylene film.

The outer packing of the container in polyethylene film (all sides) is acceptable if:

— Packing materials do not obscure important information on the container and its tag;
— Any plastic used to pack the container complies with the burn rate and other requirements of FAR CS25 Appendix F, ISO 16412.
— Packing materials do not hide damage to the container (as this may affect flight safety).

The pallet tag must be issued and placed in a special pocket on the container wall.

The necessity of tie-down the cargo inside the container must be checked in accordance with the requirements described below.

Tie-down inside a bulk container or hold is mandatory if:

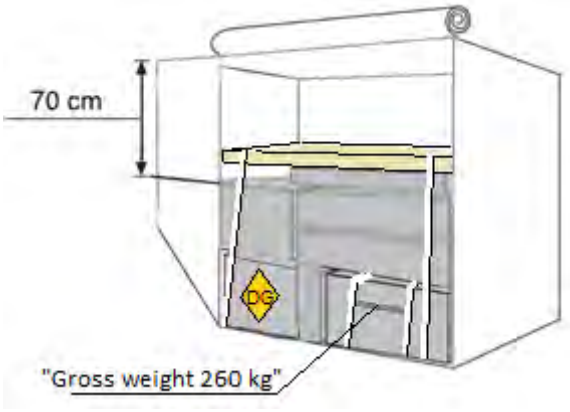
- Bulk container or compartment not fully filled with cargo - then containers of liquid, powder or gel marked "This way up", shock and tilt sensitive cargo should be tied-down.
- A container or bulk hold is not completely filled with cargo but contains dangerous goods – in which case the entire cargo must be tied-down.
- Heavy items (weighing more than 150 kg) in a container or bulk hold must be tied-down individually in any case.

A container or compartment for bulk cargo is a fully filled cargo if:

- Entire floor area occupied by cargo (free floor area less than 1 square foot);
- A bulk container or compartment is filled with cargo to a height of 16 inches (40 cm) below the ceiling (consider the distance between the ceiling and the top of the lowest package).

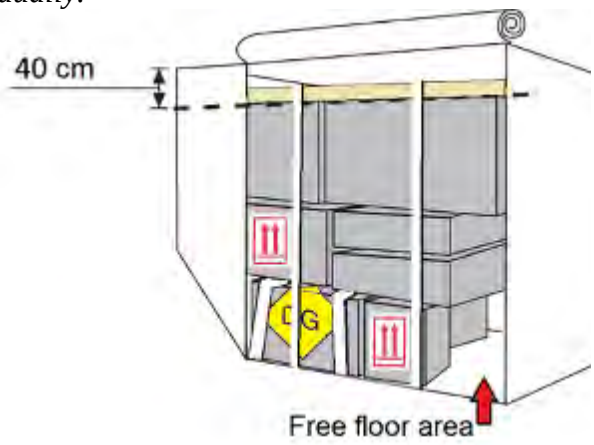
Example 1:

The container is not completely filled with cargo because the distance between the ceiling and the top of the lowest package is 70 cm. All packages must be tied-down.



Example 2:

The container is not completely filled with cargo because there is a large free area on the floor. All packages must be tied-down inside the container. The DG package must be tied-down individually.

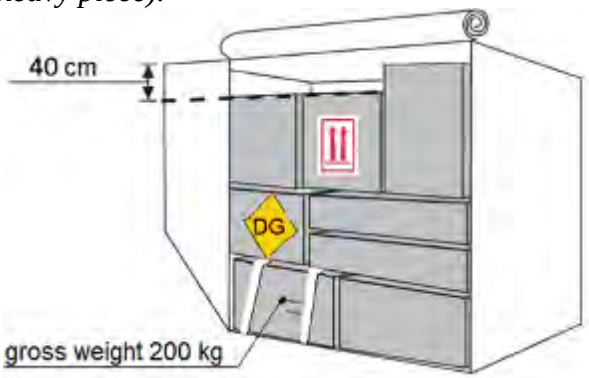


If you want to tie-down all cargo in a container or bulk hold, use the following instructions:

- Distribute the load so that the surfaces of all packages are at the same height.
- Place support boards or wooden platforms on top of all packages.
- Lay tie-down ropes or straps on all boards or platforms and secure them to the attachment points.
- Heavy pieces must be tied individually. If this method is not possible, it is necessary to tie (secure) each individual piece of cargo individually with ropes or straps.

Example 3:

The container is completely filled with cargo. It is not required to tie-down all packages (except for a heavy piece).



6.10.8 REQUIREMENTS TO ULD WEIGHING EQUIPMENT AND PROCEDURE

This chapter describes the methods to be used to ensure that all ULDs are effectively and accurately weighed before being loaded on board an aircraft in accordance with civil aviation regulations (ICAO Airworthiness Manual, Part IV and Annex 6, Part I, Air Operator Certificate, Part E, Mass and Balance Control, AHM 534, 540, 580, 581).

It is important to always keep in mind that ULD weighting is required to calculate the final balance of the aircraft. This is an important safety parameter.

For weighing equipment performance, see current edition of IATA ULD Regulations OS 6/05.

6.10.8.1 BASIC WEIGHING PROCEDURE

All ULDs (loaded with cargo or mail), mail, baggage, bulk cargo must be weighed prior to being loaded onto the aircraft.

Under no circumstances should ULDs or mail/baggage/bulk cargo be loaded onto an aircraft without being weighed.

The ULD tag must be affixed to the ULD prior to weighing, and the weight reading from the scale must be immediately noted on the ULD tag at the time of weighing by trained and qualified personnel.

When weighing mail/baggage/bulk cargo, an individual tag is used for each transport trolley, which indicates the weight of the cargo/baggage/mail placed in the trolley.

The scale or equivalent equipment (if the scale function is integrated into other handling equipment) must provide a minimum accuracy of ± 1% of the measured gross mass.

Note: *1. Modern electronic weighing equipment based on the use of load cells, when properly installed, calibrated and used, usually provides much greater accuracy.*

2. National or local laws may require greater accuracy in which case they shall prevail.

6.10.8.2 ALTERNATIVE WEIGHING PROCEDURE

General cargo

ULDs loaded with cargo should normally always be weighed, and only in exceptional cases where the scales required to weigh the complete ULD are not available, the following alternative procedure may be considered:

— Weigh on small weights each piece of cargo, which is planned to be loaded onto the ULD, individually;
— Places of cargo should be marked accordingly, so that it is possible to carry out a control check before loading;
— Make a record sheet to add up the individual weights;
— Add the weight of the empty ULD, tie-down straps and shoring material (if used).

The cargo lists identifying each ULD must be submitted by the Ground Handling Agent to the airline’s Ground Operations and Handling Department in the form of a written application (UWS or Loading List) and kept on file with the voyage.

Bulk (loose) cargo

To determine the weight of a bulk load, one of the following alternative procedures can be used:

— Weighing the loaded trolley (the weight of the trolley must be subtracted from the result).
— Weighing and summing the weights of individual pieces of cargo that will be loaded onto the trolley.

Specific weights must be entered in the trolley tag. Weight records on the trolley must be confirmed by the signature of the person responsible for weighing.

Load lists identifying each cart must be submitted by the Ground Handling Agent to airline’s Ground Operations and Handling Department in the form of a written application (UWS or Load List) and kept on a flight file.

Oversized and heavy cargo

The cargo is usually weighed at the time of acceptance or build-up. Only in exceptional cases where the weight and/or dimensions of the package exceed the available capacity or/and the agent's capacity, the following alternative procedure may be considered:

— The weight must be determined elsewhere under the supervision of a handling agent, or person designated by the airline.
— A certified and calibrated truck scale or a weighing crane may be used, in which case the air waybill must be signed by the cargo handling agent or any person designated by the airline and presented to the acceptance area along with the appropriate consignment.

6.10.8.3 WEIGHING EQUIPMENT, SCALES

All scales used to determine the weight of cargo/mail must be maintained and calibrated in accordance with the manufacturer's instructions or country law, whichever is more stringent.

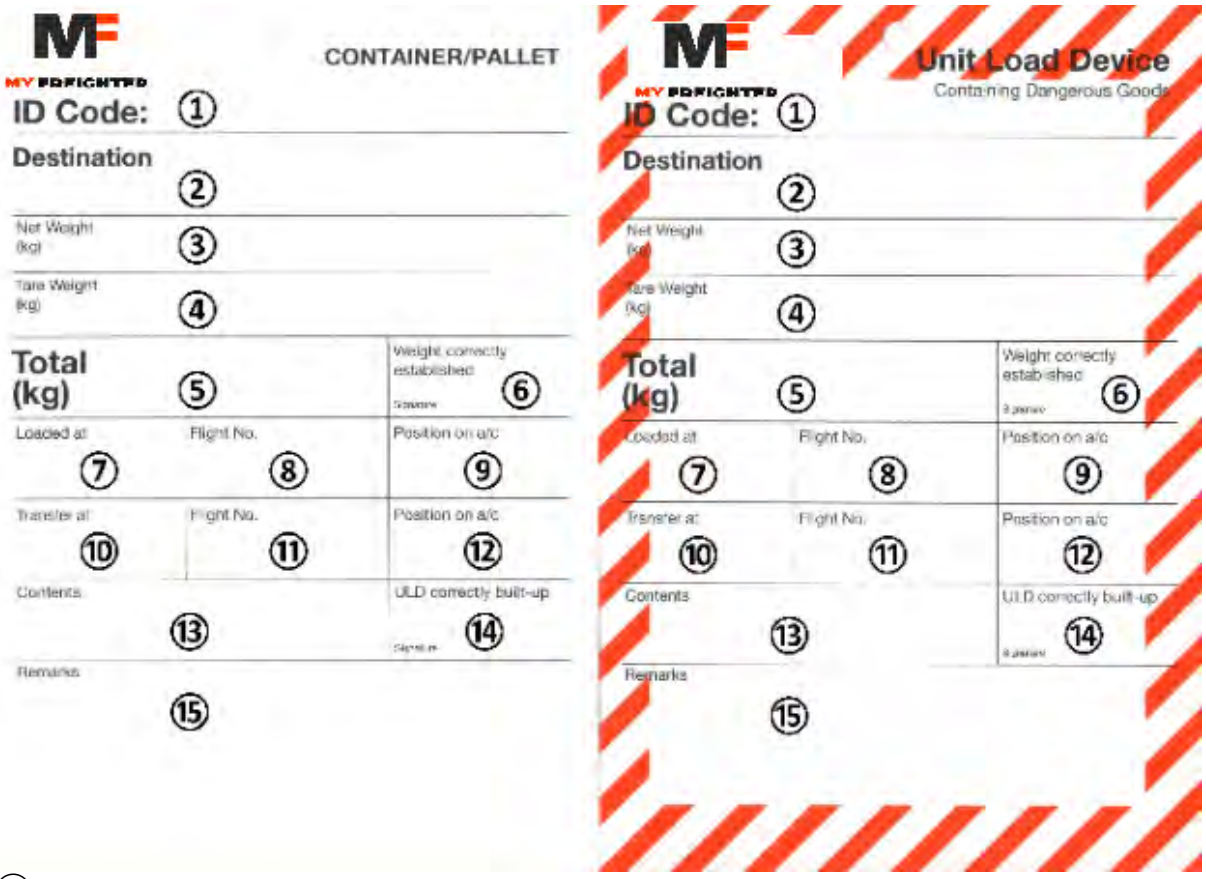
The equipment shall be accurate to ±1% of weighed load. The accuracy of all scales used to determine the weight of a load must be checked against a known weight at least every three months. Quality checks

must be carried out at least once a year, and after each repair, or in accordance with local regulations. The results of all verifications must be recorded in the journal.

6.10.8.4 PALLET/CONTAINER TAG

The pallet/container tag must be completed, signed and securely attached so that it can be seen. Only a trained specialist can fill out and sign the tag.

— For baggage a tag with black lettering and a red slash on a white background;
— For dangerous goods, a tag with red strokes along the edges, filled in with black letters, is used;
— For unserviceable units an orange tag filled with black letters;
— For other loads and empty pallet stacks - a white tag with black letters.



①IATA ID code ULD
②3-letter code of airport of unloading
③Net weight (kg) - if necessary
④Weight of empty ULD (kg) - if necessary
⑤Gross weight (kg)
⑥Signature of person responsible for weighing
⑦3-letter code of the airport of departure
⑧Date and flight number
⑨Position on board the aircraft - if necessary
⑩3-letter airport code in case of transfer
⑪Date and number of connecting flight (only for transfer cargo)
⑫Position on the aircraft (for transfer cargo), filled in by the agent at the transfer station - if necessary
⑬Cargo category code, for example, C - cargo, M - mail
⑭Signature of the person responsible for the assembly
⑮Remarks, notes about the nature of the cargo, etc.

The following requirements must be considered when issuing a tag:

- Size A5 (148 × 210 mm). For general cargo, A6 size tags are acceptable.
- The tag must be resistant to moisture or be placed in a transparent film that provides protection from precipitation.
- The tag must be attached on the long side of the pallet, on the beveled side. On the container, the tag should be located in a special pocket.
- On an empty container, the tag must be marked with an "X" ("X" = symbol for empty).
- Old tags should be removed immediately after unpacking the ULD.

6.10.8.5 PALLET/CONTAINER TAG FOR USERVICEABLE ULD

If an unserviceable ULD is found, then it should not be used for cargo build-up. It must be sent for repair and tagged DO NOT USE “DAMAGED” (see below).

For instructions on sending a damaged ULD for repair, notify the supplier of the ULD with the type and number of the ULD and details of the nature of the damage (with photographs if necessary).

6.11 PERISHABLE CARGO

Perishable shipments on MyFreighter cargo flights can only be transported upon approval from Ground Handling Operations Department.

6.11.1 GENERAL REQUIREMENTS AND DEFINITIONS

Perishables are any goods which when not maintained within certain conditions, elements or other criteria as defined by their life cycle, loose their inherent properties or essential quality components thereof and as a consequence can no longer perform as originally intended.
Transportation of Perishable cargo must be based on current edition of IATA Perishable Cargo Regulations (PCR).
Generally, during air transportation the following factors must be considered maintained:

- Temperature regime;
- Segregation requirements.

6.11.2 SHIPPER AND OPERATOR RESPONSIBILITIES

The shipper is responsible for:

- Declaring all details to the shipment, based on requirements at origin, transit and destination;
- Obtaining any permit or certificate in advance as regards to import/export/transit/quarantine or health certificate, including CITES;
- Proper packaging to never jeopardize packaging integrity, crew safety and personnel under normal transport and handling conditions;
- Proper marking/labelling and documentation.

The carrier is responsible for:

- Sufficient space on flight;
- Special handling (segregation) and temperature control if requested by shipper.

6.11.3 TRAINING REQUIREMENTS

All staff of Ground Operations and Handling Department that is involved in perishable cargo transportation must be trained internally in “Special Cargo Handling” course.

Considering nature of product and necessity of full awareness of operational staff initial and periodic training relevant to working tasks is required. Training must be documented to ensure personnel are proficient in their specific job functions and responsibilities. Periodic training is performed once in 24 months.

6.11.4 TYPES OF PERISHABLES

There are some types of perishables, which can be offered for transport:

Types	Commodities	Recommended temperature regime[1]	Special handling code
Fruit and vegetables	Strawberry, raspberry, blueberry, blackberry, cherry, lychee, kiwi, persimmon, apricot, nectarine, peach, plum, fig, cantaloupe melon, pomegranate, orange, clementine, coconut, pear, apple. Asparagus, cabbages, grapes, sugar snaps, snow peas, green pea, green onion, broccoli, lettuce, beetroot, celery, cauliflower, mushrooms, spinach, brussels sprouts, carrot, leek, fennel.	COL	PEP
	Banana, baby banana, cherimoya, ginger, kiwano, jackfruit, honeydew melon.	CRT	PEP
	Mango, papaya, lime, carambola, avocado, lemon, grapefruit, cactus pear, guava, pineapple, passion fruit, mangosteen,	ERT	PEP

	gallia melon, pitaya, physalis, rambutan, tamarillo, watermelon, cranberry.		
Fresh (cut) vegetables and fruit, herbs, and prepared salad	Broccoli florets, cabbage, carrot, celery, garlic, kale, lettuce, mushroom, pepper, spinach, tomato, apple watermelon, kiwi.	COL	PEP
Spices and dried herbs	All spice, anise seed, basil, bay leaves, capsicum spices, caraway seed, cardamom, celery seed, cinnamon, cassia, cloves, cumin, coriander, dill seed, fennel seed, fenugreek, ginger, mace, marjoram, mustard seed, oregano, parsley, rosemary, pepper, saffron, sage, savory, tarragon, thyme, turmeric.	ERT	PER
Cut flowers and florist greens	Carnations, gypsophila, roses, etc.	COL	PEF
Tropical flowers and potted plants	Scheffleras, Fittonias, etc.	CRT	PEF
Meat and meat products		COL	PEM
Eggs		COL	PER
Hatching eggs	Fertile chicken eggs	ERT	HEG
Fresh seafood	Whole fish, Fillets, Shellfish, Processed Seafood	COL	PES
Life seafood[2]	Lobsters, crabs, crayfishes, mussels, oysters, conch, scallops, mollusks	COL	AVI
Frozen seafood		FRO	PER, PES
Other seafood products	Dried fish, pickled fish, other canned or preserved products (bacalao, pickled herring, caviar), etc.	No temperature regime is required	PER, PES
Dairy product and cheese	Cheese	COL	EAT PER
Baked goods and confectionary	Breads, cakes, cookies, croissants, pastries, pies, dough, chocolates, candies, honey, maple products.	Given by shipper	PER EAT
Cosmetics products	Make up, skin and hair products, perfumes, soaps, creams, lotions	Given by shipper	PER
Pharmaceutical Products[3]	Drug products, biological products, medical devices, Nutritional (dietary) supplements	Given by shipper	PIL
Other temperature sensitive loads[4]	ASML/semiconductors, etc.	Given by shipper	PER

1. Temperature range is always set by the Customer.
2. Live seafood must be transported as live animals under LAR requirements.
3. Pharmaceutical goods must be handled as PIL and regulated by Part 6, p.6.12.
*4. Other temperature sensitive loads include **hunting trophies**, which are marked with **PEA** code.*

In case when shipper offers to transport perishables with temperature requirements, following codes must be used in addition to main code:

Code	Common description of temperature regime	Temperature range or limit
FRO	Keep frozen	-10°C or colder
COL	Cooled goods	+2°C to +8°C
CRT	Controlled Room Temperature	+15°C to +25°C
ERT	Extended Controlled Room Temperature	+2°C to +25°C

6.11.5 PACKAGING REQUIREMENTS

The shipper must ensure to provide the appropriate packaging based on the individual characteristics of the perishable commodity and the transportation solution. Packaging must protect its contents against mechanical manipulation or manual handling, chemical and biological damages, environmental conditions. Chapter 5 of IATA PCR must be applied as standards for perishable packaging.

6.11.6 MARKING AND LABELLING

Shipper should mark all packages with the name, address and telephone number of the consignee and with any special information of the nature of the contents. It should be identifiable whether a package contains special regime. If dry ice is used, marking must be according with DGR IATA requirements.

All perishable shipments should be labeled with the standard IATA “PERISHABLE” label. Where appropriate, packages should also be labelled with package orientation label (This way up).

Color: Blue printing on white background.
Size: Not less than 74 mm in width by 105 mm in height.

Color: Red on white background.
Size: Not less than 74 mm in width by 105 mm in height.
Optional: Carrier identification may be printed at the lower border of the label.

6.11.7 DOCUMENTATION

All required documents must be attached to airwaybill.
«Handling information» box of the Airwaybill must contain:

- required temperature transportation range (for example +2˚C+8˚C);
- Perishable IMP code (for example, PER);
- Health certificates or other official permits (if applicable).

Note: *Health certificates/ other official permits should be firmly attached to the Air Waybill and not enclosed with the goods.*

“Nature and Quantity of Goods” must contain accurate description of goods (for example, chilled meat).
Transportation of perishable cargo with the use of Dry ice as refrigerant is described in Part 7 “Dangerous Goods”.

6.11.8 HANDLING REQUIREMENTS

Cargo presented for acceptance should comply with the IATA TACT Rules requirements for “Ready for Carriage Cargo”.

Sanitation procedure is normally required before build-up process/or plastic sheet is required on the surface of the pallet.

Process of temperature sensitive cargo transportation between the storage facilities and the ramp position must minimize the product exposure to temperatures beyond the allowable temperature range.

Segregation requirements shall be complied with. It is forbidden to build Perishable cargo together with TTSP on the same ULD. Different kinds of perishable products shall be processed separately (e.g. fruit and vegetables shall be processed separately from seafood and meat).

Temperature range for the working areas should match the product requirements as communicated during booking wherever possible.

There should be proper ventilation in the storage areas to reduce ethylene impact. There should be proper cleaning program on place.

The handling of frozen perishable products outside the below freezing temperature conditions should be restricted to a minimum in order to avoid thawing. Temporary storage of frozen food should be at required temperature as soon as and as long as possible after and before handling.

Process of temperature sensitive cargo transportation between the storage facilities and the ramp position must minimize the product exposure to temperatures beyond the allowable temperature range.

Transportation of the temperature sensitive cargo at the airside should be arranged in a way to ensure arrival at the proper time according to the loading sequence in order to minimize exposure of the cargo to temperature extremes. Loadmaster or Airline Ramp Supervisor shall coordinate with GHA time for the temperature sensitive cargo delivery onto the aircraft ramp position.

Special care should be taken to avoid sudden or prolonged exposure to excessive heat sources such as engines, APUs, and other exhaust systems.

If ambient temperature is beyond allowable temperature for a temperature sensitive consignment and a/c loading to be delayed then Load Control Agent shall instruct GHA either delay temperature sensitive cargo transportation to a/c position or return the cargo to the storage facilities.

6.11.9 SEGREGATION REQUIREMENTS

Mixed produce stored or transported together shall be compatible in terms of temperature, relative humidity and sensitivity to ethylene. In view of this, there are 3 main types of segregation:

- temperature segregation;
- ethylene segregation;
- moisture segregation.

Segregation requirements must be checked and maintained during acceptance, storage and transportation.

Temperature segregation is one of the most important factors as it may contribute to a significant reduction of the final quality and shelf-life of the produce.

It’s forbidden to load Perishable cargo with incompatible temperature regime in one cargo hold. Table below can be used to load perishable with different temperature regime in one cargo hold.

	COL +2°C +8°C	**ERT +2°C +25°C**	**CRT +15°C +25°C**	**FRO/FRI -10°C or colder**
COL +2°C +8°C	+	+		
ERT +2°C +25°C	+	+	+	
CRT +15°C +25°C		+	+	
FRO/FRI -10°C or colder				+

Ethylene and moisture segregation. Ethylene is active at a very low concentrations and most plants synthesize very small amounts that appear to promote and coordinate growth and development. The changes that occur in fruits and vegetables caused by the presence of ethylene in the environment may cause undesirable consequences to the cargo quality.

Loss of water from horticulture commodities is one of the major problems encountered during storage, transport and retail display as the product starts to deteriorate and the severity of the symptoms depends on the level of moisture loss.

Perishable providing ethylene and moisture influences must be separated from each other in accordance with Table E.2.A of IATA Perishable Cargo Regulations.

Incompatibility problems between products other than those associated with temperature, ethylene or moisture segregation, need to also be considered when shipping or storing fresh horticultural crops.

Odor producing products and Odor absorbers should not be mixed together.

6.11.10 NOTIFICATION TO CREW

Crewmembers must be notified on perishable cargo that requires a specific temperature regime with reflected in “Other Special Load” section of the NOTOC.

Perishable cargo shall be indicated in Section “Other Special Load” as follows:

- Station of unloading;
- ULD number;
- The Air Waybill number;
- Type of cargo (perishable, live animals, pharmaceuticals);
- Quantity of cargo (number of packages for bulk, total weight);
- Supplementary information (relevant information about cargo handling, eg. set temperature of active container with dry ice);
- Required Handling Temperature;
- Set temperature of cargo hold;
- IMP code;
- Loading position (applicable cargo hold as follows: MD FWD, MD AFT, LD FWD, LD AFT, bulk).

If temperature sensitive shipments (pharma, live animals, perishables, etc.) are transported on flight, relevant information about set temperature in each cargo hold must be indicated.

If NOTOC completion is performed by GHA, and the format of provided document does not contain SET TEMPERATURE information, Loadmaster or Airline Ramp Supervisor must make the short notice to the crew with information indicating set temperature **per each cargo hold**.

Note: If there are several compatible temperature shipments in one hold, ST shall be calculated by the most restricting temperature range.

6.12 CARRIAGE OF LIVE ANIMALS

Live animals on MyFreighter cargo flights can only be transported upon approval from Ground Handling Operations Department.

For procedures regarding live animals transportation on company’s passenger aircrafts see Part 5, p.5.3.8.

6.12.1 GENERAL PROVISIONS

The carriage of live animals (AVI) is fundamentally different from the carriage of other goods. Since this is a live cargo, all those involved in the transport of animals (veterinary inspectors, escorts, ground handlers, container manufacturers and airline employees) must ensure that high standards of transport are maintained. It is also necessary to ensure the safety of crew members, passengers and pet owners.

Live animals shall be transported as per requirements of IATA Live Animals Regulations.

The procedure for transporting animals is also regulated by international and national regulations. In some countries, LARs are considered as minimum standards that do not fully meet the requirements of states, so air carriers need to ensure that they comply with all rules and regulations.

6.12.2 GENERAL PRINCIPLES FOR THE TRANSPORT OF LIVE ANIMALS

The following principles must be observed when transporting live animals:

- The shipper must ensure the passage of quarantine and veterinary procedures, as well as provide all necessary permits and documents for transportation;
- The shipper is obliged to provide the airline with the documents accompanying the cargo (sender's declaration for the carriage of live animals, veterinary certificate, import, transit and/or export permits, CITES permit, if required);
- The special handling code "AVI" when transporting animals has priority over all other cargoes;
- It is necessary to choose the shortest route for transporting animals;
- When transporting certain types of animals, an accompanying person is required;

— It is necessary to ensure that the animals are delivered to the recipient as soon as possible upon arrival at their destination.

Animal health

Transport by air may only be considered for those animals that are in condition and appearance suitable for transport to the final destination.

In certain cases, the shipper is required to declare if the animal is pregnant or has given birth within the last 48 hours.

Pregnant mammals will not be accepted for carriage unless they have a veterinary certificate certifying that the animal is fit for carriage and that there is no risk of labor initiation during transportation.

Pregnant monkeys and nursing mothers with babies are not allowed to be transported.

Animal behavior

Animals instinctively fear the unfamiliar environment they encounter during transportation. Therefore, when transporting live animals, the sender and the carrier must comply with a number of basic principles:

— Transport stress can lead to profuse urination and defecation. The floor of the container must be airtight with sufficient absorbent material or a slatted structure;
— Adult males and females should be placed as far apart as possible. The minimum distance between sexually mature domestic animals of different sexes is 50 cm. Domestic animals are considered sexually mature, aged 7 months or more;
— Juveniles should not be separated from other animals of the same species as this increases stress on the animals;
— The natural instinct of carnivores is to hide inside the container while ungulates such as bulls try to find shelter and get out of the container;
— It is natural for every animal in captivity to explore new surroundings and try to escape;
— Only specialized food for animals is allowed;
— Different types of animals react differently to stress. Some of them attack, others, on the contrary, hide;
— Animals that are natural enemies must be housed separately;
— Quarantined animals must be housed separately from healthy animals;
— When transporting monkeys from different continents together, it is necessary to isolate them from each other in cargo compartments, in cargo warehouses at airports and at all stages of transportation by land.

Exposure to sedatives and euthanasia

Experience shows that the exposure of animals to sedatives during air travel entails significant risks.

Tranquilizers reduce the ability of animals to respond to stress during transport. In addition, different species react to tranquilizers in unpredictable ways. For these reasons, the use of standard tranquilizers is not recommended.

Tranquilizers can only be administered by a veterinarian if there is a specific need. Persons using such drugs should be fully aware of their effects during air travel.

Tranquilizers to be administered during flight must only be administered with the knowledge and consent of PIC.

With each use of tranquilizers, a notice is pasted on the container indicating the weight of each animal, the name of the drug administered, the dose, method and time of administration.

Attendants

As a rule, animals can be transported without an attendant, however, the decision to provide an attendant for transportation, or not, is the responsibility of the shipper.

Certain types of animals, such as racehorses, marine and wild animals, are strictly recommended to be transported under the supervision of an attendant.

Attendants must provide a document confirming their competence in terms of supervision of animals. This document must be issued by a competent government agency or a government-accredited organization.

Attendant must:

- ✓ Have knowledge of IATA LAR;
- ✓ Have knowledge of animal health and legislation;
- ✓ Have knowledge and skills in handling animals during loading, unloading and flight;
- ✓ Be able to recognize when animals are sick and not suitable for transportation;
- ✓ Be able to recognize when an animal is under stress and how to minimize this stress;
- ✓ Have skills in treatment of injuries and the use of medications;
- ✓ Have the necessary transportation documents (passports, visas, etc.) that allow to fly (both domestic and international).

6.12.3 CONFIRMATION OF LIVE ANIMAL TRANSPORTATION

Each shipment of live animals on My Freighter's Flights must be approved by the Head of Ground Handling Operations Division. Requests must be sent to the email address: **Loadrequest@centrum-air.com**.

The Head of Ground Handling Operations Division:

- ✓ checks compliance conditions of carriage with the requirements of IATA LAR;
- ✓ calculate the allowable quantity of live animals per one flight;
- ✓ checks the legislation of the countries of origin/transit/destination and ensures the handling requirements are possible to comply with.

NOTE: *It is forbidden to transport live animals without confirmation from the Head of Ground Handling Operations Division.*

Head of Ground Handling Operations Division checks the possibility of loading live animals on the aircraft, restrictions / embargoes at all points en-route, the need for disinfection, as well as the availability of the necessary documentation:

- ✓ Air waybill;
- ✓ Certificate for the transport of live animals;
- ✓ Import/Export Permit;
- ✓ Veterinary certificate;
- ✓ CITES permit for species subject to CITES control.

6.12.4 ALLOCATION OF RESPONSIBILITIES

Shipper responsibilities

The shipper or his authorized representative is responsible for:

- — Providing all necessary information to the carrier about the animals (species, common name, sex, age, number, etc.);
- — Coordination of the route and special requirements for transportation;
- — Compliance of documentation with state regulations (states of departure-transit-destination), carrier and IATA rules;
- — Obtaining all documents and necessary information for the shipper's certificate;
- — Provision of a container that meets the container requirements of Ch.8 of the IATA LAR;
- — Provision of suitable bedding material, as well as food with feeding instructions attached to the containers;
- — Provision of a competent escort when required.
- — Before sending live animals by air, the shipper must obtain full information in advance about the necessary export, import and/or transit permits, veterinary certificates and CITES certificate.

Airline responsibilities

The airline or ground handling agent must comply with the IATA LAR requirements regarding:

- Acceptance of live animals;
- Storage;
- Build-up;
- Loading;
- Training.

The Airline shall not be liable for any loss, damage or expense arising from the death of animals due to natural causes or mutilation of animals as a result of the behavior or actions of themselves or other animals, such as biting, goring or strangulation, as well as for death or injury caused by the condition of the animal, or defective containers, or the inability of the animal itself to withstand the inevitable changes in the physical environment inherent in air travel. Under no circumstances shall the carrier be liable for death or injury to animals as a result of their condition, behavior or actions of animals.

6.12.5 TRAINING REQUIREMENTS

All personnel involved in the sale, booking and ground handling of animals must be trained in accordance with LAR standards in order to ensure the safe transport of animals.

Personnel can be trained at an external licensed training center in a program that includes the following topics:

- General provisions;
- Transportation restrictions;
- Classification and lists of animals in IATA LAR;
- Documentation requirements;
- Container requirements;
- Marking and labeling requirements;
- Requirements for ground handling of live animals;
- Transportation of laboratory animals.

Periodic training (retraining) should be carried out no later than 36 months after they completed their last training.

However, if the retraining is completed within the last three calendar months of the validity of the previous training, then the validity period of the previous training continues from the month in which the retraining was completed until the expiration of 36 calendar months counted from the month the validity of the previous training expires. The employer must keep information about the training of personnel.

6.12.6 CONTAINER REQUIREMENTS

Live animals must only be transported in containers that meet the requirements described in chapter 8 of the IATA LAR. Only closed containers should be used for the transportation of animals; transportation in an open container must be agreed with the carrier separately.

Listed below are general requirements for containers provided for transportation:

- must match the size of the animal;
- must provide adequate ventilation on at least three sides;
- must protect personnel from claws or animal bites;
- must protect the animal from access by unauthorized persons, the doors must exclude accidental opening from the inside and outside; the size of the ventilation openings should not allow the animal to leave the container; the container must withstand deforming loads from other cargoes;
- must be clean: if reused, containers must be thoroughly disinfected or sterilized;
- must be sufficiently rigid so that the animal cannot escape through the openings of the joints or connections;

- must be sealed; the shipper must provide absorbent padding. The use of straw is not allowed, since its import is prohibited in many countries;
- containers for food and water should be provided. They must be secured inside the container. Such receptacles and containers are necessary in case of unforeseen delays during transportation. The shipper's instructions for feeding and watering the animals are provided in writing at the time of booking or acceptance.

Special requirements for pigs' stalls

✓ Open areas of stalls should be covered with mosquito or other netting to keep absorbent and animal excrement inside the container;

✓ Inside the container should be a container of water and absorbent material;

✓ It is necessary to put a plastic film on the surface of the ULD, and attach the edges of the film to the wall of the stall;

✓ The inner walls of the container must be higher than the height of the pigs, or it is necessary to attach an inner board to prevent excrement from falling out;

- ✓ The internal beams of the stall should be located behind the reinforced external beams of the stall to increase the strength of the structure.

6.12.7 MARKING AND LABELLING

It is the shipper's responsibility to label and mark each animal container. The container must have enough space for labeling.

Marking

Each container must be marked and contain the following information in English:

- Full name, address and contact number of the shipper and consignee, as well as a telephone number for round-the-clock communication;
- The scientific and common name of the animal and the amount of each species in the container;
- Containers with animals capable of causing venomous bites or stings are marked in bold type with the words "POISONOUS". Aggressive animals or birds that can injure a person through the grate or ventilation holes of the container are additionally marked with the inscription "This Animal Bites";
- If tranquilizers are used, then the name of the sedative drug, time and method of administration must be indicated on the containers;
- Special instructions for feeding and watering animals must be marked on the container.

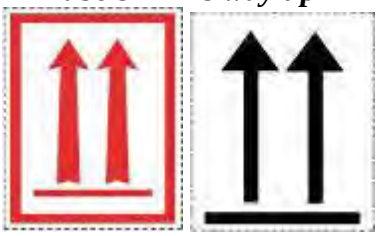
Label "Live animals"

Label "Laboratory animals"

It is mandatory for each container with an animal to be labeled with at least one correctly completed “Live Animals” or “Laboratory Animals” label.

In addition, at least two stickers with the inscription "This Way Up" must be applied on two opposite sides of the container.

Labels "This way up"



ATTENTION! Labels should not block vents, especially on small containers.

6.12.8 DOCUMENTATION

The shipper is responsible to provide in advance all the necessary documents for the transportation of live animals, namely:

- Shipper's certificate for the transport of live animals. The certificate is filled out and signed in two copies. One copy remains with the carrier, the other accompanies the cargo.
- Air waybill. Live animals should not be consolidated on the same consignment with other types of cargo. The air waybill must also indicate the temperature regime during transportation.
- CITES permits. An animal that falls under one of the CITES applications must be transported upon presentation of the appropriate CITES permit.
- Other Documents. The shipper is responsible for providing the necessary veterinary permits required by government authorities in countries of export, transit and import.

6.12.9 STATE REGULATION

All government restrictions on the transport of animals can be found in IATA LAR Chapter 2. It is the shipper's responsibility to obtain full information in advance of required import/export/transit permits, veterinary certificates, quarantine, or any other restrictions.

6.12.10 ACCEPTANCE OF LIVE ANIMALS

Acceptance of live animals must be carried out in accordance with the requirements of Section 10 of the IATA LAR. Each shipment of animals is accepted only if there are two copies of the "Shipper's Certificate for the Transport of Live Animals" (according to the form in the current edition of IATA LAR).

Acceptance of live animals for transportation must be carried out when filling out the "Live Animal Acceptance Checklist" checking the following aspects:

- All relevant permits, licenses and certificates, including CITES, if required, are attached to the air waybill, and the necessary copies of them are attached to the container;
- All necessary approvals were made at the destination airport;
- Only live animals appear on the airwaybill;
- The container complies with the requirements for containers set out in section 8 of the LAR;
- The container has all the necessary markings and signs;
- The carrier agreed on issues related to feeding and watering the animals. Instructions for feeding and watering animals are attached to the container.

The employee checking the shipment according to the "Live Animal Acceptance Checklist" must complete each field with a "Yes", "No", or "Not Applicable" answer. If one of the fields contains the answer "No", the shipment does not comply with the LAR requirements. Such cargo is not accepted for transportation, and a copy of the completed "Live Animals Acceptance Checklist" is handed over to the consignor.

6.12.11 HANDLING AND LOADING

General principles

- Transportation of animals should only be carried out by trained personnel;
- Unauthorized persons are prohibited from approaching or disturbing animals;
- Loading and unloading of animals should be carried out as soon as possible at the time of departure and arrival. It is necessary to protect animals from external irritation factors as much as possible;
- It is necessary to provide the necessary ventilation for animals, as well as protect from adverse weather conditions, such as precipitation and drafts;
- If the animals are transported accompanied by an accompanying person, then it is necessary to load the animals in such a way that the accompanying persons can access them during the flight;
- Food and water are provided to animals in strict accordance with the shipper's instructions;
- In the event of a long delay or cancellation of the flight, as well as a change in the route, the sender or recipient must be notified as soon as possible;
- After unloading the animals from the containers, the container must be checked for contamination and cleaned, if they are reused;
- Positions on the aircraft, on which animals were transported, must be cleaned, as well as disinfection of the cargo compartments of the aircraft;
- It is necessary to make sure that the destination airport has all the necessary facilities and equipment for unloading animals from the aircraft.
- When transporting animals in a bulk cargo compartment, wooden boards must be placed under the cage to avoid hypothermia of the animal through the floor of the cage from the floor of the cargo compartment.

Required temperature conditions

During the entire transportation, it is important to provide live animals with the necessary temperature conditions. Animals should not be exposed to high and low temperatures or precipitation (rain, snow).

For most animals, a temperature in the range of 15-20°C is suitable, however, for some specific animal species, a precise temperature range is required.

Standard temperatures and other requirements for regularly dispatched animals are shown in Table 6.12.11.A.

TABLE 6.12.11.A. STANDARD TEMPERATURES AND REQUIREMENTS

View	Required temperature	Other requirements
Birds, incl. tropical	10-20°C	
Cattle, goats, sheep	10-20°C	Avoid drafts
day old chicks	20-25°C	Avoid drafts
Elephants, rhinos, hippos,	15-25°C	Necessary lighting in the compartment, if possible
Fish, tropical.	10-20°C	
hatching eggs	15-20°C, do not exceed 27°C	
Horses	15-18°C	
Domestic animals (cats, dogs, etc.) Small mammals	10-20°C	
Pigs	10-20°C	Turn off the light in the compartment during the flight

6.12.12 INCOMPATIBILITY OF LIVE ANIMALS WITH OTHER SPECIAL CARGO

Live animals should not be placed in close proximity with other cargo that may affect their health and condition, and they must also be placed separately from cargo that requires a different temperature regime. The following principles must be observed when planning the loading of animals on the aircraft:

- Animals that are natural enemies, such as cats and dogs, can only be placed in the same compartment if they cannot see each other.
- To reduce the risk of infection or contamination, shipments marked "Laboratory Animals" must be stowed separately from other animals. Loading laboratory animals and other animals in the same cargo hold is prohibited.
- Live animals should not be placed in close proximity to foodstuffs unless they are not hermetically sealed.

With dangerous goods

Live animals should not be placed in close proximity to dry ice or cargo packed in dry ice containers. Live animals must be placed above the top of dry ice packs. The distance must be at least 50 cm.

Live animals may not be placed in close proximity to cryogenic liquids (RCL) (see Rule 1 in the table below).

It is necessary to observe the distance from packages that have labels of radioactivity of categories "II-Yellow" or "III-Yellow" (see rule 2 in the table below) and live animals. For category I-White radioactive material, segregation is not required.

	RCL 2.2	RRY 7	ICE 9	HUM	EAT	PIL
AVI	1	2	1	1	1	3

1 Do not place live animals in the immediate vicinity. The distance must be at least 50 cm. It is forbidden to load live animals and dry ice into one compartment of the lower cargo deck.

2 The minimum distance is 0.5 m for trips lasting more than 24 hours, 1.0 m or more for trips lasting more than 24 hours.

3 The minimum distance between temperature sensitive pharmaceuticals and live animals should be 3 meters for the main cargo deck. Loading temperature-sensitive pharmaceutical products and live animals together in the same compartment of the lower cargo deck is prohibited.

6.12.13 SPECIFIC GROUND HANDLING REQUIREMENTS FOR CERTAIN ANIMAL SPECIES

6.12.13.1 HORSES

Horses are very sensitive animals, and usually have a high cost, so special attention is required at all stages of transportation. Safe transport requires the presence of one or more trained attendants to monitor the behavior of the animals. In particular, the attendant must be able to administer tranquilizers.

The following principles must be observed when loading horses on an aircraft:

- Horses must be placed on board the aircraft only in the direction of flight, respectively, loading horses into the lower compartment.
- Depending on the requirements of the shipper, mares and foals must be able to be together or in close proximity;
- Pregnant mares may need more stall space, so the containers chosen/made should accommodate these needs;
- Horses have extremely fragile legs and therefore great care must be taken when the horse enters the stall so as not to injure the legs;
- Stalls with horses must be loaded and accessible to the attendant.

Once the animals have arrived at their destination, the stalls must be thoroughly cleaned and disinfected before reuse.

6.12.13.2 CATTLE, PIGS AND SHEEP

Shipping containers must not leak. A strong polyethylene sheet must be placed between the container and the aviation pallet, which is fastened to the side stand of the container; it is also necessary to provide absorbent material inside the container (the use of straw is prohibited).

Loading and unloading animals in and out of the container must be done by the shipper. Once the animals have arrived at their destination, the containers must be thoroughly cleaned and disinfected if reused.

The maximum number of animals per pallet must be calculated in accordance with IATA LAR table 8.2.2.

The following recommendations must be observed when loading/unloading animals:

- ✓ Plan to load animals late in the evening or early in the morning when the ambient temperature is relatively cool;
- ✓ Ventilate the cargo compartment with the aircraft air conditioning system during loading so that the aircraft does not heat up during loading with the air conditioning system turned off;
- ✓ In dry weather, open the bow cargo door for better air circulation;
- ✓ It is necessary that all three packs work even if the forward cargo door is open. If all three packs are not working, then there will be no air circulation in the back of the aircraft. The operation of all three packs in combination with the forward cargo door open should provide the maximum potential for ventilating the airflow through the compartment during loading.

6.12.13.3 DOMESTIC BIRD

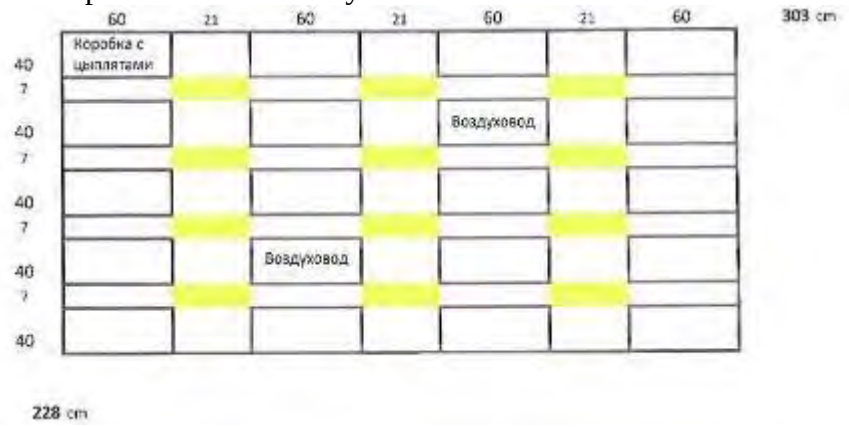
By "poultry" is meant day-old chickens (chicks), turkeys, ducklings or goslings. These animals are very sensitive to climatic changes, such as changes in temperature and humidity. The optimum temperature range for transport is between 20°C and 25°C, the air conditioning of the compartment must be set to maximum.

Crates with birds must not be transported in closed containers. During transport and storage, it is forbidden to cover the bird boxes with foil or tarpaulins.

When stacking boxes with birds, it must be taken into account that there is at least 40 cm clearance between the upper boxes and the ceiling of the compartment.

As a rule, birds are transported in large numbers, so care must be taken to ensure sufficient air circulation, for which it is necessary to properly stack the boxes so that they do not break or collapse under the weight of the upper tiers. During build-up, it must be ensured that each chick box has access to at least one side of a large space for the necessary air circulation.

An example of a build-up scheme for one-day-old chicks:



When assembling boxes with birds, it is necessary to leave a space of about 10 cm between them in order to ensure the necessary air circulation.

When loading two or more pallets of chicks in the same cargo compartment, it is necessary to leave one empty position or a pallet of general cargo between the pallets of chicks to ensure the necessary air circulation.

The recommended distance between the top box and the compartment ceiling is 40 cm.

6.12.13.4 DEER

Deer and antelopes' antlers must be protected during transport with covers made of rubber or plastic pipes, which must be removed at the destination.

6.12.14 FOOD AND WATER FOR ANIMALS

As a rule, it is not necessary to provide food and water to animals during transport, although depending on climatic conditions and the total duration of transport, some species may require water. If the transportation still requires food and water for animals, then the sender must ensure its availability.

Water should be fresh, clean and in liquid form.

It is forbidden to give canned fish and preserves to animals.

In the case of feeding animals, it is necessary to check the compliance of the food with the rules for importation into the country of destination and transit, a copy of these instructions must be attached to the transport documents.

Each meal and water intake are recorded on the instructions on the container with the date and time.

6.12.15 HEALTH AND HYGIENE

Health and hygiene (animals)

At any stage of transport, containers with animals should not be located in close proximity to food, as such an arrangement creates a serious risk of infection.

When sick or dead animals are found in a cage, it is necessary to remove them from the cages only after consulting with veterinary experts and receiving their recommendations.

Certain government agencies establish rules for the inspection and destruction of dead animals in transit.

Health and hygiene (staff)

Physical contact with animals is not allowed, so strict personal hygiene practices must be followed.

If you get bitten or scratched, you should see a doctor as soon as possible and provide information about the type and origin of the animal. If timely qualified medical assistance is not possible, then it is necessary to thoroughly wash the wound with soapy water and cover with a dry bandage until medical attention is received.

Avoid contact with skin or clothing with blood or animal feces. Dirty clothing should be washed after handling animals. Dirt on the skin should be washed off with a bactericidal agent.

6.12.16 NOTIFICATION TO CAPTAIN (NOTOC)

The flight crew must be notified of the presence of animals on board and the necessary conditions during transportation (temperature in cargo compartments, lighting, ventilation, etc.). The notification must be timely to ensure that the cargo hold is prepared before the animals are loaded onto the aircraft.

In the NOTOC, in the "Other special cargo" field, you must specify the following data:

- ✓ Unloading airport;
- ✓ Air waybill number;
- ✓ Name of animals;
- ✓ Number of cargo places;
- ✓ Number of animals;
- ✓ Required temperature;
- ✓ Position onboard of aircraft;
- ✓ Other requirements (light, ventilation)

6.12.17 CLEANING AND DISINFECTION OF CARGO COMPARTMENTS

After the transport of live animals (with the exception of one-day-old chicks, marine and domestic animals), the cargo compartments in which the animals were transported must be cleaned and disinfected.

Cleaning of cargo compartments (cleaning of debris, absorbent material, excrement) should be carried out immediately after unloading animals from the aircraft. In addition, the cleaning of the cargo

compartments and the floor mechanization system should be carried out by the technical staff in accordance with the instructions received.

Disinfection of cargo compartments (the process of destruction of pathogenic microorganisms) should be carried out after unloading the animals.

The positions required for disinfection are the positions to which the animals were loaded, adjacent positions and the positions through which the pallet with animals moved when loading / unloading the aircraft.

Disinfection should be carried out using a disinfectant solution tested in accordance with BSS7434 (Chemical Compatibility of Cleaning Products and Interior Parts/Materials of Commercial Transport Aircraft).

Note: *some of the approved disinfectants are "Cee Bee A-18", "Super bee 210 B", "Zip Chem Calla 1452".*

Before flying to a country with non-disinfected cargo compartments, permission from the local authorities of the destination country must be obtained. GHA (cargo agent) is responsible for obtaining requirements from local authorities.

ULDs that have been used to transport animals must be cleaned and disinfected before being reused.

6.12.18 PROCEDURE FOR DEVIATIONS DURING THE CARRIAGE OF LIVE ANIMALS

The animal ran out of the stall

In the event that the animals have escaped from the stall on the aircraft, the supervisor must perform the following actions:

- Stop loading and unloading operations.
- Close all cargo doors on the aircraft to prevent the animal from escaping the aircraft.
- Notify OCC.
- Notify the airport veterinarian, if possible.
- Follow the instructions of the veterinary service and the shipper/consignee that were received directly (when present on the aircraft) or remotely.

Animal found dead

In the event that an animal has escaped or is found dead on the aircraft, the supervisor must do the following:

- Notify OCC.
- Notify the airport veterinary service.
- Follow the instructions of the veterinary service.

6.13 PHARMACEUTICAL PRODUCTS

Time and Temperature Sensitive Pharmaceutical shipments on MyFreighter cargo flights can only be transported upon approval from Ground Handling Operations Department.

6.13.1 GENERAL INFORMATION

Pharmaceutical products are defined as substances intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease.

SHC code PIL is used for identification of pharmaceutical cargo.

Time and Temperature Sensitive Pharmaceuticals that are subject of these regulations, are identified by the combination of **SHC code PIL with any of the following SHC-codes: FRI/FRO, COL, CRT, ERT, ACT**.

A TTSP shipment that is classified as DG is subject to requirements set forth in IATA DGR and Part 7 “Dangerous Goods” of this manual (including personnel qualification requirements).

TTSP shipments must not be split, part-shipment is forbidden, unless Customer confirmed other.

One of the following **six** combinations of special handling codes is used to identify the “Time and Temperature Sensitive Pharmaceuticals” (TTSP) product:

- **PIL.COL** - pharmaceuticals with temperature regime +2C to +8C;
- **PIL.CRT** - pharmaceuticals with temperature regime +15C to +25C;
- **PIL.FRO** or **PIL FRI** - pharmaceuticals with temperature regime "Deep Frozen" (-10C or colder);
- **PIL.ERT** - pharmaceuticals with temperature regime +2 to +25C;
- **PIL.ACT** - TTSP in ACTAC (active containers with temperature control).

Pharmaceuticals that do not require temperature control (regime) shall not be shipped under conditions of the product “Time and Temperature Sensitive Pharmaceuticals” and are not subject to regulations set forth in this manual. IMP code of such cargo is **PIL**, which is not accompanied with one of the following codes: FRI, FRO, COL, CRT, ERT, ACT and no temperature requirements are set in AWB handling information section.

IATA Temperature Control Regulations (TCR) – regulation for international transport of TTSP by air.

Shipper and Carrier shall comply with the requirements set forth in IATA TCR.

Shipper shall:

- prepare cargo (packaging, labels, markings) as per requirements in accordance with IATA TCR and IATA TACT Rules.
- observe and comply with build-up requirements in accordance with instructions given by the Airline (if any) and in compliance with ICAO Technical regulations (if applicable) and IATA TCR if shipment is accepted as BUP.
- provide applicable information to the airline prior the transportation. Any special provisions and instructions must be communicated with Commercial Department of the airline prior booking.
- provide 24 hours available phone number for contact in an emergency case.
- it is advisable for the Shipper to mark all packages with the name, address and telephone number of the Shipper and Consignee and with information on the nature of the contents.

Carrier (operator) shall:

- ensure on time performance of the flight schedule except cases when force majeure conditions influence the schedule.
- ensure space onboard is available as booked.
- communicate changes or deviations to the Shipper/Forwarder.

Training requirements

All staff of Ground Operations and Handling Department that is involved in TTSP-related activities must be trained internally in “Special Cargo Handling” course.

Considering nature of product and necessity of full awareness of operational staff initial and periodic training relevant to working tasks is required. Training must be documented to ensure personnel are proficient in their specific job functions and responsibilities. Periodic training is performed once in 24 months.

Personnel dealing with dangerous pharmaceutical goods (such as infectious and radioactive materials, narcotics, and other hazardous, sensitive and/or dangerous products) must be trained according to DGR requirements.

6.13.2 PACKAGING AND LABELING, REQUIRED HANDLING TEMPERATURE

6.13.2.1 TTSP PACKAGING SOLUTIONS

Actual product (internal) temperature is maintained within the package by means of insulated packaging materials and temperature stabilizers (such as gel pack refrigerants). Package insulating efficiency is optimized by maintaining a specified handling (i.e. external) temperature as per the AWB and the label. When this handling temperature range or limit is followed, it reduces the risk of temperature exposure extremes that could affect the quality, safety, potency, efficacy, and purity of the product.

Airline cannot assume responsibilities regarding packaging solutions that are used by a Shipper for TTSP transportation. The Shipper is fully responsible for the suitability of packaging system to its purposes.

Airline does not provide packaging/re-packaging service for TTSP products, nonetheless, defines the following.

There are three main kinds of package that can be used for TTSP packaging:

- active packaging systems
- passive packaging systems
- hybrid packaging systems

Active packaging systems are equipped with an electrical/mechanical system to maintain product temperature and have a hard shell. The shell is typically made of aluminum, plastic or fiberglass and consists of both inner and outer walls with insulation placed in between to reduce heat transfer. To select and control the necessary temperature range, a thermostat and a system of fans is used.

Passive packaging systems use refrigerants to maintain the product temperature. A common passive packaging system consists of:

- outer carton;
- inner layer of insulation that helps retard the transfer of heat or cold from the exterior ambient elements to the inside of the package;
- refrigerant that maintains product temperature by absorbing any heat that passes through the insulation (e.g. gel packs, ice packs, ice bricks, etc.);
- protective packaging (foam) to fill voids.

Note: Any passive packaging system has a defined period of time before the refrigerant is exhausted. The ability of passive packaging system to maintain the proper temperature depends on insulation property of the package and the amount and type of refrigerant.

Hybrid packaging systems combine technologies from both active and passive systems (e.g. placing passive packages inside a cooling only active packaging system).

The criteria for selection of exact packaging solution are numerous, still transportation time, ambient temperatures during transportation and the package cost remain the most important.

Taking into consideration the above mentioned, the following shall be considered:

- TTSP shipment must fly as booked;
- in case of any re-bookings (due to force-majeure) of TTSP shipment the Shipper shall be informed immediately;
- in case of unexpected prolongation of transfer time, the conditions of handling can change and shall be communicated with the Shipper and GHA.

Passive containers (passive pallet systems) are reliable yet expensive packaging solution considered as hybrid packaging. IATA established **SHC-code PIP** to identify passive containers.

The main differences of passive containers from passive packaging are:

- variable size modifications, that allow to load built EURO or US pallets inside the passive container and therefore simplify the ULD build-up process;
- built-in temperature indication (for some solutions);
- special compartments for placement of documentation and/or temperature dataloggers;
- using phase change materials as coolants, that allow to maintain inside temperature in a very wide temperature range;
- no need to maintain a certain required handling temperature during handling and transportation (if otherwise was not specified by the customer).

6.13.2.2 LABELING

A specific temperature range must be shown on the Time & Temperature Sensitive label. The temperature range always reflects the allowed external temperature during transportation and distribution and not the actual product (internal) temperature.

- Unless otherwise specified in a contractual agreement, it is the responsibility of the Shipper to apply the "Time and Temperature Sensitive" label to the 1 side panel of the outermost visible means of each package (or overpack). In case of BUP ULDs, the Shipper should apply additional label to each ULD.
- The label may also be applied by the Airline, forwarding agent or other third-party service provider if agreed to by the Shipper. In such a case the label must be affixed to the 1 side panel of the outermost visible means on each package (or over-pack) and built up ULD.
- The lower half of the label must be used to indicate the handling temperature range. No other temperature information may be indicated on the label. The temperature indicated on the lower half of the label may be accompanied by the following text "Transportation temperature +X˚C to +Y˚C" to clarify that the temperature range relates to the external transportation temperature rang of the shipment. When agreed, the lower half of the label may also be used to communicate Standard Operating Procedure number in addition to the temperature range (ex. SOP1587).
- TTS label shall contain **only one** of the handling temperature ranges / limits.

Figure 6.13.A"Time and Temperature Sensitive" label

Table 6.13B: Handling Temperature

Handling Temperature description		Handling temperature at TTSP label	Temperature code
In AWB	**Common description**		
-10C or colder [1]	Keep frozen[1]	___ to -10°C[1]	FRO/FRI[1]
+2°C to +8°C	Cooled goods	+2°C to +8°C	COL
+15°C to +25°C	Controlled room temperature	+15°C to +25°C	CRT
+2°C to +25°C	Extended controlled room temperature	+2°C to +25°C	ERT

[1] If this handling temperature is used then Shipment will be transported under +2°C to +25°C (ERT) conditions.

- In case ACTAC is used, the proper location for affixing TTSP label is on a container exterior plastic pouch for documents.

- If ACTAC with Dry Ice is used then handling temperature range must be specified on TTSP label affixed on the ACTAC exterior. The range depends on Set Temperature (ST). Lower temperature of the range is 5°C above ST, upper temperature of this range is 25°C above ST.
- If ACTAC without Dry Ice is used then the TTSP label on the ACTAC exterior shall contain handling temperature range as follows: "-20°C to +40°C".

Note: The same handling temperature range to be reflected also in AWB and booking.

- In all cases, the **Celsius scale** and the text must be in **English** unless otherwise is required by the State of origin. In such cases, an English translation must also be provided with both languages given equal prominence.
- If the Shipper fails to complete the lower half of the label or in case of discrepancy of handling temperature between the label and AWB, **the information indicated on the AWB prevails**, yet Commercial Department shall inform Customer about discrepancy.
- In the event that TTSP label is found missing or illegible after the cargo has been accepted (for instance, during tarmac transportation) GHA shall remove the damaged/illegible label, complete and affix a new TTSP label properly.
- In case TTSP cargo have been removed from ACTAC then handling temperature indicated on the "Time and Temperature Sensitive" labels that are affixed to the packages must be followed for storage of the loose packages.
- All outdated/expired labels must be removed from passive package or ACTAC before recurrent use by the Shipper/GHA who performs the packaging/build-up.

6.13.3 OPERATIONS

6.13.3.1 CARGO PREPARATION FOR CARRIAGE

Cargo is prepared by the Shipper in compliance with "Ready for carriage" conditions as per IATA Tact Rules, IATA TCR, IATA DGR (if applicable).

Commercial Department shall inform Ground Operations and Handling Department about any pharmaceutical shipment planned for transportation as soon as it is possible.

Head of Ground Handling Operations Division or other assigned person in Ground Operations and Handling Department should check the following:

— space availability in temperature-controlled storages;
— availability of vehicles with temperature-controlled cargo hold (for tarmac transportation);
— operational status of the cooling/heating equipment in the facilities and vehicles and scheduled out-of-service periods for maintenance;
— availability of equipment and materials required for ACTAC handling (sockets, disposable D-type batteries; Dry Ice);
— availability of mobile thermometer which to be used at acceptance of loose packages (station of Origin only);
— temporary restrictions for TTSP proceeding which might be risen by local authorities;
— anticipated weather conditions at the station for the date of TTSP arrival.

Give confirmation to the Commercial Department that transportation of the shipment is possible.

6.13.3.2 ACCEPTANCE

Acceptance Checklist for "Time and Temperature Sensitive Healthcare Products" must be used for the acceptance of TTSP consignment.

Generally, the following checks of TTSP shipments shall be performed on acceptance:

— proper labelling and marking (TTS label, DG label where applicable, additional handling labels, etc.);
— cargo integrity (packages are not damaged, there is no signs of leakage); damaged package with TTSP cargo shall be rejected for acceptance and irregularity must be reported to the airline;

— documentation check and coherence of data within document pack;
— information specifying handling temperature must be the same in AWB and on TTS label, in case of discrepancy, this must be reported to the Commercial Department;
— only one temperature range is specified on AWB; in case there are two temperature regimes settled, acceptance shall be rejected and irregularity must be reported to the Commercial Department;
— if ACTAC is used, battery voltage, dry ice (if applicable), integrity of the shipping unit and indicators shall be checked;
— in case of BUP acceptance, ULD integrity shall be checked;
— in case of any discrepancies and/or signs of damage, the appropriate irregularity report/cargo damage survey (including photos) shall be completed.

Note: In case shipment is DG, DG Acceptance check list shall be used in addition to TTSP Acceptance checklist.

Note: If dry ice is used as refrigerant inside packages, IATA DGR requirements are applicable and Dry Ice Acceptance check list shall be used in addition.

6.13.3.3 STORAGE

Storage shall be performed as per Shipper's instructions (in AWB), in dedicated areas for healthcare products. Dedicated area for TTSP shall be clearly identified by applicable marking to avoid co-loading with general or other special cargo. In case the storage area is not strictly dedicated for TTSP, there should be appropriate cleaning performed.

For **sanitary reasons, TTSP cargo must always be kept in a separate storage areas** with HUM, EAT, PES, PEM, PEP, PEF, HEG, WET, AVI.

TTSP should be segregated from any classes of DG in order to prevent cross-contamination.

It is strictly forbidden to place TTSP shipments on storage outside storage facilities (onto areas that are not protected from weather conditions) where cargo may be influenced by direct sunlight, extreme temperatures or inappropriate humidity conditions.

6.12.3.4 BUILD-UP

Build-up requirements set forth in ***Section 6.10.5*** must be complied with. The additional requirements hereafter are applicable to TTSP cargo build-up.

In case build-up is done in a non-temperature-controlled area, the process time must be minimized as much as possible.

Any of the allowable ULD types shall be used:

1. certified container equipped with active temperature control system RAP/RKN;
2. PMC, FQA, PAG/PAJ unit load devices.

Main Deck: Contour must not exceed Q6.
Lower Deck: Contour must not exceed PLD.

It is forbidden to build on same ULD TTSP shipments together with HUM, EAT, PES, PEM, PEP, PEF, HEG, WET, AVI.

- Overhangs on TTSP ULDs are prohibited, unless it was coordinated with Head of Ground Handling Operations Division or Head of Ground Operations Standards and Compliance Division;
- Build-up should be performed in a clean, shady and dry place; wherever possible, build-up area should be temperature controlled. If the place is not equipped with temperature control system, then maximum allowable duration of build-up must be reduced as much as possible.
- Cargo must be protected from rain, snow and direct sunlight. GHA building up area used for TTSP handling is cleaned and maintained properly with pest control in place, access control and monitoring, protected against bad weather conditions, GHA will action, have recording system in place for temperature log.
- **It is allowed to place shipments with compatible temperature regimes on the same ULD (see Table 6.13D: TTSP compatibility chart**).

- To avoid possible greenhouse effect on cargo it is forbidden to use non-transparent dark plastic film for build-up.
- Required handling temperature of a ULD must be indicated on a pallet tag (this requirement is also valid for active aircraft containers). If two or more *compatible temperature-sensitive shipments* was built-up together in the same ULD, *the most restricting temperature range must be indicated on a pallet tag* (e.g. if COL and ERT shipments are placed on the same ULD, +2˚C/+8˚C must be indicated on a pallet tag).

Note: Irrelevant TTS labels must be removed before placing a new one.
Note: Temporary use of additional plastic film (over the net) is required in case of rain, snow, etc. The film must be removed immediately before loading ULD to aircraft by GHA.

6.13.3.5 FLIGHT PREPARATION

Loadmaster or Loadplanning Agent shall check operational restrictions of the aircraft. In case of any restrictions, the situation shall be communicated with Head of Ground Handling Operations Division and Commercial Department to obtain the optimal solution.

While performing loadplanning for the flight Loadmaster or Loadplanning Agent is responsible to ensure compliance with the following:

1. TTSP cargo should be loaded last and offloaded first whenever it is operationally possible.
2. Actual operational restrictions of specific aircraft must be checked for compatibility with handling temperature regime required for TTSP cargo.

   Note: In case of any MEL restrictions for TTSP transportation Operational Control Center and Commercial Department must be informed to coordinate the further actions as perishable shipment re-booking or aircraft change may be required.
3. It is not allowable to plan TTSP cargo in the same cargo hold with a cargo that requires an incompatible temperature regime. Refer to temperature compatibility chart to identify compatible ranges.
4. It is **forbidden** to load TTSP and HUM, EAT, PES, PEM, PEP, PEF, HEG, WET, AVI **in the same Lower Deck compartment**. It is **allowed to load** TTSP and HUM, EAT, PES, PEM, PEP, PEF, HEG, WET, AVI **on Main Deck but minimum distance must be not less than 3 meters**.
5. It is recommended to segregate dangerous goods and TTSP shipment inside AC hold with minimum 3 meters distance.

Segregation of TTSP and other special cargo as per following table should be ensured during transportation and handling.

Table 6.13C: Segregation requirements for TTSP cargo

IMP code	HUM	EAT, PES, PEM, PEP, WET, HEG	PEF	AVI	DG	OBX
Segregation requirements code	1	1	1	1	2	1

1. Forbidden to load in the same ULD, storage cell or truck.
2. It is recommended to segregate dangerous goods and TTSP shipment (do not place in the same storage cell, ULD or truck).

Compatibility of temperature ranges for TTSP

TTSP shipments **can be loaded in one** cargo hold of an aircraft, temperature-controlled truck or storage cell if **handling temperature regimes of the two shipments are compatible**. Temperature regimes are compatible when a temperature range common to these regimes (common overlap of all regimes) is 4°C wide or wider.

Table 6.13D: TTSP compatibility chart

	PIL COL+2°C +8°C	PIL ERT+2°C +25°C	PIL CRT+15°C +25°C	PIL FRO/FRI-10°C or colder
PIL COL+2°C +8°C	+	+		
PIL ERT+2°C +25°C	+	+	+	
PIL CRT+15°C +25°C		+	+	
PIL FRO/FRI-10°C or colder				+

EXAMPLE: *Handling temperature ranges COL and CRT are not compatible because they have no overlap. Handling temperature ranges COL and ERT are compatible, because overlap of ranges is 7°C (from +2°C to +8°C). Handling temperature ranges CRT and ERT are compatible, because overlap of ranges is 11°C (from +15°C to +25°C).*

NOTE: temperature-controlled area (ACTAC, temperature-controlled cell, truck, aircraft compartment) shall be pre-conditioned before placing TTSP cargo inside.
NOTE: Set temperature for several compatible temperature ranges is chosen according to **the most restricting handling temperature**. **Example**: the set temperature in cargo hold for 2 compatible temperature ranges COL and ERT will be +5°C.

6.13.3.6 RAMP HANDLING

Planning of the airside transportation is in the responsibility of GHA.

For each ULD (or a group of ULDs) with TTSP cargo a timeframe for delivery to a/c ramp position shall be provided to GHA in a free written form/phone call by Loadmaster or Airline Ramp Supervisor.
Note: The sequence of the cargo delivery should correspond to an aircraft loading sequence. Apron time transportation should be minimized.
Loadmaster or Airline Ramp Supervisor is responsible for the following:

- ✓ GHA is informed about exact time of delivery to parking position;
- ✓ GHA delivers cargo to parking position not earlier than it was agreed;
- ✓ any changes in time of delivery to parking position are discussed and agreed upon with GHA.

Ramp handling for TTSP shipments must be of high priority. TTSP cargo should be delivered to aircraft ramp position as close to ETD as practically possible and according to the loading sequence.

Special care should be taken to avoid sudden or prolonged exposure to excessive heat sources such as engines, APUs, and other exhaust systems.

In the event of TTSP offload (cargo was delivered to a/c ramp position, but loading is impossible) TTSP return to temperature-controlled storage shall be arranged as soon as possible.
GHA is responsible for the following:

- ✓ ULD integrity check: there should be no ruptures, leaks and other signs of damage or contamination;
- ✓ ULD placement on parking position is away from heat sources;
- ✓ ULD delivery/departure to/from parking position is timely.

6.13.3.7 LOADING TO CARGO HOLD AND OFFLOADING

LOADING

Pre-cooling or pre-heating of the cargo hold should be performed prior to TTSP cargo loading.

Aircraft loading should be done in such a way to minimize the exposure of the TTSP shipment to external temperatures and sunlight.

The following actions shall be done by Loadmaster or Airline Ramp Supervisor to minimize the exposure of TTSP shipments to the external temperatures during loading operations:

- ✓ check and ensure that loading equipment is at the aircraft position and ready for loading prior to arrival of the TTSP pallets and prepared to aircraft loading. Report discrepancies, if any, to the GHA and/or superior.
- ✓ cargo holds are pre-conditioned and ready for loading.

Loadmaster (charter station) or Airline Ramp Supervisor (base station) shall check the following for each ULD with TTSP immediately prior to loading on board:

- ✓ no damage, no spillage, no leakage;
- ✓ TTS label indicating required handling temperature;
- ✓ ULD tag;
- ✓ factual contour (pallet).

OFFLOADING

APU and GPU operation is required to supply power for air-conditioning packs operation until the TTSP cargo is unloaded.

Loadmaster or Airline Ramp Supervisor is responsible for the following:

- ➢ Aircraft offloading should be done in such a way to minimize the exposure of the TTSP shipment to external temperatures and sunlight. To minimize the exposure of TTSP shipments to the external temperatures during offloading the following actions shall be done:
  - ✓ check and ensure that offloading equipment is at the aircraft position prior to arrival and prepared to aircraft offload. Report discrepancies, if any, to the GHA and/or superior.
  - ✓ cargo doors **must not be open** before all the required offloading equipment (high-loader, dollies) are at the aircraft position and the permission for offloading is obtained from the local authority (if required).
- ➢ Notify the crew and maintenance team as soon as the TTSP cargo has been unloaded from aircraft in order to switch off the air-condition system and APU.
- ➢ Check each ULD with TTSP for damages, leakage and reflect irregularities in (if any).

6.13.3.8 FLIGHT DELAY OCCURRED AT RAMP HANDLING

In case of a flight delay, the responsible Loadmaster or Airline Ramp Supervisor shall notify GHA about updated ETD and updated time of TTSP tarmac transportation. GHA shall postpone tarmac transportation to aircraft accordingly.

- ➢ If a delay occurred when TTSP cargo has been delivered to aircraft, then complete loading and close cargo doors. Check and ensure (with flight crew assistance) that temperature in the cargo hold either corresponds to required handling temperature or is changing toward required handling temperature. In an extreme weather condition (typically Temp. above +28C or below -15C) the a/c air-condition system can hardly provide temperature required for TTSP shipments in cargo hold(s). If such condition exists then either return TTSP cargo to the temperature-controlled storage facilities or place the TTSP cargo to a temperature-controlled truck or sell for temporary storage.
- ➢ If a delay has occurred during tarmac transportation from warehouse to aircraft, then a decision should be made for either return the TTSP to warehouse or load the cargo on board.

Responsibility: Loadmaster or Airline Ramp Supervisor.

6.13.3.9 TTSP CARGO IN TRANSIT

When TTSP stays on board a/c air-condition system and APU shall remain running for the cargo holds with TTSP cargo whenever feasible (exception: APU running is prohibited as per airport restrictions). If this is not possible for some reason (APU failure or local restrictions), the situation shall be communicated to Operational Control Center and Head of Ground Handling Operations Division and decision shall be done to move cargo into temperature-controlled area (GHA warehouse, temperature-controlled trucks, another AC).

Loadmaster or Airline Ramp Supervisor (station of arrival) shall check estimated ground time. If it exceeds 4 hours then arrange temporary storage of TTSP in temperature-controlled area as per RHT.

In case of a flight delay that may result in ground time in excess of 4 hours, Loadmaster or Airline Ramp Supervisor shall arrange temporary storage of TTSP in temperature-controlled area as per RHT.

The temporary storage may be arranged in either thermo-controlled truck/mobile cell (cool dolly) on the ramp or in warehouse facility equipped with temperature control system.
Responsibility: Loadmaster or Airline Ramp Supervisor.

6.13.3.10 BREAK-DOWN

GHA is responsible to comply with the requirements hereafter.

Break-down should be performed in a temperature controlled, shady and dry place. If the place is not equipped with temperature control system, then break-down must be done as fast as possible. The break-down area should be cleaned and maintained properly with pest control in place, access control and monitoring, protected against bad weather conditions.

6.13.3.11 DELIVERY TO CONSIGNEE

GHA is responsible to comply with the requirements hereafter.

Delivery should be performed in a temperature controlled, shady and dry place. If the place is not equipped with temperature control system, delivery must be done as fast as possible. The delivery area should be cleaned and maintained properly with pest control in place, access control and monitoring, protected against bad weather conditions.

GHA is responsible for the following:

- ✓ Appropriate cargo documents readiness (incl. customs clearance) shall be checked prior to the delivery.
- ✓ Presence of Consignee's truck at an appropriate gate shall be checked prior to the delivery.
  Exception: this requirement is not applicable for TTSP cargo which to be delivered in ACTAC.

6.13.3.12 NOTIFICATION TO CREW

Time and Temperature Sensitive Pharmaceutical cargo shall be indicated in Section "Other Special Load" of NOTOC as follows:

- ➢ Station of unloading;
- ➢ ULD number;
- ➢ The Air Waybill number;
- ➢ Type of cargo (perishable, live animals, pharmaceuticals);
- ➢ Quantity of cargo (number of packages for bulk, total weight);
- ➢ Supplementary information (relevant information about cargo handling, eg. set temperature of active container with dry ice);
- ➢ Required Handling Temperature;
- ➢ Set temperature of cargo hold;
- ➢ IMP code;
- ➢ Loading position (applicable cargo hold as follows: MD FWD, MD AFT, LD FWD, LD AFT).

If temperature sensitive shipments (pharma, live animals, perishables, etc.) are transported on flight, relevant information about set temperature in each cargo hold must be indicated.

If NOTOC completion is performed by GHA, and the format of provided document does not contain SET TEMPERATURE information, Loadmaster or Airline Ramp Supervisor on flight must make the short notice to the crew with information indicating set temperature **per each cargo hold**.
Note: If there are several compatible temperature shipments in one hold, ST shall be calculated by the most restricting temperature range.

6.14 TRANSPORTING STACKS OF EMPTY PALLETS

Special Handling Code (SHC) - ELD.

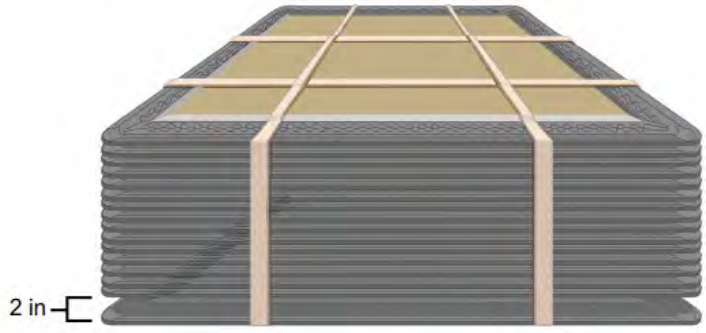
Maximum quantity per stack onboard of freighter aircraft:

ULD type	B767-300BCF (-BDSF): max quantity in stack
PMC	10
PAG/PAJ	10
PGA/PGF	N/A
PRA/PRF	5
PYB	N/A
PLA/PLB	N/A
FQA	10

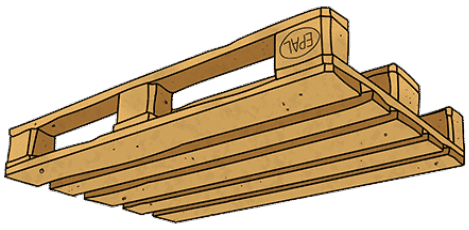
**Transportation of a stack with a large number of pallets must be agreed with the Head of Ground Handling Operations Division.*

Complete set on a pallet

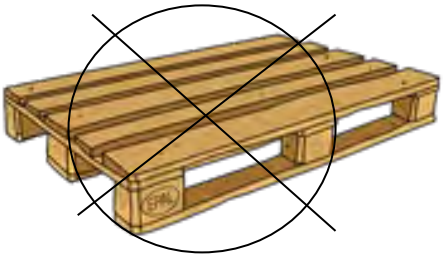
When stacking a stack on a non-rigid pallet, an elementary shoring material of longitudinal wooden beams with a cross section of 10x10 cm or more, or 4 inverted euro pallets must be used - to facilitate stack stacking with a forklift and ensure a gap between the base of the pallet and the load of at least 5 cm (2 inches) so that the track tracks for fastening the net and straps located on the base of the pallet are available:



In the case of using wooden pallets for picking - place the wooden pallets upside down to facilitate the operation of the forklift:



Recommended



Not recommended

Pallet stack fixing

Use a pallet net to secure the stack of ULDs to the pallet located at the base.

Use six (6) lashing straps to ensure stack stability - 3 straps each across the short and long sides of the ULD base. Make sure the straps are attached to the seat tracks on the base ULD between the fittings of the pallet net.

Only the following combinations of pallets in a stack are allowed:

- ✓ PMC/PAG/PYB/PLA/PLB
- ✓ PGA/PGF/PRA/PRF

NOTE: *the maximum weight of a stack of pallets secured by a net must not exceed the weights specified in* ***Part 4 GOCHM****.*

In case the stack contains mixed pallets, make sure that the smaller base pallets are placed on top of the larger base pallets.

Note: *make sure the number of pallet nets matches the number of pallets. Pallet nets permanently attached to pallets can be placed between pallets in a stack.*

The ID code of each pallet must be indicated in the "Remarks" field on the ULD tag

Fastening with straps (without net)

If only lashing straps are used to secure the stack, ensure that the following requirements are met:

- ✓ The stack consists of pallets with the same base size ULD - mixing different sizes of bases in one stack is prohibited;
- ✓ The minimum distance between the attachment points of the tie-down straps to the base of the ULD is maintained - equal to 66 cm (26 inches);
- ✓ The minimum distance between the points of attachment of the tie-down straps to the base of the ULD and the corners of the pallet is maintained - equal to 40 cm (15 inches);
- ✓ The number of straps corresponds to the number required for the respective stack weight (see table 6.14A).

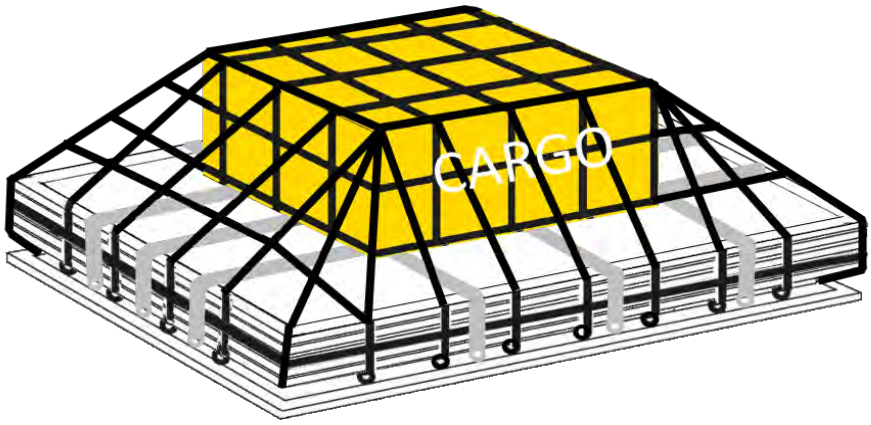
Table 6.14A. Number of straps for tie-down of a pallet stack

PALLET STACK GROSS WEIGHT	*NUMBER OF STRAPS - ON THE SHORT SIDE OF THE ULD*	*NUMBER OF STRAPS - ALONG THE LONG SIDE OF THE ULD*	*GENERAL QUANTITY*
up to 1814 kg	2	2	4
up to 2721 kg	3	3	6
up to 3628 kg*	4	4	8

**a stack of pallets exceeding the weight of 3628 kg is transported using a pallet network only (using the method described above)*

Transportation of goods on a stack of pallets

It is allowed to place cargo on top of a stack of pallets if a pallet net is used to secure the cargo, attached to the attachment points (seattracks) located on the base pallet at the base.



Make sure that such a ULD is displayed correctly in UWS/Dead load Weight Statements, for example:

UWS

…

-SR/PMC23456R7/PVG/4500A/C.PMD/Q6.ELD

…

SI SR 24 PMC pallets

Load planning

It is not recommended to plan a stack of pallets for the following aircraft positions: **B767-300BCF (-BDSF): A1, A2, A3, A12, A17, 11P, 12P, 21P, 22P**

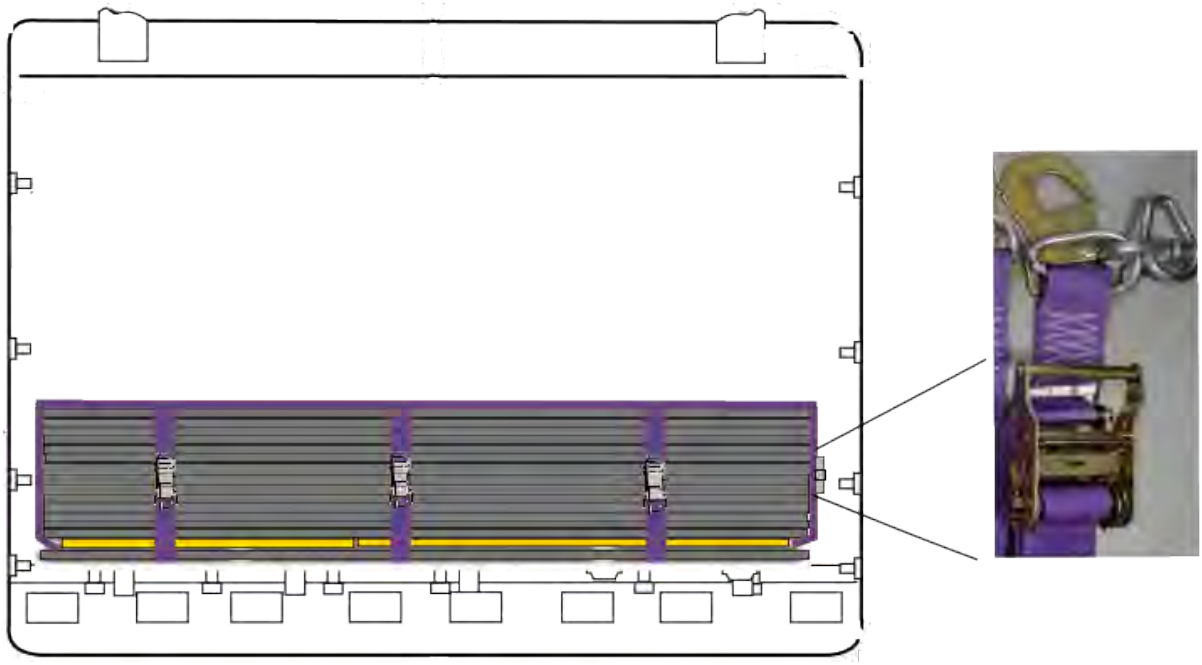
NOTE 1: *it is preferable to plan a stack of pallets on the Main deck of the aircraft, if there are free positions.*

NOTE 2: *when placing a stack of pallets at the above positions, additional tie-down of the pallet stack to the aircraft structure is required (at least 2 straps from moving upwards).*

Loading and unloading a stack of pallets

The buckles of the belt tensioners located on the stack of pallets protrude beyond the contour of the ULD and can damage the door perimeter during loading.

Ensure that the stack of pallets is safely moved through the cargo door openings.



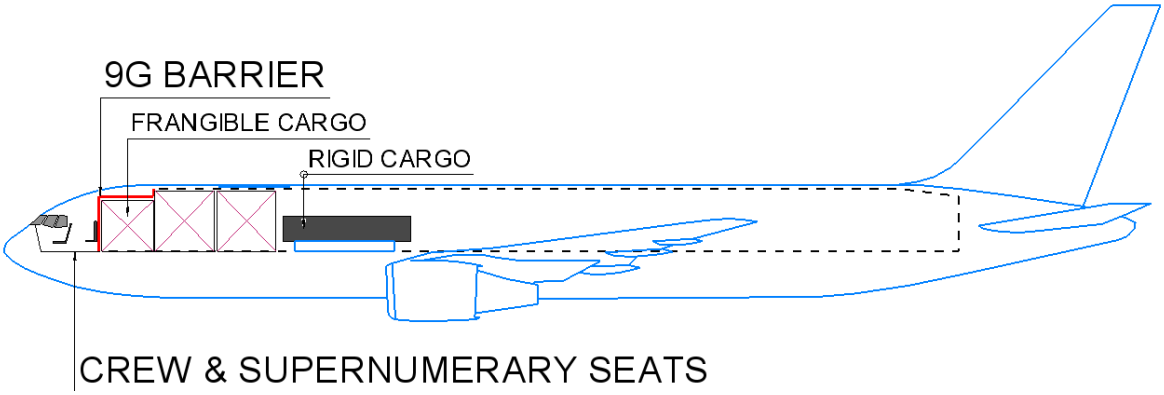
During handling operations, stacked pallets may shift and protrude outside the ULD contour. Ensure that these stacks of lug pallets move safely in the cargo hold and through cargo door openings.

6.15 RIGID CARGO

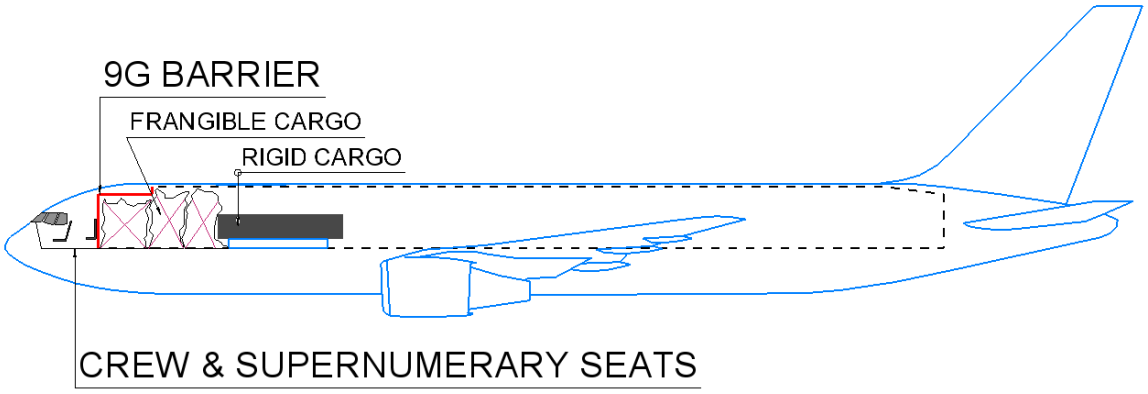
6.15.1 DEFINITION OF RIGID CARGO

Rigid Cargo is any cargo, which is not damaged in a collision with the aircraft structure and is not deformed against it in the event of an emergency landing (or rejected take-off) without the risk of damage to the structural elements of the flight deck (located FWD of main deck cargo hold).

Examples of such cargo are shipping containers, armored vehicles, large metal units, industrial machines, some aircraft engines on shipping stands, etc.



Rigid cargo and frangible cargo location onboard prior to emergency situation



Rigid cargo and frangible cargo location onboard after the emergency situation

6.15.2 DECISION ABOUT ACCEPTANCE OF RIGID CARGO FOR SHIPPING

It is up to the aircraft operator to determine whether a particular freight is a Rigid Cargo or is not.

The final decision on the possibility of transportation and the emerging restrictions on loading / time of ground handling is carried out by the head of the Aircraft and cargo registration department - the leading loadmaster based on the WNB Manual, diagrams and drawings of the cargo.

To make a decision, in some cases, additional drawings, photographs and diagrams of the cargo, as well as additional information about its design, may be required. This information must be provided to the Leading Loadmaster at his request prior to booking cargo for transportation.

6.15.3 RIGID CARGO SHIPPING: METHODS AND LIMITATIONS

B767-300BCF (-BDSF)

There are two methods for shipping of rigid cargo:

1. Positions in front of the Rigid Cargo are filled by frangible cargo (which plays the role of a buffer in case of Rigid Cargo shift).
2. Rigid Cargo and all the cargo behind it are tied-down to A/C structure against 9G acceleration in flight direction.

Positions in front of the Rigid Cargo are filled by frangible cargo (which plays the role of a buffer in case of Rigid Cargo shift)

- Positions A1, A2R, A2L, A3R, A3L must be loaded by full contoured pallets with frangible cargo. Empty containers and pallets stacks are counted as rigid cargo in this case.
- positions (left and right) immediately forward of Rigid Cargo also must be loaded by full contoured pallets with frangible cargo. Empty containers and pallets stacks are counted as rigid cargo in this case.
- Rigid Cargo must not be loaded to positions A1, A2R, A2L, A3R, A3L and appropriate positions for other loading configurations, e.g., for lateral or centerloaded PMC/PAG or 16FT ULD.
- If Rigid Cargo is loaded to positions A3L/A3R or appropriate positions of Main Deck (for other loading configurations, e.g., for lateral or centerloaded PMC/PAG or 16FT ULD), total payload of Main Deck is limited by 47627 kg.
- Refer to ***Fig. 6.15.3.1*** to understand correct methods of placement of Rigid and Frangible cargo onboard of B767-300BCF (-BDSF). If all requirements are met, loading can be performed in another manner.

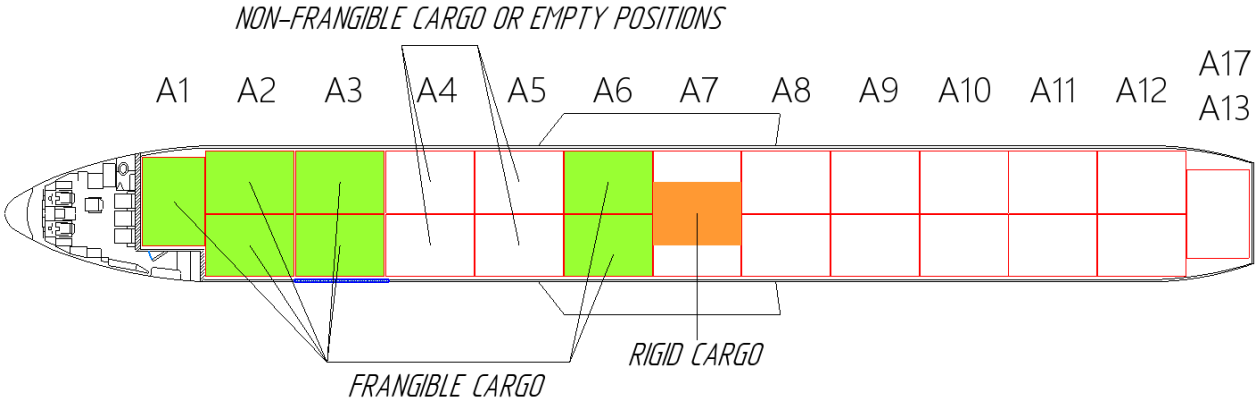


Fig. 6.15.3.1. Пример размещения Rigid Cargo и Frangible Cargo на ВС B767-300BCF (-BDSF)

Rigid Cargo and all the cargo behind it are tied-down to A/C structure against 9G acceleration in flight direction

Must be performed, if insufficient volume of frangible cargo is planned for loading to A1, A2R, A2L, A3R, A3L.

Both the total weight of the TRC loaded pallet and the weight of all other loaded pallets/containers behind the TRC are taken into account. Weight of each ULD (or the sum of all ULD weights) must be virtually increased by a factor = 9, and total amount of tie-down straps must be calculated based on this virtually increased weight.

The 9G tie-down for B767-300BCF (-BDSF) must be calculated by the Head of Ground Handling Operations Division according to the Boeing Weight and Balance Manual for appropriate aircraft.

B757-200PCF

There is only one method for shipping of rigid cargo:

Positions in front of the Rigid Cargo are filled by frangible cargo (which plays the role of a buffer in case of Rigid Cargo shift). No empty positions allowed.

- Full contoured pallets with frangible cargo must be loaded to positions 1, 2, 3. Empty or loaded containers, or pallet stacks are counted as non-frangible cargo.
- Rigid Cargo cannot be loaded to positions 1, 2, 3.

- Minimum 1 pallet with frangible cargo must be loaded immediately forward of pallet with Rigid Cargo.
- Recommends to fill the space between the Rigid Cargo and first position of Main Deck by ULD with cargo (except the positions 1, 2, 3 and position immediately forward of Rigid Cargo – non-frangible cargo can be used).
- Tie-down of Rigid Cargo against 9G acceleration is not allowed.
- Refer to ***Fig. 6.15.3.2*** to understand correct methods of placement of Rigid and Frangible cargo onboard of B757-200PCF. If all requirements are met, loading can be performed in another manner.

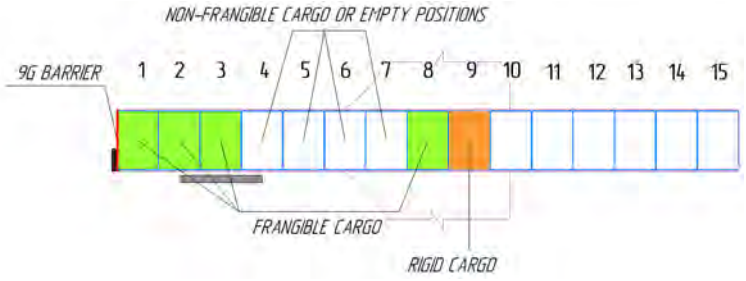


Fig. 6.15.3.2. Example of loading of Rigid Cargo u Frangible Cargo to B757-200PCF

6.16 OUTSIZED AND HEAVY CARGO

Heavy, outsized cargo is the shipment which requires an individual approach to evaluate the loading possibilities into the aircraft in part of weight spreading, tiedown, geometrical loadability, special loading equipment and loading procedures.

Heavy, outsized cargo is subject to one or more of the following characteristics:

- Cargo length is over 317 cm and/or width is over 224 cm and/or height is over 100 cm;
- Cargo shape cannot be fitted into Q6 contour;
- Cargo requires the tie down to aircraft structure;
- Cargo weight is over 1000 kg.

To identify Heavy and Outsize Cargo special handling code VHC and BIG should be used:

- BIG – cargo exceeds length of 317 cm and/or width 224cm and/or height 100 cm.
- VHC – cargo weight is over 1000 kg

Confirmation of Outsized and Heavy cargo transportation

Airline has no internal restrictions for the carriage heavy and outsize shipments. The cargo carriage may be limited only by aircraft dimensions and floor limits, airport facilities. Therefore, before transportation of Heavy, Outsized cargo follow capabilities shall be verified and to be arranged, if necessary:

- Cargo can be loaded and secured on board properly in compliance with aircraft limits.
- GHA's at airports en-route are able to provide proper ground handling;
- Cargo can be handled within standard ground time or additional ground time is necessary.

Operational part of VHC and BIG cargo carriages covered by the Ground Handling Operations Division.

Output for the loadability request is:

- additional equipment for loading/offloading necessity (as crane, extra Main Deck Loader);
- additional ground time necessity;
- non-standard shoring material;
- tiedown and shoring instructions;

- other non-standard features and activities which cannot be performed following GOCHM.

Commercial Department sales managers responsibilities:

- Get confirmation from Head of Ground Handling Operations Division for carriage VHC, BIG;
- Provide all necessary information, as per Ground Handling Operations Division request which may require for loadability check;
- Transmit requirements to the forwarder/shipper;
- Notify Ground Handling Operations Division about changes of consignment's weight, dimensions;
- Obtain the approval for Extended Ground Time from OCC, if extended ground time required.

Ground Handling Operations Division responsibilities

Ground Handling Operations Division is responsible to check and confirm/reject each BIG and VHC shipment, including:

- Verify cargo loadability through the cargo doors;
- Verify necessity for weight spreading (shoring) and estimate a required material, if necessary;
- Verify tiedown possibilities;
- Verify handling possibilities at stations en-route: Origin, Transfer and Destination;
- Verify necessity of non-standard GSE for handling BIG, VHC at stations en-route;
- Verify necessity of extra ground time for handling the cargo on ramp;
- Prepare tiedown and shoring instructions, accordingly the responsibility tables;
- Prepare the loading / offloading plan, if it cannot be performed in accordance with active GOCHM.

Loadmaster or Airline Ramp Supervisor responsibilities

In order to assure efficient and safe carriage of BIG, VHC shipments ground operation staff is responsible:

- Request the responsible person in Ground Handling Operations Division to provide shoring/tiedown instructions;
- Ensure build up, tiedown instructions provided by Ground Handling Operations Division for BIG, VHC shipments are followed.

Reporting

To ensure smooth and on time handling the flight with BIG and VHC shipments, SFR reports in case of delay should reflect an exact reason which caused the flight delay.
Typical reasons of flight delay due to BIG and VHC handling:

- LOADING/OFFLOADING OF OUTSIZED CARGO – complex loading/offloading the cargo through the outsized cargo door or/and rotation it inside the aircraft;
- DIFFICULT CARGO MOVING – hard moving ULD's with cargo over the cargo conveying system (not to conflate with inoperative system);
- CARGO TIEDOWN – tiedown the cargo inside aircraft compartment;
- LOADING/OFFLOADING CARGO USING NON STANARD GSE – loading/offloading cargo using extra Main Deck or Lower Deck loader or/and non-standard ground support equipment (GSE), as crane, forklift etc.

Any difficulties while handling BIG and VHC shipments, should be reported to Operational Control Center and Head of Ground Handling Operations Division.

6.17 VULNERABLE CARGO

Vulnerable (SHC code VUN) cargo are goods, which are subject to theft and are in great demand, which include, but not limited to:

- Cell phones;

- Tablet PCs;
- Laptops;
- Other cargo, that was booked as VUN.

These items require special protection and security measures at all stages of transportation.
Package of VUN shipments should not have identifications or pictures of its content.
Handling

- During the process of VUN shipments acceptance, special attention is to be paid to conditions of packages: cargo is to be “Ready for Carriage”, there shall not be any damages of package;
- Loading and offloading of VUN cargo into / from truck in the warehouse must be performed under CCTV control;
- VUN shipments must be stored under CCTV control;
- Build-up and break down of VUN cargo should be performed under CCTV surveillance;
- Pallets containing VUN cargo shall be visually examined at airports of loading, transit and offloading.

Notice: Loading of VUN cargo in bulk compartment is forbidden.

6.18 VALUABLE CARGO

Valuable cargo (SHC code: VAL) means a consignment, which contains one or more of the following articles:

— Any article having a declared value of carriage of US $1,000 (or equivalent) or more, per gross kilogram; except the United Kingdom, where the declared value is GBP 450 or more, per gross kilogram;
— Gold bullion (including refined and unrefined gold in ingot form), dore gold bullion, gold specie and gold only in the form of grain, sheet, foil, powder, sponge, wire, rod, tube, circles, moldings and castings, platinum, platinum metals (palladium, iridium, ruthenium, osmium and rhodium) and platinum alloys in the form of grain, sponge, bar, ingot, sheet, rod, wire, gauze, tube and strip (but excluding those radioactive isotopes of the above metals and alloys which are subject to dangerous goods regulations labeling requirements;
— Legal banknotes, traveler’s checks, securities, shares, share coupons and stamps (excluding mint stamps from the United Kingdom) and ready for use bank cards and/or credit cards;
— Diamonds (including diamonds for industrial use), rubies, emeralds, sapphires, opals and real pearls (including cultured pearls);
— Jewelry consisting of diamonds, rubies, emeralds, sapphires, opals and pearls (including cultured pearls);
— Jewelry and watches made of silver and/or gold and/platinum;
— Articles made of gold and/or platinum, other than gold and/or platinum plated;
— Works of art (pictures).

Handling

VAL shipments are preferably to be built up into containers. VAL cannot be consolidated with other goods (however, a consolidated shipment maybe wholly composed of valuables).

Minimize storage and holding times at origin and destination is essential for security of such shipments.

Strict attention should be paid to packaging standards. Package should be strong (made of wood, plastic or metal); valuables should be packed in such manner that the contents cannot be tampered with or removed without visible evidence thereof remaining. Package must be sealed and seal number must be indicated in AWB “Nature & Quantity of goods” box. Seals with erased figures must not be used.

VAL shall be stored at the strong room under CCTV, or appropriate measures must be taken to ensure that the shipment is guarded. For any valuable cargo which due to its size or other reason cannot be stored in the strong room special arrangements must be made for its security.

ULDs with VAL shipments must be loaded last on the aircraft to prevent any unauthorized accesses to the shipments.

Supervision during loading/offloading and escort for ramp transport to/from the secured storage area shall be arranged. The person who is in charge of the ramp handling of VAL shall check that the seals are affixed and intact before they are loaded into the cargo compartments. Neither loading nor offloading of any valuable cargo shipment should take place without attendance/supervision of authorized personnel. Supervision should remain in place until the aircraft is pushed back.

As soon as shipment is available for the storage in the warehouse, it must be placed inside the secured storage area.

6.19 MAIL

Any substances and/or articles that require special handling during storage or during transportation shall not be placed in mail transported on MY FREIGHTER flights.

Exception: few Hazard Materials (refer to p. 7.4.7 Dangerous goods in consolidations).

Preferably load mail in a container rather than on a pallet or in the bulk compartment.

Preferably separate mail and cargo by loading in different ULDs or bulk net sectors.

Mail must be indicated in CPM message by use of “M” load category code and “MAL” SHC.

Example:

- A13/PAJ00512FF/TAS/655/M.MAL

For ULD which contains cargo and post (mixed): use “C” load category code and “MAL” SHC.

Example:

-P11/PMC49895R7/TAS/1163/C.MAL

6.20 COMPANY MATERIALS (COMAT)

Company materials (COMAT) is non-revenue cargo and carried under non-revenue airwaybill in the same way as revenue cargo for the purposes of handling, loading, securing and transporting.

Company materials that contain dangerous goods are subject to applicable regulations of TI ICAO and IATA DGR (see Chapter 7.4.6 “Dangerous Goods in Operator’s Property”).

6.21 FRAGILE CARGO

Any item is defined as fragile cargo if it can be easily damaged by jolting, dropping, bumping or rough handling. This includes many commodities made of clay, pottery, china, stone and glass as well as commodities containing liquids (e.g. glass bottles with drinks). Proper packing of fragile cargo is a responsibility of shipper or his agent. MY FREIGHTER carries fragile cargo only if it is properly labeled and if the instructions given with the cargo do not require unreasonable/impractical demands or conditions. Handling labels shall be observed and followed during cargo build up and break down, loading/offloading to/from bulk compartment.

Labels design may vary depends on shipper but shall be clear to understand.

Figure 6.20A. Samples of fragile labels

6.22 HIGH RISK CARGO

High-risk cargo or mail – cargo or mail presented by an unknown entity or showing signs of tampering shall be considered high risk if, in addition, it meets one of the following criteria:

a) specific intelligence indicates that the cargo or mail poses a threat to civil aviation; or
b) the cargo or mail shows anomalies that give rise to suspicion; or
c) the nature of the cargo or mail is such that base-line security measures alone are unlikely to detect prohibited items that could endanger the aircraft.

Additional security measures beyond baseline procedures should be applied to cargo and mail that are deemed high risk. Threat detection techniques are the most commonly used and recommended screening methods for air cargo and mail. They are designed to detect one or more of the components of an IED, such as a detonator, a power source, or the explosive itself. Such screening methods may include:

1. manual searches;
2. conventional X-ray:
   - ✓ single view; and
   - ✓ multi view;
3. algorithm-based X-ray:
   - ✓ single view;
   - ✓ multi view;
   - ✓ computed tomography; and
   - ✓ diffraction;
4. neutron scanners;
5. metal detection;
6. explosives trace detection:
   - ✓ particles; and
   - ✓ vapour; and
7. explosives detection dogs.

For cargo deemed high risk, two or more measures listed above should be applied, ideally including explosives trace detection, algorithm-based cargo X-ray scanners, or explosives detection dogs.

Once secure, cargo and mail should be kept secure throughout their entire journey, including transfer and transit points.

6.23 TRANSPORTATION OF HUMAN REMAINS (HUM)

6.23.1 GENERAL PROVISIONS

Human remains carried on aircraft are of 2 types (the relevant information is indicated in the air waybill):

–ashes in urns (human remains in ashes);
–remains in coffins (human remains in coffin).

6.23.2 PACKING REQUIREMENTS

Non-cremated remains must be kept in a hermetically sealed lead or zinc capsule inside a wooden coffin.

A wooden coffin may be protected from damage by the outer packing and covered with canvas or tarpaulins so that no guesswork can be made about its contents.

Cremated remains must be transported in cremated urns, which must be securely protected from damage and spillage by suitable package.

There is no special marking for urns with ashes. It is required to affix a sign of the orientation of the package (arrows "Up").

6.23.3 LOADING RESTRICTIONS

Urns with ashes are accepted for transportation as normal cargo without special restrictions.

When transporting human remains in coffins, special rules apply:

- coffins must be loaded in a horizontal, but in no case in a vertical position;
- non-cremated human remains cannot be loaded in the immediate vicinity of dogs and other animals with a good sense of smell, as well as foodstuffs without airtight packing;
- coffins are usually considered heavy packages (HEA);
- the pilot-in-command must be notified of this using the notification form of the presence of special categories of cargo on board (NOTOC);
- HUM code, place of loading and weight of the cargo, for example, HUM/5/160, must be indicated in the relevant columns of the summary loading list and the telegram on loading the aircraft;
- the coffins must be individually secured on the ULD/beam compartment (depending on the type of aircraft) against shift in 5 directions (in accordance with the provisions of Part 9 of these Guidelines);
- stacking coffins is prohibited under any circumstances;
- it is forbidden to place any kind of cargo, equipment, baggage on top of the coffins.

6.23.4 REQUIRED DOCUMENTATION

Transportation of human remains by air is subject to the following conditions:

– ensuring safety and sanitary standards;

– presentation by the Consignor of documents stipulated by regulatory legal acts and / or legislation of the country, to the territory, from the territory or through the territory of which the transportation is carried out.

When exporting/importing from/to the customs territory/s of the Customs Union, urns with ashes (ashes) and coffins with bodies (human remains) the Consignor submits the following documents:

– death certificate issued by the civil registry departments in the manner established for the registration of civil status acts in the member states of the customs union / issued by an authorized institution of the country of departure (when importing), or a medical death certificate (or notarized copies of these documents);

– conclusion in any form of local bodies of state sanitary supervision on the possibility of exhumation (in case of reburial);

– an act (certificate) in any form from a specialized organization that carried out funeral services for sealing zinc coffins, indicating that there are no extraneous investments in them, and with an inventory of the things and valuables of the deceased if they were sent along with the body (remains) of the deceased;

– when sending urns with ashes, the above act is not required, but a certificate of cremation is required;

– certificate of absence of infectious diseases;

– other documents, in accordance with the requirements of the authorities of the countries of destination or transit.

6.24 DAMAGED CARGO, DAMAGED PACKING

Any damaged cargo revealed at departure, transit or destination station requires issue of Cargo Damage Survey Report (CDS), taking pictures of the cargo immediately at place of damage disclosure.

Carriage of cargo having external packing damage, even when the damage does not affect the cargo safety, without issue a Cargo Damage Survey report (CDS) is prohibited.

CDS should be issued and signed by GHA and Cargo Agent/Forwarder or Shipper in case of detecting any external packing damage and visible damage of external plastic foil covering an ULD built up by Cargo Agent/Forwarder (BUP/SMU ULD).

Damaged cargo package repacking

Upon discovery of damaged shipments, damaged packing, the handling agent prepares a damaged cargo/package report. The report includes CDS, photos before repacking and after repacking. comments. including comments regarding the transportation stage and circumstances of damage to the cargo. The report should indicate the stage of handling process, where damage is discovered, as well as circumstances of damage occurrence, if such circumstances are known.

Repacking of the cargo is arranged by the handling agent upon coordination with Ground Handling and Operations Department and/or Commercial department. The place of repacking should be marked using materials having clearly visible logo or name of the handling agent. The repacking should ensure detection of any unauthorized access to the cargo in the place of repacking. In case of Handling Agent use non-branded repacking materials (eg. duct tape) without a clearly visible logo or name of the Handling Agent, the damaged place of the package shall be marked by writing “repacked at (station name) by (Handling Agent name)".

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PART 7. DANGEROUS GOODS TRANSPORTATION

7.1 GENERAL REQUIREMENTS AND TERMS

Dangerous Goods are articles or substances which are capable of posing a hazard to health, safety, property or the environment and which are shown in the list of dangerous goods in ICAO TI/IATA DGR or which are classified according to ICAO TI/IATA DGR.

This Part regulates the safe transportation of dangerous goods by air on MY FREIGHTER LLC flights, including the basic procedures for handling and transportation of dangerous goods, emergency procedure in case of incidents on the ground, as well as training requirements.

***NOTE**: Persons responsible for violations of the requirements established in this Part can be subject to disciplinary, administrative, criminal and financial liability in accordance with the current legislation of the Republic of Uzbekistan.*

When performing international air transportation of dangerous goods, the carrier and its authorized agent must comply with the requirements of the ICAO Technical Instructions, as well as the laws of the States of origin, transit and destination, as well as international treaties to which the Republic of Uzbekistan has acceded.

No official of the airline or other organization are allowed to require the acceptance or carriage of goods prohibited for carriage by air under any circumstances.

Only those dangerous goods that are listed in the Dangerous Goods List as permitted for transportation on passenger and cargo aircraft are allowed to be transported. At the same time, dangerous goods permitted for transportation only on cargo aircraft are not allowed to be transported on passenger aircraft.

It is strictly forbidden to accept for carriage by air dangerous goods, including dangerous goods and substances owned by an airline (COMAT), unless they are properly classified, documented, packaged, certified, described, labeled and in proper condition for transportation.

In order to ensure aviation security, dangerous goods transported by air are subject to mandatory pre-flight screening in accordance with the procedure established by law and using the technical means that ensure the implementation of such screening.

Any package of dangerous goods that is opened during pre-flight screening must be repacked by appropriately qualified and certified personnel to meet packing requirements.

If the Shipper refuses to inspect the dangerous goods being shipped, the air transportation contract is considered terminated.

Each aircraft carrying dangerous goods must have Emergency Procedures for Aircraft Incidents Involving Dangerous Goods (DOC 9481-AN/928) on board.

Safe transport of Dangerous goods may be distinguished if shipments are prepared for transportation in strict accordance with the requirements of the current edition of the ICAO TI, which includes:

- limiting the quantity per package;
- compliance with packing instructions;
- use of UN-certified packages;
- checking each DG package, overpack or shipping container for leakage, spillage, etc.
- the presence of specific labels and markings on the outside of the package;
- preparation of specific documentation (Dangerous Goods Declaration);
- fulfillment of compatibility requirements when loaded into the aircraft;
- prohibition on transportation of certain dangerous goods on a passenger aircraft;
- prohibition on the carriage of certain dangerous goods on board of any aircraft.

DGs must be accompanied by the following documents during transportation:

a) Air waybill (with the correct wording as per Chapter 8 of the IATA DGR);

b) Shipper’s Dangerous Goods Declaration (as applicable by TI ICAO).

DGs must be accepted for transportation by the airline or its authorized agent in compliance with the ICAO TI procedure for accepting dangerous goods in accordance with the DG Acceptance Checklist.

To prevent the unintentional use of obsolete regulatory documents, forms of transportation documentation and tags, it is necessary to ensure their timely withdrawal.

In case of emergency, or when the use of other modes of transport is practically impossible, or when full compliance with the prescribed requirements is contrary to the public interest, the States concerned may grant exemptions from the provisions of the ICAO Technical Instructions, provided that every effort is made to achieve an overall level of safety in transportation, which is equivalent to the level provided by compliance with the ICAO Technical Instructions. The States concerned are the States of origin, transit, overflight and destination of the consignment, and the State of the operator. If none of these criteria for granting an exemption apply to a State of overflight, it may grant an exemption solely on the basis of confidence that that an equivalent level of transport safety will be ensured. The transportation of dangerous goods under exemptions in the Republic of Uzbekistan is regulated by the Guidelines on the procedure for granting exemptions from the requirements of the aviation regulations of the Republic of Uzbekistan No. 45 dated June 19, 2020.

The airline's authorized ground handling agent shall ensure a current edition of the Dangerous Goods Regulations (DGR), the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) or equivalent documentation is accessible at each location where ground handling operations involving the loading of dangerous goods as cargo are conducted.

DG training as per approved training programs, depending on the tasks performed at the workplace, is mandatory for Shipper’s and Operator’s staff, involved in DG handling and transportation.

The airline carries out a risk assessment when transporting dangerous goods, including lithium cells and batteries (see MF.SMS3-05.RUS/ENG, Practice: Dangerous Goods and Lithium Batteries Transportation Risk Assessment).

7.1.1 PROVISION OF INFORMATION AT CARGO ACCEPTANCE AREA

Airline or its handling agent must ensure that sufficient notices, prominently displayed, are provided at visible location at cargo acceptance points, giving information about the transport of dangerous goods to alert shippers/agents about any dangerous goods that may be contained in their cargo consignments. These notices must include visual examples of dangerous goods, including batteries.

7.1.2 PROVISION OF INFORMATION TO PASSENGERS

Airline has a process to inform passengers about dangerous goods that passengers are forbidden to carry aboard an aircraft described in **Part 5, Chapter 5.6.3 GOCHM**.

7.1.3 DG DOCUMENTATION AND RETENTION OF DOCUMENTS

A «Shipper’s Declaration for Dangerous Goods» (further – DGD) must be completed by the shipper for each consignment of dangerous goods, except for:

- UN 3164, Articles, pressurized, hydraulic (PI 208 a);
- UN 3164, Articles, pressurized, pneumatic (PI 208 a);
- UN 3373 Biological substance, category B;
- UN 1845, Carbon dioxide, solid, when used as a refrigerant for other than dangerous goods;
- UN 3245 Genetically modified organisms/microorganisms
- Lithium ion or lithium metal cells or batteries meeting the provisions of Section II PI 966, 967, 969 and 970;
- UN 2807, Magnetized materials;
- Radioactive material, excepted package (RRE)

It's shipper responsibility to prepare DGD according to Section 8 of current edition of DGR IATA.

AWB accompanying dangerous goods consignment for which a dangerous declaration is required must include the following statements, as applicable, in the «Handling information» box:

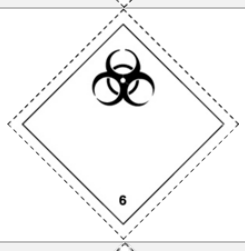
- «Dangerous goods as per attached Shipper's declaration» or «Dangerous Goods as per attached DGD»
- «Cargo Aircraft Only» or «CAO».

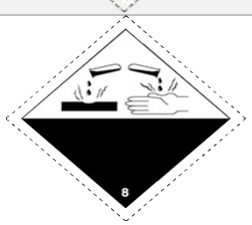
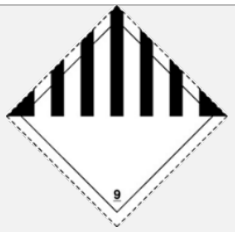
7.2 DANGEROUS GOODS CLASSIFICATION

Articles or substances subject to ICAO TI/DGR IATA requirements are assigned to one of nine classes, depending on the type of hazard or the predominant hazard with which they are characterized. Some of these classes are subdivided into categories.

Class/Category IMP code	*Hazard Labels & Handling Labels*	*Definition/Description*
Class 1 **Category 1.1** **REX-CAO** **Compatibility groups** **A B C D E F G J L**		Articles or substances which have a mass explosion hazard. Compatibility groups A, B, C, D, E, F, G, J, L. Forbidden for transportation (without exception).
Class 1 **Category 1.2** **REX-CAO** **Compatibility groups** **B C D E F G H J K L**		Articles or substances which have a projection hazard but do not present a mass explosion hazard. Compatibility groups B, C, D, E, F, G, H, J, K, L. Forbidden for transportation (without exception).
Class 1 **Category 1.3** **REX-CAO** **RCX-CAO** **RGX-CAO** **Compatibility groups** **C F G H J K L**		Articles or substances which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. Compatibility groups F, H, J, K, L are prohibited for air transport (no exceptions). Compatibility groups C, G can only be carried on cargo aircraft (CAO).
Class 1 **Category 1.4** **REX-CAO** **RXB-SAO** **RXC-CAO** **RXD-CAO** **RXE-CAO** **RXG-CAO** **RXS-PAX/CAO**		Articles or substances presenting no significant hazard. Compatibility group F prohibited from air transport. Compatibility groups B, C, D, E, G can only be carried on cargo aircraft (CAO). *Category 1.4S is allowed for transportation on passenger aircraft.*

Compatibility groups B C D E F G S		
Class 1 Category 1.5 REX-CAO **Compatibility Group D**		Very insensitive substances having a mass explosion hazard. Forbidden for carriage (No exceptions).
Class 1 Category 1.6 REX-CAO **Compatibility Group N**		Extremely insensitive articles that do not have a mass explosion hazard. Forbidden for carriage (No exceptions).
Class 2 Category 2.1 RFG		Flammable gas.
Class 2 Category 2.2 RNG RCL - PI 202 only		Non-flammable non-toxic gas. RNG for non-flammable non-toxic gas. RCL for cryogenic liquids packed according to PI 202.
Class 2 Category 2.3 RPG-CAO		Toxic gas. Must be transported on cargo aircraft (CAO) only.
Class 3 RFL		Flammable liquids.
Class 4 Category 4.1 RFS		Flammable solids; Self-reactive substances; Polymerizing substances; Solid desensitized explosives.

Class 4 **Category 4.2** **RSC**		Substances liable to spontaneous combustion.
Class 4 **Category 4.3** **RFW**		Substances which, in contact with water, emit flammable gases.
Class 5 **Category 5.1** **ROX**		Oxidizer.
Class 5 **Category 5.2** **ROP**		Organic peroxides.
Class 6 **Category 6.1** **RPB**		Toxic substances
Class 6 **Category 6.2** **RIS**		Infectious substances.
Class 7 **Category: I-White** **RRW**		Radioactive material is any material containing radionuclides in which the concentration of activity, as well as the total activity of the cargo, exceed the values specified in the ICAO TI / DGR IATA.
Class 7 **Category: II-Yellow** **RRY**		To ensure control over radioactive radiation, the concept of a transport index has been introduced. Transport Index (TI) - an index assigned to a package or overpack used to monitor radiation exposure. *Transport index: from 0.1 to 1*

Class 7 **Category: III-Yellow** **RRY**		Packages containing radioactive material with a transport index greater than 10 must only be transported under exclusive use. *Transport index: from 1 to 10*
Grade 8 **RCM**		Corrosive substances are substances which, by chemical action, will cause irreversible damage to the skin or, in case of leakage will materially damage or even destroy, other the means of transport.
Class 9 **RMD** **RSB** **ICE** **MAG**		Articles and substances which, during air transport, present a danger not covered by other classes. For example: Aviation regulated solid or liquid; Magnetized material; Elevated temperature substances; Environmentally hazardous substances; Genetically modified micro-organisms or genetically modified organisms; Lithium Batteries; Substances which, on inhalation as fine dust, may endanger health; Capacitors; Substances evolving flammable vapour (Polymeric Beads (RSB)); Life-saving appliances; Substances and articles which, in the event of fire, may form dioxins; Other substances or articles presenting a danger during transport, but not meeting the definitions of another class (Dry ice (ICE), Consumer commodity (ID 8000), Internal combustion engine, etc.).
Class 9 **MAG**		Magnetized material

Class 9 **RBI CAO** **RBM CAO** **ELI** **ELM** **RLI** **RLM**	 "Lithium batteries" marking 	Lithium batteries can be presented for transportation as: a) separate (spare); b) contained in equipment; c) packed with equipment.

NOTE: *transportation of radioactive materials by My Freighter, LLC can be carried out only after obtaining a license issued by a special authorized body of the Republic of Uzbekistan.*

7.3 LIST OF DANGEROUS GOODS

All items and substances offered for air transport and most frequently offered for transport, as well as their classes, divisions, subsidiary hazards, packing group, are listed in the List of Dangerous Goods (blue pages) included in the ICAO TI.

The list includes a number of articles and substances that are forbidden in aircraft under any circumstances.

Dangerous goods may only be transported after their dangerous properties have been determined. It is the shipper's responsibility to identify the goods (determine the proper shipping name that characterizes these dangerous goods, which must be classified according to class definitions and test criteria). The name in the Dangerous Goods List which most appropriately describes the substance must be used. Once substance or article has been classified, all conditions contained in these Guidelines regarding handling and transportation must be met. Any article or substance that has, or is expected to have, explosive properties should be considered for inclusion in Class 1.

7.4 LIMITATIONS

7.4.1 DANGEROUS GOODS FORBIDDEN IN AIRCRAFT UNDER ANY CIRCUMSTANCES

Dangerous goods forbidden in aircraft under any circumstances - any article or substance which as presented for transport, is liable to explode, dangerously react, produce a flame or dangerous evolution of heat or dangerous emission of toxic, corrosive or flammable gases or vapors under conditions normally encountered in transport must not be carried on aircraft under any circumstance. Such substances can be easily identified in the list of dangerous goods of the IATA DGR by the following features:

a) there is no UN number (UN);
b) the proper shipping name is written in thin type;
c) columns I, J, K, L contain the word "Forbidden";
d) there is no drill code in column N.

7.4.2 DANGEROUS GOODS FORBIDDEN UNLESS EXEMPTED

The following dangerous goods must not be carried on aircraft unless exempted by States concerned.

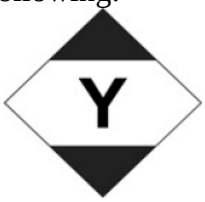
- ✖ Radioactive material which is in vented Type B(M) packages, in packages which require external cooling by an ancillary cooling system, in packages subject to operational controls during transport, explosive, a pyrophoric liquid;
- ✖ Unless otherwise provided, articles and substances (including those described as “not otherwise specified”) with a UN number, which are identified in the List of Dangerous Goods as being forbidden;
- ✖ Infected live animals;
- ✖ Liquids having a vapour inhalation toxicity which requires Packing Group I packaging;
- ✖ Substances that are offered for transport in a liquid state at temperature equal to or exceeding 100°C, or in a solid state at temperatures equal to or exceeding 240°C;
- ✖ Any other articles or substances as specified by the appropriate national authority.

The States concerned are the States of origin, Operator, transit, overflight and destination.

7.4.3 DANGEROUS GOODS IN LIMITED QUANTITIES

Many dangerous goods when in reasonably limited quantities present a reduced hazard during transport and can safely be carried in good quality packaging of the types specified in UN Recommendations but which have not been tested and marked accordingly.

Such packages must be marked with the following:



- ✓ Packing instructions for dangerous goods in limited quantities are indicated with the addition of the letter "Y".
- ✓ The net quantity per package must not exceed the quantity specified in column H of the List of Dangerous Goods against the packing instruction number identified in Column G.
- ✓ The gross weight of each package must not exceed 30 kg.
- ✓ All other requirements (marking, paperwork, provision of information to the aircraft commander) must be met.

7.4.4 DANGEROUS GOODS IN EXCEPTED QUANTITIES

IMP code - REQ

Small quantities of dangerous goods, other than articles, meeting the provisions of subsection 2.6 of IATA DGR are not subject to other provisions of the IATA DGR Certain articles or substances in small quantities may be accepted for carriage under the simplified procedure:

- ➢ NOTOC is not required;
- ➢ No restrictions on incompatibility and special processing;
- ➢ A shipper's declaration is not required;
- ➢ Additional labeling is not required

Dangerous goods that may be carried as excepted quantities are identified in column 9 of the ICAO TI Dangerous Goods List with an alphanumeric code as follows:

Code	Maximum quantity per inner package	Maximum quantity per outer package
E0	Not allowed as an excepted quantity	
E1	30g/30ml	1 kg/1l
E2	30g/30ml	500g/500ml
E3	30g/30ml	300g/300ml
E4	1g/1ml	500g/500ml
E5	1g/1ml	300g/300ml

Packages containing dangerous goods in excepted quantities must be marked with the following symbol:
**— Class number(s) or, if assigned, category.*
***—The name of the consignor or consignee, if it is not indicated elsewhere on the package.*

7.4.5 RADIOACTIVE MATERIAL IN EXCEPTED PACKAGE (RRE)

A package may be classified as an excepted package if it meets one of the following conditions:

a) They contain radioactive material in limited quantities;
b) They contain instruments of articles in limited quantities;
c) They contain articles manufactured of natural uranium, depleted uranium or natural thorium;
d) They are empty packages having contained radioactive material.

These shipments must have the label 'Radioactive Material, Excepted Package with filled in UN number (only following: UN 2908, UN 2909, UN 2910, and UN 2911).

- NOTOC is not required;
- There are no restrictions on compatibility and special processing;
- A shipper's declaration is not required;
- Additional labeling is not required.

A package containing radioactive material may be classified as an excepted package provided that the radiation level at any point on its outer surface does not exceed 5 μSv/h.

7.4.6 DANGEROUS GOODS IN OPERATOR'S PROPERTY (COMAT)

Items or substances carried for the needs of the Airline (COMAT) that have been classified as dangerous goods must not be transported on the aircraft of the airline unless all below requirements were met:

- Airwaybill is issued;
- DG COMAT are handled, packaged and labeled properly;
- Dangerous Goods Declaration is issued;
- Shipment is not part of the commercial load.

Exceptions:

- ***Aircraft equipment*** — articles or substances which would otherwise be classified as dangerous goods, but which are required to be aboard the aircraft in accordance with pertinent airworthiness requirements and operating regulations, or that are authorized by the State of the Operator to meet special requirements;
- ***Dry ice (carbon dioxide solid)*** for use in food and beverage service aboard the aircraft;
- ***Hygiene Products*** - alcohol-based hand sanitizers and alcohol-based cleaning products carried aboard an aircraft by the Operator for use on the aircraft during the flight or series of flights for the purposes for passengers and crew hygiene;
- ***Battery-powered electronic equipment*** – electronic devices such as electronic flight bags, personal entertainment devices, credit card readers, containing lithium metal or lithium ion cells or batteries and spare lithium batteries for such devices carried abroad an aircraft by the operator for use on the aircraft during the flight or series of flights, provided that these batteries meet the provisions of ICAO TI/DGR IATA.
- ***Consumer goods*** – aerosols, alcoholic beverages, perfumes, colognes, liquefied gas lighters and portable electronic devices containing lithium metal or lithium ion cells or batteries, provided that these batteries comply with the provisions of ICAO TI/DGR IATA, carried aboard an aircraft by the operator for use or sale on this aircraft during the flight or a series of flights, but excluding non-refillable gas lighters and those lighters liable to leak when exposed to reduced pressure.

7.4.7 CARRIAGE OF DANGEROUS GOODS BY POST

The Universal Postal Union Convention forbids the carriage of dangerous goods in mail, except for those listed below:

- Infectious substances, assigned to Biological substance, Category B (UN 3373) only, when packed in accordance with the requirements of Packing Instruction 650 and carbon dioxide, solid (dry ice) when used as refrigerant for infectious substances (UN 3373). When dry ice is used as a refrigerant for UN3373, all applicable parts of Packing Instructions 954 must be met.
- Patient specimens as defined in IATA DGR 3.6.2.1.4, provided that they are classified, packed and marked as required by IATA DGR 3.6.2.2.3.8 (a) to (d).
- Radioactive material in an excepted package, UN 2910 and UN 2911 only, provided the activity not exceeding one tenth of that permitted in IATA DGR Table 10.3.C, which does not meet the definitions and criteria for inclusion in another class.
- *UN 3481 Lithium-ion batteries contained in equipment* complying with the provisions of Section II of PI 967. No more than four cells or two batteries may be mailed in any single package.
- *UN 3091 Lithium metal batteries contained in equipment* complying with the provisions of Section II of PI 970. No more than four cells or two batteries may be mailed in any single package.

7.4.8 STATE VARIATIONS

States may submit variations to the regulations for the transport of dangerous goods. If such discrepancies necessitate more stringent provisions than those provided for in the ICAO/DGR IATA TI, they apply to the transport of dangerous goods by air:

- to, from or through all territory subject to the sovereignty of the notifying State by all operators;
- outside the territory of the notifying State to all operators for whom the notifying State is the State of the Operator.

If such differences necessitate less stringent provisions than those specified in the ICAO/DGR IATA TI, these differences are for informational purposes only and may only apply within the territory of the notifying State by those operators for which the notifying State is the State of the Operator.

A list of State differences is provided in the current edition of the ICAO TI.

7.4.9 DANGEROUS GOODS CARRIED BY PASSENGERS AND CREW

When carrying passengers, dangerous goods classified in accordance with the requirements of ICAO TI **cannot be carried** by passengers in hand (carry-on) baggage, with them and in checked (hold) baggage, except in cases where they are carried by passengers for their own needs and are allowed for transportation in the type and quantity specifically specified in DGR IATA 2.3.2-2.3.5.

A basic list of dangerous goods permitted for carriage is given in **Table 2.3A**, cited in the same section and duplicated in this section of this Guide.

This table is mandatory for use and control by all employees of the airline, as well as provided in an informational form for passengers and crew members engaged in passenger transportation.

Check-in agents should use the table below as a basis for accepting/refusing to check-in prohibited/dangerous items and substances in passenger carry-on/baggage.

If it is not possible to unequivocally determine the possibility of transporting dangerous goods indicated in the table below, the representative of the airline, based on his knowledge, must decide on the refusal to transport dangerous goods and substances.

Training on function 7.5 "Carriage of dangerous goods by air" should be provided for all employees of the airline / airports that control passenger service, taking into account local restrictions and service features.

Information on those hazardous substances and items that are allowed for transportation with mandatory notification of the aircraft crews must be brought to the attention of the flight crew.

Table 2.3A. Dangerous goods carried by passengers and crew

	The pilot-in-command must be informed of the location	Permitted in or as carry-on baggage	Permitted in or as checked baggage	The approval of the operator is required
Alcoholic beverages, when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L. ***Note:*** *Alcoholic beverages containing 24% or less alcohol by volume are not subject to any restrictions.*	NO	YES	YES	NO
Ammunition, securely packaged (in Div. 1.4S, UN 0012 or UN 0014 only), in quantities not exceeding 5 kg gross weight per person for that person's own use. Allowances for more than one person must not be combined into one or more packages.	YES	YES	NO	NO
Avalanche rescue backpack, one (1) per person, containing cartridges of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing no more than 200 mg net of Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.	YES	YES	YES	NO
Baggage with installed lithium batteries non-removable batteries exceeding–0.3 g lithium metal or 2.7 Wh.	FORBIDDEN			
Baggage with installed lithium batteries: – non-removable batteries. Batteries must contain no more than 0.3 g lithium metal or for lithium ion must not exceed 2.7 Wh; – removable batteries. Batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin.	NO	YES	YES	NO
Batteries, spare/loose, including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries (see 2.3.5.8) for portable electronic devices must be carried in carry-on baggage only. Articles which have the primary purpose as a power source, e.g. power banks are considered as spare batteries. These batteries must be individually protected to prevent short circuits. Lithium metal batteries: the lithium metal content must not exceed 2 g (see 2.3.5.8.4). Lithium ion batteries: the Watt-hour rating must not exceed 100 Wh (see 2.3.5.8.4). Each person is limited to a maximum of 20 spare batteries. *The operator may approve the carriage of more than 20 batteries. Non-spillable batteries: must be 12 V or less and 100 Wh or less. Each person is limited to a maximum of 2 spare batteries (see 2.3.5.8.5).	NO*	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container (see 2.3.2.5 for details).	YES	YES	NO	NO
Chemical Agent Monitoring Equipment, when carried by staff members of the Organization for the Prohibition of Chemical Weapons on official travel (see 2.3.4.4).	YES	YES	YES	NO
Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.	FORBIDDEN			
Dry ice (carbon dioxide, solid), in quantities not exceeding 2.5 kg per person when used to pack perishables not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Checked baggage must be marked "dry ice" or "carbon dioxide, solid" and with the net weight of dry ice or an indication that there is 2.5 kg or less dry ice.	YES	YES	YES	NO
e-cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation (see 2.3.5.8.2).	NO	NO	YES	NO
Electro shock weapons (e.g. Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are forbidden in carry-on baggage or checked baggage or on the person.	FORBIDDEN			
Fuel cells containing fuel, powering portable electronic devices (e.g. cameras, cellular phones, laptop computers and camcorders), see 2.3.5.9 for details.	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices, see 2.3.5.9 for details.	NO	YES	YES	NO
Gas cartridges, small, non-flammable containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a **self-inflating personal safety device**, intended to be worn by a person, such as a life jacket or vest. Not more than two (2) devices per passenger and up to two (2) spare small cartridges per device, not more than four (4) cartridges up to 50 mL water capacity for other devices (see 2.3.4.2).	YES	YES	YES	NO
Gas cylinders, non-flammable, non-toxic worn for the **operation of mechanical limbs**. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.	NO	YES	YES	NO
Hair styling equipment containing a hydrocarbon gas cartridge, up to one (1) per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. This hair styling equipment must not be used on board the aircraft. Spare gas cartridges for such hair styling equipment are not permitted in checked or carry-on baggage.	NO	YES	YES	NO

	The pilot-in-command must be informed of the location	Permitted in or as carry-on baggage	Permitted in or as checked baggage	The approval of the operator is required
Insulated packagings containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material containing only non-dangerous goods.	NO	YES	YES	NO
Internal combustion or fuel cell engines, must meet A70 (see 2.3.5.12 for details).	NO	YES	NO	NO
Lithium Batteries: Portable electronic devices (PED) containing lithium metal or lithium ion cells or batteries, including medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets (see 2.3.5.8). For lithium metal batteries the lithium metal content must not exceed 2 g and for lithium ion batteries the Watt-hour rating must not exceed 100 Wh. Devices in checked baggage must be completely switched off and must be protected from damage. Each person is limited to a maximum of 15 PED. *The operator may approve the carriage of more than 15 PED.	NO*	YES	YES	NO
Lithium batteries, spare/loose, including power banks, see **Batteries, spare/loose**				
Lithium battery-powered electronic devices. Lithium ion batteries for portable (including medical) electronic devices, a Wh rating exceeding 100 Wh but not exceeding 160 Wh. For portable medical electronic devices only, lithium metal batteries with a lithium metal content exceeding 2 g but not exceeding 8 g. Devices in checked baggage must be completely switched off and must be protected from damage.	YES	YES	YES	NO
Lithium batteries, spare/loose with a Watt-hour rating exceeding 100 Wh but not exceeding 160 Wh for consumer electronic devices and PMED or with a lithium metal content exceeding 2 g but not exceeding 8 g for PMED only. Maximum of two spare batteries in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	YES	NO	YES	NO
Matches, safety (one small packet) or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage. ***Note:*** *"Strike anywhere" matches, "Blue flame" or "Cigar" lighters or lighters powered by a lithium battery without a safety cap or means of protection against unintentional activation are forbidden (see 2.3.5.8.4(e)).*	NO	ON ONE'S PERSON		NO
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **non-spillable wet batteries, nickel-metal hydride batteries or dry batteries**, (see 2.3.2.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **spillable batteries or with lithium ion batteries** (see 2.3.2.3 and 2.3.2.4 for details).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **lithium ion batteries** where the design of the mobility aid does not provide adequate protection for the battery(ies) (see 2.3.2.4.3 for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol; and **Non-flammable, non-toxic (Division 2.2) aerosols**, with no subsidiary hazard, for sporting or home use (see 2.3.5.1). The total net quantity of non-radioactive medicinal or toiletry articles and non-flammable, non-toxic (Division 2.2) aerosols must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.	NO	YES	YES	NO
Oxygen or air, gaseous, cylinders required for **medical use**. The cylinder must not exceed 5 kg gross weight. ***Note:*** *Liquid oxygen systems are forbidden for transport.*	YES	YES	YES	YES
Permeation devices, must meet A41 (see 2.3.5.13 for details).	NO	YES	NO	NO
Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person or fitted externally.	NO	ON ONE'S PERSON		NO
Security-type equipment (see 2.3.2.6 for details).	YES	YES	NO	NO
Security-type attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, except as provided in 2.3.2.6 are totally forbidden. See entry in 4.2–List of Dangerous Goods.	FORBIDDEN			
Specimens, non-infectious packed with small quantities of flammable liquid, must meet A180 (see 2.3.5.11 for details).	NO	YES	YES	NO
Thermometer, medical or clinical, which contains mercury, one (1) per person for personal use, when in its protective case.	NO	YES	NO	NO
Thermometer or barometer, mercury filled carried by a representative of a government weather bureau or similar official agency (see 2.3.3.1 for details).	YES	NO	YES	YES

Note:
The provisions of Subsection 2.3 and Table 2.3.A may be limited by State or operator variations. Passengers should check with their airline for the current provisions.

7.4.10 DANGEROUS GOODS IN SMU/BUP ULD

Only the following DG are allowed under BUP/SMU program:

- UN 2807 Magnetized material (MAG);
- UN 1845 Carbon dioxide, solid (Dry ice) used as a refrigerant for other than dangerous goods prepared according to Packing Instruction 954 (ICE);
- ID 8000 Consumer commodities;
- UN 3373 Biological substance, category B (RDS);
- UN 3245 Genetically modified organisms/microorganisms;
- UN 3481 Lithium ion batteries in/with equipment meeting the provisions of Section II of Packing instructions 966, 967 (ELI);
- UN 3091 Lithium metal batteries in/with equipment meeting the provisions of Section II of Packing Instructions 969,970 (ELM);
- UN 3164 Articles, pressurized, hydraulic or Articles, pressurized, hydraulic pneumatic prepared according to PI 208 (a);
- Dangerous goods in excepted quantities (REQ);
- Radioactive material, excepted packages (RRE).

7.4.11 DANGEROUS GOODS IN CONSOLIDATIONS

Dangerous Goods may be accepted in consolidations. Dangerous Goods in consolidation must be identified, classified, packed, marked, labelled and documented in accordance with fully compliance of TI ICAO/DGR IATA.

Packages and overpacks containing DG must be offered to the operator separately from the non-dangerous goods in the consolidation.

7.5 PACKING REQUIREMENTS

The packing is the most important element in ensuring the safe transportation of goods by air. ICAO TI/DGR IATA provides packing instructions for all classes of dangerous goods permitted for transport by air with a wide choice of inner, outer or single packages. Packing instructions contains information about acceptable packages that have been tested and meet UN criteria.

Dangerous goods must be packed in quality packages that is strong enough to withstand the shocks and stresses that occur during transport, including when the cargo is moved from a pallet, unit load device or overpack for subsequent manual or mechanical handling. Packages must be constructed and closed in such a way as to prevent any loss of contents that might occur under normal conditions of transport as a result of vibration, changes in temperature, humidity or pressure (for example, due to changes in altitude).

Dangerous goods must be transported in UN-certified packages (except as specified in ICAO TI/DGR IATA).

UN-certified packages

Performance tests are designed to prevent loss of contents under normal conditions of transport. The stringency of the package test depends on the intended contents, taking into account the degree of hazard (i.e. packing group), relative density and vapor pressure (for liquids). Testing of UN-certified packages is carried out by authorized national bodies. The UN-certified packages must be UN-marked as required by the ICAO TI.

7.6 MARKING AND LABELLING

7.6.1. GENERAL PROVISIONS

All marks must be so placed on the packages or overpacks that they are not covered or obscured by any part of the attachment to the packaging or any other label or mark.

In addition to languages that may be required by the State of Origin, English must be used.

All marks must be:

- ✓ durable and printed or otherwise marked on, or affixed to, the external surface of the package or overpack;
- ✓ readily visible and legible;
- ✓ able to withstand open weather exposure without a substantial reduction in effectiveness;
- ✓ displayed on a background of a contrasting color;

They should not be placed next to other markings on the package that can significantly reduce the effectiveness of their functional purpose.

All hazard and handling labels applied to packages with dangerous goods or outer packages containing dangerous goods must comply with the requirements of **7.2.2.3.2 DGR IATA**.

7.6.2 MARKING

Each package containing dangerous goods must be marked with the following information:

- ✓ Proper shipping name and appropriate UN or ID number;
- ✓ Full name and address of shipper and consignee;
- ✓ Net quantity of dangerous goods contained in each package (exception for ID 8000 and radioactive material);
- ✓ For Division 6.2, Infectious Substances: the name and telephone number of the responsible person;
- ✓ For Class 2 Refrigerated Liquified Gases (PI 202): the words "Keep upright" shall be applied around the package or on each side at intervals of 120°. Packages must be clearly marked “Do not drop – Handle with care”. Packages must contain instructions to be followed in the event of an emergency, delay in transit, or unclaimed cargo at the destination.
- ✓ For packages containing UN3373: Biological substance, Category B as well as the diamond-shaped mark as shown in PI 650. Net quantity mark is not required, though where dry ice is used as refrigerant, the net weight of dry ice must be shown.
- ✓ When chemical oxygen generators contained in protective breathing equipment (PBE) are being transported in accordance with Special Provision A144 the statement “Aircraft Crew Protective Breathing Equipment (Smoke Hood) in accordance with Special Provision A144” shall be marked adjacent to the proper shipping name.
- ✓ When environmentally hazardous substances are being transported the marking required as per IATA DGR 7.1.5.3.

7.6.3 LABELLING

There are two types of labels:

- ➢ Hazard labels required for most dangerous goods of all classes (examples of all labels are listed in the classification section);
- ➢ Handling labels required to be applied alone or in addition to hazard labels for certain dangerous goods.

Each hazard label with a hazard class designation:

- ✓ Must be applied against a background of a contrasting color or must have an outer border defined by a solid or dashed line.
- ✓ Shall be placed on the same surface of the package next to the mark containing the proper shipping name, if the dimensions of the package allow it.
- ✓ Must be placed on the package in such a way that no part of the package or its attachment, or any other hazard label or mark, obscures or replaces it;
- ✓ If primary and subsidiary risk labels are required, they should be placed next to each other;
- ✓ Must be applied at an angle of 45°(diamond shape), if the dimensions of the package are sufficient for this.

7.6.4 HANDLING LABELS

Cargo Aircraft Only

This sign must be used on packages containing dangerous goods that are only allowed to be transported on a cargo aircraft.
If a "Cargo Aircraft Only" sign is required, it must be placed next to the danger sign.

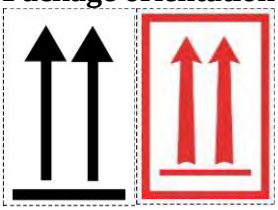
Magnetized material

The Magnetized Material mark must be applied to packages and outer packages containing magnetized material.
The Magnetized Material label must be used in addition to the Class 9 label.

Cryogenic liquid

This label must be used in addition to the "Non-flammable gas" label and on packages and outer packages containing cryogenic liquids (Division 2.2) packed in accordance with PI 202.

Package orientation



These marks must be used on combination packages and outer packages containing liquid dangerous goods. Signs must be applied on two opposite sides.
Exceptions:
Flammable liquids in inner packages up to 120 ml.
Infectious substances in primary vessels up to 50 ml;

Keep away from heat

Must be applied to packages containing dangerous goods of Division 4.1 (self-reactive substances only) and Division 5.2.

Radioactive material, excepted package

Packages containing radioactive material in an excepted package must be labeled "Radioactive material: excepted package" with the UN number (only for: UN 2908, UN 2909, UN 2910, and UN 2911).

7.6.5 ADDITIONAL MARKINGS

Substances that are hazardous to the environment (applicable in addition to Class 9 label), must be used for UN3082 **and UN 3077.**

Genetically modified microorganisms and genetically modified organisms (instead of Class 9 label)

Biological product, category B (instead of RIS hazard label)

Dangerous goods in limited quantities

Dangerous goods in excepted quantities

The "Lithium Batteries" marking applies to RBI/RBM that meet the requirements of Section IB; for ELI/ELM meeting Section II requirements.

7.7 ALLOCATION OF RESPONSIBILITIES

7.7.1 SHIPPER'S RESPONSIBILITIES

A shipper must comply fully with ICAO TI/DGR IATA when offering a consignment of dangerous goods for transportation. In addition, shippers must comply with any applicable requirements set forth by the States of origin, transit and destination.

A shipper offering dangerous goods for shipment in violation of applicable ICAO TI/DGR IATA requirements is at risk of violation of national law and can be subject to administrative liability.

Before any package or overpack of dangerous goods is offered for air transport, the shipper must ensure that:

1. Articles or substances are not prohibited from air transport;

2. The consignments are properly identified, classified, packed, marked and labelled, documented and otherwise prepared for carriage in accordance with the requirements of ICAO TI/DGR IATA;

3. All persons involved in the preparation of dangerous goods for shipment have received appropriate training.

7.7.2 OPERATOR'S RESPONSIBILITY

The airline or its authorized ground handling agents (in this case, they must comply with the requirements of TI ICAO / DGR IATA) in terms of:

1. Acceptance of dangerous goods using a checklist;
2. DG storage;
3. DG loading;
4. Inspection;
5. Provision of information, including emergency response information;
6. Reporting;
7. Retention of records;
8. Training.

7.8 HANDLING AND LOADING OF DANGEROUS GOODS

This section of the Manual regulates the procedures for the preparation, documentation, loading and transportation of Dangerous Goods, as well as the emergency actions of the crew during transportation.

7.8.1 ACCEPTANCE OF DANGEROUS GOODS

Acceptance of dangerous goods for transportation must be carried out in accordance with the requirements of ICAO TI 7.1 / IATA DGR 9.1.

Acceptance of dangerous goods for transportation can be assigned to both the airline employees and the ground handling agent (airport) in the case of a ground handling agreement. In any of these cases, the airline ensures that employees are properly trained in their competencies to perform such a function.

Each cargo consignment containing dangerous goods must be accepted for transportation only with the provision to the operator of two copies of the "Shipper's Declaration for Dangerous Goods" (prepared and signed as required by the rules of the current version of ICAO TI / DGR IATA)

Before accepting for carriage, a package or overpack containing dangerous goods, or a freight container containing radioactive material, or a unit load device, or other type of pallet containing dangerous goods, the following shall be checked using Dangerous Goods Acceptance Checklist:

- The documentation complies with the detailed requirements of IATA DGR Subsection 10.8 for radioactive material and Section 8 for other dangerous goods;
- The quantity of dangerous goods stated on the Shipper's Declaration for Dangerous Goods is within the limits per package on a passenger or cargo aircraft as appropriate;
- The marks on package(s), overpack(s) or freight container(s) accord with the details stated on accompanying Shipper's Declaration for Dangerous Goods and are clearly visible;
- Where required, the letter on the package specification mark designating the packing group for which the design type has successfully tested is appropriate for the dangerous goods contained within. This does not apply to overpacks where the specification marks are not visible;
- Proper shipping names, UN numbers, labels and special handling instructions appearing on the interior package(s) are clearly visible or reproduced on the outside of an overpack;
- The labelling on the packages, overpacks or freight container is as required by IATA DGR 10.7.2 for radioactive material and IATA DGR 7.2 for other dangerous goods;
- The outer packaging of a combination packaging or a single packaging is permitted by the applicable packing instruction and when visible is of the type stated on the accompanying Shipper's Declaration for Dangerous Goods;
- The package or overpack does not contain different dangerous goods which require segregation in accordance with IATA DGR Table 9.3A;
- The package, overpack, freight container or unit load device is not leaking and there is no indication that its integrity has been compromised.

The checklist must be applied:

- For non-radioactive materials (Appendix 7.1).
- For radioactive materials (Appendix 7.2).
- For carbon dioxide, solid (dry ice) (Annex 7.3).

In the event that discrepancies are found during acceptance when filling DG Acceptance Checklist (indication “no” in any of the paragraphs), the shipment must be rejected for transportation.

All documents, including this checklist, must also be kept for a period of at least 12 months.

For each package or overpack containing dangerous goods or a freight container of radioactive material or a unit load device or other type of pallet containing dangerous goods that has not been accepted for carriage by the operator due to the shipper's failure to comply with the packing, labelling, marking and documentation requirements, one copy of the DGD and the DG acceptance checklist must be retained for a period of at least 12 months after the completion of the acceptance checklist.

7.8.2 GENERAL HANDLING REQUIREMENTS

- Dangerous goods must be handled with extreme care to avoid injury to dangerous goods, human health or aircraft damage.
- ICAO TI requirements to segregation of dangerous goods and other special cargo, loading of radioactive material, loading of Cargo Aircraft Only (CAO) packages, and other loading of dangerous goods shall be complied.
- Dangerous goods must not be carried in the flight deck, except as provided in paragraphs. 2.3.2-2.3.5 DGR IATA (permitted in baggage and "on the person" and 2.5.1 DGR IATA (aircraft equipment, a limited list of consumer goods, dry ice for cooling catering and equipment necessary aboard the aircraft to perform flight) and radioactive material in RRE excepted packages (see IATA DGR 10.5.8).
- All packages containing dangerous goods must be inspected individually prior to loading on a ULD or aircraft.
- If DG labels or marks are found to be missing, illegible or detached from shipment subsequent to the time of acceptance (at any handling stage after acceptance), such labels shall be replaced by the cargo handling agent in accordance with the information provided on the Shipper’s declaration.
- All packages containing dangerous goods must be inspected for leaks and damage prior to loading into a ULD or aircraft.
- In the event of a leak, an inspection must be carried out to ensure that the rest of the cargo is in proper condition for transportation, and that adjacent cargo, packages, ULDs are not contaminated or damaged.
- If a package loaded onto an aircraft or ULD is damaged or leaking, it must be immediately unloaded from the aircraft or ULD. Procedures must be followed to repair damage or leakage.
- During the transportation of packages labelled with orientation label “This way up”, such packages must be loaded, stowed, handled in accordance with this sign at the entire transportation. Individual packages with end chimes containing liquid dangerous goods must be loaded or stowed vertically on board the aircraft, although such a package may also have side chimes.
- Any package that has been opened during the inspection process (customs or security) prior to shipment to the consignee must be restored to proper condition by qualified personnel in accordance with the requirements of ICAO TI/DGR IATA.
- Each package containing dangerous goods must be secured to the ULD or to the aircraft (in the bulk cargo hold) in accordance with the provisions of this Manual.
- When the aircraft, loaded with dangerous goods, is on the ground for a prolonged period of time, exposed to the direct sunlight and high temperature, Loadmaster or Airline Ramp Supervisor must control the temperature on board the aircraft and take measures to maintain the optimum temperature by using Air Conditioning Unit or on-board air conditioning system. In an emergency, if necessary (and in agreement with the Director of GHD), a decision can be made to unload the transit cargo and

place it for storage at the airport warehouse in order to avoid fire. Restrictions apply to: explosives, flammable substances, substances prone to spontaneous combustion, UN3480, UN3090.

- Dangerous goods marked with the «Cargo Aircraft Only» label must not be carried on a passenger aircraft.

7.8.3 LOADING

Before loading, Loadmaster or Airline Ramp Supervisor shall conduct a briefing with the loading personnel, informing them of what dangerous goods are to be unloaded/loaded or present on board, draw their attention that outmost care is needed while handling DG and provide with information about the possible hazardous effects of these DG on health.

Loadmaster or Airline Ramp Supervisor shall ensure that dangerous goods were loaded and secured as per provisions of this Manual.

Dangerous goods shall be loaded and secured on board of an aircraft in a way that:

— prevents damage to packages and containers;
— provides for separation and segregation in accordance with requirements below;
— prevents movement inside the aircraft.

Incompatible dangerous goods and special cargo

Packages of dangerous goods that may interact dangerously with each other must not be placed on an aircraft next to each other or in a position that could cause them to interact in the event of a leak.

In order to ensure acceptable safety distances between dangerous goods with different hazards, at least the stowage requirements given in the table below must be observed. These requirements apply irrespective of whether a given class or division is classified as a primary or subsidiary risk.

Dangerous goods												
Hazard label	1 except 1.4S	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	8	9 (see N.4)
1except 1.4S	Note. 1	X	X	X	X	X	X	X	X	X	X	X
2.1	X	-	-	-	-	-	-	-	-	-	-	X
2.2	X	-	-	-	-	-	-	-	-	-	-	-
2.3	X	-	-	-	-	-	-	-	-	-	-	-
3	X	-	-	-	-	-	-	-	X	-	-	X
4.1	X	-	-	-	-	-	-	-	-	-	-	X
4.2	X	-	-	-	-	-	-	-	X	-	-	-
4.3	X	-	-	-	-	-	-	-	-	-	X	-
5.1	X	-	-	-	X	-	X	-	-	-	-	X
5.2	X	-	-	-	-	-	-	-	-	-	-	-
8	X	-	-	-	-	-	-	X	-	-	-	-
9 (see N.4)	X	X	-	-	X	X	-	-	X	-	-	-

Dangerous and special cargo					
IMP CODE	***RRY***	***RCL (2.2)***	***AVI HEG***	***FIL***	***ICE***
RRY	-	-	Note 3	Note 2	-
RCL (2.2)	-	-	X	-	-
AVI, HEG	Note 3	X	-	-	Note 5
FIL	Note 2	-	-	-	-
ICE	-	-	Note 5	-	-

An "X" at the intersection of a row and column indicates that packages of dangerous goods of these classes (divisions) must not be placed closer than 50 cm to each other. The "–" sign indicates that separate placement of packages is not required.

Division 1.4S, classes 6, 7 and 9 (excluding lithium batteries, Note 4) are not included in the table as they do not require segregation with other dangerous goods.

UN 3528 "Engine, fuel cell, flammable liquid powered", "Engine, internal combustion, flammable liquid powered", "Machinery, internal combustion, flammable liquid powered" is not required to be segregated from packages containing Dangerous Goods of Division 5.1.

***NOTE 1:** This table may apply to the following Class 1 categories: Division 1.3C, 1.3G, 1.4B, 1.4C, 1.4D, 1.4E, 1.4G. With the exception of Division 1.4B, explosives of different compatibility groups may not be separated, whether they are in the same compatibility group or not. Only Category 1.4B explosives are to be separated from other explosives. Category 1.4B and other explosives (for which this table may apply) must be loaded in separate, non-contiguous positions and separate from other cargo with a minimum distance of 2 meters.*

***NOTE 2:** Segregation of FIL and RRY must be done according to DGR table 10.9E*

***NOTE 3:** RRY packages must be segregated from live animals by 0.5 m or more for shipments lasting 24 hours or less, and by 1 m or more for shipments of more than 24 hours.*

***NOTE 4:** Packages and overpacks containing UN 3480 Lithium ion batteries prepared in accordance with Section IA or IB of Packing Instruction 965 and packages and overpacks containing UN 3090 Lithium metal batteries prepared in accordance with Section IA or IB Packing Instruction 968, must not be placed on an aircraft in a position that could result in interaction with packages or overpacks containing dangerous goods of Class 1 (Exception 1.4S), Division 2.1, Class 3, Division 4.1 or Division 5.1.*

***NOTE 5:** It is not allowed to load live animals (AVI) and dry ice (ICE) into the same cargo compartment on the lower deck of the aircraft. Otherwise, the minimum distance between AVI and ICE must be at least 50 cm.*

Loading radioactive material

Definition of the transport index

The Transport Index (TI) is an index assigned to a package, overpack or freight container used to control radiation exposure. Also used to determine the category of radioactive material, in order to determine the need for carriage under exclusive use; to establish requirements for storage in transit and determine the number of packages allowed in a freight container or on board an aircraft.

The Transport Index (TI) value for a package, overpack or freight container must be determined as follows:

- The maximum radiation level is determined in units of millisievert per hour (mSv/h) at a distance of 1 m from the external surfaces of the package, overpack or freight container. The measured value must be multiplied by 100, and the resulting number will be the transport index.

Transport Index (TI) and Radiation Limits for Packages and Outer Packages

Packages, overpacks and freight containers must be assigned to one of the following categories: I - WHITE, II - YELLOW or III - YELLOW according to the conditions indicated in the table below:

Categories of packages, overpacks and freight containers

Transport index	Maximum radiation level at any point on the outer surface	Category
0 *	Not more than 0.005 mSv/h	I-White
More than 0 but not more than 1*	More than 0.005 mSv/h but not more than 0.5 mSv/h	II-Yellow
More than 1 but not more than 10	More than 0.5 mSv/h but not more than 2 mSv/h	III-Yellow
More than 10**	More than 2 mSv/h but not more than 10 mSv/h	III-Yellow**

***If the measured transport index does not exceed the value of 0.05, then the given value can be considered equal to zero;*

****Must be transported under exclusive use and under special conditions;*

The total number of packages overpacks and freight containers on board a single aircraft must be as limited as according in the table:

Type of freight container or aircraft	Maximum Total sum of Transport Indices (TI)
Passenger aircraft (A320, A321, A330)	50
Cargo aircraft (B767-300, B757-200)	200

Category II - YELLOW and III - YELLOW packages, overpacks or freight containers must be stowed away from people in accordance with ICAO TI Part 7 Minimum Distance Tables 7-3.

Total sum of Transport Indices of all RRY shipments on board	On the Main Deck B767-300BCF (-BDSF)		Forward Hold of Lower Deck	Aft Hold of Lower Deck
	Configuration A and C	Configuration D		
Less than 60 TI	A3(C3)-A17	A3-A17	Forbidden	No limit
60.1-100 TI	A4(C4)-A17	A5-A17	Forbidden	No limit
100.1-150 TI	A5(C5)-A17	A6-A17	Forbidden	No limit
150.1-200TI	A6(C6)-A17	A8-A17	Forbidden	No limit

Total sum of Transport Indices of all RRY shipments on board	On the Main Deck B757-200PCF	Forward Hold of Lower Deck	Aft Hold of Lower Deck
Less than 60 TI	3-15	Forbidden	No limit
60.1-100 TI	4-15	Forbidden	No limit
100.1-150 TI	5-15	Forbidden	No limit
150.1-200TI	6-15	Forbidden	No limit

Total sum of Transport Indices of all RRY shipments on board	On the Main Deck A320-232(233)	Forward and Aft Hold of Lower Deck
0.1-1.0 TI	Forbidden	According to Table 10.9.C IATA DGR
More than 1.1 TI	Forbidden	

Total sum of Transport Indices of all RRY shipments on board	On the Main Deck A321-251N, A321-253NX	Forward and Aft Hold of Lower Deck
0.1-1.0 TI	Forbidden	According to Table 10.9.C IATA DGR
More than 1.1 TI	Forbidden	

Total sum of Transport Indices of all RRY shipments on board	On the Main Deck A330-343	Forward and Aft Hold of Lower Deck
0.1-1.0 TI	Forbidden	According to Table 10.9.C IATA DGR
More than 1.1 TI	Forbidden	

Transportation of radioactive materials on board A319-153N is forbidden under any circumstances!

Transportation of radioactive materials on MY FREIGHTER flights (both passenger and cargo) is currently restricted.

Loading of self-reactive substances and organic peroxides

Packages or ULD containing packages of self-reactive substances of Division 4.1 and organic peroxides of Division 5.2 must be protected from direct sunlight and all sources of heat and be placed in adequately ventilated areas during loading.

This requirement is also should be applied to transportation of lithium batteries.

Magnetized Material Loading (MAG)

Magnetized material (MAG) must be loaded in such a way that the aircraft compass headings are maintained within the tolerances specified in the aircraft airworthiness requirements and, where practicable, placed in locations where they have the least possible influence on compasses. Several packages may have a cumulative effect.

<u>It is forbidden to load MAG on the following positions</u>:
B767-300BCF: FWD Hold, Main Deck positions A1 & A17.
B757-200PCF: compartment 1 of FWD Hold; compartment 4 of AFT Hold, Main Deck positions 1 & 15.
A319-153N, A320-232 (-233), A321-251N, A321-253NX, A330-343: no restrictions for UN2807, if MAG cargo is packed according to the requirements of packing instruction 953.

Loading carbon dioxide, solid (dry ice) (ICE)

Sublimation of dry ice (transformation from a solid state to a gaseous state) can lead to significant concentrations of CO_2 gas on board. High concentrations of CO_2 can affect the breathing of crew and passengers. As a result, there are different restrictions on transportation on different aircraft.

Doors of cargo holds must be open as long as possible during the ground handling, when packages with Dry Ice are loaded onboard.

Low deck holds are preferable for loading of packages with Dry Ice.

Loading of unpacked dry ice is NOT allowed.

<u>It is forbidden to load ICE beyond the specified limits</u> *:
B767-300BCF: *2,500 kg (not more than 200kg per package).*
B757-200PCF: *2,000 kg (not more than 200kg per package).*
A319-153N: *0 kg.*
A320-232 (-233), A321-251N, A321-253NX, A330-343: *500 kg; max. 200kg per package.*
****NOTE:*** *if you need to load more dry ice, you must obtain written confirmation from the* ***GOCHD Director****.*

Loading Cargo Aircraft Only (CAO) packages

Cargo Aircraft Only packages are forbidden for loading on passenger aircrafts under any circumstances. Airline Ramp Supervisor shall check and ensure that packages that have CAO label are not onloaded to the passenger aircraft.

Packages or overpacks of dangerous goods bearing "Cargo Aircraft Only" label must only be loaded for carriage by a cargo aircraft in accordance with one of the following provisions:

a) in class C cargo compartment; or
b) in such a manner that in the event of an emergency involving such packages or overpacks, a crew member or other authorized person can access those packages or overpacks and can handle and where weight and size permit, separate such packages from other cargo

<u>These requirements do not apply to (CAO exception):</u>

- UN 3529 - “Engine, internal combustion, flammable gas powered” or “Engine, fuel cell, flammable gas powered” or “Machinery, internal combustion, flammable gas powered” or “Machinery, fuel cell, flammable gas powered”;

- flammable liquids Class 3, Packing Group III, other than those with a subsidiary hazard of Class 8 or UN 3528 – “Engine, internal combustion, flammable liquid powered” or “Engine, fuel cell, flammable liquid powered” or “Machinery, internal combustion, flammable liquid powered” or “Machinery, fuel cell, flammable liquid powered”;
- toxic substances Division 6.1 with no subsidiary hazard other than Class 3;
- infectious substances Division 6.2;
- radioactive materials Class 7;
- miscellaneous dangerous goods Class 9.

When CAO packages are loaded in accordance with the requirements of paragraph (b), each package must be accessible.

A package is considered accessible when:

- ✓ Loaded on an open pallet;
- ✓ Loaded on an accessible position;
- ✓ The package with DG or overpack is accessible on a pallet.

When the B767-300BCF (-BDSF) is fully loaded, all main deck positions are inaccessible. Only CAO exception can be loaded.

When the B757-200PCF is fully loaded, all main deck positions are inaccessible. Only CAO exception can be loaded. CAO shipment can be loaded to the lower deck cargo compartments.

See Section 5.3.3 Part 5 GOCHM for passenger AC.

Aircraft type	Compartment types
A319	all compartments are Class E
A320-232 (-233)	lower deck compartments are Class C
A321-251N, A321-253NX	lower deck compartments are Class C
A330-343	lower deck compartments are Class C
B767-300BCF (-BDSF)	all compartments are Class E
B757-200PCF	lower deck compartments are Class C, main deck is Class E

Additional loading restriction as per AC type

ATTENTION!
For A321 only: Dangerous goods Class 1, Division 2.1, Class 3, Class 4 (all divisions), Class 5 are forbidden for loading to the AFT compartment of the lower deck under any circumstances due to ACT.

Identification of unit load devices (ULD)

Each unit load device (ULD) containing dangerous goods which require a hazard label must display an identification tag on its exterior indicating that dangerous goods are contained within the unit load device. The identification tag must comply with the following:

- tag must have a border with a prominent red hatchings on both sides and be visible at all times;
- tag must have a minimum dimensions of 148 mm x 210 mm;
- tag must be legibly marked with the primary and subsidiary hazard class(es) or division(s) of such dangerous goods;
- tag must contain information that is visible and legible (also applicable if placed in a protective tag holder);
- tag must indicate information that ULD can only be loaded to cargo aircraft in case of CAO shipments;

- only qualified and authorized persons may sign the tags;
- tag must be removed immediately after the dangerous goods have been unloaded from the ULD.

7.8.4 RETENTION OF DOCUMENTS

One copy of DGD must be retained for a minimum period of 12 months after the flight on which DG were transported, but conditions of state variations must be applied.

As a minimum, following documents must be retained:

- Shipper's declaration for DG;
- AWB;
- Acceptance checklist;
- Written information to the pilot-in-command (NOTOC).

For each package or overpack that was not accepted by an operator, due to an error or omission by the shipper in packing, labelling, marking or documentation, a copy of the documentation as well as the checklist and the identification of the person who performed the acceptance check should be retained for a minimum period of 12 months after the completion of the acceptance checklist.

7.9 PROVISION OF INFORMATION ABOUT DG

7.9.1 NOTIFICATION TO CAPTAIN (NOTOC)

As early as practicable **prior the departure of the aircraft, and in no case later than when the aircraft moves under its own power**, Loadmaster or Airline Ramp Supervisor of an aircraft in which dangerous goods are to be carried, must provide the pilot in command with accurate and legible written or printed information concerning dangerous goods to be carried as cargo.

In order to provide the personnel with responsibilities for operational control of the aircraft (the duty officer of the OCC and the flight dispatcher) with the same information that is required to be provided to the pilot-in-command, duty Loadplanner shall save the electronic copy of NOTOC to the shared folder:

\\centrum-air.com\fs\Departments\NOTOC

NOTOC shall be saved under the following name: Flight number / Flight date / Departure station – Destination station / Aircraft tail number

Example: C67674/25MAR/OSR-TAS/UK67009

If the UWS contains IMP codes for dangerous goods and/or special cargo, but the NOTOC is not provided by the GHA agent, the duty Loadplanner shall fill in the NOTOC (***Appendix 7.4***), with the information received from the GHA agent or the Loadmaster/Airline Ramp Supervisor on flight.

Verification and transmission of NOTOC

The person responsible for loading the aircraft (Loadmaster or GHA/RHA responsible person) is obliged to carry out the appropriate checks, sign the NOTOC and provide it to the pilot-in-command and to the airline's OCC/flight dispatcher. The pilot-in-command must be provided with a NOTOC as early as practicable prior the departure of the aircraft, and in no case later than when the aircraft moves under its own power.

The pilot-in-command signs the NOTOC after making sure that dangerous goods and other special cargo are securely packed and secured on board the aircraft.

Storage of NOTOC

- One copy must be kept by the flight crew. It must be available for flight crew during the whole flight time.
- One copy must be kept at the departure station for 12 months.

Content

The NOTOC must contain the following information:

- ✓ Flight date;

- ✓ Air waybill number;
- ✓ Proper shipping name;
- ✓ UN number or ID number;
- ✓ Hazard class/division, subsidiary hazard class, in case of transportation of dangerous goods of class 1 - compatibility group;
- ✓ Packing group;
- ✓ (For non-radioactive material) the number of packages, net weight (or gross weight, if applicable) of each package and its specific loading position (type and identification number of the ULD and position on the aircraft);
- ✓ (For radioactive material) the number of packages, overpacks or freight containers, category, transport index and their specific position when loaded (type and identification number of the ULD, and position on the aircraft);
- ✓ Information that transportation is permitted only on a cargo aircraft (if applicable);
- ✓ Airport of unloading;
- ✓ Indication that the dangerous goods are being carried under a State exemption (if applicable).

***NOTE**: for UN 1845, the information can only contain: UN number, proper shipping name, hazard class, total quantity in each cargo hold of the aircraft and airport of unloading.*

For UN 3480, Lithium-Ion Batteries and UN 3090, Lithium Metal Batteries, the information may only contain the UN number, proper shipping name, hazard class, total quantity per unit and, if applicable, CAO information.

When dangerous goods are packed in an overpack, the information must reflect the contents of the overpack.

When different dangerous goods are contained in one outer packaging, the piece count may be left blank for each entry and shown only for the outer packaging.

The statement “there is no indication that damaged or leaking items or packages containing dangerous goods have been loaded onto the aircraft” must be present in the NOTOC including an indication that PIC has received the information and indication from the person responsible for loading the aircraft (Loadmaster or Airline Ramp Supervisor) that appropriate check was performed and there is no evidence of any damage to or leakage from the packages or any leakage from the ULDs loaded on the aircraft.

In addition to the languages that may be required in the country of the operator, English must be used for the NOTOC.

The following dangerous goods may not be included in the NOTOC:

- ➢ *Dangerous goods in excepted quantities (REQ);*
- ➢ *UN 3373 Biological Substance, Category B (RDS);*
- ➢ *UN3245, genetically modified organisms and micro-organisms;*
- ➢ *Lithium batteries meeting the provisions of Section II of packing instructions 965-970 (ELI, ELM)*
- ➢ *Radioactive material, excepted package (RRE)*
- ➢ *UN 2807 Magnetized material (MAG);*
- ➢ *UN 3164, Articles, under hydraulic/pneumatic pressure packed according to PI 208 (*a).

7.9.2 PROVISION OF INFORMATION TO PERSONNEL

The Operator and its handling agents must ensure that sufficient notices, prominently displayed, are provided at visible locations at cargo acceptance points, giving information about any dangerous goods to alert shippers/agents about any dangerous goods that may be contained in their cargo consignments. These notices must include visual examples of dangerous goods, including batteries.

The management of the airline guarantees that relevant instructions are included in this manual, updated and made available to employees to enable personnel to carry out their duties in relation to dangerous goods.

7.9.3 LOADING INFORMATION

Information about dangerous goods and other special cargo must be communicated to the loadplanner via the loading list/UWS. The information must include all the details necessary to complete the NOTOC (except for aircraft loading positions). This requirement can be met by communicating a NOTOC to the loading agent.

Loading agent duties can be performed either by the airline's loadmaster or the ground handling agent's staff.

7.10 INSPECTION AND REPORTING

7.10.1 GENERAL PROVISIONS

Unloading and loading of packages, overpacks, ULDs containing dangerous goods on board the aircraft must be carried out under the control of the responsible loading agent (Loadmaster (charter station) or Airline Ramp Supervisor (base station)).

Packages (or overpacks) containing dangerous goods must be inspected for signs of damage or leakage upon loading/unloading from the aircraft or ULD.

If damage or leakage is found, the position containing the dangerous goods package must be inspected for damage or contamination. Any hazardous contamination must be removed.

Damaged/leaking packages (overpacks) containing dangerous goods, as well as general cargo contaminated with DG substances, shall be prevented from being loaded into an aircraft. If already loaded, the package or shipment shall be immediately removed from an aircraft.

7.10.2 CONTAMINATED CARGO OR BAGGAGE HANDLING

If the Loadmaster / Airline Ramp Supervisor becomes aware that baggage or cargo not identified as containing dangerous goods has been contaminated and it is suspected that dangerous goods may be the cause of contamination (for example, inspection adjacent packages in the same bulk compartment or in the ULD for leakage), the Loadmaster / Airline Ramp Supervisor must take reasonable steps to identify the nature and source contamination before proceeding with the loading of the contaminated baggage or cargo.

If damaged or contaminated cargo is defined as dangerous or there is a suspicion that it is dangerous, the following actions must be performed:

a) Isolate contaminated package (move away from uncontaminated cargo);
b) **Do not load item to aircraft or ULD**;
c) **Do not deliver item to the aircraft**;
d) **Unload this item or organize unloading** by the relevant authorities/organizations;
e) Ensure safe removal of the item from the ULD (or other transport device) by the authorized organization;
f) Arrange for the safe disposal and/or reduction of the identified/suspected hazard (e.g., by repacking) by appropriate authorities/organizations prior to onward transport by air;
g) Inform the loading agent, maintenance staff, flight crew, ground handlers (or post office), customer service and the passenger (if it is baggage);
h) Inspect cargo compartments for possible damage or contamination;
i) Perform the evaluation of the remainder of the shipment to ensure it is in proper condition for transport by air;
j) Inspect the adjacent packages, cargo, ULD, other transport devices for possible damage or contamination;
k) Unload/do not load any contaminated packages, cargo, ULD, other transport devices. Arrange its transfer to the cargo terminal for further actions;
l) If cargo compartment is found to be contaminated, stop all loading procedures and inform OCC and GOCHD Director;

m) Make appropriate remark in the SFR.

If the contaminated substance is not identified as hazardous and is not suspected to be dangerous goods, proceed in accordance with applicable Cargo/Mail/Baggage Damage procedures.

7.10.3 POST-INCIDENT INSPECTION AND DISPOSAL OF CONTAMINATION

a) Inspect the cargo compartments for damage and contamination (the entire compartment may need to be unloaded).
b) Aircraft contamination must be removed as soon as possible, the internal surfaces of the aircraft must be cleaned by a staff of responsible company or technical personnel.
c) In case of **radioactive contamination of any aircraft, equipment or part**, above the limits indicated in the table or the radiation level is above 5 µSv/h, the operation of the aircraft must be suspended, the aircraft cleaned by qualified personnel as soon as possible. The aircraft cannot be operated if the non-fixed contamination exceeds the limits given in this table or the radiation level due to the fixed contamination on the surface after cleaning is above 5µSv/h.
d)

Contaminant	Applicable limit Bq/cm
Beta and gamma emitters and low toxicity alpha emitters	4.0
All other alpha emitters	0.4

e) The technical staff must check for any possible damage to the internal structure of the aircraft and equipment;
f) In the event of a leak/spill of a package with dangerous goods: inspect all goods located nearby on the same ULD or in the bulk compartment for contamination or damage;
g) Arrange for the safe disposal of leaked package;
h) In the event of a leak: all other packages of the consignment, including those on the other ULD/compartment and those in the warehouse (in case of part-shipment) must be inspected for proper condition for air transport;
i) A contaminated ULD shall be removed from service and shall not be used until the hazard to personnel health has been eliminated.
j) The supplier of the ULD must be immediately informed of this incident.

7.10.4 REPORTING

Operators must report dangerous goods accidents or incidents to the appropriate authorities of the State of the operator and the State in which the accident or incident occurred, in accordance with reporting requirements of those appropriate authorities. “DG Incident Report” (Appendix 7.5) must be used.

In the event of any kind of inconsistency in the transport of dangerous goods, including:

— undeclared or mis-declared dangerous goods discovered in cargo or mail at any stage of handling, including aircraft loading;
— when dangerous goods not permitted for carriage on board the aircraft are discovered on the person of or in the baggage of a passenger;
— DG, that are not permitted under Subsection 2.3 of IATA DGR and provisions of Chapter 7.4.9 of this Manual, discovered in passengers and crew baggage or on the person at any stage of handling;
— dangerous goods accidents or incidents;
— DG handling violations (when DG are discovered to have been carried and not loaded, segregated, separated and/or secured in accordance with provisions of IATA DGR and this Manual);
— DG are discovered to have been carried as cargo without proper information (NOTOC),

the information must be transmitted by a Loadmaster, Airline Ramp Supervisor or an airline representative as soon as possible, but no later than 24 hours to OCC **occ@centrum-air.com** and Specialist of DG and special cargo transportation **k.tsarkov@centrum-air.com**. A voluntary report on an event related to dangerous goods **shall be sent to the Safety Manager through the ICARUS portal** (Dangerous Goods Occurrence Report).

Specialist of DG and special cargo transportation must immediately notify CAA of State of Operator (Civil Aviation Agency under the Ministry of Transport of the Republic of Uzbekistan) and State in which the accident or incident has occurred. The form "DG Incident Report" (***Appendix 7.5 GOCHM***) must be used for such report.

7.11 ACTIONS IN CASE OF DANGEROUS GOODS INCIDENTS

7.11.1 EMERGENCY PROCEDURES

If an in-flight emergency occurs, the pilot-in-command must, as soon as the situation permits, inform the appropriate air traffic services unit, for the information of airport authorities, of any dangerous goods carried as cargo on board the aircraft. Wherever possible, this information should include the proper shipping name and/or UN number, the class/division and for Class 1 the compatibility group, any identified subsidiary hazard(s), the quantity and the location on board the aircraft or, a telephone number where a copy of the information to the pilot-in-command can be obtained. When it is not considered possible to include all the information, those parts thought most relevant in the circumstances or a summary of the quantities and class or division of dangerous goods in each cargo compartment should be given.

In the event of a fire, spread of gas or smoke, breakage, spillage, liquid leakage, or other evidence that the integrity of a package containing dangerous goods has not been maintained, a damaged package containing radioactive material or an infectious substance, with or without any evidence of spread:

- ✗ Never touch the package and keep distance. In the case of RRW/RRY, the distance must be at least *25 meters;*
- ✓ Try to identify the hazard (by hazard labels or documentation);
- ✓ Set up a fence and mark the area;
- ✓ Alert all surrounding personnel.
- ✓ Proceed in accordance with Table 7.11.A given in this manual.

If contents come into contact with the body or clothing:

- ✓ Rinse skin thoroughly with plenty of water;
- ✓ Remove contaminated clothing;
- ✓ Eating, drinking or smoking is prohibited;
- ✓ Avoid touching your eyes, mouth, and nose with your hands;
- ✓ Seek medical attention.

Supplementary Infectious Substances Emergency Procedures (IMP-code RIS)

- ✗ Do not touch the package or keep direct contact to a minimum;
- ✓ Check adjacent packages for contamination and move aside any packages that may have been contaminated;
- ✓ Inform the appropriate public health authorities or veterinary authorities and provide information to any other countries of transit where human infection is possible;
- ✓ Notify the shipper and/or consignee.

Supplementary Radioactive Material Emergency Procedures (IMP codes RRW/RRY)

- ✗ Do not board the aircraft until the absence of significant surface contamination has been determined by qualified personnel.
- ✓ Move casualties out of the accident area, minimizing the level of contact as much as possible; Take whatever steps are necessary to save lives, but minimize first aid assistance and surgical procedures until the arrival of qualified medical personnel
- ✗ Do not eat, drink or smoke in the accident area. Do not eat or drink water that may be contaminated with materials due to an accident.
- ✓ Access to the package, containment bag or freight container should be limited and qualified personnel should evaluate the extent of contamination and the resulting radiation level of the package, containment bag or freight container as soon as possible.

- ✓ The appropriate state authority shall be notified in order to provide an assessment of the level of contamination in adjacent loading and unloading areas.
- ✓ Packages that are damaged or leak radioactive contents in excess of the allowable limits for normal conditions of transport may only be removed to an acceptable temporary location under supervision and may only be moved to another location after repair or refurbishment and decontamination.

7.11.2 EMERGENCY ACTION TABLE

Hazard class / category	DANGEROUS GOODS CLASS	DESCRIPTION OF THE HAZARD	URGENT ACTION Minimize spillage and contact with other cargo
1.3C 1.3G	Explosives	Fire hazard and slight explosion and/or projection hazard	Notify the fire department Take measures to fight the fire
1.4B 1.4C 1.4D 1.4E 1.4G		Fire, but no other significant hazard	
1.4S	Explosives (not a significant hazard)	Slight fire hazard	
2.1	Flammable gas	Ignites when leaked	Evacuate the cargo, ventilate the area Notify the fire department Take measures to fight the fire Keep a distance of at least 25 meters
2.2	Non-flammable gas	Explosion of high pressure cylinders	
2.2	Cryogenic liquid	hypothermia	
2.3	Toxic Gas (only applicable to Cargo Aircraft - CAO)	Explosion of high-pressure cylinders and inhalation of toxic substances	
3	Flammable liquid	Gives off flammable vapors	Notify the fire department Take measures to fight the fire Do not use water under any circumstances
4.1	Flammable, solid	Inflammable, promotes fire	
4.2	Self-igniting substance	Ignites on contact with air	
4.3	Substances that emit flammable gases when in contact with water	Ignites on contact with water	
5.1	Oxidizing agents	Ignites flammable substances on contact	Notify the fire department Take measures to fight the fire Do not apply water
5.2	Organic peroxides	Reacts actively with other substances	
6.1	Toxic Substances	Harmful if swallowed, inhaled and in contact with skin	Isolate zone Get qualified help DO NOT TOUCH Keep a distance of at least 25 meters
6.2	Infectious substances	Causes disease in humans and animals	
7 Cat. I	Radioactive - white	Radiation Hazard and Health Harm	
7 Cat. II/III	Radioactive - yellow		
8	Corrosive	Hazardous to skin and metal	Notify the fire department Take measures to fight the fire Avoid skin contact
9	Polymer balls Dry ice Other hazardous substances	Emits small amounts of flammable gas Causes hypothermia/suffocation Other hazards	Avoid skin contact No immediate action required

7.12. TRAINING REQUIREMENTS

7.12.1 GENERAL PROVISIONS

The Operator shall ensure that its personnel and the personnel of handling agents receive the necessary competencies before they perform any of the functions for which the personnel is responsible. This is achieved through the training and evaluation of functions corresponding to the functions for which the personnel are responsible.

Such preparation includes:

A) general information and familiarization training (training for familiarization with general provisions);

B) specialized training (training for the competent performance of any functions assigned to them;

C) safety training: personnel should be trained to learn how to identify the hazards posed by dangerous goods.

7.12.2 RECURRENT TRAINING AND ASSESSMENT

To ensure that competence is maintained, personnel must be retrained and assessed within 24 months of the previous training and assessment. However, if the retraining and assessment were completed within the last three months of the validity of the previous training and assessment, then their validity is counted from the month when the retraining and assessment was carried out and lasts for 24 months from the month the previous training expires.

7.12.3 APPROVAL OF TRAINING PROGRAMS

Dangerous goods training programs for operators must be approved by the appropriate authority of the State of the Operator (Civil Aviation agency under of Ministry of Transport of Republic of Uzbekistan).

Training under the programs of transportation of dangerous goods is carried out through LLC "Training Center".

7.12.4 TRAINING AND ASSESSMENT RECORD

The airline maintains a record of personnel training and assessment, which must include:

- Surname, name and patronymic of the employee;
- Month of completion of the last training and assessment;
- Description of the training and assessment materials used to conduct training and assessment;
- Name and address of the organization conducting training and assessment of personnel;
- Confirmation that the employee has been assessed and has the appropriate competencies.

The airline shall arrange for the retention of personnel training and assessment records for at least 36 months from the month in which the last training and assessment was completed, and make them available upon request to an employee or the appropriate national authority.

7.12.5 TRAINING OF AIRLINE STAFF

In accordance with the requirements of the ICAO TI, the airline (operator) provides training to all relevant airline employees, including airport employees, who act on behalf of the airline in order to enable them to perform functions in relation to the transport of dangerous goods, passengers and their baggage, cargo and mail, for which they are responsible.

According to the production activities of the airline, the following categories of personnel should receive training and subsequent assessment:

- Personnel responsible for the acceptance of dangerous goods for transportation (in the event that the duties of accepting dangerous goods are not assigned to agents' employees);

- Personnel responsible for loadplanning (loadplanners and loadmasters);
- Flight crew members;
- Flight dispatchers.

DG training of GOCHD staff is performed in accordance with the Training Matrix in ***Part 1 Section 1.4*** of this Manual.

7.12.6 CONTENT OF THE TRAINING PROGRAM FOR PERSONNEL RESPONSIBLE FOR PROCESSING OR ACCEPTING DANGEROUS GOODS CONSIGNMENTS (FUNCTION 7.3)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate between hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understanding the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
  - 0.4.2 Understand general principles of packing groups
  - 0.4.3 Consider multiple hazards
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
  - 0.5.3 Identify the required documentation
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer’s emergency response requirements

3. Processing / accepting cargo

- 3.1 Review documentation
  - 3.1.1 Verify Shipper's Declaration
  - 3.1.2 Verify other transport documents (e.g. Air Waybill)
  - 3.1.3 Verify other documents (exemptions, approvals, etc.)
  - 3.1.4 Verify State/Operator variations
- 3.2 Review package(s)
  - 3.2.1 Verify marks
  - 3.2.2 Verify labels
  - 3.2.3 Verify packaging type
  - 3.2.4 Verify package conditions
  - 3.2.5 Verify State/Operator variations
- 3.3 Complete acceptance procedures
  - 3.3.1 Complete acceptance checklist
  - 3.3.2 Provide shipment information for load planning
  - 3.3.3 Retain documents

7. Collecting safety data

- 7.1 Report Dangerous Goods accidents
- 7.2 Report Dangerous Goods incidents

7.3 Report undeclared/misdeclared Dangerous Goods
7.4 Report Dangerous Goods occurrences

7.12.7 CONTENT OF THE TRAINING PROGRAM FOR PERSONNEL RESPONSIBLE FOR THE PLANNING OF AIRCRAFT LOADING (FUNCTION 7.6)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate between hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.2 Understand the passenger’s responsibilities
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understanding the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
  - 0.4.2 Understand general principles of packing groups
  - 0.4.3 Consider multiple hazards
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
  - 0.5.3 Identify the required documentation
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer’s emergency response requirements

4. Managing cargo pre-loading

- 4.1 Plan the load
  - 4.1.1 Determine stowage requirements
  - 4.1.2 Determine segregation, separation, compartment limitations
- 4.3 Issue NOTOC
  - 4.3.1 Enter required information
  - 4.3.2 Verify conformance with load plan
  - 4.3.3 Transmit to loading personnel

6. Transporting cargo/baggage

- 6.1 Load aircraft
  - 6.1.6 Provide NOTOC information to pilot-in-command and flight operations officer/flight dispatcher

7. Collecting safety data

- 7.1 Report Dangerous Goods accidents
- 7.2 Report Dangerous Goods incidents
- 7.3 Report undeclared/misdeclared Dangerous Goods
- 7.4 Report Dangerous Goods occurrences

7.12.8 CONTENT OF THE TRAINING PROGRAM FOR FLIGHT CREW (FUNCTION 7.7)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.2 Understand the passenger’s responsibilities
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understand the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
  - 0.4.2 Understand general principles of packing groups
  - 0.4.3 Consider multiple hazards
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
  - 0.5.3 Identify the required documentation
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer’s emergency response requirements

6. Transporting cargo/baggage

- 6.2 Manage dangerous goods pre and during flight
  - 6.2.1 Address dangerous goods not permitted in baggage
  - 6.2.2 Interpret NOTOC
  - 6.2.3 Apply procedures in the event of an emergency
  - 6.2.4 Inform the flight operations officer/controller/air traffic controller in the event of an emergency
  - 6.2.5 Inform emergency services of the dangerous goods on the NOTOC in the event of an emergency

7. Collecting safety data

- 7.1 Report Dangerous Goods accidents
- 7.2 Report Dangerous Goods incidents
- 7.3 Report undeclared/misdeclared Dangerous Goods
- 7.4 Report Dangerous Goods occurrences

7.12.9 CONTENT OF THE TRAINING PROGRAM FOR CABIN CREW (FUNCTION 7.9)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.2 Understand the passenger's responsibilities
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understand the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
  - 0.5.3 Identify the required documentation
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer's emergency response requirements

5. Accepting passenger and crew baggage

- 5.2 Accept baggage
  - 5.2.1 Apply operator requirements
  - 5.2.2 Verify passenger baggage requirements

6. Transporting cargo/baggage

- 6.2 Manage dangerous goods pre and during flight
  - 6.2.1 Address dangerous goods not permitted in baggage
  - 6.2.3 Apply procedures in the event of an emergency

7. Collecting safety data

- 7.1 Report Dangerous Goods accidents
- 7.2 Report Dangerous Goods incidents
- 7.3 Report undeclared/misdeclared Dangerous Goods
- 7.4 Report Dangerous Goods occurrences

7.12.10 CONTENT OF THE TRAINING PROGRAM FOR FLIGHT OPERATION OFFICERS AND FLIGHT DISPATCHERS (FUNCTION 7.8)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate between hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.2 Understand the passenger’s responsibilities
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understanding the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
  - 0.4.2 Understand general principles of packing groups
  - 0.4.3 Consider multiple hazards
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
  - 0.5.3 Identify the required documentation
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer’s emergency response requirements

6. Transporting cargo/baggage

- 6.2 Manage dangerous goods pre and during flight
  - 6.2.1 Address dangerous goods not permitted in baggage
  - 6.2.2 Interpret NOTOC
  - 6.2.3 Apply procedures in the event of an emergency
  - 6.2.4 Inform the flight operations officer/controller/air traffic controller in the event of an emergency
  - 6.2.5 Inform emergency services of the dangerous goods on the NOTOC in the event of an emergency

7.12.11 CONTENT OF THE TRAINING PROGRAM FOR PERSONNEL RESPONSIBLE FOR ACCEPTING PASSENGERS AND CREW BAGGAGE, MANAGING AIRCRAFT BOARDING AREAS AND OTHER FUNCTIONS INVOLVING DIRECT PASSENGER CONTACT AT AN AIRPORT (FUNCTION 7.5)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate between hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.2 Understand the passenger’s responsibilities
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understanding the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
  - 0.5.3 Identify the required documentation
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer’s emergency response requirements

5. Accepting passenger and crew baggage

- 5.1 Process baggage
  - 5.1.1 Identify forbidden dangerous goods
  - 5.1.2 Apply approval requirements
- 5.2 Accept baggage
  - 5.2.1 Apply operator requirements
  - 5.2.2 Verify passenger baggage requirements
  - 5.2.3 Advise pilot-in-command, when applicable

7. Collecting safety data

- 7.1 Report Dangerous Goods accidents
- 7.2 Report Dangerous Goods incidents
- 7.3 Report undeclared/misdeclared Dangerous Goods
- 7.4 Report Dangerous Goods occurrences

7.12.12 CONTENT OF THE TRAINING PROGRAM FOR PERSONNEL RESPONSIBLE FOR HANDLING CARGO IN A WAREHOUSE, LOADING AND UNLOADING UNIT LOAD DEVICES AND LOADING AND UNLOADING AIRCRAFT CARGO COMPARTMENTS (FUNCTION 7.4)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope

0.1.4 Differentiate between hazard and risk
0.2 Understanding the general limitations
0.2.1 Develop a sense of forbidden dangerous goods
0.2.2 Recognize potential hidden dangerous goods
0.2.3 Familiarize with passenger provisions
0.3 Identifying roles and responsibilities
0.3.1 Clarify the individual and collective role of the supply chain stakeholders
0.3.3 Recognize the impact of State & operator variations
0.4 Understanding the importance of classification & packaging
0.4.1 Identify the general information about classes, divisions
0.4.2 Understand general principles of packing groups
0.4.3 Consider multiple hazards
0.5 Understanding hazard communication
0.5.1 Recognize the basic marking requirements
0.5.2 Recognize the basic labeling requirements
0.6 Familiarizing with basic emergency response
0.6.1 Create awareness about general emergency procedures
0.6.2 Understand the employer's emergency response requirements

4. Managing cargo pre-loading

4.1 Plan the load
4.1.1 Determine stowage requirements
4.1.2 Determine segregation, separation, compartment limitations
4.2 Prepare load for aircraft
4.2.1 Check packages for indications of hidden/undeclared dangerous goods
4.2.2 Check packages for damage and/or leakage
4.2.3 Apply stowage requirements (i.e. segregation, separation, orientation, securing and protecting from damage)
4.2.4 Apply ULD tags when applicable
4.2.5 Transport cargo to aircraft

6. Transporting cargo/baggage

6.1 Load aircraft
6.1.1 Transport cargo/baggage to aircraft
6.1.2 Check packages for indications of hidden/undeclared dangerous goods
6.1.3 Check packages for damage and/or leakage
6.1.4 Apply stowage requirements (i.e. segregation, separation, orientation, securing and protecting from damage)
6.1.5 Verify aircraft load against NOTOC
6.1.6 Provide NOTOC information to pilot-in-command and flight operations officer/flight dispatcher
6.3 Unload aircraft
6.3.1 Apply specific unload considerations
6.3.2 Check packages for indications of hidden/undeclared dangerous goods
6.3.3 Check packages for damage and/or leakage
6.3.4 Transport cargo/baggage to facility/terminal

7. Collecting safety data

7.1 Report Dangerous Goods accidents
7.2 Report Dangerous Goods incidents
7.3 Report undeclared/misdeclared Dangerous Goods
7.4 Report Dangerous Goods occurrences

7.12.13 TRAINING FOR AIRPORT STAFF (GROUND HANDLING AGENT)

Training of personnel who are not employees of the airline, but performing functions or Part of functions related to the safe handling of dangerous goods, should be trained in training programs to obtain those competencies for which they are responsible in the field of handling dangerous goods.

This training is regulated by ICAO TI.

The airline has the right to require the performance of this training by the agent's personnel, as well as to check the availability of the necessary training and assessment as part of scheduled audits, when concluding a ground handling agreement with an airport (ground handling agent).

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PART 8 TIE-DOWN ONBOARD OF AIRCRAFT

8.1 GENERAL PROVISIONS

This section describes the principles, methods and limitations of loads tie-down to the aircraft structure. “Loads” means cargo, baggage, equipment (for example, empty ULD stacks or elements of Fly Away Kit) and other items carried onboard of aircraft, pax or freighter.

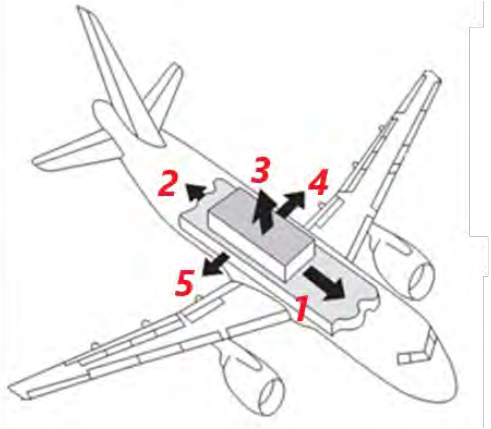
Each transported load must be secured onboard the aircraft against possible shifts in any direction (*refer to Fig. 8.1 below*):

6. Forward (flight direction).
7. Aft (backward from flight direction).
8. Left (from flight direction).
9. Right (from flight direction).
10. Upward.

Amount of tie-down material (straps) and tie-down configuration depends on load packing character, gross ULD weight (if item is built on ULD), position of restrained load onboard of aircraft (what influences to maximum accelerations affects to load during flight). Good judgement requires to define appropriate tie-down configuration for specific categories of loads.

Sometimes tie-down to the ULD is enough to secure the load if ULD with load is properly secured by standard locks - but additional tie-down to the aircraft structure may be required for some types of loads. Tie-down of gross weight of ULD with load can be required for some specific types of loads.

- *Load shift inside the aircraft can happen due to the insufficient restrain (non-closed locks and/or improper load tie-down to ULD and/or aircraft structure and/or improper usage of bulk nets in cargo holds (if applicable for specific aircraft)).*
- *Serious aircraft damage or even crash can be a result of load shift.*



DIRECTION	DESCRIPTION
1	Forward (Flight direction)
2	Aft
3	Upward
4	Left
5	Right

Fig. 8.1. Forces acting to loads in aircraft during the flight

8.2 RESPONSIBILITIES FOR TIE-DOWN PLAN DEVELOPING

Airline Loadmaster is responsible for the development of the load tie-down plans, where needed.

The tie-down plan includes a completed table (***Appendix 8.1 GOCHM***) and a graphical diagram showing the used tie-down points on appropriate zone of the main deck or lower deck.

When developing a tie-down plan (ULD or loose load) weighing more than 1000 kg on a freighter aircraft B767-300BCF (-BDSF)) and weighing more than 75 kg on passenger aircraft A319, A320, A321, A330 – the tie-down plan must be additionally approved by the Head of Ground Operations Division GOCHD.

Tie-down plan of any oversized/non-standard configured/very heavy loads must be calculated and issued based on valid Aircraft Weight & Balance Manual document/Supplement Weight & Balance manual or substitute document for the appropriate aircraft type/modification.

Issued and approved tie-down plans must be stored together with other standard flight documents (*refer to* ***Part 1 GOCHM***).

8.3 PASSENGER AIRCRAFT: ADDITIONAL CARGO/BAGGAGE/EQUIPMENT TIE-DOWN TO THE AIRCRAFT STRUCTURE

Most types of loads which must be restrained by straps to aircraft structure are described for reference in table below. Other types of loads which are not included into this table also could require extra tie-down to aircraft structure.

Good judgement must be used to properly define types of loads which are not described in table below, but still requires tie-down to aircraft structure. Always use extra tie-down to aircraft structure in case of doubts in package safe position on ULD/into bulk hold.

No.	*AC TYPE*	*DECK TYPE*	*CONDITIONS*	*TYPE OF LOAD*	*SOLUTION*
1	**A319** **A320** **A321** **A330**	Low Deck	DG or special cargo into **any** Low Deck Hold	• HUM (human remains in coffins). • Wheelchairs and other similar devices (regardless of design). • Cages with Live Animals (AVIH). • Any packages contain Dangerous Goods if the compartment/bulk section is not completely filled (90% or less from max possible volume).	The entire weight of the mentioned loads must be tied-down to the aircraft structure
2	**A319** **A320** **A321** **A330**	Low Deck	Cargo of any weight and size, placed in bulk section and able of shifting during transportation without tie-down and damaging the structure of the aircraft	• Aircraft spare parts. • Metal boxes. • Light or long& narrow items potentially able to penetrate the compartment walls or ceiling or Additional Center Tank protective wall (*e.g., pipes, or long and narrow packages with sharp ends*). • Oversized pieces of baggage/cargo/equipment	The entire weight of the mentioned loads must be tied-down to the aircraft structure
3	**A319** **A321**	Low Deck, CPT 3, CPT 4, CPT 5 (all AFT Hold)	Any rigid and/or sharp item (cargo, equipment or baggage) potentially able to penetrate Additional Center Tank protective wall	• Pipes, canoes, big and narrow boxes.	The entire weight of the mentioned loads must be tied-down to the aircraft structure against 9G acceleration
4	**A319** **A320** **A321** **A330**	Main Deck	CBBG baggage placed in the passenger seat	• Musical instrument in a case. • Live animal (PETC) in a cage. • Bag or backpack loaded on the passenger seat. • Any other item loaded on the passenger seat.	The entire weight of the mentioned loads must be tied-down to the aircraft structure
5	**A319** **A320** **A321** **A330**	Low Deck	Package weight exceeds 23kg	• Heavy crate with spare parts. • Heavy piece of cargo into wooden or metal outer package.	The entire weight of the mentioned loads must be tied-down to the aircraft structure

8.4 FREIGHTER AIRCRAFT: ADDITIONAL CARGO/BAGGAGE/EQUIPMENT TIE-DOWN TO THE AIRCRAFT STRUCTURE

Most types of loads which must be restrained by straps to aircraft structure are described for reference in table below. Other types of loads which are not included into this table also could require extra tie-down to aircraft structure.

Good judgement must be used to properly define types of loads which are not described in table below, but still requires tie-down to aircraft structure. Always use extra tie-down to aircraft structure in case of doubts in package safe position on ULD/into bulk hold.

№	*AC TYPE & MODIFICATION*	*CONDITIONS*	*TYPE OF LOAD*	*SOLUTIONS*
1	**B767-300BCF, B767-300BDSF**	DG or special cargo into bulk section	• HUM. • Wheelchairs and other similar devices (regardless of design). • Cages with Live Animals. • Any DG cargo into bulk section (if the bulk section is not completely filled). ***Recommends to tie-down DG packages in any case due to the possible mistake in visual evaluation of utilized volume.***	The entire weight of the mentioned loads must be tied-down to the aircraft structure ***REFER TO SECTION 8.7 PART 8 GOCHM***
2	**B767-300BCF, B767-300BDSF**	Any kind of load built on ULD which lost its contour due to the bad build up and/or weak pallet net & straps tension	• Pallet with general cargo which lost its initial contour due to the weak pallet net tension and weak structure of packages built on ULD	The entire gross weight of ULD must be tied-down to the aircraft structure
3	**B767-300BCF, B767-300BDSF**	Any kind of load of any weight and size, placed in bulk section or to ULD and able to shift during transportation and damage the aircraft structure	• Aircraft spare parts. • Metal boxes. • Light items potentially able to penetrate the compartment walls or ceiling (*e.g., pipes, or long and narrow packages with sharp ends*). • Oversized pieces of baggage/cargo/equipment	The entire gross weight of the mentioned loads must be tied-down to the aircraft structure (*for ULD – entire gross weight of ULD*)
4	**B767-300BCF, B767-300BDSF**	Load is placed on ULD and <u>is not</u> secured to ULD against shift in any 5 directions at 100% of weight (but ULD is secured by all locks on perimeter)	• Car on 16FT ULD restrained by 4 straps only. • Heavy weight rotor on a transport frame, secured to ULD only against UP, FWD and AFT shifts.	The entire gross weight of load must be tied-down to the aircraft structure against possible shifts in all 5 directions
5	**B767-300BCF, B767-300BDSF**	Load is placed and secured on ULD, but center of gravity is shifted out of limits, mentioned in ***Section 3.11.10 Part 3 GOCHM***	• Car is placed by roll-in method on top of 2 PMC or PAG/PAJ pallets loaded into Low Deck Hold. • Car is placed by roll-in method on top of 2 PMC or PAG/PAJ pallets loaded to Main Deck.	The entire gross weight of load and ULD must be tied-down to the aircraft structure against possible shifts in all 5 directions
6	**B767-300BCF, B767-300BDSF**	Load is placed on ULD and restrained to ULD <u>by straps only</u> against shifts in all 5 directions, <u>but 1 or more pallet locks secures ULD are inoperative</u>	• Any type of car on 16FT ULD. • Aircraft engine or heavy rotor on shipping stand. • General cargo on PAG/PAJ/PMC or subst. pallet loaded in LD Holds or on Main Deck.	The entire gross weight of load must be tied-down to the aircraft structure against possible shifts in all 5 directions

№	AC TYPE & MODIFICATION	CONDITIONS	TYPE OF LOAD	SOLUTIONS
7	**B767-300BDSF** (*UK67015, UK67019*)	Load is placed on 16FT ULD (*doesn't matter if it properly secured to ULD against 5 shifts or not*)	Any kind of load built on 16FT ULD and loaded onboard of **UK67015** or **UK67019** which has no pallet locks for 16FT ULDs	The entire gross weight of such ULD must be tied-down to the aircraft structure against possible shifts in all 5 directions
8	**B767-300BCF, B767-300BDSF**	Light load is placed on Main Deck floor without ULD	Galley and furnishing equipment, extra packages of potable water, additional catering into boxes, crew baggage	The entire gross weight of this ULD must be tied-down to the aircraft structure to prevent shift during flight operations
9	**B767-300BCF, B767-300BDSF**	Any kind of load is built on FQA pallet loaded to LD Holds (*full row of pallets is loaded according to the **Section 3.6.2 Part 3 GOCHM***)	FQA pallet with cargo/ equipment/mail/baggage	The entire gross weight of this ULD must be tied-down to the aircraft structure against UPWARD shift to prevent shift during flight operations
10	**B767-300BCF, B767-300BDSF**	Any kind of load is built on FQA pallet loaded to LD Holds (*full row of pallets is NOT loaded according to the **Section 3.6.2 Part 3 GOCHM***)	FQA pallet with cargo /equipment/ mail/baggage	The entire gross weight of this ULD must be tied-down to the aircraft structure against shifts UP and in direction of empty space to prevent shift during flight operations
11	**B767-300BCF, B767-300BDSF**	Any kind of load is built on uncertified ULD loaded to any cargo compartment	• FQA pallet is loaded to Main Deck. • 20FT ULD is loaded to Main Deck. • Any other ULD (not mentioned in GOCHM and WBM/Supplementary W&B Manual) is loaded to Main Deck or Low Deck	The entire gross weight of this ULD must be tied-down to the aircraft structure to prevent shift during flight operations
12	**B767-300BCF, B767-300BDSF**	Floating ULD, not secured by locks (located on right of left side of main deck or centerloaded)	Car is placed by roll-in method on top of PAG/PAJ pallets longitudinally centerloaded on pos. A12-A2 of Main Deck.	The entire gross weight of car and ULDs must be tied-down to the aircraft structure to prevent shift during flight operations. *If ULD is pressed down by car wheels, it is allowed to restrain car only.* *If you see the risk of ULD shift under car wheels – ULD must be separately tied-down to the A/C structure.*
13	**B767-300BCF, B767-300BDSF**	The minimum distance from the cargo to the aircraft structure or another frangible/valuable loads is **less 2 inches (5 cm) in any direction**	• Car on 16FT ULD. • Aircraft engine or heavy rotor on shipping stand. • General cargo is placed on any kind of ULD which has lost its contour due to the weak tension of pallet net or bad build up.	The entire gross weight of load must be tied-down to the aircraft structure against possible shifts in direction, where the minimum distance is **less 2 inches (5 cm).**
14	**B767-300BCF, B767-300BDSF**	Rigid Cargo is being transported on any type of ULD, but the requirements for the minimum volume of frangible cargo forward of Rigid Cargo have not been met.	Armored car is loaded on 16FT ULD as a centerload, and no other cargo is loaded forward of it, or total volume of cargo loaded forward of this car is lower than required.	The entire gross weight of load must be tied-down to the aircraft structure against possible shift in flight direction (with assumption "**the total gross weight is 9 times higher of real weight**".

№	*AC TYPE & MODIFICATION*	*CONDITIONS*	*TYPE OF LOAD*	*SOLUTIONS*
15	**B767-300BCF, B767-300BDSF**	Any kind of load placed on 2 adjacent ULD and not secured by connected pallet nets to these ULDs (doesn't matter, are all locks around ULDs are closed or not)	• Long and light load placed on top of 2 adjacent PAG/PAJ pallets. • Any car loaded to 2 adjacent ULDs.	The entire gross weight of load and ULDs must be tied-down to the aircraft structure to prevent shift during flight operations. Locks capacity must not be taken into account – it counts like a floating ULD.

8.5 BASIC PRINCIPLES OF ADDITIONAL TIE-DOWN TO THE AIRCRAFT STRUCTURE

1. Tie-down of any item to the aircraft structure must be performed by certified and serviceable straps. Usage of metal or plastic chains or non-certified straps (e.g., straps for cargo tie-down on trucks) is prohibited on any aircraft. *Refer to* ***Section 8.7 Part 8 GOCHM***.

2. There are 2 types of fittings which can be attached to aircraft structure – single stud fittings and double stud fittings. Straps for tie-down are equipped by double stud fittings and optionally can be also equipped by hooks. *Refer to* ***Fig. 8.5.1***.

SINGLE STUD FITTING

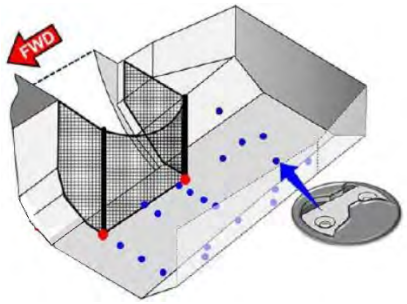
DOUBLE STUD FITTING

Fig. 8.5.1. Types of fittings

3. Attachment points on aircraft structure (shortly named APT) also can be single-stud or double-stud:
   - *Attachment points in Low Deck holds of passenger aircraft A319, A320, A321, A330 and freighter aircraft B767-300BCF (-BDSF), b757-200PCF are single-stud only.*
   - *Attachment points on Main Deck of freighter aircraft B767-300BCF (-BDSF) are double-stud only.*
   - ***It is prohibited*** *to attach straps with double stud fittings to single stud fittings (and vice versa) on aircraft structure as it means high risk of strap separation from APT under occurred load during flight.*

SEATTRACK (MAIN DECK B767 FREIGHTER)

SINGLE-STUD APT (LOW DECK HOLD B767 FREIGHTER)



SINGLE-STUD APT (BULK SECTION)

Fig. 8.5.2. Attachment points onboard of aircraft

4. Straps with hooks are preferrable to be used to secure any item to aircraft structure in Low Deck holds. Hooks of straps must be connected to single stud fittings with rings, which must be attached to special single stud attachment points (APT) on aircraft structure (specially designed for tie-down, not for bulk net installation).

5. Certified ropes instead of straps with hooks can be used in Low Deck holds to secure light packages only (1-32 kg per unit). Additional rings with single stud fittings require for this tie-down. These

fittings must be attached to special single stud attachment points (APT) on aircraft structure (specially designed for tie-down, not for bulk net installation), and ropes must be connected to these rings.

- *Passenger aircraft A319, A320, A321, A330 aircraft and freighter aircraft B757-200PCF – any cargo hold.*
- *Freighter aircraft B767-300BCF (-BDSF) aircraft – only in Bulk Section (Compartment 5).*

6. Only the approved attachment points (APT) on the aircraft cargo decks, specified in this manual, are allowed to be used. It is not allowed to use any non-approved APT or embrace side guides or pallet locks or end locks by straps to secure the cargo, or perform any other non-approved tie-down. *Refer to **Tables 8.5.1-8.5.4** for details.*

7. When developing a plan for tie-down any kind of load to an aircraft structure and during its implementation, it is necessary to observe the minimum distances between adjacent APT. Ignoring of this requirement may cause damage of APT and even separation of whole APT from aircraft under high stress during the flight. Different values are applicable for different aircraft.

B767-300BCF (-BDSF) – *refer to **Fig. 8.5.3A***:

- 55 cm between fittings of straps on same seattrack, if it secures load against shift in same direction;
- 25cm between fittings of adjacent straps on same seattrack, if it secure load in different directions (e.g., Forward & Up, or Forward & Aft, or Forward/Aft & Side, or Left & Right, or Side & Upward).
- Minimum 22cm from tie-down fitting and nearest pallet lock or end lock installed on same seattrack.

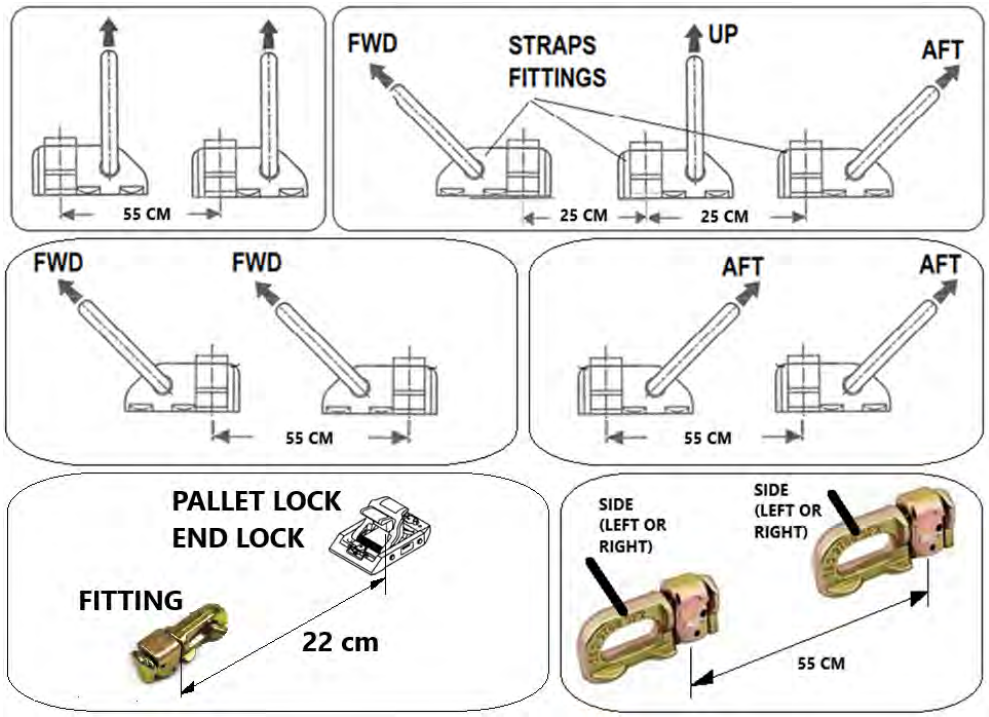
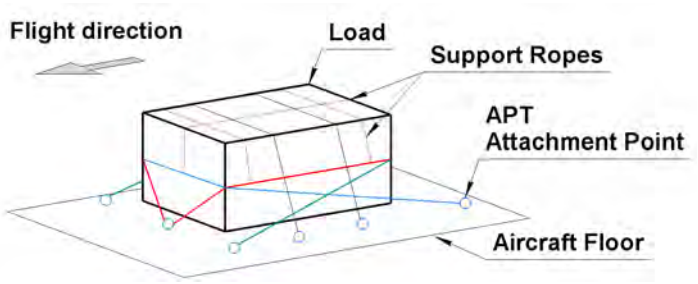


Fig. 8.5.3A. Minimum distances observed on one Seattrack (Main Deck of B767-300BCF (-BDSF))

8. Any load tied-down to aircraft structure must be restrained against shifts in any of 5 directions: forward, aft, left, right, upward. Quantity of straps (ropes) must be calculated separately for each direction. *Refer to **Fig. 8.5.4***.

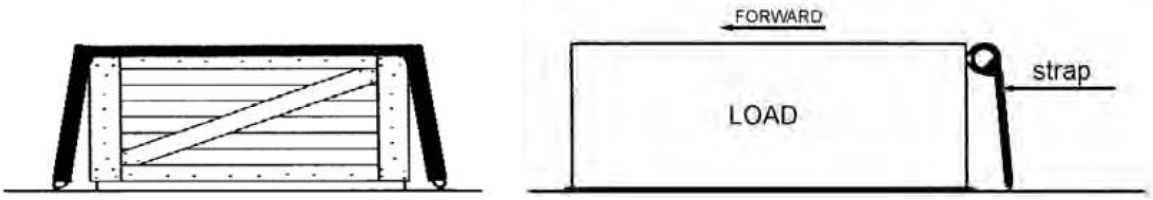


Example of loose package tie-down in Bulk section (passenger aircraft)

Example of heavy loads tie-down on Main Deck of B767 Freighter

Fig. 8.5.4. Examples of load tie-down

9. A strap attached at one end to the structure of the aircraft and at the other end to the load is called an "**direct tie-down strap**". A strap fixed at both ends to the structure of the aircraft and passed into the girth of the load is called a "**embraced tie-down strap**". *Refer to* ***Fig. 8.5.4***.



Embraced strap ***Direct strap***

Fig. 8.5.5. Embraced and direct tie-down

10. Tie-down straps/ropes must not deform or damage the secured load (package). *Refer to* ***Fig. 8.5.6***.

Fig. 8.5.6. Example of wrong tie-down damages the load packing

11. Normally straps/ropes embraces packed load itself, or attaches to approved parts of non-packed load (if it prohibited to embrace non-packed load by straps/ropes):
    - Rings (if installed) – for example, on heavy cars, aircraft engine stands, helicopters;
    - Rigid parts of construction – for example, on heavy machinery and aircraft engine stands;
    - Wheels or main frame rigid parts – for example, on heavy cars.

    Refer to ***Fig. 8.5.7*** *to see examples of non-packed loads tie-down.*

    Good judgement requires to define appropriate part of non-packed load which is sufficiently rigid and safe for tie-down. Do not concentrate many straps against load shift in one direction on one part of secured package – straps must be evenly distributed between several parts of package to prevent local overload and part damage/separation from load body.

12. Some complicated non-packed loads (for example, machinery or helicopters) require specific tie-down plan (and only specific approved attachment points on load body or rigid base part of load are allowed to be used for tie-down). Consult regarding the tie-down with shipper and Head of Ground Operations Division before tie-down arrangement of complicated and valuable loads (machinery, helicopters, cars, etc.).

*Refer to **Fig. 8.5.7** to see examples of non-packed loads tie-down.*

It may be required change of actual configuration of some complicated non-packed loads before air shipping (and sometimes installation of additional tie-down rings on load) in some specific cases.

Fig. 8.5.7. Examples of tie-down of complicated loads

13. If outer package of heavy load is not fully contacted with load inside and is too weak to resist a stress occurred during the flight (so can be broken by straps or pallet net), tie-down directly to load inside is required. In specific cases it means full removing of outer package, which must be discussed with shipper prior to tie-down. This question must be escalated to Head of Ground Operations Division of airline. Example – heavy machinery item inside a weak wooden frame or crate. *Refer to **Fig. 8.5.8**.*

Weak external packing of heavy load

Same heavy load after removal of external packing

Fig. 8.5.8. Heavy non-packed load with external weak wooden frame

14. One single stud APT in Low Deck holds (any aircraft) can be simultaneously used for tie-down in Forward & Aft directions, or in Left & Right directions (for same load or 2 different loads). Not more 2 straps/ropes can be attached to single ring on one APT. *Refer to* ***Fig. 8.5.9***.
    - *Combination of Upward tie-down and other directions on same APT is not allowed.*
    - *Combination of Side & Forward or Side & Aft tie-down on same APT is also not allowed.*
    - *Usage of 1 APT for 2 and more straps (ropes) restrains load against shift in same direction is not allowed.*

Fig. 8.5.9. Usage of single stud fitting for 2 straps / ropes simultaneously

15. Strap must not be blocked and/or curved by hook contacts with aircraft structure or any other obstacle. Strap must as direct as possible (with minimum curves). *Refer to* ***Fig. 8.5.10.***

Example of incorrectly positioned strap (hook stacked in wrong position during the strap tension)

Example of properly positioned straps with minimum curves

Fig. 8.5.10. Straps installation on packages

16. Total weight of load and shoring material (if used) must be used to calculate tie-down plan for loads placed into Bulk section (or Lower Deck holds, if loading of loose items is allowed as per Weight & Balance Manual).

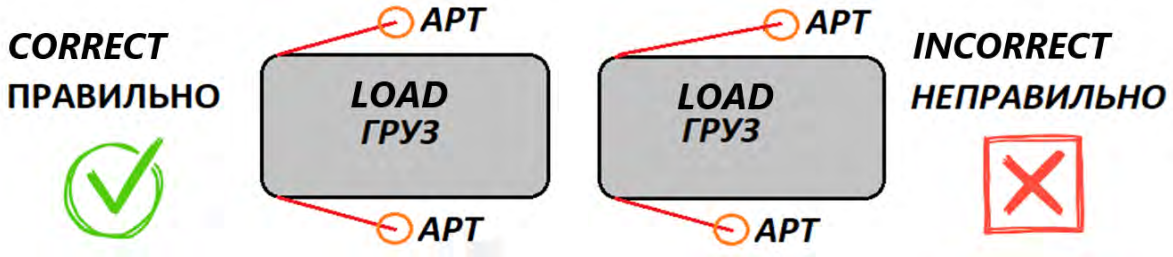
17. Total weight of load, ULD and shoring material (if used) must be used to calculate tie-down plan for loads placed to ULD and located anywhere in cargo holds.

18. Tie-down straps must wrap around the load or pass through the tie-down points (rings, eyes, or structural elements), or be attached by hooks (if any) to authorized and suitable tie-down points on the load.

19. Tie-down of the ULD with cargo or loose cargoes to the floor of an aircraft using a pallet net is prohibited both on the cargo deck and in the lower compartments of any aircraft.

20. Tie-down straps and ropes must be tightened. Loose straps and ropes are not allowed.

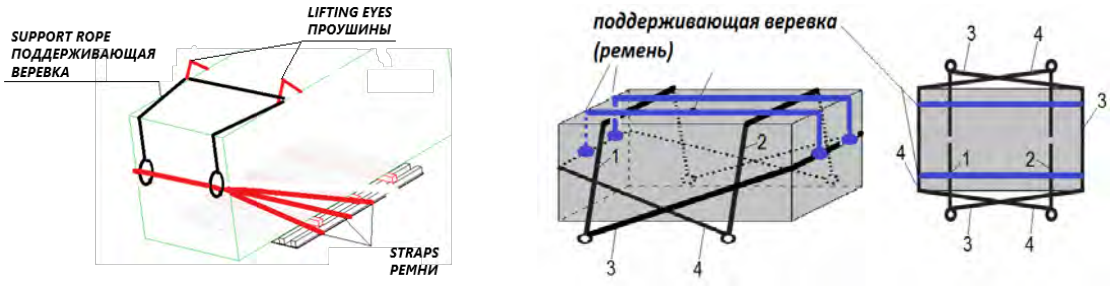
21. Position of straps secured load against shift in any direction must be symmetrical as much as possible for all directions (to avoid uneven load to any straps during the flight operations). Doesn't matter if it ends of one strap or different straps on both sides of load – tie-down must be symmetrical. *Refer to **Fig. 8.5.11***.



Symmetrical (correct) tie-down *Non-symmetrical (wrong) tie-down*

Fig. 8.5.11. Symmetrical tie-down

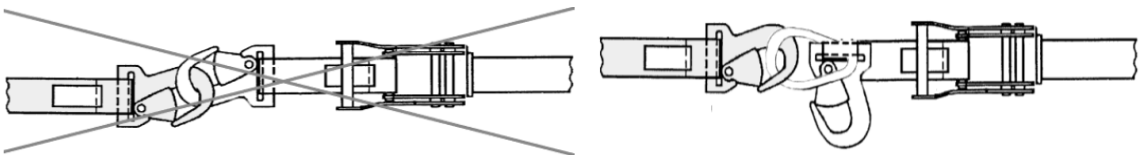
22. Straps must not slip or fall from the load. If necessary, use support straps, or thread the straps through the structural elements of the load (wisely choosing suitable elements and taking into account the position of the center of gravity of the load). If load is also secured by pallet net, it allowed to pull the straps through the net, but strap must have no curves. *Refer to **Fig. 8.5.12.***



"Supporting" ropes or straps *"Supporting" ropes or straps*

Fig. 8.5.12. Supporting ropes

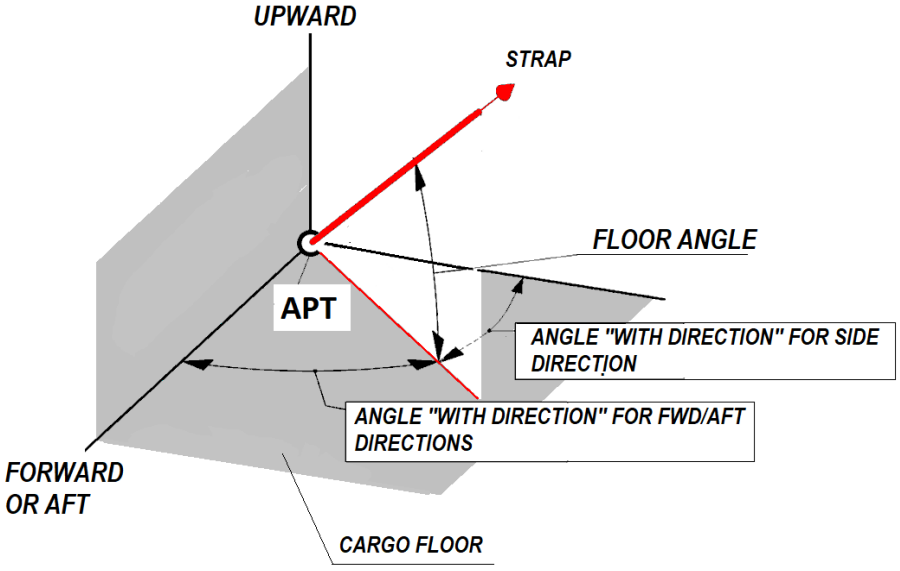
23. When connecting straps with hooks into one longer strap (*e.g., to perform 9G tie-down of Rigid Cargo against possible shift in flight direction*), it is forbidden to connect the straps using the "hook-in-hook" method. Only hook-to-ring connection is allowed. *Refer to **Fig. 8.5.13***.



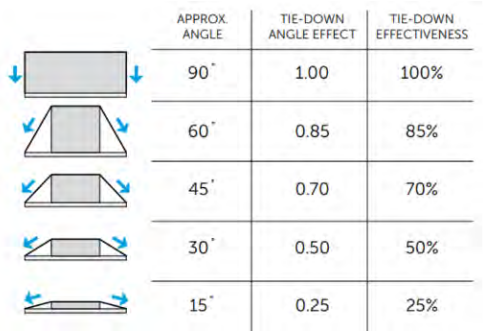
Wrong and correct connection methods for straps with hooks

Fig. 8.5.13. Supporting ropes

24. Specific angles must be observed for each tie-down strap/rope secures any kind of load to aircraft structure (due to the loss of strap max loading effectiveness in case of big angle between strap and restrained direction). *Refer to* ***Fig. 8.5.14***:
    - Floor angle & Angle with direction – for straps/ropes, secures the load against shift in Forward, Aft, Left & Right directions. *Both angles for straps/ropes secures the load must be as close to 30 degrees as possible. Both angles must not exceed 40 degrees.*
    - Floor angle – for straps secures the load against shift in Upward direction. *Angle between strap and floor must be as close to 90 degrees as possible. Minimum allowed angle is 60 degrees.*



Angles between strap/rope and floor & strap/rope and restraining direction



APPROX. ANGLE	TIE-DOWN ANGLE EFFECT	TIE-DOWN EFFECTIVENESS
90°	1.00	100%
60°	0.85	85%
45°	0.70	70%
30°	0.50	50%
15°	0.25	25%

Rounded loss of strap max loading effectiveness in case of big angle between direction and strap

NOT FOR OPERATIONAL USE

Fig. 8.5.14. Angles between floor, direction and strap/rope

25. When calculating a total amount of straps/ropes required for tie-down of any kind of load to aircraft structure, next tables must be used:

- *Table 8.5.1 – for A319, A320, A321 aircraft (Low Deck holds).*
- *Table 8.5.2 – for B767-300BCF (-BDSF) (Low Deck holds).*
- *Table 8.5.3 – for B767-300BCF (Main Deck).*
- *Table 8.5.4 – for B767-300BDSF (Main Deck).*

NOTE – each table shows max load per single APT and per Wrap-Around strap (attached by both ends to aircraft structure and embraced the load). Refer to ***Section 8.6 Part 8 GOCHM*** for details & examples.

26. Minimum 2 straps/ropes must secure any load against shift in Upward direction (across the shortest side of load). Final quantity of straps/ropes depends on weight of secured load and must be calculated based on appropriate tables. *Refer to* ***Fig. 8.5.15***.

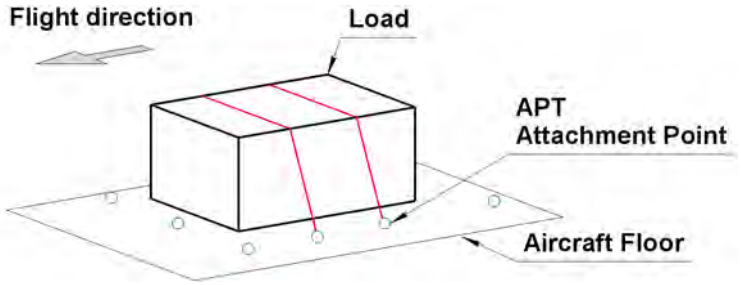


Fig. 8.5.15. Upward tie-down

27. Wooden shields (for example, plywood, or europallets) must be used forward and aft of narrow and low items potentially able to penetrate through the pallet net (if used), or if straps/ropes may fall from ends of such load. Additional chocks may be used to prevent side shifts or round items. *Refer to* ***Fig. 8.5.16***.

28. Additional wooden shields also shall be used to stabilize high and narrow loads (if empty space remains on ULD, and potential risk of load shift still remains high). *Refer to* ***Fig. 8.5.16***.

Fig. 8.5.16. Examples of shields on ends of narrow loads / shields for load stability

29. Wooden shields (for example, plywood) must be placed on top of round items (for example, barrels) for proper tie-down. *Refer to* ***Fig. 8.5.17***.

Fig. 8.5.17. Examples of barrels tie-down

LEGEND

Field	Type of information
Tie-down point	The two-letter code APT (the "legend" is shown above the table).
Angle	The value of the used angle (with floor or with direction).
Number of available APTs	The number of available tie-down points.
Load on 1 APT	The value of the load accepted for calculation and taken from appropriate table (***Table 8.5.1, 8.5.2, 8.5.3, 8.5.4*** *– depends on aircraft type*).
Total load	The total load on all APTs ("number of APTs" x "load per 1 APT" = "total load").
Minimum number of straps	The minimum required number of straps attached to these APT.
Total Straps	The total number of straps per direction (taking into account the fact that some straps may be double).
Direction	***FWD/AFT – F/A – forward/aft*** ***SIDE – S – left/right side*** ***UP – U – upwards***

Table 8.5.1. Max loads per APT for B757-200PCF, A319, A320, A321, A330** aircraft (LD Holds)

APT POSITION	*ANGLE (DEGREES)*	*LOADS ON APT (FOR DIRECT STRAP)**		
		*FWD/AFT**	*SIDE**	*UP**
COMPARTMENT FLOOR	0-30	450	450	0
	30-60	200	200	200
	60-90	0	0	450

** To calculate a total max load of wrap-around strap/rope – multiply this figure to 2. Upward tie-down always requires minimum 2 straps/ropes (even if calculation result is 1).*
*** For A330: these values are applicable for CPT 5 only.*

Table 8.5.2. Max loads per APT for B767-300BCF (-BDSF) (Low Deck holds).

APT POSITION	*ANGLE (DEGREES)*	*LOADS ON APT (FOR DIRECT STRAP)**		
		*FWD/AFT**	*SIDE**	*UP**
COMPARTMENT FLOOR	0-30	250	200	140
	60	200	100	200
	90	0	0	250

** To calculate a total max load of wrap-around strap/rope – multiply this figure to 2. Upward tie-down always requires minimum 2 straps/ropes (even if calculation result is 1).*

Table 8.5.3. Max loads per APT/per strap for B767-300BCF (Main Deck).
Applicable for: UK67009, UK67010, UK67017, UK67018

DIRECTION	***Angle (deg.)*** *(Floor or With Direction – which value is higher).*	***Max Load for Direct strap, kg***	***Max Load for Wrap Around Strap, kg***
		APT type: Seattrack	***APT type: Seattrack***
FORWARD (*any position*)	0	429	858
	30	398	796
	60	347	694
AFT (*any position*)	0	429	858
	30	398	796
	60	347	694
SIDE (*pos. A1-A9*)	0	334	668
	30	309	618
	60	269	538
SIDE (*pos. A10-A12*)	0	219	438
	30	203	406
	60	176	352
UPWARD (*pos. A1-A9*)	90	977	1954
	60	713	1426
	30	314	628
UPWARD (*pos. A10-A12*)	90	768	1536
	60	561	1122
	30	247	494

Table 8.5.4. Max loads per APT/per strap for B767-300BDSF (Main Deck).

Applicable for: UK67015, UK67019

DIRECTION	***Angle (deg.)*** *(Floor or With Direction – which value is higher).*	***Max Load for Direct strap, kg***	***Max Load for Wrap Around Strap, kg***
		APT type: Seattrack	***APT type: Seattrack***
FORWARD (*any position*)	0	415	830
	30	380	760
	60	330	660
AFT (*any position*)	0	415	830
	30	380	760
	60	330	660
SIDE (*pos. A1-A9*)	0	500	1000
	30	350	700
	60	200	400
SIDE (*pos. A10-A12*)	0	300	600
	30	280	560
	60	180	360
UPWARD (*pos. A1-A9*)	90	1000	2000
	60	330	660
	30	250	500
UPWARD (*pos. A10-A12*)	90	410	820
	60	315	630
	30	120	240

8.6 TIE-DOWN CALCULATION STEPS

1. Define the aircraft and desired loading zone of aircraft:

- For A319, A320, A321, B757-200PCF aircraft – Low Deck holds only (same loads applicable in any section).
- For B767-300BCF (-BDSF) aircraft – Bulk section, Low Deck or Main Deck.

2. Define a total weight to be secured:

- Total weight of load and shoring material (if used) must be used to calculate tie-down plan for loads placed into Bulk section (or Lower Deck holds, if loading of loose items is allowed as per Weight & Balance Manual).
- Total weight of load, ULD and shoring material (if used) must be used to calculate tie-down plan for loads placed to ULD and located anywhere in cargo holds.

Additional requirements are applicable for A319 and A321 aircraft equipped by additional center tank in AFT Hold:

a. any package heavier 23kg per unit requires 9G tie-down against shift in flight direction (forward). It means, weight of package must be virtually multiplied by 9.
b. no long and narrow items must be loaded into Aft Hold of any A319 and A321 aircraft equipped by additional center tank in AFT Hold – even with additional tie-down.

3. Divide a weight, define in a step 2, to values from appropriate *Tables 8.5.1 – 8.5.4* to define a total quantity of straps/ropes (separately for each direction).

- To be on safe side never use angle 0^0 if you not sure it will be really possible to install strap/ropes to load.
- To be on safe side it recommends to always use maximum angle 30^0 for forward, aft and side tie-downs and 60^0 for upward tie-down.
- Rounding the number of straps (ropes) down in the calculation is not allowed. Only rounding up of the number of straps (ropes) is allowed.

4. Once total quantity of straps/ropes is defined, prepare simplified tie-down plan for agent (loadmaster).

5. For any cargoes heavier 1000 kg on freighter aircraft B767-300BCF (-BDSF) or 75 kg on passenger aircraft A319/A320/A321 or freighter aircraft B757-200PCF – fill and save "Tie-down checklist" (***Appendix 8.3 GOCHM***) with attached tie-down plan:

a. Fill in the upper fields of the checklist with the necessary information. An example of filling, refer to ***Fig. 8.6.1***. Manual filling is allowed as well as filling in any appropriate software.

Схему разработал Plan has been developed by		*A. IVANOV*		Дата Date	*20 JUN 24*
Схему утвердил Plan has been confirmed by		*A. GREBINYAK*		Дата Date	*20 JUN 24*
Тип ВС A/C Type	**B767-300BCF**	Рег. номер ВС A/C Reg.	**UK67010**	Позиции на борту Positions onboard	**A6-A7**
№ рейса / Flight number		**MFX7677**	Дата рейса / Flight Date		**21JUN24**
• Масса груза (паллеты), кг • ULD weight, kg		**2150 KG**	Номер паллеты ULD Number		***PMC12345R7 + PMC47088R8***

Fig. 8.6.1. Checklist example

b. Draw schematically by hand, or by suitable software the contour of the load (top view) on the appropriate diagram of the aircraft cargo deck. Refer to an example on ***Fig. 8.6.2 – 8.6.4***.
   - *The scale of the load should match the scale of the load deck as closely as possible.*

– *Use the scales shown in the diagram in order to draw the load as accurately as possible.*
– *If the load is smaller in size than the ULD used for picking, then the boundaries of the ULD must also be marked on the diagram. In the example in* ***Fig. 8.6.2*** *load conventionally has dimensions 550x200x140 cm and placed on top of 2 PMC pallets loaded as centerload onboard of freighter aircraft B767-300BCF.*

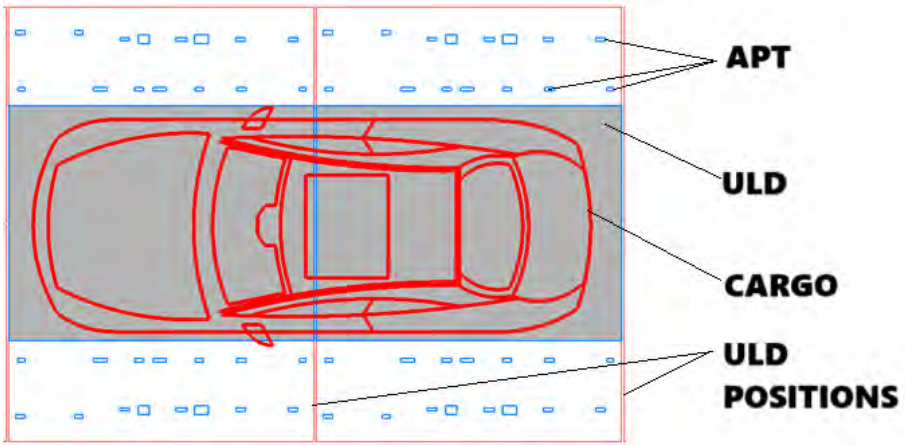


Fig. 8.6.2. Preliminary graphical plan

Схему разработал Plan has been developed by		*A. IVANOV*		Дата Date	*20 JUN 24*
Схему утвердил Plan has been confirmed by		*A. GREBINYAK*		Дата Date	*20 JUN 24*
Тип ВС A/C Type	**B767-300BCF**	Рег. номер ВС A/C Reg.	**UK67010**	Позиции на борту Positions onboard	**A6-A7**
№ рейса / Flight number	**MFX7677**	Дата рейса / Flight Date		**21JUN24**	
• Масса груза (паллеты), кг • ULD weight, kg	**2150 KG**	Номер паллеты ULD Number		***PMC12345R7 + PMC47088R8***	
ЛЕГЕНДА: ST – ситтрек					

Направление швартовки *Restraint direction*	*Точка швартовки* *APT location*	*Угол (град.)* *Angle (degr.)*	*Кол-во доступных APT* *Number of available APTs*	*Нагрузка на 1 APT, кг* *Allowable load per one APT, kg*	*Суммарная нагрузка, кг* *Total allowable load, kg*	*Минимальное кол-во ремней* *Minimal required number of straps*
1	2	3	4	5	6	7
	ST	30	8	398	3184	4
ВПЕРЕД ***FWD*** ***Всего ремней (Total straps):***						

***Fig. 8.6.3. Example of checklist* (*Appendix 8.1 GOCHM*).**

c. Perform a preliminary calculation of a possible tie-down plan on a preliminary graphic scheme, based on the selected position of the cargo on board the aircraft and available APT. Draw the lines to mark the straps and it's expected position. Mark the straps for each direction by appropriate letters and figures (for example, strap 1 for Upward tie-down shall be marked as U1):
   - U = Upward
   - R = Right
   - L = Left
   - F = Forward

- A = Aft

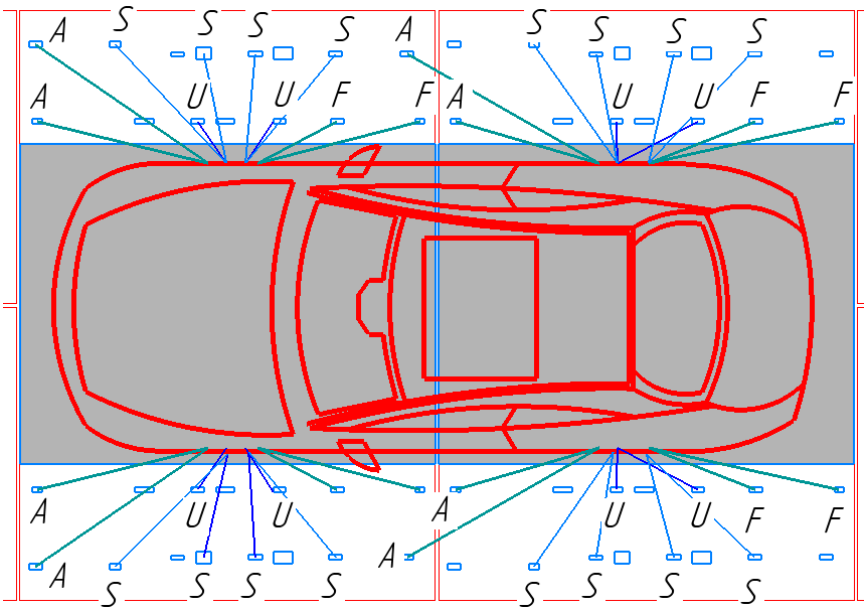


Fig. 8.6.4. An example of a draft graphic scheme of cargo tie-down
EXAMPLE ONLY - NOT FOR OPERATIONAL USE!

d. For complicated loads – use additional drawings or photos (e.g., from manuals) to show graphic scheme of planned position of straps on load. *Refer to* ***Fig. 8.6.5***.

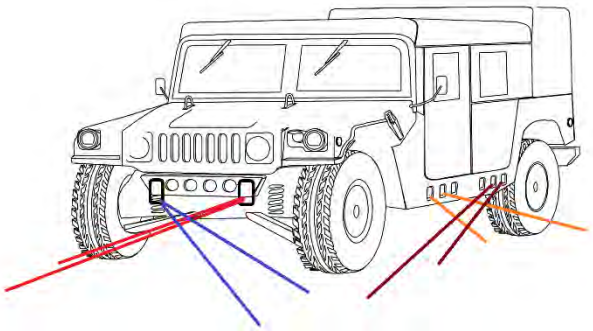


Fig. 8.6.5. An example of an additional graphic scheme for cargo tie-down
EXAMPLE ONLY - NOT FOR OPERATIONAL USE!

e. Fill the remain fields of “Checklist” and attach the tie-down plan.
f. Send filled “Checklist” and tie-down plan to appropriate agent (loadmaster) by email. Copy the email Loadrequest@centrum-air.com. Save the filled “Checklist” and tie-down plan in folder contains all mandatory flight files.

8.7 TIE-DOWN MATERIAL REQUIREMENTS AND SERVICEABILITY

10. For loads tie-down on the ULD and in all aircraft cargo compartments, only certified tie-down straps, manufactured and tested according to the standard, are allowed (standard ISO 16049-1). The use of chains or non-certified straps is prohibited in all aircraft cargo compartments and on all applicable ULDs.
11. Straps must only be fitted with double Brownline fittings P/N 21035-54 with a load of 2250 kg.
12. Hooks, fittings and straps rings must not be damaged or deformed.
13. Cuts, knots, belt tears, oil or fuel contamination are not allowed.
14. The period of use of serviceable straps is 2 years from the date of production. Belts older than 2 years must be discarded and must not be reused.

15. For tie-down inside containers or in the "bulk" compartment, only single-stud fittings should be used (Brownline fitting P/N 10730 or P/N 11251 with a minimum load of 907 kg).
16. For tie-down to single-stud fittings (regardless of their place of use), certified ropes or straps with hooks must be used.
17. Single-stud fittings may be used on the main deck of freighter aircraft B767-300BCF (-BDSF) only and only to secure galley/furnishing equipment and crew baggage.
18. The minimum capacity of a certified tie-down strap must be 1100 kg. Mandatory capacity of straps utilized on MF flights is 2250-2267kg.
19. When tie-down a load, straps of different types (for example, Kevlar and nylon) shall not be mixed in order to avoid different loads due to different stiffness of materials.
20. When calculating the minimum quantity of straps to secure the load, it is necessary to take into account the minimum load on the attachment point, as an actual one.

EXAMPLE 1: *tie-down strap with maximum load of 2250 kg is used to secure the load in the B767-300BCF Bulk section, where it is attached to a single stud fitting (max load 200 kg). When calculating tie-down plan - take into account the maximum load on APT, not a strap. Total load per strap is 400kg only, not 2250kg.*

8.8 ALLOWED TIE-DOWN POINTS (ALL TYPES OF AIRCRAFT)

Approved APT in cargo holds of any passenger or freighter aircraft (approved for loading of loose items without ULD) are single stud APT on the floor. *Refer to* ***Fig. 8.8.1*** *and* ***Fig. 8.8.2***.

Approved APT in Low Deck Holds of any freighter B767 aircraft and any A330-343 passenger aircraft (approved for ULD loading only) are single stud APT on the Side Guides. Only certified straps with hooks (connected to single stud fittings which are attached to APT) are allowed to be used for tie-down. *Refer to* ***Fig. 8.8.1*** *and* ***Fig. 8.8.2***.

Approved APT on Main Deck of any freighter aircraft B767-300BCF (-BDSF) are seattracks on the cabin floor. Only certified straps with double stud fittings are allowed to be connected to these seattracks. There are no approved APT on Main Deck of any freighter aircraft B757-200PCF. *Refer to* ***Fig. 8.8.1*** *and* ***Fig. 8.8.2***.

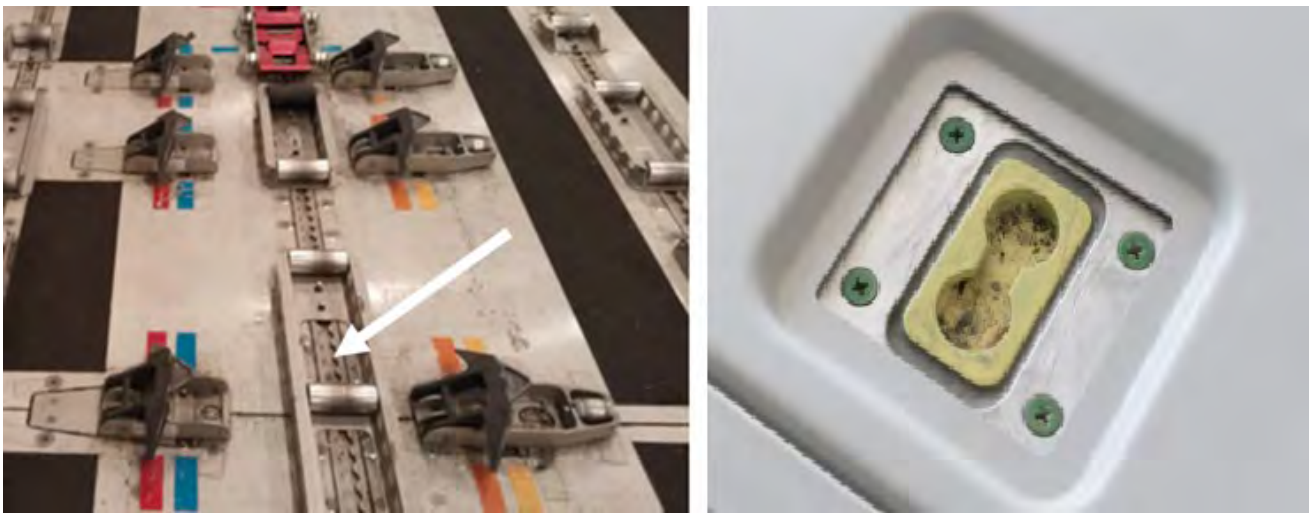


Fig. 8.8.1. General view of seattrack on Main Deck floor of B767-300BCF & -BDSF (left photo) and single-stud fitting on Low Deck floor of A320/A321 (all sections of cargo hold), A330 (only CPT 5)

Fig. 8.8.2. Correct (left photo) and incorrect (right photo) methods of connection of strap to aircraft structure in Low Deck holds of any aircraft

8.9 FLY AWAY KIT TIE-DOWN (ALL TYPES OF AIRCRAFT)

Any elements of Fly Away Kit must be restrained by straps or ropes to aircraft structure prior to departure according to the rules and restrictions described in ***Section 8.6 Part 8 GOCHM.***

8.10 STANDARD TIE-DOWN PLANS FOR CARS LOADED TO MAIN DECK OF FREIGHTER AIRCRAFT

B757-200PCF

Not applicable. Tie-down of cars to aircraft structure on Main Deck is not allowed.

B767-300BCF (-BDSF)

This section describes standard tie-down plan applicable for most cars.

Wheels and/or standard tie-down points or rigid parts of cars (for example, rigid main frame), or standard tie-down points (installed on car body) must be used for tie-down. *Refer to* ***Fig. 8.10.1***.

Current tie-down plan can be used for tie-down of car (up to 2200 kg heavy) on pos. A5R/A5L-A12R/A12L of any B767-300BCF (-BDSF), if car is loaded by Roll-In/Roll-Out method on top of longitudinally centerloaded ULD (size 125x88'' or 125x96'', loaded along the aircraft centerline without shift to left or right sides of Main Deck). Refer also to Section 3.6.3 Part 3 GOCHM.

Same plan can be used for tie-down of car (up to 2000 kg heavy) built on 16FT or 20FT ULD and centerloaded on Main Deck without locks usage (or in case of locks failure).

These plans can be adjusted due to the car configuration and/or weight (means extra straps addition, not reducing number of straps). Follow to requirements described ***in Section 8.5*** & ***Section 8.8 Part 8 GOCHM***.

Examples of tie-down straps are shown on ***Fig 8.10.2*** (for cars which weight together with weight of used ULD(s) is not exceeds 2400 kg). Needs to use more straps for cars which weight together with weight of used ULD(s) is between 2400 kg and 3000 kg.

Information about total quantity of straps is shown in ***Table 8.10.1***.

If weight of car and used ULD(s) exceeds 3000 kg, develop new

Table 8.10.1. Minimum quantity of straps for car tie-down

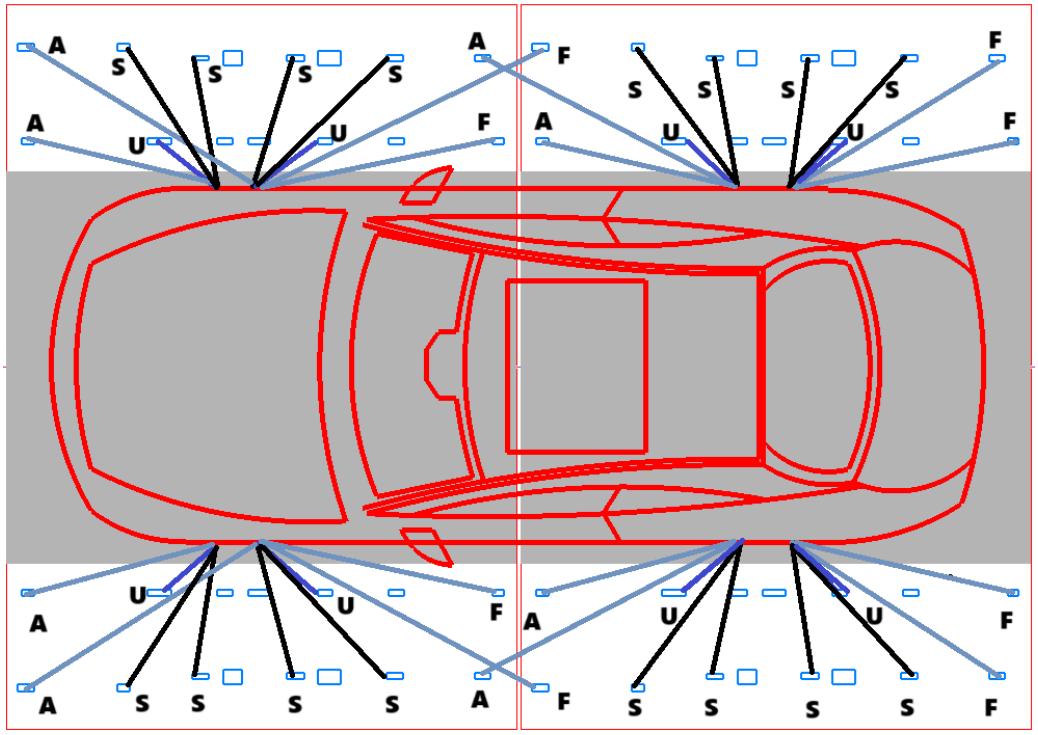
Weight of car and used ULD (s), *кг*	Restrained direction (compared with flight direction)					
	UPWARD	**FORWARD**	**AFT**	**LEFT**	**RIGHT**	**TOTAL**
Up to 2400 kg	4	6	6	4	4	24
2401 – 3000 kg	6	8	8	4	4	30

If 2 and more cars are loaded one by one on adjacent positions, it allowed to attach part of straps to APT located on adjacent positions (not on occupied by car) to meet all requirements of ***Section 8.5 Part 8 GOCHM*** (angles between strap and restrained direction/between strap and floor). *Refer to* ***Fig. 8.10.3***.

URGENT! – *it is prohibited to tie straps together or to thread one strap through the loop of another strap, if design of wheel disks not allows standard tie-down. Refer to* ***Fig. 8.10.4***.

URGENT! – *Plastic file or rubber must be placed under the strap in the place of contact between the strap and wheel disk to prevent damage of wheel disk.*

Fig. 8.10.1. Tie-down solutions: to approved APT on car body (left photo) and wheel disks (right photo)



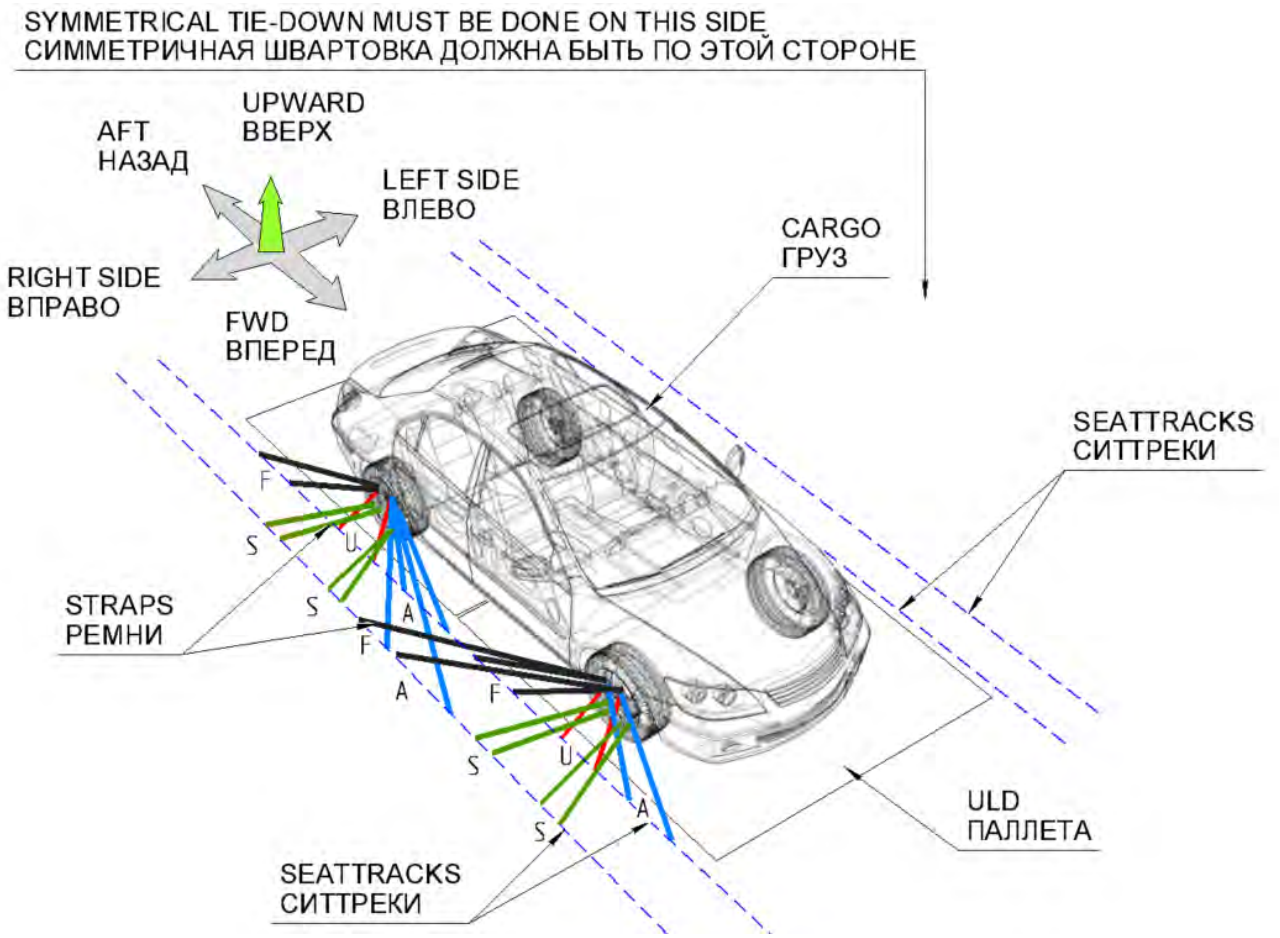


Fig. 8.10.2. Standard tie-down plan for cars loaded to Main Deck of B767-300BCF (-BDSF) and secured to aircraft structure

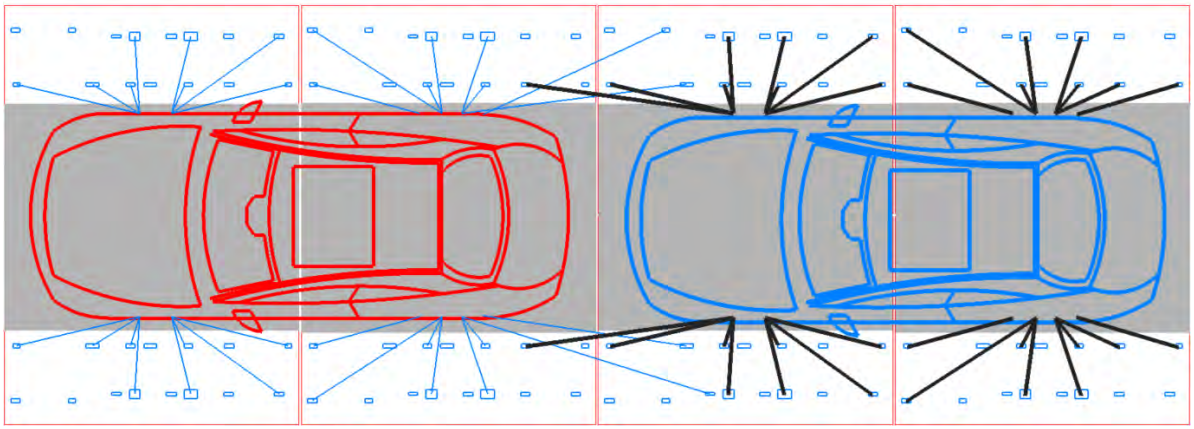


Fig. 8.10.3. Example of tie-down plan for 2 cars loaded one by one (with partial placement of some straps on adjacent positions)

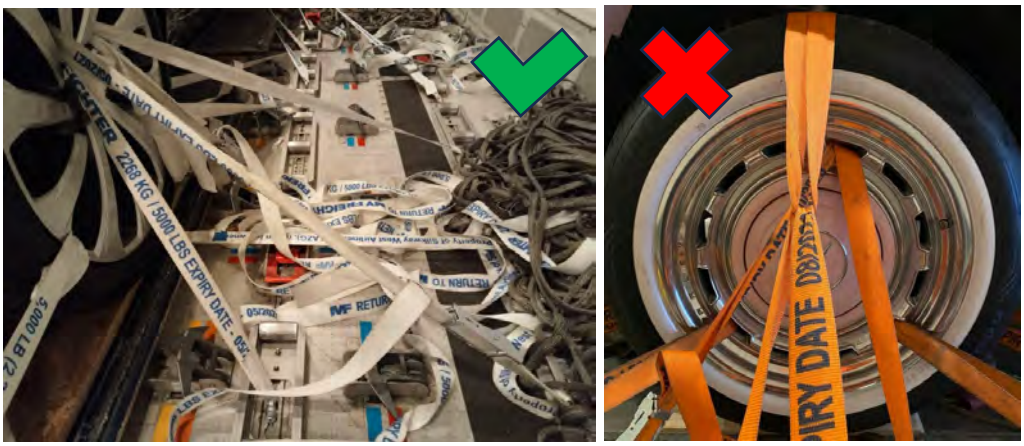


Fig. 8.10.4. Разрешенный и запрещенный варианты использования ремней

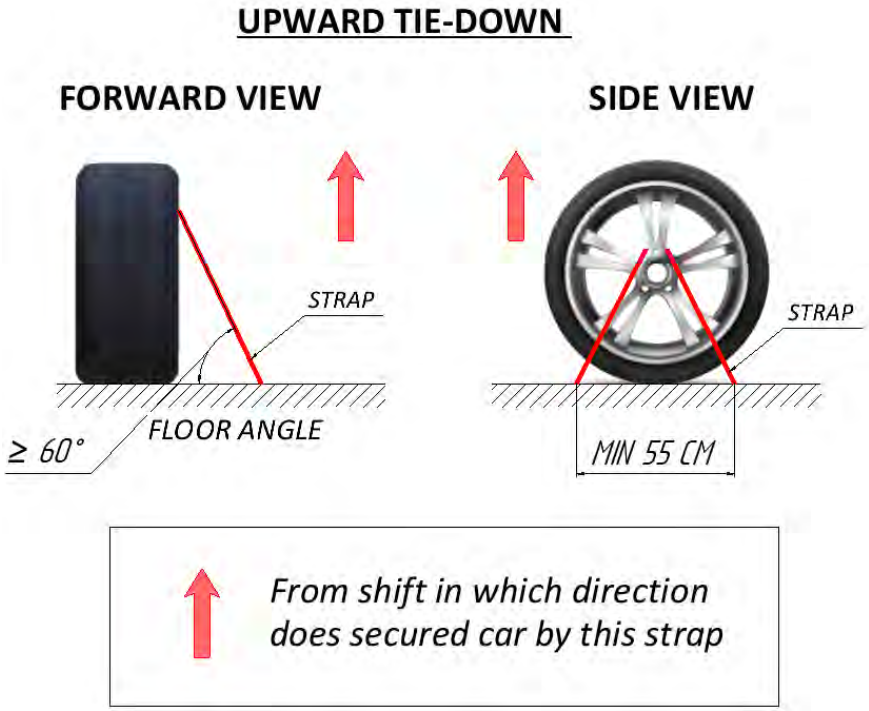


Fig. 8.10.5. Upward tie-down

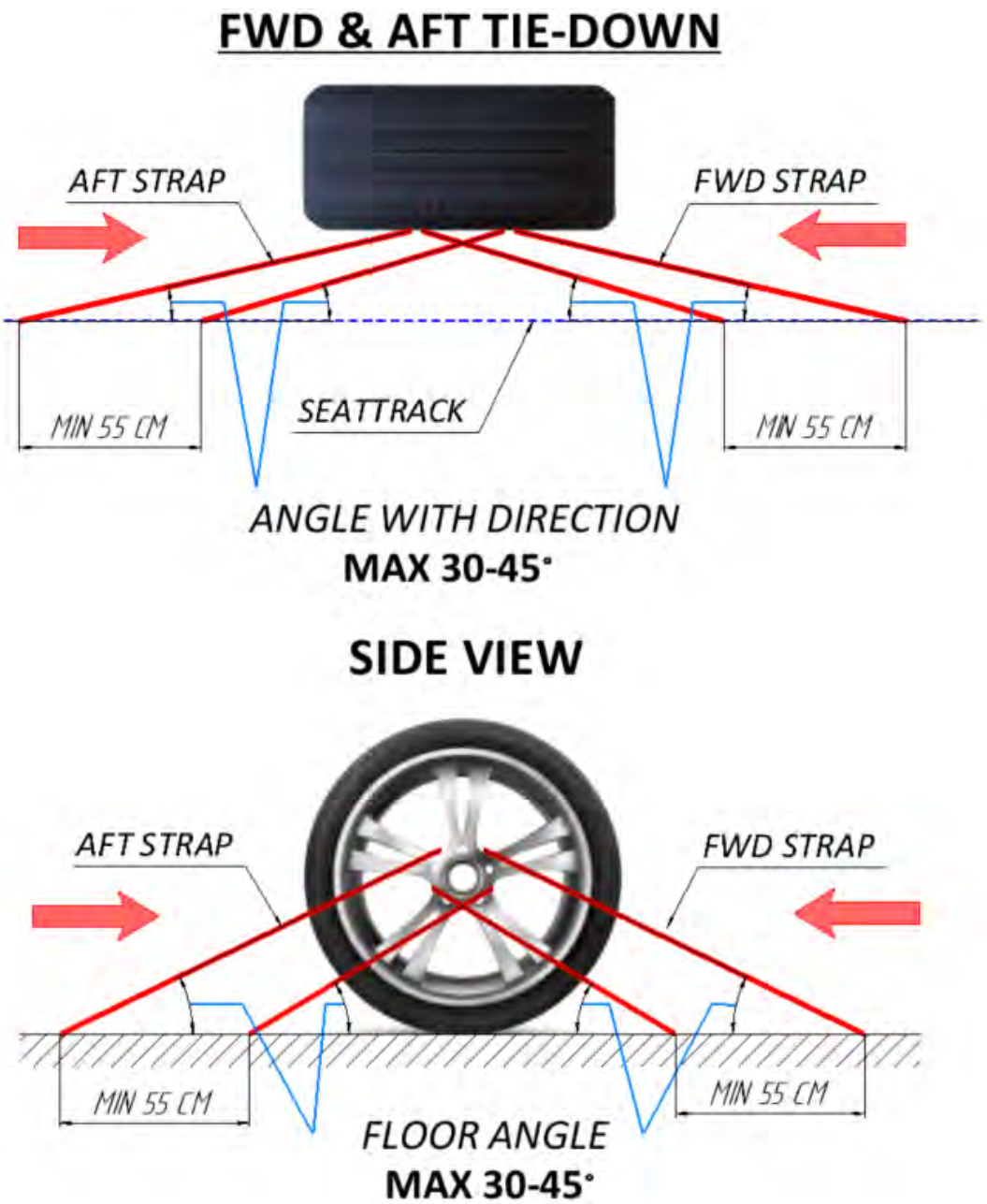


Fig. 8.10.6. Forward and Aft Tie-downs

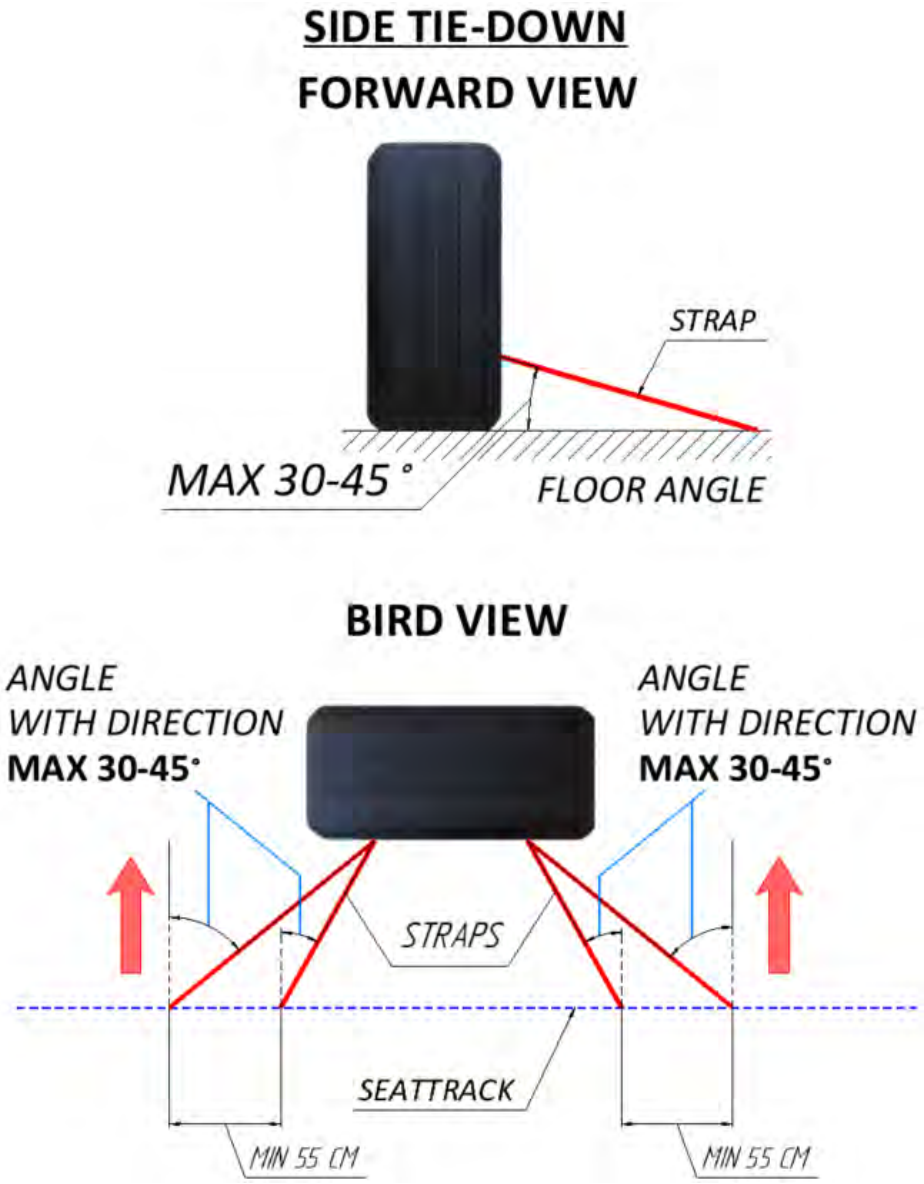


Fig. 8.10.7. Side Tie-down (Left & Right)

8.11 DEVELOPING TIE-DOWN PLANS FOR PROJECT, HEAVY AND NON-STANDARD LOADS

The development of tie-down plans for loads heavier than 1,000 kg per unit, as well as project and non-standard loads, is responsibility of Head of Ground Operations Division, or a specialist appointed by him from among the most trained loadmasters (with further approval of the prepared plan).

When developing tie-down plans for these loads, the responsible specialist must be guided by the provisions and restrictions of the current ***Weight and Balance Manual*** or ***Supplementary Weight and Balance Manual*** for a particular aircraft.

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PART 9. AIRCRAFT WEIGHT AND BALANCE COMPUTATIONS

9.1 GENERAL PROVISIONS

This section describes the principles, methods and limitations of aircraft weight & balance computations.

9.2 EXPLANATIONS OF WEIGHT AND BALANCE

Airplane wing allows to create the lift force needed to support the airplane in the air. The lift force is created by the uneven flow of air around the wing, which results in a pressure difference between the upper and lower parts of the wing. ***Refer to Fig. 9.1.***

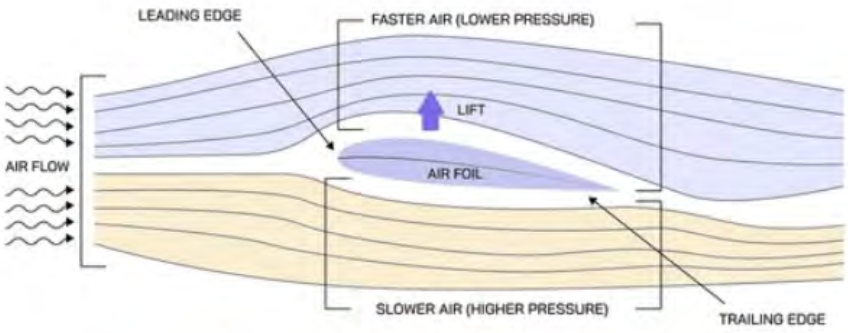


Fig. 9.1. Wing lift onset principle

Any aircraft in flight affected by 4 forces (*refer to the **Fig. 9.2***):

1. Lift force of the wing (directed upwards);
2. Gravity (directed down);
3. Engine thrust (directed forward);
4. Drag (directed aft).

The stabilizer makes it possible to balance the influence of four forces on the aircraft, taking into account the position of its center of gravity and to fend off the tendency of the aircraft to pitch up or dive (refer to the ***Fig. 9.2***).

A **pitch-up** is a turn of a moving aircraft around a transverse axis, in which the nose of the aircraft rises upward. A **dive** is a turn of a moving aircraft around a transverse axis, in which the nose of the aircraft drops downward.

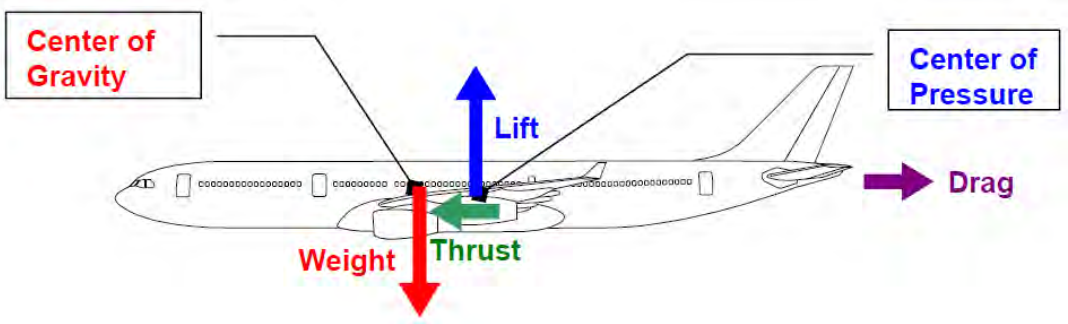


Fig. 9.2. Forces affecting an aircraft in flight

The aircraft's **center of gravity** must be located within a segment called the mean aerodynamic chord of the wing (abbreviated as MAC).

The **mean aerodynamic chord (MAC)** is the line connecting the outermost points of the profile on the leading and trailing edges of the wing. The starting point of this line on the leading edge of the wing is called LEMAC (Leading Edge of MAC). The exact coordinates and values of the mean aerodynamic chord,

as well as the LEMAC coordinates relative to the reference point established by the aircraft manufacturer, are known and included in the technical documentation for each aircraft. ***Refer to Fig. 9.3.***

The **position of the aircraft's center of gravity within the MAC** is measured as a percentage of its length, measured from the Leading Edge of MAC (LEMAC). ***Refer to Fig. 9.3.***

Aircraft balance is the position of the center of gravity of the aircraft, indicated in percents of the MAC length.

The aircraft manufacturer establishes and specifies in the Weight & Balance Manual safe limits for the center of gravity position for each aircraft depending on its mass – the so-called "certification" limits. Based on them, the aircraft operator determines subsequent limitations for the center of gravity of each aircraft, creating the so-called "operational" limits. This is necessary to ensure flight safety and minimize the risk of the aircraft stalling or tipping over on its tail in the event of exceeding the established center of gravity limits. The aircraft center of gravity position for the flight must be within the limits calculated by the aircraft operator and specified in the officially approved document AHM560 or AHM565, issued individually for each aircraft operated by airline (and containing the main summary data necessary for weight & balance computations during its operation).

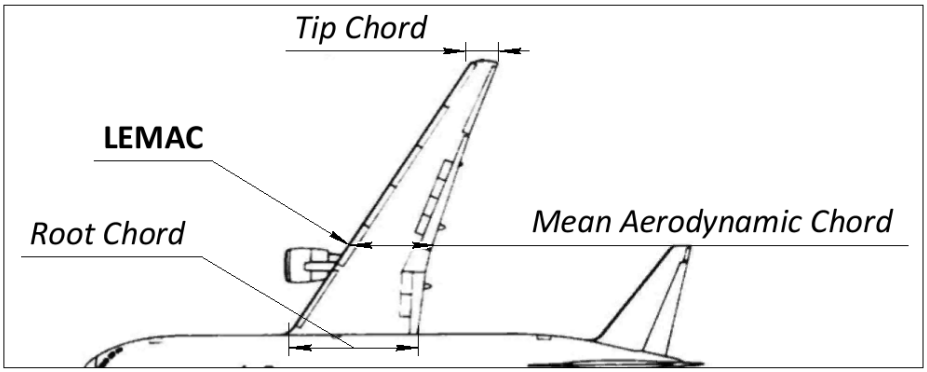


Fig. 9.3. Mean Aerodynamic Chord

The aircraft weight and balance limits for each weight are presented in tabular values and duplicated in graphic form using a ***weight and balance chart (Loadsheet)***, which clearly demonstrates the weight and balance limits for each aircraft weight. *Refer to* ***Fig. 9.4.***

Loadsheet allows to determine promptly whether the aircraft center of gravity position for the selected load and fueling is safe relative to the established limits, or whether the limits have been exceeded.

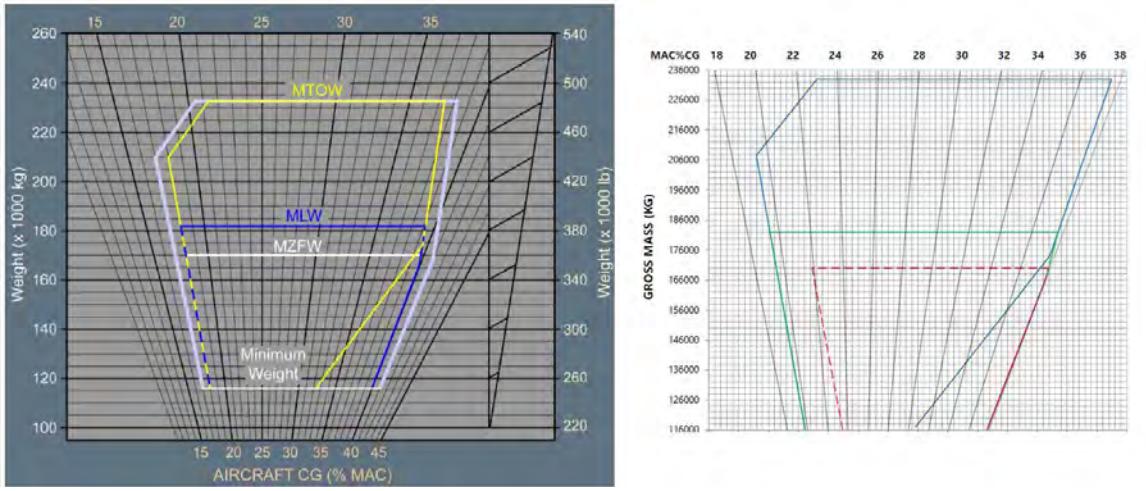


Fig. 9.4. Examples of certification (left) and operational (right) limits

Depending on the position of the center of gravity (CG) of a loaded and refueled aircraft (or only a loaded but unrefueled aircraft) relative to the equilibrium point, one can distinguish **forward, neutral** and **rear center of gravity**. It depends on the position of the center of mass relative to the aerodynamic focus.

The **aerodynamic focus of a wing** is the point of application of the increment of lift when the angle of attack of the wing changes (*refer to* ***Fig. 9.5***).

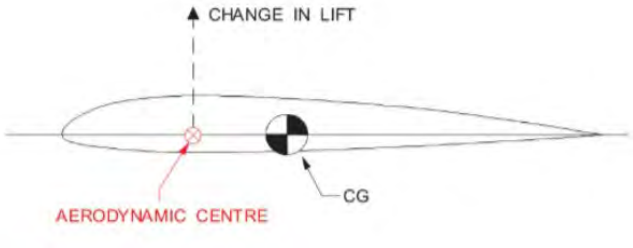


Fig. 9.5. Aerodynamic focus

The **angle of attack** is the angle between the wing chord and the direction of the undisturbed flow velocity. *Refer to* ***Fig. 9.6***.

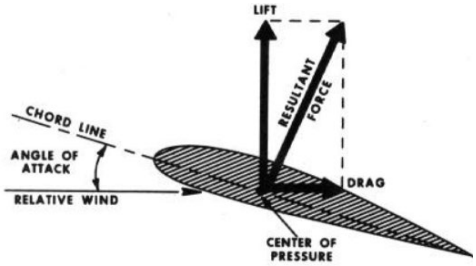


Fig. 9.6. Angle of attack

When the aircraft center of gravity (CG) and the aerodynamic focus are close to each other, the aircraft is neutrally stable. The CG is close to neutral.

When the CG is in front of the aerodynamic focus, the aircraft is statically stable, but less controllable. The aircraft center of mass is then called forward.

When the CG is near the aerodynamic focus, the aircraft is statically unstable, but more controllable. The aircraft center of mass is then called rear.

When the CG is behind the aerodynamic focus, the aircraft is unstable and uncontrollable. *Refer to* ***Fig. 9.5***.

Stability characterizes the ability of an aircraft to maintain a given flight mode without pilot intervention.

Controllability defines the ability of an aircraft to properly respond to deflection of control surfaces (rudders, ailerons, etc.).

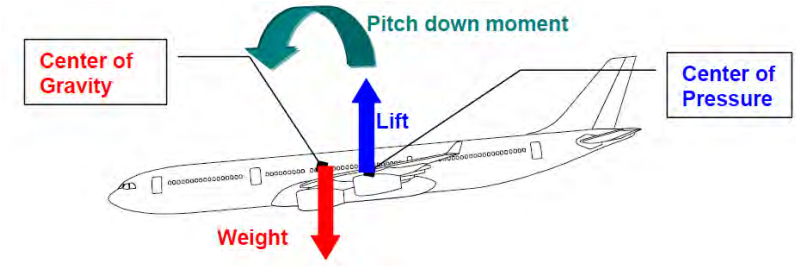


Fig. 9.7. Result of the action of forces on an aircraft with the center of gravity positioned forward of the aerodynamic focus

The forwardmost safe position of the CG is called the extreme forward center of gravity. The rearmost safe position of the CG is called the extreme rearward center of gravity. Outside these values (i.e., at extreme forward or rearward center of gravity), the stabilizer may not be effective enough to control the aircraft, so it is prohibited to go beyond these operational values.

The manufacturer of any aircraft in the Weight & Balance Manual specifies the permissible limits of the aircraft lateral imbalance (the difference between the loading mass on the left and right sides, as well as the mass of fuel in the tanks on the left and right sides of the aircraft). When certain values of lateral imbalance are reached, the flight becomes either impossible, or can be performed only with significant aircraft mass limitations in order to avoid damage to the fuselage and landing gear structure. *Refer to* ***Fig. 9.9.***

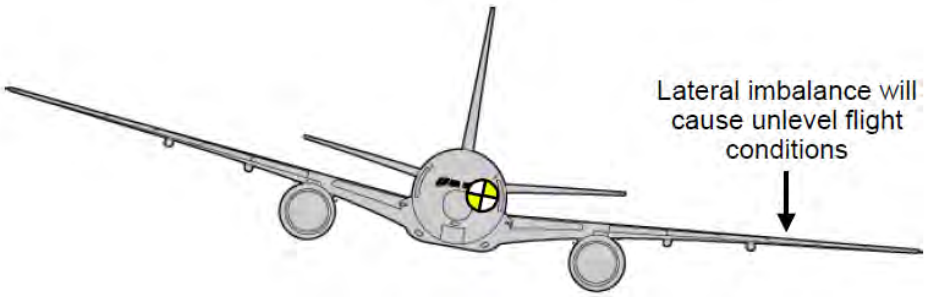


Fig. 9.9. Impact of aircraft lateral imbalance on flight operations

The main goal of the person performing weight and balance computation is to balance the action of all moments of force acting on the aircraft so that its center of gravity is within safe (permissible) limits and allows safe takeoff, climb, horizontal flight, descent and landing. *Refer to* ***Fig. 9.10.***

Refer to ***Section 9.6 Part 9 GOCHM***.

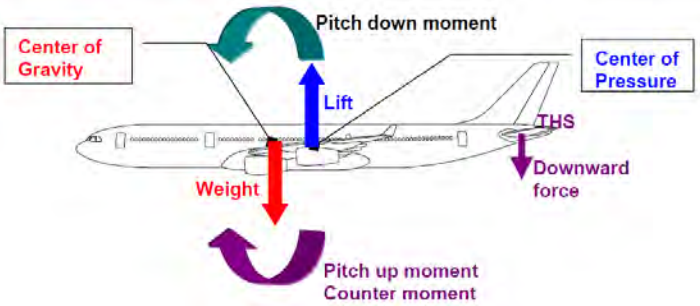


Fig. 9.10. Balance the impact of moments of force acting on the aircraft

In order to accurately calculate the weight and balance and perform the flight safely, the aircraft crew must be provided with current and correct information on the weight and exact placement of the crew members on board the aircraft, the actual loading and refueling of the aircraft, the weight and location of the flight kit. Equipment temporarily removed from the aircraft may also affect the position of the center of gravity and the weight of the aircraft. The specified data directly affect the position of the center of gravity of the aircraft ready for flight, and on their basis the takeoff and landing characteristics of the aircraft used by the flight crew to perform the flight are determined.

The position of the center of gravity of the aircraft directly affects the possibility of safe takeoff, maneuvering, level flight, descent and landing of the aircraft (*refer to* ***Fig. 9.11***):

- in case of extremely rear CG, it is possible to roll over onto the tail right on the parking lot, or in the process of towing or taxiing the aircraft, or stalling in a tailspin during the flight;
- in the case of a forward CG, it is possible to overrun the runway when trying to take off, since it will not be possible to tear off the nose landing gear from the runway.

Fig. 9.11. Possible consequences of extreme CG position

9.3.

MOMENT OF FORCE AND ITS CALCULATION WHEN DETERMINING THE AIRCRAFT CENTER OF GRAVITY

Moment of force is the product of force modulus by its arm.

$$\boldsymbol{Moment = Force\ x\ Arm}$$

In the case of an aircraft, the bigger the leverage arm, the less force must be applied in order to rotate the body (for example, change the pitch of the aircraft).

For example, a scale can come to equilibrium even with unequal masses of loads located to the right and left of the pivot and equilibrium point (in this example, designated as Datum), if the lighter load is located at twice the distance from the equilibrium point (i.e., the lighter load will have a larger arm of force application, and the heavier load will have a smaller arm of force application). *Refer to* ***Fig.9.12***.

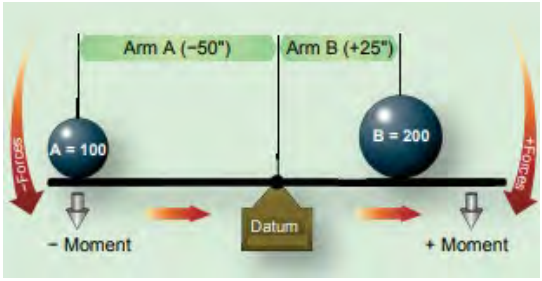


Fig. 9.12. The shoulder of application of force and the moment of force

An aircraft is considered as a complex object, the center of gravity of which is determined by the position of the centers of gravity and the mass of its constituent elements. Consequently, when the mass and/or position of any element (e.g. equipment, fuel, load) changes, the position of the aircraft's center of gravity will also change. If, for example, additional cargo is placed in the front part of the aircraft, the center of gravity will shift toward the nose of the aircraft (correspondingly, if cargo is placed in the tail of the aircraft, the center of gravity will shift toward the tail of the aircraft). *Refer to* ***Fig. 9.13***.

In all airline’s calculations **masses of aircrafts and loads are determined in kilograms.**

The **force application arm** in the airline's calculations is measured in accordance with the aircraft manufacturer's instructions:

- for Airbus aircraft, the measurement is taken in meters from the datum. *See* ***Fig. 9.14***. (***Note****: the LEMAC parameters differ for the A319, A320 and A321 family of aircraft, as well as for different aircraft types; this diagram shows the parameters of the A320 aircraft*).

- for Boeing aircraft, the measurement is taken in inches from the datum. *See* ***Fig. 9.15***. (***Note****: the parameters differ for different aircraft types; this diagram shows the parameters of the B767-300BCF aircraft*).

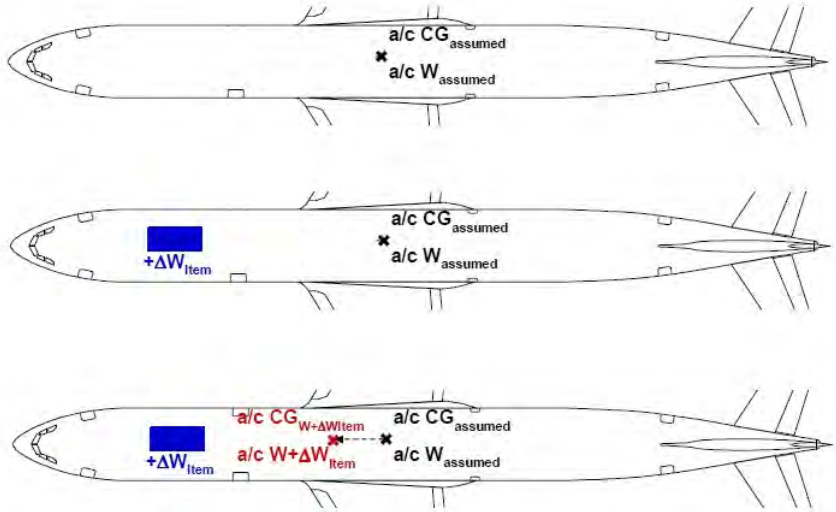


Fig. 9.13. Change of the position of the aircraft's CG due to the change of the position of elements affecting the total mass of the aircraft (e.g. payload)

Fig. 9.14. Measurement of the force application arm for the Airbus A320 aircraft

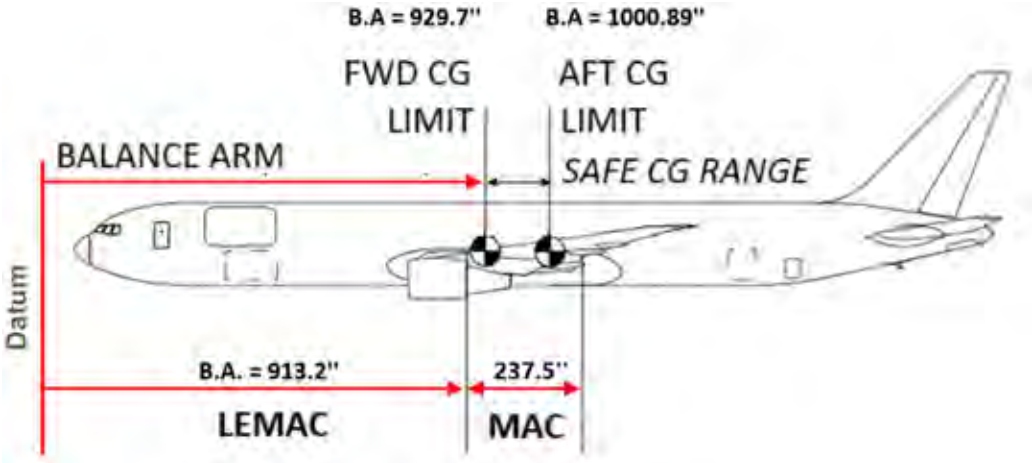


Fig. 9.15. Measurement of the force application arm for the Boeing B767-300BCF (-BDSF) aircraft

To calculate the aircraft CG, any changes in the aircraft loading and fueling, the number of crew members and accompanying persons, changes in the composition of the Fly Away Kit and its placement on board the aircraft, as well as possible dismantling of certain elements of the aircraft structure (which can affect the change in the position of the aircraft's center of gravity and its operational weights) are taken into account.

It is possible to calculate the change in the position of the aircraft's CG by calculating the moment of force for each component (the classical way), but the calculations will involve the need to process cumbersome numerical values. An example of calculating the moment of force for a load weighing 1,500 kg, the center of gravity of which is located at a distance of 12 meters from the datum:

$$F \times h = M(F)$$
$$1500 \times 12 = 18000 \text{ Nm}$$

Therefore, for the convenience of calculations, the **moment of force** when calculating the CG is expressed by a dimensionless unit with a smaller numerical value - an **index**. The position of the center of gravity of an empty aircraft is taken as the reference point. If the force is applied to the nose (front) of the aircraft and tends to turn it toward the ground, it has a negative value (the index is negative). If the force is applied to the tail (rear) of the aircraft and tends to turn it toward the ground, it has a positive value (the index is positive).

The **index is calculated** using the appropriate formula from the Weight & Balance Manual for the relevant aircraft, taking into account the force application arm and the mass of the load, as well as certain constants introduced by the aircraft manufacturer for ease of calculation. Examples of index calculation for Airbus and Boeing aircraft are shown below.

To **further simplify routine calculations** of weight and balance of cargo aircraft, manual forms of loading instruction report (LIR) provide pre-calculated index tables depending on the mass of the payload (depending on the type of compartment, and build-up on a unit load device (ULD) or in bulk). For passenger aircraft, manual forms of LIR provide separate index tables for passenger cabin sections and for cargo compartments of the aircraft (in the tables for passenger cabin sections, the total index is calculated depending on the number of passengers of each type with different average masses - adults and children aged 2 to 12 years). *See **Fig. 9.16**.*

ZONE 0A (ROWS 1-10) - INDEXES					
PAX QTY	ADULT	CHILD	PAX QTY	ADULT	CHILD
1-2 PAX	-1	0	31-32 PAX	-17	-7
3 PAX	-2	0	33-34 PAX	-18	-8
4-5 PAX	-3	0	35 PAX	-19	-8
6-7 PAX	-4	-1	36-37 PAX	-20	-9
8 PAX	-4	-1	38 PAX	-20	-9
9-10 PAX	-5	-1	39-40 PAX	-22	-9

CPT 5 (REAR HOLD)	
WEIGHT	INDEX
0-47	0
48-142	1
143-237	2
238-332	3
333-427	4

Fig. 9.16. Examples of tables with pre-calculated index values depends on the payload weight (or the number of passengers placed in the passenger compartment section)

An example of a formula for calculating an index for an object loaded on board an aircraft, which is used for Airbus aircraft:

$$\boldsymbol{Index} = \frac{\boldsymbol{W\ x\ (H - arm\ (item)\ -\ REFSTA)}}{\boldsymbol{C}}$$

where the variables have the following values:

- ***C*** – a constant introduced by the aircraft manufacturer to obtain less cumbersome values. This value is set by Airbus and is unique for different aircraft types.
- ***W*** – mass of the element for which the index is determined.
- ***H-Arm (item)*** – distance from the datum to the center of gravity of the specified object on board the aircraft.
- ***REFSTA*** – Reference Station, the value used to calculate moments of forces. On Airbus aircraft = 25% MAC (i.e., the value for each aircraft type and modification is determined as LEMAC + 25% of the MAC length).

For the A320 aircraft, the index for the previously mentioned load weighing the same 1500 kg, whose CG is 12 meters from the datum, according to this formula, for example, is:

$$\boldsymbol{Index} = \frac{\boldsymbol{W\ x\ (H - arm\ -\ REFSTA)}}{\boldsymbol{C}} = \frac{\boldsymbol{1500\ x\ (12\ -\ 18.85)}}{\boldsymbol{1000}} = \boldsymbol{-10.275}$$

Based on the results of similar calculations performed for all other components, it is possible to obtain indices for each component and, by adding them together, calculate the final index of the loaded and fueled aircraft, and also convert the obtained index values into "% MAC" values using another formula, also included in the Airbus Weight & Balance Manual (for Boeing aircraft, this formula has a different form):

$$\%\ \text{MAC} = \frac{\mathbf{H - Arm - LEMAC}}{\frac{\mathbf{MAC}}{\mathbf{100}}}$$

where the variables have the following values:

- ***MAC/100*** – 1% mean aerodynamic chord length.
- ***H-Arm –*** coordinates of the aircraft's center of gravity for a given aircraft weight.
- ***LEMAC –*** LEMAC point coordinates for this aircraft.

If, for example, we assume that the mass of a loaded but unfueled A320 aircraft with 1,500 kg of cargo in the front cargo compartment is 43,500 kg, and the H-Arm of the entire aircraft with cargo = 18.63, then we get the following result:

$$\%\ \text{MAC} = \frac{\mathbf{H-Arm-LEMAC}}{\frac{\mathbf{MAC}}{\mathbf{100}}} = \frac{\mathbf{18.63\ -17.8015)}}{\frac{\mathbf{4.1935}}{\mathbf{100}}} = \mathbf{19.76}$$

An example of a formula for calculating the index of an object loaded on board an aircraft, used on Boeing aircraft:

$$\boldsymbol{Index} = \frac{\boldsymbol{Weight\ x\ (Balance\ Arm\ -\ Datum\ Balance\ Arm)}}{\boldsymbol{Moment\ Constant}}$$

where the variables have the following values:

- ***Weight*** – weight of an object.

- ***Balance Arm –*** coordinates of the position of an object on board an aircraft relative to the datum.
- ***Datum Balance Arm –*** similar to the Reference Station in Airbus (see above). For the B767-300BCF (-BDSF) it is 972.6 inches from the datum. For the B757-200PCF it is 1041.825 inches from the datum. Which means, it is located at 25% of the MAC length, as in Airbus.
- ***Moment Constant –*** a constant set by the aircraft manufacturer, which varies for different aircraft types. For the B767-300BCF it is 120,000 kg*in. For the B757-200PCF it is 70,000 kg*in.

Only for calculating the index of an empty aircraft without payload, fuel and crew, a conditional constant set by the aircraft operator is added to the calculation results (in order to avoid negative values of the center of gravity indicators). <u>This constant is not used to calculate the index of any object placed on board the aircraft</u>.

The constant is conventionally designated in formulas by the letter "K".
For the A320 family of aircraft, this constant is 50.
For the B767 family of aircraft, this constant is 55.
For the B767 family of aircraft, this constant is 50.

Example of calculation of the CG of an empty B767-300BCF aircraft without using the specified constant:

$$\boldsymbol{Index = \frac{Weight\ x\ (Balance\ Arm\ -\ Datum\ Balance\ Arm)}{Moment\ Constant}}$$

The formula uses the following values:

- **Weight** = aircraft weight (based on weighing results).
- **Balance Arm** = coordinate of the aircraft's center of gravity based on weighing results.
- **Datum Balance Arm** = CG coordinate for 25% MAC (972.6 inches from the datum).
- **Moment Constant** = 120000.

$$\boldsymbol{Index = \frac{83911\ x\ (944.6\ -\ 972.6)}{120000} = -19.579}$$

If we add a constant to this calculation, the value of the index, as well as the position of the aircraft's CG, expressed in % MAC, becomes positive:

$$\boldsymbol{Index = -19.579 + 55 = 35.421}$$

9.4. CERTIFIED AIRCRAFT WEIGHTS

During the aircraft weight and balance computation process, it is necessary to check whether the actual aircraft weights and the aircraft CG position do not exceed the design limitations established by the aircraft manufacturer and specified in the Weight & Balance Manual. It is also necessary to check whether the actual aircraft weights do not exceed the limitations imposed by weather conditions or aircraft malfunctions.

9.4.1 MAXIMUM OPERATING WEIGHTS OF AN AIRCRAFT

- **The following maximum operational weights of aircraft are distinguished:**
  The **maximum weight of an aircraft with payload, ballast fuel, crew and supernumeraries (or passengers), but without fuel** is called the *Maximum Zero Fuel Weight (MZFW)*.
- **The maximum weight of an aircraft at which it can take off** is called the *Maximum Take-Off Weight (MTOW)*.
- **The maximum weight of an aircraft at which it can safely land without structural damage** is called the *Maximum Landing Weight (MLW)*.
- **The maximum weight of an aircraft at which it can safely begin taxiing under its own engine power without damage to the structure** is called the *Maximum Taxi Weight (MTW)*.

When calculating weight and balance, the following aircraft masses are calculated, used and taken into account (based on actual weights of crew, catering, payload, fuel):

- **The weight of an empty aircraft without fuel, payload, ballast fuel, supernumeraries (or passengers) is called the dry operating weight (DOW)**. The index for this aircraft weight is called the Dry Operating Weight Index, DOI. The aircraft weight and balance are calculated taking into account its actual DOW/DOI. *NOTE - the airline has adopted an approach in which DOW/DOI are calculated in advance for all aircraft crew manning options for ease of calculation and are entered in reference documents in tabular form for subsequent computation of aircraft weight and balance. See the example in* ***Fig. 9.4.1***.

Additional Crew distribution table

UK67018

EXAMPLE NOT FOR REAL FLIGHTS!

Crew Code	Weight	Index
2+0	84092	33
2+1	84192	34
2+2	84292	33
2+3	84392	32
3+0	84192	34
3+1	84292	33
3+2	84392	32
3+3	84492	32

Fig. 9.4.1. Example of DOW/DOI table in AHM560

- **The weight of an aircraft with commercial load, ballast fuel, crew and supernumeraries (or passengers), but without fuel** is called *Zero Fuel Weigh (ZFW)*.

- **The weight of an aircraft at takeoff including fuel, payload, ballast fuel, crew, supernumeraries (or passengers), minus the weight of fuel used for taxiing the aircraft** is called the Actual Take-Off Weight.

- **The estimated weight of the aircraft at the time of landing with the estimated remaining fuel, payload, ballast fuel, crew, supernumeraries (or passengers)** is called the Estimated Landing Weight.

- **The maximum weight of an aircraft at which it can take off under current conditions is called the** Regulated Take-Off Weight (RTOW). RTOW is calculated and determined by the flight dispatcher based on the aircraft design limitations, departure airport parameters (runway length, etc.) and the atmospheric conditions at the departure airport (air temperature, atmospheric pressure, etc.). If there are no limitations, RTOW = MTOW. The index for this aircraft weight is called the Take-Off Weight Index.
- **The maximum weight of an aircraft at which it can land under current conditions** is called the Regulated Landing Weight (RLW). RLW is calculated and determined by the flight dispatcher based on the aircraft design limitations, airport parameters (e.g., runway length) and atmospheric conditions at the airport where the landing is planned (air temperature, atmospheric pressure, etc.). If there are no restrictions, RLW = MLW. The index for this aircraft weight is called the Landing Weight Index.

The data on maximum operational weights (MZFW, MTOW, MLW, MTW) established by the aircraft manufacturer are displayed on all Loadsheet templates used to calculate the weight and balance of cargo and passenger aircraft. Also, the specified maximum operational weights are shown for reference below in this section of this Manual and duplicated in the consolidated weight and balance documents of the AHM560 and AHM565 formats, issued individually for each aircraft by the Ground Operations Standards and Compliance Division of GOCHD.

Data on the actual aircraft weights (ZFW, TOW, ELW) and the actual position of the aircraft center of gravity are established individually for each flight, taking into account the current information on the aircraft net weight, the number of crew members, the mass and distribution of payload (passengers, baggage, cargo, mail, equipment), the mass and distribution of fuel, fuel consumption during taxiing and flight.

9.4.2 DRY OPERATING WEIGHT AND DRY OPERATING WEIGHT INDEX

The DOW/DOI data for any aircraft are determined by the aircraft operator based on the aircraft's empty weight (obtained from periodic weighing), average weight of the flight and cabin crew members, and the in-flight catering, equipment, and gear loaded on board the aircraft (as well as the locations of the crew members, equipment, gear, and in-flight catering). ***See also Section 9.9 of Part 9 of the GOCHM***.

NOTE: *The airline has adopted an approach whereby, for ease of calculation, DOW/DOI are calculated in advance for all aircraft crew manning options and entered into reference documents for subsequent aircraft loading and balance computations.*

Dry Operating Weight of passenger aircrafts includes:

1. Aircraft weight (obtained based on the results of periodic aircraft weighing, as well as mathematical calculation of weight changes after changes in the aircraft configuration, if applicable).
2. Weight of flight and cabin crew members, as well as their carry-on baggage.
3. Weight of catering.
4. Weight of potable water filled into water tanks on board the aircraft.
5. Weight of the fly away kit.
6. Weight of additional and spare equipment.

Dry Operating Weight of cargo aircrafts include:

1. Aircraft weight (obtained based on the results of periodic aircraft weighing, as well as mathematical calculation of mass changes after changes in the aircraft configuration, if applicable).
2. Weight of flight and cabin crew members, as well as their carry-on baggage.
3. Weight of catering.
4. Weight of potable water filled into water tanks on board the aircraft.
5. Weight of the fly away kit.
6. Weight of additional and spare equipment.

All the above weights and indices are specified in the AHM560 or AHM565, which contain all the main restrictions on the weight and balance of a specific aircraft and are individually prepared for each aircraft. ***See Section 9.5 Part 9 GOCHM*** for more detailed information on the structure of these documents.

The airline has adopted the Individual Weight approach (i.e., the aircraft weight is determined individually and is taken into account individually when calculating the aircraft weight and balance). The Fleet Weight approach is not used in the airline.

For passenger aircraft A319, A320, A321, the DOW/DOI parameters depend on the availability of catering, therefore the catering configuration should be taken into account to select the correct DOW/DOI value:

- for the A319-153N, only the “Standard” configuration is used.
- for all modifications of A320, two design configurations are used – “Standard” and “Empty” (respectively, “catering loaded” and “no catering on flight”).
- for all modifications of A321, three design configurations are used – “Empty Galley” (“no catering on flight”), “Standard” (“standard catering loaded”) and “Hot Meals” (“hot meals loaded”).
- for the A330, five design configurations are used – “Empty” (“no catering on flight”), “Standard” (“standard catering loaded for 2 legs”), “Half Standard” (“standard catering loaded for 1 leg”), “Hot Meals” (“hot meals loaded for 2 legs”), “Half Hot Meals” (“hot meals loaded for 1 leg”).

The configuration of catering for the A321 & A330 aircraft depends on the flight route and the decision of the customer, therefore it is communicated to the airlines’ GHOD and FOD by the Service Department via an internal letter (the information must be updated before the opening of a regular flight, or before performing a one-time charter flight, or a series of charter flights).

For passenger A319, A320, A321, A330 – the DOW/DOI parameters also depend on the quantity of potable water on board, therefore, DOW/DOI should be adjusted, if necessary, in accordance with the information on the amount of potable water in water tanks:

- The A319-153N aircraft has main and additional potable water tanks. In calculations, these tanks are always assumed to be 100% full. If necessary, a corresponding adjustment of DOW/DOI should be made for an incompletely filled tank if it is not possible to fill it to full capacity at the transit airport.
- in calculations for A320, A321, A330 aircrafts, standard potable water tanks are always assumed to be 100% full. If necessary, a corresponding DOW/DOI adjustment must be made for an underfilled tank if it is not possible to refill it to full capacity at the transit airport.

9.4.3 MAXIMUM CERTIFIED WEIGHTS

A319-153N (UK888)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	60300 kg
Maximum Taxi Weight (MTW)	77700 kg
Maximum Take-Off Weight (MTOW)	77300 kg
Maximum Landing Weight (MLW)	63900 kg

A320-214 (UK32073)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	62500 kg
Maximum Taxi Weight (MTW)	77400 kg
Maximum Take-Off Weight (MTOW)	77000 kg
Maximum Landing Weight (MLW)	66000 kg

A320-232 (UK32071, UK32072)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	61000 kg
Maximum Taxi Weight (MTW)	77400 kg
Maximum Take-Off Weight (MTOW)	77000 kg
Maximum Landing Weight (MLW)	64500 kg

A320-232 (UK32070)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	62500 kg
Maximum Taxi Weight (MTW)	77400 kg
Maximum Take-Off Weight (MTOW)	77000 kg
Maximum Landing Weight (MLW)	66000 kg

A321-251N (UK32130)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	75600 kg
Maximum Taxi Weight (MTW)	93900 kg
Maximum Take-Off Weight (MTOW)	93500 kg
Maximum Landing Weight (MLW)	75600 kg

A321-253NX (UK32131)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	75600 kg
Maximum Taxi Weight (MTW)	97400 kg
Maximum Take-Off Weight (MTOW)	97000 kg
Maximum Landing Weight (MLW)	79200 kg

A330-343 (*T.B.A.*)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	175600 kg
Maximum Taxi Weight (MTW)	233900 kg
Maximum Take-Off Weight (MTOW)	233000 kg
Maximum Landing Weight (MLW)	187000 kg

B767-300BCF (UK67009)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	140160 kg
Maximum Taxi Weight (MTW)	187333 kg
Maximum Take-Off Weight (MTOW)	186880 kg
Maximum Landing Weight (MLW)	147871 kg

B767-300BCF (UK670010, UK67017, UK67018)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	140160 kg
Maximum Taxi Weight (MTW)	185519 kg
Maximum Take-Off Weight (MTOW)	185065 kg
Maximum Landing Weight (MLW)	147871 kg

B767-300BDSF (UK67015)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	140160 kg
Maximum Taxi Weight (MTW)	187334 kg
Maximum Take-Off Weight (MTOW)	186835 kg
Maximum Landing Weight (MLW)	147871 kg

B767-300BDSF (UK67019)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	140160 kg
Maximum Taxi Weight (MTW)	187333 kg
Maximum Take-Off Weight (MTOW)	186880 kg
Maximum Landing Weight (MLW)	147871 kg

B757-200PCF (UK75706)

WEIGHT	VALUE
Maximum Zero Fuel Weight (MZFW)	140160 kg
Maximum Taxi Weight (MTW)	85910 kg
Maximum Take-Off Weight (MTOW)	113398 kg
Maximum Landing Weight (MLW)	95254 kg

9.5. AHM560 AND AHM565 STRUCTURE

To bring the data of aircraft weight and balance characteristics to a single standard, documents of the AHM560 or AHM565 format are calculated, issued and used individually for each aircraft. Responsibility to update AHM560 and AHM565 for applicable aircrafts lays with the Ground Operations Standards and Compliance Division of GHOD:

- **DOW/DOI for BC A320, A321, A330, B767, B757** – documents of AHM560 format.
- **DOW/DOI for BC A319** – documents of AHM565 format.

AHM560 and AHM565 of particular aircrafts are ***Appendices to Part 9 of GOCHM*** and contain general information on the weight and balance limitations.

AHM560 and AHM565 documents are subject to revision by the Ground Operations Standards and Compliance Division of GHOD in the event of a change in the aircraft's own weight or the position of the aircraft's center of gravity (based on the results of weighing or mathematical calculation of the change in the position of its center of gravity as a result of equipment change) or other components of the aircraft's Dry Operating Weight.

9.5.1 AHM560 FORMAT

AHM560 document has the following structure:

Part A: Communication addresses

- **Section 1** – contacts of handling agents to whom the specified document should be sent (optional).
- **Section 2** – contacts of the airline operating the aircraft.
- **Section 3** – list of documents that should be automatically generated by the DCS system if weight and balance computations are performed using electronic system.
- **Section 4** – list of standard messages that should be automatically generated by the DCS system if weight and balance computations are performed using electronic system.
- **Section 5** – list of addresses for sending standard messages specified in Section 4 of AHM560.
- **Section 6** – description of the passenger service class codes used for symbolic designation within the documents (optional).
- **Section 7** – description of the units of measurement used within the document.
- **Section 8 –** an indication of the document page numbering order.

Part B: General information.

- **Section 1** – average passenger weights accepted for calculation depending on the direction, weight of carry-on and hold baggage.
- **Section 2** – average weights of crew members and their carry-on baggage/hold baggage accepted for calculation.
- **Section 3** – description of the variable components of DOW/DOI taken into account in the airline's calculations (what is included in DOW and what is not).
-

Part C: Aircraft information.

- **Section 1** – indications of the parameters for calculating and displaying information on the Loadsheet if weight and balance computations are performed using electronic system.
- **Section 2** – summary information on the aircraft and their DOW/DOI, for which this document AHM560 is applicable.
- **Section 3** – basic information on the weight and balance computation, applicable formulas and constants established by the aircraft manufacturer, as well as stabilizer installation angles.
- **Section 4** – information for calculating the mass index of the uplifted fuel (depending on the density of the fuel).
- **Section 5** – information on the number and coordinates of seats in the cockpit for accommodating flight crew members.

- **Section 6** – information on the maximum certification weights (MZFW, MTOW, MLW, MTW) applicable to the given aircraft and the weight and balance limitations of a specific aircraft (with the values of the corresponding weights and indices).
- **Section 7** – information on the configuration of the aircraft passenger cabin, its division into conventional sections and the number of seats in each section, as well as the total number of seats.
- **Section 8** – information on the coordinates of the sections of the passenger cabin and a tabular seating layout indicating the restrictions of specific seats (emergency exits, premium seats, etc.). This section also provides information on the coordinates of the locations of cabin crew members on board the aircraft and their seating options, information on the galleys on board the aircraft and the location, weight and index of catering on board the aircraft depending on the applicable configuration options (e.g. Standard, Empty Galley, Hot Meals, etc.).
- **Section 9** – information on the maximum restrictions on the weight and volume of loading in the aircraft cargo compartments, as well as additional restrictions (if any).
- **Section 10** – information on maximum restrictions on the weight and volume of loading for each section of the aircraft cargo compartments, as well as additional restrictions (if any).
- **Section 11** – information on the need to use ballast (if any).

Part D: Loadplanning information.

- **Section 1** – information on weight and balance limits and “ideal weight and balance” (if the airline has such a requirement).
- **Section 2** – information on applicable ULD options for this aircraft (if there is a technical possibility of their transportation on this aircraft) and existing restrictions on weight and.
- **Section 3** – information on restrictions on loading special and dangerous goods on this aircraft.

Attachment 1: information on the calculated DOW/DOI values used by the airline to calculate the weight and balance of the specified aircraft.
Attachment 2: form for manual weight and balance computations of specified aircraft (loadsheet and LIR).
Attachment 3: Loading Instruction Report form for the specified aircraft.
Attachment 4: Payload Distribution tables for the specified aircraft.

9.5.2 AHM565 FORMAT

AHM565 format is an improved and supplemented version of the AHM560 document and has slightly different structure:

Part A: Communication addresses.

- **Section 1** – contacts of handling agents to whom the specified document should be sent (optional).
- **Section 2** – contacts of the airline operating the aircraft.
- **Section 3** – list of document revisions.
- **Section 4** – list of pages.
- **Section 5** – list of documents that should be automatically generated by the DCS system if weight and balance computations are performed using electronic system.
- **Section 6** – list of standard messages that should be automatically generated by the DCS system if weight and balance computations are performed using electronic system.
- **Section 7** – list of addresses for sending standard messages specified in Section 4 of AHM560.
- **Section 8** – indication of the order of document pages.

Part B: General information.

- **Section 1** – description of the units of measurement used within the document, classes of passenger service, IMP codes of certain types of loads (e.g. special categories of baggage, mail and cargo).
- **Section 2** – average masses of crew members and their carry-on baggage/hold baggage adopted for the calculation.

- **Section 3** – average masses of passengers adopted for the calculation depending on the route, mass of carry-on baggage and hold baggage, as well as the classes of service relevant for the given aircraft.
- **Section 4** – information on applicable ULD options for the given aircraft (if it is technically possible to transport them on the given aircraft) and the existing mass and volume restrictions.

Part C: Aircraft information.

- **Section 1** – description of the aircraft to which this ANM565 document applies and the units of measurement used.
- **Section 2** – list of standard messages that should be automatically generated by the DCS system if weight and balance computations are performed using electronic system.
- **Section 3** – basic information on the weight and balance computation, applicable formulas and constants established by the aircraft manufacturer, as well as stabilizer installation angles.
- **Section 4** – information on the weight and balance limitations of a specific aircraft (with values of the corresponding weights and indices) and description of the variable components of DOW/DOI taken into account in the airline's calculations (what is included in DOW and what is not).
- **Section 5** – information for calculating the mass index of the uplifted fuel for each fuel tank (depending on the density of the fuel), as well as general refueling limitations for the specific aircraft.
- **Section 6 –** information on the stabilizer installation angle calculation depending on the aircraft weight and balance.
- **Section 7** – general information about the aircraft.
- **Section 8** – information on the possibility of heating and ventilation options of aircraft cargo compartments.

Part D: Loadplanning information.

- **Section 1** – description of dimensional and weight restrictions for loading into the aircraft cargo compartments (if any).
- **Section 2** – information on maximum restrictions on the weight and volume of loading in the aircraft cargo compartments, as well as additional restrictions (if any).
- **Section 3 –** information on ULD positions for the given aircraft (if there is a technical possibility of their transportation) and existing weight and balance restrictions.
- **Section 4 –** information on passenger, service and cargo doors of the aircraft.
- **Section 5 –** information on the coordinates of the passenger cabin sections, locations and coordinates of the cabin and flight crew members, locations and coordinates of the galleys and water tanks on board the aircraft.
- **Section 6 –** tabular and graphical plans for passenger seating layout indicating restrictions on specific seating positions (emergency exits, premium seats, etc.).
- **Section 7 –** design limitations of the aircraft (if there are such limitations in the technical documentation of the aircraft manufacturer).

Part E: Weight limitations for the specific aircraft.

- **Section 1** – information on the initial weight used for aircraft weight and balance computations.
- **Section 2** – information on the DOW weight components, aircraft crew manning options, catering configuration options, water tank filling options, Weight Adjustment options (if any), and DOW/DOI options depending on the conditions determined by the aircraft operator.

Part F: Loadplanning information.

- **Section 1** – MZFW, MTOW, MLW, MTW information.

Part G: ULD transportation specifications.

- **Section 1** – информация об ограничениях загрузки ULD.

Part H: Applicable ULDs.

- **Section 1** – information on restrictions on loading dangerous and special cargo.
- **Attachment 1**: form for manual weight and balance computations of specified aircraft (Loadsheet and LIR).
- **Attachment 2:** reverse side of the Loadsheet form for manual weight and balance computations of specified aircraft (Trimback).
- **Attachment 3**: Payload Distribution tables for the specified aircraft.
- **Attachment 4**: Loading Instruction Report form for the specified aircraft.

9.6. WEIGHT AND BALANCE COMPUTATION RESPONSIBILITIES

Aircraft weight and balance computations can only be performed by a person that has undergone the appropriate training and internship and has the appropriate clearance.

When computing aircraft weight and balance, only information from this Manual, as well as documents in the AHM560 or AHM565 format for the relevant aircraft, shall be used by a loadplanner. See also ***Section 9.5 of Part 9 GOCHM***.

If any problems arise during aircraft weight and balance computation, the loadplanner has the right to seek assistance and recommendations/instructions from the Head of the Ground Handling Operations Division and the Head of the Standards and Compliance Division of the GHOD.

Data on aircraft refueling, fuel consumption and maximum payload of the aircraft for a given flight are calculated by the OCC flight dispatcher individually for each flight in accordance with the information on the expected payload and the number of aircraft crew members provided by the loadplanning or by the flight crew. The final calculation of the maximum payload, refueling and fuel consumption (in the form of a flight plan – Calculated Flight Plan, abbreviated as CFP) must be provided by the flight dispatcher to the loadplanner.

According to the decision of the flight crew, the actual aircraft refueling may be increased relative to the data shown in the CFP.

The final data on the mass of uplifted fuel (and non-standard fuel distribution in the aircraft tanks in case of deviation from the standard fueling for any reason) must be provided by the flight crew to the loadplanner. Only the final data on the actual aircraft fueling must be used to issue the final flight documents (Loadsheet). If the fueling change does not exceed the established LMC limitations for this aircraft type, it is allowed to enter the corresponding LMC to the Loadsheet, prepared taking into account the planned fueling (according to CFP). ***See also Section 9.13 of Part 9 GOCHM***.

The prompt exchange of such information through the airline's Operational Control Center is permitted.

Cargo aircraft weight and balance computations are performed remotely by a loadplanner based on the provided data on the number of crew members, payload and planned refueling of the aircraft. Also, by decision of the Head of Ground Operations Division GHOD, the cargo aircraft weight and balance computations can be performed by Loadmaster, included in the crew or performing supervision of ground handling operations at the departure airport without further performing the flight as part of the crew of the specified aircraft.

The final flight documents confirming the weight and balance computations are sent to the ground handling agent at the departure airport by e-mail with instructions to print them out, deliver on board the aircraft and hand out directly to the PIC or the FO of the departing crew.

It is recommended, if communication is available, to also send the crew members copies of the final flight documents in electronic form.

For flights departing from the Republic of Uzbekistan (except for Samarkand airport), **passenger aircraft weight and balance computations are performed** by employees of the ground handling agent on the basis of a signed SGHA. For passenger flights departing from airports outside the Republic of Uzbekistan and Samarkand airport, aircraft weight and balance computations is carried out by the flight crew. In exceptional cases, by decision of GHOD Director, passenger aircraft weight and balance computations can be done by GHOD staff.

The final flight documents confirming the weight and balance computations are sent to the ground handling agent at the departure airport by e-mail with instructions to print them out, deliver on board the aircraft and hand out directly to the PIC or the FO of the departing crew.

It is recommended, if communication is available, to also send the crew members copies of the final flight documents in electronic form.

Loadplanner, performing weight and balance computations for freighter aircraft B767-300BCF (-BDSF), B757-200PCF shall have valid certificates of the below trainings:

1. Weight and Balance course (A/C type - B767-300BCF (-BDSF));

2. Weight and Balance course (A/C type - B757-200PCF);
3. Dangerous Goods Transportation, function 7.6 «Personnel responsible for the planning of aircraft loading";
4. Cargo Terminal Training Course.

Loadplanner, performing weight and balance computations for passenger aircraft A319, A320, A321 & A330, shall have valid certificates of the below trainings:

1. Weight and Balance course (A/C type – A320 family, A330).
2. Dangerous Goods Transportation, function 7.6 «Personnel responsible for the planning of aircraft loading";
3. Cargo Terminal Training Course.

Loadplanner, performing weight and balance computations for any aircraft shall strictly observe the following principles:

1. Only final data on the number and weight of passengers, baggage, mail, cargo, and equipment accepted for transportation shall be used to issue final flight documents.

2. In case of any doubts about the accuracy of the specified data, it is necessary to take all possible measures to clarify before issuing the final flight documents and transferring them to the handling agent and the flight crew.

3. Dangerous goods and special cargo planning shall be performed in accordance with the aircraft limitations set out in ***Part 2 GOCHM*** for passenger aircraft and in ***Part 3 GOCHM*** for cargo aircraft, and in accordance with the provisions of ***Part 7 GOCHM***.

4. If there are loads on a flight that obviously require securing to the aircraft structure, it is necessary to indicate such a requirement in the Loading Instruction Report or in the cover letter (if the loadplanning is performed remotely) in accordance with the requirements of ***Part 8 GOCHM***.

5. The aircraft CG for the actual take-off weight (TOW), estimated landing weight (ELW) and zero fuel weight (ZFW) must be within the operational limits established by the Operator and shown on the Loadsheet of the relevant aircraft.

6. It is recommended to achieve a takeoff center of gravity of 25% MAC when performing weight and balance computations of passenger aircrafts A319, A320, A321 and cargo aircrafts B767. However, if it is impossible to achieve such a CG due to the current payload (passengers, baggage, mail, cargo, equipment), it is allowed to perform the flight with other CG (within the limits shown on the Loadsheet). For some aircrafts, with a certain combination of payload, fuel and its weights, it is impossible to achieve a center of gravity of 25% MAC due to the limitations of the loadsheet.

7. If the MEL (DI) contains information about aircraft malfunctions and other limitations that affect the ability to safely load and transport passengers, baggage, mail, cargo, equipment, or that limit any of the weights (ZFW, TOW, ELW), these limitations shall be taken into account to perform safe loadplanning. The said limitations are set out in the relevant sections of ***Part 2 GOCHM*** (passenger aircraft) ***and Part 3 GOCHM*** (cargo aircraft).

8. Loadplanning of an aircraft making stopovers without change in loads must be performed in such a way to avoid movement of the transit load at the transit airport(s) between sections of the passenger cabin or sections of the cargo compartments (or movement of loaded ULDs) in order to achieve safe aircraft balance. If there is information that the aircraft will be making a flight with stopovers without load change, the employee must clarify the expected fuel load and the number of crew members on each of the segments and, upon completion of the preliminary loadplanning (adjustment according to ZFW), check the aircraft CG position for TOW and ELW for each of the route segments. If the weight and balance according to the

preliminary assessment requires a change in the position of the transit load at the transit airport, the employee must take all possible actions to change the balance of the flight on the first route segment to avoid movement of the transit load at the transit airports. *Refer to **Example 1** and **Example 2** below.*

9. Loadplanning of an aircraft, making stopovers, during which it is planned to unload part of the load at one or another airport, must be carried out taking into account the sequence of unloading and loading of the aircraft and the position of its CG during unloading and loading operations at the transit airport(s). *Refer to **Example 3** below.*

***EXAMPLE 1:** The B767-300BCF aircraft is planned to be used to transport cargo with a total weight of 55,000 kg (including the weight of the ULD on which it is assembled). The flight crew on the first leg is 4 people, on the second leg - 6 people. On the first leg, according to the calculation of the flight dispatcher, the maximum payload can be 55,841 kg, but on the second leg the maximum payload can only be 52,300 kg (and on the second leg, significantly more fuel will be required, creating a forward CG). In this case, it is necessary, in agreement with the airline's Commercial Department, to reduce the payload on the first leg to 52,300 kg, or revise the flight route and, possibly, add an intermediate landing in order to ensure the transportation of all the planned cargo.*

Upon completion of the preliminary load planning, the loadplanner shall clarify the expected fuel uplift and fuel consumption for both route segments (legs) with the flight dispatcher and check the preliminary weight and balance with the planned payload on both legs, taking into account the known DOW/DOI, payload and fuel (and, consequently, Take-off Weight and Landing Weight) on each leg.

Payload at the departure airport should be placed so that it does not need to be moved at the transit airport, despite the change in DOW/DOI, Take-off Weight and Landing Weight. At the same time, there is a possibility that the actual aircraft CG will be less than 25% of the MAC for each of the two flights, but if the position of the aircraft CG on each of the legs is within the permissible limits, then this recommendation can be ignored.

***EXAMPLE 2:** The A320-214 aircraft is planned to be used to transport passengers and baggage with a total weight of 16,000 kg. According to the flight dispatcher's calculations, a direct flight between airports is only possible with a payload not exceeding 11,500 kg. In order to transport all passengers and their baggage, a decision was made to operate the flight with an intermediate landing at a transit airport for refueling the aircraft. The number of flight and cabin crew members does not change, nor does the number of passengers or baggage weight, but the refueling on the first leg is 6,800 kg, and on the second leg 15,600 kg (which leads to a forward aircraft CG on the second leg of the route).*

Upon completion of the preliminary load planning, the loadplanner shall clarify the expected fuel uplift and fuel consumption for both route segments (legs) with the flight dispatcher and check the preliminary weight and balance with the planned payload on both legs, taking into account the known DOW/DOI, payload and fuel (and, consequently, Take-off Weight and Landing Weight) on each leg. Payload at the departure airport should be placed so that it does not need to be moved at the transit airport, despite the change in DOW/DOI, Take-off Weight and Landing Weight. At the same time, there is a possibility that the actual aircraft CG will be less than 25% of the MAC for each of the two flights, but if the position of the aircraft CG on each of the legs is within the permissible limits, then this recommendation can be ignored.

***EXAMPLE 3**: B767-300BDSF aircraft is planned to be used to transport cargo with a total weight of 57,000 kg (including the weight of the ULDs on which it is assembled). At the transit airport, it is planned to unload 2 ULDs from the main cargo deck (1,500 kg each) and 1 ULD (900 kg) from the aft cargo compartment.*

Loadplanner shall:

1. *Ensure that ULDs planned for unloading at the intermediate airport are not blocked by transit ULDs and that unloading of transit ULDs is not required to unload the re quired ULDs.*

2. *Ensure that unloading of ULDs at the intermediate airport (including partial unloading of transit ULDs, if applicable) will not result in aircraft tail tipping.*
3. *Inform the ground handling agent at the intermediate airport about the procedure for safe unloading and loading of ULDs to avoid aircraft tail tipping (e.g. temporary unloading of all ULDs from the aft cargo hold may be required to subsequently unload ULDs from the main deck and then load transit pallets back).*

9.7. AICRAFT LOADPLANNING DOCUMENTS

Loadplanner must prepare and send to the flight crew the following documents confirming the completion of the weight and balance computations:

1. Loading Instruction Report with the relevant IMP codes for special cargo and dangerous goods specified for the relevant sections of the cargo hold or ULD positions. *Refer to* ***Section 7.2 Part 7 GOCHM, Section 7.9.1 Part 7 GOCHM, Sections 9.12.2-9.12.5 Part 9 GOCHM***.
2. Loadsheet. *Refer to* ***Sections 9.12.2-9.12.5 Part 9 GOCHM***.
3. NOTOC (Notification to Captain) if special cargo or dangerous goods are planned for loading. *Refer to* ***Section 7.9.1 Part 7 GOCHM***.

IMPORTANT! Flight departure without appropriate weight and balance computations and issuance of Lodasheet and LIR **is prohibited under any circumstances**. If there are special cargo and/or dangerous goods on board the aircraft, NOTOC is also mandatory.

Other flight documents shall be provided in accordance with the requirements of ***Section 1.6.1.2 of Part 1 GOCHM*** (for cargo aircraft) and ***Section 1.6.1.3 of Part 1 GOCHM*** (for passenger aircraft).

Retention of records (copies of the documents above) shall be performed in accordance with the requirements of ***Section 1.6.1 Part 1 GOCHM***.

9.8 FUEL DENSITY

Normal operation of aircraft engines and auxiliary power unit is possible only if the fuel density is within the limits established by the aircraft and equipment manufacturer.

Fuel density limits for different aircraft types and modifications are shown in ***Table 9.8.1***.

Table 9.8.1. Fuel Density Limits

AC TYPE	MIN. DENSITY	MAX. DENSITY
B767-300BCF (-BDSF)	6 lb/U.S. gallon (0,719 kg/l)	7.1 lb/U.S. gallon (0,8507 kg/l)
B757-200PCF	6.5 lb/U.S. gallon (0,7789 kg/l)	7.1 lb/U.S. gallon (0,8507 kg/l)
A319-153N	0,760 kg/l	0,888 kg/l
A320, A321		
A330		

IMPORTANT! Refueling and performing a flight with a fuel density greater or less than the specified limits is prohibited!

If it is necessary to refuel with a density greater or less than the specified limits, special written permission from the airline's Engineering and Maintenance Department shall be obtained.

9.9 BALLAST FUEL

B767-300BCF (-BDSF)

Aircraft flight crew may transfer some fuel from the main wing tanks to the center tank when the aircraft is not fully loaded to prevent fuel ice build-up from forming on the wing surfaces. The fuel from the center tank will be used first.

In this situation the fuel index is calculated as follows:

1. Calculate the amount of fuel in wing tanks (Total Fuel Weight minus Transferred Fuel).

2. Determine the index for this fuel using table on the reverse side of the Loadsheet.

3. Determine the amount of fuel pumped into the central tank and its index (using ***Tables 9.1 & 9.2***).

4. Determine the resulting fuel index by adding the fuel indices for the wing and center tanks.

5. Ensure that the fuel mass in the center tank + actual ZFW does not exceed the MZFW limit. If the MZFW limit is exceeded, pump fuel back to the wing tanks or reduce the payload of the aircraft.

Fuel Weight	Index Value	Fuel Weight	Index Value
500	-0.31	5500	-4.16
1000	-0.64	6000	-4.56
1500	-0.99	6500	-4.97
2000	-1.37	7000	-5.37
2500	-1.76	7500	-5.77
3000	-2.15	8000	-6.16
3500	-2.54	8500	-6.56
4000	-2.95	9000	-6.96
4500	-3.36	9500	-7.37
5000	-3.76	10000	-7.77

Table 9.1. Fuel indices for Center Tank B767-300BCF (UK67009, UK67010, UK67017, UK67018)

Fuel Weight	Index Value	Fuel Weight	Index Value
500	-0.31	5500	-4.16
1000	-0.64	6000	-4.56
1500	-0.99	6500	-4.97
2000	-1.36	7000	-5.37
2500	-1.76	7500	-5.77
3000	-2.15	8000	-6.16
3500	-2.54	8500	-6.56
4000	-2.95	9000	-6.96
4500	-3.35	9500	-7.37
5000	-3.76	10000	-7.77

Table 9.2. Fuel indices for Center Tank B767-300BDSF (UK67015, UK67019, UK67020, UK67021)

9.10 FLY AWAY KIT

Fly away kit (FKT), which includes aircraft spare parts and consumables, is placed and carried on board the aircraft as per decision of the airline's Technical Director.

The mass of the standard FKT is included in the aircraft DOW.

The mass of the additional FKT (loaded on flight where necessary) must be additionally entered into the aircraft LIR and identified in LIR and CPM message with the corresponding IMP code – FKT.

If the composition of the standard FKT has been changed for some reason (e.g., partial or complete unloading of FKT from the aircraft), it is necessary to make appropriate adjustments to the LIR (in the corresponding loading zone) and to the Loadsheet (in the Adjustment column).

If the composition of the standard FKT is being revised, the responsible personnel of the Engineering and Maintenance Department shall notify the Ground Handling Standards and Compliance Division GHOD of updated mass and locations of FKT on board the aircraft for subsequent amendment of the DOW/DOI of the corresponding aircraft.

IMPORTANT! *Items and substances included in the FKT and classified as dangerous goods according to the ICAO TI must be properly documented, packed, marked, added into the NOTOC and loaded in accordance with the requirements of the said document. It is forbidden to load dangerous goods in FKT without proper documentation, packing, marking, labeling, NOTOC and securing it with certified belts or ropes inside cargo compartments and/or ULD (if applicable for the given type and modification of the aircraft).*

IMPORTANT! *If heavy pieces with small footprint are included in FKT, it is necessary to use shoring material in accordance with the provisions of* ***Part 6 GOCHM****.*

IMPORTANT! *– All items of the FKT loaded into the Bulk section (CPT 5) or on the main cargo deck without the use of a ULD must always be secured with straps to the aircraft structure in accordance with the provisions of* ***Part 8 GOCHM****. All items of the FKT loaded on board an aircraft using a ULD must be additionally secured with straps to the ULD unless the conditions specified in* ***Part 8 GOCHM*** *are met.*

9.10.1 STANDARD FKTs

IMPORTANT! *The information provided in this Section is given for reference only and may change promptly if required by the airline.*

The weight of the standard FKT is included in the DOW. Any additional elements of FKT must be counted as part of payload.

9.11 AVERAGE WEIGHTS OF CREW MEMBERS, SUPERNUMERARIES AND PASSENGERS

To simplify calculations, the airline has adopted the average passenger weights shown in ***Table 9.11.1***. Non-standard weights (e.g., during the transportation of groups of specific PAX) are not applicable.

Average flight crew, cabin crew and supernumeraries weights are shown in ***Table 9.11.2***.

The indicated average weights of crew members, supernumeraries and passengers include the weight of standard carry-on baggage.

The specified information is also duplicated in AHM560 and AHM565 for the corresponding aircraft.

Table 9.11.1. Average passenger weights (kg)

Passenger type *	All flights (except pilgrimage and Holiday Charters)	Holiday Charters	Pilgrimage flights from Uzbekistan to and from JED & MED	Pilgrimage flights from GRV to and from JED & MED
Average adult	80	76	82	84
Adult male	88	83	82	84
Adult female	70	69	82	84
Child (2-12 years)	35	35	35	35
Infant (0-2 years)	0	0	0	0

**For own airline's flights. When operating flights under ACMI programs, the average passenger weight may be set between 76 and 88 kg in accordance with the terms of the ACMI agreement.*

Table 9.11.2. Average weights of aircraft crew members and supernumeraries (kg)

Description	Weight when operating the airline's own flights	Weight when operating flights under the ACMI program
Member of the flight crew of a passenger aircraft (A319, A320, A321, A330) *	85	Determined in accordance with the decision of the aircraft lessee with the approval of the GHOD Director
Member of the cabin crew of a passenger aircraft (A319, A320, A321, A330) *	75	
Flight crew or supernumerary of a freighter aircraft (B767, B757) *	100	

** Indicated only for passenger weight with carry-on baggage included. The actual weight of the passenger's baggage must be determined by weighing.*

9.12 WEIGHT AND BALANCE COMPUTATION PROCEDURES

9.12.1 WEIGHT AND BALANCE COMPUTATION

Weight and balance computations for a passenger aircraft is performed using the following data:

- Loadsheet with weight and balance chart;
- Loading Instruction Report (LIR);
- Payload Calculations Sheet tables for the relevant aircraft;
- maximum certified aircraft weights;
- data on aircraft MEL (DI) operational restrictions that may have impact on the location of crew members, passengers, baggage, cargo, mail, equipment (if applicable);
- information about composition, weight and location of FKT (if applicable);
- information about loading (or lack of) operational items on board an aircraft;
- data on the number of crew members;
- data on the number and weight of passengers;
- data on the number and weight of cargo and baggage;
- data on the number and weight of catering items;
- aircraft DOW/DOI data;
- data on the remaining fuel and planned refueling (including ballast).

Handling agent shall provide the list of cargo and baggage to the loadplanner by the via e-mail in the form of a table or a standardized UWS message, including the IMP codes applicable to the specified load. ***See Section 1.5.2.2 of Part 1 GOCHM***.

In exceptional cases, handling agent may provide the list of cargo in the form of a printed document, IMP codes applicable to the load shall also be specified.

IMPORTANT! Payload Calculation Sheet tables, as well as Loadsheet and Loading Instruction Report forms, can differ even for aircrafts of the same modification.

Aircraft weight and balance computation can be performed either on manual forms of airline Loadsheets (LDS) of the current edition, or using a computer program (DCS) with mandatory preparation of a Loading Instruction Report (LIR). Samples of manual Loadsheet forms and examples of Loadsheets generated by DCS NAVBLU and other DCS are provided below in this Section. Loadsheets generated by different DCS can differ in the amount of information provided to the crew, but, in general, the appearance and arrangement of information remains the same for DCS of different types.

For ease of use, manual forms of LDS, LIR and current Payload Distribution tables are included in the ***Appendices to Part 9 GOCHM***, refer to ***Table 9.12.1***. The procedure for completing the Loadsheet is described in ***Sections 9.12.2 – 9.12.7 Part 9 GOCHM.***

Loadsheet and LIR forms are designed for a specific aircraft. It is necessary to ensure that the current and correct versions of the LIR and Loadsheet are used prior weight and balance computations (for this purpose, the aircraft registration number, as well as the revision number and date are indicated on each form).

The LMC procedure (without issuing a new Loadsheet form) is allowed in accordance with the provisions of ***Section 9.13 Part 9 GOCHM***, but issuing a new Loadsheet is preferable.

Table 9.12.1. Appendices to Part 9 GOCHM (LDS + LIR)

Aircraft registration number	AC type and modification	Number of Appendix
UK32070	A320-233	9.1
UK32071 & UK32072	A320-232	9.2
UK32073	A320-214	9.3
UK32130	A321-251N	9.4
UK32131, UK32132	A321-253NX	9.5
UK33030, UK33031, UK33032	A330-343	9.6
UK33031	A330-343	9.7
UK67009	B767-300BCF	9.8
UK67010, UK67017, UK67018	B767-300BCF	9.9
UK67015	B767-300BDSF	9.10
UK67019, UK67020, UK67021	B767-300BDSF	9.11
UK75001	B757-200PCF	9.12
UK32074, UK32075	A320-251N	9.13

Index Tables for specific aircraft are available in AHM560/AHM565 for this aircraft.

Regardless the method of computation, the following shall be taken into account while computing weight and balance:

1. **For passenger aircraft**:
   A. Number of flight crew;
   B. Number of cabin crew;
   C. Number of deadhead crew (DHC).

2. **For freighter aircraft**:
   A. Number of flight crew;
   B. Number of supernumeraries (referred to deadheads as well as cargo attendants (airline employees or shipper's representative)).

On passenger aircrafts DHC are considered as passengers. See also ***Section 5.2.3.5 Part 5 GOCHM***.

If DHCs have not been entered into the DCS in a timely manner and the Loadsheet is issued without taking them into account, then the LMC procedure must be performed (*refer to* ***Section 9.13 Part 9 GOCHM***) or the Loadsheet shall be reissued (if the permitted LMC limits are exceeded).

9.12.2 LOADSHEET COMPLETION FOR PASSENGER A319, A320, A321 AIRCRAFTS

1. Check the aircraft tail number(s) (field in the central part of the form) for which this form is applicable is written. If the form is intended for another aircraft, replace the form with the correct one.
   - ***IMPORTANT!*** *Various Loadsheet forms have been adopted for A320-214, -232, -233 due to differences in the MZFW, MTOW and MLW limits, as well as floor limits and cargo compartment volumes.*
   - ***IMPORTANT!*** *Various Loadsheet forms have been adopted for A321-251N (UK32130) and A321-253NX (UK32131) due to differences in the MZFW, MTOW and MLW limits, as well as floor limits and cargo compartment volumes.*

2. Complete the following fields: FROM, TO, ORIGINATOR (who performed the computations), FLT NO. (flight number), REGN. (aircraft registration number), FLIGHT CREW/CABIN CREW, DATE (departure date in UTC).

3. Complete corresponding DOW and DOI data in the ***DRY OPERATING WEIGHT*** field. Use current DOW/DOI data from **AHM560/AHM565** according to the number of flight and cabin crew (without deadhead crew on board (DHC) and catering loading scheme. Only "Standard" catering loading scheme is applicable for A319. If catering is not loaded on board, DOW/DOI data shall be amended according to "Galley Offloaded" parameter in the ***LAST MINUTE CHANGE INFO*** section on the reverse side of the Load Sheet (Trimback).
   - *Catering options for regular and charter flights carried out as per established program is communicated to the flight crews and loadplanners by an official letter from the GHOD.*

4. Fill in calculated adjustments of DOW/DOI in the ***ADJUSTMENT*** field (if applicable). Adjustment options and their corresponding values are shown in the ***LAST MINUTE CHANGE INFO*** section on the reverse side of the Load Sheet. If there are no corrections in both fields (Weight and Index), set the value to "0".

5. Enter the value and index of the fuel mass in the center tank in the ***CENTER TANK BALLAST*** field (in case of non-standard refueling, when the center tank is filled with fuel while the wing tanks are not fully filled). For this calculation, use the mass and index values from the corresponding sections of the AHM560/AHM565 document for the corresponding aircraft. If there are no corrections in both fields (Weight and Index), set the value to "0".

6. Enter the final DOW and DOI values, taking into account the corrections (if any), in the corresponding fields in the ***ADJUSTED DRY OPERATING WEIGHT*** line. If no DOW/DOI corrections were entered, then duplicate in this line the value that was entered in the ***DRY OPERATING WEIGHT*** line. Duplicate the DOW and DOI values in the corresponding fields in the ***ADJUSTED DRY OPERATING WEIGHT*** line (following the ***TOTAL TRAFFIC LOAD*** line).

7. Calculate the Take-Off Fuel (subtract the fuel required for taxiing from the uplifted fuel value) and enter it in the ***TAKE-OFF FUEL*** line. Duplicate the resulting value in the ***TAKE-OFF FUEL*** line under the ***ZERO FUEL WEIGHT*** line.

8. Using the ***TOTAL FUEL INDEX TABLE*** on the back of the Load Sheet, determine the Take-off Fuel index value (the fuel mass is calculated as the difference between the masses of uplifted fuel (Ramp Fuel) and the mass used for taxiing (Taxi Fuel)). In the case of calculating the index for a fuel mass value that is between two table values of fuel mass (for example, between 7500 and 8000 kg), it is necessary to use the standard rules of mathematical rounding.

9. Sum up DOW and Take-off Fuel values, sum up their indexes and fill in the results into corresponding fields in the ***WET OPERATING WEIGHT*** line.

10. Fill in ***WET OPERATING WEIGHT*** value into corresponding fields of ***PRE-TAKE-OFF ALLOWED LOAD CHECK*** section in the right side of the Load Sheet form.

11. Complete the ***PAYLOAD DISTRIBUTION (PASSENGERS)*** table on the reverse side of the Load Sheet form (hereinafter – Trimback) in accordance with the information on passenger seating in the passenger cabin (received from the airport transportation service or from the flight attendants/airline representative):
    - Separately indicate the number of adult passengers (Adult), children aged 2-12 years (Child), children aged 0-2 years (Infant) in the appropriate fields for each section of the passenger cabin;
    - Based on information about the number of passengers of each type and the total number of passengers in the section, calculate their total weight (in accordance with the accepted average passenger weight for a given aircraft or route (if applicable)) and enter it in the ***WEIGHT*** field (individually for each section);
    - Using ***PASSENGER DISTRIBUTION TABLE*** in ***PAYLOAD CALCULATION SHEET*** determine the total index for the number of passengers of each type in each section of the passenger cabin and calculate the total index for each section. *First, the index for the total number of adult passengers is determined by the corresponding column of the table, then the index for children aged 2-12 years by the corresponding column of the table, then the index for children aged 0-2 years by the corresponding column of the table, and all the indices are added together to determine the total index of the zone. For example, zone 0A accommodates 2 adults and 2 children, and according to the table, two adult passengers create an index of -1, and two children also create an index of -1. The total index of zone 0A will then be: (-1) + (-1) = -2.*
    - Upon completion of the calculation of the passenger masses in each zone and the total indices of each zone, fill in all the relevant fields of the ***PAYLOAD DISTRIBUTION (PASSENGERS)*** table on the Trimback and calculate the total passenger mass and the total index by entering them in the relevant fields in the ***TTL PAX WEIGHT / INDEX*** line.

12. Fill in the ***PAYLOAD IN CARGO HOLDS*** table on the Trimback in accordance with the written information on the total quantity and weight of baggage, cargo, mail and equipment (received from the airport transportation service, or from the airline representative in the form of a summary table, or on a special company letterhead):
    - **IMPORTANT!** A321-251N and -253NX: it is prohibited to place dangerous goods of classes 1, 3, 8 in cargo compartments 3, 4, 5 (due to close location of additional fuel tanks (ACT) in cargo compartment No. 3).
    - **IMPORTANT!** A321-251N and -253NX: total fuel weight in the additional fuel tanks (ACT) and the load in the aft cargo compartment (No. 3, 4, 5) shall be checked. The corresponding weight limits are shown on the Trimback of each aircraft and differ for the A321-251N and -253NX modifications. **These limits must not be exceeded!**
    - **IMPORTANT!** It is also necessary to indicate the value of fuel in each ACT, calculated in accordance with the Fuel Distribution Info table provided on Trimback.
    - **IMPORTANT!** A321-251N and -253NX: it is forbidden to load more than 200 kg into Section 5 of the aft cargo compartment if the loading volume in Sections 3 and 4 of the aft cargo compartment is less than 75%.
    - **IMPORTANT!** 321-251N and -253NX: it is necessary to take into account that statistically no more than 600 kg of baggage is loaded into one section of the compartment. The number of sections in the compartment is shown in the Loading Instruction Report at the bottom in the ***WEIGHT LIMITS PER SECTIONS*** fields.

- Separately indicate the weight of baggage (BAG), cargo (CARGO), mail (MAIL) and equipment (EQUIP) loaded in each lower deck cargo compartment. The total weights of all types of loads in each compartment should be entered separately in the corresponding fields of the table (separately for each compartment). While doing that, it is prohibited to exceed the maximum loading values in each compartment indicated at the bottom of the table (*e.g. CPT 1: MAX 1440 kg or CPT3: MAX 2040 kg*).
- Determine the index for the loading mass of each compartment according to the ***PAYLOAD IN CARGO HOLDS DISTRIBUTION TABLES*** table and enter it into the corresponding fields of the table (separately for each compartment).
- Sum the values of the weights and load indices in each compartment and enter them in the appropriate fields in the ***TTL PAYLOAD IN CARGO HOLD WEIGHT / INDEX*** line. The total weight of baggage, cargo, mail and equipment entered in the appropriate fields of the Load Sheet must correspond to the weight indicated in the information provided by the airport transportation service or the airline representative.
- If there is transit cargo (baggage, mail, cargo, equipment) in the aircraft cargo compartments, before starting calculations, it is necessary to make sure that its weight is not mistakenly included in the information provided by the airport transportation service or the airline representative. At the same time, it is necessary to clarify the actual distribution and weight of the transit cargo in each cargo compartment.
- If there is transit cargo (baggage, mail, cargo, equipment) in the cargo compartments of the aircraft, the weight of which was not included in the information provided by the airport transportation service or the airline representative, the total weight of the cargo in the aircraft cargo compartments will correspond to the sum of the weight of the loaded baggage, mail, cargo, equipment and the weight of the transit cargo.
- **IMPORTANT!** When calculating the mass and index of loads in each compartment, the mass of fuel in the ACT is not taken into account. The mass of fuel in each ACT is taken into account only for checking the total load limit of the aft cargo compartment.

13. Transfer the total weight and index values from the ***TTL PAX WEIGHT / INDEX*** line in the ***PAYLOAD DISTRIBUTION (PASSENGERS)*** table on Trimback to the corresponding fields in the ***PASSENGERS*** line in the ***TOTAL TRAFFIC LOAD*** section on the right side of the Load Sheet.

14. Specify the number of passengers occupying seats and children aged 0-2 years without a seat in the ***TTL PAX*** line in the ***TOTAL TRAFFIC LOAD*** section on the right side of the Load Sheet. Specify the distribution of passengers by sections of the passenger cabin in the corresponding fields in the ***PAX DISTRIBUTION*** line (taking into account only passengers occupying individual seats, excluding passengers without a seat - children aged 0-2 years).

15. Transfer the total weight and index values from the ***TTL PAYLOAD IN CARGO HOLD WEIGHT / INDEX*** line to the corresponding fields in the ***PAYLOAD IN CARGO HOLDS*** table on the Trimback to the ***PAYLOAD (BAGGAGE, CARGO, MAIL)*** line in the ***TOTAL TRAFFIC LOAD*** section on the right side of the Load Sheet. Specify the distribution of the load by cargo compartments in the corresponding fields in the ***CARGO HOLDS*** line (indicating the total load weight in each compartment in the corresponding field).

16. Sum the weight and index values in the ***TTL PAX WEIGHT / INDEX*** and ***TTL PAYLOAD IN CARGO HOLD WEIGHT / INDEX*** lines to determine the actual ***TOTAL TRAFFIC LOAD*** (sum PAX + PLD) value. Enter the weight and index values of the total load in the corresponding fields in the ***TOTAL TRAFFIC LOAD*** (sum PAX + PLD) line).

17. Duplicate the Total Traffic Load value from the Total Traffic Load (sum PAX + PLD) line to the ***TOTAL TRAFFIC LOAD*** line on the left side of the Load Sheet.

18. Calculate the limiting weight in ***PRE-TAKE-OFF ALLOWED LOAD CHECK*** section:
    - Enter the Take-Off Fuel weight value in the corresponding field in the MZFW column;
    - Enter the Trip Fuel weight value in the corresponding field in the RLW column;
    - Calculate the sum of the MZFW weight and the Take-Off Fuel weight, enter the resulting value in the ***Lowest of a, b, c*** line in the MZFW column;
    - Calculate the sum of the RLW weight and the Trip Fuel weight, enter the resulting value in the ***Lowest of a, b, c*** line in the RLW column;
    - Subtract the Wet Operating Weight value from each value in the ***Lowest of a, b, c*** line. Enter the result in each corresponding column in the Allowed Traffic Load line.
    - Enter in each column the value of the Total Traffic Load weight calculated in step 16.
    - Subtract the Total Traffic Load value from each Allowed Traffic Load value, and enter the result in the corresponding column in the ***Underload Before LMC*** line.
    - Select the lowest result. If a negative value is obtained in any of the columns, reduce the commercial load (by partially unloading equipment, mail, cargo, baggage, and, if necessary, partially removing passengers) and recalculate the aircraft weight and balance.
    - Cross out the other two columns with larger ***Underload Before LMC*** values diagonally to confirm that these values are not used in further calculations.

19. Sum the values of the weight and then indices of the ***Adjusted Dry Operating Weight*** and ***Total Traffic Load*** correspondently (calculated in steps 6 and 16, respectively) and enter the obtained values in the corresponding fields in the ***ZERO FUEL WEIGHT*** line. Compare the Zero Fuel Weight value with the Maximum Zero Fuel Weight value. **If the actual value is greater than the maximum, reduce the commercial load** (by partially unloading equipment, mail, cargo, baggage, and, if necessary, by partially removing passengers) and recalculate the aircraft weight and balance.

20. Sum the values of the weights and indices of ***Take-Off Fuel*** (calculated in step 7) and the value of ***Zero Fuel Weight*** (calculated in step 19) correspondently and enter them in the corresponding fields in the ***ACTUAL TAKE-OFF WEIGHT*** line. Compare the value of Actual Take-Off Weight with the value of Regulated Take-Off Weight. **If the actual value is greater than the maximum, reduce the commercial load** (by partially unloading equipment, mail, cargo, baggage, if necessary - partially removing passengers) and recalculate the aircraft weight and balance.

21. Enter ***Estimated Trip Fuel*** value into ***ESTIMATED TRIP FUEL*** line.

22. Subtract the ***Trip Fuel*** weight from the ***Actual Take-Off Weight*** and enter the result in the ***ESTIM. LANDING WEIGHT*** line.

23. Calculate the ***Estim. Landing Weight index*** and enter it in the appropriate field in the ***ESTIM. LANDING WEIGHT*** line:
    - First calculate the mass of the remaining fuel on landing (subtract the weight of Trip Fuel from the weight of Take-Off Fuel);
    - Using the ***TOTAL FUEL INDEX TABLE*** on the Trimback, determine the value of the remaining fuel index at landing. If calculated index of remaining fuel weight that is between two table values (for example, between 7500 and 8000 kg), it is necessary to use the standard rules of mathematical rounding.
    - Sum the index corresponding to the Zero Fuel Weight value for the given flight and the index of the remaining fuel at landing, determined from the ***TOTAL FUEL INDEX TABLE*** on the Trimback.

24. Compare the ***Estimated Landing Weight*** value with the ***Regulated Landing Weight*** value. If the actual value is greater than the maximum, reduce the payload (by partially unloading equipment, mail, cargo, baggage, and, if necessary, by partially removing passengers) and recalculate the aircraft weight and balance.

25. Enter the corresponding values of weights and indices ***Take-Off Weight, Zero Fuel Weight and Landing Weight*** in the corresponding fields in the ***WEIGHT / INDEX RESULTS*** section.

26. Lay vertical lines on the Load Sheet corresponding to the indices calculated in step 25, using the horizontal scales at the top and bottom of the chart.

27. Lay horizontal lines on the Load Sheet corresponding to the aircraft weights calculated in step 25, using the vertical scales at the sides of the chart. Mark the intersection of the vertical and horizontal lines for calculated estimated aircraft weights.

28. Determine whether the aircraft center of gravity for the estimated ***Take-Off Weight, Zero Fuel Weigh***t and ***Landing Weight*** is within the permitted limits (whether the position of each of the 3 defined intersection points goes beyond the boundaries of Load Sheet established for each of the 3 weights - MTOW, MZFW, MLW). If the permitted boundaries are exceeded, change the position of loads in the aircraft cargo compartments (if this is not enough, partially change the distribution of passengers by sections of the passenger cabin), recalculate the aircraft weight and balance and complete the new Load Sheet.

29. Determine the position of each of the intersection points representing the calculated positions of the ***Take-Off Weight, Landing Weight***, and ***Zero Fuel Weight***. In accordance with the lines, each of which represents a whole value of % MAC, determine the % MAC values (accurate to a tenth of a percent) for each of the weights - ***Take-Off Weight, Zero Fuel Weight***, and ***Landing Weight*** - and enter them in the appropriate fields on the right side of the form (TOW % MAC, ZFW % MAC, LW % MAC).

30. Using the table below the Load Sheet graph, determine the stabilizer position angle value depending on the calculated Take-Off Weight % MAC value and enter it in the corresponding Stab Trim field on the right side of the Load Sheet. If the Stab Trim value is calculated between two table values (for example, between 25 and 26% MAC), it is necessary to use the standard rules of mathematical rounding.

31. After Load Sheet finalization, completeness and correctness of data is confirmed by the signatures (indicating the full name of each employee) of the employee who performed weight and balance and PIC, who shall check and accept the results of the calculation.

32. If it is necessary to change the loads and/or refueling within 500 kg, it is allowed to make a Last Minute Change (LMC) by filling in the corresponding fields of the Load Sheet form.
    - LMC can only be entered if all three conditions are met simultaneously: the Trip Fuel weight has not changed; the Take-Off Fuel weight has not decreased; weight change does not exceed 500 kg or the Underload value calculated in step 18.
    - If allowed value (Underload or 500 kg) has been exceeded, or the masses of Take-Off Fuel and/or Trip Fuel have changed, a recalculation of the aircraft weight and balance is required, with the preparation of a new Load Sheet.

33. In case of LMC due to a change of loads, the ***LAST MINUTE CHANGES*** section shall indicate:
    - In the ***ITEM*** column - the name of the loads being added or removed (for example, Crewmember, PAX, Baggage, etc.; DHC removed from a flight is considered equal to a

passenger);

- In the ***LOCATION*** column - the location of the added or removed item (for example, Zone 0A for passengers or DHC, CPT 1 for baggage, Flight Deck for a flight crew member, etc.);
- Column ±: shall indicate «+» or «-» (depending on whether the item being added or removed);
- In the ***WEIGHT*** column – the weight of the added or removed item (for passengers – the average calculated weight for the given route is taken; for baggage, cargo, mail, equipment – their actual mass);
- In the ***INDEX*** column – the change in index caused by the added or removed items (*calculated according to the* ***PAYLOAD DISTRIBUTION*** *tables – separately for cargo and for passengers*).
- If there is no change in the weight of take-off fuel (Take-Off Fuel), the value "0" is indicated in the ***WEIGHT*** and ***INDEX*** columns in the corresponding line, and the actual change in the weight and index of the aircraft is indicated in the ***TOTAL LMC*** line.
- If there is no change in the weight of take-off fuel (Take-Off Fuel), the calculated value of the weight and the ***TOTAL LMC*** index are entered into the corresponding fields in the LMC lines in the ***Zero Fuel Weight***, ***Actual Take-Off Weight*** and ***Estim. Landing Weight*** sections, after which the adjusted values of ***Zero Fuel Weight***, ***Actual Take-Off Weight*** and ***Estim. Landing Weight*** and their indices are calculated and then entered into the corresponding fields in the ***Adjusted ZFW***, ***Adjusted TOW*** and ***Adjusted LW*** lines.
- After calculating the adjusted ***Actual Take-Off Weight*** and ***Estim. Landing Weight*** values and their indices, the % MAC is recalculated for each weight in accordance with the instructions in steps 26-31.

34. **When entering LMC due to a change in the Take-Off Fuel weight**, the weight and index of the added fuel are indicated in the ***Take-Off Fuel LMC*** and ***TOTAL LMC*** lines of the ***LAST MINUTE CHANGES*** section. The index of the added fuel is specified by subtracting the index of the previous Take-Off Fuel value from the index of the new Take-Off Fuel value (*for example, the original index was -3, the new one is defined as -2, therefore, the index of the additional fuel added will be: (-3) – (-2) = 1*).

If total weight of fuel was not changed, the calculated value of weights and index (TOTAL LMC) must be input into appropriate fields in rows LMC (Zero Fuel Weight, Actual Take-Off Weight, Estim. Landing Weight). Adjusted values of Zero Fuel Weight, Actual Take-Off Weight, Estim. Landing Weight and its indexes must be calculated and input into appropriate rows Adjusted ZFW, Adjusted TOW и Adjusted LW.

35. **When both the load and the fuel are changed simultaneously**, the value of change in weight of the load and fuel are summed up; values of their indices are summed up respectively, followed by changes being entered into the corresponding fields in the ***TOTAL LMC*** section (a detailed description of filling in the fields of the Load Sheet is given in the description of step 32):
    - Changing the load affects the Zero Fuel Weight, the Take-Off Weight change, and the Landing Weight.
    - Changing the fuel mass affects only Take-Off Weight and Landing Weight.
    - The total value of the Last Minute Change weight in any case **must not exceed the limit of 500 kg and the calculated Underload value** (if any of the lower values is exceeded, LMC is prohibited). If this value is exceeded, or if any of the conditions specified in the description of step 32 are not met, it is necessary to recalculate the aircraft weight and balance and issue the new Load Sheet.

36. **After LMC (only where the conditions set out in step 32 are met)** it shall be confirmed by the signatures (indicating the full name of each employee) of the employee who calculated the LMC

and the PIC who checked and accepted the calculation results. Otherwise, it is necessary to issue a new Load Sheet. In case of complex LMC calculations, even if they are in line with p.32 of this instruction, it is recommended to issue a new Load Sheet to avoid errors.

Manual Loadsheet template for A320-233 (UK32073)

LOADSHEET A320-214	*Applicable for A/C:* UK32073	*Rev. №* 15.08.2025	Appendix 9.3

CENTRUM-AIR.COM

FROM	TO	ORIGINATOR	FLT. NO.	REGN.	FLIGHT CREW / CABIN CREW	DATE
				UK32073	/	

ITEM	WEIGHT	INDEX
DRY OPERATING WEIGHT		
ADJUSTMENTS ±		
Centre Tank - BALLAST +		
ADJUSTED DRY =		
OPERATING WEIGHT		
TAKE-OFF FUEL +		
(Ramp Fuel less Taxi Fuel)		
WET OPERATING WEIGHT =		
TOTAL TRAFFIC LOAD		
ADJUSTED DRY +		
OPERATING WEIGHT		
ZERO FUEL WEIGHT =		
Maximum ZFW LMC ±		
62 500 Adjusted LM ZFW		
TAKE-OFF FUEL +		
(Ramp Fuel less Taxi Fuel)		
ACTUAL TAKE-OFF WEIGHT =		
Regulated TOW LMC ±		
77 000 Adjusted TOW		
ESTIMATED TRIP FUEL		
ESTIM. LANDING WEIGHT =		
Regulated LW LMC ±		
66 000 Adjusted LW		

PRE-TAKE-OFF ALLOWED LOAD CHECK

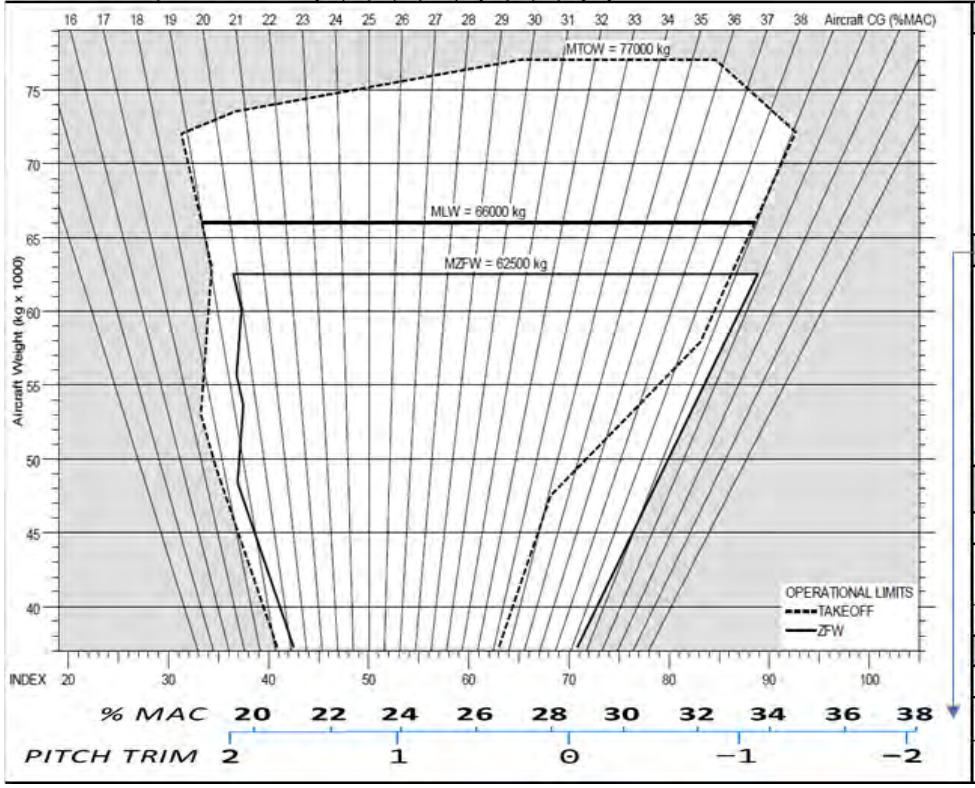
MAXIMUM WEIGHTS	*MZFW*	*RTOW*	*RLW*
	62500		*66 000*
Take-Off Fuel +		Trip Fuel+ →	
MAXIMUM ALLOWED WEIGHT = Lowest of a,b,c	a	*b*	c
		77 000	
Wet Operating Weight -			
Allowed Traffic Load =			
Total Traffic Load -			
Underload Before LMC =			

TOTAL TRAFFIC LOAD	WEIGHT	±	INDEX
PASSENGERS			
PAYLOAD (BAGGAGE, CARGO, MAIL)			
TOTAL TRAFFIC LOAD			

PAX DISTRIBUTION:	*OA* ►		*OB* ►		*OC* ►	
CARGO HOLDS:	*1/*		*3/*		*4/*	*5/*

LAST MINUTE CHANGES

ITEM	LOCATION	±	WEIGHT	INDEX
Take-Off Fuel LMC				
TOTAL LMC				



WEIGHT/INDEX RESULTS ▼

	WEIGHT	INDEX
TAKE-OFF WEIGHT		
ZERO FUEL WEIGHT		
LANDING WEIGHT		

STAB TRIM - REFER TO GRAPH BELOW

		LMC
STAB TRIM ►		
TOW % MAC ►		►
ZFW % MAC ►		►
LW % MAC ►		►

LOADSHEET ISSUED BY	APPROVED BY
DATE	
SIGNATURE	*SIGNATURE*
NAME	*NAME*
LMC ISSUED BY	LMC APPROVED BY
DATE	
SIGNATURE	*SIGNATURE*
NAME	*NAME*

Manual Trimback (Loadsheet reverse side) template for A320-233 (UK32073)

TRIMBACK PAGE (A320-214)

Applicable for A/C: UK32073

TOTAL FUEL INDEX TABLE			
WT - KG	INDEX	WT - KG	INDEX
1000	0	11000	-3
2000	0	11500	-2
3000	0	12000	-2
3500	1	12500	-2
4000	1	13000	-2
4500	0	13500	-3
5000	0	14000	-4
5500	-1	14500	-4
6000	-1	15000	-5
6500	-2	15500	-5
7000	-2	16000	-7
7500	-2	16500	-7
8000	-3	17000	-8
8500	-3	17500	-9
9000	-3	18000	-10
9500	-3	18500	-11
10000	-3	18729	-11
10500	-3		

Fuel density: 0.76 - 0.888 kg/l ▲

REFER TO "PAYLOAD CALCULATION SHEET" FOR A320-233

PAYLOAD DISTRIBUTION

PASSENGERS

LIMIT ▼	ZONE ID ▼	ADULT	CHILD	INFANT	WEIGHT	INDEX
60 PAX	ZONE 0A (ROWS 1-10)					
					+	+
60 PAX	ZONE 0B (ROWS 11-20)					
					+	+
60 PAX	ZONE 0C (ROWS 21-30)					
					=	=
	TTL PAX WEIGHT / INDEX ▶					

SUM ALL WEIGHTS AND INDEXES FOR CABIN ZONES ▲ ▲

ATTN! MAX 20 INFANTS PER FLIGHT / MAX 180 ADULT OR CHILD PAX

FOR REMARKS & NOTES

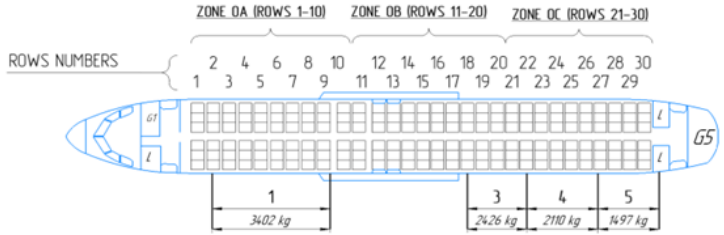
EXAMPLE
Not for real flights

PAYLOAD IN CARGO HOLDS

	LIMIT ▼	ZONE ID ▼	BAG	CARGO	MAIL	EQUIP	WEIGHT	INDEX
FWD HOLD ▶	3402	CPT 1						
							+	+
	2426	CPT 3						
							+	+
AFT HOLD	2110	CPT 4						
							+	+
	1460	CPT 5						
							=	=
	TTL PAYLOAD IN CARGO HOLDS WEIGHT / INDEX ▶							

TRANSFER RESULTS OF CALCULATIONS TO TABLE "TOTAL TRAFFIC LOAD" ON LOADSHEET

REFER TO "PAYLOAD CALCULATION SHEET" FOR PASSENGER AND CARGO/BAGGAGE WEIGHTS & INDEXES IN CASE OF LAST MINUTE CHANGE. LMC LIMIT = 500KG (OTHERWISE NEW LOADSHEET MUST BE ISSUED).



LAST MINUTE CHANGE INFO

ITEM	WEIGHT CHANGE (KG)	INDEX CHANGE
POTABLE WATER IN WATER TANK	-100	0
POTABLE WATER IN WATER TANK	-200	+1
FWD GALLEY OFFLOADED	-180	+2
AFT GALLEY OFFLOADED	-320	-5
FLY AWAY KIT OFFLOADED	-12	0
FURNISHING EQUIPMENT OFFLOADED	-10	0

Template of a Payload Calculation Sheet for A320-233 (UK32073)

PAYLOAD CALCULATION SHEET (A320-214)

Applicable for A/C: UK32073

PASSENGERS DISTRIBUTION TABLES

ZONE 0A (ROWS 1-10) - INDEXES

PAX QTY	ADULT	CHILD	PAX QTY	ADULT	CHILD
1-2 PAX	-1	0	31-32 PAX	-17	-7
3 PAX	-2	0	33-34 PAX	-18	-8
4-5 PAX	-3	0	35 PAX	-19	-8
6-7 PAX	-4	-1	36-37 PAX	-20	-9
8 PAX	-4	-1	38 PAX	-20	-9
9-10 PAX	-5	-1	39-40 PAX	-22	-9
11 PAX	-6	-3	41-42 PAX	-23	-10
12-13 PAX	-7	-3	43-44 PAX	-24	-10
14 PAX	-8	-3	45-46 PAX	-25	-11
15-16 PAX	-9	-4	47-48 PAX	-26	-11
17 PAX	-9	-4	49-50 PAX	-27	-12
18-19 PAX	-10	-4	51-52 PAX	-28	-12
20 PAX	-11	-5	53-54 PAX	-29	-13
21-22 PAX	-12	-5	55-56 PAX	-29	-13
23-24 PAX	-13	-6	57-58 PAX	-30	-14
25 PAX	-13	-6	59-60 PAX	-31	-14
26-27 PAX	-15	-6	MAX 60 ADULT		
28 PAX	-15	-7	OR CHILD PLUS		
29-30 PAX	-16	-7	20 INF		

ZONE 0B (ROWS 11-20) - INDEXES

PAX QTY	ADULT	CHILD	PAX QTY	ADULT	CHILD
1-2 PAX	0	0	31-32 PAX	2	1
3 PAX	0	0	33-34 PAX	3	1
4-5 PAX	0	0	35 PAX	3	1
6-7 PAX	1	0	36-37 PAX	3	1
8 PAX	1	0	38 PAX	3	1
9-10 PAX	1	0	39-40 PAX	3	1
11 PAX	1	0	41-42 PAX	3	1
12-13 PAX	1	0	43-44 PAX	3	1
14 PAX	1	0	45-46 PAX	3	1
15-16 PAX	1	1	47-48 PAX	4	2
17 PAX	1	1	49-50 PAX	4	2
18-19 PAX	1	1	51-52 PAX	4	2
20 PAX	1	1	53-54 PAX	4	2
21-22 PAX	2	1	55-56 PAX	4	2
23-24 PAX	2	1	57-58 PAX	4	2
25 PAX	2	1	59-60 PAX	4	2
26-27 PAX	2	1	MAX 60 ADULT		
28 PAX	2	1	OR CHILD PLUS		
29-30 PAX	2	1	16 INF		

ZONE 0C (ROWS 21-30) - INDEXES

PAX QTY	ADULT	CHILD	PAX QTY	ADULT	CHILD
1-2 PAX	1	0	31-32 PAX	21	9
3 PAX	2	1	33-34 PAX	23	10
4-5 PAX	3	1	35 PAX	23	10
6-7 PAX	5	2	36-37 PAX	25	10
8 PAX	5	2	38 PAX	25	11
9-10 PAX	7	3	39-40 PAX	27	11
11 PAX	7	3	41-42 PAX	28	12
12-13 PAX	9	4	43-44 PAX	29	13
14 PAX	9	4	45-46 PAX	31	13
15-16 PAX	11	5	47-48 PAX	32	14
17 PAX	11	5	49-50 PAX	33	14
18-19 PAX	13	5	51-52 PAX	34	15
20 PAX	13	6	53-54 PAX	36	15
21-22 PAX	15	6	55-56 PAX	36	16
23-24 PAX	16	7	57-58 PAX	38	16
25 PAX	17	7	59-60 PAX	40	17
26-27 PAX	18	8	MAX 60 ADULT		
28 PAX	19	8	OR CHILD PLUS		
29-30 PAX	20	8	20 INF		

MAXIMUM QUANTITY OF INFANTS PER FLIGHT: 20 PERSONS

EXAMPLE

Not for real flights

PAYLOAD (IN CARGO HOLDS) DISTRIBUTION TABLES

CPT 1 (FWD HOLD)

WEIGHT	INDEX	WEIGHT	INDEX
0-76	0	1791-1945	-12
77-233	-1	1946-2101	-13
234-389	-2	2102-2257	-14
390-544	-3	2258-2412	-15
545-700	-4	2413-2568	-16
701-856	-5	2569-2724	-17
857-1011	-6	2725-2879	-18
1012-1167	-7	2880-3035	-19
1168-1323	-8	3036-3191	-20
1324-1478	-9	3192-3346	-21
1479-1634	-10	3347-3420	-22
1635-1790	-11	CPT1: MAX 3402KG	

CPT 3 (AFT HOLD)

WEIGHT	INDEX
0-124	0
125-373	1
374-623	2
624-872	3
873-1121	4
1122-1371	5
1372-1620	6
1621-1869	7
1870-2119	8
2120-2368	9
2369-2426	10
CPT 3: MAX 2426 KG	

CPT 4 (AFT HOLD)

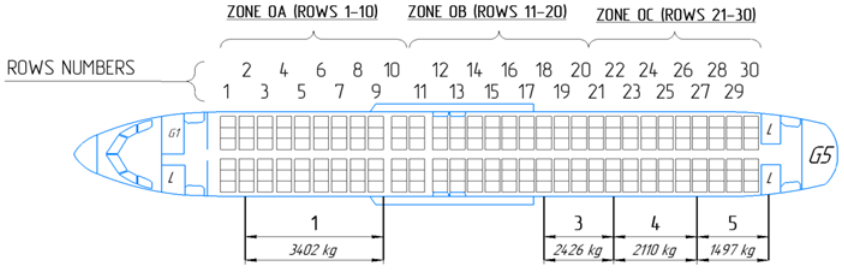
WEIGHT	INDEX
0-67	0
68-202	1
203-337	2
338-472	3
473-607	4
608-742	5
743-877	6
878-1012	7
1013-1147	8
1148-1282	9
1283-1417	10
1418-1552	11
1553-1687	12
1688-1822	13
1823-1957	14
1958-2092	15
2093-2110	16
CPT 4: MAX 2110 KG	

CPT 5 (REAR HOLD)

WEIGHT	INDEX
0-48	0
49-146	1
147-244	2
245-341	3
342-439	4
440-536	5
537-634	6
635-732	7
733-829	8
830-927	9
928-1025	10
1026-1122	11
1123-1220	12
1221-1317	13
1318-1414	14
1415-1460	15
CPT 5: MAX 1460KG	

REMARK: CPT 5 IS LIMITED TO 1460 KG DUE TO THE FKT LOADING

MAX TOTAL WEIGHT OF CPT3 & 4 = 4536KG



Manual Loadsheet template for A321-253NX (UK32131, UK32132)

LOADSHEET A321-253NX	*Applicable for A/C:* UK32131, UK32132	*Rev.* 15.08.2025	Appendix 9.5

CENTRUM-AIR.COM

FROM	TO	ORIGINATOR	FLT. NO.	REGN.	FLIGHT CREW / CABIN CREW	DATE
					/	

ITEM	WEIGHT	INDEX
DRY OPERATING WEIGHT		
ADJUSTMENTS ±		
Centre Tank - BALLAST +		
ADJUSTED DRY =		
OPERATING WEIGHT		
TAKE-OFF FUEL +		
(Ramp Fuel less Taxi Fuel)		
WET OPERATING WEIGHT =		
TOTAL TRAFFIC LOAD		
ADJUSTED DRY +		
OPERATING WEIGHT		
ZERO FUEL WEIGHT =		
Maximum ZFW LMC ±		
75 600 Adjusted LM ZFW		
TAKE-OFF FUEL +		
(Ramp Fuel less Taxi Fuel)		
ACTUAL TAKE-OFF WEIGHT =		
Regulated TOW LMC ±		
97 000 Adjusted TOW		
ESTIMATED TRIP FUEL -		
ESTIM. LANDING WEIGHT =		
Regulated LW LMC ±		
79 200 Adjusted LW		

PRE-TAKE-OFF ALLOWED LOAD CHECK

MAXIMUM WEIGHTS	*MZFW*	*RTOW*	*RLW*
	75 600		79 200
Take-Off Fuel +		Trip Fuel+ →	
MAXIMUM ALLOWED WEIGHT = Lowest of a,b,c	*a*	*b* ↓ 97 000	*c*
Wet Operating Weight -			
Allowed Traffic Load =			
Total Traffic Load -			
Underload Before LMC =			

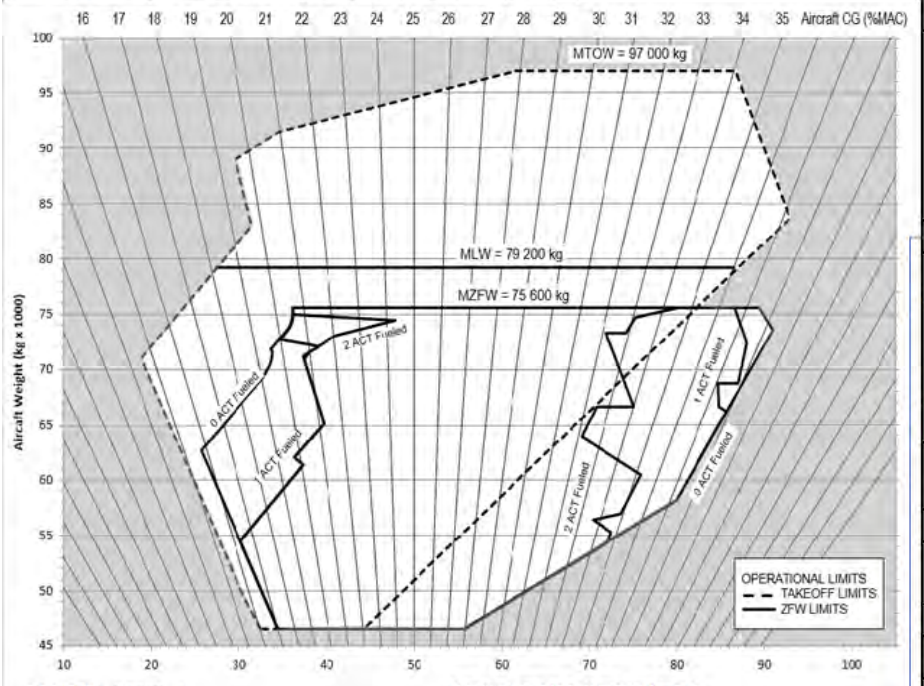
TOTAL TRAFFIC LOAD			WEIGHT	±	INDEX
TOTAL PASSENGERS ►	/	PAX WEIGHT ►			
PAYLOAD IN COMPARTMENTS (BAGGAGE, CARGO, MAIL) ►					
TOTAL TRAFFIC LOAD ►					

PAX DISTRIBUTION: *OA* ► | *OB* ► | *OC* ►

LD HOLDS: 1/ | 2/ | 3/ | 4/ | 5/

LAST MINUTE CHANGES

ITEM	LOCATION	±	WEIGHT	INDEX
Take-Off Fuel LMC				
TOTAL LMC				



MTOW	97000	kg
MZFW	75600	kg
MLW	79200	kg
MFW	46600	kg

STAB TRIM SETTINGS

%MAC	15	16	17	18	19	20	21	22	23	24	25
STAB TRIM	3.67	3.39	3.12	2.84	2.56	2.29	2.01	1.74	1.4	1.19	0.91

%MAC	26	27	28	29	30	31	32	33	34	35	36
STAB TRIM	0.64	0.36	0.09	-0.19	-0.46	-0.74	-1.02	-1.29	-1.57	-1.84	OUT OF LIMIT

WEIGHT/INDEX RESULTS ▼

TAKE-OFF WEIGHT	INDEX
ZERO FUEL WEIGHT	INDEX
LANDING WEIGHT	INDEX

STAB TRIM - REFER TO TABLE BELOW

	BEFORE LMC	*LMC*
STAB TRIM ►		
TOW % MAC ►		►
ZFW % MAC ►		►
LW % MAC ►		►

LOADSHEET ISSUED BY	APPROVED BY
DATE	
SIGNATURE	*SIGNATURE*
NAME	*NAME*
LMC ISSUED BY	LMC APPROVED BY
DATE	
SIGNATURE	*SIGNATURE*
NAME	*NAME*

Manual Trimback (Loadsheet reverse side) template for A321-253NX (UK32131, UK32132)

TRIMBACK PAGE (A321-253NX)

Applicable for A/C: *UK32131, UK32132*

TOTAL FUEL INDEX TABLE			
WT - KG	INDEX	WT - KG	INDEX
0	0	14500	-4.97
1500	-1.7	15000	-5.75
2000	-2.26	15500	-6.53
2500	-2.77	16000	-7.31
3000	-3.27	16500	-7.79
3500	-3.73	17000	-8.88
4000	-4.18	17500	-9.7
4500	-4.59	18000	-10.46
5000	-4.97	18500	-11.42
5500	-5.33	19000	-9.31
6000	-5.67	19500	-7.14
6500	-5.99	20000	-4.98
7000	-6.28	20500	-2.81
7500	-6.48	21000	-0.58
8000	-6.51	21500	2.37
8500	-6.38	22000	5.33
9000	-6.15	22500	8.28
9500	-5.78	23000	11.22
10000	-5.31	23408	13.64
10500	-4.68		
11000	-3.91		
11500	-2.94		
12000	-1.75		
12500	-2.04		
13000	-2.705		
13500	-3.41		
14000	-4.18		

Fuel density: 0.76 - 0.84 kg/l ▲

REFER TO "PAYLOAD CALCULATION SHEET" FOR A321-251N

PAYLOAD DISTRIBUTION

PASSENGERS

LIMIT ▼	ZONE ID ▼	MALE	FEMALE	CHD	INF	WEIGHT	INDEX
72 PAX	ZONE 0A (ROWS 1-12)						
						+	+
72 PAX	ZONE 0B (ROWS 13-24)						
						+	+
72 PAX	ZONE 0C (ROWS 25-36)						
						=	=
	TTL PAX WEIGHT / INDEX ►						

SUM ALL WEIGHTS AND INDEXES FOR CABIN ZONES ▲ ▲

ATTN! MAX 20 INFANTS PER FLIGHT / MAX 216 ADULT OR CHILD PAX

FUEL DISTRIBUTION INFO	
FUEL (LITRES)	TANK(S)
0 - 15380	WING TANKS
15381-23580	WING TANKS + CENTER TANK
23581-26701	WING TANKS + CENTER TANK + + ACT1
26702-29822	WING TANKS + + CENTER TANK + + ACT1 + ACT2

FOR REMARKS & NOTES

FUEL OVER 18510 KG (FUEL DENSITY 0,785) IS UPLIFTED TO ACT 1&2

PAYLOAD IN CARGO HOLDS

LIMIT ▼	ZONE ID ▼	BAG	CARGO	MAIL	EQUIP.	WEIGHT	INDEX
2202	CPT 1						
						+	+
3468	CPT 2						
						+	+
1121	CPT 3						
						+	+
2083	CPT 4						
						+	+
800	CPT 5						
						=	=
	TTL PAYLOAD IN CARGO HOLDS - WEIGHT / INDEX ►						

FWD HOLD
MAX 5670 KG

AFT HOLD
MAX 7004 KG

ACT1+ACT2+CPT3 +CPT4 ≤ 5670 KG	ACT1+ACT2+CPT3-4, -5 ≤ 7004 KG

EXAMPLE

Not for real flights

TRANSFER RESULTS OF CALCULATIONS TO TABLE "TOTAL TRAFFIC LOAD" ON LOADSHEET

FUEL ACT 1	FUEL ACT 2

TTL WEIGHT OF FUEL IN ACT1, ACT 2 & PAYLOAD IN CPT 3, 4, 5 ►	

►

WEIGHT & FUEL RESTRICTIONS

1. Weight of fuel in ACT1 + ACT2 + Payload in CPT 3 + CPT 4 ≤ 5670 kg
2. Weight of fuel in ACT1 & 2 + Payload in CPT 3 + CPT 4 + CPT 5 ≤ 7004 kg

ITEM	WEIGHT	INDEX
50% POTABLE WATER IN WATER TANK	*-100*	*-2*
100% POTABLE WATER IN WATER TANK	*-200*	*-3*
NO CATERING & FWD GALLEY EQUIPMENT OFFLOADED	*-185*	*+3*

ITEM	WEIGHT	INDEX
FURNISHING EQUIPMENT OFFLOADED	*-10*	*0*
FLY AWAY KIT OFFLOADED	*-12*	*0*
NO CATERING & AFT GALLEY EQUIPMENT OFFLOADED	*-204*	*-3*

REFER TO "PAYLOAD CALCULATION SHEET" FOR CATERING, PASSENGER AND CARGO/BAGGAGE WEIGHTS & INDEXES

Payload Calculation Sheet: Passenger Distribution Table for A321-253NX (UK32131, UK32132), page 1 of 2

PAYLOAD CALCULATION SHEET (A321-253NX) - PAGE 1 OF 2

Applicable for A/C: UK32131

REV. № V.5 (02-OCT-24)

M = MALE PASSENGER / F = FEMALE PASSENGER / C = CHILD

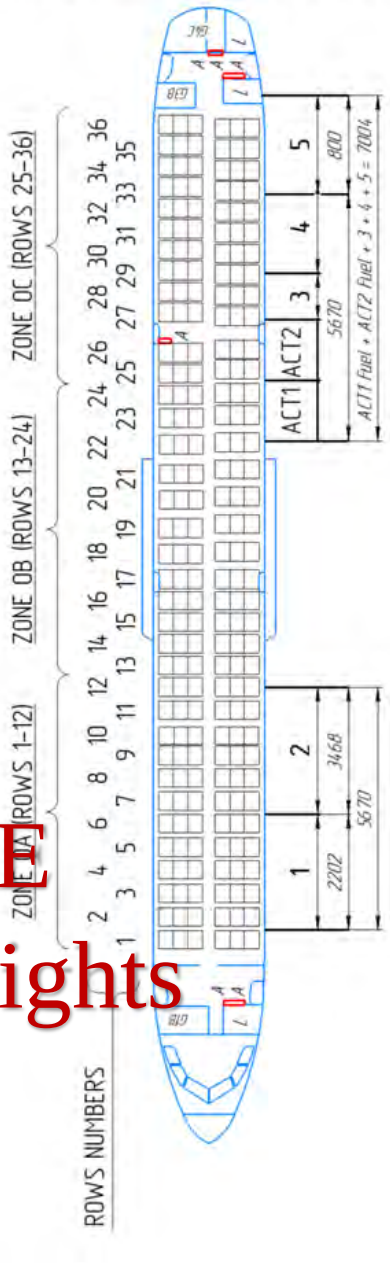
PASSENGERS DISTRIBUTION TABLES

ZONE 0A (ROWS 1-12) INDEXES			
PAX QTY	M	F	C
1-2 PAX	-1	-1	0
3 PAX	-2	-2	-1
4-5 PAX	-4	-3	-2
6-7 PAX	-6	-5	-2
8 PAX	-6	-5	-3
9-10 PAX	-8	-7	-3
11 PAX	-9	-8	-4
12-13 PAX	-10	-9	-4
14 PAX	-11	-10	-5
15-16 PAX	-13	-11	-5
17 PAX	-14	-12	-6
18-19 PAX	-15	-13	-7
20 PAX	-16	-14	-7
21-22 PAX	-18	-15	-8
23-24 PAX	-19	-17	-8
25 PAX	-20	-17	-9
26-27 PAX	-22	-19	-9
28 PAX	-23	-19	-10
29-30 PAX	-24	-21	-10
31-32 PAX	-26	-22	-11
33-34 PAX	-27	-23	-12
35 PAX	-28	-24	-12
36-37 PAX	-30	-25	-13
38 PAX	-31	-26	-13
39-40 PAX	-32	-27	-14
41-42 PAX	-34	-29	-14
43-44 PAX	-35	-30	-15
45-46 PAX	-37	-32	-16
47-48 PAX	-39	-33	-16
49-50 PAX	-40	-34	-17
51-52 PAX	-42	-36	-18
53-54 PAX	-43	-37	-19
55 PAX	-43	-38	-19
57-58 PAX	-45	-40	-20
59-60 PAX	-47	-41	-21
61-62 PAX	-49	-43	-21
63-64 PAX	-50	-44	-22
65-66 PAX	-52	-45	-23
67-68 PAX	-53	-47	-23
69-70 PAX	-55	-48	-24
71-72 PAX	-56	-49	-25
MAX 72 ADULT OR CHILD PLUS 15 INF			

ZONE 0B (ROWS 13-24) INDEXES			
PAX QTY	M	F	C
1-2 PAX	0	0	0
3 PAX	0	0	0
4-5 PAX	0	0	0
6-7 PAX	0	0	0
8 PAX	0	0	0
9-10 PAX	0	0	0
11 PAX	0	0	0
12-13 PAX	-1	0	0
14 PAX	-1	0	0
15-16 PAX	-1	-1	0
17 PAX	-1	-1	0
18-19 PAX	-1	-1	0
20 PAX	-1	-1	0
21-22 PAX	-1	-1	0
23-24 PAX	-1	-1	0
25 PAX	-1	-1	0
26-27 PAX	-1	-1	0
28 PAX	-1	-1	0
29-30 PAX	-1	-1	0
31-32 PAX	-1	-1	-1
33-34 PAX	-1	-1	-1
35 PAX	-1	-1	-1
36-37 PAX	-1	-1	-1
38 PAX	-1	-1	-1
39-40 PAX	-1	-1	-1
41-42 PAX	-2	-1	-1
43-44 PAX	-2	-1	-1
45-46 PAX	-2	-1	-1
47-48 PAX	-2	-2	-1
49-50 PAX	-2	-2	-1
51-52 PAX	-2	-2	-1
53-54 PAX	-2	-2	-1
55-56 PAX	-2	-2	-1
57-58 PAX	-2	-2	-1
59-60 PAX	-2	-2	-1
61-62 PAX	-2	-2	-1
63-64 PAX	-2	-2	-1
65-66 PAX	-2	-2	-1
67-68 PAX	-2	-2	-1
69-70 PAX	-3	-2	-1
71-72 PAX	-3	-2	-1
MAX 72 ADULT OR CHILD PLUS 15 INF			

ZONE 0C (ROWS 25-36) INDEXES			
PAX QTY	M	F	C
1-2 PAX	1	1	0
3 PAX	2	2	1
4-5 PAX	4	3	2
6-7 PAX	6	5	2
8 PAX	6	5	3
9-10 PAX	8	7	3
11 PAX	9	7	4
12-13 PAX	10	9	4
14 PAX	11	10	5
15-16 PAX	13	11	5
17 PAX	14	12	6
18-19 PAX	15	13	6
20 PAX	16	14	7
21-22 PAX	17	15	7
23-24 PAX	19	16	8
25 PAX	20	17	8
26-27 PAX	21	18	9
28 PAX	22	19	10
29-30 PAX	24	20	10
31-32 PAX	25	22	11
33-34 PAX	27	23	12
35 PAX	28	24	12
36-37 PAX	29	25	13
38 PAX	30	26	13
39-40 PAX	32	27	14
41-42 PAX	33	29	14
43-44 PAX	35	30	15
45-46 PAX	37	31	16
47-48 PAX	38	33	16
49-50 PAX	40	34	17
51-52 PAX	41	36	18
53-54 PAX	43	37	18
55-56 PAX	44	38	19
57-58 PAX	46	39	20
59-60 PAX	48	41	20
61-62 PAX	49	42	21
63-64 PAX	51	43	22
65-66 PAX	52	45	22
67-68 PAX	54	46	23
69-70 PAX	56	48	24
71-72 PAX	57	49	24
MAX 72 ADULT OR CHILD PLUS 15 INF			

AIRCRAFT GENERAL LAYOUT



EXAMPLE
Not for real flights

Payload Calculation Sheet: Passenger Distribution Table for A321-253NX (UK32131, UK32132), page 2 of 2

PAYLOAD CALCULATION SHEET (A321-253NX) - PAGE 2 OF 2

Applicable for A/C: UK32131

PAYLOAD DISTRIBUTION TABLES

CPT 1 (FWD HOLD)		CPT 2 (FWD HOLD)		CPT 3 (AFT HOLD)		CPT 4 (AFT HOLD)		CPT 5 (AFT HOLD)	
MAX WEIGHT 2202 KG		MAX WEIGHT 3468 KG		MAX WEIGHT 1121 KG		MAX WEIGHT 2083 KG		MAX WEIGHT 800 KG	
WEIGHT	INDEX	WEIGHT	INDEX	WEIGHT	INDEX	WEIGHT	INDEX	WEIGHT	INDEX
0-130	-1	0-66	0	0-65	0	0-49	0	0-38	0
131-218	-2	67-198	-1	66-197	1	50-148	1	39-116	1
219-305	-3	199-331	-2	198-329	2	149-248	2	117-193	2
306-392	-4	332-463	-3	330-461	3	249-347	3	194-271	3
393-479	-5	464-596	-4	462-593	4	348-446	4	272-348	4
480-567	-6	597-728	-5	594-725	5	447-546	5	349-425	5
568-654	-7	729-861	-6	726-857	6	547-645	6	426-503	6
655-741	-8	862-993	-7	858-989	7	646-744	7	504-580	7
742-828	-9	994-1126	-8	990-1121	8	745-843	8	581-658	8
829-916	-10	1127-1258	-9			844-943	9	659-735	9
917-1003	-11	1259-1390	-10			944-1042	10	736-800	10
1004-1090	-12	1391-1523	-11			1043-1141	11		
1091-1177	-13	1524-1655	-12			1142-1240	12		
1178-1265	-14	1656-1788	-13			1241-1340	13		
1266-1352	-15	1789-1920	-14			1341-1439	14		
1353-1439	-16	1921-2053	-15			1440-1538	15		
1440-1527	-17	2054-2185	-16			1539-1638	16		
1528-1614	-18	2186-2317	-17			1639-1737	17		
1615-1701	-19	2318-2450	-18			1738-1836	18		
1702-1788	-20	2451-2583	-19			1837-1935	19		
1789-1876	-21	2584-2715	-20			1936-2035	20		
1877-1963	-22	2716-2848	-21			2036-2033	21		
1964-2050	-23	2849-2980	-22						
2051-2137	-24	2981-3113	-23						
2138-2202	-25	3114-3245	-24						
		3246-3378	-25						
		3379-3468	-26						

EXAMPLE
Not for real flights

ATTENTION!

FOR NOTES AND REMARKS

WEIGHT OF PAYLOAD IN FWD HOLD MUST BE
≤ ***5670*** *KG*

WEIGHT OF FUEL IN ACT1 & 2, PAYLOAD IN CPT 3 + CPT 4 MUST BE
≤ ***5670*** *KG*

WEIGHT OF FUEL IN ACT1 & 2, PAYLOAD IN CPT 3 + CPT 4 + CPT 5 MUST BE
≤ ***7004*** *KG*

MAX LOAD OF SECTION 5 IS LIMITED BY 250 KG IF SECTIONS 3 & 4 ARE NOT LOADED 75% OR MORE

Loadsheet template for A321-253NX (UK32131), generated by DCS NAVBLU

LOADSHEET
ALL WEIGHTS IN KILOGRAMS 1

2 CHECKED A. IVANOV

3 APPROVED I. ALEKSEEV

EDNO 1 4

FROM/TO	FLIGHT	A/C REG	VERSION	CREW	DATE	TIME
OEJN UTTT 5	MFX3322 6	UK32130 7	8	2/5 9	11NOV24 10	2026 11

	WEIGHT	DISTRIBUTION		
LOAD IN COMPARTMENTS 12	4259	CP1/1200	CP2/659	CP3/1200
		CP4/1200 13	CP5/0	
PASSENGER/CABIN BAG 14	17270	15 215/2/1		TTL 218 16

TOTAL TRAFFIC LOAD	21529 17				
DRY OPERATING WEIGHT 18	52038				
ZERO FUEL WEIGHT ACTUAL	73567 19	MAX 75600 20			ADJ
TAKE OFF FUEL 21	15500				
TAKE OFF WEIGHT ACTUAL	89067 22	MAX 93500 20			ADJ
TRIP FUEL 23	11189				
LANDING WEIGHT ACTUAL	77878 24	MAX 79200 20		L	ADJ

BALANCE AND SEATING CONDITIONS

DOI 49.24 25
LIZFW 63 LITOW 56 26
LILAW 59 27
MACZFW 29.4 MACTOW 26.6 28
MACLAW 27.8 29
STAB TO 0.5 NOSE UP 30
TRIM TANK FUEL WEIGHT
UNDERLOAD BEFORE LMC 1322 31

LAST MINUTE CHANGE

DEST	SPEC	CL/CPT	+-	WEIGHT

LMC TOTAL

CAPTAINS INFORMATION/NOTES

CG LIMITS						
	MACTOW	FWD	19.6	AFT	35.6	
	MACZFW	FWD	20.1	AFT	38	32

LOAD MESSAGE BEFORE LMC

CHECKED
A. IVANOV 33

APPROVED
34 I. ALEKSEEV

Loadsheet for A321-253NX (UK32131), generated by DCS NAVBLU

1. Indication of the units of measurement used.
2. Person verified weight and balance computations.
3. Person approved weight and balance computations.
4. Loadsheet edition number.
5. Flight route.
6. Flight number.
7. Aircraft registration number.
8. Aircraft seats configuration.
9. Crew (flight/cabin).
10. Date of flight departure.
11. Time of LDS issuance (UTC).
12. General information about load weight in cargo compartments.
13. Load weight distribution among compartments.
14. General information on the weight of passengers and carry-on baggage.
15. General information on the number and type of passengers (adults/children from 2 to 12 years old/children without a seat).
16. Information on the total number of passengers accepted for carriage.
17. Total weight of payload (loads in cargo compartments + weight of passengers and carry-on baggage located on the aircraft).
18. Dry Operating Weight.
19. Actual Zero Fuel Weight.
20. Limits for MZFW, MTOW, MLW.
21. Take-off Fuel.
22. Actual Take-Off Weight.
23. Trip Fuel (as per CFP).
24. Estimated Landing Weight.
25. DOI.
26. Indices of Actual TOW and Actual ZFW.
27. Index of Estimated LW.
28. Index and % MAC for TOW and ZFW.
29. Index and % MAC for LW.
30. Stabilizer installation angle (Stab Trim).
31. Calculated Underload.
32. Forward and aft weight and balance limits for TOW and ZFW.
33. Person performed weight and balance computations.
34. Person approved weight and balance computations.

Loadsheet template for A321-253NX (UK32131), generated by airport DCS

```
L O A D S H E E T              CHECKED BY              APPROVED      EDNO
ALL WEIGHTS IN KG                1              AROV S.  2     3      4  01F

FROM/TO    FLIGHT     A/C REG    VERSION          9  CREW     10  DATE     TIME
TAS JED    C6321      UK32131    Y216             3/6          11NOV24  2338
  5          6          7                                                11
                                  WEIGHT  8          DISTRIBUTION
LOAD IN COMPARTMENTS  12  2512  2/1000 3/512 4/1000 13
PASSENGER/CABIN BAG   14 17243  78/131/3/1          TTL  213 CAB     0
                                PAX 212  15                16
TOTAL TRAFFIC LOAD          19755 17
DRY OPERATING WEIGHT  18    53648
ZERO FUEL WEIGHT ACTUAL     73403    MAX   75600   L    ADJ
-----------------------------19              20
TAKE OFF FUEL         21    16900
TAKE OFF WEIGHT  ACTUAL     90303    MAX   97000  20    ADJ
-----------------------------22
                      23
TRIP FUEL                   13500
LANDING WEIGHT   ACTUAL     76803    MAX   79200  20    ADJ
-----------------------------24
BALANCE AND SEATING CONDITIONS                  LAST MINUTE CHANGES
DOI       62.08  25                      DEST   SPEC     CL/CPT + - WEIGHT
LIZFW     66.66 MACZFW     30.40
LITOW     57.99 MACTOW     27.10  26                        28
LILAW     63.02 MACLAW     29.03
STAB TO    0.3   TRIM
                  27

CABIN AREA TRIM
SEATING
0A/72 0B/69 0C/71  29

UNDERLOAD BEFORE LMC        2197 30                 LMC TOTAL + -
                                                          28
CAPTAIN INFORMATION/NOTES
* LIZFW LIMITS 22.00 / 80.95 * MACZFW LIMITS 15.89 / 35.04
* LITOW LIMITS 30.84 / 84.13 * MACTOW LIMITS 19.93 / 34.00
* LILAW LIMITS 22.74 / 79.11 * MACLAW LIMITS 16.52 / 34.03  31
```

Loadsheet for A321-253NX (UK32131), generated by airport DCS

1. Indication of the units of measurement used.
2. Person verified weight and balance computations.
3. Person approved weight and balance computations.
4. Loadsheet edition number.
5. Flight route.
6. Flight number.
7. Aircraft registration number.
8. Aircraft seats configuration.
9. Crew (flight/cabin).
10. Date of flight departure.
11. Time of LDS issuance (UTC).
12. General information about load weight in cargo compartments.
13. Load weight distribution among compartments.
14. General information on the weight of passengers and carry-on baggage.
15. General information on the number and type of passengers (adults/children from 2 to 12 years old/children without a seat).
16. Information on the total number of passengers accepted for carriage.
17. Total weight of payload (loads in cargo compartments + weight of passengers and carry-on baggage located on the aircraft).
18. Dry Operating Weight.
19. Actual Zero Fuel Weight.
20. Limits for MZFW, MTOW, MLW.
21. Take-Off Fuel.
22. Actual Take-Off Weight.
23. Trip fuel (as per CFP).
24. Estimated Landing Weight.
25. DOI.
26. Index and % MAC for Actual TOW, ZFW, LW.
27. Stabilizer installation angle (Stab Trim).
28. Calculation of LMC.
29. Passenger location (seats) in the sections of passenger cabin.
30. Calculated Underload.
31. Forward and aft weight and balance limits for TOW and ZFW.

9.12.3 LOADING INSTRUCTION REPORT COMPLETION FOR PASSENGER A319, A320, A321 AIRCRAFTS

1. Fill in the fields ***PREPARED BY*** (who performed the calculation), ***EDNO*** (the number of LIR version in case of re-issuing on this flight), ***FROM*** (from), ***TO*** (to), ***FLIGHT*** (flight number), ***DATE/TIME*** (date and time (UTC).
2. Enter information on the distribution of each type of load (using codes indicated on the form) across the aircraft cargo compartments (*without exceeding the established limits indicated at the bottom of the load plan, for example, TTL MAX 3402 KG*). Specify the total weight of the cargo placed in the compartment in the ***TTL*** field (individually for each compartment). The decision on the distribution of the load among the cargo compartments of the aircraft is made by the loadplanner.
   - ***IMPORTANT!*** *When performing weight and balance of passenger aircraft A319, A320, A321, the cargo compartments of which can be loaded by loose items only, it is necessary to indicate the loading weight of each category of payload (baggage - B, mail - M, cargo - C, equipment - E) in each compartment. The LIR form provides the appropriate fields for this purpose.*
   - ***IMPORTANT!*** *Any A321neo modifications: it is usually possible to place not more than 600 kg in 1 section of the cargo compartment. The number of sections in each compartment is indicated at the bottom of the Loading Instruction Report in WEIGHT LIMITS PER SECTIONS.*
   - ***IMPORTANT!*** *Loading any* ***DG of 1, 3, 5, 8 Classes in aft cargo compartment of A321-251N and A321-253NX is forbidden*** *due to additional fuel tanks (ACT) in this compartment.*
   - ***IMPORTANT!*** *Loading* ***any DG and special cargo to A319-153N cargo compartments is forbidden****.*
   - ***IMPORTANT!*** *Loading of* ***live animals (AVI) to A319, A320, A321 cargo compartments is forbidden*** *due to lack of ventilations and heating.*
3. Ensure the load distribution data on the Loading Instruction Report form and on the Load Sheet match.
4. Submit the LIR form to the handling agent to carry out the loading according to the received instruction, notifying that in case of deviations (for example, the impossibility of placing the load strictly according to the LIR) it must be immediately reported, indicating the actual load distribution among compartments, to the loadplanner.
5. Upon the loading completion, if there are no deviations from the LIR, the correctness of the loading is confirmed by the signatures of the handling agent and the flight crew member (indicating the full names of both employees) in the corresponding fields ***Ground Handling Staff Confirmation*** and ***Flight Crew Confirmation***. In the ***FREE REMARKS*** field, an additional comment from either party can be entered (if necessary).
6. If a deviation from the LIR occurs during the loading process (e.g., the load could not be placed strictly according to the LIR, and part of it was placed in other compartments), the handling agent must report how the load was actually distributed among the compartments. Based on this information, loadplanner must apply applicable changes to the Load Sheet (this can be done by applying the LMC).
7. If the aircraft weight and balance computations are performed not by the flight crew members, loadplanner must be informed immediately, by any possible means, to apply changes to the Load Sheet accordingly.
8. **Aircraft departure without a valid LIR is prohibited**.

Loading Instruction Report template for A320-233 (UK32070)

ALL WEIGHTS IN KG

PREPARED BY ▼ | EDNO ▼

FROM ▼ | TO ▼ | FLIGHT ▼ | A/C REG ▼ | VERSION | DATE/TIME ▼

			UK32070 180Y	

ACTUAL LOADS

CPT 1 (FWD)			CPT 3 (AFT)			CPT 4 (AFT)			CPT 5 (AFT)		
MAX LOAD 3402 KG			MAX LOAD 2426 KG			MAX LOAD 2110 KG			MAX LOAD 1460 KG		
TOTALLY LOADED			TOTALLY LOADED			TOTALLY LOADED			TOTALLY LOADED		
B			B			B			B		
C			C			C			C		
M		KG	M		KG	M		KG	M		KG
E			E			E			E		
TTL			TTL			TTL			TTL		

USE APPROPRIATE CODE FOR LOADING TYPE:

B - baggage, C - cargo, M - mail, E - equipment

EXAMPLE

CPT 1 (FWD)	
TOTALLY LOADED	
B/ 1200 C/100	KG

TOTALLY LOADED TO ALL CPT		
BAGGAGE	0	KG
CARGO	0	KG
MAIL	0	KG
EQUIPMENT	0	KG

ATTENTION, GROUND HANDLING TEAM!

WEIGHT LIMIT PER SECTION MUST BE OBSERVED DURING THE LOADING OF ANY COMPARTMENT.

REFER TO LIMITS BELOW! DO NOT EXCEED LIMITS IN ANY CIRCUMSTANCES!

WEIGHT LIMITS PER SECTIONS IN CPT 1	WEIGHT LIMITS PER SECTIONS IN CPT 3	WEIGHT LIMITS PER SECTIONS IN CPT 4	WEIGHT LIMITS PER SECTIONS IN CPT 5
SECTION 11 - 1045 KG	SECTION 31 - 1301 KG	SECTION 41 - 928 KG	SECTION 51 - 374 KG
SECTION 12 - 1225 KG	SECTION 32 - 1125 KG	SECTION 42 - 1182 KG	SECTION 52 - 353 KG
SECTION 13 - 1132 KG			SECTION 53 - 750 KG
TTL MAX 3402 KG	TTL MAX 2426 KG	TTL MAX 211[illegible] KG	TTL MAX 1460 KG

THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH THESE INSTRUCTIONS, AND ALL LOADS

GROUND HANDLING STAFF CONFIRMATION ▼	FLIGHT CREW APPROVED ▼
PRINT NAME:	PRINT NAME:
SIGNATURE:	SIGNATURE:

FREE REMARK (IN CASE OF NEEDS):

EXAMPLE

Not for real flights

Loading Instruction Report template for A321-253NX (UK32131)

MY FREIGHTER CENTRUM-AIR.COM

LOADING INSTRUCTION REPORT (LIR)

REV. № V.5 (02-OCT-24)

ALL WEIGHTS IN KG TRANSFER FIGURE FROM LDS

TTL LOAD ▶ KG

PREPARED BY ▼ ***EDNO ▼***

FROM ▼	TO ▼	FLIGHT ▼	A/C REG ▼	VERSION	DATE/TIME ▼
			UK32131	216Y	

ACTUAL LOADS

CPT 1 (FWD)		CPT 2 (FWD)		CPT 3 (AFT)		CPT 4 (AFT)		CPT 5 (AFT)	
MAX LOAD 2202 KG		MAX LOAD 3468 KG		MAX LOAD 1121 KG		MAX LOAD 2083 KG		MAX LOAD 500 KG	
TOTALLY LOADED		*TOTALLY LOADED*		*TOTALLY LOADED*		*TOTALLY LOADED*		*TOTALLY LOADED*	
B		B		B		B		B	
C		C		C		C		C	
M		M		M		M		M	
E		E		E		E		E	
TTL		*TTL*		*TTL*		*TTL*		*TTL*	

USE APPROPRIATE CODE FOR LOADING TYPE:
B - baggage, C - cargo, M - mail, E - equipment

EXAMPLE

CPT 1 (FWD)	
TOTALLY LOADED	
B/ 1200 C/100	KG

TOTALLY LOADED TO ALL CPT		
BAGGAGE		*KG*
CARGO		*KG*
MAIL		*KG*
EQUIPMENT		*KG*

ATTENTION, GROUND HANDLING TEAM!

WEIGHT LIMIT PER SECTION MUST BE OBSERVED DURING THE LOADING OF ANY COMPARTMENT.

REFER TO LIMITS BELOW! DO NOT EXCEED LIMITS IN ANY CIRCUMSTANCES!

CPT 1 (FWD)	CPT 2 (FWD)	CPT 3 (AFT)	CPT 4 (AFT)	CPT 5 (AFT)
SECTION 11 - 1013 KG	SECTION 21 - 1189 KG	SECTION 33 - 1121 KG	SECTION 41 - 919 KG	SECTION 51 - 374 KG
SECTION 12 - 1189 KG	SECTION 22 - 1189 KG		SECTION 42 - 1164 KG	SECTION 52 - 187 KG
	SECTION 23 - 1090 KG			SECTION 53 - 411 KG

EXAMPLE

Not for real flights

THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH THESE INSTRUCTIONS, AND ALL LOADS

GROUND HANDLING STAFF CONFIRMATION ▼	*FLIGHT CREW APPROVED ▼*
POSITION:	POSITION:
PRINT NAME:	PRINT NAME:
SIGNATURE:	SIGNATURE:

ANY ITEM HEAVIER 32KG (OR ANY ITEM WHICH CAN SHIFT AND DAMAGE ACT PROTECTION WALL) MUST BE SECURED TO A/C STRUCTURE BY STRAPS AGAINST ACCELERATION 9G. CAPACITY PER ONE STRAP ATTACHED BY HOOKS TO 2 SINGLE STUD FITTINGS IS 400KG.

STRAPS QUANTITY CALCULATION STEPS:

1. MULTIPLY WEIGHT OF ITEM TO 9 (for example, 70 x 9 = 630)
2. DIVIDE RESULT TO 400 (for example, 630 / 400 = 1,575)
3. ROUND UP TO NEAREST FIGURE (for example, 1,575 => 2).
4. TIE-DOWN ITEM AGAINST FWD SHIFT BY THIS AMOUNT OF STRAPS (for this example - 2).

9.12.4 LOADSHEET COMPLETION FOR PASSENGER A330-300 AIRCRAFTS

Reserved until further notice

9.12.5 LOADING INSTRUCTION REPORT COMPLETION FOR PASSENGER A330-300 AIRCRAFTS

Reserved until further notice.

9.12.6 LOADSHEET COMPLETION FOR CARGO BOEING B767-300BCF (-BDSF) AIRCRAFTS

1. Ensure the applicability of Load Sheet form by checking the aircraft number(s) in the field in the center of the form. If Load Sheet form is not applicable (the actual aircraft number does not correspond with the number(s) in the form) – change form for the applicable one.
   IMPORTANT! *For different B767-300BCF aircrafts operated by My Freighter, different Loadsheet forms are adopted due to differences in MTOW limits and balance charts, as well as floor limits that differ for different aircraft modifications.*

2. Fill in the following fields: From, To, Originator, FLT NO. (flight number), REGN. (aircraft number), FLIGHT CREW/CABIN CREW (number of persons), DATE (date of aircraft departure as per UTC).

3. Complete corresponding DOW and DOI data in the ***DRY OPERATING WEIGHT*** field. Use current DOW/DOI data from **AHM560/AHM565** for applicable aircraft registration number and actual total crew on board.

4. Fill in calculated adjustments of DOW/DOI in the ***ADJUSTMENT*** field (if applicable). If there are no corrections in both fields (Weight and Index), set the value to “0”.

5. Enter the value and index of the fuel mass in the center tank in the ***CENTER TANK BALLAST*** field (in case of non-standard refueling, when the center tank is filled with fuel while the wing tanks are not fully filled). For this calculation, use the mass and index values from the corresponding sections of the AHM560 document for the corresponding aircraft. If there are no corrections in both fields (Weight and Index), set the value to “0”.

6. Enter the final DOW and DOI values, taking into account the corrections (if any), in the corresponding fields in the ***ADJUSTED DRY OPERATING WEIGHT*** line. If no DOW/DOI corrections were entered, then duplicate in this line the value that was entered in the ***DRY OPERATING WEIGHT*** line. Duplicate the DOW and DOI values in the corresponding fields in the ***ADJUSTED DRY OPERATING WEIGHT*** line (following the ***TOTAL TRAFFIC LOAD*** line).

7. Calculate the Take-Off Fuel (subtract the fuel required for taxiing from the uplifted fuel value) and enter it in the ***TAKE-OFF FUEL*** line. Duplicate the resulting value in the ***TAKE-OFF FUEL*** line under the ***ZERO FUEL WEIGHT*** line.

8. Using the ***TOTAL FUEL INDEX TABLE*** on the back of the Load Sheet, determine the Take-off Fuel index value (the fuel mass is calculated as the difference between the masses of uplifted fuel (Ramp Fuel) and the mass used for taxiing (Taxi Fuel)). In the case of calculating the index for a fuel mass value that is between two table values of fuel mass (for example, between 7000 and 8000 kg), it is necessary to use the standard rules of mathematical rounding.

9. Sum up DOW and Take-off Fuel values, sum up their indexes and fill in the results into corresponding fields in the ***WET OPERATING WEIGHT*** line.

10. Fill in ***WET OPERATING WEIGHT*** value into corresponding fields of ***PRE-TAKE-OFF ALLOWED LOAD CHECK*** section in the right side of the Load Sheet form.

11. Transfer the calculated total weight and index values from the **Loading Instruction Report (LIR)** form to the appropriate field of the Loadsheet.
Refer to ***Section 9.12.7 Part 9 GOCHM.***

12. Calculate the limiting weight in ***PRE-TAKE-OFF ALLOWED LOAD CHECK*** section:
    - Enter the Take-Off Fuel weight value in the corresponding field in the MZFW column;
    - Enter the Trip Fuel weight value in the corresponding field in the RLW column;
    - Calculate the sum of the MZFW weight and the Take-Off Fuel weight, enter the resulting value in the ***Lowest of a, b, c*** line in the MZFW column;
    - Calculate the sum of the RLW weight and the Trip Fuel weight, enter the resulting value in the ***Lowest of a, b, c*** line in the RLW column;
    - Subtract the Wet Operating Weight value from each value in the ***Lowest of a, b, c*** line. Enter the result in each corresponding column in the ***Allowed Traffic Load*** line.
    - Enter in each column the value of the Total Traffic Load weight calculated in step 11.
    - Subtract the Total Traffic Load value from each Allowed Traffic Load value, and enter the result in the corresponding column in the ***Underload Before LMC*** line.
    - Select the lowest result. **If a negative value is obtained in any of the columns, reduce the commercial load** (by partially unloading equipment, mail, cargo, baggage, and, if necessary, partially removing passengers) and recalculate the aircraft weight and balance.
    - Cross out the other two columns with larger ***Underload Before LMC*** values diagonally to confirm that these values are not used in further calculations.

13. Sum the values of the weight and then indices of the ***Adjusted Dry Operating Weight*** and ***Total Traffic Load*** correspondently and enter the obtained values in the corresponding fields in the ***ZERO FUEL WEIGHT*** line. Compare the Zero Fuel Weight value with the Maximum Zero Fuel Weight value. **If the actual value is greater than the maximum, reduce the commercial load** (by partially unloading equipment, mail, cargo, baggage, and, if necessary, by partially removing deadhead crew), recalculate the aircraft weight and balance and issue corrected Loadsheet.

    For B767-300BCF: If ZFW ≥ 133809 kg - ensure that the corresponding minimum quantity of cargo is placed in the lower deck cargo compartments. For this check, use the corresponding ***ZFW vs. Lower Hold Cargo Minimum table*** on the Trimback. If the quantity of cargo in the lower compartments is below the required limit - review the payload and empty ULDs distribution among the cargo compartments in order to achieve the minimum required limit. *Refer to* ***Fig. 9.12.6.1.***

MINIMUM CARGO IN LD	
ZFW	MINIMUM CARGO
133809	0
134000	229
135000	1428
136000	2628
137000	3828
138000	5028
139000	6228
140000	7428
140160	7620

Fig. 9.12.6.1. ZFW vs. Lower Hold Cargo Minimum B767-300BCF Table

14. Sum the values of the weights and indices of ***Take-Off Fuel*** and the value of ***Zero Fuel Weight*** correspondently and enter them in the corresponding fields in the ***ACTUAL TAKE-OFF WEIGHT*** line. Compare the value of Actual Take-Off Weight with the value of Regulated Take-Off Weight. **If the actual value is greater than the maximum, reduce the payload** (by partially unloading equipment, mail, cargo, baggage, if necessary - partially reduce quantity of crew and supernumerary) and recompute the aircraft weight and balance. issue the new **Loadsheet**.

15. Enter ***Estimated Trip Fuel*** value to ***ESTIMATED TRIP FUEL*** line.

16. Subtract the ***Trip Fuel*** weight from the ***Actual Take-Off Weight*** and enter the result in the ***ESTIM. LANDING WEIGHT*** line.

17. Calculate the ***Estim. Landing Weight*** value and enter it in the appropriate field in the ***ESTIM. LANDING WEIGHT*** line:
    - First calculate the mass of the remaining fuel on landing (subtract the weight of ***Trip Fuel*** from the weight of ***Take-Off Fuel***);
    - Using the ***TOTAL FUEL INDEX TABLE*** on the Trimback, determine the value of the remaining fuel index at landing. If calculated index of remaining fuel weight that is between two table values (for example, between 7000 and 8000 kg), it is necessary to use the standard rules of mathematical rounding.
    - Sum the index corresponding to the ***Zero Fuel Weight*** value for the given flight and the index of the remaining fuel at landing, determined from the ***TOTAL FUEL INDEX TABLE*** on the Trimback.

18. Compare the ***Estimated Landing Weight*** value with the ***Regulated Landing Weight*** value. If the actual value is greater than the maximum, reduce the payload (by partially unloading equipment, mail, cargo, baggage, and, if necessary, by partially removing crew and supernumeraries) and recompute the aircraft weight and balance. Issue the new Loadsheet.

19. Enter the corresponding values of weights and indices ***Take-Off Weight, Zero Fuel Weight and Landing Weight*** in the corresponding fields in the ***WEIGHT / INDEX RESULTS*** section.

20. Lay vertical lines on the Load Sheet corresponding to the indices calculated in step 19, using the horizontal scales at the top and bottom of the chart.

21. Lay horizontal lines on the Load Sheet corresponding to the aircraft weights calculated in step 19, using the vertical scales at the sides of the chart. Mark the intersection of the vertical and horizontal lines for calculated estimated aircraft weights.

22. Determine whether the aircraft center of gravity for the estimated ***Take-Off Weight, Zero Fuel Weigh***t and ***Landing Weight*** is within the permitted limits (whether the position of each of the 3 defined intersection points goes beyond the boundaries of Loadsheet established for each of the 3 weights - MTOW, MZFW, MLW). If the permitted boundaries are exceeded, change the position of loads in the aircraft cargo compartments, recalculate the aircraft weight and balance and complete the new **Loadsheet**.
    - **For B767-300BCF aircraft**: with the CG position for Take-Off Weight in the upper zone of the balance chart, in the zone marked with a dotted line (***LIMIT B***) - calculate the MTOW limit on a specific flight related to the lateral imbalance (***CLIM***) and determine the MTOW limit and the corresponding balance according to the additional balance chart on the Trimback. For this purpose, the ***CARGO LATERAL IMBALANCE INFORMATION (CLIM)*** table on page 2 of the LIR must be additionally filled in. ***See Fig. 9.12.6.2***.

- If the aircraft's CG is on or above the dotted line (Limit B), an additional ***CARGO LATERAL IMBALANCE (CLIM)*** check shall be performed:
  a. Calculate Cargo Lateral Imbalance (in kg) for left and right sides of Main Deck and Low Deck (separately for each ULD type according to the Table on Trimback) and fill data to the **CARGO LATERAL IMBALANCE (CLIM) CHECK table** on the page 2 of Loading Instruction Report;
  b. From the relevant table (appendix to LIR), select the floor limit value (kilograms per inch) separately for each ULD size (taking into account the weight of each ULD type) and enter them in the appropriate fields of the ***CARGO LATERAL IMBALANCE (CLIM) CHECK table*** on page 2 of the LIR.
  c. Duplicate the values to ***Cargo Lateral Imbalance (CLIM) check table*** on the Trimback. *Refer to the example below*, ***Fig. 9.12.6.3***.

IMPORTANT! It is forbidden to issue the Loadsheet without lateral imbalance check.

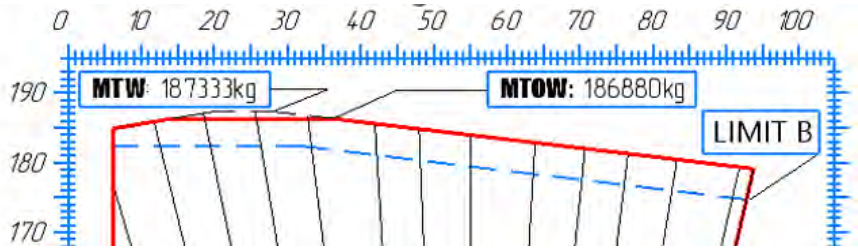


Fig. 9.12.6.2. Example of the upper part of the Loadsheet B767-300BCF

CARGO LATERAL IMBALANCE (CLIM) CHECK					
DECK	SIZE CODE	WEIGHT (kg)	CLIM (kg-in)	WEIGHT (kg)	CLIM (kg-in)
		LEFT (-)		RIGHT (+)	
Lower	K/L	2000	34400		
	A (longit)	2150	8000		
	P	4000	96400	2000	48200
Main	A (longit)	22400	983400	12800	536400
Sub-Total		30550	1122200	14800	584600
			-	15750	537600
			NET CLIM =	15750	537600

Fig. 9.12.6.3. Example of filling Cargo Lateral Imbalance Info (CLIM) table on the Trimback of B767-300BCF

- **For B767-300BDSF (UK67015)**: ensure that when the aircraft **CG is above LIMIT B (in the Grey Shaded Area or Shaded Area)**, the aircraft's lower cargo compartments contain the minimum required amount of cargo/ballast (or the amount of cargo/ballast placed there exceeds the minimum required amount), depending on the actual position of the aircraft's calculated CG at take-off (TOW). *Refer to* ***Fig. 9.12.6.4A***.

TOW vs LD Payload	
Limit	Minimum Payloads, kg
Before Line "Limit B"	*MD: ≤ 57062 LD: 0*
Between lines "Limit B" & "Limit C"	*MD: ≤ 45654 LD: ≥ 11408*
Grey Shaded Zone	*MD: ≤ 40869 LD: ≥ 16193*

Fig. 9.12.6.4A. Table TOW vs Payload B767-300BDSF (UK67015)

- **For B767-300BDSF (UK67019, UK67020, UK67021)**: ensure that when the aircraft **CG is above lines LIMIT F, above LIMIT B, LIMIT C, LIMIT D,** the appropriate conditions of minimum payload in Low Deck holds and lateral fuel imbalance are met. Refer to appropriate table **TOW vs. LD Holds Minimum** on Trimback. ***See Fig. 9.12.6.4B***.

TTL LOADED IN LD HOLDS	
MINIMUM REQUIRED WEIGHT IN LD	
ACTUAL TOW	

TOW vs. LD Holds Minimum	
TOW	LD Holds Minimum
Below Limit B	0
Above Limit B	9979
Above Limit C	19731
Above Limit D	25255

NOTES FOR AUXILLIARY WEIGHT & BALANCE CHART:

1. **IF TOW EXCEEDS LIMIT F:** check actual Fuel Imbalance (max limit is 680 kg).
2. **IF TOW EXCEEDS LIMIT B:** fuel imbalance must be = 0 kg, and minimum payload weight in LD Holds must be 9979 kg.
3. **IF TOW EXCEEDS LIMIT C:** fuel imbalance must be = 0 kg, and minimum payload weight in LD Holds must be 19731 kg.
4. **IF TOW EXCEEDS LIMIT D:** fuel imbalance must be = 0 kg, and minimum payload weight in LD Holds must be 25255 kg.

Fig. 9.12.6.4B. Table TOW vs Payload B767-300BDSF (UK67019, UK67020, UK67021)

- **For all B767-300BCF (-BDSF)**: if the aircraft CG is above the LIMIT B line, it is necessary to calculate the CG position for takeoff weight (TOW) using the supplementary chart on Trimback:
  a. Draw a horizontal line on the supplementary chart using vertical scales to mark the TOW position.
  b. Draw a vertical line on the supplementary chart using horizontal scales to indicate the position of the TOW index.
  c. Based on the aircraft TOW CG position determined on the chart and the calculated Cargo Lateral Imbalance (CLIM) indicator, determine whether the aircraft TOW CG position exceeds the CLIM limitation. *Refer to **Fig. 9.12.6.5, 9.12.6.6, 9.12.6.7**. For example, the CLIM value for this flight, operated by a B767-300BCF, is defined as 152000, while the TOW and TOW Index values are 185000 and 25 respectively. According to the Trimback supplementary chart, the aircraft's CG is within the permitted limits, just above the line indicating the CLIM limit ≤ 400,000 kg-in. The calculated CLIM value (152000) falls within the "200000" limit, so in this case the flight can be operated with this CG position and CLIM value.*

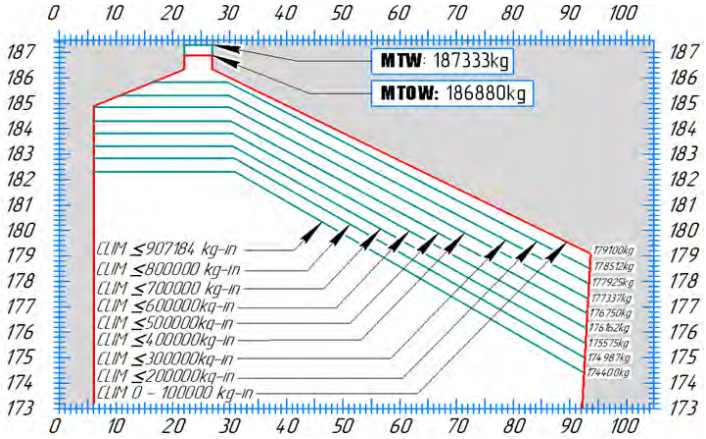


Fig. 9.12.6.5. Supplementary chart on Trimback (reverse side of the Loadsheet) for B767-300BCF

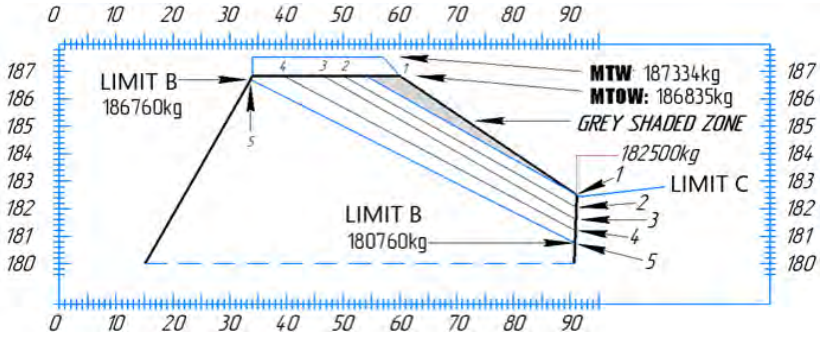


Fig. 9.12.6.6. Supplementary chart on Trimback (reverse side of the Loadsheet) for B767-300BDSF (UK67015)

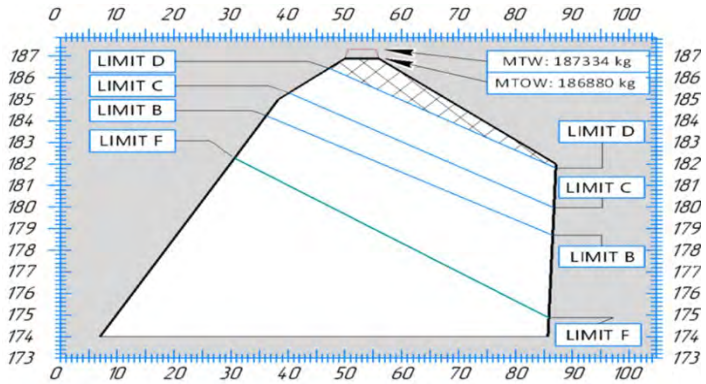


Fig. 9.12.6.7. Supplementary chart on Trimback (reverse side of the Loadsheet) for B767-300BDSF (UK67019, UK67020, UK67021)

23. In accordance with the lines on the graph (each denotes a whole value of % MAC), determine the % MAC values (a tenth of a percent accurate) for TOW, ZFW and ELW - and enter them in the corresponding fields on the right side of the form (TOW % MAC, ZFW % MAC, **LW % MAC**).

24. Using the **Stab Trim** table on the Trimback (all aircraft except UK67019) or on LIR (UK67019 only), determine the stabilizer installation angle value depending on the TOW and TOW % MAC value and enter it in the corresponding Stab Trim field on the lower right side of the Loadsheet. If the calculated Stab Trim value is between two table values (for example, between 25 and 26% MAC, or between two mass values), it is necessary to use the standard rules of mathematical rounding.

STABILIZER TRIM SETTINGS

TOW, kg	% MAC ▼																											
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
91000	3,3	3,1	3	2,8	2,6	2,5	2,25	2,1	2	1,8	1,6	1,5	1,3	1,1	1	0,75	0,6	0,5	0,3									
109000	4,25	4	3,9	3,7	3,5	3,35	3,15	3	2,8	2,6	2,5	2,3	2,1	1,9	1,7	1,5	1,35	1,15	1	0,8	0,6	0,45	0,3					
127000	5,15	5	4,75	4,55	4,35	4,2	4	3,8	3,6	3,5	3,25	3,1	2,85	2,7	2,5	2,3	2,1	1,9	1,7	1,55	1,4	1,15	1	0,75	0,6	0,4	0,25	
145000	6,5	6,3	6,1	5,9	5,7	5,5	5,3	5,1	4,85	4,6	4,45	4,3	4,05	3,85	3,65	3,45	3,25	3,05	2,85	2,65	2,45	2,25	2	1,8	1,6	1,4	1,2	1
163000		7	7	6,5	6,5	6	6	5,5	5,5	5,5	5	5	5	4,5	4,5	4	4	5	5			3		2,5	2,5	2	2	1,5
181000				7	6,85	6,62	6,4	6,2	6	5,77	5,55	5,3	5,13	4,9	4,7	4,5	4,39	4,2	3,97	3,76	3,53	3,3	3,1	2,77	2,55	2,33	2,11	1,92
185000					6,98	6,75	6,55	6,34	6,12	5,9	5,68	5,5	5,25	5,05	4,85													

STAB TRIM VALUES (BASED ON TOW & %MAC) ▲

EXAMPLE
Not for real flights

Fig. 9.12.6.7. Stab Trim Table

25. After Load Sheet finalization, completeness and correctness of data is confirmed by the signatures (indicating the full name of each employee) of the employee who performed weight and balance and PIC, who shall check and accept the results of the calculation.

26. If the weight of the fuel or loads that need to be changed is within 2000 kg, it is allowed to make a ***Last Minute Change (LMC)*** by filling in the corresponding fields of the Load Sheet form.
    - *LMC can only be entered if all three conditions are met simultaneously: the Trip Fuel weight has not changed; the Take-Off Fuel weight has not decreased; weight change does not exceed 2000 kg or the Underload value calculated in step 12.*
    - *If allowed value of Underload/2000 kg, has been exceeded, or the masses of Take-Off Fuel and/or Trip Fuel have changed, a recalculation of the aircraft weight and balance, and issuance of a new Loadsheet is required.*

27. In case of LMC due to a change of loads, the ***LAST MINUTE CHANGES*** section shall indicate:
    - In the ***ITEM*** column - the name of the loads being added or removed (for example, Crewmember, ULD number or bulk loads, etc.);
    - In the ***LOCATION*** column - the location of the added or removed item (for example, Flight Deck for additionally added/removed crew member, position or bulk section compartment on the aircraft for uplifted/unloaded ULD/bulk cargo);
    - Column ±: shall indicate «+» or «-» (depending on whether the item being added or removed);
    - In the ***WEIGHT*** column – the weight of the added or removed item (*for crew member – 100 kg; for cargo, mail, equipment – their actual mass*);
    - In the ***INDEX*** column – calculated index if added/removed item (*index of cargo is calculated as per index tables).*
    - If there is no change in the Take-Off Fuel weight, the value “0” is indicated in the ***WEIGHT*** and ***INDEX*** columns in the corresponding row, and the actual change in the weight and index of the aircraft is indicated in the ***TOTAL LMC*** row.
    - If there is no change in Take-Off Fuel weight, the calculated value of the ***TOTAL LMC*** weight and index are entered into the corresponding fields of the ***LMC lines in the Zero Fuel Weight, Actual Take-Off Weight and Estim. Landing Weight sections***, after that the adjusted values of ZFW, Actual TOW and Estim. Landing Weight and their indices are calculated and then entered into the corresponding fields in the ***Adjusted ZFW, Adjusted TOW and Adjusted LW lines***.
    - After calculating the adjusted ***Actual Take-Off Weight*** and ***Estim. Landing Weight*** values and their indices, the % MAC is recalculated for each weight.

28. When entering LMC due to a change in the Take-Off Fuel weight, the weight and index of the added fuel are indicated in the ***Take-Off Fuel LMC*** and ***TOTAL LMC lines*** of the ***LAST MINUTE CHANGES section***. The index of the added fuel is specified by subtracting the index of the previous Take-Off Fuel value from the index of the new Take-Off Fuel value (*for example, the original index was -3, the new one is defined as -2, therefore, the index of the additional fuel added will be: (-3) – (-2) = 1*).

If there is no change in load (Take-Off Fuel), the calculated value of the ***TOTAL LMC*** weight and the index are entered into the corresponding fields in the ***LMC*** lines in the ***Zero Fuel Weight, Actual Take-Off Weight*** and ***Estim. Landing Weight*** sections, after which the adjusted values of ***Zero Fuel Weight, Actual Take-Off Weight*** and ***Estim. Landing Weight*** and their indices are calculated and then entered into the corresponding fields in the ***Adjusted ZFW, Adjusted TOW*** and ***Adjusted LW*** lines.

29. When both the load and the fuel are changed simultaneously, the value of change in weight of the load and fuel are summed up; values of their indices are summed up respectively, followed by changes being entered into the corresponding fields in the ***TOTAL LMC*** section:
    - *Change of loads impacts equally Zero Fuel Weight, Take-Off Weight and Landing Weight.*
    - *Change of fueling impacts only Take-Off Weight and Landing Weight.*
    - *The total value of the Last Minute Change weight in any case* ***must not exceed the limit of 2000 kg and the calculated Underload*** *value (if any of the lower values is exceeded, LMC is prohibited). If this value is exceeded, or if any of the conditions specified in the description of step 26 are not met, it is necessary to recalculate the aircraft weight and balance and issue the new Load Sheet.*

30. After LMC (only where the conditions set out in step 26 are met) it shall be confirmed by the signatures (indicating the full name of each employee) of the employee who calculated the LMC and the PIC who checked and accepted the calculation results. Otherwise, it is necessary to issue a new Load Sheet. In case of complex LMC calculations, it is recommended to issue a new Load Sheet to avoid errors.

Loadsheet template for B767-300BCF (-BDSF)

LOADSHEET B767-300BCF	Applicable for A/C: 1 UK67009			Rev. № 2 Rev. 19 (24-OCT-24)		Appendix 10.8
FROM	TO	ORIGINATOR	FLT. NO.	REGN.	CREW & APS	DATE
LOADSHEET B767-300BCF MY FREIGHTER 3	4	5	6	7	/ 8	9

ITEM	WEIGHT	INDEX
DRY OPERATING WEIGHT	10	
ADJUSTMENTS ±	11	
Centre Tank - BALLAST +	12	
ADJUSTED DRY OPERATING WEIGHT =	13	
TAKE-OFF FUEL + (Ramp Fuel less Taxi Fuel)	14	
WET OPERATING WEIGHT =	15	
TOTAL TRAFFIC LOAD	16	
ADJUSTED DRY OPERATING WEIGHT +	13	
ZERO FUEL WEIGHT =	17	
Maximum ZFW LMC ±	18	
140 160 Adjusted LM ZFW	19	
TAKE-OFF FUEL + (Ramp Fuel less Taxi Fuel)	14	
ACTUAL TAKE-OFF WEIGHT =	20	
Regulated TOW LMC ±	18	
21 Adjusted TOW	19	
ESTIMATED TRIP FUEL	22	
ESTIM. LANDING WEIGHT =	23	
Regulated LW LMC ±	18	
24 Adjusted LW	19	

PRE-TAKE-OFF ALLOWED LOAD CHECK			
MAXIMUM WEIGHTS	MZFW	RTOW	RLW
	140160		
Take-Off Fuel +	14	Trip Fuel+ →	22
MAXIMUM ALLOWED WEIGHT	a	b	c
Lowest of a,b,c =	25	26	27
Wet Operating Weight -	15	15	15
Allowed Traffic Load =	28	28	28
Total Traffic Load -	16	16	16
Underload Before LMC =	29	29	29

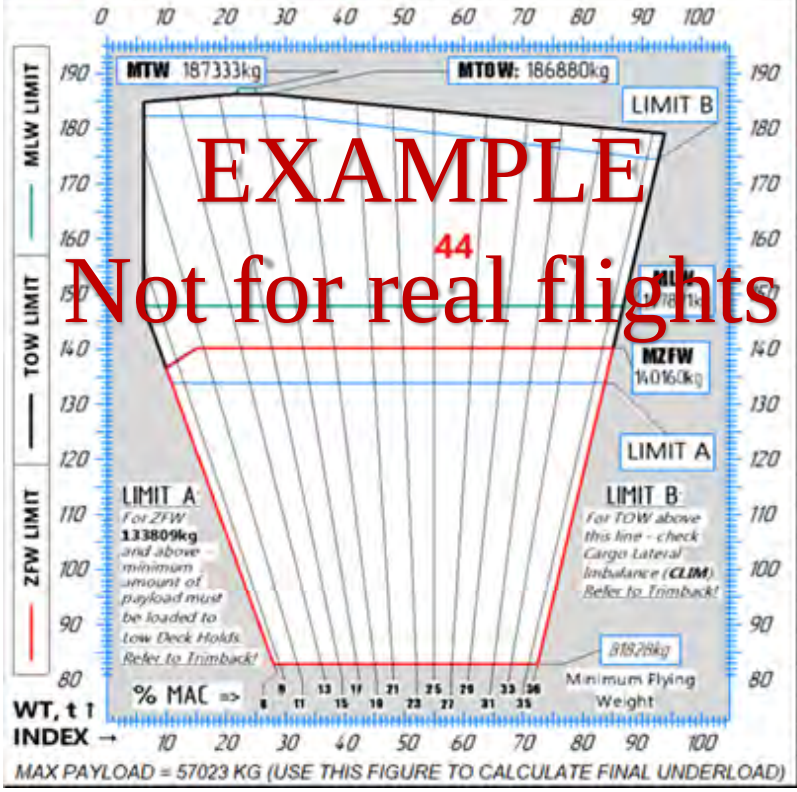
LAST MINUTE CHANGES

PAYLOAD / ACM CHANGES ▼

ITEM	LOCATION	±	WEIGHT	INDEX
30			31	

TAKE-OFF FUEL CHANGES ▼

Take-Off Fuel LMC	32	
TOTAL LMC (PAYLOAD/ACM + TAKE-OFF FUEL CHANGES) ►	33	



NOTES

TAKE-OFF WEIGHT	INDEX
34	

ZERO FUEL WEIGHT	INDEX
35	

STAB TRIM - REFER TO TRIM CHART

		LMC
STAB TRIM	38	39
ZFW % MAC	36	
TOW % MAC	37	

LOADING CERTIFICATE

CONFIRM LOADING	CONFIRM LMC
DATE	DATE
SIGNATURE 40	SIGNATURE 41
NAME	NAME

CAPTAIN'S CERTIFICATE

CONFIRM LOADING	CONFIRM LMC
DATE	DATE
SIGNATURE 42	SIGNATURE 43
NAME	NAME

EXAMPLE 44 Not for real flights

Loadsheet content for freighter aircraft B767-300BCF (-BDSF)

1. Applicability of the document (for which registration numbers it is valid).
2. Loadsheet date and number of edition.
3. Code of airport of departure.
4. Code of airport of arrival.
5. Name of person performed weight and balance computations.
6. Flight Number.
7. Aircraft registration number.
8. Total number of crew and supernumeraries.
9. Date of departure (as per UTC).
10. Dry Operating Weight and its index.
11. Adjustment (if applicable) – weight and index.
12. Ballast fuel in central tank (if any).
13. Adjusted Dry Operational Weight and index (if no Adjustment done and there is no ballast fuel in central tank, it is equal to DOW/DOI).
14. Take-off Fuel weight (Regulated Take-off Fuel minus Taxi Fuel) and its index.
15. Aircraft Wet Operating Weight (with fuel but without payload) and its index.
16. Total Payload and its index (if applicable).
17. Zero Fuel Weight and its index.
18. LMC weight and index.
19. Adjusted weight and index after LMC.
20. Actual Take-Off Weight.
21. Maximum Take-Off Weight (RTOW or MTOW).
22. Estimated Trip Fuel (as per CFP).
23. Estimated Landing Weight.
24. Maximum Landing Weight (RLW or MLW).
25. Maximum Calculated Weight of “MZFW + Take-Off Fuel”.
26. Maximum Regulated Take-Off Weight (MTOW or RTOW).
27. Maximum Calculated Weight of “RLW + Trip Fuel”.
28. Allowed Traffic Load calculated as m the difference between Max Allowed Weight and Wet Operating Weight.
29. Allowed Underload.
30. LMC items types and locations.
31. LMC items weights and indces.
32. Take-off Fuel LMC weight and index.
33. Total LMC (Payload/ACM + Take-off Fuel) weight and index.
34. Actual Take-off Weight and index.
35. Actual Zero Fuel Weight and index.
36. ZFW % MAC.
37. TOW % MAC.
38. Calculated Stab Trim.
39. Stab Trim, ZFW % MAC, TOW % MAC in case of LMC.
40. Name and Signature of a person performing the weight and balance computations and date of computations.
41. Name and Signature of a person confirming LMC and date of LMC.
42. Name and Signature of a PIC confirming weight and balance computations and date of confirmation.
43. Name and Signature of a PIC confirming LMC and date of LMC confirmation.
44. Weight and balance chart (“Envelope”).

Trimback template for cargo B767-300BCF

TRIMBACK PAGE (B767-300BCF)

TOTAL FUEL INDEX TABLE

WT - KG	INDEX	WT - KG	INDEX	WT - KG	INDEX
1000	0	36000	11	56000	-3
2000	-1	37000	12	57000	-4
4000	-2	38000	11	58000	-5
8000	-3	39000	11	59000	-6
14000	-4	40000	10	61000	-7
20000	-3	41000	9	62000	-8
23000	-2	42000	8	63000	-9
25000	-1	43000	7	64000	-10
27000	0	45000	6	66000	-11
28000	1	46000	5	67000	-12
29000	2	47000	4	68000	-13
30000	3	48000	3	69000	-14
31000	4	50000	2	70000	-15
32000	5	51000	1	71000	-16
33000	6	52000	0	72000	-17
34000	8	53000	-1	72709	-18
35000	10	54000	-2	76924 *	-19

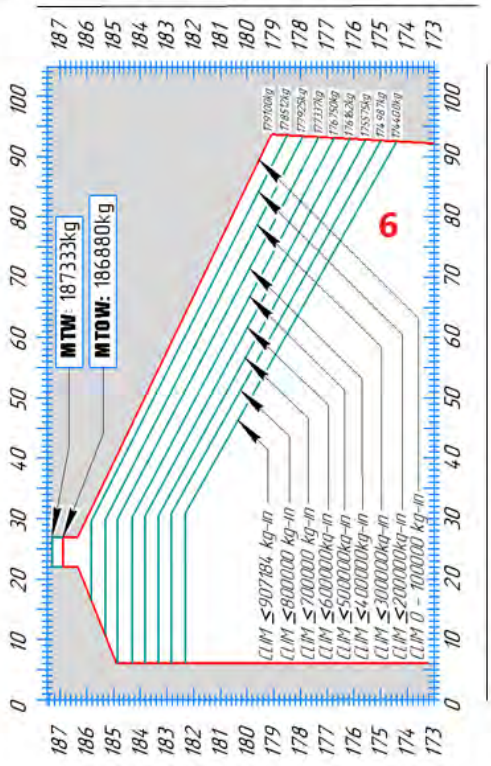
1

* Max weight (density 0,8507 kg/l)

TOW LIMITS										
CLIM (kg-in)	0-100000	≤200000	≤300000	≤400000	≤500000	≤600000	≤700000	≤800000	907184
Max Allowed TOW (kg) *	186333	185836	185337	184838	184339	183840	183341	182842	182344

3

TOW may be further restricted by A/C CoG & RTOW



CARGO LATERAL IMBALANCE (CLIM) CHECK

DECK	SIZE CODE	WEIGHT (kg)	CLIM (kg-in)	WEIGHT (kg)	CLIM (kg-in)
		LEFT (-)		RIGHT (+)	
Lower	K/L (AKE)				
	A (longit)				
	P (DPE)	2			
Main	A (longit)				
Sub-Total ▶					
REMARK: count only pos. A2-A12 on M/D		DIFFERENCE ▶ WEIGHT/CLIM LEFT&RIGHT SIDES			

DEFINE TAKE-OFF LIMIT REDUCTION BAZED TO TABLE "TOW LIMIT"

WEIGHT	CLIM LOWER HOLDS		
	K, L	P	88"
500 4	8600	12050	2000
1000	17200	24100	4000
1500	25800	36150	6000
2000	34400	48200	8000
2500	43000	60250	10000
3000	51600	72300	12000
3500	60200	84350	14000
4000	68800	96400	16000
4500	77400	108450	18000
5000	86000	120500	20000
5500	94600	132550	22000
6000	103200	144600	24000
6500	111800	156650	26000
7000	120400	168700	28000
7500	129000	180750	30000
8000	137600	192800	32000
8500	146200	204850	34000
9000	154800	216900	36000
9500	163400	228950	38000
10000	172000	241000	40000
10500	180600	253050	42000
11000	189200	265100	44000
11500	197800	277150	46000
12000	206400	289200	48000
12500	215000	301250	50000
13000	223600	31300	52000
13500	232200	325350	54000
14000	240800	337400	56000
14500	249400	349450	58000
15000	258000	361500	60000
15500	266600	373550	62000
16000	275200	385600	64000
16500	283800	397650	66000
17000	292400	409700	68000
17500	301000	421750	70000
18000	309600	433800	72000
18500	318200	445850	74000
19000	326800	457900	76000
19500	335400	469950	78000
20000	344000	482000	80000

WEIGHT	CLIM MAIN DECK
	88"
2000 5	89400
4000	178800
6000	268200
8000	357600
10000	447000
12000	536400
14000	625800
16000	715200
18000	804600
20000	894000
22000	983400
24000	1072800
26000	1162200
28000	1251600
30000	1341000
32000	1430400
34000	1519800
36000	1609200
38000	1698600
40000	1788000
42000	1877400
44000	1966800
46000	2056200
48000	2145600
50000	2235000
52000	2324400
54000	2413800
56000	2503200

ZFW vs. LD Holds Minimum	
ZFW	LD Holds Minimum
133809	0
134000	229
135000 7	1428
136000	2628
137000	3828
138000	4428
139000	5628
140000	7428
140160	7620

EXAMPLE
Not for real flights

Trimback content for cargo B767-300BCF

1. Total Fuel Index Table.
2. Cargo Lateral Imbalance (CLIM) check Table.
3. TOW LIMITS Table for determining the dependence of aircraft Take-Off Weight limitations in case of a large lateral imbalance value (CLIM).
4. Tables for manual CLIM calculation for ULDs located in Lower Holds.
5. Tables for manual CLIM calculation for ULDs located on Main Deck.
6. Supplementary weight and balance chart.
7. ZFW vs. LD Holds Minimum Table.

Trimback template for cargo B767-300BDSF (UK67015)

TRIMBACK PAGE (B767-300BDSF)

TOTAL FUEL INDEX TABLE

WT - KG	INDEX	WT - KG	INDEX	WT - KG	INDEX
1000	0	36000	11	56000	-3
2000	-1	37000	12	57000	-4
4000	-2	38000	11	58000	-5
8000	-3	39000	11	59000	-6
14000	-4	40000	10	61000	-7
20000	-3	41000	9	62000	-8
23000	-2	42000	8	63000	-9
25000	-1	43000	7	64000	-10
27000	0	45000	6	66000	-11
28000	1	46000	5	67000	-12
29000	2	47000	4	68000	-13
30000	3	48000	3	69000	-14
31000	4	50000	2	70000	-15
32000	5	51000	1	71000	-16
33000	6	52000	0	72000	-17
34000	8	53000	-1	72709	-18
35000	10	54000	-2	76924 *	-19

1

* *Max weight (density 0,8507 kg/l)*

CARGO LATERAL IMBALANCE (CLIM) CHECK

DECK	SIZE CODE	WEIGHT (kg)	CLIM (kg-in)	WEIGHT (kg)	CLIM (kg-in)
		LEFT (-)		RIGHT (+)	
Lower	K/L (AKE)				
	A (longit)				
	P (DPE)				
Main	A (longit)		2		
Sub-Total ▶					
REMARK: count only pos. A2-A12 on M/D		DIFFERENCE ▶ WEIGHT/CLIM LEFT&RIGHT SIDES			

DEFINE TAKE-OFF LIMIT REDUCTION BAZED TO TABLE "TOW LIMIT"

TOW LIMITS ID	CLIM (kg-in)	Max Allowed TOW
1	0-167828	186835
2	167828 - 335659	186835
3	335660 - 503488	186835
4	503489 - 671317	186835
5	> 671317	186760

3

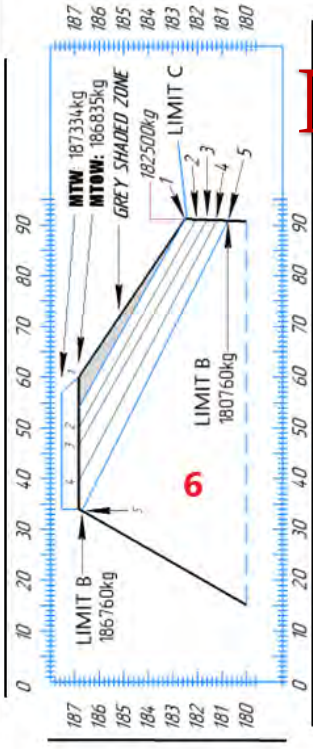
**TOW may be further restricted by A/C CoG & RTOW*

WEIGHT	CLIM LOWER HOLDS SIZE K	SIZE P	SIZE A
500	8600	12050	2000
1000	17200	24100	4000
1500	25800	36150	6000
2000	34400	48200	8000
2500	43000	60250	10000
3000	51600	72300	12000
3500	60200	84350	14000
4000	68800	96400	16000
4500	77400	108450	18000
5000	86000	120500	20000
5500	94600	132550	22000
6000	103200	144600	24000
6500	111800	156650	26000
7000	120400	168700	28000
7500	129000	180750	30000
8000	137600	192800	32000
8500	146200	204850	34000
9000	154800	216900	36000
9500	163400	228950	38000
10000	172000	241000	40000
10500	180600	253050	42000
11000	189200	265100	44000
11500	197800	277150	46000
12000	206400	289200	48000
12500	215000	301250	50000
13000	223600	31300	52000
13500	232200	325350	54000
14000	240800	337400	56000
14500	249400	349450	58000
15000	258000	361500	60000
15500	266600	373550	62000
16000	275200	385600	64000
16500	283800	397650	66000
17000	292400	409700	68000
17500	301000	421750	70000
18000	309600	433800	72000
18500	318200	445850	74000
19000	326800	457900	76000
19500	335400	469950	78000
20000	344000	482000	80000

4

WEIGHT	CLIM MAIN DECK SIZE A (125x88")
2000	89400
4000	178800
6000	268200
8000	357600
10000	447000
12000	536400
14000	625800
16000	715200
18000	804600
20000	894000
22000	983400
24000	1072800
26000	1162200
28000	1251600
30000	1341000
32000	1430400
34000	1519800
36000	1609200
38000	1698600
40000	1788000
42000	1877400
44000	1966800
46000	2056200
48000	2145600
50000	2235000
52000	2324400
54000	2413800
56000	2503200

5



SUPPLEMENTARY TRIMSHEET CHART 7

1. Calculate actual Take-Off Weight and TOW Index.
2. Calculate CARGO LATERAL IMBALANCE (CLIM).
3. Draw appropriate lines for TOW and define actual TOW position (if compared with Lines 1, 2, 3, 4, 5).

A) If actual CLIM is above 671317 kg-in, you must be below Line 5 (Limit B).
B) If actual CLIM is 503489 - 671317, you must be below Line 4.
C) if actual CLIM is 335660 - 503488, you must be below Line 3.
D) if actual CLIM is 167829 - 335659, you must be below Line 2.
E) if actual CLIM is below 167828, you are limited by Line 1 only, but must observe requirements for Limits B & C and Grey Shaded Zone.

TOW vs LD Payload

Limit	Minimum Payloads, kg
Before Line "Limit B"	*MD: ≤ 57062 LD: 0*
Between lines "Limit B" & "Limit C" 8	*MD: ≤ 45654 LD: ≥ 11408*
Grey Shaded Zone	*MD: ≤ 40869 LD: ≥ 16193*

EXAMPLE
Not for real flights

Trimback content for cargo B767-300BDSF (UK67015)

1. Total Fuel Index Table.
2. Cargo Lateral Imbalance (CLIM) check Table.
3. TOW LIMITS Table for determining the dependence of aircraft Take-Off Weight limitations in case of a large lateral imbalance value (CLIM).
4. Tables for manual CLIM calculation for ULDs located in Lower Holds.
5. Tables for manual CLIM calculation for ULDs located on Main Deck.
6. Supplementary weight and balance chart.
7. Instruction to Supplementary weight and balance chart.
8. TOW vs. LD Payload Table.

Trimback template for cargo B767-300BDSF (UK67019, UK67020, UK67021)

TRIMBACK PAGE (B767-300BCF)

TOTAL FUEL INDEX TABLE — 1

WT - KG	INDEX	WT - KG	INDEX	WT - KG	INDEX
1000	-0.43	36000	12.13	56000	-3.77
2000	-0.84	37000	11.49	57000	-4.58
4000	-1.57	38000	10.76	58000	-5.39
8000	-2.63	39000	9.97	59000	-6.21
14000	-3.44	40000	9.17	61000	-7.82
20000	-3.22	41000	8.35	62000	-8.64
23000	-2.06	42000	7.55	63000	-9.45
25000	-1.01	43000	6.75	64000	-10.28
27000	0.39	45000	5.15	66000	-11.97
28000	1.21	46000	4.35	67000	-12.86
29000	2.17	47000	3.54	68000	-13.81
30000	3.2	48000	2.72	69000	-14.81
31000	4.34	50000	1.1	70000	-15.79
32000	5.63	51000	0.29	71000	-16.87
33000	7.07	52000	-0.52	71531	-17.46
34000	8.61	53000	-1.33		
35000	10.34	54000	-2.14		

* Max weight (density 0,8507 kg/l)

CARGO LATERAL IMBALANCE (CLIM) CHECK — 2

DECK	SIZE CODE	WEIGHT (kg)	CLIM (kg-in)	WEIGHT (kg)	CLIM (kg-in)
		LEFT (-)		RIGHT (+)	
Lower	K/L (AKE)				
	A (longit)				
	P (DPE)				
Main	A (longit)				
Sub-Total ▶					
REMARK: count only pos. A2-A12 on M/D. MAX CLIM: 671317		DIFFERENCE ▶ WEIGHT/CLIM LEFT&RIGHT SIDES			

TTL LOADED IN LD HOLDS	
MINIMUM REQUIRED WEIGHT IN LD	5
ACTUAL TOW	

TOW vs. LD Holds Minimum — 4

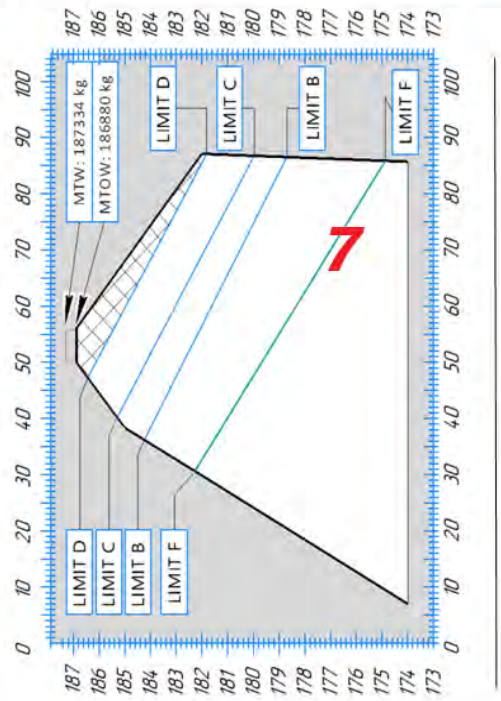
TOW	LD Holds Minimum
Below Limit B	0
Above Limit B	9979
Above Limit C	19731
Above Limit D	25255

CLIM CONSTANTS (ULD W x Constant) — 3

DECK ▼	ULD SIZES ▼ A	K	L	P
LD	4	17,2	17,2	24,1
MD	44,8			

NOTES FOR AUXILLIARY WEIGHT & BALANCE CHART: — 6

1. **IF TOW EXCEEDS LIMIT F:** check actual Fuel Imbalance (max limit is 680 kg).
2. **IF TOW EXCEEDS LIMIT B:** fuel imbalance must be = 0 kg, and minimum payload weight in LD Holds must be 9979 kg.
3. **IF TOW EXCEEDS LIMIT C:** fuel imbalance must be = 0 kg, and minimum payload weight in LD Holds must be 19731 kg.
4. **IF TOW EXCEEDS LIMIT D:** fuel imbalance must be = 0 kg, and minimum payload weight in LD Holds must be 25255 kg.



STAB TRIM SETTINGS — 8

TOW, kg	% MAC ▼ 9	10	11	12	13	14	15	16	17
91000	3,3	3,1	3	2,8	2,6	2,5	2,25	2,1	2
109000	4,25	4	3,9	3,7	3,5	3,35	3,15	3	2,8
127000	5,15	5	4,75	4,55	4,35	4,2	4	3,8	3,6
145000	6,5	6,3	6,1	5,9	5,7	5,5	5,3	5,1	4,9
163000		7	7	6,5	6,5	6	6	5,5	5,5
181000				7	6,85	6,62	6,4	6,2	6
186000					6,98	6,75	6,55	6,3	6,1

TOW, kg	% MAC ▼ 18	19	20	21	22	23	24	25	26
91000	1,8	1,6	1,5	1,3	1,1	1	0,75	0,6	0,5
109000	2,6	2,5	2,3	2,1	1,9	1,7	1,5	1,35	1,15
127000	3,5	3,3	3,1	2,85	2,7	2,5	2,3	2,1	1,9
145000	4,7	4,5	4,3	4,05	3,85	3,65	3,45	3,25	3,05
163000	5,5	5	5	5	4,5	4,5	4	4	3,5
181000	5,77	5,6	5,3	5,13	4,9	4,7	4,5	4,39	4,2
186000	5,9	5,7	5,5	5,25	5,05	4,85			

TOW, kg	% MAC ▼ 27	28	29	30	31	32	33	34	35
91000	0,3								
109000	1	0,8	0,6	0,5	0,3				
127000	1,7	1,6	1,4	1,2	1	0,75	0,6	0,4	
145000	2,9	2,7	2,5	2,3	2	1,8	1,6	1,4	1,2
163000	3,5	3	3	3	2,5	2,5	2	2	2
181000	4	3,8	3,5	3,3	3,1	2,77	2,6	2,3	2,1
186000									

Trimback content for cargo B767-300BDSF (UK67019, UK67020, UK67021)

1. Total Fuel Index Table.
2. Cargo Lateral Imbalance (CLIM) check Table.
3. Multiplicator table for CLIM calculations.
4. “TOW vs. LD Holds minimum” table.
5. Total information about actual TOW, Total weight payload in LD Holds & Minimum required weight in LD for current flight.
6. Notes for Auxiliary Weight & Balance Chart.
7. Auxiliary Weight & Balance Chart
8. Stab Trim Tables.

9.12.7 LOADING INSTRUCTION REPORT COMPLETION FOR BOEING B767-300BCF (-BDSF) AIRCRAFTS

1. Check the field in the upper right corner to ensure the correct aircraft registration number. If the form is intended for another aircraft, it shall be replaced with the current one. Different B767-300BCF (-BDSF) aircraft use different LIR forms (*refer to **Section 9.12.1 Part 9 GOCHM***). **It is forbidden to use LIR from other aircraft under any circumstances!**
2. Complete ***FLT NBR, REG, ORIG, DEST, DATE*** and ***PLANNED BY*** fields in the upper left corner of the Loadsheet as shown in the example below:

MFX2403	UK67009	TAS	SVO	25	APR	A. GREBINIAK
FLT NBR	REG	ORIG	DEST	DATE		PLANNED BY

3. Enter the information about ULDs planned for loading in the corresponding fields of the LIR (for each ULD weight, destination, contour and ULD ID shall be indicated):
   - *Depending on how a particular ULD is planned to be loaded onto the main cargo deck (longitudinally, laterally, on one side of the main cargo deck, or as centerload) – it is necessary to use the corresponding configurations in the aircraft loading plan. Refer to **Section 3.6.3 Part 3 GOCHM**.*
   - *When combining different ULDs configurations (lateral and longitudinal) on the main cargo deck, it is necessary to ensure that there is no physical interference in the placement of ULDs (for example, "overlapping", when two ULDs are planned for the same position).*
   - *Loading limits for aircraft positions and sections specified in the loading plan shall be observed.*
   - *Applicable IMP codes, as well as overhangs and overlaps information on each ULD shall be indicated in the appropriate field under each ULD.*
   - *Reasonable ULD sequence shall be followed when operating a flight with multiple stops en route and unloading ULDs at different airports (refer to **Section 9.6 Part 9 GOCHM**).*

4. Calculate the **Zone Weight** for each zone of the aircraft to check whether the specified limits are exceeded in each zone. *If exceeded, change the load distribution on the aircraft cargo decks to bring it to the specified limits.*
5. **Only for 125x88'' and 125x96'' ULD positions in the forward cargo hold of the lower deck**: check the maximum permissible weight of the ULD (5102 kg corresponds to the maximum permissible weight of the ULD without additional tie-down to the aircraft structure (provided that all locks around the ULD are serviceable); 6928 kg corresponds to the maximum permissible weight of the ULD with additional tie-down to the aircraft structure (provided that all locks around the ULD are serviceable)). On the LIR, circle the limit corresponding to the position (5102 kg or 6928 kg), and cross out the unused limit. **Exceeding the limits specified on the LIR is forbidden!**
6. Calculate and specify **Cumulative Load Limits** for the forward and aft fuselage sections of the aircraft in the appropriate line of the LIR. **Exceeding the limits specified on the LIR is forbidden!**
7. Check the total weight limit for forward and aft lower deck cargo holds in **LD Holds** field. **Exceeding the limits specified on the LIR is forbidden!**
8. Calculate **Zone Index** for each section of the aircraft fuselage, then sum up all the indices and enter the result in the **Total Index** field at the top of the form for each section.

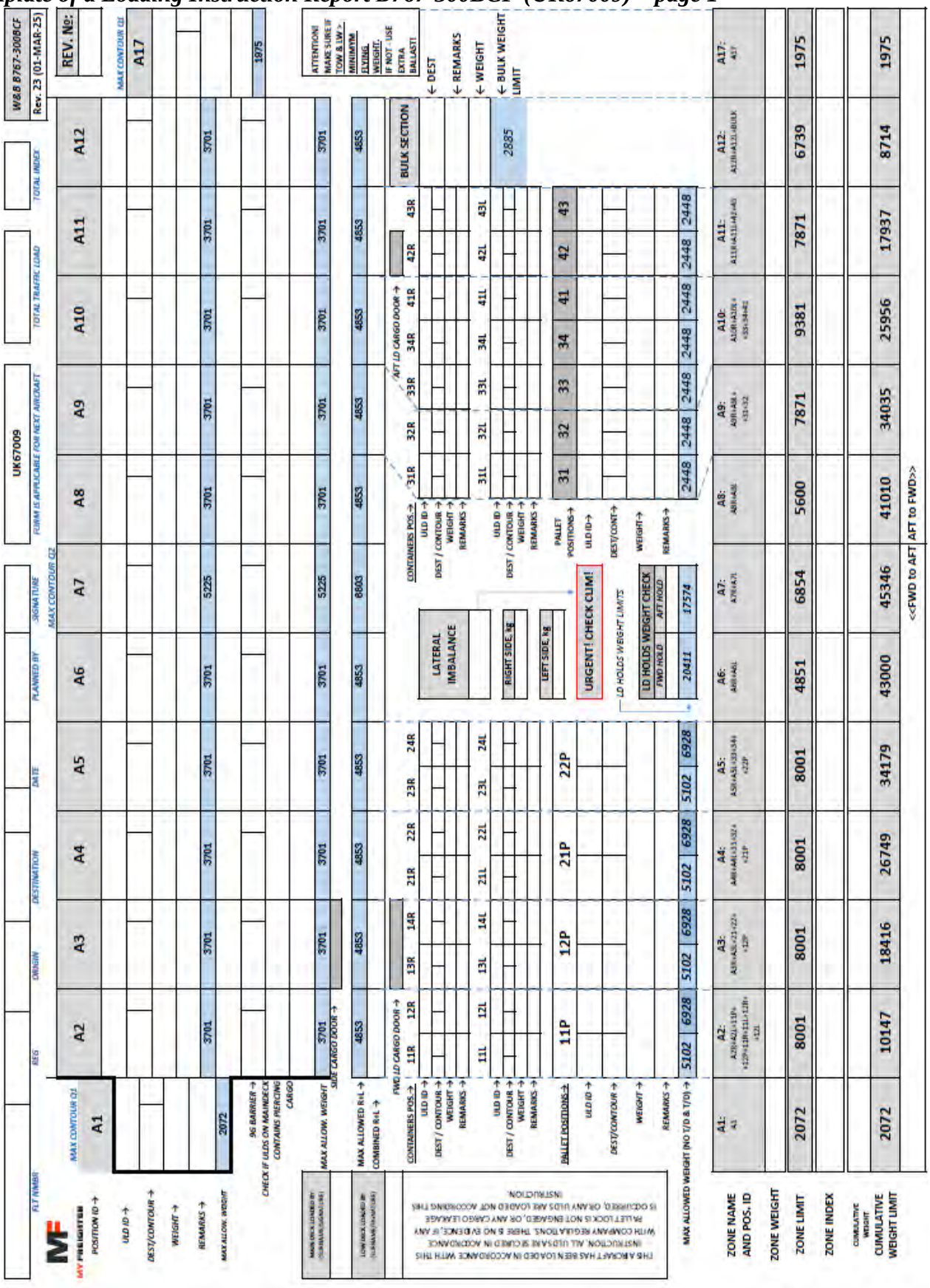
mor

ZONE →	A1		A2		A3	
	WEIGHT	INDEX	WEIGHT	INDEX	WEIGHT	INDEX
	0-148	0	0-81	0	0-112	0
	149-234	-1	82-271	-1	113-337	-1
	235-390	-2	272-453	-2	338-561	-2
	391-545	-3	454-634	-3	562-786	-3
	546-701	-4	635-815	-4	787-1011	-4
	702-857	-5	816-996	-5	1012-1235	-5
	858-1013	-6	997-1178	-6	1236-1460	-6
	1014-1169	-7	1179-1359	-7	1461-1685	-7
	1170-1325	-8	1360-1540	-8	1686-1909	-8

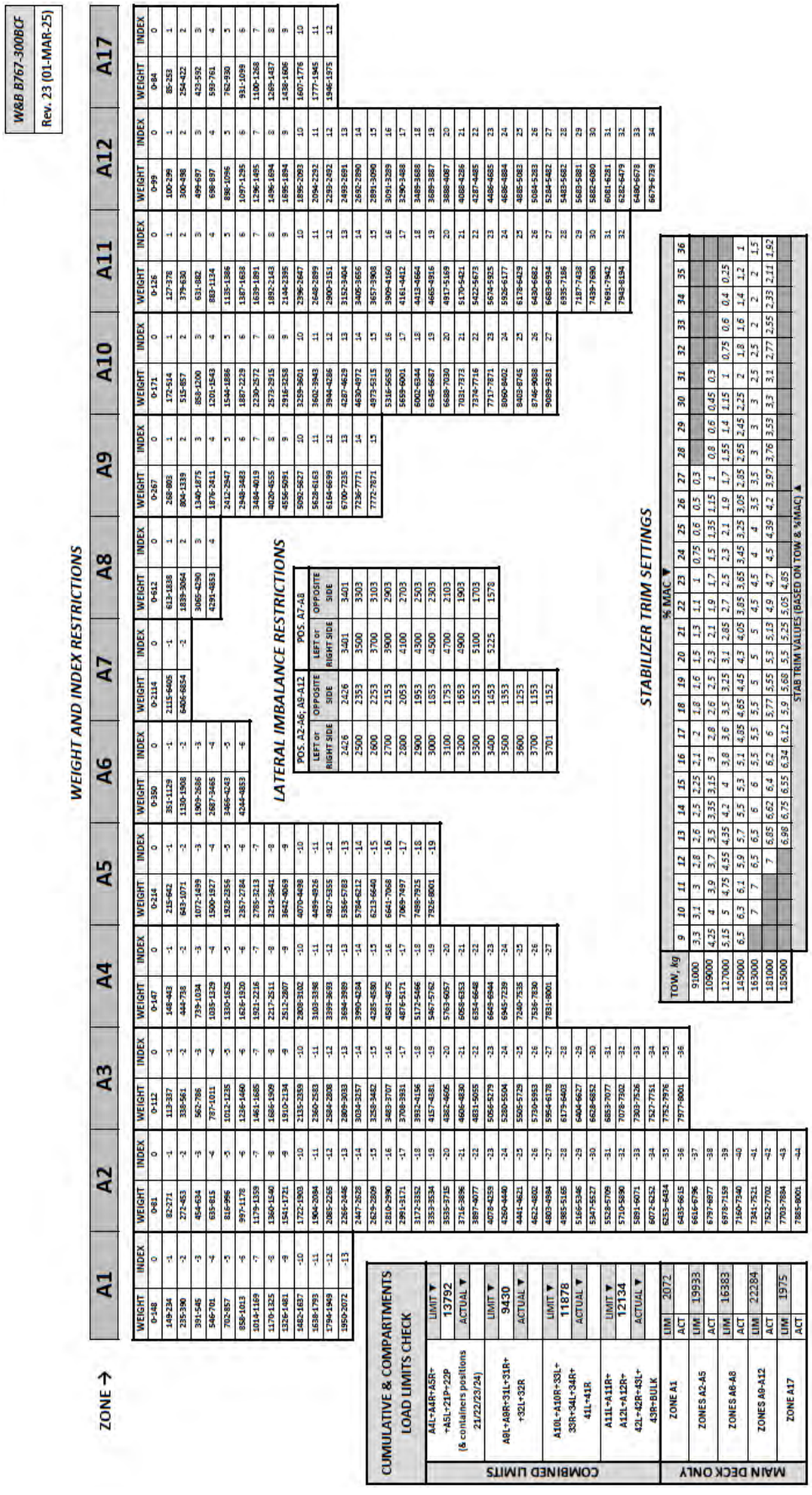
Fig. 9.12.7.1. Correlation of weight and index Table (example)

9. Calculate **Total Payload** by summing up the weights of all ULDs and Bulk section loads, enter the result in the **Total Traffic Load** field at the top of the form.
10. Calculate the lateral imbalance values based on the ULD sizes A, K, L, P on the left and right sides of the aircraft and fill in the **Cargo Lateral Imbalance Information (CLIM)** table on page 2 of the LIR form.
11. Upon completion of the form, it is necessary to sign in the ***Signature of loadplanner*** field under the ***Planned by*** field on page 1 of the LIR form.
12. Upon completion of loading, the persons who loaded the main and lower decks of the aircraft, respectively, shall put signature in the corresponding fields ***Main Deck loaded by*** and ***Lower Deck loaded by*** on page 2 of the LIR form. If this was done by the airline's Loadmaster, two signatures indicating the name shall be put accordingly.

Template of a Loading Instruction Report B767-300BCF (UK67009) – page 1



Template of a Loading Instruction Report B767-300BCF (UK67009) – page 2



9.13 LAST MINUTE CHANGE (LMC) PROCEDURE

The Last Minute Change procedure (amendments to weight and balance in the Loadsheet) is permitted **only in case of changes in the number of crew members/accompanying persons, the payload, or the total fuel**.

- LMC limit for B767-300BCF (-BDSF) – 2000 kg.
- LMC limit for A330-343 – 1000 kg.
- LMC limit for B757-200PCF – 500 kg.
- LMC limit for A319, A320, A321 – 500 kg.

The Last Minute Change procedure **is forbidden in case of Trip Fuel changes or aircraft weight changes above the specified LMC limits**. In either case, **a new Loadsheet must be issued with the correct information**.

Some countries do not accept corrections in Loadsheets – in this case, a document must also be reissued.

When calculating LMC, it is necessary to ensure that the planned change in the aircraft loads/personnel weight does not exceed the **Underload before LMC** value in the MZFW column of the Loadsheet, and Total LMC does not exceed the **Underload before LMC** values in the RTOW and RLW columns.

After calculating LMC, it is necessary to ensure that the new ZFW % MAC and TOW % MAC values are within the Loadsheet limits, reflect them in the corresponding LMC fields, calculate the new Stab Trim and indicate them in the corresponding LMC fields.

It is also necessary to enter the LMC values in the corresponding fields of the form (ZFW, TOW, ELW).

In all cases of applying LMC, it is recommended to reissue the Loadsheet to avoid computation errors.

9.14 REDUCTION OF THE LOADING CAPACITY OF LOCKS AND BAGGAGE NETS IN CASE OF FAILURE/DAMAGE

When preparing a load plan (LIR), the Loadplanner or Loadmaster (person performing weight and balance computations) shall take into account the inoperative and missed locks on ULD positions and damage of bulk nets in the Lower Deck cargo compartments, if any.

One missing/damaged lock reduce the total securing capacity (weight of the ULD that can be secured with the remaining locks). If two or more locks are missing/damaged, it can reduce to zero the securing capacity of the ULD position, either loading change or tie-down to aircraft structure is required.

The failure of one net attachment point reduces the total weight of the load that can be accommodated in this section (or adjacent sections) of the cargo hold. Some net damage may require tie-down of the entire load to the aircraft structure in the specified sections, which is not always feasible due to the configuration of the load and the limited number of tie-down points on the aircraft floor.

Refer to ***Section 2.13 Part 2 GOCHM*** for information about maximum capacity of pallet locks, end stops and side guide rails, as well as cargo nets in the Bulk section of passenger aircraft.

Refer to ***Section 3.9 Part 3 GOCHM*** for information about maximum capacity of pallet locks, end stops and side guide rails, as well as cargo nets in the Bulk section of freighter aircraft.

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PART 10 AIRCRAFT GENERAL SAFETY AND SERVICING OPERATIONS

10.1 RAMP SAFETY IN AIRCRAFT HANDLING

10.1.1 INTRODUCTION

Ramp safety rules and procedures promote safe ground handling.

Aircraft damage can endanger passengers, personnel and aircraft. Disruptions may also negatively impact safe airline operations. Even a slight scratch or dent on an aircraft may result in a serious accident.

Compliance with the ramp safety requirements during ground handling is necessary to prevent injury and death of service personnel and third parties, as well as to avoid damage (and partial or complete destruction) of aircraft.

This chapter contains the minimum requirements and safety rules that must be observed by all personnel working on the apron.

Any aircraft damage discovered or caused shall be reported to the engineering or technical personnel and crew of this aircraft.

10.1.2 GENERAL RAMP SAFETY

Following rules must be strictly observed by all personnel, working on the ramp:

- Employees must not step or stand on the moving belt of belt loader.
- Employees should not stand on the main platform of the highloader during loading/unloading operations.
- Transportation of employees in vehicles or equipment must be carried out properly. No part of the human body shall be outside the structure of the propulsion vehicle.
- Employees should not attempt to exit or enter the vehicle (climb onto the vehicle), or equipment towed by it, pallet carts and other trailers while it is in motion.
- Employees must not use any equipment to move around unless there is a designated area for it.
- Employees normally should not be on the lifting platforms of vehicles while they are moving. *If local airport rules allow to lift staff on these platforms, personnel must follow to standard safety instructions: not move on platform during the lifting, stay in the middle of platform, step accurately to avoid possible falling from the platform.*
- While on any loading and unloading equipment and on board the aircraft, employees should not step on the structural elements of this equipment (for example, PDUs, straps, rollers or wheels) used to move cargo on the platforms (decks) of this equipment (including the aircraft).
- Upon arrival of the aircraft and during its taxiing through the ramp, runways & taxiways, employees should not approach areas close to air intakes of the engines and aft the engines until the aircraft engines are turned off.
- Personnel must not approach an aircraft until its flashing anti-collision beacons have been turned off (*except the trained and qualified staff who shall approach aircraft service area at this stage to connect appropriate equipment (e.g., GPU in case of APU failure/INOP*).
- When releasing the aircraft, employees should not approach the air intakes of the engines and be behind the engines after the aircraft crew turns on the flashing anti-collision beacons. When the crew turns on these beacons, the personnel must immediately leave the aircraft service area and remove the equipment (excluding the chocks under the wheels - until the crew or the head of the towing team instruct accordingly).
- Employees should not interfere with the movement of the aircraft and service equipment in the parking spot.
- Only certified equipment (technical steps or passenger steps, properly installed and fixed close to aircraft) must be used for entry into passenger/service aircraft doors and exit from aircraft (performed in compliance with personal security measures).
- Entry/exit to the cargo compartments of the lower deck of the aircraft is carried out in compliance with personal safety measures only with the help of appropriate devices, such as a belt loader with

stopped belt or a highloader, which are correctly positioned and fixed near the cargo door(s) according to the equipment operational instructions.

- The airport administration must be immediately informed of any foreign object debris (FOD) on the apron in order to clean it and exclude the possibility of damage to aircraft and ground support equipment.
- There should be no foreign object debris (FOD) on the apron that could damage the aircraft during its movement. *Examples of FOD: ladders, catering items, tags, straps, baggage, rubbish, chocks, wooden planks etc.*
- Employees should not stay between ULDs that are transported by vehicles or on pallet dollies.
- Employees should not stay between ULDs on highloader platforms waiting for loading to aircraft or transfer to pallet dollies. Personnel moving between pallet dollies connected into the road train, on which ULDs are located (for example, in order to clarify the ULD number, inspect the pallet tag, cargo, etc.), must be carried out with the utmost care. It is necessary to make sure that the road train does not start moving at the moment when employee is standing between pallet carts while out of sight of the tractor driver.
- It is forbidden to smoke or to use lighters/matches/e-cigarettes airside unless in a designated area defined by the local airport operator/regulator.

10.1.2.1 ENGINE DANGER AREAS

There is a particular risk of injury or damage in areas affected by aircraft engine intakes and exhausts. The risk is further increased if, for any reason, an aircraft stops and then applies additional thrust required to break away and continue its maneuver.

This section contains safety instructions that must be observed when working in the vicinity of running aircraft engines in order to prevent injury to people, damage to other aircraft, equipment and airfield infrastructure (buildings and structures).

Vehicles and personnel shall remain clear of aircraft danger areas when aircraft engines are running and/or the anti-collision lights are on.

To prevent incidents and accidents caused by aircraft engines, personnel shall never position themselves or equipment in the following critical areas before/during aircraft departure and arrival:

1. Engine intake area;
2. Engine blast area.

Danger: Ground personnel and/or equipment shall stay clear of the engine intake and blast areas.

1. Keep a safe distance from the front, side, rear of running engines. These areas are dangerous.
2. It is forbidden to pass through the blast area while the engines are running.
3. Make sure that there are no foreign object debris (FOD) in the areas of intake into the engine inlet and in the areas of exhaust gases. Aprons, taxiways, runways and other areas must be clean and free of foreign objects debris (FOD) to avoid engine, aircraft or personal injury.
4. After the engine is stopped, some parts of the engine may remain hot for up to one hour. Do not touch engine components until they have cooled down.
5. Ensure the engine intake area is clear at all times when engines are running or when the engine is about to start.
6. Make sure the engine inlet area is clear:
   - During the arrival of the aircraft - until the engines are turned off and stopped;
   - During the departure of the aircraft, or immediately before towing;
   - In all other cases, when the engines are running.

Refer to Part 10, Chapter 10.1.2.2 GOCHM for the diagrams of the danger zones around the aircraft engines when the engine is idling, when the engine is running in takeoff mode, when the aircraft starts moving.

CAUTION: If the ground **wind exceeds 25 knots, increase the dangerous suction area by 20%.**

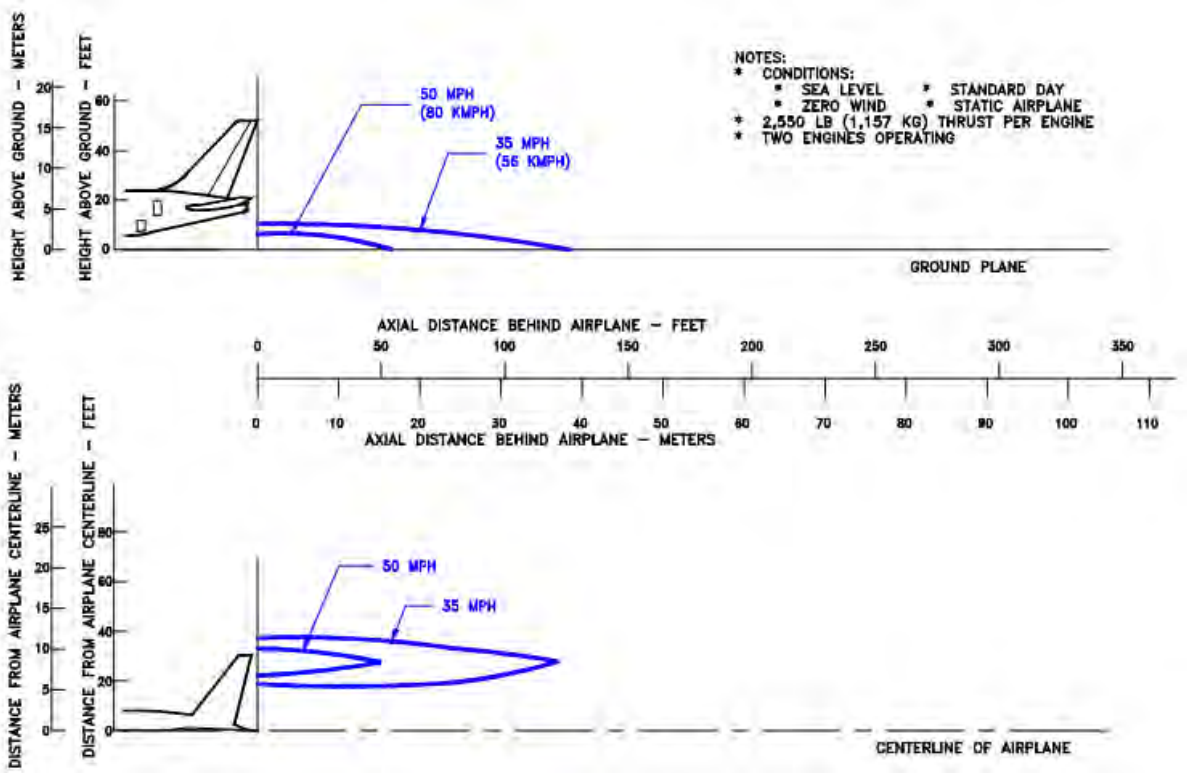
CAUTION: If the apron surface is slippery, it is necessary to apply additional measures in advance to clean it in order to ensure the safety of personnel.

Communication with personnel in the cockpit must be maintained while the engines are running:

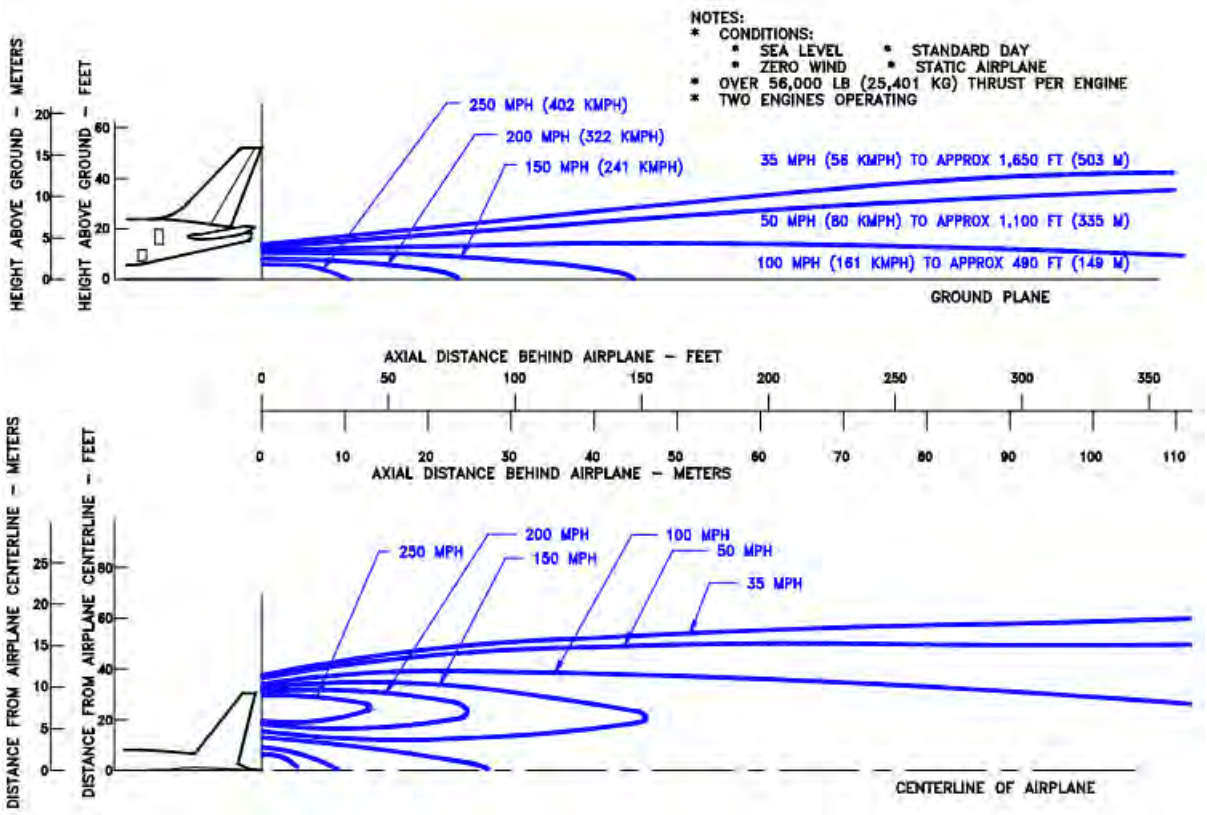
- Via the headset plugged into the appropriate aircraft intercom socket.
- Via the radio.
- Via the hand signals.

Do not use the intercom socket on the nacelle of an engine that is about to be started or is in operation. Personnel may be injured by being sucked into the engine inlet or escaping gases into the jet.

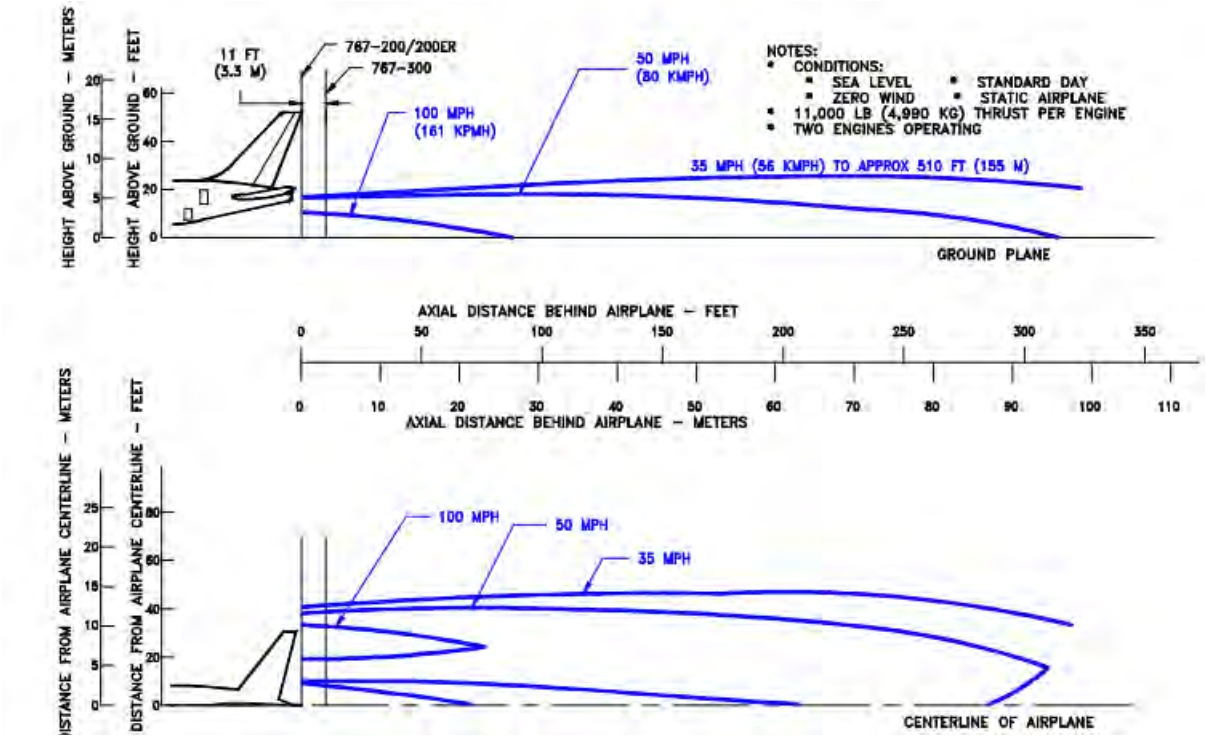
10.1.2.2 ENGINE DANGER AREA DIAGRAMS



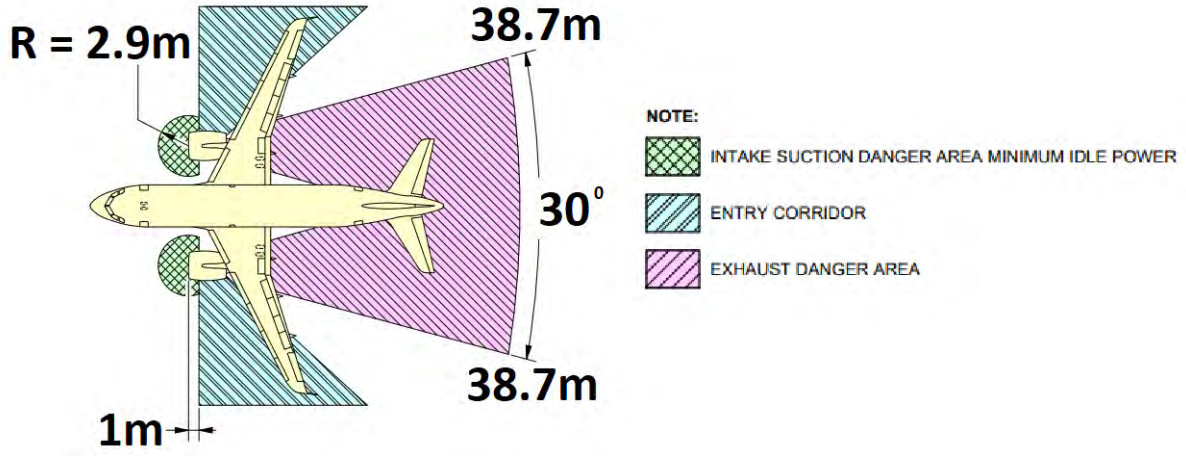
B767-300BCF (-BDSF): Danger Zone at Idle Thrust



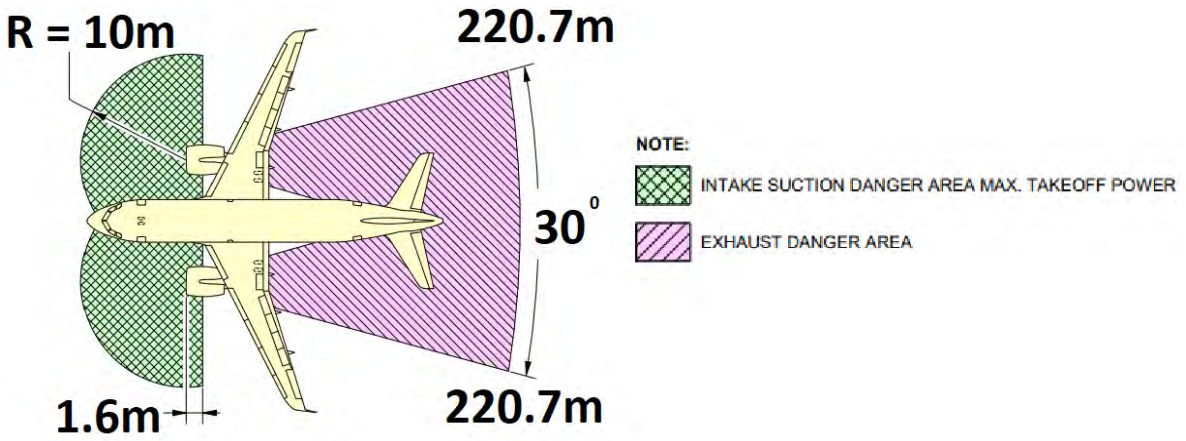
B767-300BCF (-BDSF): Danger Zone at Take-Off Thrust



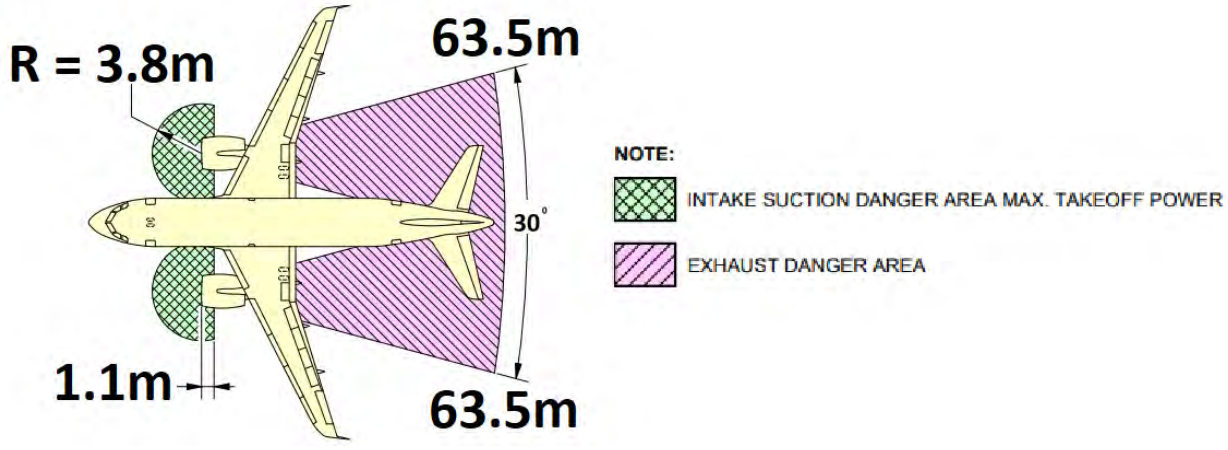
B767-300BCF (-BDSF): Danger Zones at the beginning of the movement of the aircraft



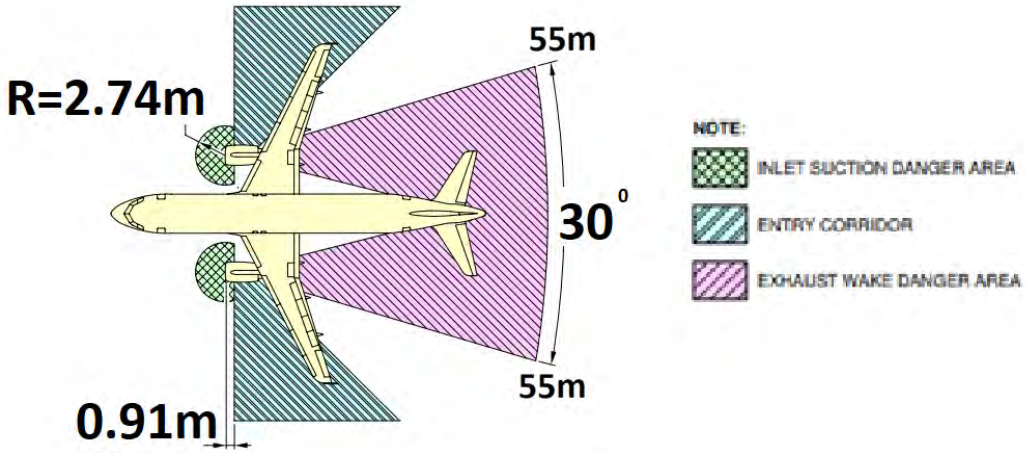
A319-153N: Danger Zones in Idle Thrust



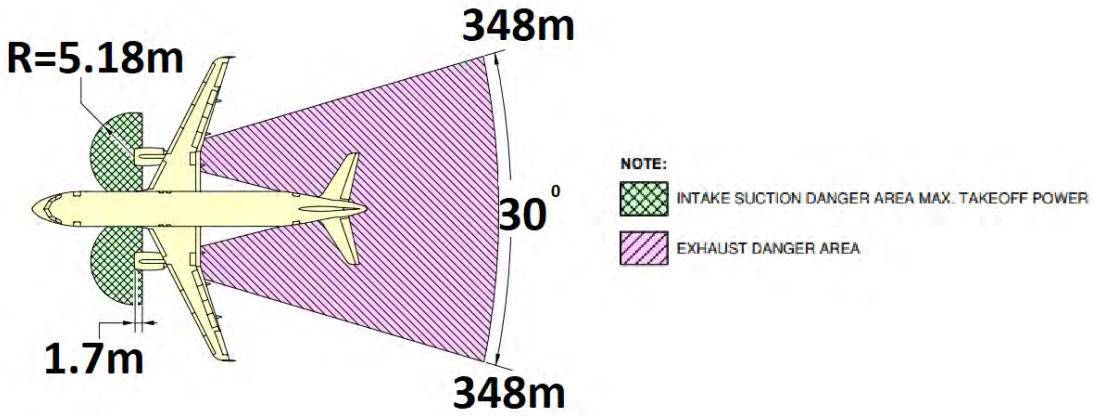
A319-153N: Danger zones during takeoff engine operation



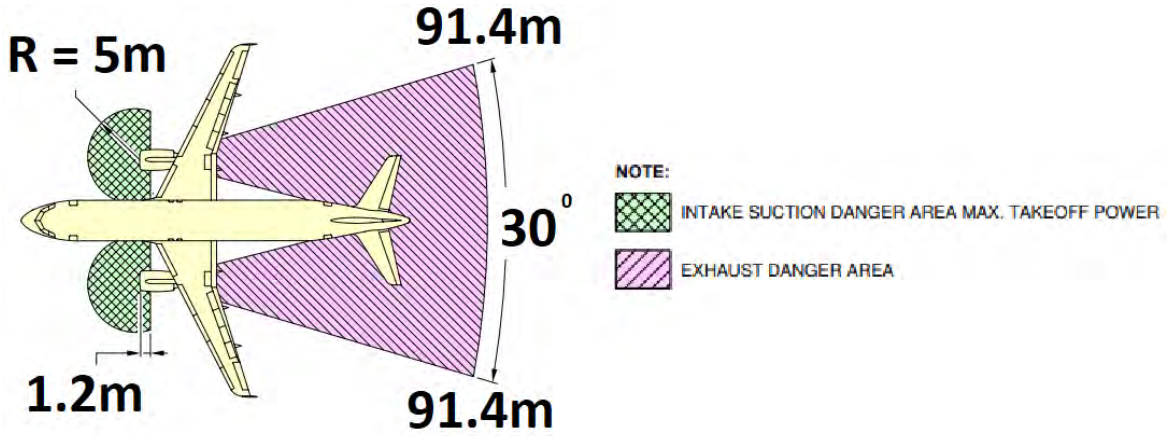
A319-153N: Danger Zones at Aircraft Start



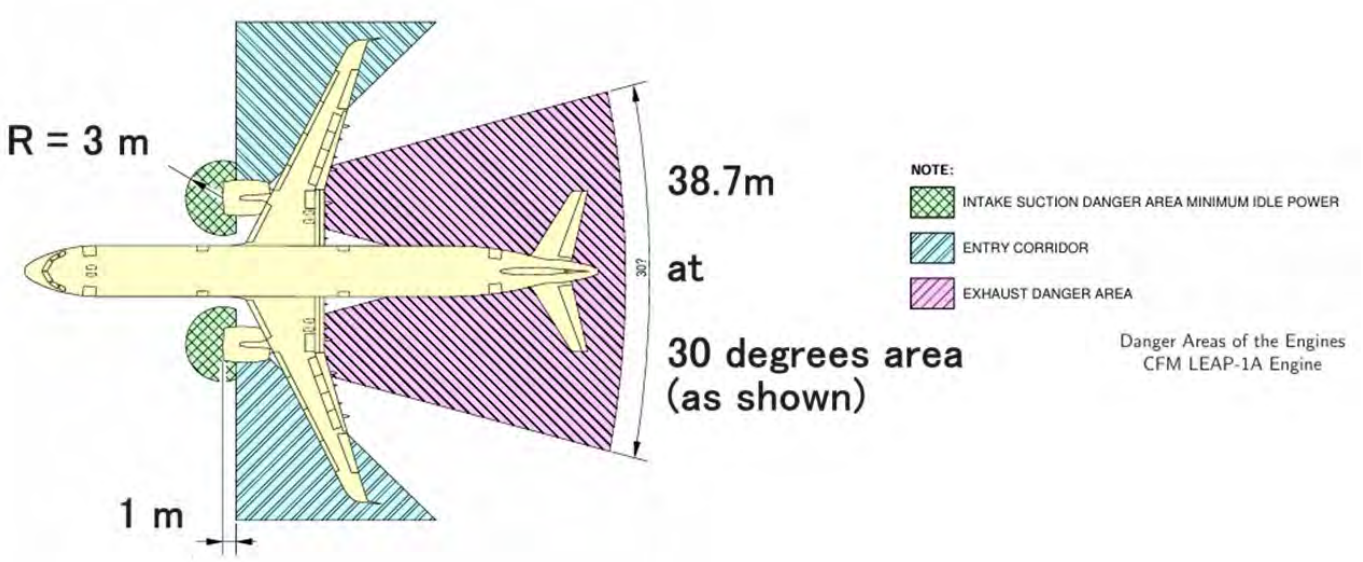
A320-214 (-232, -233): Dangerous zones in Idle Thrust



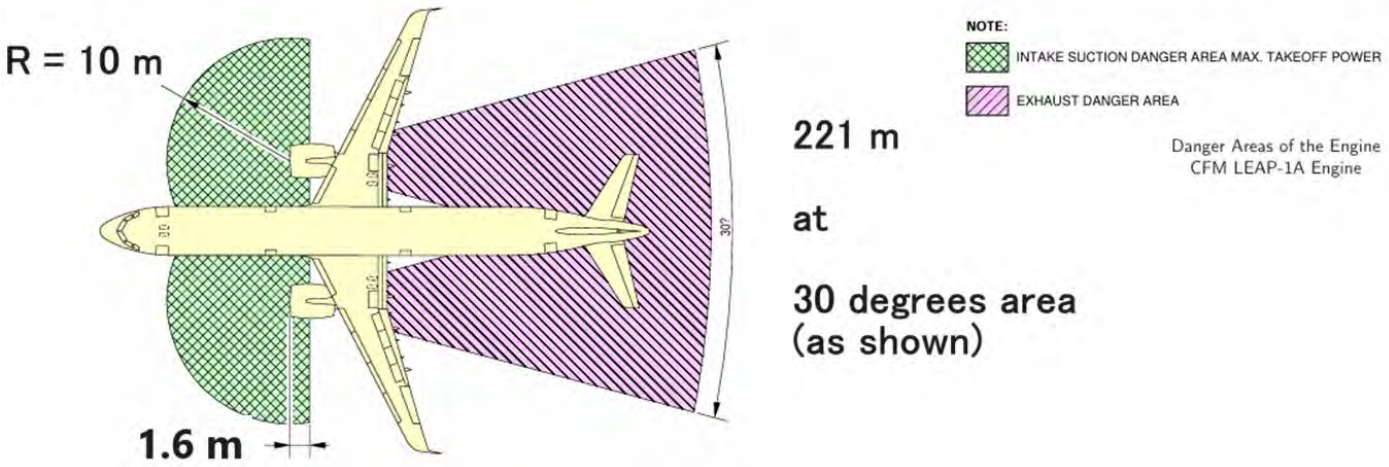
A320-232 (-233): Danger zones during the take-off engine operation



A320-214 (-232, -233): Danger zones during the beginning of aircraft movement



A321-251N, A321-253NX, A320-251N: Dangerous zones in Idle Thrust



A321-251N, A321-253NX, A320-251N: Danger zones during the beginning of aircraft movement & take-off engine operation

10.1.2.3 EQUIPMENT RESTRAINT AREA AND EQUIPMENT RESTRAINT LINE

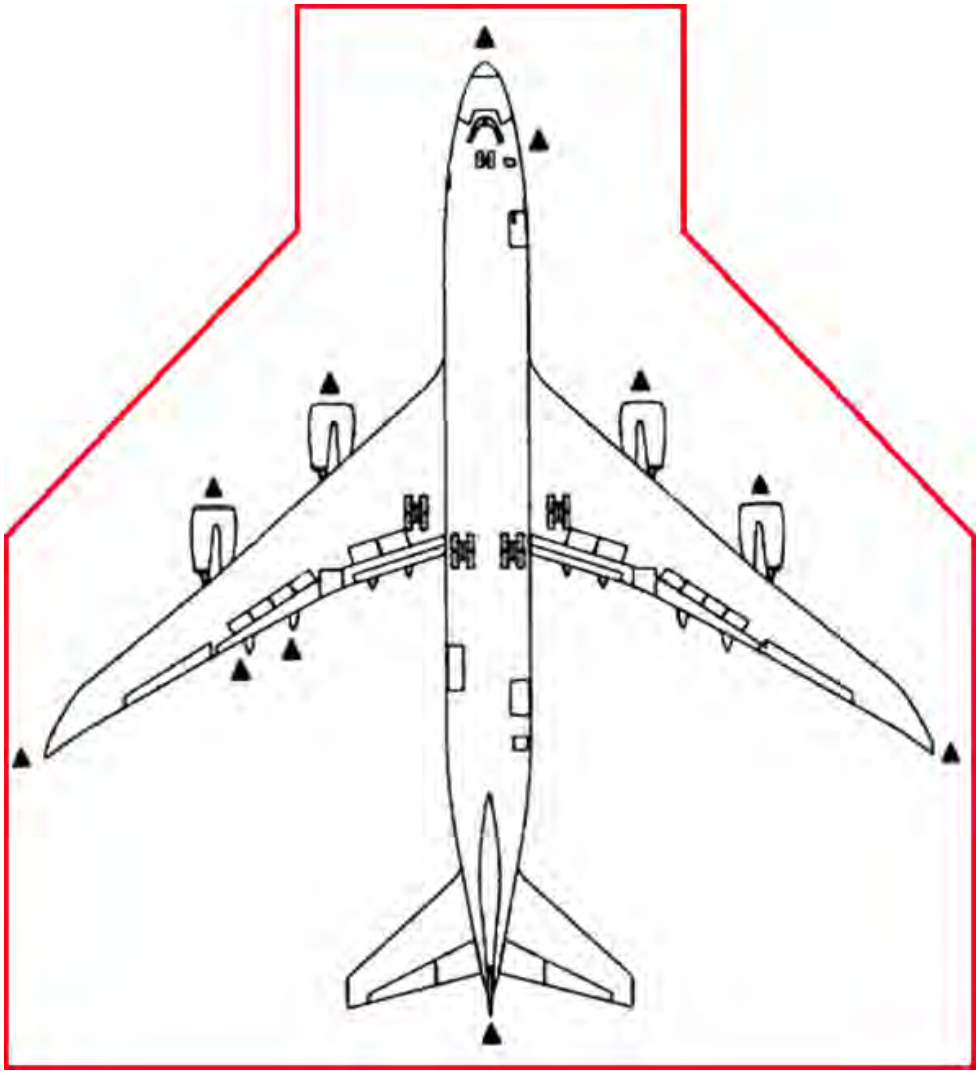
The equipment restraint area (ERA) is defined as the area of the apron where an aircraft is parked during ground operations.

The ERA shall be free of personnel not involved in the aircraft arrival, obstructions, equipment and foreign object debris (FOD) before and during aircraft arrival and departure.

CAUTION: For safety reasons, spillage should be cleaned immediately to reduce the risk of personnel falling or risk of fire, in case of flammable substance spillage.

The ERA may be indicated by a painted line. If there is no marking, the safe area for ground equipment should be determined by local procedures.

The figure below shows an example of marking.



Example of ground equipment restriction zone

10.1.2.4 FOREIGN OBJECT DEBRIS (FOD)

Foreign Object Debris (FOD) refers to a substance, debris or article alien to an aircraft or aircraft system that could potentially cause damage.

FOD applies to all loose objects that are a danger to the safety and integrity of aircraft or personnel. FOD, therefore, shall not be left in any area where it would pose a hazard.

All personnel have a responsibility to ensure the risk of damage to aircraft from FOD is minimized. All waste material shall be properly disposed of such that it does not become FOD and all FOD shall be removed and properly disposed of as soon as it is discovered.

Proper management of waste and debris is critical, as, if not disposed of correctly, it may become FOD. FOD can also move into airside locations during high winds.

Examples of FOD:

- Plastic and paper: bags, sheets and towels.
- Metal: nuts and bolts, empty oil and hydraulic fluid cans, tools and equipment.
- Natural objects: rocks, pebbles and wood.
- Hazardous contamination: snow, ice.
- Other debris: burst ballast bags, luggage handles and wheels, etc.

CAUTION! FOD can:

1. Be sucked or ingested into aircraft engines, causing damage leading to engine failure.
2. Cause damage to tires, the undercarriage, control systems and other parts of the airframe, which can lead to in-flight failures.
3. Become a trip hazard for personnel working on or around aircraft.

The following FOD checks **shall be conducted by the ramp agent** prior to any aircraft movement and after servicing operations (also refer to ***Sections 11.1.1 and 11.6.2***):

1. Check GSE staging and parking areas near the area of operation.
2. Do routine checks of GSE (including floors of enclosed cabins) to ensure everything is secure and operational, and not about to fall off and become FOD.
3. In ramp areas, ensure anything carried in/on a vehicle is secured.
4. Before aircraft arrival, conduct a FOD walkaround of the aircraft parking stand, removing all FOD found.
5. Dispose of all FOD in designated garbage bins, where provided or as per local arrangements. FOD bins should be enclosed, to avoid FOD being blown out by wind.

Any person involved in ground handling processes is responsible for minimizing the risk of damage to the aircraft by foreign objects.

All FOD must be removed and disposed of as soon as they are discovered.

10.1.2.5 PERSONAL PROTECTIVE EQUIPMENT

Personnel shall wear appropriate PPE as required for their role and as per local regulations to include:

- Safety footwear;
- Hearing protection;
- High visibility clothing;
- Gloves;
- Any other specified PPE as per local requirements.

Note: *Neckties or other loose hanging accessories which may pose risk shall be of the quick release type (clip).*

PERSONAL SAFETY REQUIREMENTS

a. Employees must be on ramp side only in a reflective vest and special safety shoes. Depending on local requirements, at various airports it may or may not be allowed to be on the ramp side without a vest - in bright uniforms with noticeable large reflective elements.
b. When servicing flights, hearing protection must be used while working in areas with intense noise (*for example, an apron, an aircraft maintenance area, etc.*).
c. Employees must be provided with special clothing appropriate to the weather conditions.
d. When working in the aircraft service area and in the maintenance area, employees are prohibited from wearing jewelry such as rings, chains, bracelets.
e. When working in the aircraft service area and in the maintenance area, employees are prohibited from wearing ties if they are not quick-release (with clips).

PORTABLE ELECTRONIC DEVICES

Only portable electronic devices permitted by local law are allowed in the airport airside. They must not interfere with the use of personal protective equipment, especially hearing protection.

a. Portable electronic devices must be provided with a protective cover to prevent accidental battery disconnection. Use of personal portable electronic devices is not permitted unless permitted by local law.
b. The use of portable electronic devices can cause loss of concentration and situational control.
c. Communication should be relevant and as concise as possible.

HEARING PROTECTION

Jet engines produce noise that can cause both temporary and permanent hearing loss.

a. Always wear appropriate hearing protection when stay near a running engine.
b. All personnel working in close proximity to a running engine must wear hearing protection.

10.1.3 SAFETY INSTRUCTIONS FOR OPERATING AND WORKING WITH GROUND SUPPORT EQUIPMENT ON THE RAMP

10.1.3.1 GENERAL SAFETY INSTRUCTIONS

Below procedures are mandatory whenever operating GSE on the ramp:

a. Personnel shall only drive or operate GSE if trained and authorized for that specific equipment type.
b. GSE shall not be moved or driven across the path of:
    1. Taxing aircraft or aircraft under tow/pushback;
    2. Embarking and disembarking passengers on the ramp;
    3. Emergency vehicles.
c. When operating any GSE, check the aircraft for possible damage in the equipment contact zone before positioning and after removal of GSE to/from the aircraft.

d. Immediately report any damage found, or where contact has taken place or is suspected to have taken place.
e. Where damage has been found or where contact has taken place or is suspected to have taken place, do not move any GSE to/from the aircraft in the area where damage has been found until inspection is completed, and clearance given to proceed.
f. Personnel working with and around vehicles and equipment must protect themselves from loose clothing, long hair, and/or hanging accessories/jewelry from becoming a hazard, e.g., caught or trapped in equipment.

10.1.3.2 BASIC OPERATING REQUIREMENTS FOR GROUND SUPPORT EQUIPMENT

No vehicle is allowed to approach an aircraft unsupervised or cross the ERA stop line.

If the aircraft is being prepared for towing upon arrival, or before departure, or for the purpose of changing parking while at the airport, then the approach of any equipment to the aircraft is allowed only on the command of a certified employee who has direct communication with the crew/personnel in the cockpit (through the headset of the aircraft intercom, or by radio), by means of a hand signal “Everything is clear” (thumb up). This requirement does not apply to bridging the ground power source when the aircraft is out of service.

The supervisor ensures the safe approach, maneuvering and departure of the towing vehicle, ACU, fuel tanker, lavatory maintenance and water refilling vehicles, GPU, ladders, etc. within the aircraft parking area.

Cargo on ULDs prepared for loading or offloaded from the aircraft must be outside the ground equipment restriction zone prior to aircraft arrival or departure.

The following rules and restrictions shall be observed:

a. Securely stow GSE cables and hoses, where fitted, prior to transportation and when not in use.
b. GSE shall not impede the accomplishment of other aircraft handling operations in progress unless there is an important reason to do so.
c. Check that all areas of GSE are free of contamination, FOD and safe for use prior to and throughout the operation.
d. Operators shall check the GSE assigned to them prior to initial use, particularly the parking brakes, rubber protective bumpers, safety systems and in-life service date of onboard firefighting equipment’s. If found to be defective, the GSE shall be reported, tagged as “Out of Service” and removed from operations, when applicable.
e. All safety rails shall be fully retracted/lowered prior to positioning and removal, where possible.
f. Extra personnel shall not be carried on moving GSE without an approved seat (*i.e., apply the **no seat–no ride principle***).
g. Seat belts shall be worn, where fitted, except where repositioning equipment is within the same operational area, e.g., within the parking stand or baggage makeup area.
h. Before moving any GSE/Vehicle ensure all its doors are closed, where fitted.
i. GSE shall not be operated while using handheld Portable Electronic Devices (PEDs), including cellphones, portable music players, portable game units or earpiece or headset.
j. GSE shall only be used for its intended purpose, including for specific aircraft types.
k. Walkaround inspection of a GSE shall be performed prior to use.
l. GSE shall be operated with a load securely locked (where applicable).
m. Prior to movement of any GSE/Vehicles, the intended travel path shall be checked and confirmed clear of personnel, equipment or other obstacles.
n. GSE shall be driven safely on the apron and within the ERA.
o. GSE with lifting devices shall not be driven or towed in the raised position, except for final positioning onto the aircraft.
p. The GSE platform shall not be operated while in motion.

q. Use a guide person when vision is restricted. The guide person shall be able to accurately judge clearances and communicate signals to the driver/operator. Stop immediately if visual contact with the guide person is lost. Movement shall not continue until visual contact is re-established.
r. Once motorized GSE is in its servicing position at or near the aircraft:
    1. Apply the parking brake with the gear selector in park or neutral (if no selection for park).
    2. Turn off the engine, unless required when in operating/servicing mode.
    3. Install GSE wheel chocks, where equipped.
    4. If equipped with stabilizers, ensure they are deployed before the GSE is used for servicing. Deploy other safety devices (e.g., active proximity sensors, safety rails), if fitted.
    5. When motorized GSE is in operating/servicing mode, remain in a position whereby the emergency controls can be promptly accessed. This includes the immediate vicinity of the controls or an immediately adjacent and accessible location; for example, the cargo hold in case of a ULD loader, where required to operate the aircraft cargo loading system (CLS), restraints and/or nets.
    6. If motorized GSE is not fitted with external emergency controls, the operator shall remain in the operating position and in control of the equipment when in operating/servicing mode.

Note: *As an exception for pushback tractor, the engines may need to be left running unattended:*
    1. *While conducting a single person pushback operation;*
    2. *To avoid specific restart by maintenance function.*

If unattended, apply the parking brake and place the gear selector in park, or neutral if no selector for park.

s. When GSE is chocked:
    1. Place one chock at the front and one chock at the rear of the same wheel.
    2. Chocks shall be centered on and in contact with the wheel.

t. When unattended motorized GSE/vehicle is positioned in or adjacent to the ERA:
    1. Turn off the engine. In extreme cold weather conditions where local procedures permit engines running unattended, the motorized GSE shall be chocked.
    2. Apply the parking brake with the gear selector in park or neutral, (if no selection for park) and, when equipped, install wheel chocks.

u. The ground power unit (GPU) and preconditioned air (PCA) may be left running unattended when connected to the aircraft, provided the serviceability and fuel levels are checked periodically.
v. A **No-Touch policy** (i.e., GSE/PBB shall not touch the aircraft) shall be employed for all GSE/PBB types that are not equipped with self levelling sensors. The equipment shall be positioned in a way that ensures:
    1. The protective rubber bumpers do not touch the aircraft fuselage.
    2. The gap between GSE/PBB and aircraft shall not allow a person or large piece of equipment to fall through. As a guideline, a gap of 5 cm (2 in.) or two fingers should be maintained between the device and the aircraft.
    3. Check that throughout the turnaround process a clearance is maintained between the GSE and the fuselage to allow vertical movement.

w. For GSE and PBB equipped with self-levelling sensors. Continue movement until the protective rubber bumpers just touch the aircraft (but shall not be compressed against the fuselage) or the proximity sensors stop the movement.
x. After positioning equipment on the aircraft, raise or extend all safety rails on conveyor belts, loaders, and other elevated devices, except where restricted by the aircraft type.
y. GSE shall be parked in the designated airside equipment parking areas when not in use.
z. Access to firefighting equipment or the fuel hydrant emergency stop switch shall not be obstructed.

10.1.3.3 NON-MOTORIZED GROUND SUPPORT EQUIPMENT

The following precautions shall be taken when operating non-motorized GSE:

a. When parked and/or when not connected to motorized vehicles, all non-motorized GSE shall have brakes set or chocks in place. Dollies/carts shall be connected as a chain, where possible. Exception: Aircraft towbars.
b. ULDs shall be secured on dollies (or trailers/trucks) using the appropriate restraints.
c. ULD dollies may only be towed with turntables in the locked position (straight ahead).
d. The number of carts and dollies is usually limited by the local airport authority or ground handling service provider, however, in critical conditions (e.g., slippery surface conditions, congested facilities, low visibility) the number should be reevaluated and might be reduced to ensure safe operations on the ramp.
e. Know the dolly types as some dollies are not compatible with others. Follow the recommended towing combinations when transferring dollies from one place to another. Do not tow more units than the recommended sets or combinations.
f. When connecting or disconnecting dollies/carts to/from the tow tractor or another cart/dolly, hold only the tow bar handle and tow pin of the dollies/carts. Do not hold the tow eye when connecting or disconnecting.
g. Position oneself beside the tow bar when connecting or disconnecting dollies/trolleys ensuring the tow-pin is properly inserted before towing and use the tow bar handle to connect and or disconnect dollies/trolleys.
h. During transportation with carts and dollies, the loads shall be properly secured using appropriate locks, stops, rails, curtains and straps.
i. The overall height of loads shall permit safe lifting of each piece of the load during loading and offloading of carts by personnel standing on the ground.
j. Light packages shall not be wedged between heavier items.
k. When using tarpaulins, all straps shall be securely fastened to the baggage cart.
l. If equipped with stabilizers, ensure they are deployed before the GSE is used for servicing or access. Deploy other safety devices (e.g., active proximity sensors, handrails), if fitted.
m. If using maintenance stairs e.g., to open and close cargo hold doors:
    1. The stairs shall be fitted with safety rails to prevent falls.
    2. Maintenance stairs should be facing towards the panel which is being accessed. Retractable/extendable safety rails shall be lowered or retracted during positioning.
    3. Raise or extend retractable/extendable safety rails prior to any personnel accessing the stairs.
    4. **Moving or repositioning the stairs is not permitted while personnel are on the stairs.**
n. Towable air start units (ASU), PCA and GPU shall not be connected to the tow vehicle and aircraft at the same time, if possible. Before towing the unit away, the operator shall ensure the unit is disconnected from the aircraft.

Danger: While the movement of carts and dollies by hand is very simple, it can result in injuries. Therefore, additional care shall be taken.

10.1.3.4 SAFETY DRIVING AND PARKING GROUNG SUPPORT EQUIPMENT INSIDE THE EQUIPMENT RESTRAINT AREA

To verify the serviceability of GSE and test the apron surfaces, operators shall apply the following precautions when driving or parking GSE within the ERA:

a. Make one complete stop with all motorized GSE prior to entering the ERA or at 5 m from the aircraft. This action shall be carried out even if there is no equipment restraint line marked on the apron.
b. GSE shall not be driven faster than 5 km/h or 3 mph (walking speed).

c. Maneuver GSE carefully to prevent personnel injury and/or aircraft damage.
d. Avoid performing sharp turns near the aircraft, particularly when towing equipment.
e. When GSE/PBB is being moved near the aircraft or positioned to the aircraft, and when the vision of the operator is or might be restricted, the operator shall be:
    1. Guided by a guide person using standard IATA signals. If visual contact with the guide person(s) is lost, the GSE operator shall stop movement of the GSE/PBB immediately. Movement shall not restart until visual contact is re-established, or
    2. Assisted by means of appropriate proximity sensing and warning systems and/or visual aids such as cameras and mirrors.
f. GSE that is not directly involved in the handling or servicing of the aircraft shall not be driven through or parked within the ERA.
g. Any GSE (e.g., tractors, pallet transporters, carts and dollies) shall not be driven or positioned under the aircraft fuselage unless specifically required) e.g., lavatory servicing, aircraft maintenance, towbarless tractor etc.).
h. Driving or parking under the aircraft wings, between the engines and under the fuselage of the aircraft is strictly prohibited.

Exceptions:

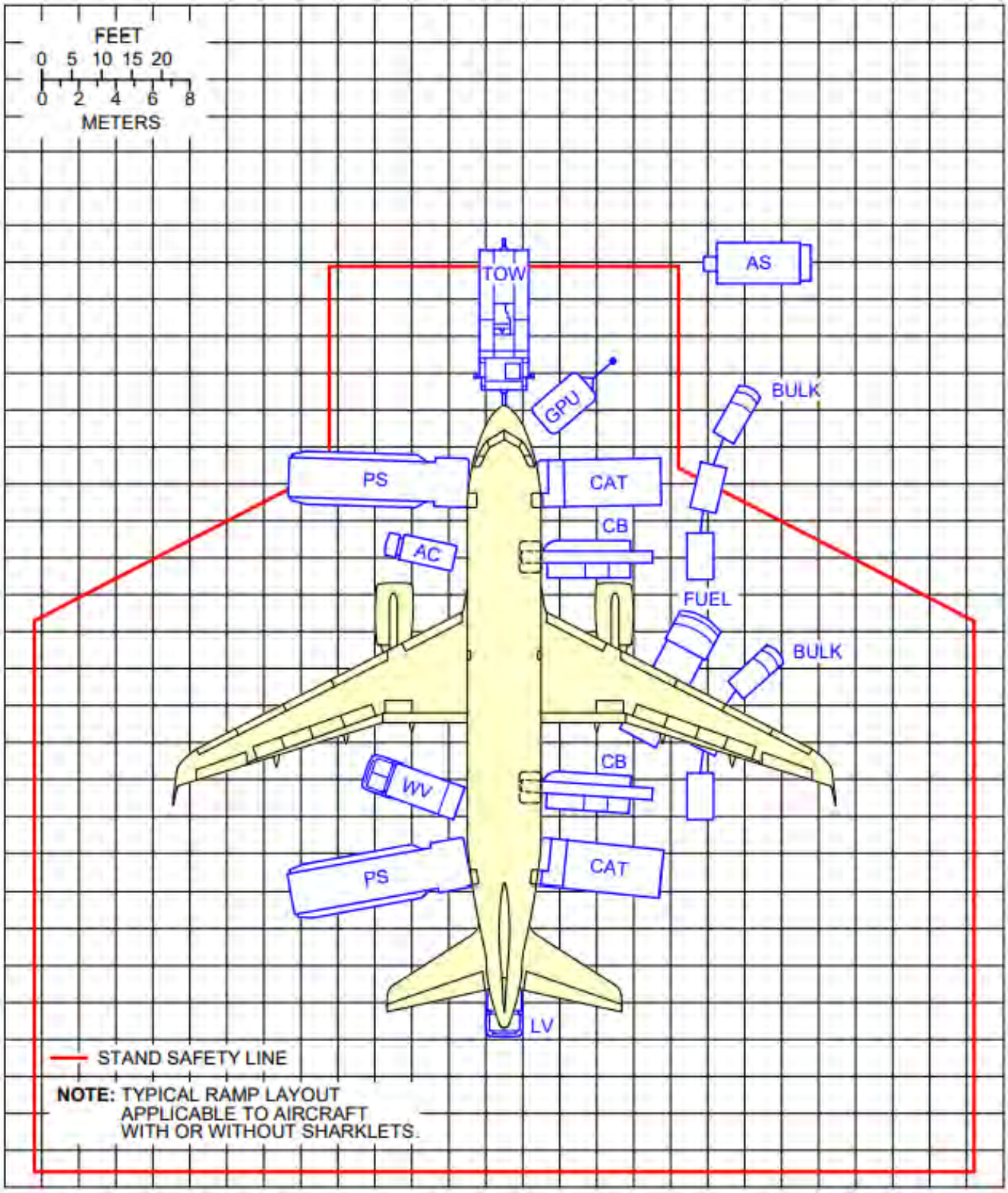
Tankers may drive and park under the wing or between engines to refuel or drain fuel.

Pallet trucks and tractors can pass under the wing of the aircraft if sufficient distance is provided between the equipment and the elements of the airframe of the aircraft.

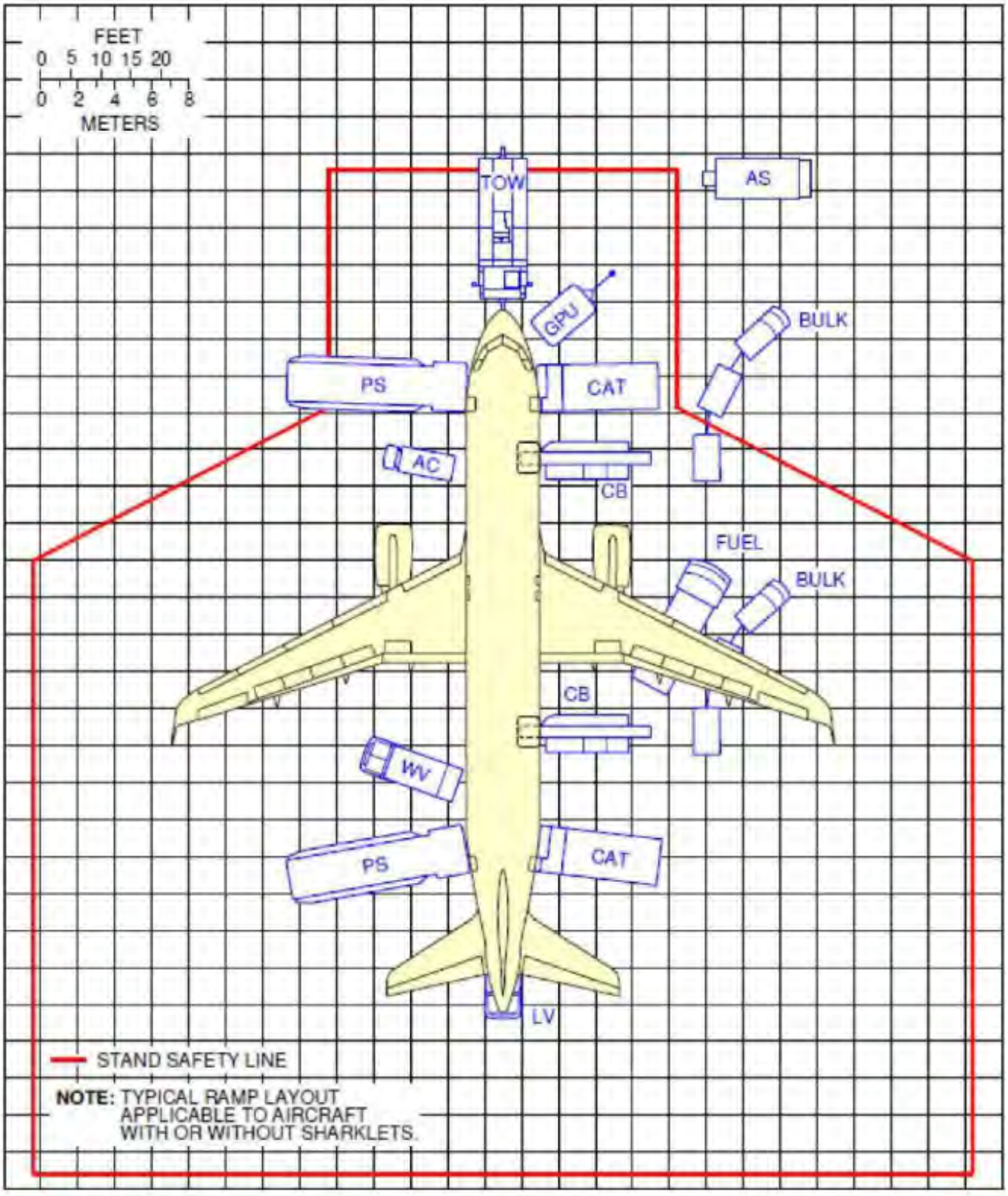
Note: when equipment is located in the ground equipment restriction area, it is prohibited to place equipment in such a way when it:

- Will prevent the evacuation of people from the aircraft in an emergency;
- Blocks the passage or prevents the departure of the tanker from the aircraft;
- Unnecessarily interferes with other ground handling operations.

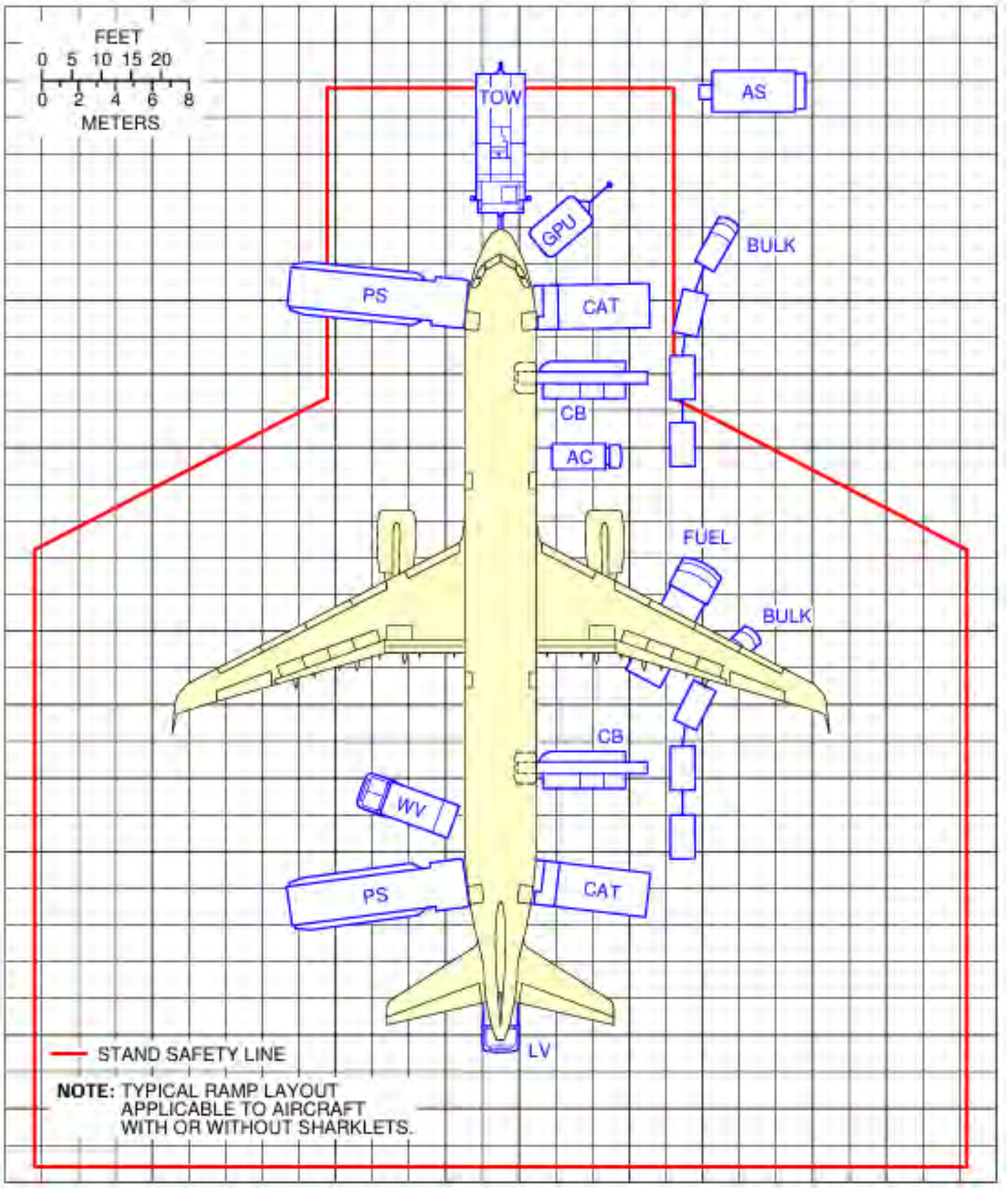
Ground equipment layout for A319-153N



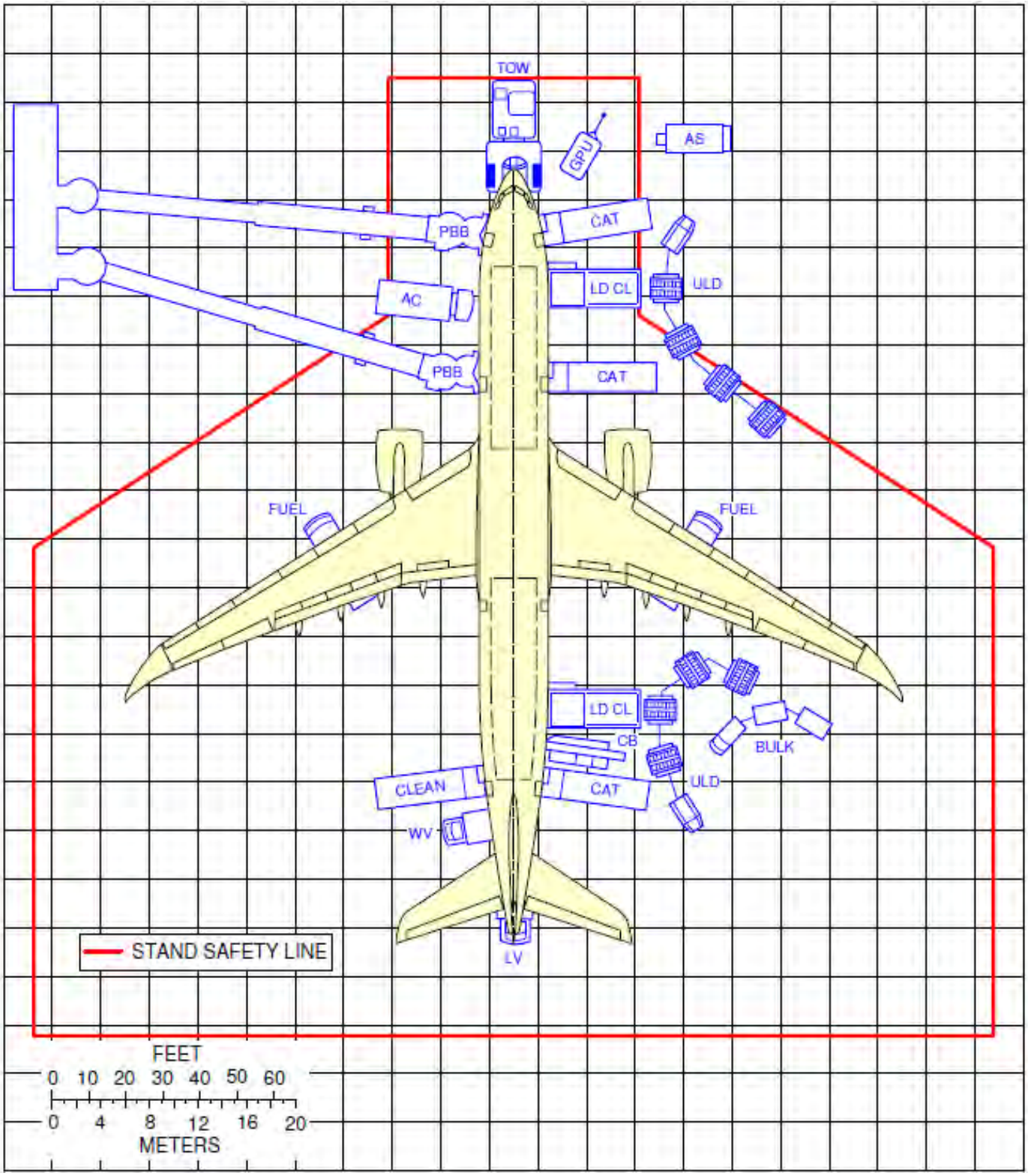
Ground equipment layout for A320 (all modifications)



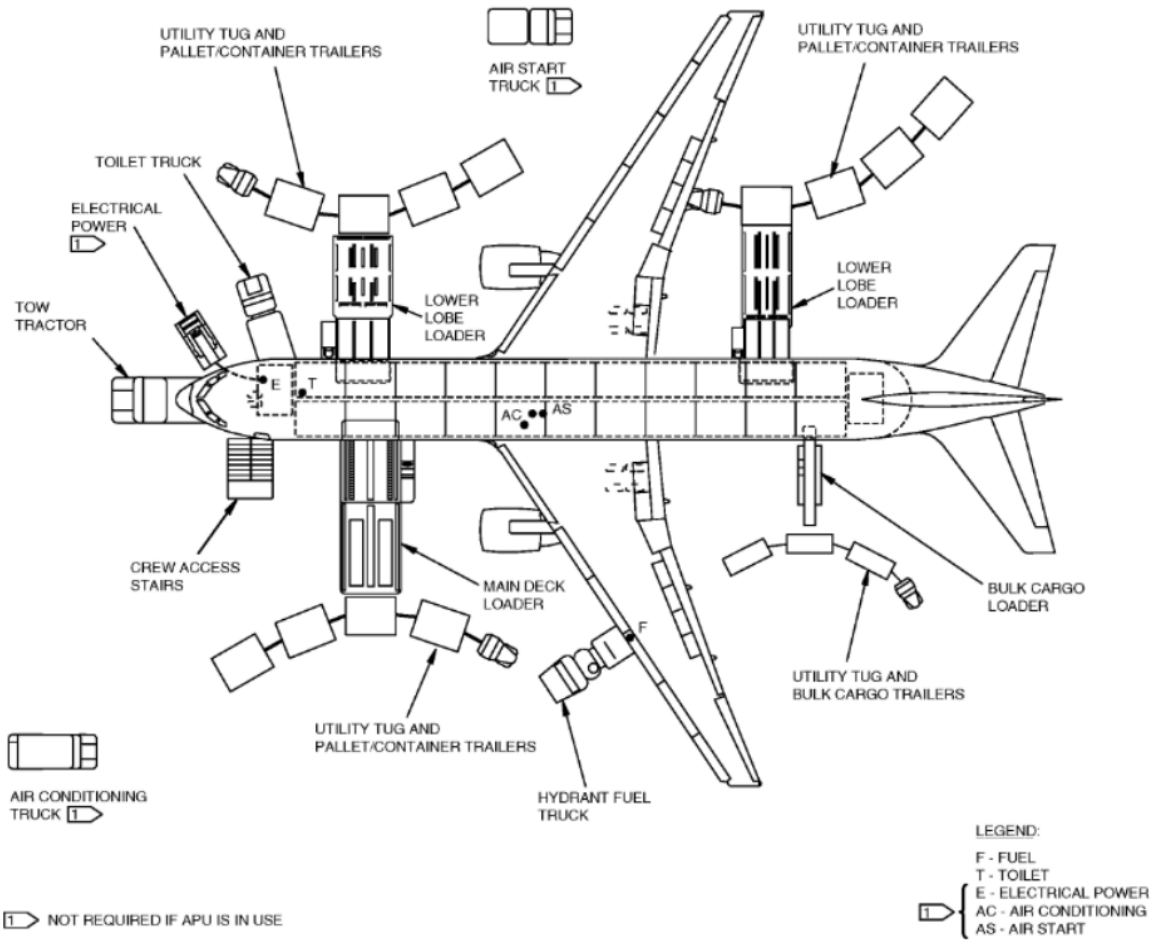
Ground equipment layout for A321-251N, A321-253NX



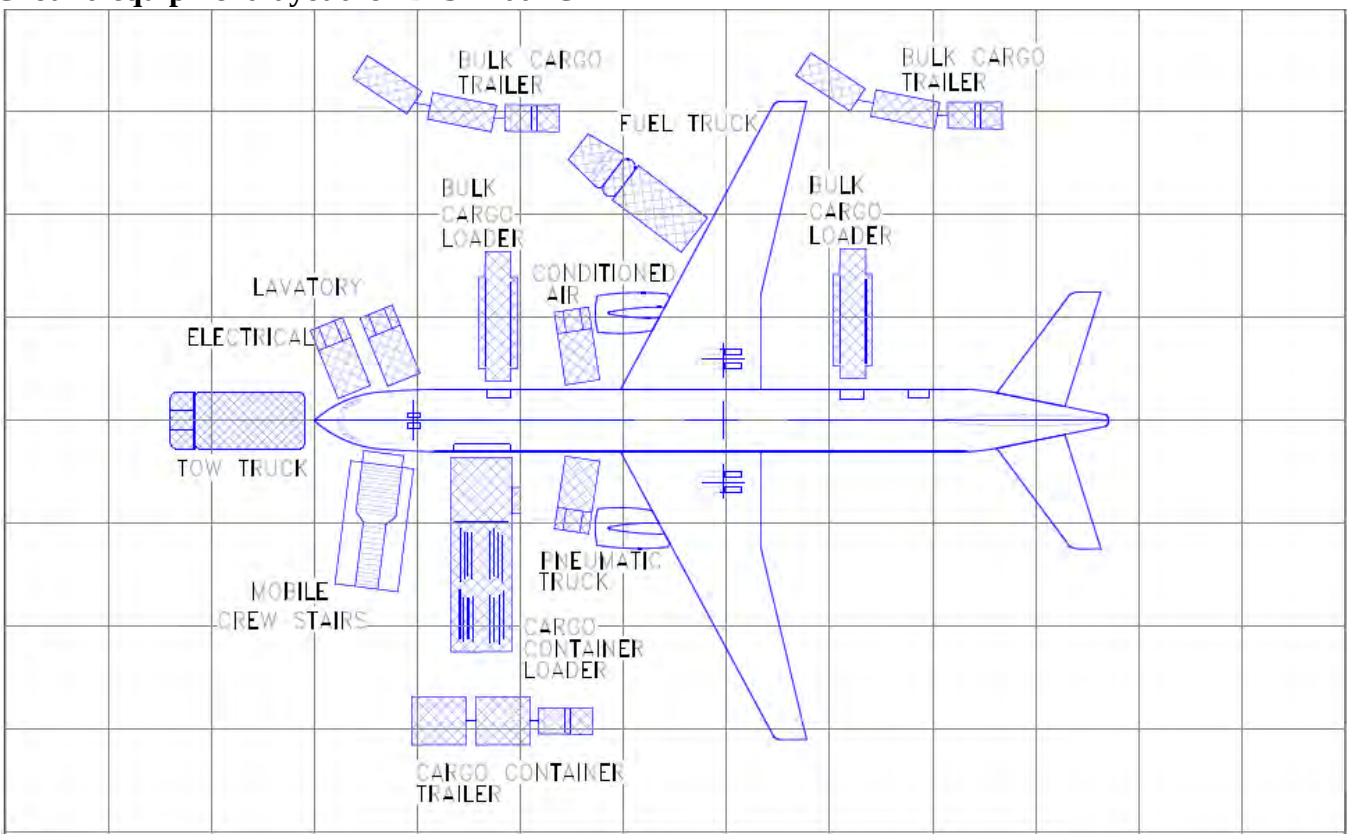
Ground equipment layout for A330 (all modifications)



Ground equipment layout for B767-300BCF (-BDSF)



Ground equipment layout for B757-200PCF



10.1.3.5 PASSENGER BOARDING BRIDGE

The operator of the personal boarding bridge (PBB) shall:

a. Be trained and authorized to operate the PBB.
b. Check that the PBB is serviceable before use.
c. Report any malfunction of the PBB to the appropriate person/authority.
d. Check that the walking surfaces are free of FOD, obstacles and safe for use.
e. Ensure only personnel required for the PBB operation are in the PBB while it is moving.

Danger: There is a risk of fall from height and distraction to operator.

f. Ensure the PBB is fully retracted or parked in its safe designated parking position prior to aircraft arrival and departure.
g. Ensure the safety barrier shall be in place whenever the PBB is not at the aircraft.
h. Ensure that the movement path is clear of personnel, equipment/vehicles and all other obstacles before moving the PBB.
i. When positioning the PBB at the cabin access door and driver/operator vision is restricted, a guide person shall assist.
j. Prior to positioning/removal, ensure that all safety rails/canopies on the PBB are fully retracted.
k. Move the PBB slowly toward the aircraft, avoiding any aircraft sensors or protrusions.
    1. Where the PBB is equipped with a self levelling device, continue movement until either the protective bumpers just touch the aircraft or the PBB's proximity sensors stop the movement.
    2. When not equipped with a self levelling device, maintain a gap in accordance with No-Touch policy.
l. Ensure the PBB does not contact the wing root leading edge fairing that extends under certain cabin access doors or any other sensors or fairings.
m. Once the equipment is positioned, ensure any safety rails and canopies on the PBB are fully extended.
n. When positioning/removal is complete, secure/isolate the PBB controls to prevent movement by non-authorized persons.
o. Maintain adequate clearance between the PBB and the underside of the cabin access door, or as directed by the cabin access door markings to prevent damage. This reduces the possibility that the aircraft door will rest on the PBB as the aircraft settles during loading and unloading.
p. Engage any safety systems (e.g., safety shoe) and auto-leveler features, if applicable. If the PBB is not equipped with an auto-leveler, the PBB shall be attended by an operator whenever it is positioned at an aircraft.
q. Ensure the cabin access door is closed before removing the PBB.
r. Where integrated with the PBB, ensure ground power cables and PCA hoses are disconnected from the aircraft prior to moving the PBB, unless required for operational purposes.
s. Ensure PBB is fully retracted or parked in the designated parking position prior to aircraft arrival and departure movement.

10.1.3.6 PASSENGER STAIRS

The following precautions shall also be taken when operating passenger stairs:

a. Check that the walking surfaces are free of contamination and safe for use.
b. Ensure the movement path is clear of personnel, equipment/vehicles and all other obstacles before moving the passenger stairs.
c. If passenger stairs are towed, disconnect them from the tractor and manually position them at the aircraft. Ensure the brakes are engaged once stairs are positioned to the aircraft.
d. Ensure safety rails and canopies, if any, on the passenger stair platform are fully retracted prior to positioning.
e. Move the passenger stairs slowly toward the aircraft, avoiding any aircraft sensors or protrusions, and either:

1. Where the passenger stairs are equipped with a self levelling device, continue movement until the protective bumpers just touch the aircraft, or the passenger stair proximity sensors stop the movement.
2. When not equipped with a self levelling device, maintain a gap in accordance with No-Touch policy.

f. The controls shall only be operated from inside the driver's cabin of the passenger stairs except where equipped with external controls.
g. Maintain adequate clearance between the passenger stairs and the underside of the cabin access door, or as directed by the cabin access door markings, to prevent damage.
h. Engage any safety systems and auto-leveler features, if applicable. If the passenger stairs are not equipped with an auto-leveler, the level of the passenger stairs shall be monitored and adjusted, as required.
i. Deploy stabilizers, if fitted. Do not allow anyone (except the operator) to use the stairs until the stabilizers are deployed.
j. Ensure passenger stairs are positioned so that the cabin access door can be used as an unobstructed escape route in case of emergency.
k. Passenger stairs shall not be removed from the aircraft unless the cabin access door is closed or a fall prevention device is in place across the access door.
l. After the cabin access door has been closed, confirm there are no personnel on the stairs prior to retracting stabilizers.
m. If passenger stairs are towed when removed from the aircraft, manually position them clear of the aircraft to a suitable position before connecting them to the tractor.

Cabin doors must be opened only if a passenger stair (PBB) or other equipment for boarding is installed on board the aircraft.

It is forbidden to open the cabin doors without a passenger stair (PBB) or other equipment for boarding the aircraft.

The release of an automatically inflatable raft (slide) fitted in an aircraft door when the door is opened can be lethal to personnel outside.

If the aircraft door in the "ARMED" position begins to open with a stairs installed outside, do not try to hold the door (regardless of location, inside or outside the aircraft) - this can lead to serious injury or death.

10.1.3.7 BELT LOADER

The following precautions shall also be taken when operating a belt loader:

a. Do not operate the conveyor belt or raise or lower the boom when personnel are on the belt.
b. Do not stand or walk on the conveyor belt when the safety rails are lowered.
c. Do not sit or stand on a conveyor belt while it is in operation, nor while the boom is raised or lowered.
d. Belt loaders shall not be used to transport baggage, cargo or other items across the ramp.
e. The boom of the belt loader shall never be positioned inside the cargo hold of any aircraft.

Exception: The rule does not apply to specially designed belt loaders which require the equipment to be extended/positioned inside the cargo holds.

f. Position and remove a belt loader to/from the aircraft in a straight line.
g. Position the boom at an angle to the cargo hold doorsill that will:
   1. Allow tractors/trailers to access the belt loader without impeding slide deployment areas and passenger evacuation routes.
   2. Prevent items and personnel from falling between the boom and doorsill.
h. Once the belt loader is positioned ensure the wheels are left in straight ahead position.

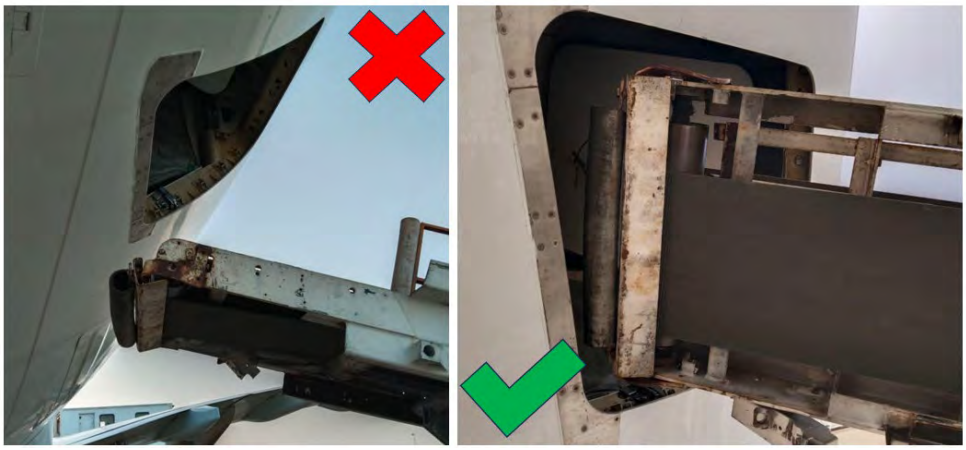
CAUTION: Speeding up operation of the conveyor belt using the accelerator pedal is not permitted.

i. Where clearance allows, always raise the side safety rail as soon as the belt loader is positioned. Ensure it does not touch the aircraft fuselage.

CAUTION:

- *Care shall always be taken when working around a moving belt.*
- *Personnel shall remain vigilant to trap hazards while raising/lowering the safety rails. Keep hands/fingers away from the edges/ends of the belt where they may become trapped.*
- *Belt movement shall be stopped before any attempt to clear any obstructions.*

j. The safety rail shall also be deployed when a belt loader is used to gain access to aircraft cargo holds or cargo hold access door controls.
k. Ensure proper separation between articles and appropriate belt speed to avoid jamming.
l. When unloading or loading items onto a belt loader, ensure they are stable, and correctly positioned on the conveyor belt to avoid items falling off.
m. When unloading or loading items between the belt and aircraft cargo hold, ensure items do not come into contact with aircraft fuselage/cargo hold door.
n. Adjust and control the back of the conveyor belt correctly to avoid dropping goods from the belt.
o. The safety rail may be lowered to accommodate large items during loading and unloading.
p. Ensure the boom is clear of the aircraft or other obstacles before making a turn.



10.1.3.8 UNIT LOAD DEVICE LOADER (HIGHLOADER)

The following precautions shall also be taken when operating a ULD loader:

a. Lower both platforms prior to maneuvering the ULD loader.
b. ULD loader must never touch the side of the aircraft. It must be positioned no closer than 2 inches / 5 cm to the aircraft, or at a distance where proximity sensors will stop the loader from moving (if equipped).
c. Maneuvering of the ULD loader with bulk or ULDs on the platforms is strictly prohibited.
d. Only personnel required for the ULD Loader operation shall be on the platform while maneuvering.
e. Ensure that the ULD guide rails are in the proper position before positioning the ULD loader at the aircraft. Use ULD loader platform guide rails, as required, to ensure alignment when loading or unloading
f. Move the ULD loader slowly toward the aircraft, avoiding any aircraft sensors or wing fairings.
g. When approaching the aircraft, a guide person shall be used.
h. Ensure the ULD loader is level with the height and angle of the cargo compartment floor.
i. Do not open/close cargo hold access doors while standing on a ULD loader. Use maintenance stairs or a belt loader.

Note: *Not applicable to main deck cargo hold access doors, which shall be operated from inside or from a Main Deck ULD Loader.*

j. Engage any safety systems and auto-leveler features, if applicable. If the ULD loader is not equipped with an auto-leveler, the level of the ULD loader shall be constantly monitored and adjusted as required (e.g., edge of cargo hold opening, cargo hold access door, control panel doors, fairings on fuselage and wings).
k. The ULD loader front platform shall be fully lowered prior to personnel ascending or descending the equipment stairs and the platform shall not be raised or lowered when personnel are using the ladders. Always check the surrounding area and ensure it is clear to raise/lower the ULD loader platform.
l. Ensure no one stands between the ULD loader and dollies during ULD movement and during dolly positioning.
m. Align dollies correctly to the ULD loader. Use a guide person, if required.
n. ULD loaders should not be used to transport ULDs across the ramp unless specifically designed for this purpose.
o. Move ULDs only when personnel are clear of all hazards.
p. The vehicle (dolly or other) shall be positioned close to the ULD loader platform periphery and shall be at the same height before the transfer takes place.
q. The use of external mechanical force to move ULDs should not be necessary, except with very heavy ULDs that may not move by manual force alone. Any such process shall be carried out with approved equipment and procedures.
r. Whilst maneuvering the ULD when it is on the ULD loader, ensure:
    1. The platform(s) is clear of all personnel.
    2. All stoppers are raised to prevent ULD from falling.
    3. Immediate area around the ULD loader is clear of all personnel and equipment.
    4. ULD is only rotated on the rear platform and when in the fully lowered position.
    5. Only one ULD is rotated at a time.
s. All personnel shall keep clear of the elevating platform when it is being raised or lowered.
t. Before removal or repositioning of a ULD loader ensure any load positioned in the doorway is secured against roll out.
u. For main deck loading/unloading operations, prior to removing the ULD loader the equipment operator shall inform personnel inside the main deck and receive confirmation from them that it is safe to remove the equipment. On board safety devices (e.g., safety barrier net) shall be installed at the cargo hold access door prior to ULD loader removal.
v. Whenever possible, reverse in a straight line at a walking pace, monitoring all sides for clearance.
w. Ensure the path of the ULD loader is clear of all obstructions prior to initiating turns.

Note: *The ULD loader shall be positioned at a 90-degree angle to the cargo doorsill for normal operations. Specific loading operations may require another ULD loader positioning near the cargo door according to the loading plan developed and confirmed by airline qualified loading HQ personnel.*
Danger: Do not enter or place any part of the body inside the scissor area beneath the ULD loader.

10.1.3.9 ELEVATING EQUIPMENT (AMBULIFT, CATERING TRUCK)

The following precautions shall also be taken when operating elevating equipment:

a. For elevating equipment with a rear access platform, ensure all safety barriers/rails are secured in place prior to vertical movement of the platform.
b. Ensure the load is properly secured (e.g., cart brakes, stretchers, wheelchairs) and all access doors and shutters are closed prior to raising or lowering the vehicle.
c. Any elevating equipment doors not being used for servicing at the aircraft shall be closed and latched.
d. The positioning of the elevating equipment shall allow the loading platform to be perpendicular and at the same level to the aircraft doorsill.

e. The final position of the elevating equipment shall allow for a safe working area and minimize the length of the walking surface between the aircraft and the elevating equipment while in the raised position.
f. Before accessing the platform at the front or the rear of the elevating equipment, ensure the platform is at the same level as the equipment cabin.
g. Carefully place the portable ramp/bridge on the doorsill from the platform side, as necessary.
h. Equipment (e.g., catering carts) and passengers in wheelchairs shall be pushed on and off the aircraft. Always ensure a hand-to-hand exchange. No elevating equipment is to be staged on the platform, and no loose items are to be transported on top of carts (e.g., catering equipment).
i. Continually observe and be aware of the clearance between the aircraft door and the elevating equipment platform.
j. When the servicing is finished, carefully remove the portable ramp/bridge from the platform side and stow securely. Close the cabin access door.
k. The passengers and/or load shall be secured properly inside the elevating equipment. Passengers shall be seated and wearing seat belts. Passengers seated in wheelchairs shall have the wheelchair secured during elevating equipment movement.
l. Visually check for any obstructions on both sides of the elevating equipment before lowering.
m. Lower the truck body to the fully lowered position.
n. Close and secure all the doors of the elevating equipment when the servicing is finished.
o. Perform a walkaround to check for FOD and clearance around elevating equipment stabilizers.
p. All elevating equipment shall stop operation when the wind speed reaches 40 knots (gusting).

Danger: Do not enter or place any part of the body inside the scissor area beneath the elevating equipment.

10.1.3.10 TRACTOR OR ELECTRIC BAGGAGE TUG

The following precautions shall also be taken when operating a tractor or electric baggage tug (EBT) and towing dollies/baggage carts:

a. Take care to avoid sudden sharp turns, jerks and stops.
b. Prior to moving with towed load, ensure there are no personnel between or near the towed load.
c. Baggage, cargo and other items shall only be transported on the tractor/EBT where the design of the equipment incorporates a designated location for the carry of such items.
d. Use the remote push button control (inching operation) to connect dollies, carts, or towed load, where fitted.
e. When Tractor/EBT is near the belt loader during aircraft handling, a gap of at least 1 m (3 ft.) shall be maintained.

Note: *When necessary to position carts/dollies within 1 m (3 ft.) of the belt loader, adjust the position of the carts/dollies by hand.*

f. The appropriate type of dolly shall be used according to the ULD type to transport the load.
g. Keep an appropriate distance between dolly and ULD loader during loading and unloading process. To avoid ULD falls, realign the dolly if the distance between ULD loader and dolly is unsafe.
h. Ensure ULD is fully transferred onto the ULD loader before moving the Tractor/EBT.
i. Ensure all the ULDs are secured on the dollies and flaps, or curtains are closed before transporting.

10.1.3.11 ULD TRANSPORTER

The following precautions shall be taken when operating ULD transporters:

a. No personnel are allowed to sit or stand on the roller bed.
b. No personnel are allowed to walk or stand between the ULD transporter and ULD loader/dollies.
c. Position the ULD transporter at a 90-degree angle to the ULD loader/dolly to ensure safe transfer of load.

10.1.4 FIRE HAZARD

10.1.4.1 FIRE PREVENTION AND PROTECTION

Personnel must always be vigilant for fire hazards and potential sources of fires in their areas of operation and try to mitigate or eliminate them during the operations (e.g., fueling and defueling operations, open wires, dangerous goods handling, GPU connections and use of electrical equipment). To eliminate conditions that may lead to fire:

a. **Smoking airside except in a designated smoking area is strictly prohibited**.
b. All personnel shall be familiar with the location and use of firefighting equipment, fire alarms, fuel hydrant emergency shut-off valve, etc.
c. All personnel must be familiar with assembly points.
d. Emergency exits must be kept clear/unobstructed at all times.
e. Exercise good housekeeping in the airside areas to eliminate the risk of fire.
f. Dispose of garbage into the designated waste bin and do not allow garbage to accumulate.
g. All fuel/oil leakages must be contained as soon as possible, and the area cordoned off. (e.g., using safety cones, caution tape).
h. Smoke from GSEs/vehicles must be reported immediately.
i. Do not refuel any GSE/equipment while the engine is running or while using electronic devices.
j. GSEs/vehicles should only be parked as follows:
    1. Within the defined equipment parking areas;
    2. In a manner that does not obstruct access to firefighting equipment and the fuel hydrant emergency shut-off valve.

10.1.4.2 ACTIONS IN THE EVENT OF FIRE

a. a. In the event of a fire, carry out the immediate actions specified in ***Section 14.1.2 Part 14 GOCHM***.
b. In event of GSE/vehicle fire, additionally, carry out an assessment and only if considered safe to do so:
    1. Fight the fire using available fire extinguishers.
    2. Move affected GSEs/vehicles away from the aircraft and operational area to the extent practical.
    3. In case the affected GSEs/vehicles cannot be moved, move adjacent GSEs/vehicles away to avoid spreading the fire.

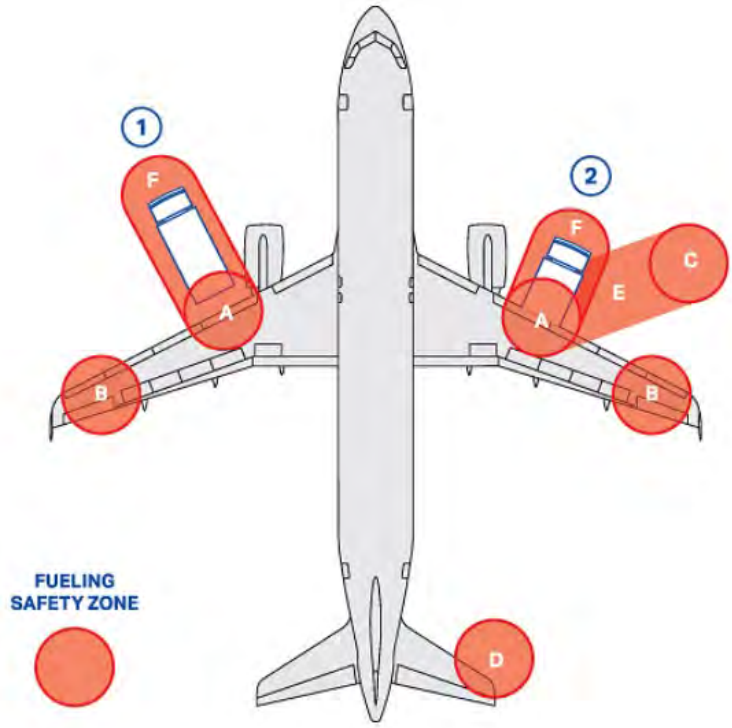
10.2 SAFETY DURING FUELING AND DEFUELING

10.2.1 FUELING SAFETY ZONE

See also Section 12.6.1 Part 12, GOCHM.

The fueling safety zone (FSZ) is defined as an area of at least 3 m (10 ft.) in any direction from the center point of all fuel vent exits, refueling plugs, aircraft refueling ports, fuel hydrants, fuel hoses and fueling vehicles. This distance may be increased as required by local airport or civil aviation authorities.

FUELING SAFETY ZONE



REFERENCE	DESCRIPTION
A	Aircraft refueling port/plug
B	Fuel vent exit
C	Fuel hydrant pit
D	Fuel vent exit (according to aircraft type)
E	Hoses
F	Fuel truck or hydrant dispenser
1	Fuel truck
2	Hydrant dispenser

Within the FSZ, all personnel shall ensure they:

a. Do not smoke.
b. Do not use any handheld portative electronic devices, including cellphones, portable music players, portable game units or earpiece or headset.
c. Enter the FSZ only when required to do so by the current job task/responsibility.
d. Assume that fueling is taking place anytime a fuel vehicle is on the stand during aircraft servicing and fuel hoses are connected.
e. Do not leave vehicle engines running unnecessarily.
f. Position all GSE and vehicles so they do not obstruct the fueling vehicle's escape route; this is not a mandatory requirement for hydrant type fueling vehicles, but every effort should be made to ensure a clear exit pathway.
g. Do not allow any passengers to enter the FSZ.
h. Avoid the use of motorized GSE in the FSZ.

i. Do not park any GSE in the FSZ.
j. Ensure fuel hoses are protected and all equipment is kept a minimum of 1 m (3 ft.) away from any fuel hose on the stand that is connected between a fuel truck and an aircraft.

10.2.2 FUEL SPILLAGE

Each fuel spill has its own specifics. The area of the spill, weather conditions, equipment location, aircraft placement, availability of emergency equipment and personnel will determine the correct course of action in the event of a fire threat.

During refueling, the aircraft must be continuously monitored for fuel leaks and fuel spills from the wingtip vent ports.

If a fuel spill does occur, follow these steps:

a. In the event of a fuel spillage the fueling vehicle should be equipped with spill kits and marked accordingly.
b. Stop the fuel supply.
c. All electrical equipment in use during the fueling operation shall be switched off immediately.
d. Alert the person in charge of fueling and/or the pilot-in-command.
e. If safe to do so, mobilize firefighting equipment as standby protection until the arrival of the airport emergency services.
f. Turn off APU (use the normal shutdown procedure).
g. Contact the local fire service, if not already done.
h. Verify with authorities/supervisor whether to stop all activity around the aircraft.
i. Seal off the area within 15 meters of the spill.
j. Control the movement of unauthorized personnel and equipment into the area.
k. As far as possible, restrict all activities inside and outside the spill area to reduce the risk of ignition.
l. Inspect surrounding areas to ensure they are free of fuel vapors. Arrange its cleaning.
m. As far as possible, restrict all activities inside and outside the spill area to prevent access and to reduce the risk of ignition.
n. DO NOT start the APU until the spilled fuel is removed and there is no further risk of spilled fuel or vapors.
o. Do not resume refueling or start until cleared by the Fire Department or Airport Authority.
p. Normal operations shall not be resumed on the aircraft, or any engines started before the person in charge of the emergency, determines that it is safe to continue.
q. If fuel is spilled on any item, then such items are NOT TO BE LOADED into the aircraft.
r. In the event of a fire occurring either on or in the vicinity of the aircraft STOP the fueling operation and call the emergency services.

10.2.3 FUELING/DEFUELING WITH PASSENGERS OR SUPERNUMERARIES ON BOARD

When fueling/defueling with passengers on board and/or during their boarding or disembarking, personnel shall:

a. Keep designated escape exits clear. An escape exit may be either a PBB into a terminal building, a cabin access door or a passenger stair truck positioned on an open cabin access door.
b. Ensure all areas on the stand below the designated escape exits are kept free of any equipment and vehicles that would impede the deployment of an escape slide.
c. Do not hinder the escape routes of passengers on board by ensuring that passenger stairs and PBB are clear of FOD.
d. Cabin crew is responsible of applying fire extinguishing equipment, instructing passengers and organizing emergency evacuation if necessary.
e. Crew, maintenance personnel and passengers are warned that refueling or draining of fuel will be performed.
f. Flight Crew, Cabin Crew and Maintenance staff (controls the fuel operations) have proper communication between each other.
g. Passengers are notified about fueling and onboard movement restrictions during the fueling.
h. Amount of Cabin Crew is enough to arrange immediate evacuation in case of emergency.
i. Cabin Crew stay near all doors during the refueling.
j. All doors are disarmed.
k. "Fasten seat belts" signal onboard is turned off.
l. "No smoking" sign and emergency exit lights are on.
m. Lights in passenger cabin are turned on for 100%.
n. Passengers do not use seat belts and do not smoke.
o. Minimum 2 passenger stairs are placed near the entry door and ready to use. PBB (if used) must be opened and unblocked.
p. Surface of the parking stand and the areas where aircraft inflatable escape rafts (slides) are deployed are clear of obstructions.
q. Supernumeraries/passengers are positioned not closer 15 m (50 ft) of fueling equipment and/or hoses.
r. At least one fire truck is in the service area of the aircraft in readiness to immediately extinguish the fire.
s. Fire extinguishers are available and ready to use.
t. If supernumeraries or crew are already on board the aircraft, security zones with a minimum radius of 3 m must be established around refueling machines, centralized refueling wells, refueling hoses and other refueling equipment.
u. The use of items that can be a source of fuel ignition, such as matches, lighters, portable electronic devices, in such areas is strictly prohibited.
v. There should be no obstacles in the areas where emergency equipment is located, everything shall be ready for safe and quick evacuation in case of an emergency.
w. In the event of a fuel spill, proceed in accordance with ***Section 10.2.2, Part 10 GOCHM***.

10.3 ADVERSE WEATHER CONDITIONS

Adverse weather conditions may have a negative impact on ground operations activities and ground safety. This paragraph provides recommended practices that can minimize the dangers, associated with severe weather in the airside workplace and assist staff to be alerted for the approach of severe weather and where necessary take appropriate precautions.

Airside operations are particularly affected because of the open areas of airports and the large metallic pieces of equipment including aircraft, and numerous open cabin ground support equipment.

Definitions of Severe Weather and geophysical events:

HIGH (OR STRONG) WINDS — winds in excess of 75 km per hour or 20,5 m/s or 40 knots.

THUNDERSTORM/LIGHTNING — includes cloud-to-cloud as well as cloud-to-ground activity.

LOW VISIBILITY — includes rain, snow, sandstorms or fog conditions when visibility is typically below 800 m (1/2 mile).

SNOW AND ICE CONDITIONS — includes the presence of snow and ice on surfaces and movement areas as well as when surface temperatures/windchills can cause freezing.

HEAVY RAIN — Rainfall so heavy that it splashes off hard surfaces and quickly forms standing water puddles in the aircraft doorway, on the ground and GSE and/or restricts visibility.

GEOPHYSICAL EVENTS — events which arise in the depth of earth, such as volcanic eruption, earthquake, tsunami.

10.3.1 ADVERSE WEATHER AND GEOPHYSICAL EVENTS FORECASTING

Knowing when severe weather will affect your work site is a key element in prevention of injuries or damage. Below are some methods to obtain timely information on approaching weather:

- Airport internal weather forecasting service;
- National Weather Service Alerts through the use of automatic detection equipment;
- Local TV and Radio broadcasts;
- Pilot reports;
- Airport tower observations;
- Ramp tower observations;
- Internet.

10.3.2 ADVERSE WEATHER NOTIFICATION

To have opportunity to prevent and react against adverse weather and geophysical conditions, local alerts/events, Loadmaster (charter station) or Airline Ramp Supervisor (base station) shall:

- Coordinate with Ground handling providers for foreseen operational affects due to Adverse Weather and geophysical conditions.
- Inform airline Operational Control Center and Head of Ground Handling Operations Division or Head of Ground Operations Standards Division on received operational alerts.
- Inform Operational Control Center on other local alert/events, (e.g. incidents, strikes etc.) if any received from local authorities, mass-media, state authorities and regulators.

NOTIFICATION PHASES

Condition	Notification actions
High Winds	Warning alert to OCC and concerned parties as early as it is practically possible
Low visibility	Warning alert to OCC and concerned parties as early as it is practically possible
Cold weather	Warning alert to OCC and concerned parties as early as it is practically possible
Extreme hot weather	Warning alert to OCC and concerned parties as early as it is practically possible
Snow & Ice Conditions (including Ice Rain)	Warning alert to OCC and concerned parties as early as it is practically possible
Thunderstorm/Lightning	For thunderstorm/lightning activity, the notification process may be broken down into 3 phases: **Alert** — Lightning activity is detected at a distance in excess of 8 km from your operation. **Stop/Suspend activities** — Lightning activity is detected within 5 km of your operation. **All Clear**— Lightning activity has moved beyond 5 km and is heading away from your operation. The distances referred to above may vary dependent upon local climatic parameters.

10.3.3 ACTIONS REQUIRED WHEN ADVERSE WEATHER OR GEOPHYSICAL EVENTS ARE IMMINENT

All ground operations personnel of the airline shall be aware of actions in case of imminent severe weather, and, whenever it is necessary, should instruct ground operations provider about actions to be taken, as well as continue to monitor and communicate the weather situation to OCC.

10.3.3.1. LOW VISIBILITY

Immediately after receiving forecast or visual detection of low visibility airline operational personnel shall:

— Act according to current manual, depending on weather situation and as per instructions given by Ground Operations Management or OCC;
— Reduce driving speed and make all running lights on;
— Ensure non-essential equipment has left the aircraft maneuvering area;
— Only the minimum required equipment is permitted on the parking spot;
— Inform GHA.

Equipment operators in case of low visibility shall:

— Take extra caution at all intersections and vehicle/apron taxi-lane crossings;
— Undertake crossing of taxiways, where permitted, only with ATC clearance;
— Take additional care to ensure that vehicle windshields are clean;
— Leave the Aircraft Maneuvering Area when operates non-essential equipment;
— Considerably reduce drive speed;
— Turn on all running lights during low visibility operations.

10.3.3.2. COLD WEATHER OPERATIONS

Both ground and work surfaces on equipment will become particularly hazardous during periods of cold weather operations. The use of De/Anti-Icing fluid can add to the slippery conditions on the ground.

When snow and ice conditions came or predicted, special preparations of the equipment are necessary to ensure their functionality and safe operation:

— maneuvering speed has to be not more than 3 km per hour in parking stand zone;
— winter tires or chains have to be used on GSE.

The requirements for snow removal and surface conditions shall be implemented for safely maneuvering of AC during the conditions.

Slippery Apron Conditions

Winter weather brings extra hazards which require awareness and more care on the part of personnel working on the aprons to prevent accidents. The following precautions and actions to reduce accident risk shall be taken:

GHA responsibilities in cold weather or slippery apron conditions:

— Instruct GSE drivers to reduce speeds and take extra care when driving in slippery apron conditions. Adjust all activities and operations on the ramp to suit the conditions at the time;
— Plan additional time for aircraft ramp handling;
— Operators of potable water tankers and toilet servicing vehicles must be vigilant that there is no spillage or leakage that can lead to subsequent freezing. Care must be taken to keep spillage and overflow to a minimum.

Loadmaster (charter station) and Airline Ramp Supervisor (base station) responsibilities in cold weather or slippery apron conditions:

— Act according to current manual, depending on weather situation and as per instructions given by Ground Operations Management or OCC;
— Consider additional time can be required for all ramp activities;
— Take extra care when walking across apron surfaces which can be slippery;
— Take extra care when driving transport, especially approaching the aircraft. Remember that vehicles require greater distance to stop safely;
— Inform operators of potable water tankers and toilet servicing vehicles to be vigilant that there is no spillage or leakage that can lead to subsequent freezing.

Operations in Snow & Ice Conditions

GHA responsibility in case of snow & ice conditions:

— Perform snow and ice removing from ramp, cargo and equipment work surfaces not later 15 minutes before aircraft ETA;
— Consider extra time for activities, drive slower and consider a greater distance to stop equipment.
— Use suitable clothing to be able to maintain efficiency;
— Remove De/Anti- Icing fluid from ramp, taxi ways as appropriate;
— Close all entrance and cargo hold doors as soon as possible and keep them closed to avoid precipitation or snow entry into the aircraft.

Head of Ground Handling Operations Division responsibilities:

— Arrange facilities, adjust ramp working time and remind personnel about following provisions of the Manual if work in cold temperatures is planned as per current schedule.

Loadmaster (charter station) or Airline Ramp Supervisor (base station) responsibilities in case of snow & ice conditions:

— Act according to the Manual, depending on weather situation and as per instructions given by Ground Operations Management or OCC;
— Control that snow and ice is removed from ramp and equipment work surfaces – 15 minutes before aircraft ETA.
— Control that snow and ice is removed from cargo – immediately prior to cargo loading on aircraft.

— Control closing of all entrance and cargo hold doors and keep them closed to avoid precipitation or snow entry into the aircraft – immediately after loading/offloading finished.

PAVEMENT SURFACE CONDITIONS

According to ICAO DOC9137 AN/898 Part 2 Pavement Surface Conditions, the whole aerodrome or individual parts of the airfield (applicable for runway, taxiway and apron) are considered not prepared for operation under the following conditions:

— The value of the braking action over the entire length of runway, contained under the pressed snow layer, or on any part of a length of more than a third of its length is less than 0.3 units;
— The difference in the values of braking action on the nearby sections of the runway on both sides of the axis exceeds 0.20 units;
— Presence of precipitation (ice, snow, slush, water) on the operational part of the runway: ice is not allowed, slush, wet snow, or standing water depth is more than 0.5 inches (13 mm) or dry snow depth is more than 4 inches (100 mm);
— The connection of cleaned and uncleaned areas from snow has slopes more than those specified in Figure 10.3.3.2A: Maximum height of snow profile;
— Foreign objects on the surface including products of surface destruction, pieces of ice and pressed snow;
— Areas on the surface contaminated with petroleum, oil and anti-icing fluid.

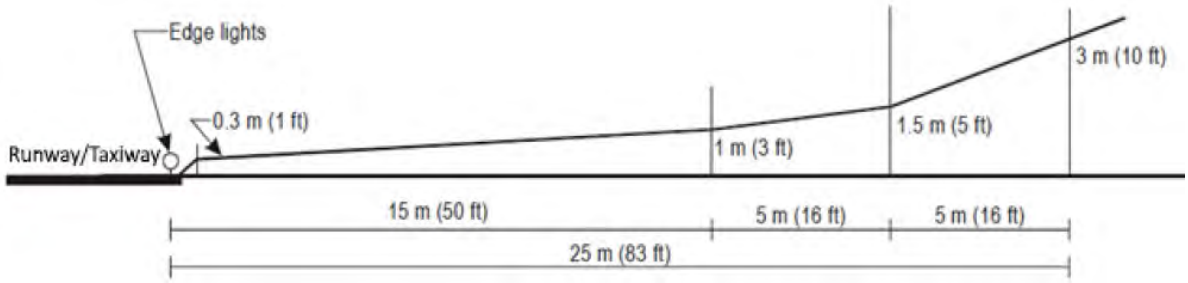


Figure 10.3.3.2A: Maximum height of snow profile

Details of airfield must meet the following requirements:

a. The ground surface of the runway must be cleaned of snow according to scheme indicated in ***Figure 10.3.3.2B: The scheme for clearing runway, taxiway and parking bay, the reference of dimensions*** on each side of the boarder of the runway. The total width of the cleaned surfaces of runways and waysides is not less than 60 m.
b. The sides of the taxiway, parking stands and aprons must be cleaned of snow according to scheme, specified in ***Figure 10.3.3.2A: Maximum height of snow profile***. The total width of the cleaned surfaces of the taxiways and waysides is at least 43 m.

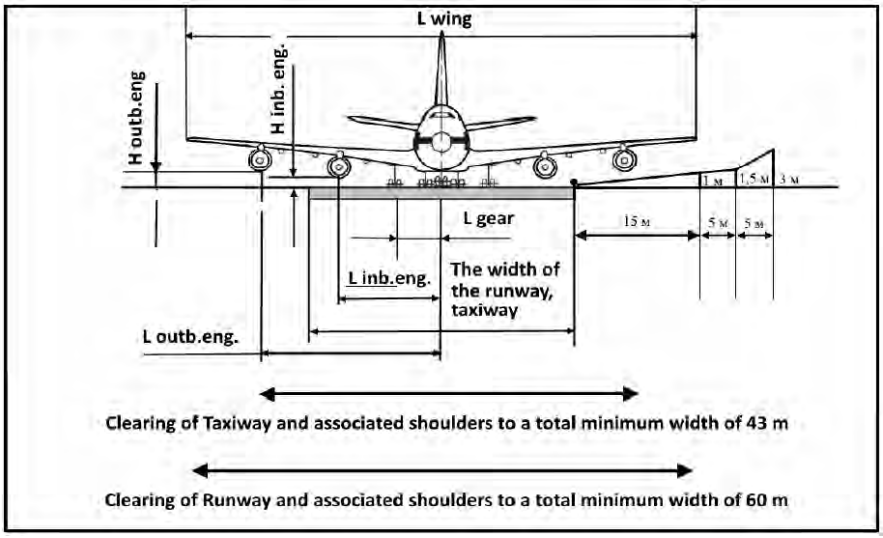


Figure 10.3.3.2B: The scheme for clearing runway, taxiway and parking bay, the reference of dimensions

Condition of Artificial Coverings

Surface of runway, artificial covering of taxiway, ramp, improved sections of runway and stopway adjacent to the ends of the runway shall be free from:

- foreign objects and debris of the covering;
- bared reinforcing bars;
- ledges of joints between neighboring slabs and edges of cracks of over 30 mm height;
- sags of joint filler of over 15 mm;
- corrugations and holes with the minimum size in plan of over 50 mm and of over 30 mm depth, which were not poured with the joint filler;
- joint spalling of over 30 mm width and over 30 mm depth, which were not poured with the joint filler.

Improved shoulders of the runway and taxiway shall be clear from:

- foreign objects and debris;
- bared reinforcing bars;
- ledges of the covering of over 50 mm height.

10.3.3.3. EXTREME TEMPERATURES

Extreme temperatures might affect personal safety performance depending on time of exposure, personal protection, activity and work rotation. All staff should be made aware of the hazards, and processes that should be adapted to such extreme conditions where applicable. Medical advice should be sought in the event of health conditions caused by extremes in temperatures.

Heat stress will result in poor performance, lack of concentration, dehydration, and in the most severe cases hospitalization.

Awareness should be given to the exposure to working in the environment. Heat stress injuries can be reduced by some of the following:

- Adequate breaks, ventilation and shelter between activities to reduce exposure to sunrays.
- Ample supply of drinking water located near to work area.
- Loose and appropriate clothing.
- Work rotation and monitoring.

Cold affects the human performance such as loss of feeling in extremities, fatigue, muscle seizures, loss of awareness, poor concentration and in severe cases may result in hospitalization.

Prolonged exposure to wind is a significant factor in increasing cold weather effects on the human body (wind chill factor).

Things to mitigate the cold effects are:

— Appropriate clothing;
— Rotation of activity (essential to sedentary staff);
— Staff monitoring;
— Adequate breaks;
— Provision of hot fluids and warmed shelter between activities.

Head of Ground Handling Operations Division responsibilities:

— Arrange facilities, adjust ramp working time and remind personnel about following provisions of the Manual if work in extreme temperatures is planned as per current schedule.

10.3.3.4. THUNDERSTORM/LIGHTNING

Personal safety during Thunderstorms is a responsibility of each person involved in ground operations.

Generally, if an individual can see lightning and/or hear thunder they are already at risk.

High winds, rainfall, and cloud cover often act as precursors to actual cloud-to-ground strikes notifying individuals to take action.

Many lightning casualties occur in the beginning, as the storm approaches, because people ignore these precursors. Also, many lightning casualties occur after the perceived threat has passed.

The lightning threat generally diminishes with time after the last sound of thunder, but may persist for more than 30 minutes. When thunderstorms are in the area but not overhead, the lightning threat can exist even when it is sunny, not raining, or when clear sky is visible.

Remember that lightning is always generated and connected to a thundercloud but may strike many miles from the edge of the thunderstorm cell.

Acceptable downtime has to be balanced with the risk posed by lightning.

Thunderstorm/Lightning protection

The purpose of lightning protection is to protect persons, buildings and their contents, or structures in general, from the effects of lightning, to a certain acceptable level. There is no 100% protection level seen within technical and economical constraints. Lightning protection is not aimed to prevent the formation of the lightning discharge, instead it is intended to prevent the object from being directly hit or affected by a remote lightning discharge.

No place is absolutely safe from lightning threat; however, some places are safer than others, e.g. inside terminal buildings, fully enclosed metallic vehicles or safety shelters.

During thunderstorm/lightning activity personnel should not:

— Get out of enclosed vehicles;
— Use a head set connected to aircraft;
— Use portable electronic devices, e.g. mobile phones, pagers, two-way radios in open areas or in front of windows;
— Stay in open areas or under aircraft;
— Seek shelter under a tall tree;
— Load or unload explosive or flammable material.

On receipt of an ALERT signal:

— Make preparations for the STOP phase.
— Suspend non-essential activities in open areas and ensure any staff using or about to use headsets are informed of the alert.

— Fueling operations can continue, however the proximity of the thunderstorm/lightning should be continually monitored.
— Avoid using highly conductive equipment.

On receipt of STOP signal:

— Stop fueling. Fueling hoses cannot be left attached to the aircraft during any Thunderstorm /Lighting event
— Discontinue aircraft communication by head set.
— Stop all ramp activity and clear ramp.
— Personnel should seek shelter inside buildings or inside metal bodied vehicles. No one should seek shelter under any part of the aircraft, loading bridge, near light poles, fences, under trees.
— Ensure all service personnel have up to date information on weather event.
— In accordance with local procedures, the aircraft may come on stand but the aircraft doors should remain closed and ground servicing suspended.

Loadmaster (charter station) or Airline Ramp Supervisor (base station) responsibilities in case of STOP signal:

— Acts according to current manual, instructions given by OCC and depending on weather situation.
— Control fueling stop, ground servicing suspension and disconnection of communication head set - immediately upon receiving STOP signal.
— Control that aircraft doors are not opened and do not allow GSE connection to arriving aircraft – immediately upon aircraft ramp in.
— Seek shelter inside building.

10.3.3.5. HIGH WIND CONDITIONS

High (strong) winds are winds with gusts in excess of 75 km/hour or 20,5 m/s or 40 knots velocity.

Aircrafts are designed to withstand moderate winds from any direction without the need for mooring. When strong wind is imminent or when the airplane is parked in an area where it may be subjected to high winds, additional considerations are required, such as minimum weight limitations, CG locations, clearances from fixed structures or adjacent airplanes, direction of parking and the need for mooring provisions.

High winds pose a great risk of damage and the **following minimum precautions should be taken immediately** after receiving high wind forecast from airport tower:

Staff Actions	25 to 39 kt (46 to 72 km/h)	40 to 59 kt (73 to 110 km/h)	Above 60 kt (Above 111 km/h)
In excess of 35 knots wind, chock aircraft landing gear	X	X	X
Remove safety cones	X	X	X
Secure pre-conditioned air hoses	X	X	X
Remove FOD	X	X	X
Secure ULDs	X	X	X
Secure rolling stock	X	X	X
Secure boarding bridge and position to minimize surface exposed to the direct force of the wind		X	X
Close cargo hold/passenger doors and access panels		X	X
Do not initiate the elevation of high lift equipment and stairs		X	X
Park GSE closely together, and adjacent to a building if possible			X
Retract boarding bridge			X

Danger: high winds pose a great risk of damage and injury. Note: 1 Knot = 1 mph

*GHA **immediate** responsibilities in case of high wind conditions:*

- Remove non-essential ground support equipment from aircraft.
- Position equipment away from the aircraft and outside the path of possible aircraft movement.
- If possible, stow equipment indoors. All equipment left outside must be secured with brakes set, disconnect strings of carts or dollies so each conveyance is held by its own brake or attach a vehicle to them to help hold them in place.
- Extreme caution must be observed when transporting, loading and offloading empty and light weight ULD's in strong wind conditions. Use of tie-down to dollies and use of ballast for such ULD's should be considered (caution - ballast must be removed after use).
- Ensure all ULDs are locked on dollies or transporters with doors or curtains secured.
- Remove all empty and light weight ULD from areas around aircraft. If possible, tie them to a firm structure (e.g. dolly) or store them indoors.
- Secure work stands by chain to hitching rails where available or to fences or other secure equipment. Put jack screws down if so equipped.
- Lower all high-reach equipment, e.g. loaders, steps, catering trucks etc. and deploy stabilizers. Park into the wind direction, if possible.
- Remove any loose unemployed equipment, e.g. cones, ladders etc.
- Observe limits for towing/pushback operations in windy conditions (when wind speed is over 8 knots or 4 m/s or 14,8 km/h).
- Follow requirements listed in Table above.

*Loadmaster (charter station) or Airline Ramp Supervisor (base station) **immediate** responsibilities:*

- Act according to the Manual, depending on weather situation and as per instructions given by Ground Operations Management or OCC;
- Ensure upwind direction of AC parking when feasible;
- Consider remote parking aircraft to get them away from structures that they could be blown into;
- Check and ensure requirements as per Table above are followed by GHA;
- Control that GHA do not unload or load an empty container when there are wind gusts in excess of 30 knots speed (15 m/s);
- Control that GHA stopped loading the aircraft if strong winds are imminent and close the aircraft doors. The interruption in the course of offloading and loading must be coordinated with the Captain and reported to OCC;
- Ensure that GHA positioned equipment away from the aircraft and outside the path of possible aircraft movement;
- Immediately inform maintenance staff about severe weather conditions and ensure that actions below are taken by maintenance staff.

Maintenance staff responsibilities in case of high wind conditions:

- Aircraft should be appropriately secured (moored), per aircraft manufacturer's procedures by using additional chocks, and/or setting aircraft park brakes, parking the aircraft into the wind direction where feasible and/or tie-down;
- Aircraft weight is made as high as possible and C.G. is made as forward as possible by loaded cargo and fuel;
- Close cockpit windows, close all service panels. Lock control surfaces in accordance with aircraft maintenance manuals. Secure aircraft nose gear torsion links to prevent weather vanning with free moving nose wheels. Hook up towbar and attach tugs when possible and install by-pass pins. Consider remote parking aircraft to get them away from structures that they could be blown into.
- Refueling operations stopped if strong wind conditions are present. Strong wind conditions can cause a build-up of static electricity.

Continuous precautions during high wind conditions shall be in place till wind gusts come less then 13m/s (25mph).

GHA actions and responsibilities in case of high wind conditions:

- Ensure the safety of the aircraft by installing additional chocks as per current manual and removing all equipment from around the aircraft.
- Take extreme care when opening or closing aircraft hold doors.
- Make sure parking brakes are set on all parked GSE.
- Make sure that parking brakes are set and all non-motorized ramp equipment (i.e. baggage carts and ULD dollies) is secured by additional means if necessary.
- Observe limits for towing/pushback operations in windy conditions (when wind speed is over 8 knots or 4 m/s or 14,8 km/h.

Loadmaster (charter station) or Airline Ramp Supervisor (base station) actions and responsibilities in case of high wind conditions:

- Act according to the Manual, depending on weather situation and as per instructions given by Ground Operations Management or OCC;
- Control that additional chocks are installed as per this manual;
- Observe wind conditions during aircraft doors closing/opening. In case of wind gusts exceeded 20 knots do not allow to open/close doors;
- Make sure that towing team are aware and observe limits for towing/pushback operations in windy conditions (when wind speed is over 8 knots or 4 m/s or 14,8 km/h).

10.3.3.6. GEOPHYSICAL EVENTS

In case of geophysical events forecast Loadmaster (charter station) or Airline Ramp Supervisor (base station) should act in accordance with local emergency procedure (if required on particular station). Local emergency procedures in case of Geophysical Events are created and established by local government organizations or airport authorities responsible for rescue and elimination of Geophysical Events consequences.

Head of Ground Handling Operations Division should familiarize Loadmasters and Airline Ramp Supervisor about local emergency procedures and ensure their presence and free access in the office, if any.

10.4 HAND SIGNALS

10.4.1 HAND SIGNALS - INTRODUCTION

To standardize ground-to-ground personnel communication and/or ground personnel to flight crew communication and/or flight crew to ground personnel communication, the following hand signals are defined:

a. **Guide Person Hand Signals** – to be used by a specific guide person in direct liaison with the GSE operator to facilitate movements of any type of GSE.
b. **Marshaling Hand Signals** – to be used by ground personnel to assist the flight crew during maneuvering of the aircraft and engine starting.
c. **Technical/Servicing Hand Signals** – to be used by ground personnel to communicate technical/servicing information to flight crew, and by flight crew to communicate technical/servicing information to ground personnel.

Notes:

— *Only use hand signals when verbal communication is not possible.*
— *Ensure acknowledgement of all signals is received.*

d. **Aircraft Movement Hand Signals** – to be used during the tractor/towbar or towbarless connection/disconnection process, as well as at the start and end of the aircraft ground movement operation.

10.4.2 GENERAL CONDITIONS FOR USING HAND SIGNALS

The person giving the hand signals shall:

a. Use only approved hand signals.
b. Wear a high visibility vest.
c. Maintain the same role throughout the procedure.
d. Keep in constant visual contact with the other ground personnel and flight crew throughout the maneuver. If visual contact is lost, the operation must stop and not recommence when visual contact is reestablished.
e. Remain clear of the intended pathway of the vehicle/aircraft, where possible.

10.4.3 SPECIFIC REQUIREMENTS FOR USING MARSHALLING HAND SIGNALS

a. Perform aircraft marshaling only if permitted by the local airport authority and personnel have been trained and authorized.
b. Give marshaling hand signals from a position in front of the aircraft when facing and within view of the flight crew.
c. Wear a high visibility vest.
d. Use illuminated flashlights/wands to improve the visibility of the hand signals in the following situations:
    1. Insufficient apron lighting
    2. Poor visibility
    3. Night conditions
    4. When required by local airport authorities or regulations

CAUTION: To avoid any possible confusion by the flight crew, do not use guide person hand signals for equipment until all aircraft marshaling has been completed.

Notes: *The hand signals on the following pages are illustrated with the use of wands. The meaning of the signals remains the same when bats, gloves or illuminated flashlights are used. It is not possible to give signals for engaging/releasing parking brakes with the use of bats or illuminated flashlights.*

10.4.4 GUIDE PERSON HAND SIGNALS FOR GROUND SUPPORT EQUIPMENT

To Attract the Operator's Attention and Take Command

Arms held above the head in a vertical position with palms facing forward.
Meaning: I am in charge of this maneuver. You will take orders only from me.

Backward Movement

Arms by the sides, palms facing forward, swept forward and upward repeatedly.
Meaning: Move directly away from the guide person.

Forward Movement

Arms held above the head with elbows a little bent and palms facing backward; repeatedly move arms upward and backward, beckoning onward.
Meaning: Move toward the guide person.

Turn Right (from the driver's point of view)

Left arm pointed downward, hand extended; right arm repeatedly moved upward and downward toward the guide person's left. Speed of arm movement indicates rate of turn.

Turn Left (from the driver's point of view)

Right arm pointed downward, hand extended; left arm repeatedly moved upward and downward toward the guide person's right. Speed of arm movement indicates rate of turn.

Lower

Stretch both arms toward load and/or equipment, palms down, hand movement in downward direction.

Indicate Distance

Raise arms above head, palms facing inward. Distance shown between hands shall correspond exactly with actual margin.

Lift

Stretch both arms toward load and/or equipment, palms up, hand movement in upward direction.

Accompanied Movement

Come with load or equipment. Maintain eye contact with operator/driver. Swing down opposite arm.

Stop

Arms raised and crossed over head, palm forward. Immediate stop: Hands cross over head with clenched fists.

OK

Lift right arm above head, hand closed, thumb raised.
Meaning: All is clear or continue on your own or drive away.

Chocks Removed, Stabilizers Off

Arms down, hands closed, palms facing forward, thumbs extended; move arms out away from sides.

Stop Engine

Right arm and hand level with shoulder, palm downward, hand on throat making horizontal move to the right, passing hand across throat.

Chocks Inserted, Stabilizers On

Arms down, hands closed, palms facing backward, thumbs extended; move arms in toward sides.

To Interrupt Power Source (electricity, fuel, air)

Right arm and hand level with shoulder, palm downward; swing extended arm horizontally toward throat by bending elbow.

To Connect or Disconnect

Raise left arm and hand in front of body, fingers extended horizontally, palm down.
Connect: Right hand with clenched fist moving upward to contact left palm
Disconnect: Right hand with clenched fist leaving left palm downward.

Brakes On/Off

Right arm and hand raised horizontally in front of body.
Release brakes: With fist clenched, extend fingers, palm inward.
Engage brakes: With extended fingers, clench fist, palm inward.

10.4.5 AIRCRAFT MOVEMENT HAND SIGNALS–HEADSET OPERATOR TO TRACTOR DRIVER

Vehicle Brakes Off

Raise right hand just above shoulder height with closed fist and ensuring eye contact with driver open palm toward driver.

Clear to Push

Hold arm straight out at a 90° angle from shoulder and display hand with thumb up.
Meaning: Indicates to tractor driver that all equipment is clear of aircraft, chocks have been removed, the aircraft brakes are off and flight crew has given clearance to commence pushback.

Negative/Hold

Hold arm straight out at 90° angle from shoulder and display hand with thumb down.
Meaning: Indicates to tractor driver that aircraft is not ready for pushback and to hold position.

Vehicle Brakes On/Stop

Raise hand just above shoulder height with open palm and, ensuring eye contact with the tractor driver, close into a fist. At the end of the pushback, also indicates to tug driver that aircraft brakes have been set. The tractor driver should return the signal to the headset operator to confirm vehicle brakes set.

Slow Down

With hand at a 45° angle downward to the side, make a patting motion.

Change of Pushback Direction

Touch nose with finger with arm at a 90° angle to the shoulder, extend arm to point in the direction that aircraft needs to be turned to.

10.4.6 AIRCRAFT MOVEMENT HAND SIGNALS–WING WALKER TO HEADSET OPERATOR, TRACTOR DRIVER, MARSHALLER, FLIGHT CREW (AS APPLICABLE)

Clear to Move Aircraft

Raise right arm fully extended above head with wand held straight and left arm and wand at a 45° angle downward to the side.

Stop Movement of Aircraft

Fully extend arms and wands horizontally 90° at shoulder level; raise arms and wands to cross above head.

Hold Movement of Aircraft

Fully extend arms and wands downward at a 45° angle to the sides. Hold this position until it is clear for the aircraft to move.

10.4.7 MARSHALING HAND SIGNALS FOR AIRCRAFT

Identify Gate/Stand

Raise fully extended arms forward at shoulder level; raise straight above head with wands pointing up, move hands forward and backward to keep from blending into background.

Slow Down

Arms held at sides and slightly bent at elbows; move arms downward in a patting gesture, moving wands up and down from waist to knees.

Continue to Taxi Straight Ahead

Holding arms extended to the side; bend arms at elbows; move arms and wands up and down from waist to head.

Turn Right (from the flight crew's point of view)

With left arm and wand extended at a 90° angle to the body, right hand makes the come ahead signal. The rate of signal motion indicates to the flight crew the rate of aircraft movement desired.

Turn Left (from the flight crew's point of view)

With right arm and wand extended at a 90° angle to the body, left hand makes the come ahead signal. The rate of signal motion indicates to the flight crew the rate of aircraft movement desired.

Hold Position/Standby

Fully extend arms and wands downward at a 45° angle to the sides. Hold the position until the aircraft is clear for the next maneuver.

Stop

Fully extend arms and wands horizontally 90° at shoulder level; raise arms and wands to cross above head.

Proceed to Next Marshaller or as Directed by Tower/Ground Control

Point both arms upward, move and extend arms outward to side of body and point with wands to direction of next marshaller or taxi area.

Dispatch Aircraft

Perform a standard military salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with the flight crew until the aircraft has begun to taxi.

Fire

Holding right arm straight, move right hand in an exaggerated figure eight (8), or a fanning type motion, from the shoulder to the knee, while at the same time pointing with the left-hand wand to the area of the fire.
At night, use the same process with wands.

Set Brakes

Raise right hand just above shoulder height with open palm facing forward. Ensuring eye contact with flight crew, close hand into a fist. DO NOT move until receipt of thumbs up acknowledgment from flight crew.

Release Brakes

Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm facing forward. DO NOT move until receipt of thumbs up acknowledgment from flight crew.

Chocks Inserted

With arms and wands fully extended above head, move wands inward in a jabbing motion until wands touch. Ensure acknowledgement is received from flight crew.

Chocks Removed

With arms and wands fully extended above head, move wands outward in a jabbing motion. DO NOT remove chocks until authorized to do so by flight crew.

Start Engines

Raise right arm to head level with wand pointing up and make a circular motion with hand; at the same time, with the left arm raised above head level, point to the engine to be started.

Emergency Engine Shut Down/Cut Engines

Extend right arm with wand forward of body at shoulder level, move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat. Hold left arm above head with closed fist.

10.4.8 TECHNICAL/SERVICING HAND SIGNALS–GROUND PERSONNEL TO FLIGHT CREW

Connect Tow Bar

Bring arms above head and grasp forearm with opposite hand.

Connect/Disconnect Ground Power

To connect ground power:
Hold arms fully extended above head; open left hand horizontally and move fingertips of right hand up to touch open palm of left hand (forming a “T”). At night, illuminated wands can also be used to form the “T” above the head.

Air Up

Wave arms up and down from thigh to waist with palms up.
Meaning: Supply pressurized air for engine start.

To disconnect ground power:
Hold arms fully extended above head with fingertips of right hand touching open horizontal palm of left hand (forming a “T”) and lower right hand away from the left. DO NOT disconnect power until authorized by the flight crew. At night, illuminated wands can also be used to open the “T” above the head.

Affirmative/All Clear

Raise right arm to head level with wand pointing up or display right hand with thumbs up; left arm remains at side by knee.

Interphone

Extend both arms at 90° from body and move hands to cup both ears.

Open/Close Stairs

With right arm at side and left arm raised above head at a 45° angle, move right arm in sweeping motion toward top of left shoulder.
Note: This signal is intended mainly for aircraft with a set of integral stairs at the front.

Negative

Hold right arm straight out at 90° from shoulder and point wand down to ground or display right hand with thumbs down; left hand remains at side by knee.

Do not Touch Controls

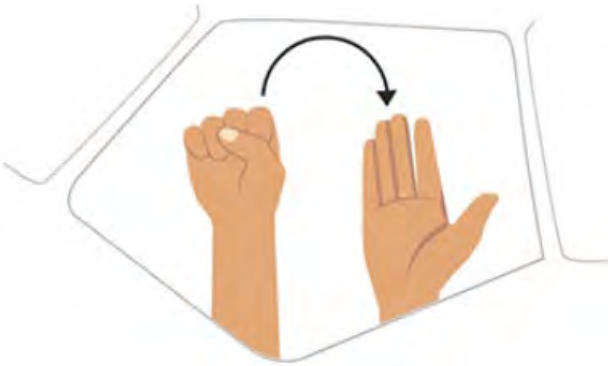
Raise right hand above head level and close fist or hold wand in horizontal position; left arm remains at side by knee.

10.4.9 TECHNICAL/SERVICING HAND SIGNALS–FLIGHT CREW TO GROUND PERSONNEL

Brakes Engaged

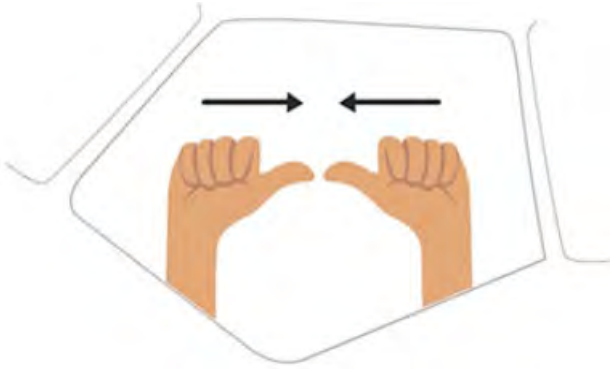
Raised arm and hand with palm facing forward and fingers extended in front of face and close hand into a fist.

Brakes Released



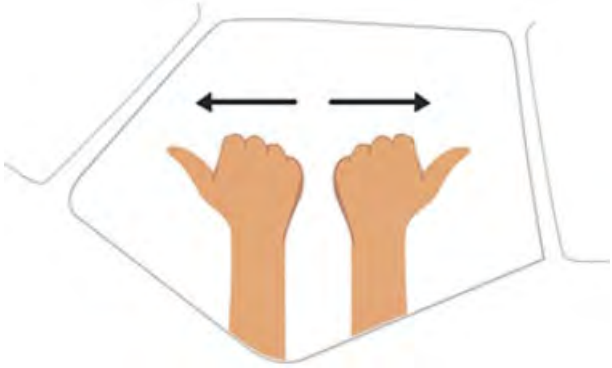
Raised arm with fist clenched in front of face; extend fingers to open palm facing forward.

Insert Wheel Chocks



Hands held in front of face, palms facing forward with fingers closed and thumbs extended; move hands inward.

Remove Wheel Chocks



Hands held in front of face, palms facing backward with fingers closed and thumbs extended; move hands outward.

Ready to Start Engine(s)

One hand raised with the appropriate number of fingers outstretched to indicate the number of the engine to be started.

All Clear

One hand raised with closed fingers and thumb extended. Acknowledgement of all ground actions.

10.5 TOILET SERVICING

10.5.1 GENERAL PROVISIONS

The complete procedure for servicing the aircraft toilet waste tank(s) consists of the following three steps:

a. Draining the waste tank(s)
b. Flushing the waste tank(s)
c. Adding an amount of pre-charge and/or concentrated deodorant pre-charge product, as applicable

CAUTION:

1. Toilet fluids are corrosive.
2. Prior to servicing, inspect the toilet servicing panel on the aircraft for signs of leakage.
3. If any horizontal blue streaks are observed, the blue streak shall be cleaned prior to servicing.
4. After cleaning, look again for signs of leakage.
5. Blue ice build-up at higher altitudes may influence airworthiness. In the case of a possible leak, immediately inform the airline representative, ground engineer, or the flight crew.

10.5.2 HYGIENE PRECAUTIONS

a. Wear heavy rubber gloves, full face protection and protective clothing against harmful wastes when performing toilet servicing.
b. Do not park the toilet service unit in the same area as the water service unit or at the water filling point.

CAUTION: Once an agent has performed toilet servicing on an aircraft, the same agent cannot perform water servicing during the same task.

10.5.3 TOILET SERVICING PROCEDURE

Each aircraft type has specific requirements for toilet servicing and the amount of pre-charge and/or concentrated deodorant pre-charge product. ***Refer to the Chapter 10.5.3.1, 10.5.3.2, 10.5.3.3 for specific instructions per aircraft type.***

a. Prior to opening a toilet service panel, check for stains around the panel.
b. While opening the service panel, stay clear and watch for signs of leakage.
c. Stay clear of the drain fitting cap while opening and watch for signs of leakage.
d. Ensure the drain hose Y-fitting coupling is connected correctly before the drain valve handle is pulled.
e. Empty the waste tank(s).
f. Flush the waste tank(s) in accordance with operator airline procedures.
g. Pre-charge the tank(s) with the correct quantity of water and disinfectant, as applicable.
h. Fill the waste tank(s) with the correct amount of water and concentrated deodorant pre-charge product or premixed fluid, as applicable. For aircraft equipped with a conventional toilet system, fill the waste tank(s) with the correct amount of water and pre-charge or concentrated deodorant pre-charge.
i. After servicing, ensure there are no leaks at the drain fitting cap or the end of the drain hose Y-fitting coupling.
j. Close the nozzle tightly to prevent the accumulation of ice during flight and wipe off residual water and disinfectant.
k. Check for possible leakage.
l. After servicing, close and latch the fitting caps and service panel door.

Notes:

1. Inform aircraft maintenance or flight crew, if:
   i. Fluid leakage is observed.

ii. The drain valve will not open, or the waste tank cannot be drained.

2. *Report any spillage of waste to the supervisor.*

Draining

a. Drain the aircraft waste system into the waste tank of a toilet service unit.
b. Observe the waste drain hose during draining to confirm that the waste tank is completely emptied. The hose will vibrate for a few seconds as the contents of the waste tank pass into the waste tank of a toilet service unit.

Note: *Drain the waste tanks one at a time for optimal results.*

10.5.3.1 TOILET SERVICING OF A319-153N, A320-214 (-232, -233), A321-251N

Drain order:

- Open hatch 172AR;
- Remove the plug from the drain fitting and connect a 4-inch hose from the special vehicle to the drain fitting;
- Press the "PUSH TO OPEN" lever to open the flap valve of the sewage drain fitting, the lever marked "CLOSED" will turn under the action of the spring, indicating that the valve has opened;
- Open the ball valves for draining sewage from the toilet tanks by pulling the “DRAIN VALVE CONTROL HANDLE”, turning from the “NORMAL” position to the “DRAIN” position, then the draining of the sewage will begin;
- Connect the filling hose to the filling fitting of the corresponding tank;
- Move the drain control knob from the corresponding tank to the stop to drain sewage;
- Turn on the water supply system at 3.45 bar pressure and flush the receiving tank with about 30 liters of water, which will take about 30 seconds;
- Return the drain valve control knob to its original position;
- After draining the sewage, return the "DRAIN VALVE CONTROL HANDLE" to the "NORMAL" position, close the reed valve.

Note: when using a special machine with a vacuum pump, do not exceed a vacuum pressure of more than 6 PSI (0.4 BAR), a higher value may damage the system!

To flush the toilet system:

- Turn on the toilet tank flushing unit.
- Flush the toilet system with approximately 57.0 liters (15.0 US gal) of water.
- Flushing fluid pressure 2.4 bar (34.8 psi), flow rate 38 l/min.

NOTE: Flushing will take approximately 90 seconds.
NOTE: The drain valve control knob must be in the "OPEN" position.

- Shake the drain sleeve to make sure the drain process is complete.
- Switch off the vacuum and flushing units.
- Move the drain valve control knob to the "NORMAL" position.

Refer to Fig. 10.5.3.1A, which shows the arrangement and location of the controls for the A319-153N toilet system.

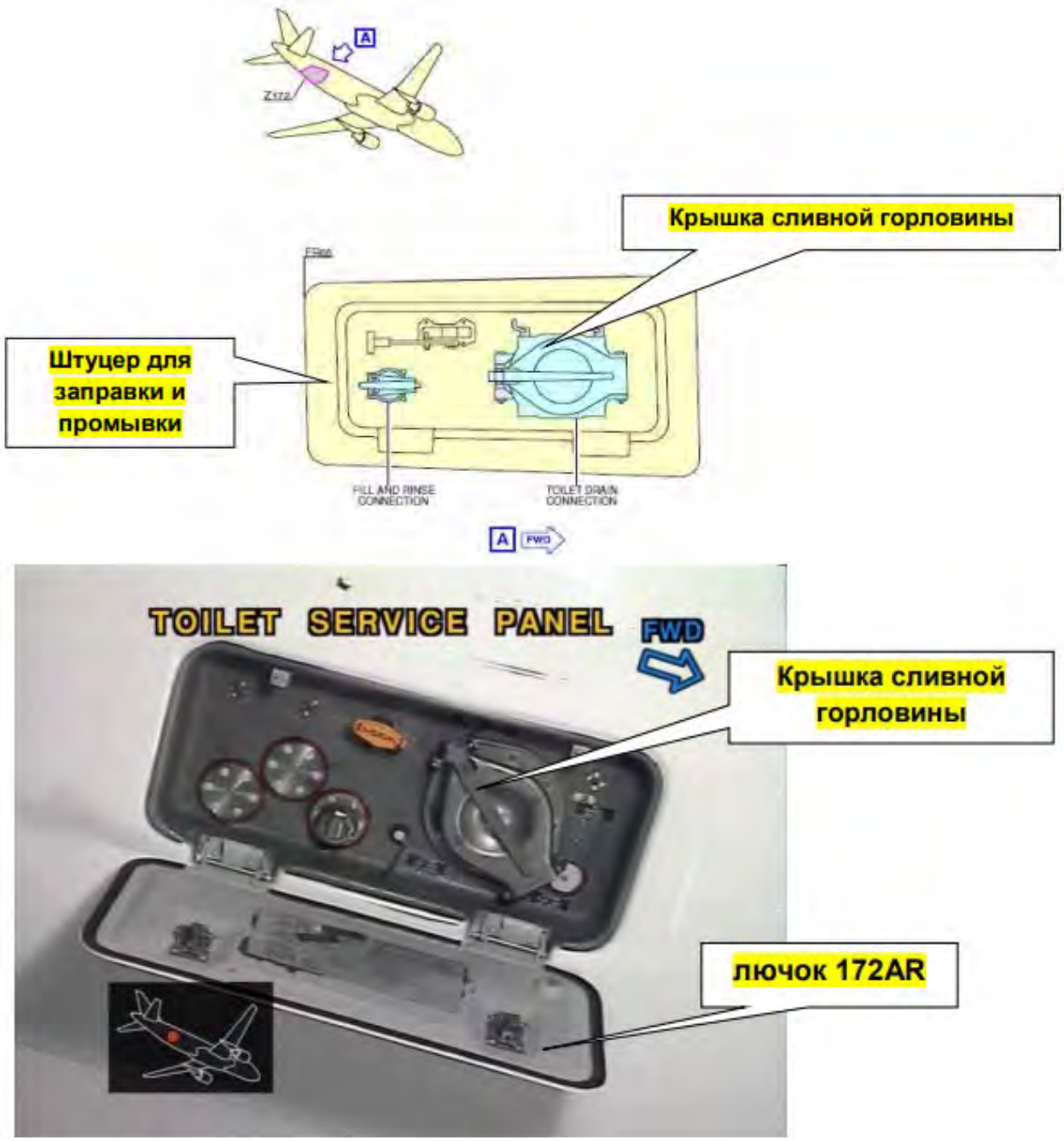
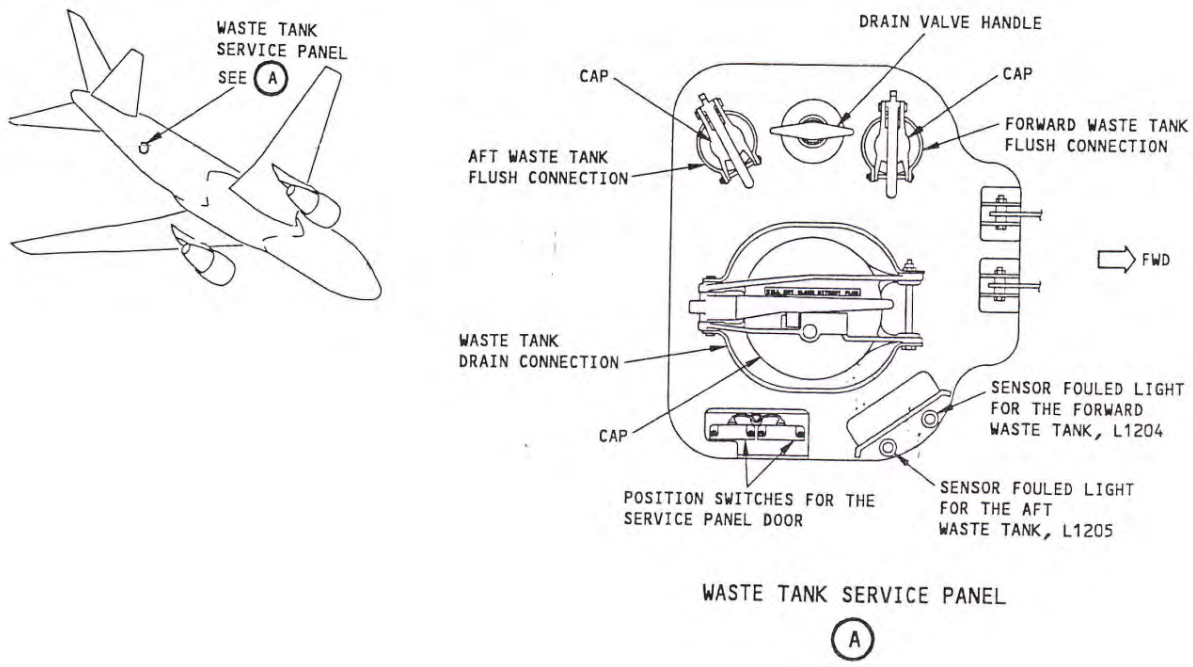


Fig. 10.5.3.1A. Location and appearance of the access panel A319-153N

10.5.3.2 TOILET SERVICING OF B767-300BCF (-BDSF)

1. Open the hatch on the bathroom service panel nodes;
2. Open the drain cap and connect the suction hose;
3. To drain the contents of the tank, pull the handle for opening the drain valve;
4. Rinse the waist tank:
   - Open the caps on the water filling fittings;
   - Connect the filling hose to the fitting of the front tank and make sure that the handle for opening the tank drain flap is in the OPEN position (lower position);
   - Pump liquid into the tank and make sure that the liquid is drained from the tank;
   - Disconnect the filler hose from the front tank filler neck and connect it to the rear tank filler neck.
5. After the flushing liquid has been drained, close the drain valve;
6. Disconnect the pumping hose and close the drain cap;
7. Fill the chemical liquid into the drain tank;
8. Disconnect the filling hose and replace the filler caps;
9. Close the hatch of the bathroom treatment panel.



10.5.3.3 TOILET SERVICING DURING FREEZING CONDITIONS

Take the following measures to prevent freezing of the fluid in the aircraft toilet tanks and lines during freezing conditions:

a. Drain the waste tanks if the aircraft is parked in the open for several hours without electrical power supply and the temperature is, or is expected to be, below the freezing point.
b. Fill the aircraft toilet system only after electrical power supply has been restored, and as close to flight departure time as possible.
c. Ensure the fill line is fully drained before closing the cap to prevent freezing of fluid in the fill line.

CAUTION: *Do not attempt to remove the frozen substance from the fill lines, connections or service panels. Contact maintenance immediately.*

10.5.3.4 INOPERATIVE TOILET SYSTEM

1. If defects in the toilet system prevent regular servicing, ask qualified technical personnel, if available, for assistance (e.g., removal of panels).
2. If no technical personnel are available, inform the flight crew.

10.6 POTABLE WATER SERVICING PROCEDURES

10.6.1 GENERAL REQUIREMENTS

a. The water used for uplift shall fully meet the hygiene and testing requirements detailed in IATA AHM and those detailed in IGOM.
b. Equipment used shall fully comply with the specifications detailed in IATA AHM for water servicing equipment.
c. All equipment shall be serviced according to the manufacturer's recommendations. Records shall be kept of all servicing, cleaning, disinfection and maintenance tasks performed.
d. All equipment and facilities used shall be maintained to the highest possible hygienic standards.
e. Only uplift water to aircraft if authorized or requested by the operating airline.
f. Any deviation during water servicing operations shall be reported to the supervisor or airline representative.
g. Airline representatives shall be informed of any issue that may affect (or may have affected) the standard of water uplifted to their aircraft, including contamination incidents, maintenance findings and test failures.

Aircraft should be filled with potable water at stations where there is a proven and certified supplier of this service, and the quality of the water is not compromised. Water uplift should be excluded at airports where there are doubts about the quality of water. Water uplift is necessary, then a corresponding entry is made in the logbook (TLB). As soon as possible after such water uplift, the water supply system must be cleaned and disinfected as part of the aircraft maintenance.

During water servicing, the following restrictions must be observed:

- Potable water servicing operations must not be performed by personnel who have already performed toilet servicing during the same shift.
- It is forbidden to use the same water supply equipment to operate potable water system and toilet system of the aircraft.
- Do not place water servicing equipment and toilet servicing equipment next to each other in the aircraft parking lot.
- Do not simultaneously carry out water uplift and toilet draining operations.
- The nozzles and/or hose connectors of the filling equipment must be protected from contamination by using special covers/nozzles or by immersing them in a disinfectant solution (chlorinated water).

<u>Water from on-board systems is drained if</u>:
- it is planned to park the aircraft for a period of more than 2 hours.
- it is planned to park the aircraft in conditions of negative temperatures.

Filling Aircraft Water Tanks

a. Before connecting the aircraft filling hose to the aircraft, flush the hose.

Note: *The hose needs to be flushed into a bucket or waste container before connecting the hose to the aircraft filling port (not required on consecutive servicing).*

b. Do not place hose ends on the ground.
c. On immediate turnaround sequence, water service shall always be performed before toilet service.
d. The aircraft filling port shall be cleaned/wiped dry with antiseptic wipes before the hose is connected to the aircraft adaptor.

Note: *Cleaning may be carried out either by wiping with a towelette or equivalent soaked with a disinfecting solution or wiping with a presoaked disinfectant towelette. The spray-and-wipe procedure is accepted if sprayed directly on the towelette. However, personnel should not spray directly into the aircraft coupling.*

e. Fill the water tank(s) to the required level.

f. Each aircraft type has specific requirements for filling and draining. ***Refer to the Chapter 10.6.2.1, 10.6.2.2, 10.6.2.3*** for specific servicing instructions.
g. When not in use, hose ends shall be:
   1. Kept capped, or
   2. Attached to a dummy connector, or
   3. Kept in a container filled with disinfectant solution, or
   4. Treated with disinfectant before use.

10.6.2 POTABLE WATER SERVICING PROCEDURES

10.6.2.1 POTABLE WATER SERVICING OF A319-153N

Water filling procedure:

1. Make sure the aircraft electrical system is turned on.
2. Open the refill panel.
3. Remove the filler and drain cap.
4. Connect the fill hose to the fill and drain port.
5. On the water system service panel, turn the handle to the "PULL TO FILL" position and pull it out until it stops.
6. Turn on the drinking water supply and fill the water tank to the required amount according to the indicator.
7. Press the FILL/OVERFLOW/DRAIN knob all the way in and turn it to the NORMAL position.
8. Stop the water supply.
9. Disconnect the charging hose.
10. Wipe the water system service panel and surrounding area dry.
11. Make sure there are no leaks from the necks. Leak is not allowed.
12. Install the filler and drain cap.
13. Make sure the work area is clean and free of tools and equipment.
14. Close the filling panel hatch.
15. Make sure that the filling hatch locks are closed securely.

Water drain procedure:

1. Connect ground power.
2. Make sure the following gas stations are enabled:
   - "WATER SYSYEM-QANT-IND" on the 2001 VU panel.
   - “WATER SYS-DRAIN” on the 2001VU panel.
3. Place a 2m stepladder in area 171, 133.
4. In the aircraft cabin:
   - Make sure the water shut-off valve is open in each toilet.
   - Make sure every kitchen has a water cut-off faucet.
   - Make sure that in each toilet the faucet head is set to the middle position (between the red and blue zone).
5. Open panels 133AL; 171AL.
6. Remove the plug from the fill/drain connection on the 2023VU service panel.
7. Connect the drain hose to:
   - filling and drain fitting on the service panel;
   - the drain plug on the front drain panel.
8. On the service panel 2023VU: turn the fill/drain control knob to the “PULL TO DRAIN” position and pull it all the way.

NOTE: The drain valve indicator light will come on when water begins to drain from:

- **filling and drain fitting on the service panel 2023VU;**
- **drain plug on the front drain panel.**

9. In all toilets and in all kitchens:
   - Press the toilet flush button to flush any remaining water from the toilet flush system.
   - Drain any remaining water from kitchen faucets, coffee makers, and water heaters.

NOTE: To drain the remaining water in the kitchens, the procedure must be repeated several times. The duration of draining the residual amount of water is at least 15 minutes. It depends on the position of the aircraft. If the aircraft was in motion, this procedure must be repeated again.

10. When the water is completely drained, disconnect the drain hose from:
    - filling and drain fitting on the service panel 2023VU;
    - drain plug on the front drain panel.
11. Return the fill/drain control knob to the “NORMAL” position.
12. Make sure the work area is clean and free of tools and other items.
13. Clean and dry the panels with cotton rags.
14. Install a plug on the fill/drain connection on the 2023VU service panel.

NOTE: If water is being drained at low temperatures, the fill/drain fitting and service panel hatches should be left open.

15. Close panels 133AL; 171AL.
16. Disconnect ground power 18) Remove ground support, tools and other foreign objects.

NOTE: *when the maximum amount of water in the tank is reached, the FILL/OVERFLOW/DRAIN knob will automatically return to the NORMAL position and the TANK FULL lamp will light up.*

NOTE: *when the tank overflows, water pours out of the "POTABLE WATER OVERFLOW" neck.*

NOTE: *when servicing in winter, do not install the cap on the neck until the remaining water has completely drained out.*

NOTE: *after closing, make sure that the hatch and its locks do not protrude beyond the contour of the fuselage skin.*

Refer to the Fig. 10.6.2.1A and 10.6.2.1B to have more information the structure and location of the aircraft water supply system and the controls for this system.

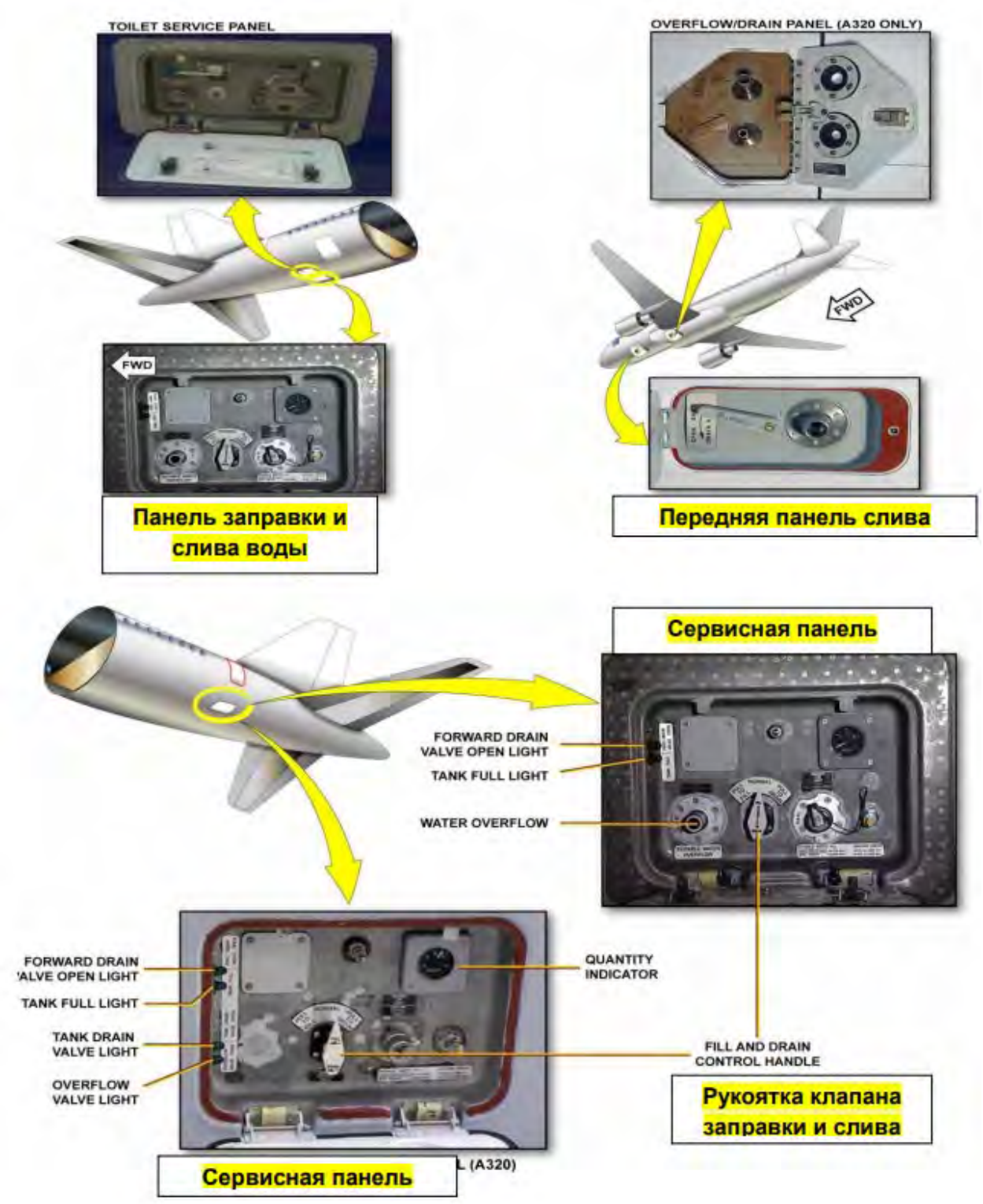


Fig. 10.6.2.1A. Water supply system and the location of the controls of the water supply system A319-153N

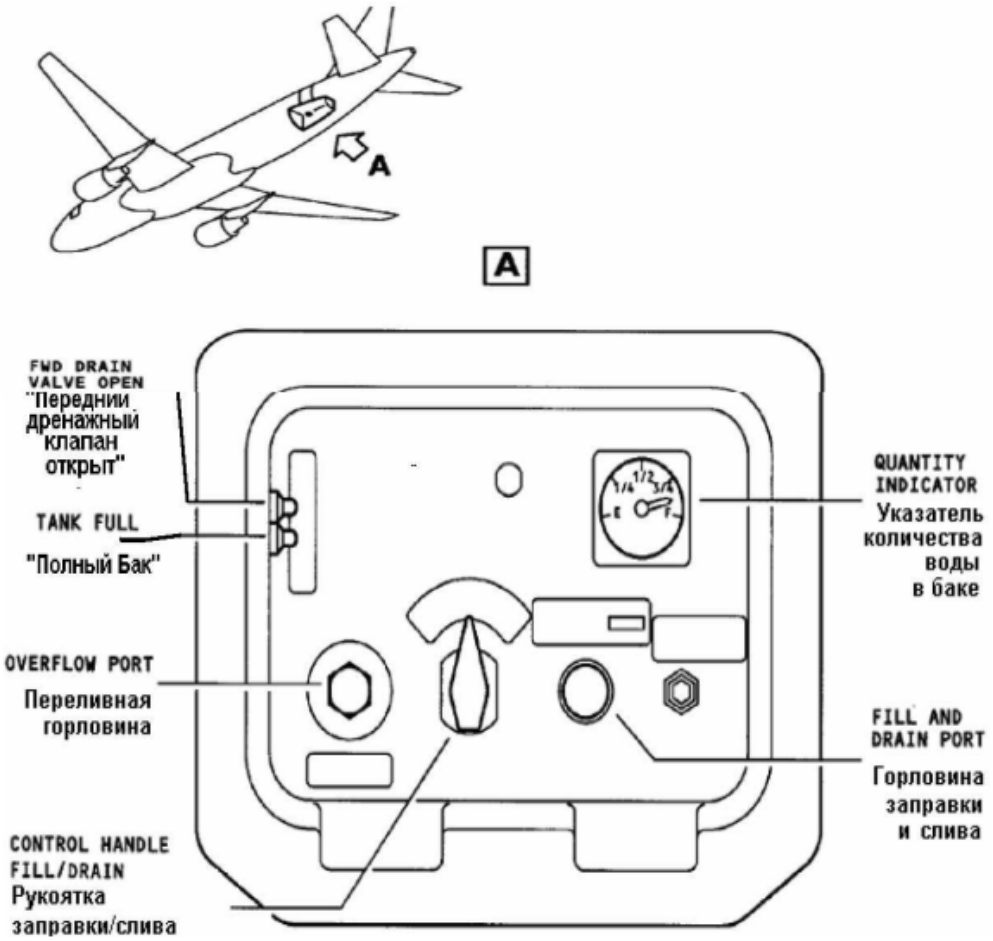


Fig. 10.6.2.1B. Water supply access panel A319-153N

10.6.2.2 POTABLE WATER SERVICING OF A320-214 (-232, -233)

Water filling procedure:

1. Make sure the aircraft electrical system is powered on.
2. Open the refill panel.
3. Remove the filler and drain cap.
4. Connect the fill hose to the fill and drain port.
5. On the water system service panel, turn the handle to the "PULL TO FILL" position and pull it out until it stops.
6. The "OVERFLOW VALVE OPEN" lamp on the filling panel will light up. If this lamp does not illuminate, take no further action, notify engineering personnel and follow their instructions.
7. Turn on the drinking water supply and fill the water tank to the required amount according to the indicator.
8. Press the FILL/OVERFLOW/DRAIN knob all the way in and turn it to the NORMAL position.
9. Stop the water supply.
10. Disconnect the charging hose.
11. Wipe the water system service panel and surrounding area dry.
12. Make sure there are no leaks from the necks. Leak is not allowed.
13. Install the filler and drain cap.
14. Make sure the work area is clean and free of tools and equipment.

15. Close the filling panel hatch.
16. Make sure that the filling hatch locks are closed securely.

Water drain procedure:

1. Connect ground power.
2. Make sure the following gas stations are enabled:
   - "WATER SYSYEM-QANT-IND" on 2000 VU panel;
   - "WATER SYS-DRAIN" on the 2001VU panel.
3. Place a stepladder 2 meters in area 171, 138, 133.
4. Aircraft configuration:
   - Make sure the water shut-off valve is open in each toilet.
   - Make sure every kitchen has a water cut-off faucet.
   - Make sure that in each toilet the faucet head is set to the middle position (between the red and blue zone).
5. Open panels 133AL; 192NB; 171AL.
6. Remove the plug from the fill/drain connection on the 2023VU service panel.
7. Connect the drain hose to:
   - filling and drain fitting on the service panel 2023VU.
   - drain fitting on the middle drain and overflow panel.
   - drain plug on the front drain panel.
8. On the 2023VU service panel, turn the fill/drain control knob to the "PULL TO DRAIN" position and pull it all the way.

Note: the following lights will light up:

- 2MP control lamp of the drain valve.
- control lamp 12MP of the drain valve.
- control lamp 6MR overflow valve.

Note: water will begin to drain from:

- filling and drain fitting on the service panel 2023VU;
- drain plug on middle drain and overflow panel;
- drain plug on the front drain panel.

9. In all toilets and in all kitchens:
   - Press the toilet flush button to flush any remaining water from the toilet flush system.
   - Drain any remaining water from kitchen faucets, coffee makers, and water heaters.

Note: to drain the remaining water in the kitchens, you must repeat the procedure several times, draining the water is at least 15 minutes. It depends on the position of the aircraft. If the aircraft was in motion, this procedure must be repeated again.

10. When the water is completely drained, disconnect the drain hose from:
    - filling and drain fitting on the service panel 2023VU.
    - drain plug on the middle drain and overflow panel.
    - drain plug on the front drain panel.
11. Return the fill/drain control knob to the "NORMAL" position.
12. Make sure the work area is clean and free of tools and other items.
13. Clean and dry the panels with cotton rags.
14. Install a plug on the fill/drain connection on the 2023VU service panel.

Note: If water is drained at low temperatures, the filling and drain fitting and service panel hatches should be left open.

15. Close panels 133AL; 192NB; 171AL.
16. Disconnect ground power.

17. Remove ground support, tools, and other foreign objects.

NOTE: *when the maximum amount of water in the tank is reached, the FILL/OVERFLOW/DRAIN knob will automatically return to the NORMAL position and the TANK FULL lamp will light up.*
NOTE: *when the tank overflows, water pours out of the "POTABLE WATER OVERFLOW" neck.*
NOTE: *when servicing in winter, do not install the cap on the neck until the remaining water has completely drained out.*
NOTE: *after closing, make sure that the hatch and its locks do not protrude beyond the contour of the fuselage skin.*

See Fig. ***10.6.2.2A*** and ***10.6.2.2B***, which show the structure and location of the aircraft water supply system and the controls for this system.

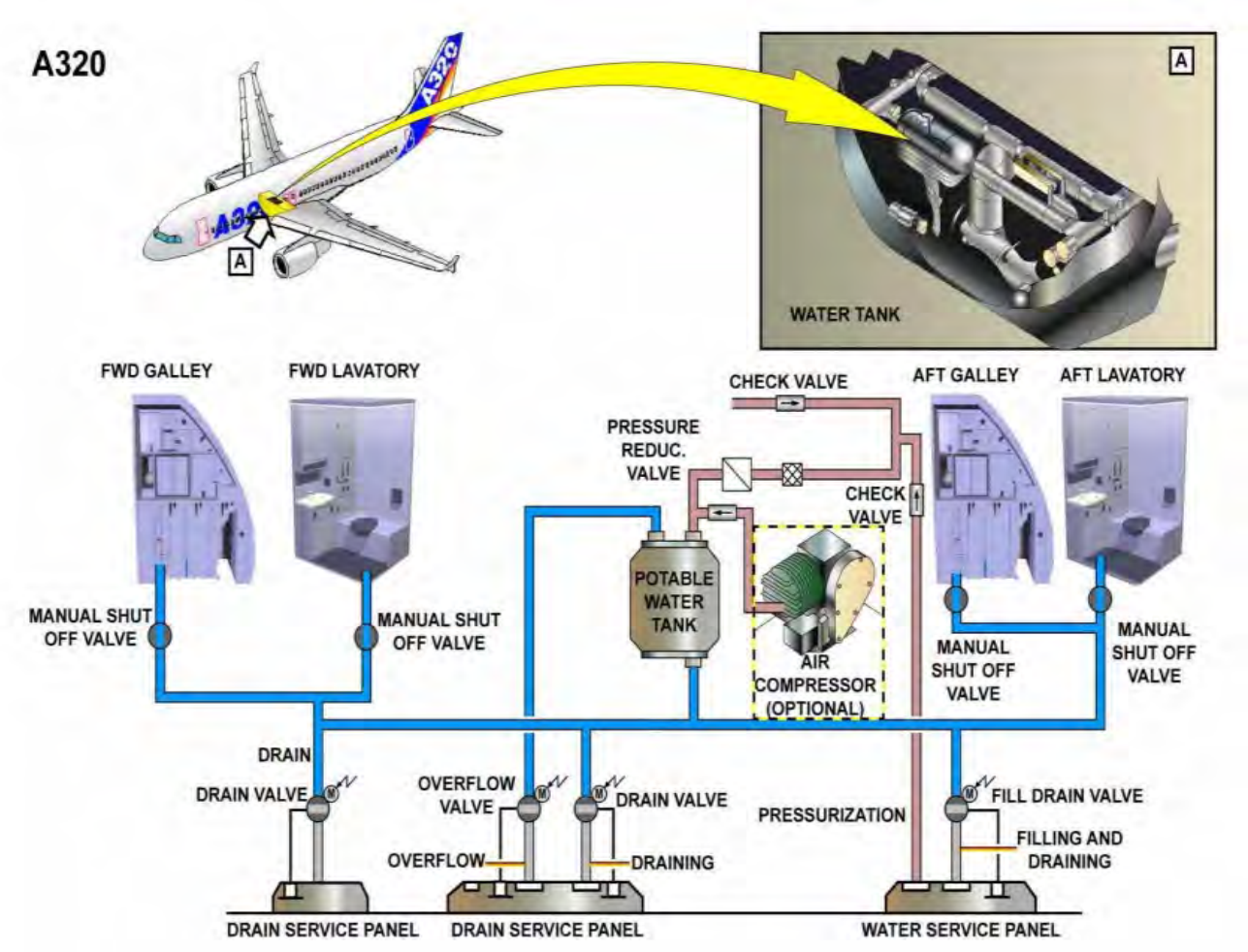


Fig. 10.6.2.2A. Water supply system A320-214 (-232, -233)

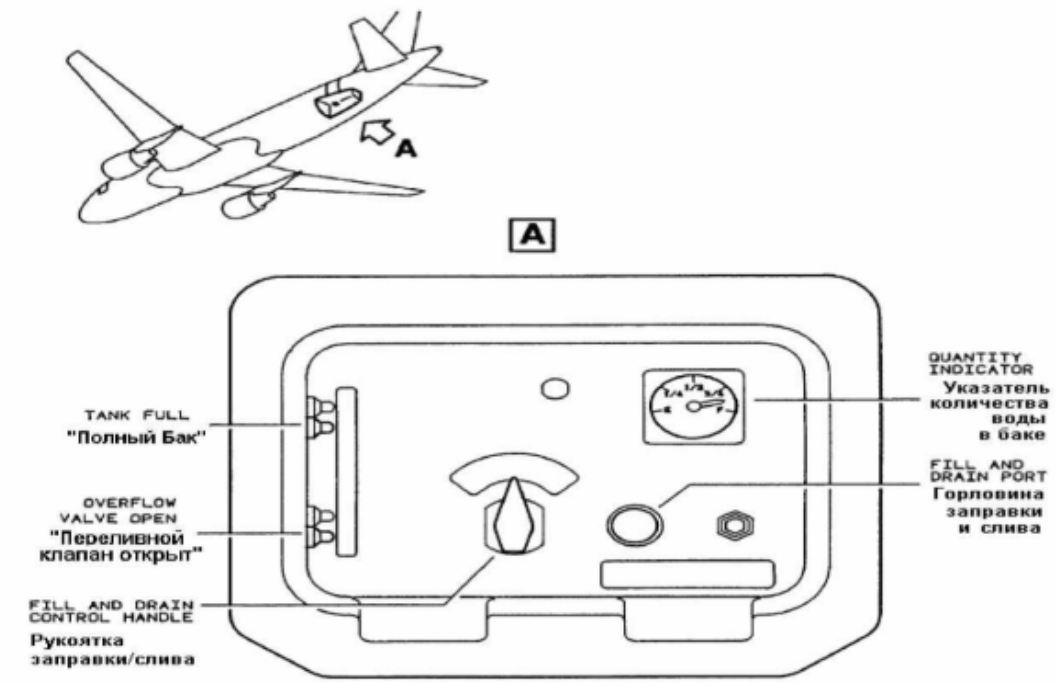


Fig. 10.6.2.2B. Access panel to the water supply system A320-232 (-233)

10.6.2.3 POTABLE WATER SERVICING OF B767-300BCF (-BDSF)

No needs to use standard water supply truck to uplift potable water to B767-300BCF (-BDSF) water tank. Depends on aircraft modification, water tank is located in toilet on the wall above or below the sink – and can be filled by standard bottle of water (1.5L).

Procedure for filling the potable water tank:

1. Open access door.
2. Uplift a water.
3. Close access door.

Procedure for draining of the potable water tank:

4. Open access door/press the button on the drain valve.
5. Drain tank.
6. Close access door.

10.6.3 WATER SERVICING DURING FREEZING CONDITIONS

To prevent freezing of water in aircraft tanks and pipelines at low temperatures, the following precautions must be observed:

1. Drain liquids from the aircraft water supply systems at the request of the Airline or aircraft maintenance personnel.
2. Ensure the fill line is fully drained before closing the cap to prevent freezing of fluid inside.
3. Do not attempt to remove frozen fluid from piping, valves, or panels of the plumbing system yourself. Inform the aircraft maintenance personnel immediately.

When draining the water supply at low temperatures, make sure that there is no liquid left in the coffee makers in the galley: water frozen in the coffee maker can damage it.

10.6.4 POTABLE WATER HYGIENE REQUIREMENTS

The water servicing personnel shall be dressed in clean working clothes in accordance with the World Health Organization (WHO) Drinking Water Quality Standard to be assigned to drinking water servicing.

The operator should wear single use or disposable gloves during drinking water servicing.

Water uplifted to aircraft potable water tanks shall contain a low concentration of disinfectant chemical (sanitizer) of a type suitable for potable water. The most common sanitizers are based on chlorine or hydrogen peroxide.

Water service vehicles, towed service cart tanks and hoses shall be checked every day, disinfected at least once per week and deep cleaned at least once per month.

Fill points, hose cabinets and their surroundings shall be checked daily for general cleanliness.

Fill points and hoses shall be disinfected at least once a week.

10.6.4.1 FILL POINTS AND WATER CABINETS

a. Daily, weekly and monthly tasks shall be conducted and recorded as per IATA AHM 440.
b. Hoses, connectors and water quality shall meet IATA AHM 440 specifications and hygiene requirements.
c. The water shall only be used as potable water for aircraft.
d. The area around the fill point/water cabinet shall be kept clean and free from waste.
e. When not in use, all fill point hoses shall be secured and locked in a metal pest-proof enclosure. Fill points without attached hoses shall be capped.
f. When not in use, hose-ends shall be:
    1. Kept capped, or
    2. Attached to a dummy connector, or
    3. Kept in a container filled with disinfectant solution, or
    4. Treated with disinfectant before use.
g. Do not place hose ends on the ground.

10.6.4.2 WATER SERVICE VEHICLES AND TOWED SERVICE CARTS

The water service vehicles and towed service carts shall:

a. Conduct and record daily, weekly and monthly tasks as per IATA AHM 440.
b. Only be filled at a designated potable water fill point using approved hoses and couplings.
c. Only be used to fill aircraft potable water tanks.
d. Be parked in a clean and secure area, away from toilet servicing vehicles.
e. Not be positioned close to toilet servicing units at any time, particularly when toilet servicing or toilet waste disposal is taking place.

Notes:

1. *The water service vehicles and towed service carts should be parked in a shaded area during hot sunny weather, particularly if filled.*
2. *The tank shall be drained completely at least once per calendar day.*

10.7 AIRCRAFT CLEANING AND DISINFECTION

10.7.1 GENERAL INTRODUCTION

a. Aircraft Cleaning

Remove visible dirt and/or particles through mechanical action, normally undertaken on a routine and frequent basis. Cleaning and disinfection can be combined into one process if disinfectants are used during the cleaning.

b. Disinfection/Sanitization/Sanitation

The procedure applies measures taken to control or kill infectious agents on a human or animal body, on a surface, on goods or in/on baggage, cargo, containers, and/or conveyances by direct exposure to chemical or physical agents.

c. Event

An event is an occurrence of suspected or confirmed communicable disease on board an aircraft, or aircraft contaminated with body fluids, or other nonstandard (uncommon) situation necessitating additional cleaning and disinfection.

10.7.2 AIRCRAFT CLEANING INTERVALS

a. Turnaround Cleaning

Cleaning performed on aircraft while on the ground prior to departure within a defined ground time.

b. Transit Cleaning

A type of turnaround cleaning that may be performed with transit passengers on board.

c. Layover/Night-Stop Cleaning

Cleaning performed when the aircraft is on a longer predefined ground time. The cleaning does not involve removal of cabin panels and/or gallery inserts.

d. In-flight Cleaning

Cleaning performed by cabin crew while the aircraft is airborne.

e. Deep Cleaning

Cleaning performed when the aircraft is on a longer predefined ground time. The cleaning may include the removal of cabin panels and/or galley inserts. It includes cleaning performed during maintenance.
Note: *Cleaning done during aircraft maintenance is not addressed within the scope of this section.*

10.7.3 CLEANING AND DISINFECTION PRODUCTS

Informed selection and correct use of products is vital to ensure effective cleaning and disinfection of an aircraft without damaging the aircraft interior, systems and/or equipment, while minimizing the likelihood of transmission of any communicable diseases.
The following recommendations should be observed:

a. It is important that the cleaning and disinfection liquids are used exclusively according to the product specifications and manufacturer safety data sheet (SDS).
b. Use premixed cleaning and disinfection liquids where possible to avoid mixing ratio errors.
c. Special attention must be paid to the application instructions and mixing ratios (e.g., wipe on, wipe off, water rinsing, drying after cleaning).
d. Do not spray cleaning and disinfection liquids in the cargo compartment. Instead, apply as per the product and/or airline application instructions (e.g., wet wipe on/off).
e. Do not allow cleaning and disinfection liquids to contact critical equipment (e.g., smoke detector, electronic door operation equipment and fire extinguishing discharge nozzle).
f. Disinfectants are flammable. Take precautions around potential sources of ignition, especially hidden sources such as electronic boxes mounted in the cargo compartment.

g. Airlines should periodically inspect the aircraft interior and cargo holds to ensure there are no long-term effects or damage over time due to frequent use of cleaning and disinfection products.

Caution:

1. Use of non-certified cleaning and disinfection liquids can lead to severe damage to material in the aircraft's interior.
2. Use of cleaning and disinfection liquids in the wrong mixing ratio or using the wrong application method can lead to severe damage to material in the aircraft's interior.
3. Cleaning and disinfectant solutions tend to be oxidizers. The interior of an aircraft contains many materials susceptible to damage from oxidization. Care must be exercised when using cleaning products and disinfectants.
4. Metals used in aircraft construction may corrode upon exposure to cleaning and disinfection products.
5. Safety-critical cables and wires may deteriorate upon exposure and aircraft furnishings may have their fire-resistant properties reduced.
6. Some cleaning and disinfection products are flammable. Care must be exercised in the aircraft interior, especially near various electric installations and boxes as these are sources of ignition.

10.8 CATERING

Catering must be served and loaded by qualified staff according to the local sanitation and hygiene regulations.

Catering must be delivered onboard into closed and sealed galley units/boxes (when nobody has access to its content until seal removal).

Amount and content of catering must be checked by accepting person (loadmaster or airline ramp supervisor, or assigned ground handling agent) to make sure, if appropriate quantity of catering supplies is delivered onboard. If some items are missed, or amount is insufficient, accepting person must make remark in documents and request to delivery missed items onboard before flight release.

Loading of catering items must be performed in accordance with **Table 10.8.1 & Fig. 10.8.1** (applicable for B767-300BCF) and **Table 10.8.2 & Fig. 10.8.2** (applicable for B767-300BDSF).

No catering must be remained onboard of aircraft after flight arrival. All expired catering must be removed and disposed after the flight and especially before the aircraft storage/parking into hot weather area.

No potable water/drinks must be remained into hot cup or in bottles/thermoses into stowage sections if aircraft is stored into cold weather area (to prevent possible damage of equipment) or hot weather area (to prevent the emergence and spread of harmful microorganisms).

Applicable for: B767-300BCF (UK67009, UK67010, UK67017, UK67018)

Galley includes supplies stowage sections, refrigerator, oven and hot cup. Refer to appropriate picture below for reference.

Refrigerator enough to accommodate 2 standard sets of hot meals (standard size). Refrigerator can be used during the flight and ground operations, when aircraft systems are supplied by electricity from engines, APU or GPU.

Oven is equipped by timer, so auto shutdown is possible.

Hot cup is not equipped by timer, so auto shutdown is not possible.

Dry ice must be used to cool supplies loaded to supplies stowage sections 3-5.

Onboard refrigerator manual:

1. Make sure if inner area of refrigerator is free of old catering, foreign objects, contaminations and damages. Perform cleaning if required before the loading of new catering set into inner area.
2. Use button ON/OFF to turn on the refrigerator.
3. Choose desired mode by button CHILL/FROZE. Use mode CHILL as standard one.
4. If aircraft has been parked into hot and sunny weather for a long time, await 30-45 min after system turned on before the loading of catering inside the inner area, or use 0.3-0.5kg of dry ice to cool the inner area within 15-20min after system turned on.
5. Remove and dispose expired catering items from refrigerator before leaving of aircraft/storage of aircraft between flights/ground operations.

Table 10.8.1. Catering distribution on B767-300BCF

Applicable for: B767-300BCF (UK67009, UK67010, UK67017, UK67018)

GALLEY EQUIPMENT ID	EQUIPMENT TYPE	EQUIPMENT CONTENT	COMMENTS
1	Upper stowage section	Cups for drinks, paper napkins, sets of disposal cutlery, coffee and tea	If total quantity of supplies exceeds volume of this stowage, place remain volume into stowage №2.
2	Supplies stowage section	Lunchboxes, fruits, sandwiches	Dry ice must be used to cool the catering supplies. Minimum 0.5kg of dry ice must be loaded into this section to cool the content
3	Refrigerator	Lunchboxes, fruits, sandwiches	Dry ice may be optionally loaded into this section to quickly cool refrigerator into short time after aircraft long parking. Enough to use 0.3-0.5kg of dry ice.
4	Supplies stowage section	Water, juices, thermoses with hot water (if used)	-
5	Supplies stowage section	Water, juices, thermoses with hot water (if used), paper napkins, sets of disposal cutlery	-
6	Supplies stowage section	Lunch boxes & sandwiches	Dry ice must be used to cool the catering supplies. Minimum 0.5kg of dry ice must be loaded into this section to cool the content
7	Water		
8	Hot cup	Lunchboxes, fruits, sandwiches, water, juices, thermoses with hot water (if used)-	No auto shutdown by timer. Water boiling be visually controlled, manual turning-off requires, otherwise system will be overheated and damaged beyond repair.
9	Oven	-	Auto shutdown by timer

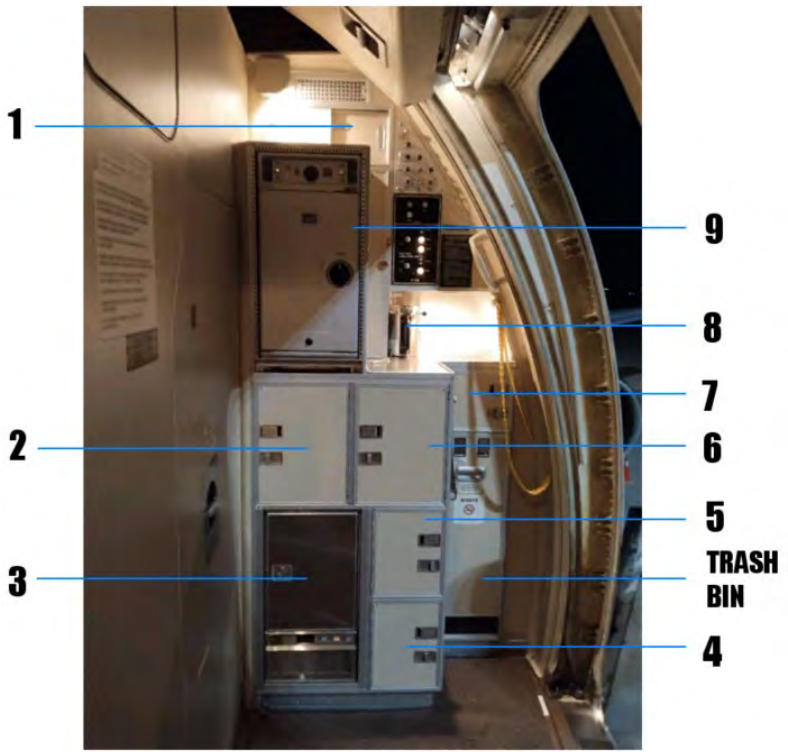


Fig. 10.8.1. Galley configuration of B767-300BCF

Applicable only for: B767-300BDSF (UK67015)

Galley includes supplies stowage sections, oven and hot cup. Refer to appropriate picture below for reference.

Airline's B767-300BDSF is not equipped by onboard refrigerator. All appropriate catering supplies must be cooled by dry ice in supplies stowage units.

Hot cup is equipped by timer, so auto shutdown is possible.

Table 10.8.2. Catering distribution on B767-300BDSF

GALLEY EQUIPMENT ID	EQUIPMENT TYPE	EQUIPMENT CONTENT	COMMENTS
1	Supplies stowage section	Cups for drinks, paper napkins, sets of disposal cutlery, coffee and tea	If total quantity of supplies exceeds volume of this stowage, place remain volume into stowage №2.
2	Supplies stowage section	Hot meals, lunchboxes, sandwiches	Dry ice must be used to cool the catering supplies. Minimum 1.5kg of dry ice must be loaded into this section.
3	Supplies stowage section	Hot meals, lunchboxes, sandwiches	Dry ice must be used to cool the catering supplies. Minimum 1.5kg of dry ice must be loaded into this section.
4	Supplies stowage section	Water, juices, thermoses with hot water (if used)	Dry ice may be optionally used to cool the water and drinks.
5	Oven	-	Auto shutdown by timer
6	Timer-equipped hot cup	-	Auto shutdown by timer

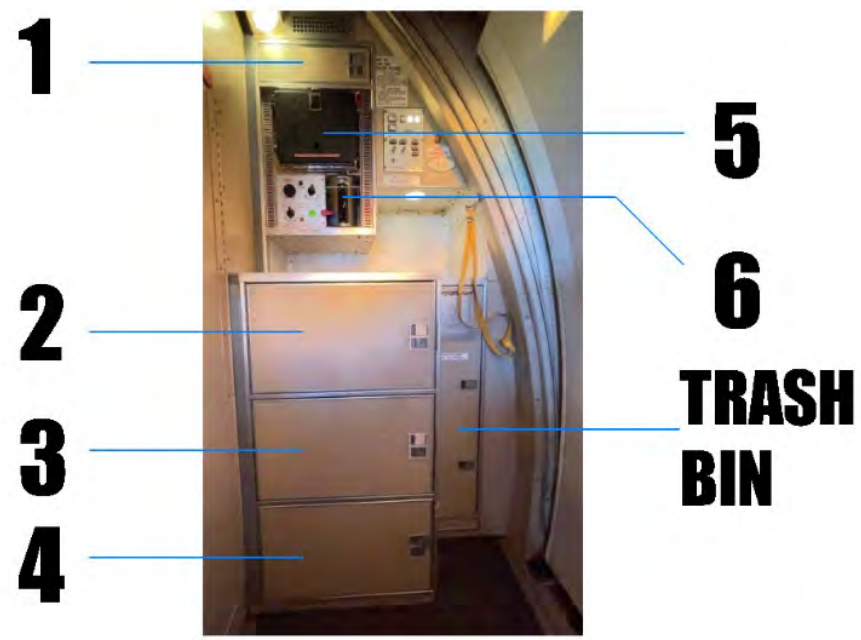


Fig. 10.8.2. Galley configuration of B767-300BDSF

10.9 SAFETY DURING AIRCRAFT DE-ICING/ANTI-ICING OPERATIONS

No aircraft shall attempt takeoff when frozen or freezing contamination is present on or adhering to the wings, propellers, control surfaces or other critical surfaces. This is known as the ICAO Clean Aircraft Concept. Compliance with this requirement can be achieved by appropriate use of anti-icing or de-icing procedures, or where necessary a combination of both.

Detailed procedures and requirements for de-icing and anti-icing can be found in SAE AS 6285 Aircraft Ground De-icing/Anti-Icing Processes and other relevant SAE documents. This section provides general guidelines for safe ground de-icing/anti-icing operations.

The term de-icing will be used throughout this section but should also be considered to refer to the anti-icing process.

De-icing operations shall be performed with extreme caution to prevent injury to personnel and damage to aircraft and equipment. De-icing is not permitted during the fueling process.

10.9.1 PERSONNEL SAFETY

The safety factors given below are designed to ensure that safety is not compromised for personnel performing aircraft de-icing tasks:

a. Appropriate PPE should be checked for serviceability and worn by all personnel engaged in de-icing operations.
b. Cones should be removed, as necessary, to allow access to the aircraft surfaces. Replace the cones on completion of the de-icing operation if the aircraft is not departing.
c. To prevent injury, caution must be taken when filling de-icing vehicles with hot fluid.
    1. When handling de-icing fluids, personnel should understand and follow the precautions contained in the fluid OEM's SDS.
    2. Before de-icing operations start, de-icing should be coordinated between the de-icing and ground handling personnel.
    3. De-icing/anti-icing fluids may be very hot; 60°C/140°F or even warmer. To prevent injuries, ground personnel, passengers and flight crew shall be prevented from walking near an aircraft that is being de-iced.
    4. Slippery conditions can exist on the ground and equipment surfaces during and following the de-icing processes. Caution should be exercised, particularly in low humidity or nonprecipitating weather conditions, due to increased slipperiness following the use of glycol that is not diluted by the weather element.
    5. When de-icing on a stand, all ramp equipment, including steps, should be clear of the area to be sprayed to avoid contamination by fluid.
    6. Care should be taken to prevent the transfer of fluid by foot onto GSE (e.g., steps, jet bridges), interiors of aircraft and aircraft cargo holds.

10.9.2 OPEN BASKET OPERATIONS

The following minimum precautions should be taken when de-icing from an open basket:

a. Ensure the fall restraint device is securely anchored and the safety harness is always worn.
b. Ensure the basket door or safety chain is securely latched.
c. Caution should be taken to avoid exposure to a running APU.

10.9.3 CLOSED BASKET OPERATIONS

The following minimum precautions should be taken:

a. Ensure the seat belt is always worn.
b. Ensure the windows of the cabin are clean. Check wiper(s) for condition and check window washer fluid level.
c. Ensure the cabin access door is securely closed.
d. Ensure there are no obstructions to the cabin heater/ventilation system.

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PART 11 AIRCRAFT TURNAROUND

Aircraft turnaround include the following stages:

— Aircraft arrival;
— Aircraft loading and unloading;
— Aircraft departure.

Coordination and supervising of turnaround procedures shall be performed to ensure safe and timely operations.

Turnaround coordination is performed by a responsible person, performing Turnaround Coordination function (Loadmaster, Airline Ramp Supervisor or contracted service provider). Turnaround Coordination may be performed by the same person for more than one aircraft turnaround/stand simultaneously.

The person, responsible for turnaround coordination should:

a. Ensure turnaround operations are performed as per airline's requirements;
b. Coordinate ground activities and operational teams;
c. Ensure adherence to the station's Precision Time Schedule (PTS);
d. Ensure safe, secure and punctual performance;
e. Stop any turnaround activities that are not in compliance with safety, security and operational procedures and processes.

At each location where aircraft turnaround handling operations are conducted, an aircraft turnaround plan that includes related turnaround coordination, as described in ***Sections 11.1-11.10***, is established. Depending on the station turnaround coordination can be performed:

— by a dedicated persons from the contracted ground handling agent;
— by the airline personnel.

Turnaround Coordinator functions are performed:

a. At the base station – by the Airline Ramp Supervisors;
b. At the locations in the Republic of Uzbekistan – by the Airline Ramp Supervisors;
c. At the outstations (other than the Republic of Uzbekistan) – Loadmasters (cargo flights) or personnel of the local contracted ground handling agent.

Supervisory functions are performed by qualified GOCHD staff upon the decision of the GOCHD Director and as per procedure described in ***Part 1 Section 1.10.2 of this Manual***.

General responsibilities within supervisory functions include:

a. Setting goals for operational performance and deadlines;
b. Organizing workflows and ensuring employees understand their duties or delegated tasks;
c. Monitoring employee activity, providing constructive feedback and coaching;
d. Providing oversight and guidance to personnel conducting operational functions;
e. Reporting any accidents, incidents and/or noncompliance as per the organization's procedures.

11.1 AIRCRAFT ARRIVAL

11.1.1 ACTIONS PRIOR TO AIRCRAFT ARRIVAL

— Ensure all persons involved with the aircraft arrival and post-arrival handling/servicing are briefed on safety and operational requirements relevant to their functions, e.g., aircraft defects that may affect ground handling operations, specific unloading, equipment positioning and operating requirements.
— Conduct a foreign object debris (FOD) check of the entire stand. Inspect the ramp area surface and ensure it is free of FOD that could cause damage, and contamination that could be hazardous to aircraft movement. Remove all debris just prior to aircraft arrival (see description of FOD in ***Section 10.1.2.4***).

— Make sure the stand surface condition is sufficiently free of ice, snow, etc. to ensure safe aircraft movement.
— Make sure the aircraft movement path is clear of objects and obstacles.
— Make sure all required ground support equipment (GSE), chocks and safety cones are available and serviceable, and are positioned well clear of the aircraft path, outside the equipment restraint area (ERA).
— Make sure the aircraft guidance docking system is activated, where applicable, or a marshaller is in position. Where an aircraft docking guidance system is in use, ensure it is operative and only activated when it is confirmed that conditions are safe to accept the aircraft.
— Make sure required ground personnel are present including any additional personnel (i.e., wing walker), if applicable.
— All personnel shall remain well clear of the arriving aircraft and its maneuvering path, outside the ERA, other than those whose functions require them to be inside the ERA during aircraft arrival, e.g., marshaller(s) and/or wing walker(s).

An employee performing the functions of the role of “Aircraft Loading Supervisor” is responsible for the safe and efficient ground handling of the aircraft according to the technological schedule, the safety of passengers and aircraft crew members, and the protection of transported goods, mail and baggage.

<u>NOTE 1:</u> Any loading and unloading operations on the aircraft must only be started in the presence of a loading supervisor or an employee responsible for loading and/or unloading the aircraft.

<u>NOTE 2:</u> Any actions related to boarding/disembarking passengers and loading/unloading baggage from the aircraft should only be started in the presence of a loading supervisor or an employee responsible for loading and/or unloading the aircraft.

<u>NOTE 3:</u> Any actions related to the approach and departure of special equipment to / from the aircraft should only be started in the presence of a qualified ground handling agent authorized to manage the approach and departure.

The following actions shall be done by the Airline Ramp Agent:

1. Check the tail number of the aircraft with the OCC;
2. Check the aircraft schedule and estimated flight arrival/departure time;
3. Check the aircraft's MEL / DI restrictions, if applicable;
4. Check the aircraft technical condition reports from the departure station;
5. Check if ground handling services have been ordered;
6. If necessary, order special equipment, including additional equipment due to existing aircraft malfunctions (an example of a request is shown below) from a ground handling agent;
7. Check the assigned parking lot number with the airport duty dispatcher;
8. Check the receipt of MVT, LDM, CPM, UCM, PSM telegrams for an arriving flight (via e-mail, SITA or another communication system(s));
9. Check the load (total number of passengers and the presence of special categories of passengers requiring special attention (UNMR, DEPA, DEPU, WCHR, WCHC, WCHS, DPNA, MEDA, STCR, DEAF, BLND, WEAP, WEOB);
10. If necessary, order additional ground handling services from an agent;
11. Check the availability of preliminary loading instructions (LIR) for outbound flight;
12. **Print the required forms**:
    - ✓ **<u>For PAX flight (A319/A320/A321)</u>: «**STATION FLIGHT REPORT» (Appendix 1.5).
    - ✓ **<u>For Cargo flights</u>** (Appendix 1.4).
    - ✓ Telegrams MVT, LDM, CPM, PSM - if available.
    - ✓ Preliminary load plan for the departing flight (if available).
    - ✓ Tie-down instructions for outbound cargo/equipment (if available).
    - ✓ "Act on the transfer of forgotten items" – minimum 3 pcs.
13. **Arrive at the aircraft parking spot 15 minutes before the estimated time of aircraft arrival**;

14. Perform FOD check of the parking spot and the taxiways adjacent to it, if necessary, instruct ground handling agent to clear FOD, or (*if prompt cleaning is not possible*) order the towing of the aircraft to the parking stand upon arrival.
15. **Check GSE and vehicles availability on the stand**:

- mandatory equipment:

- ✓ tow tractor and towbar for this type of aircraft;
- ✓ stairs (3 steps and 5 steps high);
- ✓ at least 6 cones;
- ✓ chocks;
- ✓ at least 1 passenger self-propelled passenger stairs (at a remote parking lot, or in case of a malfunction of the passenger boarding bridge) or a serviceable passenger boarding bridge (when parking near the passenger terminal);
- ✓ fire extinguisher.

- mandatory vehicles:

- ✓ passenger buses (at the rate of 1 bus for 60-90 passengers, depending on the model and capacity);
- ✓ bus or minibus for the crew (at the rate of 1 minibus for 8-10 crew members).

- optional equipment:

- ✓ GPU (if it is necessary to provide aircraft systems with electricity during parking);
- ✓ ASU (if aircraft APU is not serviceable);
- ✓ ACU (if necessary, air conditioning of the aircraft cabin during parking);
- ✓ tow tractor (if it is necessary to tow the aircraft for parking);
- ✓ fuel truck (if necessary, refueling immediately after arrival);
- ✓ belt loader (if necessary, unload baggage/cargo/mail/FKT in bulk);
- ✓ highloader (if it is necessary to unload baggage / cargo / FKT, assembled on the ULD).

- additional special equipment:

- ✓ ambulift (if there are corresponding categories of passengers on the flight);
- ✓ catering truck;
- ✓ at least 1 fire truck (if necessary, further refueling of the aircraft with passengers on board the aircraft);
- ✓ additional passenger stairs (in case of a large number of passengers and a short parking time and/or the need for further refueling of the aircraft with passengers on board the aircraft);
- ✓ minibus(-es) for VIP/CIP passengers (depending on the number of passengers and the capacity of available minibuses).

In the absence of any GSE or vehicles, contact the airport ramp control service and make a corresponding note in the Station Flight Report.

16. **Check the availability of aircraft maintenance personnel on the parking position:**

- essential staff*:*

- ✓ technician(-s) and aircraft mechanic(-s) to provide maintenance, pre-flight and post-flight checks of the aircraft;
- ✓ loaders (if there is information about the unloading of baggage/cargo/mail/FKT);
- ✓ duty representatives of the aviation security service (if required by local procedures);
- ✓ drivers of mandatory GSE;
- ✓ duty ramp handling agent to coordinate operations.

- support staff*:*

- ✓ representatives of state law enforcement agencies (if required by local procedures on a given flight or at a given airport);
- ✓ drivers of additional special equipment.

17. **Conduct a briefing with the GHA personnel involved, paying special attention to**:
    - ✓ special categories of passengers;
    - ✓ parameters of unloaded cargo/baggage/mail/FKT (including dangerous goods and oversized cargo/equipment/special baggage, if any);
    - ✓ turnaround time.

11.1.2 ACTIONS DURING AIRCRAFT ARRIVAL

For a standard arrival at a stand without an automated guide-in system or at an open ramp (for the hand signs *refer to Section 10.4 Part 10 GOCHM*):

1. As the aircraft approaches the stand area, the marshaller points to the guide-in line on the ramp to be followed by the aircraft by standing at the top of the guide-in line and giving the "Identify Gate/Stand" signal. Wing walkers, if required, will be positioned approximately 1 m (3 ft.) outside the path of the wingtips. Wing walkers shall maintain visual contact with the marshaller until the aircraft has come to a complete stop (see ***Figure 11.1.2***).
2. While the aircraft taxies along the guide-in line, the marshaller gives the "Continue to Taxi Straight Ahead" signal with marshalling wands.
3. The nose wheel should follow the guide-in line all the way to the appropriate parking point on parking spot surface. Use the "Turn Left (from the flight crew's point of view)" or "Turn Right (from the flight crew's point of view)" signals to correct the track of the aircraft as required.
4. If at any time during the aircraft movement the marshaller is unsure or identifies an imminent danger, signal the aircraft to "STOP".
5. If at any time during the aircraft movement the wing walkers are unsure or identify an imminent danger, signal the marshaller with the "STOP" signal.
6. As the aircraft approaches the stop position, use the "Slow Down" signal, if required. As the nose wheel reaches the stop point, slowly cross the wands in the "STOP" signal.

For a standard arrival at a stand with an automated guide-in system:

1. The ground personnel responsible for aircraft arrival operations shall verify that the correct aircraft has been selected for the arrival and the equipment is operational.
2. The agent responsible for staffing the emergency stop button shall be positioned with an unobstructed view of the arriving aircraft and within reach of the system to stop the aircraft in the event it is needed. It is essential to maintain a continuous unobstructed view between the agent responsible for staffing the emergency stop button and the ground personnel ensuring clearance (e.g., wing walker).
3. If the emergency stop is activated, and only after verification by the ground personnel operating the guidance system that the risk is no longer there, the aircraft docking guidance system can be reactivated. If not, standard aircraft arrival procedures shall be used.
4. Wing walkers, if required, will be positioned approximately 1 m (3 ft) outside the path of the wingtips. Wing walkers shall maintain visual contact with the agent responsible for the aircraft arrival operations until the aircraft has come to a complete stop. See diagram in ***Figure 11.1.2*** for positioning of wing walker during aircraft arrival on stand.

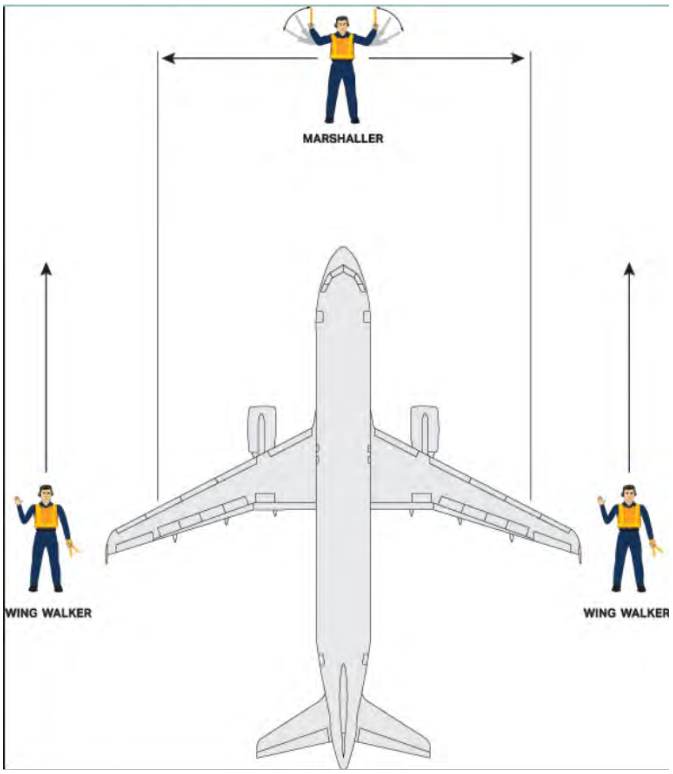


Figure 11.1.2 — Wing Walker Positioning for Aircraft Arrival

11.1.3 ACTIONS AFTER AIRCRAFT ARRIVAL

a. Upon aircraft stopping:

1. Position wheel chocks at the nose landing gear (NLG) wheels as per ***Section 11.2 Part 11 GOCHM***.
2. Position and connect the ground power unit (GPU) or fixed power unit (FPU), if required, before engine shutdown in accordance with ***Section 11.1.4.3 Part 11 GOCHM***.

b. After the engines have been shut down, are spooling down, and anti-collision lights have been switched off:

1. The person responsible for arrival operations shall give clearance for placement of the remaining wheel chocks and safety cones.
2. Remaining wheel chocks shall be placed in accordance with ***Section 11.2 Part 11 GOCHM***, and verbal/visual confirmation shall be given to the flight crew.
3. If applicable, the passenger boarding bridge (PBB), shall be positioned after an inspection has been carried out to confirm there is no damage to the cabin access door and surrounding area.
4. Safety cones shall be placed in accordance with ***Section 11.3 Part 11 GOCHM***. After placement, GSE may enter the ERA to approach the aircraft.

NOTE 1**: **Positioning of GSE at its final servicing position shall only take place after inspection of the door/service panel and surrounding area where the GSE shall position, and clearance given.
NOTE 2**: **Spooling down of an engine can be identified as follows: reduced engine noise, visible fan or propeller speed reduction, lack of exhaust heat or thrust plume.

c. Before positioning GSE, conduct an arrival walkaround to inspect for damage to the following parts of the aircraft:

1. All cargo hold access doors
2. All access panels and servicing access points
3. Aircraft fuselage
4. Aircraft engine cowlings/propellers
5. All cabin access doors, including service doors.

d. Give clearance for GSE to position at the aircraft.

***NOTE 1:** If any damage is found, report it immediately to a supervisor and do not approach the aircraft with any GSE in the area where the damage has been found.*
***NOTE 2:** "Deceleration of engine rotation" can be defined as follows: reduction of engine noise, a noticeable decrease in the speed of rotation of rotor (-s), no heat of the exhaust gases / thrust.*
***NOTE 3:** If notified of a brake overheat, do not approach the main gear.*
***NOTE 4:** If an aircraft arrives with an unserviceable anti-collision light, do not approach the aircraft until headset communication has been established with the flight crew.*

The following actions shall be done by the Airline Ramp Agent:

1. Control the arrival of the aircraft and report to the airline OCC the actual time of landing the aircraft and on-block time (Actual Time of Arrival - ATA) according to UTC (by phone).
   - Landing time - the time the aircraft touches the runway.
   - On-block time - the time of placing of the last chock under the wheels of the aircraft.
2. Control the fulfillment of arrival procedures by the ground handling agent in compliance with GOCHM requirements.

IMPORTANT!
Positioning of GSE and vehicles shall be carried out only by trained personnel and only under the supervision of a trained guide person - in accordance with Section 10.1.3.4 of Part 10 GOCHM.

3. Fill in the Station Flight Report (Appendix 1.5).
4. **If applicable, for international flights**: wait for the immigration officer and get his permission to open the doors of the aircraft.
5. Check information from the crew on the total number of crew members and passengers, including special categories of passengers (UNMR, DEPA, DEPU, WCHR, WCHC, WCHS, DPNA, MEDA, STCR, DEAF, BLND, WEAP, WEOB), as well as the presence of cargo and mail (including cargo identified as HUM).
6. **If applicable, for international flights**: obtain permission from immigration officer and customs officer to disembark passengers and unload baggage, cargo and mail.
7. **Give the customs officer 1 copy of the general declaration**.
8. **When all airport services are ready** – give permission to disembark the passengers of the arriving flight and control their embarkation to the bus or exit from the board through the passenger boarding bridge.
9. Make arrangements for the disembarkation of special categories of passengers (UNMR, DEPA, DEPU, WCHR, WCHC, WCHS, DPNA, MEDA, STCR, DEAF, BLND, WEAP, WEOB) in accordance with the relevant sections of ***Part 5 GOCHM***.
10. When the loaders and equipment are ready, give permission to unload baggage, cargo, mail in accordance with previously received instructions. Arrange the unloading of special categories of cargo and baggage (for example, firearms) in accordance with the relevant sections of ***Part 5 GOCHM***.
11. Perform a visual inspection of the cargo compartments of the aircraft and make sure that:

    — there is no damage to the cargo compartments and cargo doors (including the perimeter of doors);
    — baggage/cargo/mail destined for this airport has been unloaded according to the CPM message;
    — transit baggage/cargo/mail left on board according to the CPM message;

— no damage to transit cargo/baggage/mail and no spills/leaks/spillage (including dangerous goods).

12. Check the presence of a technical flight kit (FKT) on board the aircraft. If you have any doubts about the correctness of its location, inform the employees responsible for loadsheet preparation to make appropriate corrections to the weight and balance documents of the departing flight.
13. Control the timely arrival of the catering vehicle to unload the rest of the catering and galley equipment from the aircraft.
14. If the catering vehicle is late for more than 30 minutes from ATA, accept from the crew all catering and galley equipment invoices, lists of the contents of sealed removable galley equipment and sealed removable galley equipment, and then hand them over to the catering service representative, having received his signature on all copies of the documents:
    — the signature of ramp supervisor/airline representative is not required on these documents;
    — SFR shall contain remark must be marked “Unloaded catering”, and also indicate the actual time when the catering service removed catering/galley equipment;
    — a copy of the documents signed by the catering service representative must be collected and retained as the part of document pouch for this flight;
15. Obtain a copy of the flight documents from the crew: passenger manifest, PIL, PNL, Loadsheet, NOTOC (if available).
16. Upon request, provide a copy of the Loadsheet and Passenger Manifest to the ramp agent;
17. If any kind of items were forgotten by passengers onboard, call a representative of the aviation security service, a senior flight attendant, prepare an act of transferring things forgotten by passengers / crew members on board the aircraft and, together with the senior flight attendant, decide who transfers the forgotten thing to the “Lost and Found” room of the airport (when performing a turnaround flight, the item is transferred there by a representative). *See Appendix 1.6 and* ***Part 5 Section 5.3.4 GOCHM***.
18. Check if inbound crew left the aircraft (in case of crew change on appropriate station).
19. Control the timely arrival of the cleaning team and the timely cleaning of the aircraft.
20. Control the inspection of the aircraft by the aviation security service after cleaning.
21. **If applicable, for international flights**: ensure the inspection of the aircraft by the immigration officers and customs officers.
22. Sign all acts/invoices on the provided services and obtain copies of acts/invoices from service providers on the flight.
23. Sign the acts and invoices provided by the ground handling agent for provided services (where applicable), enter your comments and remarks in the “Remarks / Notes” field, if any. ***Make sure if correctness of information in the documents, and no extra services (not provided in reality) are added into it***.
24. **For a passenger flight** – together with the airline representative at check-in, fill out the Station Flight Report in the part related to the control of aircraft ground handling on the apron.
25. After the finalization of ground handling: together with representative responsible for passenger check-in (if applicable) or individually (if flight supervision and on the ramp and check-in was performed by the same Airline representative) – fill the SFR (*Appendix 1.5*). Mention all issues/discrepancies regarding the ground handling and delays (if applicable) in SFR.
26. After the flight all invoices, copies of acts and flight documents shall be collected and retained in the flight folder.

IMPORTANT! – ***SFR for passenger flights must be filled and sent within 3 hours after aircraft arrival.***
IMPORTANT! – ***delay codes must be used in MVT and SFR in case of delay to advise reasons of delay.***

<u>Example of a written request to a ground handling agent for provision of services on flight</u>:

Dear colleagues, good afternoon!

"My Freighter" airline plans to operate a charter passenger flight TAS-FEG-TAS on aircraft A320 (UK32072) under the Centrum Air brand according to the following schedule:

MFX1011/15FEB (ETD 04.00UTC).

MFX1012/15FEB (ETD 12.00UTC / ETA 12.40UTC).

- *We ask you to provide a standard set of ground equipment at the parking lot: stop blocks, signal cones (6 pcs.), ladders, towing carrier, GPU, etc.*
- *We also ask you to provide an air launch unit (ACU) to ensure engine start (due to the failure of the auxiliary power unit of the aircraft).*
- *Please ensure the availability of a passenger ladder (when placing the aircraft in a remote parking lot).*
- *Upon readiness, please provide buses for transportation of the representative (1 person), crew (7 people) and passengers (for departure and arrival up to 100 people).*

Please confirm receipt of this letter and readiness to perform ground handling. Thank you in advance!

MFX Duty OPS

My Freighter LLC

Cell.: +998999999999

Email: TAS.OPS@myf.global

11.1.4 GROUND SUPPORT EQUIPMENT FOR ARRIVING AIRCRAFT

11.1.4.1 GROUND SUPPORT EQUIPMENT FOR A319-153N AND A320-214 (-232, -233), A321-251N, A321-253NX

Equipment	Aircraft types – A319, A320, A321
Tow tractor	According to the tractor specifications
Towbar	Towbar for A320 family
Air starter unit (ASU)	Mating: KAISER/ROYLYN M-7950-54 M-7950-34 M-7950-14 DELAVAL/WIGGINS GSS121C-21GV GSS121C-21HV GSS121C-3HV PUROLATOR P/N 752088 (1-1100-48) P/N 7522744 (1-1101-48) Min pressure to start up 20 psig but not greater than 45 psig
Ground Power Unit (GPU)	115/200 volts, 400 Hz, 3 phase AC power. 2 receptacles x 90 KVA
Anti-icing equipment	Fluid according to AMS 1424 For Type I/ for Type II, IV -AMS 1428 standards Certification with SAE 6285, ICAO DOC 9640, Local CAAR, etc.
Fuel Truck	Max pressure: 50 psig
Toilet servicing equipment	Maximum supply pressure -2.4 bars (35 psi)
Potable water servicing equipment	Maximum pressure - 3.4 bar (50 psi) Maximum water supply rate - 56 l / min
Belt loader	Load capacity not less than 400 kg Lifting height of the tape is not less than 3.5 m
Lower Deck Loader	Carrying capacity - not less than 3.5 tons Platform lifting height - not less than 3.5 m
Passenger stairs	Standard - not less than 3.5 m high

11.1.4.2 GROUND SUPPORT EQUIPMENT FOR B767-300BCF (-BDSF)

Equipment	Aircraft type - B767-300BCF (-BDSF)
Air Starter Unit (ASU)	Mating: KAISER/ROYLYN M-7950-54 M-7950-34 M-7950-14 DELAVAL/WIGGINS GSS121C-21GV GSS121C-21HV GSS121C-3HV PUROLATOR P/N 752088 (1-1100-48) P/N 7522744 (1-1101-48) Min pressure to start up 20 psig but not greater than 45 psig
Ground Power Unit (GPU)	115/200 volts, 400 Hz, 3 phase AC power. 2 receptacles x 90 KVA Mating: AN 3430 or MS 90328
Anti-icing equipment	Fluid according to AMS 1424 For Type I/ for Type II, IV -AMS 1428 standards Certification with SAE 6285, ICAO DOC 9640, Local CAAR, etc.
Fuel Truck	Mating: MS 29520-1 (2 1/2 IN.) PARKER AEROSPACE P/N F115 JC CARTER P/N 60427 Height: 450-487cm (177-192in) MAX pressure: 50 psig
Toilet servicing equipment	Mating: KAISER / ROYLYN M2651-133

Equipment	Aircraft type - B767-300BCF (-BDSF)
	KAISER/ROYLYN 1041-16 MS33658-32
Potable water servicing equipment	Not required. All potable water systems are filled manually on B767-300BCF (-BDSF) & B757-200PCF. Bottled water included into catering sets can be used.
Belt Loader	Lift height 299-348 Load capacity not less than 400 kg
Lower Deck Loader	Lift height 350-530 cm Load capacity from 7 tons
Main Deck Loader	Lift height 488-531 cm Load capacity from 7 tons (recommended capacity is 14 tons or more)

11.1.4.3 GROUND POWER UNIT AND FIXED POWER UNIT

a) It is permitted to pre-position a Ground Power Unit (GPU) inside the ERA, provided there is a marked GPU parking position.
b) Position the GPU on the appropriate side of the aircraft as shown in ***Figure 11.1.4.3A*** (example of GPU positioning).
c) Set the parking brake/chock for the GPU.
d) Ensure the GPU, while in operation, is positioned a minimum of 3 m (10 ft.) from any fueling vehicles and aircraft fuel vent exits.
e) Fixed Power Unit (FPU) and leads shall be fully stowed/retracted during aircraft arrival as per the system design.
f) Only connect GPU(s)/FPU(s) if required/requested by the operating airline.
g) Before connecting to the aircraft, check the aircraft receptacles, lead(s) and plug(s) to ensure they are clean and undamaged, with no sign of excessive wear or electrical burning to the contacts.
h) Do not energize the GPU/FPU power output until the unit is connected to the aircraft.
i) Connect the external power sources, including the number of supplies, required output, sockets to be used, etc. Advise the flight crew of any discrepancies.
j) Attach the power lead lanyards to the aircraft attachment point, where fitted.
k) Request approval from flight deck before turning off and disconnecting the GPU/FPU cables.
l) Turn off the GPU/FPU power output before disconnecting the cable(s).
m) Always disconnect and stow the GPU power cables BEFORE connecting a tow tractor to the GPU.

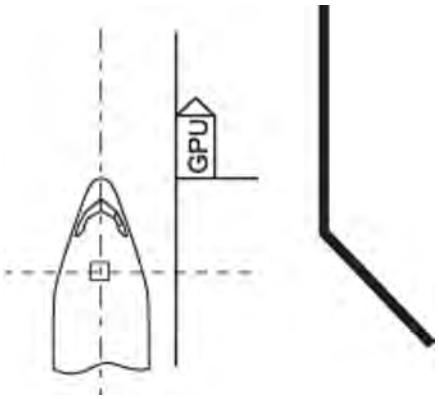


Figure 11.1.4.3A. Sample of GPU positioning

11.1.4.3.1 CONNECTING AND DISCONNECTING THE GROUND POWER UNIT TO A319-153N, A320-214 (-232, -233), A321-251N

Ground handling agent operates GPU as per local instructions.

Two types of ground electricity sources can be used (current output parameters: 115 volts, frequency 400 Hz and power 90kVt):

— a power supply from the PBB, consisting of a frequency converter, a cable reel, a 400Hz cable with a connector and a built-in control panel at the end of the cable, a remote control located on the bridge trolley of the PBB, connecting communications;

— mobile ground power unit.

Connecting the ground power unit (GPU) – refer to *Fig. 11.1.4.3.1A– 11.1.4.3.1C*.

1. Make sure the GPU is turned off.
2. Before connecting the GPU to the aircraft, it is necessary to inspect GPU wire and the power connection socket on the aircraft. If signs of erosion, corrosion, damage due to exposure to high temperatures or discoloration are noticeable, the connection process must be suspended and the technical staff must be informed.
3. Open hatch 121AL.
4. Inspect both parts of the plug connector.
5. Place the loop of the support cord over the cable and connect the connector. Make sure the cable plug is fully inserted into the socket.
6. Grapnel the hook of the support cord into the aircraft socket and position the cord so that the weight of the cable was evenly balanced. Therefore, the length of the unwind cable should be sufficient to avoid tension, and it could lie freely on the ground having a reserve loop of 2-3 m to ensure the freedom of maneuver of the PBB (if a PBB GPU is used).
7. Turn on GPU.
8. Make sure that the lamps on the connection panel light up: "NOT IN USE" and "AVAIL".
9. On the ceiling panel of the front vestibule 2000VU - turn the "MAINT BUS" toggle switch to the "ON" position.

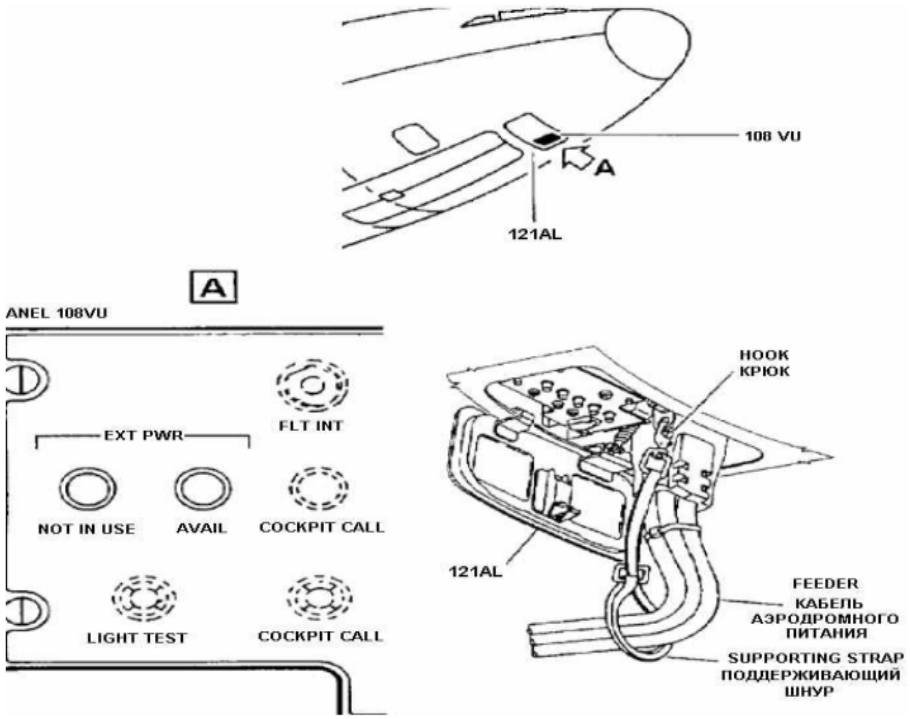


Fig. 11.1.4.3.1A. GPU connection panel location
A319-153N, A320-214 (-232, -233), A321-251N, A321-253NX

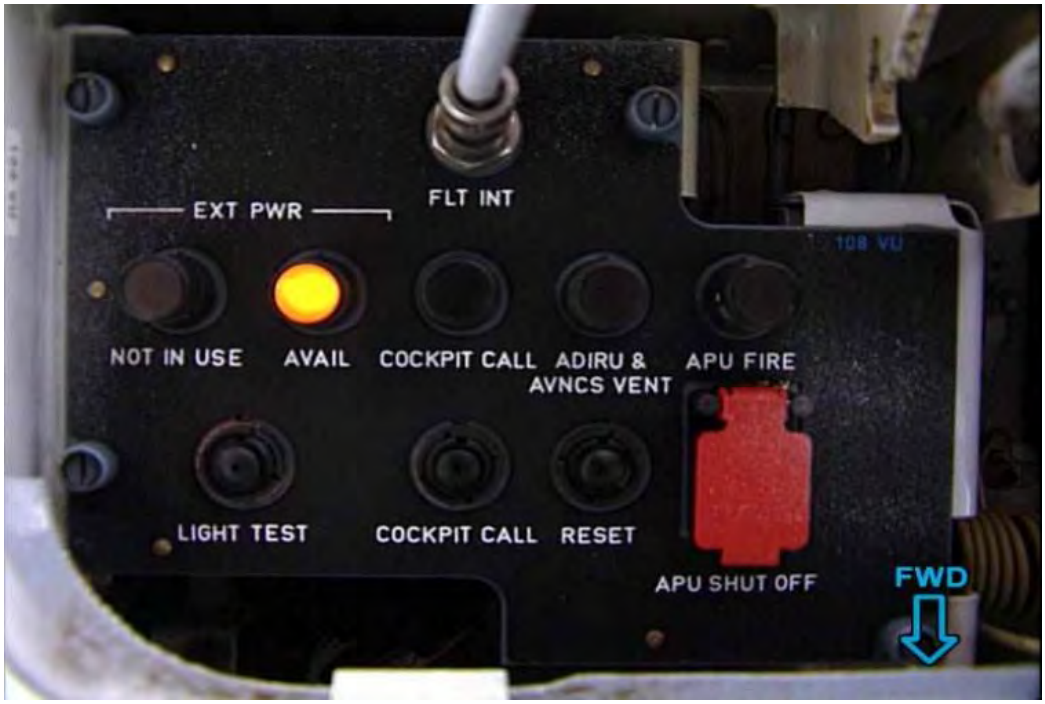


Fig. 11.1.4.3.1B. GPU connection panel A319, A320, A321

Fig. 11.1.4.3.1C. GPU switch panel A319, A320, A321

Shutdown of the GPU – refer to *Fig. 11.1.4.3.1A– 11.1.4.3.1C*.

1. Ensure GPU is not in use.
2. On the ceiling panel of the front vestibule 2000VU, turn the "MAINT BUS" toggle switch to the "OFF" position

3. Make sure that the lamp on the terminal panel for connecting the airfield power supply lights up: "NOT IN USE".
4. Turn off ground power. Make sure it's off.
5. Make sure that the lamps "NOT IN USE" and "AVAIL" on the connection panel are off.
6. Disconnect the GPU cable connector from the aircraft and dismantle support cord from the aircraft assembly.
7. Close hatch.

11.1.4.3.2 CONNECTING AND DISCONNECTING THE GROUND POWER UNIT TO B767-300BCF (-BDSF)

1. Open the access hatch.
2. Before connecting GPU to the aircraft, it is necessary to inspect the ground power supply wire and the power connection socket on the aircraft. If signs of erosion, corrosion, damage due to exposure to high temperatures or discoloration are noticeable, the connection process must be suspended and the technical staff must be informed.
3. Place the cable(s) on the "External power cable support".

Warning

Before connecting the GPU to the aircraft's power socket, make sure that GPU is not under voltage. If it is powered, a dangerous electrical arc can occur that can cause injury.

4. Connect ground power cables to connector on the aircraft panel.
   Note: *if only ground power is available, the power cable must be plugged into outlet #1.*

Warning

Before turning on the power, make sure that personnel and equipment are at a sufficient distance from the slats and flaps (LE (leading edge) and TE (trailing edge) flaps).
When power is applied, the flaps and slats can change their position.

5. Apply electricity to external power cables.
6. Look at the panel and make sure that:
   — The AC CONNECTED indicator is off.
   — The POWER NOT IN USE indicator is lit.
7. Signal to the flight crew that there is an external power source on board.
8. Look at the panel. After the GPU is connected to the aircraft, the following indicators should be lit:
   — The POWER NOT IN USE indicator is off.
   — The AC CONNECTED indicator is on.
9. Make sure that additional safety cones are installed.

Disconnection of the GPU from the aircraft

- Obtain permission from the flight crew to disconnect GPU from the aircraft.
- Make sure the AC CONNECTED and POWER NOT IN USE indicators are lit.
- Turn off GPU.
- Make sure the AC CONNECTED and POWER NOT IN USE indicators are off/off.

Warning

GPU must be turned off before disconnecting the power cables from the aircraft connectors. Electric arcs can cause injury.

- Remove/remove the external power cables from the connectors on the aircraft panel.
- Close the access hatch.

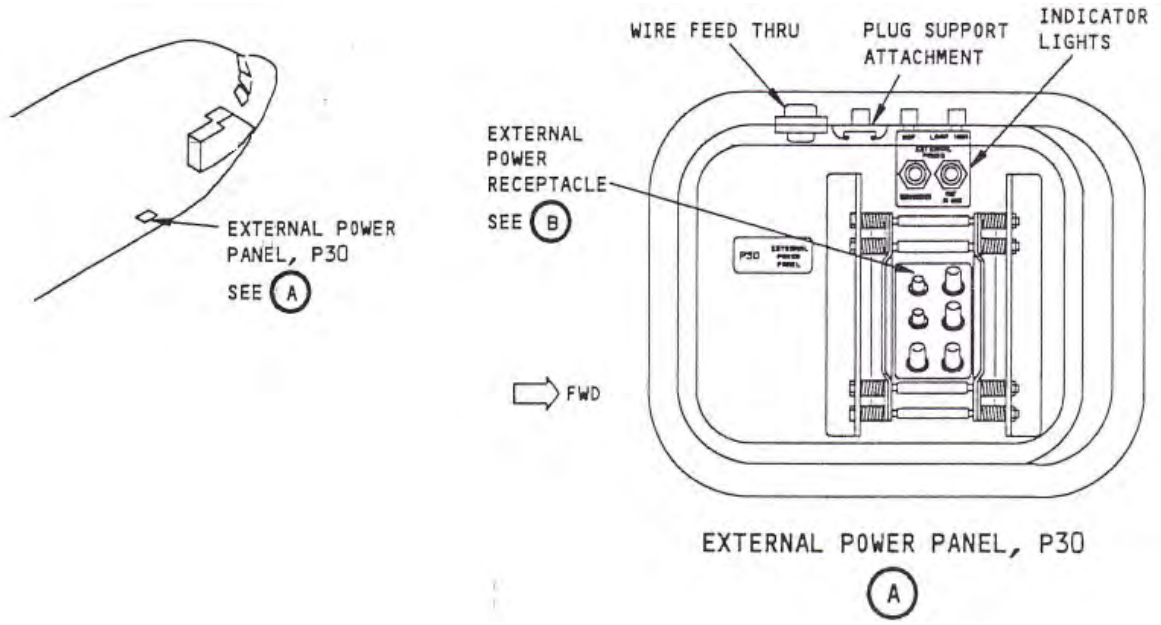


Fig. 11.1.4.3.2A. GPU connection panel and its' location B767-300BCF (-BDSF)

11.1.4.4 COOLING/HEATING UNITS AND PRECONDITIONED AIR

Aircraft cooling, heating, air conditioning units are optionally used to create an acceptable microclimate on board the aircraft during ground handling.

DANGER: Before supplying air from an external source, make sure at least one cabin access door is open and remains open during air unit operation.

Make sure a motorized ground air supply unit is not near the aircraft. The engine exhaust pipe of the unit shall point away from the aircraft. Heat from the unit's exhaust can cause damage to the aircraft structure.

As part of the fuel conservation program of most airlines, preconditioned air (PCA) is required at all airports that provide on-stand PCA.

Inform the flight crew or engineer before connecting or disconnecting PCA to/from the aircraft.

Note: *Make sure there is no blockage of the PCA hose.*

a. To connect PCA:

1. Open the access panel.
2. Connect the ground PCA unit to the aircraft.
3. Start up the ground PCA unit.
4. On the ground PCA unit, select the desired cooling or heating settings (air temperature and flow rate) and position the selector in the appropriate position.

b. To disconnect PCA:

1. Shut down the ground PCA unit.
2. Disconnect the ground PCA unit from the aircraft.
3. Close the access panel.
4. Retract the PCA hose to the fully stowed and secured position.

11.1.4.4.1 CONNECTING AND DISCONNECTING COOLING/HEATING UNITS TO A319-153N, A320-232 (-233), A321-251N, A321-253NX

Connecting a cooling/heating unit (*refer to Fig. 11.1.4.4.1*)

a. Open the 811 avionics hatch.
b. Put up a warning sign "Do not close hatch 811".
c. Obtain confirmation from the crew or maintenance personnel that the air conditioning systems are turned off.
d. Open hatch 191CB. Connect the ground conditioning hose to the aircraft fitting.
e. Turn on the air supply. Make sure that the supply air parameters are within the following limits:
   — *Air consumption A319/A320 54 – 54-78 kg/min maximum pressure 40 mbar (0.58 psi).*
   — *Maximum temperature 70°C.*

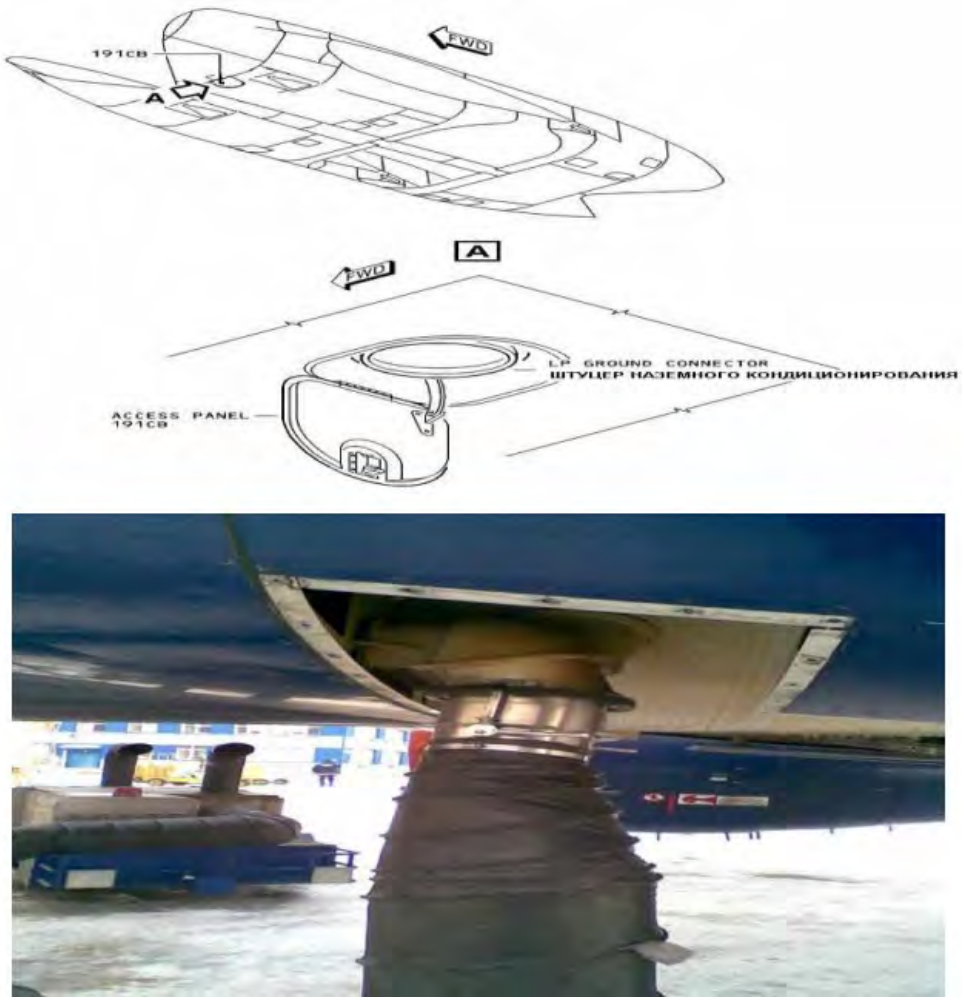
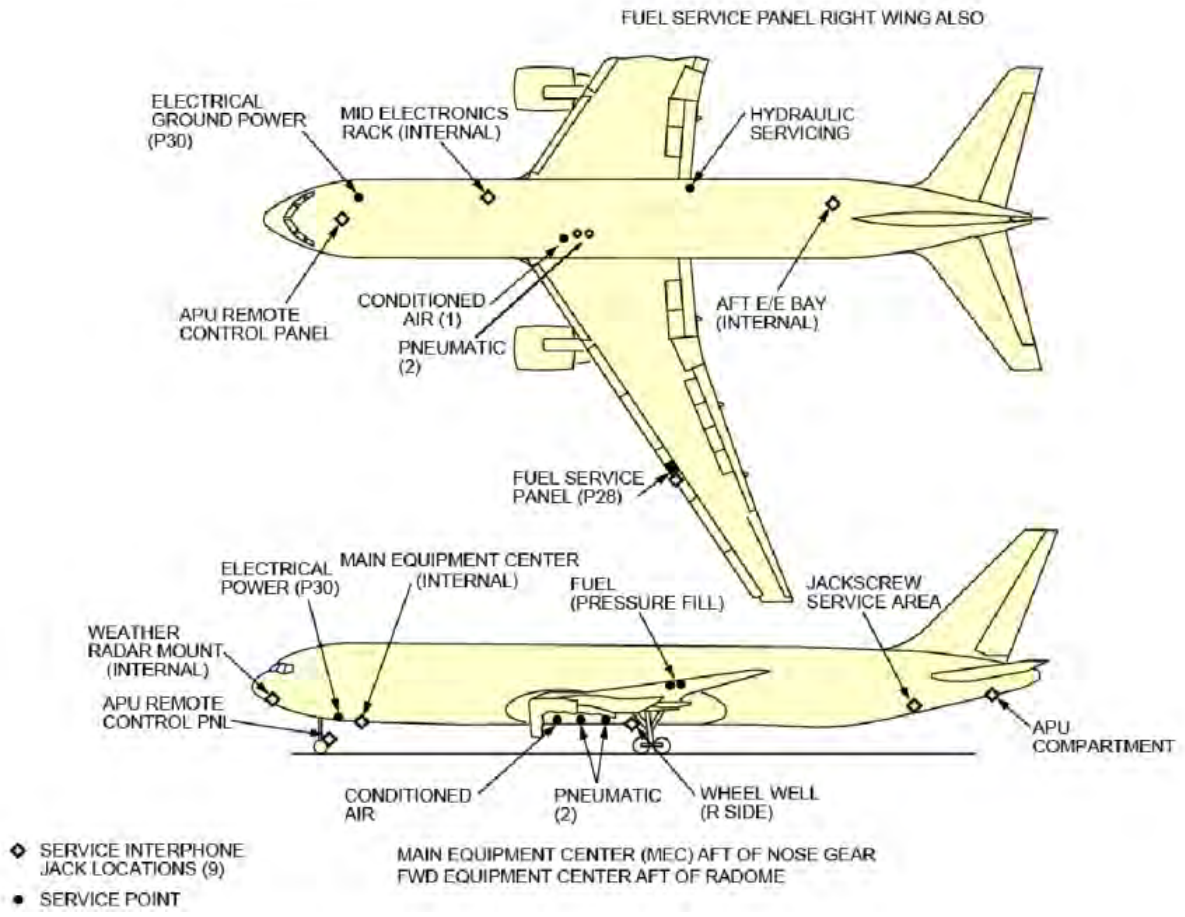


Figure 11.1.4.4.1. Cooling/heating unit connection point A319-153N and A320-214 (-232, -233), A321-251N, A321-253NX

Switching off a cooling/heating unit (*see Fig. 11.1.4.4.1*)

a. Turn off the air supply.
b. Disconnect the supply hose from the aircraft fitting.
c. Close hatch 191CB.
d. Remove the warning label and close the sunroof.

11.1.4.4.2 CONNECTING AND DISCONNECTING COOLING/HEATING UNITS TO B767-300BCF (-BDSF)



11.1.4.5 USAGE OF TAIL SUPPORT AND THE NOSE GEAR TETHER

Airline ground stability requirements and loading/unloading sequence shall be adhered to at all times (***refer to Section 11.5.1.7 Part 11 GOCHM***).

Unloading or loading may cause the aircraft to become unstable or could cause tipping. For some aircraft types, a tail stand or nose tether is available.

"My Freighter" LLC does not use an additional tail support to stabilize the aircraft during loading and unloading in order to avoid damage to the aircraft during ground handling.

The procedure for tie-down the nose landing gear of the aircraft is used only to stabilize the aircraft in stormy wind conditions.

It is forbidden to use this procedure to stabilize the aircraft during unloading and loading operations.

The tie-down of the nose landing gear consists of a round sling and associated anchor shackles.

Equipment and materials:

— Round sling (1 piece - required).

— Anchor bracket built into the surface of the apron in the aircraft parking area (2 pieces - mandatory).

Attention!

Before loading or unloading the aircraft, qualified personnel must install the nose gear cable.

To install the nose gear tether strap:

— After the aircraft has taxied in, and the chocks have been installed, the nose tether tie-down cable must be placed between the lower tripod brace and the strut shock absorber.

— Make sure that the strap is under the wiring cables.
— Attach the brackets to the anchor plates.

To remove the nose landing gear tether strap:

— Once the aircraft has been loaded, the shackles will be removed from the anchor plates.
— Remove the strap from the bracket with care not to damage the wiring harness. See ***Figure 11.1.4.5.***
— Ensure that the rope is guided neatly under the pipelines.

Nose Gear Tether on B767-300BCF (-BDSF)

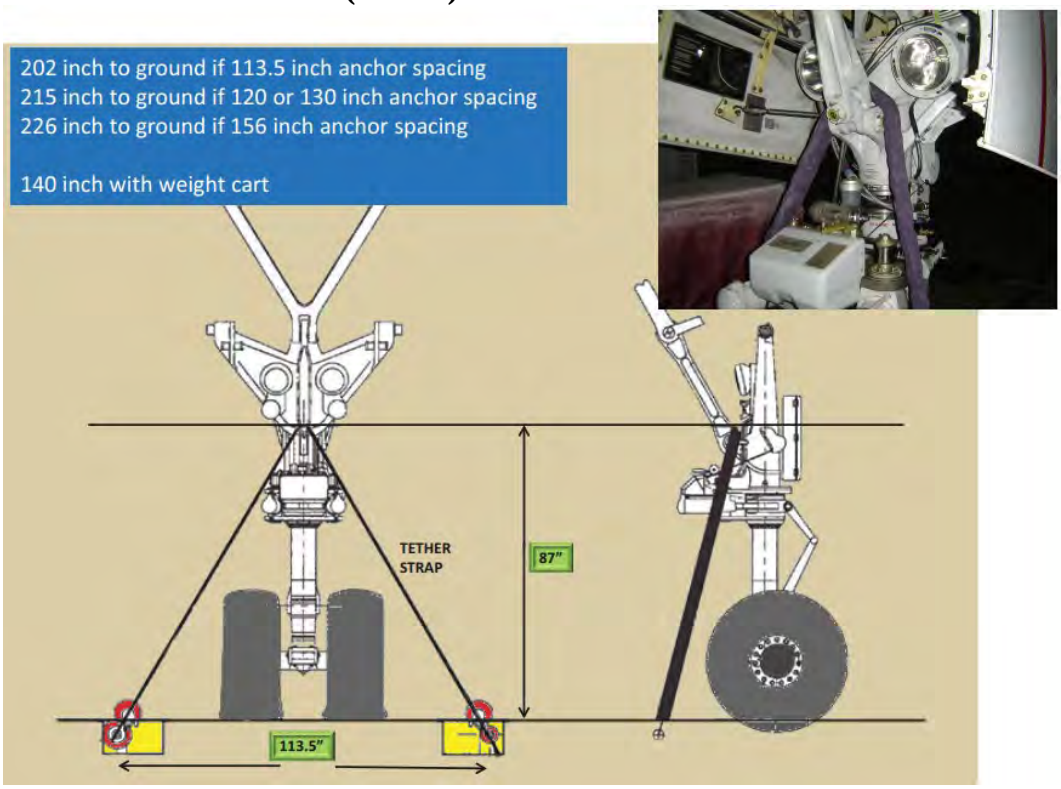


Fig. 11.1.4.5. Nose Gear Tether on B767-300BCF (-BDSF)

11.1.4.6 USAGE OF GROUND STUDS

Ground studs are used to connect the aircraft to an approved ground connection on the ramp or hangar for:

— refueling/draining fuel operations;
— maintenance;
— under adverse weather conditions.

Install a ground cable (connect the ground cable according to the following rule: first connect the ground cable to the ground point (“Ground”), and then to the aircraft, in accordance with the technical instructions of the aircraft.

WARNING:

1. ***The ground wire must be connected to an authorized, marked ground point at the parking lot.***
2. ***In thunderstorm weather, do not touch the wires and cables connected to the aircraft.***
3. ***Always connect the ground wire to ground first and then to the aircraft.***

11.1.4.7 USAGE OF THE AIR START UNIT

The Air Start Unit (ASU) is used to start the engines in the event of an APU failure.

11.1.4.7.1 CONNECTING AND DISCONNECTING AIR START UNIT ON A319-153N, A320-214 (-232, -233), A321-251N, A321-253NX

a. Open hatch 191DB.
b. Adjust ASU, install thrust blocks under the wheels of the special vehicle.
c. Connect the ASU high pressure hose to the high pressure fitting on the aircraft.
d. Give the pressure command and check that:
    — The air supply is within 54 kg. in min. - 78 kg. in min.
    — The pressure of the supplied air is not more than 3.5 bar (50.7631 PSI);
    — The temperature of the supplied air is not more than 260°C.
e. After receiving information from the crew about starting the engine and entering the mode, disconnect the ACU hose from the high pressure fitting.
f. Drive off the ASU, having previously removed the stop blocks from under the wheels.
g. Close hatch 191DB.

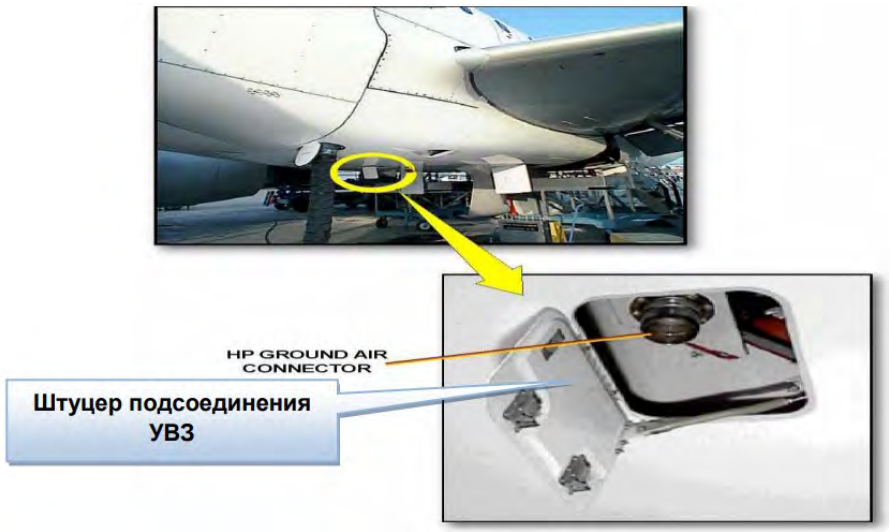


Fig. 11.1.4.7.1 Connection point ASU A319/A320/A321

11.1.4.7.2 CONNECTING AND DISCONNECTING AIR START UNIT ON B767-300BCF (-BDSF)

TBA in next revision

11.2 AIRCRAFT CHOCKING

General requirements to chocks are as follows:

a. Chocks must be painted in a highly visible color or have a bright marking.
b. Chocks should be triangular, the angle at the point of contact between the tires should be approximately 45 degrees.
c. Chocks must be made of a material that has a suitable coefficient of friction and sufficient rigidity.
d. The length of the block must be such that it covers the entire width of the wheel(s).
e. The chock height must match the wheel size and tire type.

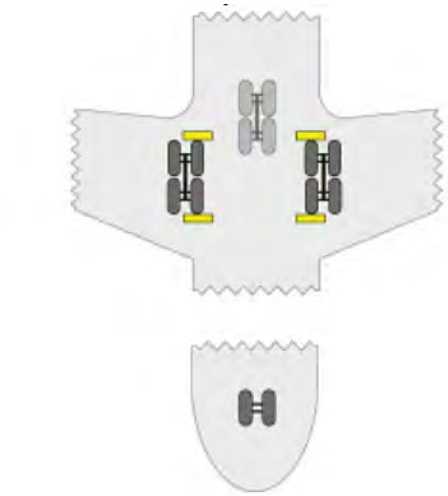
11.2.1 WHEEL CHOCKS PLACEMENT

a. Make sure the required number of serviceable chocks are available, considering the aircraft type and weather conditions.
b. Chocks shall be kept clear of the guide-in line and in a safe area away from arriving aircraft and engine danger areas.
c. Wait for aircraft to come to a complete stop before approaching the aircraft to position chocks.
d. One designated ground personnel will immediately place chocks forward and aft of the nose gear. This is the first action to take place around the arriving aircraft and shall be completed before any other activity takes place.
e. Before approaching the main gear, wait until:
    1. Engines have been shut down and are spooling down.
    2. Anti-collision lights are switched off.
    3. Clearance to approach the aircraft has been given by the personnel responsible for the arrival operation.
f. Walk towards the main gear in a path parallel to the fuselage, avoiding engine intake areas.
g. Place chocks forward and aft of one of the main gears in accordance with the normal operation chock placement diagram. See ***Section 11.2.2 Part 11 GOCHM***.
h. If you plan to leave chocks under the nose landing gear of the aircraft, install the steering pin of the nose landing gear. Use only the correct pin for the appropriate type of aircraft.
i. Notify the flight crew that the chocks are inserted.

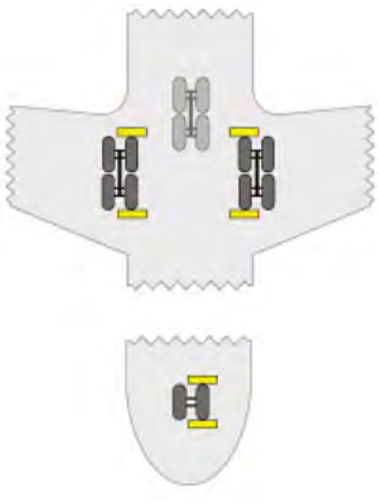
Note: *When the aircraft is parked on a slope, the chock on the down-slope side should just touch the wheels and the chock on the up-slope should not touch the wheels.*

11.2.2 WHEEL CHOCKS DIAGRAMS

Normal operations B767-300BCF (-BDSF), B757-200PCF, A319-153N, A320-214 (-232, -233), A321-251N, A321-253NX



Parking aircraft out of service, night stop, high winds B767-300BCF (-BDSF), B757-200PCF, A319-153N, A320-214 (-232, -233), A321-251N, A321-253NX



11.3 AIRCRAFT CONING

The purpose of installing cones is to create a safe distance around certain areas of the aircraft that are susceptible to damage from ground equipment.

Requirements for the safety cones design:

— conical shape.
— minimum height 750 mm (29.5 inches).
— minimum base weight 4.53 kg (10 lbs.).
— orange color with reflective stripes.

11.3.1 SAFETY CONE PLACEMENT AND REMOVAL

Safety cones are a caution sign for operators/drivers to maintain required safety clearances. Cones protect parts of the aircraft against collision by GSE.

a. Prior to arrival of the aircraft, make sure there are sufficient serviceable safety cones to protect the aircraft type to be handled.
b. Approach the aircraft to position cones only when all the following criteria are met:
    1. Aircraft has come to a complete stop
    2. Engines have been shut down and are spooling down (or propellers completely stopped)
    3. Anti-collision lights are switched off
    4. Aircraft has been chocked

    Note: *Spooling down of an engine can be identified as follows:*
    1. *reduced engine noise*
    2. *visible fan speed reduction*
    3. *lack of exhaust heat or thrust plume*

c. Place safety cones on the ground in accordance with the diagrams in ***Section 11.3.2 Part 11 GOCHM*** within a maximum of 1 m (3 ft.) radius outward from the point where the aircraft is being protected. Cones shall not be placed in high-wind conditions.
d. Additional safety cones may be needed as per operational requirements or local regulations.
e. GSE shall not approach the aircraft until all safety cones have been placed (not applicable for PBB with FPU or GPU, if required).

f. All required safety cones shall remain in place until GSE and vehicle activities around the aircraft have ceased prior to departure of the aircraft.

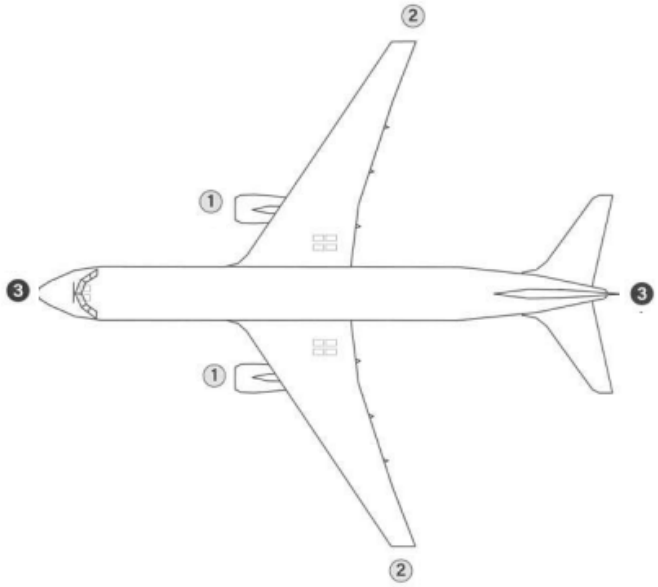
Note:

1. *In some situations, it may be necessary to reposition cones to allow GSE to be positioned. In such cases, reposition the cones to their original position when the GSE is removed.*
2. *Cones shall not be placed under engines.*

g. Ensure all vehicles have been removed from the ERA, except GSE required for the departure operation, e.g., ASU, GPU/FPU and pushback tractor, as applicable.
h. Remove the safety cones from around the aircraft.
i. When not in use, place the safety cones in the designated storage area.

11.3.2 SAFETY CONE PLACEMENT DIAGRAM

Safety cones placement diagram for B767-300BCF (-BDSF), B757-200PCF, A319-153N, A320-232 (-233), A321-251N, A321-253NX.



1 - no more than 1 meter in front of the engine air intakes.
2 - at least 1 meter from the wingtips.
3- not less than 1 meter in front of the nose part of the aircraft and behind the aircraft.

11.4 AIRCRAFT ACCESS DOORS

This section provides generic precautions and does not constitute training on opening/closing of aircraft access doors.

a. Ground personnel shall not operate any aircraft access doors unless they have been trained and authorized to do so.
b. Aircraft access door operation shall be performed in accordance with this Section.
c. Seek assistance from maintenance personnel if any difficulty is experienced during normal door operation.
d. If damage or irregularity is discovered, immediately report it to the supervisor, aircraft maintenance personnel and if available, flight crew.

CAUTION: Do not operate or leave doors open in winds exceeding those indicated in ***Section 10.3.3.5 Part 10 GOCHM***.
NOTE: *For door operations during severe weather, refer to* ***Section 10.3 Part 10 GOCHM***.

11.4.1 CABIN ACCESS DOORS

The cabin access door can be opened both from the inside - by the crew, and from the outside - by the qualified ground personnel.

a. Cabin access doors shall only be operated or left in the open position if there is a GSE or a PBB with platform at its final height positioned at the door or if an appropriate fall prevention device is placed across the door. An appropriate fall prevention device consists of equipment or material, or a combination of both, that is designed to stop or prevent the fall of a person from an open door (e.g., an industrial safety net, catch platform or safety harness system). See ***Figure 11.4.1A***. The cabin access door strap installed in aircraft doors is not considered an appropriate fall prevention device.

Figure 11.4.1A. Fall Prevention Device

b. GSE or PBB shall be removed after the cabin access door is closed and acknowledged by cabin crew or by another authorized person.

DANGER: *Slide deployments can be fatal for personnel outside of the door. If an armed door begins to open, do not attempt to hold the door from outside, to prevent risk of serious injury or death.*

c. If a cabin access door is found open without a GSE or PBB positioned at the door, personnel shall immediately notify a supervisor or the airline representative.
d. Before allowing passenger/crew embarkation or disembarkation via a cabin access door, ensure the boarding device is properly positioned at the door. If stairs or integral airstairs are to be used, ensure both guard rails are extended, if applicable.

DANGER: *There is a risk of falling while operating cabin access doors. Personnel shall remain aware of increased risk of a fall from a height while retracting stair platform and safety rails.*

11.4.1.1 OPENING CABIN ACCESS DOORS

11.4.1.1.1 OPENING CABIN ACCESS DOORS FROM INSIDE BY CREW

The responsible ground personnel shall (airport supervisor or Airline Ramp Agent):

a. Knock twice on the door, to indicate that a GSE or PBB is properly positioned, and the door swing area is free from obstruction. Provide a conventional “thumbs up” signal through the door window to the crew if required.
b. Stand clear or retreat to a safe position before the door is opened by the crew.
c. Assist cabin crew when required, with moving the door to the fully opened position and engaging the gust lock.

11.4.1.1.2 OPENING CABIN ACCESS DOORS FROM INSIDE BY AUTHORIZES AND TRAINED GROUND PERSONNEL

a. Check that the door is disarmed.
b. Check that all indicators show that it is safe to open the door.
c. Check that a GSE or PBB is positioned correctly at the door.
d. The door shall be fully opened, and the gust lock engaged.

11.4.1.1.3 OPENING CABIN ACCESS DOORS FROM OUTSIDE WITH CREW/GROUND PERSONNEL ON BOARD

Where there is a requirement for ground personnel to open door from outside with crew/ground personnel on board:

a. Visually inspect the cabin access door and the surrounding fuselage for signs of damage.
b. Check all indications as per aircraft type that the door is disarmed and safe to open, e.g., residual pressure warning lights or flags.
c. Knock twice on the door to indicate that the door is ready to be opened. Receive a “thumbs up” acknowledgement from the crew/ground personnel on board.
d. If there is no “thumbs up” or indication from the cabin that the door is disarmed, knock twice again.
e. If there is still no “thumbs up” or indication from the cabin crew/ground personnel onboard, contact the flight deck via an open cockpit window or the aircraft interphone system to seek confirmation that it is safe to open the cabin doors. ***CAUTION:*** *If there is no confirmation that the door is disarmed or safe to open, do not open the door.*
f. Once it is confirmed that the cabin access door is disarmed and safe to open, open the door in accordance with the instructions and markings labeled on the door.
g. Move the cabin access door to the fully opened position and engage the gust lock.
h. If integral airstairs are to be used (other than those permanently affixed to a boarding door), fully extend the airstairs prior to opening the door.
i. If using integral airstairs permanently affixed to a boarding door, stand clear of the door and slowly open the door until the airstairs are fully extended.

11.4.1.1.4 OPENING CABIN ACCESS DOORS FROM OUTSIDE WITH NO CREW/GROUND PERSONNEL ON BOARD

a. Visually inspect the cabin access door and the surrounding fuselage for signs of damage.
b. Check all indications as per aircraft type that the door is disarmed and safe to be opened. e.g., residual pressure warning lights or flags. ***CAUTION:*** *If there is no indication that the door is disarmed or safe to open, do not open the door.*
c. Once it is confirmed that the door is disarmed and safe to open, open the door in accordance with the instructions and markings labeled on the door.
d. Move the door to the fully opened position and engage the gust lock.
e. If integral airstairs are to be used (other than those permanently affixed to a boarding door), fully extend the airstairs prior to opening the door.
f. If using integral airstairs permanently affixed to a boarding door, stand clear of the door and slowly open the door until the airstairs are fully extended.

11.4.1.2 CLOSING CABIN ACCESS DOORS

11.4.1.2.1 CLOSING CABIN ACCESS DOORS FROM INSIDE BY CREW

Prior to removing or repositioning GSE or PBB, the responsible ground personnel shall:

a. Notify crew that equipment needs to be removed or repositioned (as applicable) and that the cabin access door needs to be closed.
b. Receive confirmation from the crew that the cabin access door will be closed.

c. Visually inspect the exterior of cabin access door and surrounding areas for signs of damage, debris, or obstructions.
d. Retract equipment safety rails and canopy (where fitted) where necessary to close the door.
e. Assist cabin crew when required, with moving the door to the fully closed position.
f. Where using passenger stairs or PBB, remain on the platform until the door is fully closed.
g. Where using elevating equipment (e.g., catering truck or medical loader) retreat from the platform prior to the door being closed.
h. Check that the cabin access door is closed and that the door and handle are flush with the surrounding fuselage.
i. Descend passenger stairs before they are moved.

11.4.1.2.2 CLOSING CABIN ACCESS DOORS FROM INSIDE BY AUTHORIZES AND TRAINED GROUND PERSONNEL

a. Coordination between applicable ground personnel inside and outside the aircraft to confirm that the cabin access door will be closed shall take place prior to closing the door.
b. The trained ground personnel onboard shall:
    1. Visually inspect the cabin access door and inside surrounding areas for signs of damage, debris or obstructions.
    2. Move the door to the fully closed and locked position in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type.
c. The GSE/PBB operator shall follow the same steps as documented in ***Section 11.4.1.2.1*** (b-i) ***Part 11 GOCHM*** and additionally:
    1. Where using elevating equipment (e.g., catering truck or medical loader) personnel shall retreat from the platform prior to the door being closed.
    2. Retract equipment stabilizers after the door is closed and personnel are clear of the equipment.
    3. Remove GSE or PBB from the door.

11.4.1.2.3 CLOSING CABIN ACCESS DOORS FROM OUTSIDE WITH CREW/GROUND PERSONNEL ON BOARD

a. Coordination between applicable ground personnel inside and outside the aircraft to confirm that the cabin access door will be closed, shall take place prior to closing the door.
b. Prior to closing the cabin access door from outside, the person responsible for closing the door shall:
    1. Visually inspect the exterior of cabin access door and surrounding areas for signs of damage, debris or obstructions.
    2. Retract equipment safety rails and canopy (where fitted) where necessary to close the door.
    3. Release the gust lock and move the door to the fully closed and locked position in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type.
    4. After the door is closed, check that the door and handle are flush with the surrounding fuselage.
    5. When closing the door from passenger stairs, descend the stairs before they are moved.
c. The GSE/PBB operator shall:
    1. Retract equipment stabilizers after the door is closed and personnel are clear of the equipment.
    2. Remove GSE or PBB from the door.
d. If integral airstairs are used (other than those permanently affixed to a boarding door), fully retract and stow the airstairs.

11.4.1.2.4 CLOSING CABIN ACCESS DOORS FROM OUTSIDE WITH NO CREW/GROUND PERSONNEL ON BOARD

Prior to closing the cabin access door from outside, the person responsible for closing the door shall follow the same steps as documented in ***Section 11.4.1.2.3 (b-c) Part 11 GOCHM.***

11.4.1.3 REOPENING CABIN ACCESS DOORS

In situations where a cabin access door needs to be reopened and reclosed after initial closing (e.g., not closed properly, additional delivery of catering and/or supplies, requirement to reconnect boarding device), the following shall apply:

a. Where flight crew or other qualified personnel are in the cockpit, but they did not initiate the request to reopen the cabin access door:
    1. Seek authorization from the flight crew or other qualified personnel in the cockpit for the cabin access door to be reopened via an open cockpit window (if applicable) or use the flight interphone system.
    2. Await clearance to re-open the cabin access door. If authorization to reopen the door is not granted, do not attempt to reopen the door.
b. Follow the applicable actions/steps in the in the Opening Cabin Access Doors sections (see ***Section 11.4.1.1 Part 11 GOCHM***, as applicable).

11.4.2 CARGO HOLDS ACCESS DOORS

Manual operation of an electrically or hydraulically operated cargo hold access door may only be performed by trained personnel.

To access the cargo hold access door control panel where it is out of reach from the ground, use maintenance stairs or a belt loader.

Note: *Not applicable to main deck cargo hold access doors.*

Allow adequate space for door clearance to avoid equipment obstructing the free passage of the door during opening/closing.

11.4.2.1 OPENING CARGO HOLDS ACCESS DOORS

Do not open cargo doors until aircraft engines and beacons will be switched off.

Before positioning GSE and/or opening, perform a visual check for any signs of damage to the doors or surrounding areas. If any irregularities/damage are found during this visual inspection, report them to the aircraft maintenance personnel and, if possible, to the pilot-in-command.

Where applicable, check cargo hold access door control indicators, residual pressure warning lights or flags to ensure it is safe to operate the door or open the cargo access door vent flap.

Open the cargo hold access door in accordance with the specific instructions for the aircraft type of ***Parts 2*** & ***3 GOCHM***.

Applicable for B767-300BCF (-BDSF) & A319/A320/A321 low deck cargo doors

Low Deck cargo doors normally can be opened from the ground level without special equipment.

Applicable for B767-300BCF (-BDSF) & B757-200PCF main deck cargo doors

Side Cargo Door can be opened manually from highloader or technical step equipped with raised safety rails. Using unit load device loaders is prohibited (does not apply to main deck cargo doors). Normally Side Cargo Door shall be opened from the standard control panel located on galley near entry to flight deck.

Most cargo doors in the lower compartments of aircraft lift up. Be aware that when opening or closing the cargo doors, the bottom edge of the door will drop before it rises.

For main deck cargo doors, remove the safety barrier once the main deck loader is in position.

If the cargo door does not open, do not use excessive force, tools or GSE to push or pull the door to open it. Contact the maintenance staff for assistance.

11.4.2.2 CLOSING CARGO HOLDS ACCESS DOORS

Do not operate cargo doors without training and authorization. Manual operation of the electrically or hydraulically operated cargo door may only be performed by qualified service personnel or a trained member of the aircraft crew.

Applicable for B767-300BCF (-BDSF) & A319/A320/A321 low deck cargo doors

Low Deck cargo doors normally can be closed from the ground level without special equipment.

Applicable for B767-300BCF (-BDSF) & B757-200PCF main deck cargo doors

Side Cargo Door can be closed manually from highloader or technical step equipped with raised safety rails. Using unit load device loaders is prohibited (does not apply to main deck cargo doors). Normally Side Cargo Door shall be closed from the standard control panel located on galley near entry to flight deck.

Before closing the cargo hold access door, ensure:

1. The cargo in the compartment is secured and the door safety nets are installed correctly (if any).
2. The anti-roll-out system (doorsill guards/latches), if installed, is in the raised position. The overridable lateral latch, which stops the accidental roll-out of a unit. This latch is overridden in the loading direction and is lowered for unloading.
3. Load restraint and door protection nets are properly fitted, if applicable.
4. Door and surrounding area, including the door sill and frame, are free of gravel, water, ice, debris and other obstructions.
5. The cargo compartment lighting is switched off unless it is required for the carriage of live animals in the cargo compartment.
6. A visual check is performed for any signs of damage to the doors and surrounding areas. Any damage found during the inspection of the cargo doors and adjacent areas/frames should be reported immediately to the maintenance staff and the aircraft in command (PIC).

Close the cargo hold access door in accordance with the specific instructions for the aircraft type of ***Parts 2*** & ***3 GOCHM***.

After closing the cargo hold access door, ensure:

1. The lock indicators are engaged/properly set, as applicable, and that the door is properly locked, handles are properly stowed, and panels are properly closed.
2. A visual check is performed for any signs of damage to the doors and surrounding areas.
3. The vent flaps are also closed.
4. Green indicators are visible in control windows of cargo doors (where applicable as per aircraft type, see ***Parts 2*** & ***3 GOCHM*****)**

ATTENTION! If a cargo hold access door is not closed properly, it shall be reopened and reclosed.

11.4.2.3 REOPENING CARGO HOLD ACCESS DOORS

Once the predeparture walkaround has taken place in accordance with ***Section 11.6.2 GOCHM***, do not attempt to reopen any aircraft cargo hold access door without clearance from the flight crew or the trained ground personnel in the cockpit.

If a door needs to be reopened, the ground personnel responsible for the departure shall notify the flight crew via the use of the flight interphone system, or where practical, use the cockpit open window.

If the flight crew or crew members require the door to be opened again, they will notify ground personnel.

Regardless of which side requested the door to be reopened, the flight crew will authorize the door to be reopened and the ground handler will perform the appropriate actions/steps in the following sections: Open Cargo Doors and Close Cargo Doors.

If the flight crew does not clear the door to reopen, do not attempt to open the door again until cleared.

If the flight crew clears the door to reopen, repeat the pre-flight checks for the door area before opening and before closing.

11.4.2.4 MAIN DECK CARGO HOLDS ACCESS DOORS OPERATIONS

Observe the following additional requirements for opening and closing main deck cargo hold access doors:

1. The main deck ULD loader shall remain clear of the main deck cargo hold access door trajectory during opening and closing.
2. Where required to unlock/lock the main deck cargo hold access door from the outside, use main deck ULD loader ***in accordance with Section 10.1.3.8 Part 10 GOCHM***.
3. Fall prevention devices shall always be installed whenever the main deck cargo hold access door is open, and the main deck loader is not in position. Remove the fall prevention device once the main deck loader is in position and reinstall the fall prevention device before removing the main deck loader.
   DANGER: *Risk of falling from height. Any personnel present in the main deck cargo compartment shall remain clear of the door opening area when it is open without a main deck ULD loader in position.*
4. Where applicable, check main deck cargo access door control indicators, residual pressure warning lights and flags to ensure it is safe to operate the door.
5. Check to ensure there are no obstructions outside the main deck cargo access door before opening/closing.
   Note: *For main deck specific loading operations,* ***see Section 11.5.2.3 Part 11 GOCHM***.

11.5 AIRCRAFT LOADING AND UNLOADING

Any loading and unloading operations **must only be started in the presence of the Loadmaster or Airline Ramp Supervisor or the person responsible for loading and/or unloading the aircraft** if the services are outsourced (GHA is responsible for these operations).

11.5.1 SUPERVISION OF AIRCRAFT LOADING AND UNLOADING

Supervision Responsibility

The person performing the aircraft loading and unloading supervision task (Loadmaster or Airline Ramp Agent) is responsible for the safe and efficient handling of the aircraft as well as the protection of the loads carried.

The responsibility will ensure the aircraft is:

1. Unloaded in accordance with the load message (LDM)/container pallet message (CPM) or any other incoming messages
2. Loaded in accordance with the corresponding loading instruction report (LIR).

Note: *Any aircraft loading/unloading operation shall only start in the presence of the person responsible for the aircraft supervision task.*

Communication

When verbal communication is used, it is critical that combinations of letters and numbers are pronounced and understood by those who transmit and receive voice messages by radio or telephone, regardless of their native language. The ICAO phonetic alphabet and numbering system shall be used by all parties when involved in aircraft turnaround.

To ensure all the load is accounted for accurately prior to departure, the parties responsible for loading and load planning shall clearly communicate and confirm:

a. Flight number;
b. Aircraft registration;
c. Flight leg (Destination), as applicable;
d. LIR edition number;
e. Load by position/compartment, including NIL-Position/Compartment(s);
f. Return load (standby load that is not loaded);
g. All commodities and sub-commodities.

When communicating load figures using verbal communication between the person reporting the load and the person responsible for the load planning task, the person responsible for the load planning task shall always read back the information given according to the same guidelines above.

Notes:

1. *The same principle will apply when the person responsible for the load planning task is verbally communicating information to the person responsible for the loading supervision task, and when loading information is verbally communicated between loading team members and loading team supervisor.*
2. *To further prevent miscommunication during the aircraft turnaround handling and close out reconciliation process, implementation of standard verbiage for load discrepancy communication (see **Table 4.5.1.1**) should be used between the person responsible for the loading supervision task and person responsible for the load planning task and between the person responsible for the loading supervisor task and loading team members.*
3. *Efficient communication devices (e.g., headsets, high-performance radio, phones) should be provided to relevant team members for verbal communication to avoid misunderstanding in a noisy environment.*

Discrepancy	Description
Offload	Planned load removed from aircraft for any reason (e.g., missing passenger, damaged cargo)
Position Change	Change of position within the cargo compartment or change of cargo compartment
Missing	Load not received for any reason, but planned on LIR
Weight	Difference between deadload weight as shown on LIR and actual weight of load
Incorrect Load	Mismatch of received load for flight (e.g., incorrect ULD number, wrong flight number, incorrectly documented special load)
Restraints	Missing, damaged or malfunctioning floor locks, load restraints and/or nets
Technical	Compartment technical issues (e.g., faulty locks, unserviceable stanchions, broken/missing divider nets, other defects)
Not Planned	Any deadload not included in LIR

11.5.1.1 ACTIONS PRIOR TO UNLOADING

Prior to unloading, the person responsible for the aircraft loading supervision (Loadmaster or Airline Ramp Agent) shall:

a. Ensure there is no plans to perform reweighing of cargo on board as per crew request.
b. Brief the unloading team members on safety and unloading requirements in accordance with the CPM/LDM/LIR (as applicable) including any special requirements, e.g., unloading sequence, special load items, restraint requirements, aircraft defect. Check to ensure the briefing and unloading instructions are understood by the persons responsible for aircraft unloading.
c. Verify the arriving aircraft registration with the registration on the CPM/LDM/LIR.
d. Ensure the necessary equipment for unloading is available at the aircraft parking stand.
e. Ensure the unloading team members have an up-to-date CPM message or other unloading instructions related to a particular flight, which contains information about the flight number, ULD numbers, positions on the aircraft, the number of pieces of cargo in bulk (especially, if some of it shall remain on board as transit cargo)
f. Ensure cargo requiring special handling has been identified and special handling has been arranged.

11.5.1.2 ACTIONS DURING UNLOADING

During unloading, the person responsible for the aircraft loading supervision (Loadmaster or Airline Ramp Agent) shall:

a. Cross-check the ULD/load against the CPM/LDM/LIR as the unloading progresses to ensure the correct sequence of unloading takes place in accordance with the specified timelines.

b. During the course of unloading ensure stability of the aircraft is (in order to avoid the rollover of the aircraft on its tail in the parking lot).
c. Ensure cargo has not shifted during the flight in the cargo holds.
d. Ensure shoring material, straps and parts of the cargo do not interfere with the aircraft surface and not in contact with the onboard cargo system and parts of the cargo compartment.
e. The presence of improperly loaded ULDs (locks not raised, locks or side rails of the ULD) was checked, and the identified deviations were reported to the aircraft loading supervisor (Loadmaster or Airline Ramp Agent).
f. For ULD unloading:
    1. Carry out visually detectable damage checks during unloading in accordance with ***Section 11.5.4 Cargo holds inspection***.
    2. Check ULD placards have been properly filled out with the correct information in accordance with ***Part 4***.
    3. Perform a cross-check against CPM/LDM/OIR to ensure the following details correspond with each other:
        i. ULD number shown on the ULD identification tag;
        ii. ULD identification number printed or stamped on the ULD;
        iii. Confirm ULD unload information codes (e.g., X = empty ULD).
    4. Ensure that there are no signs of leakage from ULDs.
g. For bulk unloading:
    1. Perform a visual inspection of all items during unloading to ensure there is no damage/leakage.
    2. Ensure the load distribution is in accordance with the LDM.
h. Ensure special equipment (e.g., tie-down straps, load spreaders, plastic sheeting for wet cargo) is unloaded, as required.
i. Ensure, where applicable, transit loads are not offloaded or over-stowed (moved inside the cargo hold to another position).
j. If required, Delivery at the Aircraft (DAA) bags/items shall be delivered as per ***Part 5 GOCHM***.
k. If possible, organize immediate transportation of arriving ULDs and/or carts containing baggage, cargo and/or mail as per specified timelines.

11.5.1.3 ACTIONS AFTER UNLOADING

After unloading has been completed, the person responsible for the aircraft loading supervision (Loadmaster or Airline Ramp Agent) shall:

a. Carry out a hold inspection, in accordance with ***Section 11.5.4 Part 11 GOCHM*** and action issues accordingly.
b. Ensure the nets and straps are properly stowed and cargo hold access door checks are performed in accordance with ***Section 11.4 Part 11 GOCHM*** in case the cargo hold access doors need to be closed.
c. Sign the LIR if applicable and in doing so confirm that:
    1. Aircraft has been unloaded in accordance with OIR, all inbound/transfer pallets, containers and cargo located in the bulk compartments have been unloaded from the aircraft;
    2. Load was unloaded in a manner that prevents damage or spillage.
d. Close the cargo hold access doors if the aircraft is to be left unattended (***see Section 11.4.2.2 Part 11 GOCHM***).

e. If irregularities are reported during the unload sequence, report in accordance with operating airline procedures.

11.5.1.4 ACTIONS PRIOR TO LOADING

Prior to loading, the person responsible for the aircraft loading supervision (Loadmaster or Airline Ramp Agent) shall:

a. Brief the loading team members on safety and loading requirements in accordance with the LIR, including any special requirements, e.g., loading sequence, special load items, restraint requirements, aircraft defect.

   Note: *Check to ensure the briefing and loading instructions are understood by the persons responsible for aircraft loading.*

b. Verify the aircraft registration with the registration on the LIR.
c. If reissuing of the LIR took place at any stage of pre-flight operations, ensure the actual version of the LIR is on hand of the loading team.
d. Carry out a hold inspection prior to commencing loading, in accordance with the requirements detailed in ***Section 11.5.4 Part 11 GOCHM***, and action issues accordingly.
e. Assemble and check loads against the LIR to ensure compliance with:
   1. Special handling codes and related information.
   2. Destination airport (confirm destination of the loads).
   3. Notification to Captain (NOTOC), where applicable.
   4. Special load requirements, e.g., live animals, perishables, valuables, DG, temperature sensitive products etc.
f. Ensure all loads are protected from adverse weather, and particular attention shall be given to special loads (e.g., live animals, perishables, time and temperature-sensitive cargo).
g. Allow no contamination (e.g., snow, ice, water, wood, plastic) on the ULD or bulk load/loose load pieces.
h. Ensure special equipment is available (e.g., tie-down straps, load spreaders, plastic sheeting for wet cargo), as required.
i. Where possible, organize and position the ULDs and/or carts containing baggage, cargo and/or mail in hold and load order.
j. For ULD loading:
   1. Carry out a visually detectable damage check prior to loading.
      Note: *Ensure all loaded ULDs are serviceable. Do not load damaged ULDs.*
   2. Ensure ULD placards are properly filled out with the correct information.
   3. Perform a cross-check to ensure the following identification numbers correspond with each other:
      - ULD number shown on the LIR;
      - ULD number shown on the ULD identification tag;
      - ULD identification number printed or stamped on the ULD.
   4. Cross-check ULD gross weights.
   5. Confirm ULD load information codes (e.g., X = empty ULD).
   6. Ensure no signs of leakage/spillage from ULDs.
   7. All ULDs are safe to move and will not shift, roll, or topple while maneuvering/loading onto the aircraft.
k. For bulk loading, confirm:
   1. Cart identification labels are correctly filled in where applicable.
   2. Loose pieces/weight information is correct, where applicable.
   3. A visual inspection of all items of bulk load is performed prior to loading to ensure there are no signs of damage or leakage that may damage or contaminate the aircraft.

11.5.1.5 ACTIONS DURING LOADING

During loading, the person responsible for the aircraft loading supervision (Loadmaster or Airline Ramp Agent) shall:

a. Cross-check the ULD/bulk load against the LIR as the loading progresses to ensure the correct sequence of loading takes place in accordance with the specified timelines (e.g., where applicable, transit loads are not over-stowed for transit stations).
   1. Cross check to make sure the following ID numbers match each other:
      i. ULD number in LIR;
      ii. ULD number shown on the tag;
      iii. ULD number printed or embossed on the ULD base.
   2. Cross check the gross weight of the ULD on the tag and in the LIR:
      i. Information code ULD showing the nature of the cargo corresponds to the actual one (X = empty ULD);
      ii. Special handling codes and additional information specified in the LIR is duplicated on the tag and correspond to reality;
      iii. Destination airport corresponds between LIR and ULD tag;
      iv. Information about the cargo is included in the NOTOC (where applicable);

b. Regularly check whether loading personnel who are physically loading the aircraft encounter any loading issues and attend to any issues raised concerning loading.
   Notes: *Stop/suspend loading operations where an irregularity is discovered e.g., aircraft/cargo hold/ULD damage, damage to or leakage from load items, cargo loading system malfunction. Log any irregularities in the load sequence noted during loading and report as per airline procedures.*

c. During the course of loading ensure stability of the aircraft is maintained (in order to avoid the rollover of the aircraft on its tail in the parking lot).

d. Liaise with the person responsible for the weight and balance calculation task and receive authorization for any deviations, including any last-minute changes to the LIR. The person responsible for the weight and balance calculation task shall check the deviation and confirm whether possible or give an alternative solution.
   Note: *Any load information change between the LIR and actual loading (e.g., changes in transfer bag figures, cargo figures) shall be communicated to the person responsible for the weight and balance calculation as soon as known to avoid unnecessary reloads, weight and balance issues, and last-minute pressure.*

e. If an authorized change of load order occurs, provide confirmation of change to the persons responsible for the aircraft loading prior to recommencing loading in the hold.

f. Protect all loads from adverse weather and special attention shall be given to live animals and/or perishables.

g. Ensure special loads are handled and loaded as per instructions provided.

h. Ensure that there are no signs of damage, leakage, or spillage from dangerous goods packages on ULDs and bulk load. If any irregularities are noticed, act in accordance with ***Section 7.10 Part 7 GOCHM***.

i. Where applicable remove any loose plastic or any other material used to protect the load from bad weather.

j. Visually inspect all loads requiring special handling to ensure they are secured against shifting. Ensure all necessary nets have been closed.

k. If required, Delivery-At-Aircraft (DAA) bags/items shall be loaded as per ***Part 5 GOCHM*** and local authority requirements.

11.5.1.6 ACTIONS AFTER LOADING

After loading has been completed, the person responsible for the aircraft loading supervision (Loadmaster or Airline Ramp Agent) shall:

a. At the completion of loading, double check and receive confirmation of the following from the persons performing the aircraft loading:
    1. Loading status of the aircraft is in compliance with the latest edition of the LIR.
    2. Loads are secured and that all locks, stops, nets, net stanchions, fire covers are raised, closed, locked or installed and that load securing is correctly applied.
    3. Removable side rails are installed in regular places.
    4. ULDs do not touch the inside of the cargo compartments (interior trim), nor the ventilation outlets and lamps.
    5. The contours of the pallets are stable (the load does not dangle under the net/straps).
    6. ULDs with a mass exceeding the maximum weight limit per position under the Cargo Restraint System (CRS) are tie-downed to the aircraft structure.
    7. All tie-down straps are in tension.
    8. No damaged and/or loose tie-down straps.
    9. Cargoes loaded into the bulk are correctly distributed among the corresponding compartments.
    10. Bulk bay nets installed and taut.
    11. There is no visual damage to the inner skin of the aircraft and the loading system.
    12. ULDs containing Cargo Aircraft Only (CAO) Dangerous Goods are correctly located in the aircraft compartments (with access on the main deck or loaded on the lower deck of the aircraft);
    13. Packages containing dangerous goods loaded into the cargo compartment in bulk are secured using straps or ropes to prevent tipping and move freely within the cargo compartment.
b. Ensure the applicable person(s) have signed the required fields in LIR.

Note: *The person responsible for the aircraft loading supervision task still maintains overall responsibility for the loading of the aircraft.*
Note: *the current copy of the loading instructions (LIR/LOAD PLAN) must match the copy of the loading instructions provided to the captain of the aircraft.*

c. Sign the LIR, and in doing so confirm that:
    1. Aircraft has been loaded in accordance with the final edition of the LIR including any authorized changes.
    2. Load is secured (in a manner that prevents movement or spillage during flight) and locks, stops, nets, fire covers are correctly installed, raised, locked.
    3. There are no signs of leakage from wet cargo, live animals, etc.
d. If applicable, sign a NOTOC to confirm or otherwise state that:
    1. There was no evidence of leakage from the package(s) or any leakage from the ULDs loaded on the aircraft.
    2. The package or ULD is loaded in the designated position and secured.

Note: *The LIR and the NOTOC shall be retained in accordance with* ***Part 1 GOCHM****.*

e. After the cargo is loaded, check the following:
    1. The minimum distance to fire detectors, ventilation, lights and ceiling is 5 cm (2 inches).
    2. The cargo or its parts do not touch the walls of the compartment.
    3. A minimum of 2 additional straps must be secured to the aircraft structure against potential “TO THE SIDEWALL” movement if the gap between the cargo and the side panels of the aircraft is less than 5 cm (2 inches).
    4. Smaller clearance information must be entered/recorded in the Loading Instructions (LIR). (*Example: “A distance of 3 cm from the wall is allowed in pos. A13”*).
    5. Next station along the route is notified that there is a gap of less than 5 cm (2 inches) at a particular position (if applicable).
f. Perform pre-flight safety and security check. Even if no loading/unloading operations have taken place, the aircraft loading supervisor should take action to check the safety and security of the cargo holds to ensure that the following conditions are met:

1. there are no loose objects in the aisles of the cargo compartment (empty boxes, unused straps);
2. no visual damage to the internal panels of the compartments;
3. no evidence of leakage from dangerous goods and wet cargo packages;
4. cargo/ULD is not touching internal panels of the cargo compartments, ventilation outlets and lamps;
5. the contours of the pallets are stable (not deformed, the load does not hang under the net and straps);
6. no persons left in the compartments, except for those allowed to fly;
7. removable side rails are installed as required;
8. all locks "visually accessible" are raised or in the "Locked / Closed" position;
9. no damaged tie-down straps;
10. all tie-down straps are tightened.

g. Report any irregularities that took place during the load.
h. Ensure cargo hold access door checks are performed and no damage is found.
i. Ensure the doors are closed and the door locks are activated.

11.5.1.7 AIRCRAFT GROUND STABILITY

Airline ground stability requirements, where applicable, shall be adhered to.

Unloading or loading may cause the aircraft to become unstable or could cause tipping. To avoid this, the proper loading/unloading sequence shall be strictly observed.

B767-300BCF (-BDSF) LOADING SEQUENCE:

1. the front compartment is loaded first (FWD Hold);
2. then the A1-A2 positions of the main deck are loaded;
3. then the positions A13 (A17)-A3 of the main deck are loaded.
4. the AFT Hold and the bulk section are loaded last.

B757-200PCF LOADING SEQUENCE:

1. the front compartment is loaded first (FWD Hold);
2. then the 1-2 positions of the main deck are loaded;
3. then the positions 15-3 of the main deck are loaded.
4. the AFT Hold and the bulk section are loaded last.

ATTENTION! *If transit cargo/mail/equipment are loaded to AFT Hold, it is necessary to check before the start of loading/unloading operations whether the presence of this load in AFT Hold will affect the safety/aircraft stability, or not. In case of doubts or safety risks transit loads must be temporary offloaded from AFT Hold and loaded back in the end of loading/unloading operations. Special attention must be paid to temperature sensitive cargo, live animals, other types of special and/or dangerous goods. Refer to* ***Parts 6 and 7 GOCHM*** *for details.*

B767-300BCF (-BDSF) UNLOADING SEQUENCE:

1. Is in reverse order.
2. the AFT Hold and the bulk section are unloaded first;
3. then the positions A13-A3 of the main deck;
4. then the A1-A2 positions of the main deck;
5. the front compartment is unloaded last (FWD Hold).

B757-200PCF UNLOADING SEQUENCE:

1. Is in reverse order.
2. the AFT Hold and the bulk section are unloaded first;
3. then the positions 3-15 of the main deck;
4. then the 1-2 positions of the main deck;
5. the front compartment is unloaded last (FWD Hold).

In some cases, the loadmaster will have to use aircraft ballasting to perform loading/unloading operations safely (for example, in the case of transporting single heavy ULD in an empty aircraft). Ballast fuel, pallet stacks, or ULDs with cargo, temporarily loaded on board the aircraft to ensure the safety of ground operations, can be used as ballast.

ATTENTION! While the next pallets are moving from positions A3 (at the side cargo door) to the planned positions in the rear of the aircraft, the upcoming ULDs are always must be located at positions A3L/A3R. Moving more than 2 ULDs simultaneously to tail section is prohibited. The weight of the ULD in the nose of the aircraft during loading must always be 1.5 times higher than in the tail of the aircraft.

ATTENTION! Always raise minimum 2 locks behind the ULDs stored in nose sections to prevent their uncontrollable movement to the tail section.

ATTENTION! If transit cargo/mail/equipment are loaded to AFT Hold, it is necessary to check before the start of loading/unloading operations whether the presence of this load in AFT Hold will affect the safety/aircraft ground stability, or not. In case of doubts or safety risks transit loads must be temporary

unloaded from AFT Hold and loaded back in the end of loading/unloading operations on flight. Special attention must be paid to temperature sensitive cargo, live animals, other types of special and/or dangerous goods. Refer to ***Parts 6 and 7 GOCHM*** for details**.**

A319-153N, A320-214, -232, -233, A321-251N, A321-253NX, A330-343 LOADING SEQUENCE:

1. The lower deck forward cargo area should be loaded first. All nets must be closed.
2. The aft cargo area of the lower deck should be loaded last. All nets must be closed.

A319-153N, A320-214, -232, -233, A321-251N, A321-253NX, A330-343 UNLOADING SEQUENCE:

1. The aft cargo area of the lower deck must be unloaded first.
2. The forward cargo compartment of the lower deck should be unloaded last.

11.5.2 SAFETY REQUIREMENTS SPECIFIC TO AIRCRAFT LOADING AND UNLOADING

11.5.2.1 GENERAL REQUIREMENTS

a. Holds and compartments shall only be entered or exited by using the appropriate loading equipment, which shall be positioned and secured at the aircraft cargo hold access door.
b. Loading equipment shall remain in position while personnel are still in the cargo hold.
c. Equipment operators shall ensure other personnel are not entrapped by movement of loads, pallets and/or containers, either in the aircraft or on the loading equipment.
d. Carts shall not be used to gain access to cargo holds.
e. Personnel shall walk around chains of carts and dollies to access required areas. Do not walk or stand between carts and dollies even when they are stationary on the ramp.
f. Hinged side gates of loaded carts shall be lowered carefully in case loads fall out and cause injury.
g. Take care when pulling or pushing carts, especially when ramp conditions are slippery. When necessary, obtain assistance.
h. Use correct manual handling techniques and practices when handling heavy items. Obtain assistance when moving heavy articles.

11.5.2.2 UNIT LOAD DEVICE LOADING AND UNLOADING

a. Inspect all ULDs before loading/unloading to ensure no nets, straps or protective materials can drag or get jammed in rollers, ball mats or wheels of power drive units (PDUs).
b. Push (do not pull) ULD on/off dollies and loaders where possible.
c. ULDs on dollies or transporters shall be secured to prevent movement using locks, stops or rails, except when the load is being transferred to/from the equipment.

CAUTION: Do not place ULDs directly on the ramp surface.
DANGER: During loading/unloading operations:

1. To avoid personnel injuries (e.g., slips, trips and falls) when walking inside the cargo holds, do not step on cargo loading system components (e.g., restraints, PDUs, roller tray(s)) or sloped side walls except where dedicated step positions are provided.
2. Personnel shall remain clear of the ULD movement path at all times.
3. Moving ULDs may cause injuries to personnel.
4. Only raise locks once the ULD comes to a complete stop.

d. For Cargo Loading Systems (CLS) equipped with PDUs:
    1. When ULDs become stuck, personnel may assist with the dislodging of the unit after coordinating with the CLS equipment operator. In such cases, all personnel shall be aware of sudden ULD movements.
    2. The CLS equipment operator shall always be aware of where loading personnel are positioned.

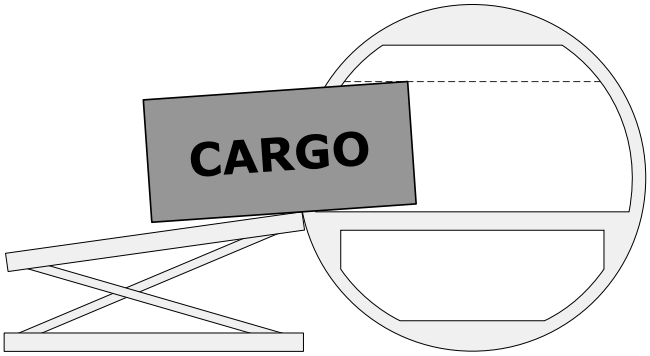
Note: Certain ULDs can tip during movement as the base is smaller than the top, causing a high center of gravity.

11.5.2.3 MAIN DECK LOADING AND UNLOADING

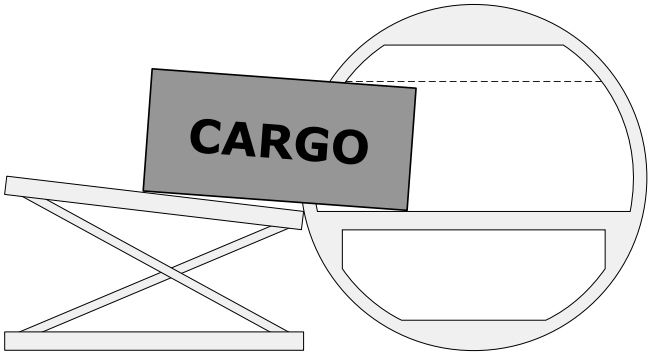
Observe the following additional requirements for unloading/loading of ULDs on the main deck of B767BCF(-BDSF), B757-200PCF and low deck of B767BCF(-BDSF) & A330-343:

a. Ensure the ULD loader is in position before removing the safety net. Install the safety net immediately after loading/unloading is finished.
b. The platform position of the ULD loader must be monitored during the loading and unloading process and adjusted as necessary to maintain proper alignment with the load bay floor (no height difference).
c. Use rails on the platform of the ULD loader to ensure that the ULD is aligned with the door openings when loading or unloading.
d. Monitor the clearance between the aircraft and GSE while moving cargo into/out of the main deck. Keep in mind that the vertical movement of cargo aircraft during loading/unloading and fueling can be up to 70 cm (27.5 in.). Ensure the ULD loader is level with the height and angle of the cargo compartment floor. To avoid main deck cargo access door damage by strong winds, refer to the operator's GOM for high-wind condition limits.

CAUTION: Avoid bridging and cresting while loading/unloading heavy cargo, as this can cause damage to the aircraft and/or ULD.



Bridging



Cresting

DANGER: *(Applicable for the lower deck cargo compartments of B767-BCF(-BDSF) & A330-343). To avoid serious injury during loading/unloading with a CLS and PDU in the aircraft, if applicable, do not use the outside control panel when any personnel are present inside the cargo compartment.*

11.5.2.4 BULK LOADING AND UNLOADING

a. Where a belt loader is used, position items on/off the belt loader see ***Section 10.1.3.7 Part 10 GOCHM***.
b. When placing loads onto a belt loader, make sure they are stable and properly positioned on the belt so that the load does not fall as it moves.
c. Place oddly shaped loads firmly on the belt to prevent them from falling off the belt loader during loading and unloading.
d. Do not place loads directly on the ramp, especially if the ramp is contaminated.
e. When loading/unloading aircraft directly from the ramp without the use of equipment:
    1. Position carts/dollies to/from the aircraft in a parallel direction to the fuselage, maintaining a gap of at least 1m (3 ft.) from the fuselage.
    2. Always turn tractors and carts/dollies away from the aircraft.

Note: For any load items that cannot be safely loaded directly from the ramp, appropriate loading equipment (e.g., belt loader) should be used to avoid injury or damage.

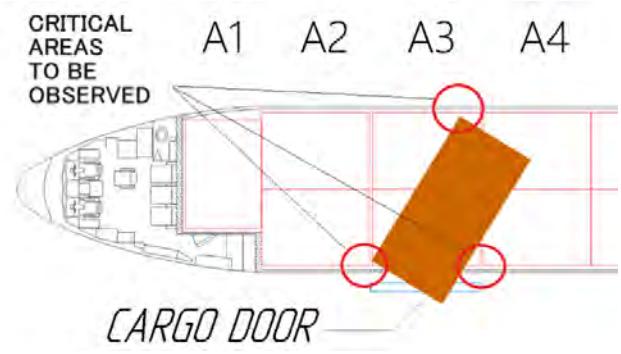
f. Ground personnel carrying out bulk loading task shall:
    1. Use the right lifting techniques to reduce on the risk of injury.
    2. Be accounted for once inside the aircraft hold and after completion of loading for safety reasons.

DANGER: *There is a risk of suffocation due to poor ventilation in the holds.*

11.5.2.5 ADDITIONAL ULD RELOCATION GUIDELINES

Before loading, unloading or moving oversized cargo (the contour of the cargo on which exceeds the external dimensions of the ULD) inside the cargo compartment or bulk, the personnel responsible for loading/unloading operations must:

a. Determine the critical points on the cargo and ULD that may collide with the walls of the aircraft cargo hold and the perimeter of the cargo hatch during movement and turns.
b. Organize the necessary number of personnel to control critical points to avoid damage to the aircraft during movement and turning of the ULD, and place it at critical points for visual control of the movement of cargo. Refer to drawing below to have information about critical areas to be observed:
    - FWD edge of Side Cargo Door;
    - AFT edge of Side Cargo Door;
    - Wall of cargo hold opposite to Side Cargo Door.
c. Give the necessary instructions to the personnel on the forthcoming procedure, coordinate the warning signals and emphasize that the “STOP!” signal must be given in case of a slightest suspicion of a possible contact between the cargo (ULD) and the aircraft structure.
d. Make sure that the loadmaster has constant visual contact with the persons controlling the critical points (*applicable for Main Deck of B767 and B757 freighters*).



<u>Attention!</u>

1. A minimum of 2 people must supervise the ULD / long cargo piece bulk cargo turn at the side cargo door (on the front and aft edges of the piece of cargo);
2. The movement of the ULD / long cargo piece in bulk in any direction must be visually controlled;
3. Any person has the right to signal “STOP!” to prevent the cargo / ULD from colliding with the aircraft skin or the perimeter of the cargo door;
4. Signal "STOP" shall be given in advance!

Damage Report

All damage that occurred to the cargo compartments and cargo during loading and unloading must be recorded and reflected in the flight maintenance checklist (Appendix 1-1).

Cargo space damage includes:

- Damage to the interior shoring of the cargo compartment;
- Damage to cargo floors and cargo system (rail, locks, PDUs, etc.);
- Damage to the power structure of the cargo compartment, the perimeter of the cargo door and door mechanisms.

Damage to the cargo compartment

The term "damage" is defined as the deformation of a structural element. Possible types of damage:

- cracks;
- damaged regular holes in the rail (tray) for rollers and locks;
- bundle;
- dents;
- edge erosion;
- fiber rupture;
- defects (microcracks, porosity, bubbles, etc.);
- notches, scratches;
- punctures;
- holes.

The following are the most vulnerable points for damage on the A319-153N, A320-214 (-232, -233), A321-251N:

- area and perimeter of all cargo doors (outside and inside);
- wall of the cargo compartment opposite the side cargo door (for the lower deck - opposite the cargo door of the compartment);
- walls of the cargo compartment opposite the forward cargo door;
- area and perimeter of passenger/service entry doors.

11.5.2.6 SHIPMENTS REQUIRING SPECIAL HANDLING

a. General
   1. All shipments requiring special handling shall be identified on the LDM or CPM for arriving flights or under a NOTOC for departing flights.
   2. Comply with any special handling requirements. Be alert for special load and/or dangerous goods shipments.
   3. Always follow the orientation markings and/or special handling instructions, as applicable, while handling.
   4. Make sure packages with directional handling labels are kept in the correct orientation (e.g., THIS WAY UP).
   5. Always observe the specific instruction labels and markings (i.e., Cargo Aircraft Only (CAO), FRAGILE, TOP, THIS SIDE UP).
   6. Ensure shipments labeled “Cargo Aircraft Only” are not loaded into a passenger aircraft.
   7. Always handle fragile items with care.

b. Dangerous Goods
   1. Transportation shall be in accordance with the IATA DGR. ***Refer to the Part 7 GOCHM for details.***
   2. Ensure dangerous goods are handled and secured or stowed in a manner that:
      i. Prevents damage to packages and containers during aircraft loading and unloading.
      ii. Provides for separation and segregation of packages on the aircraft to prevent interaction in the event of leakage.
      iii. Prevents movement that could change the orientation of packages on the aircraft.
      iv. Is in accordance with the information provided on the NOTOC.
   3. In case a dangerous goods package or shipment appears to be damaged or leaking, ensure:
      i. Such package or shipment is prevented from being loaded into an aircraft.
      ii. In the case of leakage, to conduct an evaluation to identify and prevent from transport any other cargo, baggage or transport devices that have become contaminated by the leakage of dangerous goods, and the removal of the hazardous contamination.
      iii. If already loaded, the package or shipment is removed from the aircraft.

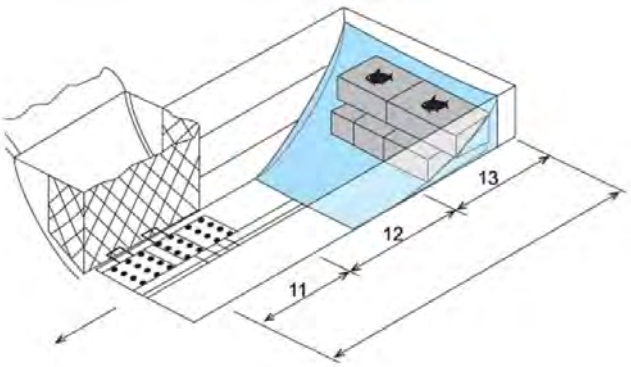
iv. Immediate notification to the customer airline and relevant authority.

c. Live Animals
   1. Transportation shall be in accordance with the IATA Live Animals Regulations (LAR). ***Refer to the Part 6 GOCHM for details.***
   2. During handling of live animals, ensure that they are:
      i. Loaded and secured into suitable aircraft compartments as directed by the LIR.
      ii. Separated from foods, dangerous goods or other AVI that are natural enemies.
      iii. Handled with care and in a manner which minimizes the waiting period and is in compliance with the shipper's specific handling instructions, if required.
      iv. Not exposed to adverse weather or environmental conditions during transportation, loading and unloading.

d. Wet Cargo. The following types of cargo, if not subject to the IATA DGR, shall be considered as wet cargo:
   1. Liquids in watertight containers.
   2. Wet materials not packed in watertight containers (e.g., fish packed in wet ice, fresh or frozen meat, casings (fresh animal guts), wet hides, skins).
   3. Goods that by their nature may produce liquid (e.g., larger live animals (usually mammals) where the presence of feces and urine is likely).
   4. Fruits/vegetables with high moisture (e.g., berries).

CAUTION: Spillage or leakage during carriage by air could lead to corrosion or other damage to the aircraft structure or its components, or damage to other loads. In case of spillage or leakage, inform responsible ground personnel, maintenance and fight crew if on board.

   5. The person responsible for the aircraft loading supervision shall ensure the wet cargo is properly packed and free of leakage. Do not load damaged or leaking packages.
   6. Loading precautions:
      i. Spread plastic sheets or tarpaulins to protect the aircraft floor and walls from catching any spillage or leakage. Use absorbent material.
      ii. For wet cargo in containers that are not watertight, follow operating airline procedures.



Notes:

1. *When wet or damp, the strength of some packaging can be considerably reduced. Special attention shall be given to avoid the crushing of packages when stacking to several levels.*
2. *For reference regarding packing of wet cargo and temperature sensitive packaging, refer to IATA Perishable Cargo Regulations (PCR) and IATA Temperature Control Regulations (TCR).*

e. Perishable and temperature-sensitive healthcare products

During transportation, loading and unloading of perishable and temperature-sensitive healthcare products, ensure that they are:

1. Handled in a manner to minimize the waiting period.

2. Not exposed to adverse environmental conditions.

Notes:

1. *Perishables must be moved into storage (e.g., cooler, freezer) appropriate for the type, in accordance with the Perishable Cargo Regulations (PCR).*
2. *Pharmaceuticals must be moved into storage (e.g., cooler, freezer) appropriate for the type, in accordance with the Temperature Control Regulations (TCR).*

f. Dry Ice. ***Refer to Part 7 GOCHM for details.*** Dry ice (solid carbon dioxide) is used as a refrigerant for temperature sensitive health care products e.g., vaccines and other life sciences products to ensure that they are maintained at the required temperature throughout the supply chain.

1. Where dry ice is present in the cargo being loaded or unloaded from the ramp, personnel must be aware of the precautions required to ensure that there is no risk of suffocation from elevated CO_2 levels from sublimating dry ice.
2. Verify the documentation for the presence of dry ice as a refrigerant (code ICE) and instruct the personnel that the cargo compartment shall be allowed to vent after the cargo hold access door is opened and before entering the cargo compartment.
3. Open the cargo compartment access door and stand back. No person shall enter the hold. A cargo compartment where dry ice is present must be allowed to vent after the cargo compartment door is opened.
4. Cargo hold access doors shall remain open to clear dry ice vapors before entering the hold or compartment.

DANGER: *There is a risk of suffocation when entering a compartment containing dry ice. Anyone entering a cargo compartment before the dry ice vapor has dispersed may be overcome with dizziness and shortage of breath due to lack of oxygen. In such circumstances the person should be removed immediately to fresh air and, if his breathing is seriously affected, call a doctor.*

11.5.3 UNLOADING

11.5.3.1 SCALING (REWEIGHING) PROCEDURE

If the flight crew experiences a handling issue on takeoff, they may request the scaling of all loaded baggage and cargo at the arrival station.

The scaling process shall be coordinated with the airline representative (Loadmaster or Airline Ramp Supervisor). Further handling of baggage and cargo shall only proceed once the scaling is completed and the weights confirmed.

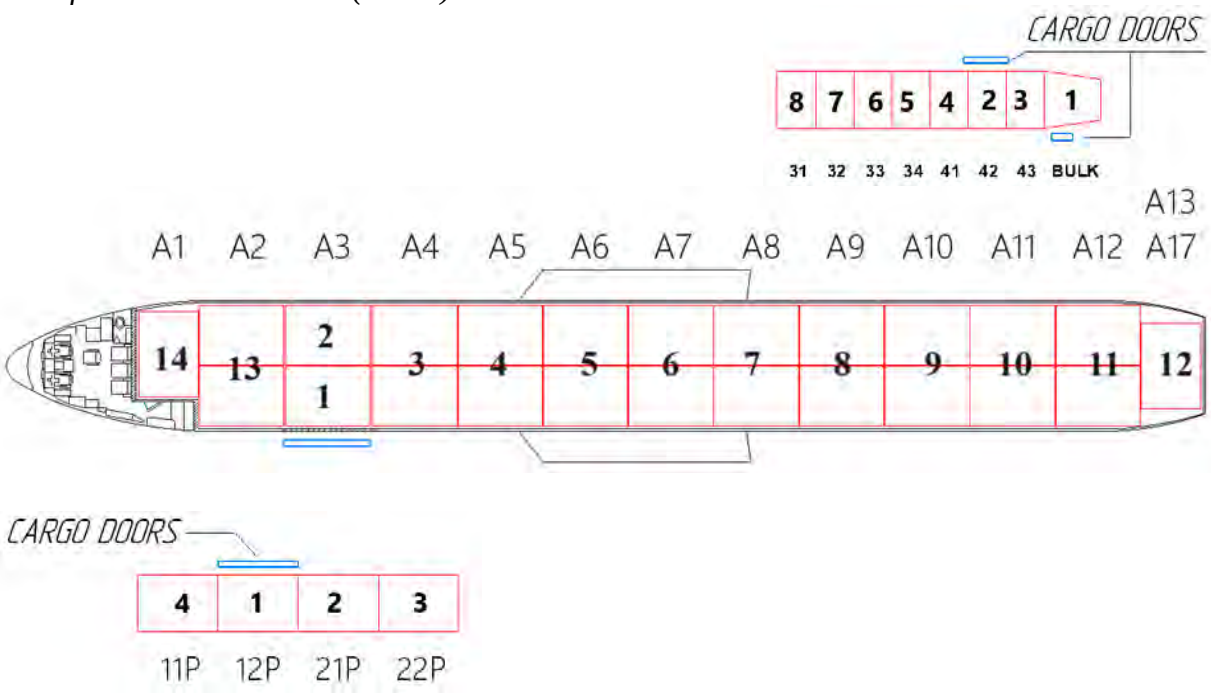
11.5.3.2 SAFETY PRECAUTIONS FOR LOADING AND UNLOADING

a. Before positioning GSE and/or opening cargo hold access doors, perform a visual check for any signs of damage to the doors or surrounding areas.
b. Check to ensure the aircraft hold load has not shifted during the flight.
    1. Verify the contour of the cargo loads passing through the doorway to ensure sufficient space between the doorway depressor seals and the cargo load.
    2. Contact the person responsible for the aircraft loading supervision if any load has shifted and will not safely exit the door.
c. Check for incorrectly loaded ULDs (i.e., locks not raised, locks or guides overridden).
d. Check loads/ULDs during unload for damage, leakage and load stability.
e. Check for damage to the aircraft hold as the unloading progresses and after completion of unloading.

Note: Immediately report any irregularities (e.g., spills, unusual fumes or smells, unsecured loads/restraints, LDM/CPM discrepancies) prior to or during the unloading process to the person responsible for the aircraft loading supervision or as required by the local authority.

11.5.3.3 OFFLOADING OPERATIONS

Applicable for all B767-300BCF (BDSF)



1. **Open Bulk Door & Aft Cargo Hold Door**.
   - *Refer to **Chapter 3.5.2 Part 3 GOCHM**.*

2. **Perform offloading of payload loaded to Bulk Section & Aft Hold (according to the inbound LIR and CPM)**.
   - *It can be done simultaneously or separately.*
   - *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard during offloading of Main Deck and FWD Low Deck Cargo Hold (especially temperature-sensitive shipments and dangerous goods). If needs, perform offloading of transit payload for safety (to prevent possible tail tipping during the offloading of Main Deck and FWD Low Deck Cargo Hold). Refer to **Part 6 GOCHM**.*
   - *Close door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*
   - *Refer to **Section 3.8.4** and **Section 3.8.6 Part 3 GOCHM**.*

3. **Make sure, FWD Hold & positions A1, A2R, A2L are loaded, and total weight of payload in mentioned zones is not less 3 000 kg.**

If FWD Hold and/or positions A1, A2R, A2L are empty on appropriate flight, or total weight of payload in mentioned zones is less 3 000 kg next restrictions must be observed:

a. Aft Hold & Bulk must be empty during the offloading (inbound payload must be offloaded, no transit payload remains in mentioned holds, no export payload loaded until offloading of Main Deck Cargo Hold is finished).

b. Minimum 8 tons of payload or ballast must be temporary loaded to these positions during the loading of positions A12-A3. It is allowed to use ULDs built for same flight for aircraft balance.

Exemption *– ULD with temperature-sensitive cargoes, live animals or urgent shipment requires soonest offloading (for example, cargoes or equipment marked by IMP-code "AOG").*

c. If quantity of fuel in tanks is vary between 27000 and 45000 kg during the loading, you must hold minimum 10 tons of payload or ballast into zone from position A1 to position(s) A5 all the time of loading.

4. **Open Side Cargo Door.**
   - *Refer to* ***Chapter 3.5.3 Part 3 GOCHM***.

5. **Offload ULDs from Main Deck (according to the inbound LIR and CPM):**
   a. Offload ULD(s) from position(s) A3R & A3R.
   b. Offload ULD(s) from position(s) A4R & A4R.
   c. Move ULD(s) from position(s) A5 to position(s) A3.
   d. Move ULD(s) from position(s) A6 to position(s) A4
   e. Offload ULD(s) from position(s) A3.
   f. Move ULD(s) from position(s) A4 to A3.
   g. Move ULD(s) from positions A7 to position(s) A4.
   h. Offload ULD(s) from position(s) A3.
   i. Repeat steps C-F until the full offloading of Main Deck Cargo Hold according to the received inbound LIR and CPM of inbound flight.
   - *Do not concentrate loads on positions A7-A13 (A17) without sufficient "ballast" payload on positions A1-A5. Weight of ULDs on positions A1-A6 must always be equal or exceed the weight of ULDs on positions A7-A17 (A13).*

6. **Once ULD from positions A3-A17 (A13) are offloaded, perform offloading of ULD(s) stored on positions A1/A2R/A2L**.
   - *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard on Main Deck during transit operations (especially temperature-sensitive shipments, live animals and dangerous goods). If needs, perform offloading of specific transit payload and store it in appropriate storage conditions before the loading close to departure time. Refer to* ***Part 6 GOCHM***.
   - *All locks and restrains must be raised in compartment, if any transit ULD remains onboard during transit operations and aircraft parking in transit airport. All appropriate locks must be closed around the transit ULD. Refer to* ***Section 3.7.3 Part 3 GOCHM***.
   - *If any transit ULD must be secured by straps to aircraft structure, it must be done before the end of other operations according to the plan provided by Loadplanners or Loadmaster (if such qualified person is included to crew list of appropriate flight and supervises current handling operations). Refer to* ***Part 8 GOCHM***.

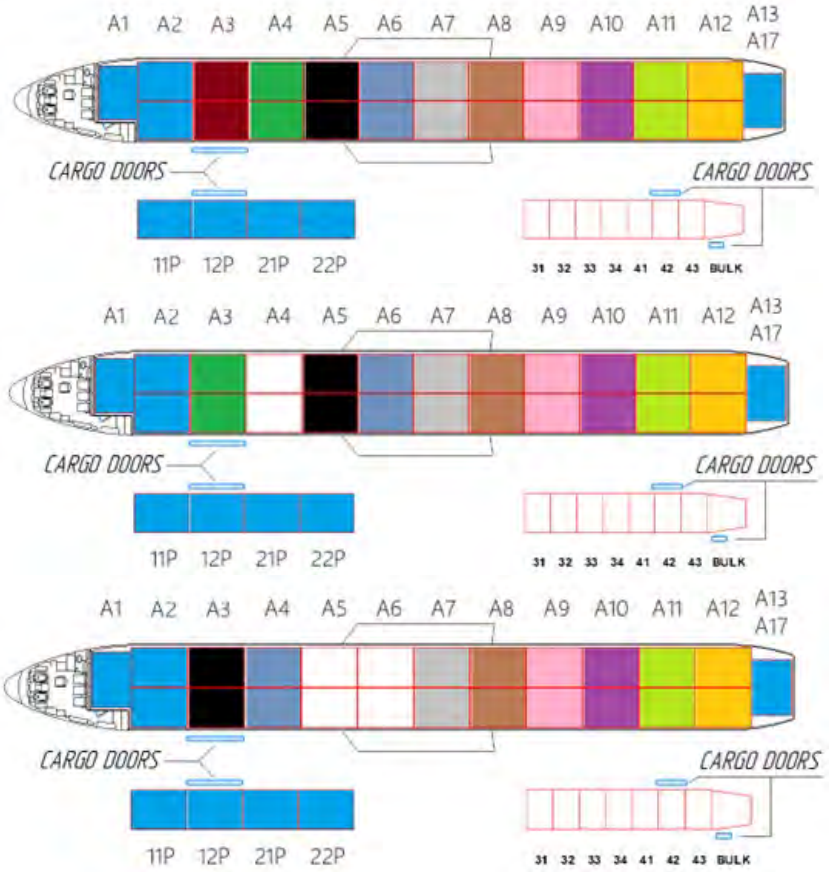
7. **Raise all locks into doorway of Side Cargo Door. Close Side Cargo Door**.
   - *Refer to* ***Chapters 3.5.3 and 3.7.3 Part 3 GOCHM***.
   - *Close Side Cargo Door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*

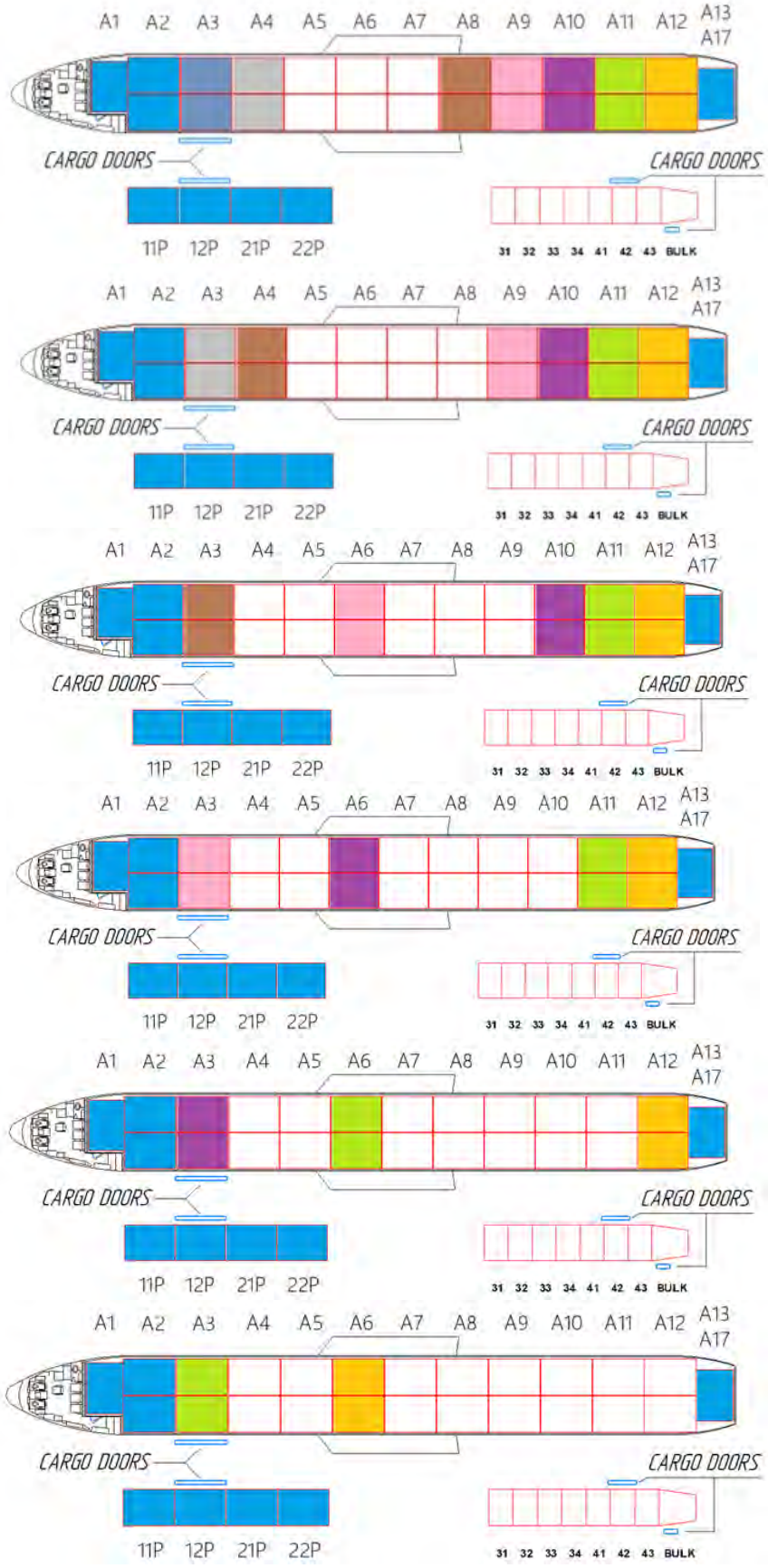
8. **Open Cargo Door of FWD Low Deck Cargo Hold**.
   - *Refer to* ***Chapter 3.5.2 Part 3 GOCHM***.

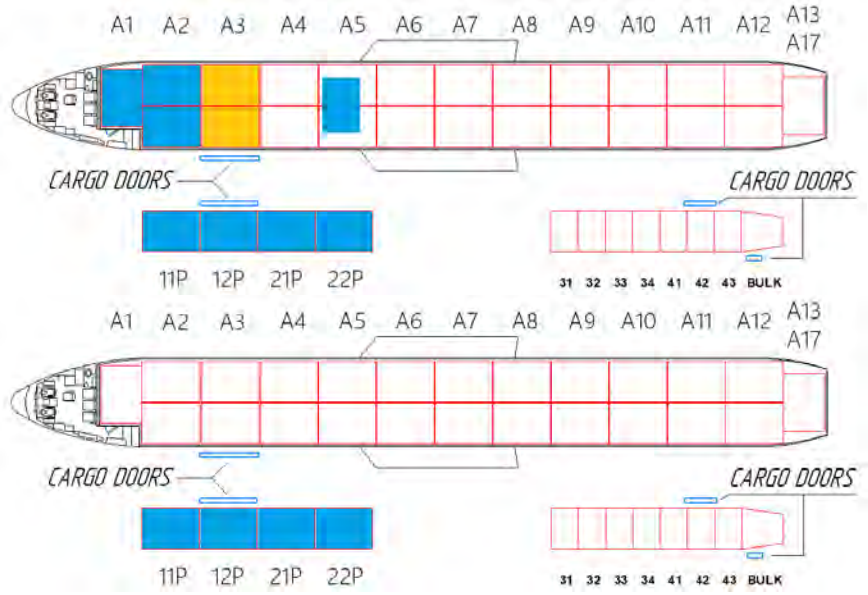
9. **Perform offloading of ULD from FWD Hold (according to the inbound LIR and CPM)**.
   - *Refer to **Sections 3.8.2 & 3.8.3 Part 3 GOCHM**).*
   - *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard on Main Deck during transit operations (especially temperature-sensitive shipments, live animals and dangerous goods). If needs, perform offloading of specific transit payload and store it in appropriate storage conditions before the loading close to departure time.*
   - *All locks and restrains must be raised in compartment, if any transit ULD remains onboard during transit operations and aircraft parking in transit airport. All appropriate locks must be closed around the transit ULD. Refer to **Section 3.7.2 Part 3 GOCHM**.*

10. **Close Cargo Door of FWD Low Deck Cargo Hold**.
    - Refer to ***Chapter 3.5.2 Part 3 GOCHM***.
    - *Close Cargo Door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*

Refer to step-by-step illustrations below for better main deck offloading sequence understanding.




A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A17
CARGO DOORS
CARGO DOORS
11P 12P 21P 22P
31 32 33 34 41 42 43 BULK



Applicable for all B757-200PCF

1. **Open Aft Cargo Hold Door**.
   - *Refer to **Chapter 3.5.6 Part 3 GOCHM**.*

2. **Perform offloading of payload loaded to Aft Hold (according to the inbound LIR and CPM)**.
   - *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard during offloading of Main Deck and FWD Low Deck Cargo Hold (especially temperature-sensitive shipments and dangerous goods). If needs, perform offloading of transit payload for safety (to prevent possible tail tipping during the offloading of Main Deck and FWD Low Deck Cargo Hold). Refer to **Part 6 GOCHM**.*
   - *All bulk nets and door nets must be raised in compartment (even if it remains empty).*
   - *Close door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*
   - *Refer to **Section 3.8.2 Part 3 GOCHM**.*

3. **Open Side Cargo Door.**
   - *Refer to **Chapter 3.5.7 Part 3 GOCHM**.*

4. **Offload ULDs from Main Deck (according to the inbound LIR and CPM):**
   a) Offload ULD from position 3.
   b) Offload ULD(s) from position(s) 4-15.
   c) Offload ULD(s) from position(s) 1-2.

- *Do not concentrate loads on positions 7-15 without sufficient "ballast" payload on positions 1-5. Weight of ULDs on positions 1-5 must always be equal or exceed the weight of ULDs on positions 7-15 during the ground operations.*

- *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard*

on Main Deck during transit operations (especially temperature-sensitive shipments, live animals and dangerous goods). If needs, perform offloading of specific transit payload and store it in appropriate storage conditions before the loading close to departure time. Refer to ***Part 6 GOCHM****.*
- *All locks and restrains must be raised in compartment, if any transit ULD remains onboard during transit operations and aircraft parking in transit airport. All appropriate locks must be closed around the transit ULD.*

5. Raise all locks into doorway of Side Cargo Door. Close Side Cargo Door.
- *Refer to* ***Chapter 3.5.7 Part 3 GOCHM****.*
- *Close Side Cargo Door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*

6. Open Cargo Door of FWD Low Deck Cargo Hold.
- *Refer to* ***Chapter 3.5.6 Part 3 GOCHM****.*

7. Perform offloading of payload from FWD Hold (according to the inbound LIR and CPM).
- *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard on Main Deck during transit operations (especially temperature-sensitive shipments, live animals and dangerous goods). If needs, perform offloading of specific transit payload and store it in appropriate storage conditions before the loading close to departure time.*
- *All bulk nets and door nets must be raised in compartment (even if it remains empty).*

8. Close Cargo Door of FWD Low Deck Cargo Hold.
- Refer to ***Chapter 3.5.2 Part 3 GOCHM****.*
- *Close Cargo Door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*

11.5.4 CARGO HOLDS INSPECTION

a. A cargo hold inspection shall be performed:
   1. After the aircraft unload is complete.
   2. Prior to loading if this does not follow immediately after unloading is complete.
   3. When the aircraft was unattended between unloading and loading.
   4. When there was a change of persons responsible for the aircraft loading and/or supervision task.

b. The person undertaking the cargo hold inspection shall perform a visual check of all cargo holds to ensure:
   1. No damage to compartment floors, walls, ceiling, door frames, panels, door.
   2. No missing, damaged or malfunctioning floor locks, load restraints or nets.
   3. No spills.
   4. No loads other than transit loads have been left on board the aircraft.
   5. Any other items that should not be present in the hold have been unloaded.

c. Prior to commencing the loading of the aircraft, the person responsible for undertaking the cargo hold inspection shall provide positive confirmation to the person responsible for the aircraft loading supervision task that the inspection has been carried out, if appropriate.

d. Any damage or discrepancies observed shall be reported to the person responsible for the aircraft loading supervision task or to the person responsible for the weight and balance calculation task (as a minimum).

Note: A check shall be conducted of a hold even if on arrival the hold was reported as being empty.

e. Any items that should not be present in the hold shall be removed.

Cargo Hold Damage

Any damage to compartment liners (i.e., holes, tears, detachment) may reduce their effectiveness, permitting air to enter the compartment and fire suppression agents to escape, thereby reducing the capability to handle a fire event that may lead to specific loading limitations; therefore:

a. Any technical malfunction, damage or irregularity discovered shall be immediately reported to the supervisor, aircraft maintenance personnel and if available, the pilot-in-command (PIC).
b. Adhere to any resulting load limitations according to GOCHM.
c. Inform the onward station(s) of the load limitations if the defect cannot be rectified before departure.

Spills in Cargo Holds

a. Spills can occur in cargo holds during unloading and/or loading as well as in flight due to:
    1. Improper packaging;
    2. Damage due to mishandling prior to loading;
    3. Improper loading in the compartment.
b. Spills can be from liquids, gels or materials in powdered or granulated form.
c. Spills can be hazardous, corrosive, flammable, explosive, toxic, poisonous, etc. Even water can cause serious damage to electrical components and systems.
d. Spills can be corrosive to the aircraft structure. Mercury spills are particularly corrosive to the extent that the affected aircraft structure may have to be completely replaced if the spill is not cleaned up quickly.
e. It is essential that any spill is reported immediately so that corrective action can be taken. ***Refer to Part 7 GOCHM.***
f. Initiate the local spill response plan for spill events.
g. Request information from the respective cargo terminal operator about the nature of what has leaked as well as the safety data sheet, if applicable.

11.5.5 LOADING

11.5.5.1 LOAD HANDOVER

The handover process between cargo handling (cargo warehouse), baggage handling (baggage make-up area) and ground handling (ramp) departments shall be done systematically to ensure a safe departure.

Depending on the airport infrastructure and/or local agreements, the handover of cargo, mail and baggage to the ramp should be done at a dedicated handover point.

11.5.5.2 LOAD TRANSPORTATION

Prior to transporting cargo and/or mail to/from the cargo warehouse or baggage from the baggage make-up area or baggage claim area, the equipment operator shall ensure:

a. The GSE used for transportation is serviceable.
b. A visual inspection of all loads is carried out to ensure:
    1. The cargo, mail and/or baggage for transport is the correct load for the departing/arriving flight(s).
    2. No nets, ropes, straps or protective materials can drag on the ground or get jammed in rollers, ball-mats or wheels.
    3. All built-up cargo/mail/baggage is safe to move and will not shift, roll or topple.

4. There is no damage to the load.

c. All loads are protected from adverse weather via use of tarpaulins or covered carts. Special attention shall be given to live animals and/or perishables. When using tarpaulins, all straps shall be securely fastened to the cart.

11.5.5.3 LOAD DELIVERY FOR DEPARTURE

Depending on the location of the handover point, the person responsible for the aircraft loading supervision shall:

a. Receive all documentation, pouches and special instructions for the specific flight.
b. Carry out an inspection of all of the load to ensure:
    1. The load is correct for the departing flight(s).
    2. No damage has occurred during the transport process.
    3. There is no evidence of tampering with the load (e.g., cuts, tears to plastic foil).
    4. No nets, ropes, straps, protective materials, etc. should drag on the ground or get jammed in rollers, ball-mats or wheels while maneuvering or while being loaded onto aircraft.
    5. All dollies are serviceable, and all restraints are engaged to secure the ULD on the dollies prior to the ULD being loaded onto the aircraft.
c. Immediately report any damage to the load(s), whether it is discovered when the load arrives on stand or occurs during loading.
    1. Report torn or missing baggage tags and cargo labels.
    2. Do not load unless discrepancies are corrected.

11.5.5.4 LOADING PROCESS

a. Loading shall not commence if there is no LIR (electronic or hard copy). In an exceptional case (IT failures, emergency situations, last-minute offloads) it is allowed to start the loading if there is a direct telephone connection to the loadplanner, who reports the ULD numbers and positions for loading in real time.
b. Do not use crowbars or similar tools to facilitate moving the ULD or raising/lowering the locks.
c. Any loading issues, errors, changes or other loading matters must be reported immediately.
d. Any signs of hold damage must be reported immediately.
e. While loading ULDs into position in the compartment, the equipment operator shall ensure:
    1. When ULDs are loaded, raise/lock the ULD restraints to secure the ULD in applicable position, in accordance with the LIR and as per GOCHM.
    2. While loading ULDs:

        i. The edges are either guided by the safety rails or fit under the stops/locks/guides.
        ii. The height of the pallet allows for sufficient clearance in the door opening.
        iii. Control the speed at which ULDs are moved within the aircraft, slowing the ULD prior to reaching its allocated position to prevent crashing.
        iv. ULDs have no protrusions or overhangs that will damage the aircraft cargo hold access door opening or the interior of the aircraft cargo hold.

Notes:

1. *A tactile check shall be performed by checking the security of each lock to ensure serviceability. A systematic double-check of the restraint system and of special loads (e.g., heavy (HEA), AVIH, human remains (HUM), etc.) before departure is recommended.*
2. *All ULD restraints shall be raised.*
3. *ULD restraints do not have to be raised in cargo holds that are completely empty. But if a single ULD is loaded to the cargo compartment, all ULD restraints shall be raised/locked in order to prevent shifting.*
4. *Where applicable, ensure fire barriers are installed as the hold is loaded.*

f. While loading into bulk holds, the person carrying out the loading of baggage/cargo/mail shall:

1. Load in accordance with LIR requirements.
2. Cross-check cart labels to ensure the load is correct.
3. Check cargo, mail and baggage labels to ensure correct destination/flight number.
4. Ensure any leaking or damaged loads are not loaded and the supervisor is informed immediately. Any contaminated load is kept separately.
5. Ensure applicable special load items are tied down or otherwise secured in accordance with GOCHM.
6. Install/close/secure compartment/bay divider nets, barrier nets, fire curtains, door nets and stanchions, as applicable.
7. Ensure light packages are not loaded or wedged between heavier items.
8. Ensure the necessary clearance between the load and aircraft hold ceiling is achieved to avoid any obstruction or damage to aircraft smoke detector/fire suppression system.
9. Loads shall be correctly stacked to achieve maximum volume.
10. Confirm the final loading status to the person responsible for the aircraft loading supervision.

Notes:

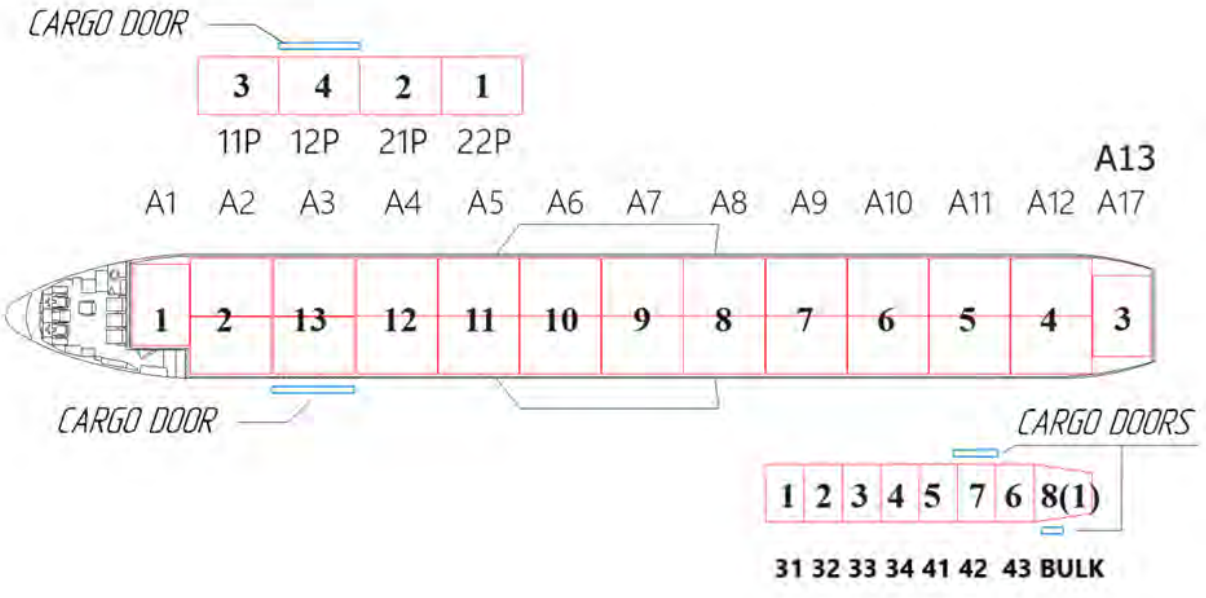
1. *Between unload and onload, compartment nets shall be secured inside aircraft compartments and not left hanging outside to avoid clips and attachment points striking the fuselage, especially during adverse weather.*
2. *Ensure the ramp area is clear of all wooden and/or plastic pallets and other load related material after completion of loading or unloading.*

11.5.5.5 LOADING OPERATIONS

B767-300BCF (-BDSF)

If any transit loads remain onboard during the loading & offloading operations in transit airport, changes of CG must be checked "step-by-step" before the start of handling operations to prevent possible tail tipping during the loading & offloading operations.

- Loading sequence for each compartment is shown by figures mean order to load appropriate ULD / pair of ULD / loose loads (to Bulk section).
- Loading of right side of cargo hold first then left side of cargo hold is allowed, if ULDs have appropriate cargo contour, and already loaded ULDs do not block loading of other ULDs.



1. **Load FWD Hold first.**
    - *During the loading raise all required locks and other types of restraints around each ULD on occupied positions, or perform tie-down of mentioned ULDs to A/C structure (refer to **Section 3.7.2** and **Section 3.9.1 Part 3 GOCHM**). If it not possible (and/or non-certified ULDs are loaded to cargo compartment) – perform tie-down of each mentioned ULD to A/C structure (refer to **Part 4** and **Part 8 GOCHM**).*
    - *After the loading finalization in any cargo hold – raise all non-used locks on empty positions (doesn't matter how may ULDs totally loaded to each cargo hold).*

2. **Load Main Deck once loading of FWD Hold has been finished.**
    - *Tie-down to A/C structure must be performed for all loose packages (galley equipment, crew baggage and other items) stored on Main Deck floor out of ULD. Refer to **Part 8 GOCHM**.*
    - *During the loading raise all required locks and other types of restraints around each ULD on occupied positions, or perform tie-down of mentioned ULDs to A/C structure (refer to **Sections 3.7.3** and **3.9.1 Part 3 GOCHM**). If it not possible (and/or non-certified ULDs are loaded to cargo compartment) – perform tie-down of each mentioned ULD to A/C structure (refer to **Part 4** and **Part 8 GOCHM**).*
    - *After the loading finalization in any cargo hold – raise all non-used locks on empty positions (doesn't matter how may ULDs totally loaded to each cargo hold).*

If FWD Hold is empty on appropriate flight, next restrictions must be observed:

a. Minimum 8 tons of payload or ballast must be temporary loaded to these positions during the loading of positions A12-A3. It is allowed to use ULDs built for same flight for aircraft balance.
b. If quantity of fuel in tanks is vary between 27000 and 45000 kg during the loading, you must hold minimum 10 tons of payload or ballast into zone from position A1 to position(s) A5 all the time of loading.

Standard sequence for loading of Main Deck Cargo Holds:

a. Open Side Cargo Door. *Refer to **Section 3.5.3 Part 3 GOCHM**.*
b. Retract all locks into door area and on appropriate positions (except Anti-Roll-Out stops in Side Cargo Door area). *Refer to **Section 3.7.3 Part 3 GOCHM**.*
c. Load ULDs to positions A1, A2R, A2L (alternate – A1 + centerload on position A2) and close all locks and restrains, applicable for chosen ULD configuration.
    - *If no ULDs are planned for loading at these positions, use ballast pallet stacks (temporary loaded to these positions and later offloaded from the flight), or use ULDs from most forward positions to be temporary placed on position(s) A2 to balance aircraft and later to be move to planned position(s).*
d. Load ULD to position A17 (A13) (if applicable) and close all appropriate locks. *This position is named A17 on all aircraft except UK67015 where it named A13. Refer to **Section 3.7.3 Part 3 GOCHM**.*
e. Load ULD(s), planned for further loading on position(s) A12 and move it from position(s)s A3 to position(s) A7. *Refer to **Section 3.7.3 Part 3 GOCHM**.*
    - *To avoid a spontaneous rolling of temporary stored ULD from position A7 to tail section – raise minimum 1 pallet lock right behind this ULD. This step must be repeated for each ULD temporary stored on position A7 during the loading.*

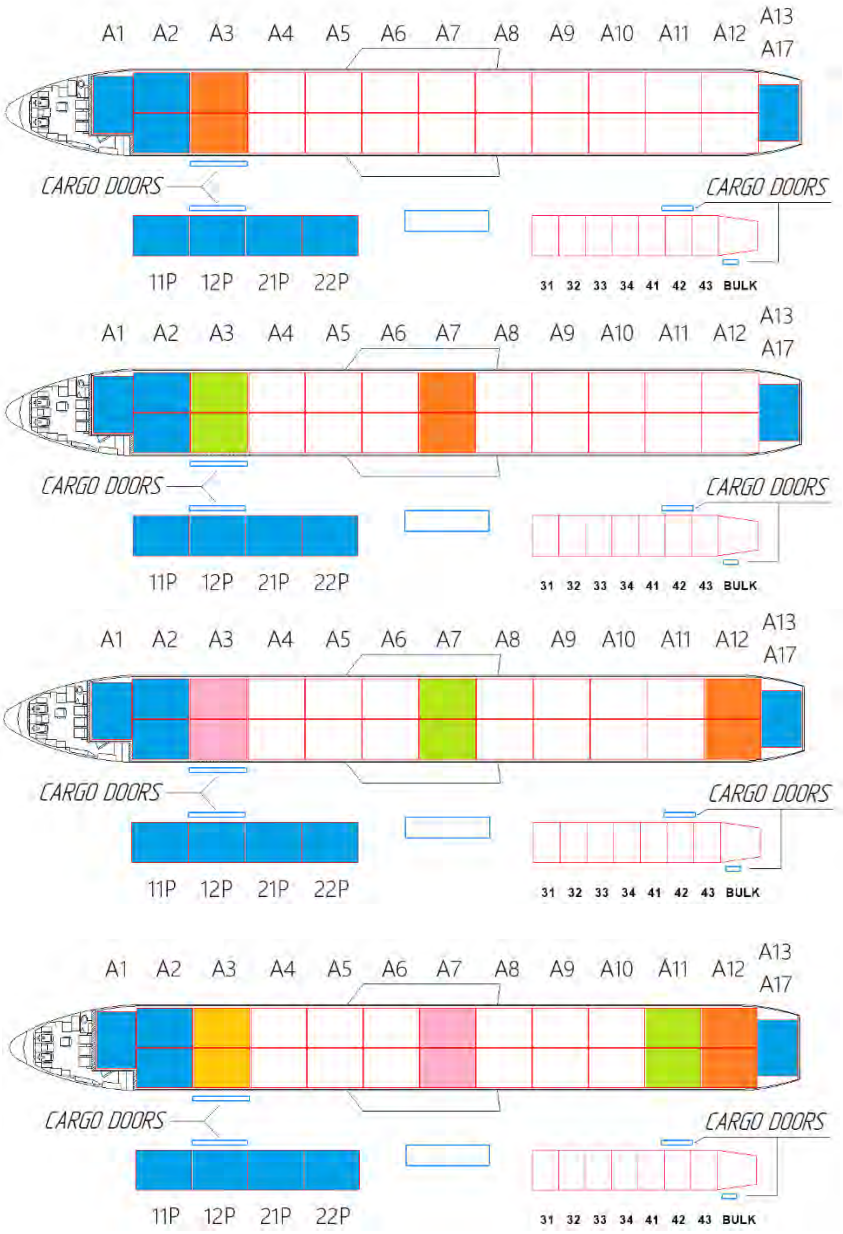
f. Load next ULD(s) (planned for loading to position(s) A11 or others) and hold it on position(s) A3.
g. Move ULD(s) (loaded at step E) from position(s) A7 to position(s) A12 and close all locks and restrains, applicable for chosen ULD configuration. *Refer to* ***Section 3.7.3 Part 3 GOCHM***.
h. Move ULD(s) (loaded at step F) from position(s) A3 to position(s) A7.
   - *To avoid a spontaneous rolling of temporary stored ULD from position A7 to tail section – raise minimum 1 pallet lock right behind this ULD. This step must be repeated for each ULD temporary stored on position A7 during the loading.*
i. Load ULD(s) planned for loading to position(s) A10 or others) and hold it on position(s) A3.
j. Move ULD(s) (loaded at step F) from position(s) A7 to desired position(s) and close all locks and restrains, applicable for chosen ULD configuration. *Refer to* ***Section 3.7.3 Part 3 GOCHM***.
k. Move ULD (loaded at step I) from position(s) A3 to position A7.
   - *To avoid a spontaneous rolling of temporary stored ULD from position A7 to tail section – raise minimum 1 pallet lock right behind this ULD. This step must be repeated for each ULD temporary stored on position A7 during the loading.*
l. Repeat described steps F-I until all positions A3-A12 are filled, and loading is finished according to Loading Instruction (LIR). *Refer to* ***Section 3.7.3 Part 3 GOCHM*** *and observe all loading & safety rules described above.*
m. Each time make sure you have enough payload in nose section to balance aircraft according to the rules described above in chapters 2 and 3(c) of current instruction about loading sequence. Increase amount of such "ballasting" payload in nose section to avoid tail tipping in case of doubts in stable position of aircraft, or in case of additional "tipping" factors described in ***Section 3.11.8 Part 3 GOCHM***.
n. Raise all locks on empty positions (doesn't matter how may ULDs totally loaded to cargo hold). *Refer to* ***Section 3.7.3 Part 3 GOCHM***.
o. Close all pallet locks and restrains in doorway of Side Cargo Door. *Refer to* ***Section 3.7.3 Part 3 GOCHM***.
p. Close Side Cargo Door. *Refer to* ***Section 3.5.3 Part 3 GOCHM***.

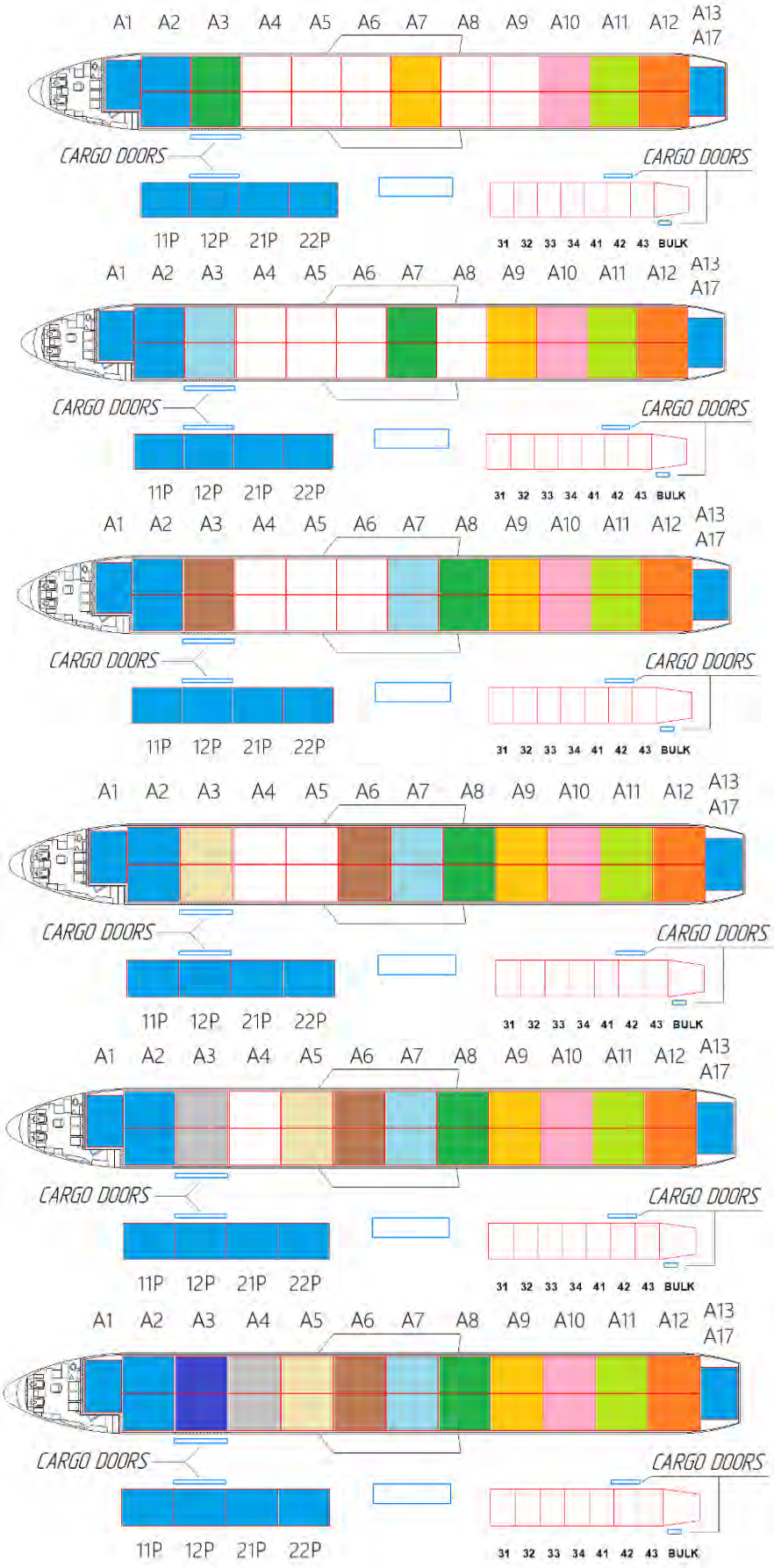
3. **AFT Hold and Bulk Section must be loaded after FWD Hold and Main Deck loading finalization.**
   - *FKT and other payload in Bulk Section requires tie-down to A/C structure must be restrained by straps to appropriate attachment points on aircraft cargo floor (refer to* ***Part 8 GOCHM****).*
   - *Bulk Net and Door Net (separates volume of Bulk Section from remain volume of Aft Cargo Hold and Bulk Cargo Door) must be attached to all required attachments, and all net straps must be tightened. Loading of any loose cargo is prohibited to part of Bulk Section between Bulk Cargo Door and Door Net, to remain volume of FWD or AFT Cargo Holds (for example, on compartment floor, on top of loaded ULDs, between or side from loaded ULDs, etc.). All loose shipment must be placed into Bulk Section only in AFT Cargo Hold.*
   - *During the loading raise all required locks and other types of restraints around each ULD on occupied positions, or perform tie-down of mentioned ULDs to A/C structure (refer to* ***Sections 3.7.2*** *and* ***3.9.1 Part 3 GOCHM****). If it not possible (and/or non-certified ULDs are loaded to cargo compartment) – perform tie-down of each mentioned ULD to A/C structure (refer also to* ***Part 4*** *and* ***Part 8 GOCHM****).*
   - *Tie-down to A/C structure must be performed for specific types of loose packages. Refer to* ***Part 8 GOCHM***.

- *After the loading finalization in any cargo hold – raise all non-used locks on empty positions (doesn't matter how may ULDs totally loaded to each cargo hold).*

Refer to step-by-step illustrations below for better main deck loading sequence understanding.

Load FWD Hold then positions A1, A2, A17, after that load ULD(s) (planned for further loading to position(s) A12) and move to position(s) A7 (marked by orange color). After that you can load next ULD(s) planned for loading to position(s) A11 (marked by green), store it on position(s) A3 and move previously loaded ULD(s) from position(s) A7 to position(s) A12. Then move ULD(s) planned for loading to position(s) A11 to positions A7 and load next ULD(s) to position A3. Continue loading in such logic until all planned ULDs will be loaded. Refer to remain diagrams below for reference.





Applicable for all B757-200PCF

1. **Open Forward Cargo Hold Door**.

- *Refer to **Chapter 3.5.6 Part 3 GOCHM**.*

2. **Perform loading of payload (according to the outbound LIR and CPM)**.

- *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard during offloading of Main Deck and Low Deck Cargo Hold (especially temperature-sensitive shipments and dangerous goods). If needs, perform offloading of transit payload for safety (to prevent possible tail tipping during the offloading of Main Deck and FWD Low Deck Cargo Hold). Refer to **Part 6 GOCHM**.*
- *All bulk nets and door nets must be raised in compartment (even if it remains empty).*
- *Tie-down to A/C structure must be performed for specific types of loose packages. Refer to **Part 8 GOCHM**.*
- *Close door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*
- *Refer to **Section 3.8.2 Part 3 GOCHM**.*

3. **Open Side Cargo Door.**

- *Refer to **Chapter 3.5.7 Part 3 GOCHM**.*

9. Load ULDs to Main Deck (according to the inbound LIR and CPM):

d) Load ULD(s) to position(s) 1-2.

e) Load ULD(s) to position(s) 3-15. Do not concentrate ULDs in section between pos. 8-15, if you have no enough payload on pos. 1-5.

f) Close all appropriate locks once ULD is loaded. In case of missed/unserviceable locks – check if it allowed to use involved positions for ULD loading.

- *Do not concentrate loads on positions 8-15 without sufficient "ballast" payload on positions 1-5. Weight of ULDs on positions 1-5 must always be equal or exceed the weight of ULDs on positions 8-15 during the ground operations.*
- *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard on Main Deck during transit operations (especially temperature-sensitive shipments, live animals and dangerous goods). If needs, perform offloading of specific transit payload and store it in appropriate storage conditions before the loading close to departure time. Refer to **Part 6 GOCHM**.*
- *All locks and restrains must be raised in compartment, if any transit ULD remains onboard during transit operations and aircraft parking in transit airport. All appropriate locks must be closed around the transit ULD.*

10. Raise all locks into doorway of Side Cargo Door. Close Side Cargo Door.

- *Refer to **Chapter 3.5.7 Part 3 GOCHM**.*
- *Close Side Cargo Door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*

11. Open Cargo Door of Aft Low Deck Cargo Hold.

- *Refer to **Chapter 3.5.6 Part 3 GOCHM**.*

12. Perform loading of payload from FWD Hold (according to the outbound LIR and CPM).

- *If any transit payload shall remain onboard in transit airport, make sure with Loadplanners (responsible for weight & balance computations of appropriate flights) if it safe to remain it onboard during offloading of Main Deck and Low Deck Cargo Hold (especially temperature-sensitive shipments and dangerous goods). If needs, perform offloading of transit payload for safety (to prevent possible tail tipping during the offloading of Main Deck and FWD Low Deck Cargo Hold). Refer to* ***Part 6 GOCHM****.*
- *All bulk nets and door nets must be raised in compartment (even if it remains empty).*
- *Tie-down to A/C structure must be performed for specific types of loose packages. Refer to* ***Part 8 GOCHM****.*
- *Close door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*
- *Refer to* ***Section 3.8.2 Part 3 GOCHM****.*

13. Close Cargo Door of Aft Low Deck Cargo Hold.

- Refer to ***Chapter 3.5.2 Part 3 GOCHM***.
- *Close Cargo Door as soon as offloading finished (exemption – there is no wind, no any precipitations or sandstorm, no cold temperatures, and loading of outbound ULD/payload is planned at nearest time).*

11.5.6 SECURING (TIE-DOWN) OF LOAD

For securing of load on the ULD ***refer to Part 4 GOCHM***.
For securing of load in the aircraft compartments ***refer to Part 3 GOCHM***.
For requirements to tie-down of loads to the aircraft structure ***refer to Part 8 GOCHM***.

11.5.7 LOAD SPREADING (SHORING USAGE FOR LOOSE PACKAGES)

Refer to ***Part 6 GOCHM***.

11.5.8 CHECKING ULD CONDITIONS ON THE RAMP

Visually Detectable Damage Check

1. Visual checks for any detectable damage to ULD components should be performed during ramp operations to continuously monitor and verify the serviceability of ULDs to ensure only serviceable ULDs are loaded on board aircraft.
   Note: Unserviceable ULDs may be loaded onto an aircraft only when expressly allowed by the person responsible for loading supervision. The ULD shall be empty, with limited load and/or other restrictions (e.g., additional tie-down) in accordance with the ULD manufacturer's documentation, such as the Component Maintenance Manual (CMM) and ***Part 4 GOCHM****.*
2. Unserviceable ULDs shall be identified and removed from service immediately. Failure to identify and remove unserviceable ULDs from service could:
   - Cause injury to personnel;
   - Damage the aircraft structure;
   - Impact on-time performance;
   - Damage ULD contents (baggage, cargo or mail);

– Affect flight safety.

3. If the visually detectable damage to a ULD component is identified during the visual check, refer to that ULD component's corresponding damage limit on the ULD Operational Damage Limits Notice (ODLN) and follow the instructions below (*also refer to **Part 4 GOCHM***):
    i. If damage to a ULD component is within the allowable damage limit, the ULD is still serviceable.
    ii. If damage to a ULD component exceeds the allowable damage limit, the ULD is deemed to be unserviceable.
4. The following list includes, but is not limited to, some typical stages during ramp operations when a visually detectable damage check on ULDs should be performed:
    i. Prior to dispatch to an aircraft;
    ii. Prior to loading on board an aircraft;
    iii. When unloading from an aircraft;
    iv. Whenever a loaded ULD is interlined, interchanged, or otherwise transferred between parties prior to acceptance, including ULD handover between cargo warehouse personnel and ramp personnel.

ULD conditions that should also be checked during ramp operations:

1. Check if the container curtain door(s) and pallet nets are closed and latched properly.
2. Check for each of the following defects:
    i. Accumulations of snow, water, ice;
    ii. Evidence of spills or leaks from load;
    iii. Evidence of damage to load;
    iv. Evidence of tampering (cuts, tears of plastic foil, etc.) with load.
3. At the ULD loader and in the aircraft:
    i. Identify the presence of any protective plastic sheet put over the top of a pallet net or container that is not approved by GOCHM.
    ii. Check for any visible evidence that the load may have moved out of the build contour during transportation.
    iii. Check if nets and straps are properly tightened without any slack or excess.

***Unserviceable ULDs** (also refer to **Part 4 GOCHM**)*

1. An Unserviceable ULD tag must be completed and attached to the unserviceable ULD.
2. DO NOT load unserviceable ULDs on board any aircraft.
3. Return the unserviceable ULD to the cargo warehouse and inform the owner.

Other Defects:

1. Close and secure the container curtain door(s) and pallet net by appropriately trained and qualified personnel in ULD build-up.
2. Remove accumulations of snow, water, ice.
3. Defects such as spill/leak from load, damage to load, or tampering should only be fixed/resolved by appropriately trained and qualified personnel. In cases where the defect cannot be fixed/resolved on the ramp, the person responsible at the cargo warehouse should be contacted.

    ATTENTION!

    A. Do not touch the spill/leak from dangerous goods and immediately inform the person responsible for safety before moving the cargo.
    B. In cases where tampering evidence is identified, the person responsible for security should also be informed.
4. Remove and dispose of any protective plastic sheet put over the top of a pallet net or container before loading the ULD into the aircraft.
5. Improper ULD contour or overhang/indent size should only be fixed/resolved by the appropriately trained and qualified personnel in the ULD build-up.

6. For net and strap tension concerns due to the existence of slack or excess, any appropriately trained and qualified personnel in the ULD build-up can make appropriate adjustments to nets and straps to secure the load at any point along the ULD operational procedures.
7. For all other defects identified, contact appropriately trained and qualified personnel to assist with proper resolution as required.

11.5.9 TRANSPORT OF CARGO AND MAIL IN PASSENGER CABIN

Passenger aircraft are not certified to carry cargo on passenger seats or ULDs (pallets or containers) in the passenger cabin secured to the seat tracks, therefore, “MY FREIGHTER” LLC do not provide such service.

Transportation of cargo and mail in passenger cabin of A319-153N, A320-232 (-233), A321-251N, A321-253NX, A330-343 is forbidden until written confirmation of Director of GHD.

11.6 AIRCRAFT DEPARTURE

A departure is normally conducted with a dialogue between flight crew and the ground personnel in charge of the departure operation via an interphone. This procedure ensures the highest level of safety during departures based on a precise exchange of information. The ground personnel in charge of the departure operation shall maintain continuous contact with the flight crew and are responsible for the ground maneuver.

11.6.1 GROUND STAFF MEMBER RESPONSIBILITIES

Ground Staff Member Responsible for Departure

The responsible ground staff member is defined as the person performing the communications with the flight crew. A responsible ground staff member shall be in charge of every aircraft pushback. This function is outsourced to the ground handling agents.

The ground staff member responsible for the departure shall:

a. Be in charge of the entire pushback, once clearance to begin pushback has been given by the flight crew.
b. Ensure the pushback tractor and towbar/TWL tractor is suitable for the specific aircraft type.
c. Conduct briefings with all persons involved in the aircraft movement to review and confirm how the aircraft will be maneuvered.
d. Have ultimate responsibility to review pushback procedures based on conditions observed and advise flight crew of any anticipated changes to pushback procedures.

Pushback Tractor Driver

The pushback tractor driver shall:

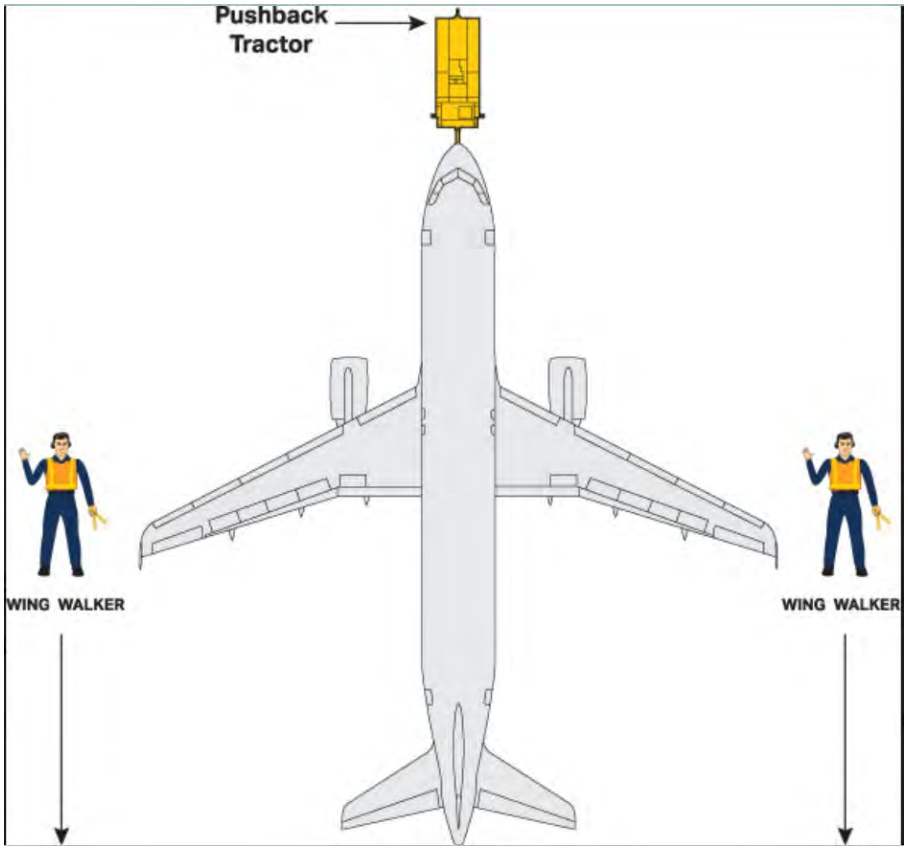
a. Ensure the pushback tractor and towbar/TWL tractor is suitable for the specific aircraft type.
b. Stand by for clearance-to-push communication from the flight crew or responsible ground staff member or brake operator in case of towing.

Wing Walker

Where applicable, the wing walker or other assist personnel shall:

a. Be under the direction of the responsible ground staff member at all times.
b. Use two marshalling wands, either day wands or illuminated wands for low-visibility operations.
c. Be positioned before and during movement of the aircraft as follows, where applicable and/or permitted:
    1. Approximately 1 m (3 ft.) outboard of the wingtip and with a clear view of wingtip clearance and any potential hazards;
    2. In line with the rearmost main gear wheel;
    3. Able to maintain visual contact with the person responsible for pushback/towing;
    4. At a safe distance from the moving aircraft/pushback tractor during the entire pushback;
    5. Maintain situational awareness to avoid personal injury hazards (moving equipment and vehicles, aircraft, slip, trip and fall hazards such as chocks, cones, GSE, uneven ground, spillages, etc.).
d. Ensure the aircraft movement path is clear of any obstructions (i.e., other aircraft, vehicles).
e. Provide “Clear to Move Aircraft” clearance signals at all times to the person responsible for pushback by using a distinct pendulum arm motion.
f. Continue to monitor the aircraft path until the aircraft is stopped at the departure point.
g. If at any time during aircraft movement, the wing walkers are unsure or identify an imminent danger, signal the person responsible for pushback with the “STOP” signal.
h. When the aircraft is stopped at the departure point, position themselves either at the 11 o'clock or 1 o'clock position in clear visibility of the flight crew on the terminal side at a safe distance away from the aircraft.

i. Give the “Hold Movement of Aircraft” signal to the flight crew when the visual “Brakes Engaged” signal has been received from the person responsible for pushback.
j. Remain in position until the responsible ground staff member takes over the marshalling clearance of the aircraft.
k. Return to the terminal once marshalling duty has been transferred.



11.6.2 PREDEPARTURE ACTIVITIES

11.6.2.1 PREDEPARTURE WALKAROUND CHECK

The walkaround should start as soon as possible after all ground servicing activities have been completed. Walk around the entire aircraft at a normal walking pace. The check shall start as close as possible to departure time. If any part of the aircraft still has GSE engaged at the time of the check, or if GSE reengages with the aircraft after the check, the applicable area(s) shall be reinspected.

The predeparture walkaround check shall include the following:

a. The apron is clear of all FOD that may cause aircraft damage or pose a risk. Ramp surface is clean and there is no debris or contamination that could be hazardous to the aircraft movement or lead to the aircraft damage.
b. All GSE, including passenger boarding devices, are detached.
c. The stand area is clear of obstructions.
d. The stand area is clear of objects that could be impacted by the aircraft or subjected to the jet blast effect.
e. GSE and vehicles are positioned clear of the aircraft path.
f. Adequate clearance exists between the aircraft and facilities or fixed obstacles along the aircraft movement path.
g. All aircraft servicing panels and/or hatches are closed and secured. Exception: External power and headset panels.
h. Cabin and cargo hold access doors are closed and:

1. Handles are flush with the fuselage and, where applicable, all other visible indicators confirm that doors are correctly locked.
2. There is no visible damage on the aircraft, particularly around cabin and cargo hold access doors.

i. Any observed abnormalities on the aircraft (e.g., obvious damage, fluid leakage, unremoved pitot covers) are immediately brought to the attention of the flight crew, maintenance personnel and the person responsible for supervision.
j. Items such as nose gear tether or tail stands are removed.
k. Landing gear safety pins are removed.
l. There are no obvious signs of unmarked dents or other skin panel damage.

Notes:

1. In the case of the aircraft returning to the stand, the predeparture walkaround check shall be repeated.
2. It is essential to have adequate lighting when doing the walkaround check. If the lighting is insufficient, use a flashlight.

CAUTION: If any of the above conditions or actions are not met, inform the person responsible for supervision, the maintenance department and the flight crew, as this may affect the safety of the intended flight.

11.6.2.2 PREDEPARTURE ACTIVITIES

The following predeparture activities shall be performed by the airline supervisor (Loadmaster or Airline Ramp Agent):

1. Clarify the tail number of the aircraft with the OCC (if it has not been specified earlier).
2. Check the aircraft schedule and estimated flight departure time.
3. Clarify the aircraft's MEL / DI restrictions, if applicable.
4. Check if applicable ground handling services have been ordered.
5. **If necessary** – fill an order to ground handling agent, indicating the required services, number and type of special equipment, including additional equipment due to existing aircraft malfunctions.
6. Clarify the actual number of the parking lot through the ground dispatch of the airport (if it was not known earlier).
7. Check with the airline representative at check-in the planned load (total number of passengers and the presence of special categories of passengers requiring special attention (UNMR, DEPA, DEPU, WCHR, WCHC, WCHS, DPNA, MEDA, STCR, DEAF, BLND).
8. Check the availability of preliminary instructions (LIR) for loading the departing flight (if they are ready).
9. **Print the required documents and forms**:

   - ✓ ***For passenger aircraft***: GROUND HANDLING REPORT SHEET (Appendix 1.5) - 1 pc.
   - ✓ ***For cargo aircraft***: Appendix 1.4 - 1 pc.
   - ✓ Telegrams LDM and CPM upon arrival - subject to availability.
   - ✓ Preliminary load plan for the departing flight - subject to availability.

10. Check the absence of FOD on the ramp surface and the taxiways adjacent to the parking stand, if necessary, indicate to the ground handling agent that they need to clear the FOD, or (if prompt cleaning is not possible) order the towing of the aircraft from the parking stand.
11. **Check the availability of GSE and vehicles on the stand:**

- mandatory equipment:

- ✓ towing tuck for this type of aircraft;
- ✓ 2 technical ladders (3 steps and 5 steps high);

- ✓ at least 6 signal cones;
- ✓ chocks;
- ✓ at least 1 passenger stairs (at a remote parking lot, or in case of a malfunction of the passenger bridge) or a serviceable passenger boarding bridge (when parking near the passenger terminal);
- ✓ fire extinguisher.

- optional equipment (ordered and provided if necessary):

- ✓ GPU (to provide electricity during parking);
- ✓ ASU (when the aircraft is not in operation, to start its engines);
- ✓ ACU (air conditioning of the aircraft cabin during parking);
- ✓ tractor (to tow the aircraft on departure);
- ✓ tanker (refuel);
- ✓ belt loader (to load baggage/cargo/mail/FKT in bulk);
- ✓ ULD loader, also known as a highloader (to load baggage / cargo / FKT, assembled on the ULD).

- additional special equipment (ordered and provided if necessary):

- ✓ ambulift for delivery of passengers with limited mobility on board the aircraft (if there are corresponding categories of passengers on the flight);
- ✓ a lifting vehicle for loading catering;
- ✓ at least 1 fire truck (if necessary, further refueling of the aircraft with passengers on board the aircraft);
- ✓ an additional passenger stair (in case of a large number of passengers and a short parking time and / or the need for further refueling of the aircraft with passengers on board the aircraft).

12. **Check the availability of ground handling personnel on the parking stand:**

- mandatory staff:

- ✓ technician(s) and aircraft mechanic(s) to provide maintenance, meeting and release of the aircraft;
- ✓ loaders (if there is information about loading baggage/cargo/mail/FKT);
- ✓ duty representatives of the aviation security service (if required by local procedures);
- ✓ special equipment drivers;
- ✓ duty ground handling agent-coordinator.

- support staff:

- ✓ representatives of state law enforcement agencies (if required by local procedures on a given flight or at a given airport).

13. Conduct a briefing with the personnel involved, pointing out the specific features of the flight, including:

- ✓ special categories of passengers;
- ✓ cargo/baggage/mail/FKT parameters (including dangerous goods, if any);
- ✓ flight service time (when performing a turnaround flight).

14. **Control the quality and timeliness of services provided by the ground handling service providers.**

IMPORTANT!

Any actions related to the approach and departure of special equipment to / from the aircraft should only be started in the presence of a qualified ground handling agent authorized to manage the approach and departure.

15. Input necessary information about the flight, aircraft, the actual provision of special vehicles and GSE and the time of their usage into checklist (***Appendix 1.4*** for cargo aircraft; ***Appendix 1.5*** for passenger aircraft).
16. Check the presence or absence of a Fly Away Kit (FKT) onboard. If you have any doubts about the correctness of its location or availability, inform the load planner in order to make appropriate corrections in the Loadsheet and Loadsheet for departure flight.
17. Control the timely cleaning and ground handling operations on the aircraft in accordance with the order.
18. At least 75 minutes before STD control the approach and connection of the fuel tanker to the aircraft, indicate the beginning of the aircraft refueling according to the OFP data. ***URGENT! – in case of cargo aircraft tankering (fueling more 70 tons) estimated fueling time shall be calculated in advance with assumption of fueling speed equal 900kg/min – to start fueling in advance based on required quantity of fuel!***
19. Control the arrival of the departing crew (60-45 minutes before STD).
20. Control the catering delivery and its loading (if applicable).
21. Check with PIC the final decision on refueling and promptly adjust refueling if necessary.
22. Check with PIC for a decision regarding de-icing - if necessary - and order equipment/personnel for a specific time for de-icing.
23. **If applicable, for an international flight**: not later than 50 minutes before STD, ensure that the aircraft is inspected by border and customs officers, as well as obtain their permission to load baggage, cargo and mail, as well as board passengers.
24. Not later than 50 minutes before STD, check with the representative at check-in for up-to-date data on the expected number of passengers and baggage.
25. No later than 45 minutes before STD check with PIC the balance data according to the form below and provide it to the ground handling agent for further transfer to the staff responsible for the flight balance (it is allowed to write the data by hand and send a photo of the form). This form is included in Appendix 1.5 on the Checklist Ramp tab (could be printed on reverse side of the Checklist).

Required data	Fill example
• Flight number • Aircraft registration number • Aircraft type • Crew • DOI • DOW • Ramp Fuel • trip fuel • Taxi Fuel • Wishes for loading baggage and cargo • Flight catering	• UK37888 • A320 • Crew 3/4 • DOI 53 • DOW 43146 • Ramp Fuel 11000 kg • Trip Fuel 3187kg • Taxi Fuel 200kg • Plan all cargo/baggage/mail to holds 31, 41, 51 • Catering standard

Alternatively: notify PIC of the need for crew weight & balance computations, if applicable for a particular flight or airport - at least 40 minutes prior to STD). In this case, completion of the TRIP INFO form from Appendix 1.5 is not required, but the corresponding fields in the Loadsheet Report Form must be completed together with PIC. This Loadsheet Report Form is available from PIC.

26. **For cargo aircraft: not later 75min before STD –** check the final payload and loadplan, inform the specialist responsible for W&B computations and OCC (Flight Dispatcher) to issue a correct flight documents and finalize fueling figures.
27. **For all types of aircraft: not later 40min before STD –** inform load planner, responsible for W&B computations, about final fuel figures (to apply appropriate fueling on time).

28. **Ask Flight and Cabin Crews about readiness and give permission for boarding passengers through the ground handling coordinating agent** (not later than 30 minutes before STD on domestic flights and not later than 45 minutes before STD on international flights).
29. **For all types of aircraft: monitor passenger boarding** (once buses are arrived, or boarding bridge (-s) are used).
30. Arrange the boarding of special categories of passengers (UNMR, DEPA, DEPU, WCHR, WCHC, WCHS, DPNA, MEDA, STCR, DEAF, BLND) in accordance with the relevant sections of ***Part 5 GOCHM***.
31. Do not allow passengers to move under wings, close to wheels or engines in case of standard passenger steps are used.
32. When the loaders and equipment are ready, give permission to load baggage, cargo, mail in accordance with previously received instructions and tie-down (if applicable) according to the ***Part 8 GOCHM***. Also arrange for the unloading of special categories of cargo and baggage (for example, firearms) in accordance with the relevant sections of ***Part 5 GOCHM***.
33. Carry out a visual inspection of the aircraft cargo hold and ensure that baggage/cargo/mail/FKT/ULD is loaded according to instructions received (LIR), all cargo nets are fastened and tightened, and all baggage, mail, cargo (including COMAT and COMAIL), requiring fastening to the structure of the aircraft - fastened with straps to the structure of the aircraft in accordance with ***Part 8 GOCHM***.
    NOTE: *Flight attendants only accept transportation documentation on board the aircraft.*
34. **If any damages of aircraft are happened/found** – immediately inform engineers, responsible for maintenance, and ask, will it cause extra ground time / flight delay. If flight delay is confirmed from engineer's side, immediately inform OCC. Otherwise inform OCC about presence of damage, but mention, it will not influence to scheduled flight (-s). Input data about character and place of damage into SFR in any case.
35. **In case of any irregularities / deviations on flight (including removal of passengers, baggage, cargo, mail from the flight):**
    - ✓ Take measures to inform the aircraft crew;
    - ✓ Take measures to resolve the failure situation in accordance with the rules of the airline and local regulations;
    - ✓ In case of removal of checked baggage, timely organize the search for the specified baggage by loaders by the numbers of baggage tags;
    - ✓ In case of removal of a passenger, follow the provisions of ***Part 5 GOCHM*** of this manual;
    - ✓ Immediately inform the staff responsible for balance of changes in the aircraft load and the number of passengers.
36. **When aircraft is parked on a self-propelled parking spot (where it is allowed to start the engines and taxi out)** – control the timely arrival of technicians responsible for the release of the aircraft (no later than 15 minutes before STD).
37. **When aircraft is parked on a parking spot where towing is required** – control the timely arrival of a towing tractor with a tow bar (or a towbarless tractor) and technicians responsible for the release of the aircraft (no later than 15 minutes before STD).
38. Obtain flight documents (passenger manifest, PNL, Loadsheet, LIR, NOTOC (if any)) from the relevant parties.
39. Check the data in the documents with the actual load (number of passengers, number of seats and weight of baggage, cargo, mail) and make sure there are no discrepancies.
40. **If necessary, update NOTOC on the loading positions - no later than 25 minutes before STD.**
    - ✓ If LMC is required (due to a discrepancy between the declared number of passengers/baggage and the actual number) - notify PIC of the need to pay attention to LMC.
41. **For passenger aircraft**: delivery the NOTOC (if applicable), Airway Bills and Cargo manifest, if applicable, Loadsheet, passenger manifest and PNL to the Chief Flight Attendant. Ask for 2 signed copies of Loadsheet, NOTOC and Manifest for station copy.

42. **For cargo aircraft**: delivery the NOTOC (if applicable), Airway Bill (-s) and Cargo manifest (-s) if applicable, Loadsheet, passenger manifest (for supernumeraries, if carried onboard) to the PIC. Ask for signed copies of Loadsheet, LIR, NOTOC, OFP page (with fuel info) and Manifest for station copy.
43. **After signing of documents by crew – take 2 copies of next documents for Station Flight Files saving:**
    - ✓ ***For passenger aircraft***: Loadsheet, NOTOC and Manifest.
    - ✓ ***For cargo aircraft***: Loadsheet, LIR, NOTOC, OFP page (with fuel info) and Manifest.
44. Check with the Chief Flight Attendant that the actual number of passengers corresponds to the data in Passenger manifest.
45. In case of LMC due to the addition/disembarking of some passengers and/or loading/unloading of some baggage/cargo/mail, put the LMC in the Loadsheet, LIR and Manifest and hand over to the Chief Flight Attendant corrected forms.
46. Obtain permission from PIC to close the doors and push back ladder (-s) (passenger bridge (-s)).
47. Control the closing of the door(-s) of the aircraft.
48. **If necessary:** control the time and procedure for conducting PIA in accordance with the requirements of ***Part 12 GOCHM***.
49. **Control the quality and timeliness of services provided by the ground handling service providers.**
50. **Control the start of taxiing of the aircraft and report to the OCC the actual off-blocks and take-off times (Actual Time Departure) in UTC (by phone or messenger).**
    - ✓ *Off-blocks time - the time of removing the last chock from under the wheels of the aircraft;*
    - ✓ *Take-off time is the time the aircraft starts to perform take-off.*
51. Receive signed copies of acts and invoices from all ground handling service providers. Make sure, information about provided services is correctly shown in documents. Take 1 copy of each signed document for Station Flight Report.
52. Sign the form provided by the ground handling agent for the provision of ground handling services, add your comments and remarks in the “Remarks / Notes” field, if any. Make sure, information about provided services is correctly shown in document. Take 1 copy of signed document for Station Flight Files.
53. **Once ground handling of the flight is finished** - file all invoices, acts and flight documents in a folder with reporting documents for the flight.
54. **Once ground handling of the PASSENGER aircraft is finished** – together with the representative at check-in (or alone, if flight has been handled by 1 Airline Representative), fill out the Station Flight Report (Appendix 1.5) in the part related to the control of aircraft ground handling on the apron (or check-in as well, if flight has been handled by 1 Airline Representative) and send it to email: SFR@centrum-air.com.
55. **Once ground handling of the CARGO aircraft is finished** – fill out the Station Flight Report (Appendix 1.4) and send it to email: SFR@centrum-air.com**. In case of charter flight,** the SFR must be filled and send by loadmaster assigned for the flight.

URGENT! – ***SFR must be filled and sent within 3 hours after aircraft departure.***
URGENT! – ***delay codes, shown in Section 11.1 Part 11 GOCHM, must be used in MVT and SFR in case of delay to advise reasons of delay.***

11.6.2.3 PREDEPARURE COMMUNICATION

An aircraft departure shall always be conducted using interphone communications. If the interphone becomes/is unserviceable, use standard hand signals.

a. Connect the Interphone and:
   1. Verify the communication system is functional
   2. Update flight crew on the progress of the ramp operation
b. Prior to departure, conduct a briefing with the flight crew and the ground staff member responsible for the departure, to:
   1. Review departure specifics (e.g., direction of movement, ASU requirement, final positioning, taxi out direction).
   2. Review standard hand signals to be used, including emergency signals.

CAUTION: Repeat all given instructions or acknowledge them in a manner clearly indicating that they have been understood and will be complied with.

c. Request permission to disconnect ground power, if applicable.
d. Disconnect GPU/FPU after approval is received from flight crew.

Note: The ground personnel responsible for departure should be in continuous communication with the flight crew by interphone.

11.6.2.3.1 DIALOGUE BETWEEN RESPONSIBLE GROUND STAFF MEMBER AND FLIGHT CREW

PHASE	GROUND STAFF	FLIGHT CREW
Preparation	INFORM THE FLIGHT CREW ABOUT THE USE OF A TOWBAR OR TWL TRACTOR (if applicable) Call: CONFIRM PARKING BRAKE SET	Reply: PARKING BRAKE SET Call: CONFIRM STEERING BYPASS PIN INSERTED/NOSE WHEEL STEERING DEACTIVATED (if applicable)[1]
	Reply: STEERING BYPASS PIN INSTALLED/NOSE WHEEL STEERING DEACTIVATED (if applicable)[1]	Call: CONFIRM CLEAR TO PRESSURIZE? (if applicable)
	Reply: CLEAR TO PRESSURIZE (if applicable)	
After completion of the predeparture servicing checks	Call: PREDEPARTURE CHECKS COMPLETED Call: ELEVATING AIRCRAFT[2] Call: READY FOR PUSHBACK[1]	Reply: STANDBY
Pushback	Call: CONFIRM PARKING BRAKE RELEASED	Call PUSHBACK APPROVED (MENTION AIRCRAFT NOSE DIRECTION, START-UP POINT, PULL FORWARD, ETC.)

	Call: COMMENCING PUSHBACK (MENTION AIRCRAFT NOSE DIRECTION, START-UP POINT, PULL FORWARD, ETC.)	Reply: PARKING BRAKE RELEASED
Engine start	Call: CLEAR TO START ENGINES	Reply: STARTING ENGINES (MENTION ENGINE START-UP SEQUENCE)
Pushback completed	Call: PUSHBACK COMPLETED, SET PARKING BRAKE	Reply: PARKING BRAKE SET
Disconnecting	Reply: DISCONNECTING, HOLD POSITION AND WAIT FOR HAND SIGNAL ON YOUR LEFT/FRONT/RIGHT (DISPLAY THE STEERING BYPASS PIN (IF APPLICABLE TO THE AIRCRAFT TYPE) TO THE FLIGHT CREW	Call: CLEAR TO DISCONNECT Reply: HOLDING POSITION AND STANDING BY FOR HAND SIGNAL ON THE LEFT/FRONT/RIGHT

[1]Applicable to departures with towbar and TWL tractors
[2]If required, applicable to TWL tractors

11.6.2.3.2 ITEMS TO BE COMMUNICATED BETWEEN RESPONSIBLE GROUND STAFF MEMBER AND FLIGHT CREW

PHASE	TASK	RESPONSIBLE GROUND STAFF MEMBER ACTION
Departure preparation	GPU removal	When instructed by flight crew, remove GPU.
	Towbar/TWL tractor connection	a. Get confirmation that aircraft parking brake is set. b. Get confirmation that the nose wheel steering is depressurized or advise flight crew that the steering bypass pin is inserted, if applicable. c. Connect the towbar. d. Connect the TWL tractor.
	Chock removal	a. Get confirmation from flight crew that aircraft parking brake is set. b. Remove chocks.
	Predeparture check	Advise flight crew that the predeparture check has been completed or communicate any discrepancies.
Engine start	Starting engines	When requested by the flight crew, advise when the engines may be started and the start sequence.
	ASU	When requested by the flight crew, signal to the ASU operator to supply the required pressure.
Pushback and engine start	Brakes	Get confirmation that the aircraft parking brake has been released.
	Movement of the aircraft (pushback/pull out)	Get permission from flight crew to commence pushback.
	Direction of push/nose	If applicable, ask in which direction the aircraft must be pushed or in which direction the nose should point after pushback.
	Engine start	When requested by the flight crew, advise when the engines may be started.
Pushback completed and engine start completed	Towbar/TWL tractor disconnect	a. Get confirmation that the aircraft parking brake is set. b. Disconnect. c. Remove the steering bypass pin, if applicable.
	Headset removal	a. Get permission from the flight crew to disconnect the headset. b. Advise the flight crew to hold position and wait for visual signal at left/front/right of the aircraft.
Departure	“All Clear” signal	a. Verify steering bypass pin removal has been completed, if applicable. b. Give the “All Clear” signal when the path of the aircraft is clear of all obstacles. c. Get acknowledgement from the flight crew of the “All Clear” signal.

11.6.2.3.3 DEPARTURE COMMUNICATION WITHOUT INTERPHONE

An aircraft departure shall always be conducted using interphone communications. Only if the interphone becomes unserviceable or under extreme circumstances where the interphone is not available, shall the responsible ground staff member and flight crew use conventional hand signals.

11.6.2.3.4 INTERPHONE COMMUNICATION FAILURE

Aircraft pushback requires a communication interphone. If the interphone becomes unserviceable or communication is lost, the following procedure shall be followed:

a. In the case of a single person operation and if no other means of communication are available, stop the movement and immediately request assistance to continue the movement (depending on local situations and regulations).
b. In the case of a multiple person operation, communication with the flight crew will be established using hand signals. The tractor driver shall be able to receive the visual signals as relayed from the flight crew. Once hand signal communication has been established, the pushback can resume.
c. Notify air traffic control (ATC), via radio if available, and continue the movement in cooperation with ATC, depending on local regulations.

11.6.3 CONNECTING THE PUSHBACK VEHICLE

11.6.3.1 GENERAL INFORMATION

Aircraft towing is carried out to move it around the airfield. Towing requires a tractor that meets the minimum requirements of the aircraft manufacturer and a towing carrier (suitable for one or more types of aircraft, depending on the model).

Each type of aircraft has specific requirements for disengaging the nose landing gear steering mechanism for towing with a special pin. Pins for different types of aircraft and even different modifications of the same type may differ in design.

Specific angles of turn must be observed during the towing (which are depends on aircraft model). **Angles shall not be exceeded!**

a. Prior to connecting the tractor to the aircraft, the tractor may be parked in front of the aircraft or outside of the ERA, but never behind the wings.
b. Ensure the nose gear steering bypass pin is correctly installed prior to towbar/TWL (towbarless) connection to the aircraft and/or ensure the nose gear steering mechanisms are set as required for pushback (as applicable to the aircraft type). The steering bypass pin shall be:
    1. Labeled with the specific aircraft type(s) for which it can be used.
    2. Identified with a “Remove Before Flight” streamer.
    3. Checked regularly for proper technical condition, or as per manufacturer instructions.

NOTE: Each aircraft type has specific requirements for the bypass of the nose gear steering mechanism.

c. Ensure the steering hydraulic system is depressurized or the nose gear steering torque links are disconnected, as applicable for aircraft not fitted with a nose gear steering by-pass system. Coordination with the flight deck would be required to ensure a safe depressurization and re-pressurization of the aircraft hydraulic system.
d. If using chocking option 1 (*see* ***Section 11.2 Part 11 GOCHM***) and where required by the aircraft type, prior to connecting the towbar/TWL, confirm that the aircraft parking brake is set.
e. A guide person shall be used to assist in the final approach to the towbar/nose gear when a tractor and towbar is used for the pushback process. When a TWL tractor is used, a guide person shall be used when the vision of the tractor driver is/might be restricted.

11.6.3.2 CONNECTING PUSHBACK TRACTOR AND TOWBAR

a. Where required by aircraft type, remove the chocks from the nose gear and reposition at the main gear ***(****in accordance with see* ***Section 11.2 Part 11 GOCHM)***.
   Note: Nose gear wheel chocks may be removed without notification, provided the Main Landing Gear wheel chocks are still positioned.
b. Connect the towbar to the nose gear first.
c. Ensure the towbar connection is secured and a locking pin is in place.
d. Ensure the tractor and towbar are aligned with the centerline of the aircraft while connecting.
e. Raise the towbar so its head is at the same height as the tractor connection.
f. Approach the towbar slowly until the connection aligns with the pushback tractor.
g. Ensure the front wheels of the tractor remain straight and the tractor is in line with the centerline of the aircraft.
h. The pushback tractor shall only be connected to the aircraft once all GSE is detached from the aircraft.
   Note: With the exception of GPU and ASU which may be left connected.
i. Secure the towbar connection to the pushback tractor.
j. Raise the towbar wheels by releasing pressure on the hydraulic pump.
k. Select the Park or Neutral gear (if no selection for Park) and set the parking brake of the pushback tractor.
l. To minimize the possibility of injury, Ground handling personnel shall:
   1. Face the tractor when connecting the towbar to the tractor.
   2. Stand with both legs on the same side of the towbar during the connection/disconnection procedure (i.e., do not stand astride/over the towbar).

Note: If using chocking option 1 (*see* ***Section 11.2 Part 11 GOCHM***), prior to connecting the towbar, confirm that the aircraft parking brake is set where required by the aircraft type.

11.6.3.3 CONNECTING TOWBARLESS TRACTOR

a. Ensure the correct aircraft type is selected on the TWL control panel, where applicable and in accordance with TWL operating procedures.
b. On final approach to the aircraft, the tractor shall be properly aligned and correctly positioned.
c. Ensure the aircraft nose wheels are safely locked into the tractor cradle by the tractor locking mechanism.
d. Position the TWL tractor to standby for lifting.
e. Select the Park or Neutral gear (if no selection for park) and set the parking brake of the pushback tractor.
f. Ensure the aircraft is not lifted while any GSE or PBB are connected to the aircraft.

Note: If using chocking option 1 (***see Section 11.2 Part 11 GOCHM***), prior to final positioning of the TWL, confirm that the aircraft parking brake is set.

11.6.3.4 INSTALLING THE TOW PIN ON A319-153N / A320-214 (-232, -233) / A321-251N

To tow an aircraft, it is necessary to deactivate the control of the nose gear (*refer to* ***Fig. 11.6.3.4A, 11.6.3.4B Part 11 GOCHM***).

Set the control lever on the nose gear to the “TOWING” position and secure with a safety pin (PIN).

When the aircraft departs, remove the safety pin (PIN) and move the control lever to «NORMAL” position.

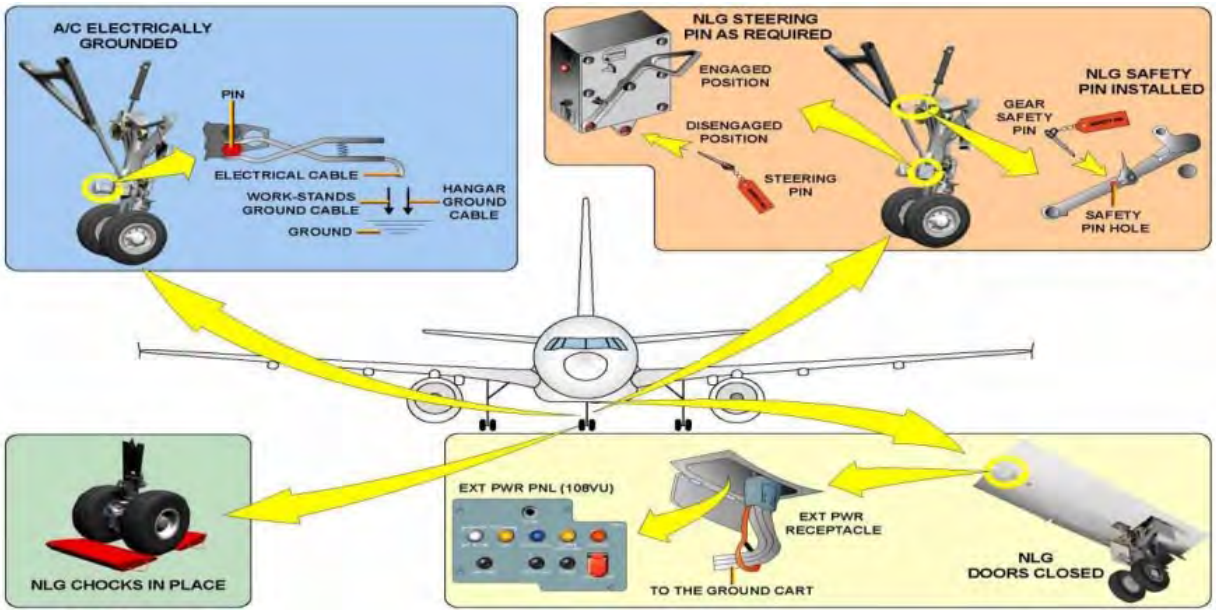


Fig. 11.6.3.4A. Deactivation of the front landing gear control A319 / A320 / A321

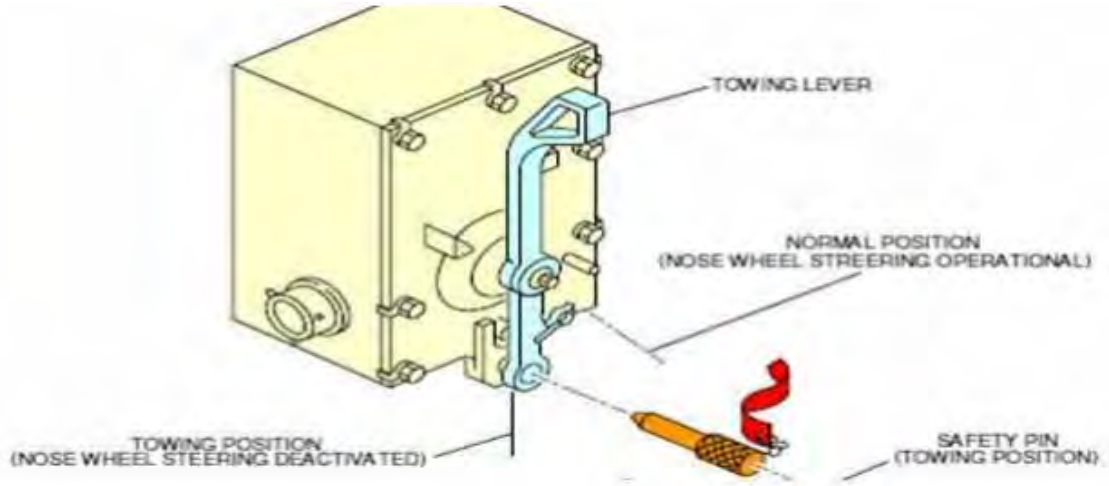


Fig. 11.6.3.4B. The appearance of the lever and the installation location of the PIN

11.6.3.5 INSTALLING THE TOW PIN ON B767-300BCF (-BDSF)

The safety pin is installed on the Nose Landing Gear to perform any towing work and while the aircraft is parked at the airport. Safety pins may be installed optionally on main gear as well.

Pins must be removed before departure.

11.6.3.6 A319/A320/A321 MAXIMUM ANGLE OF TURN OF NOSE GEAR DURING THE TOWING

Applicable for A319/A320

Maximum angle of turn of A319/A320 nose gear during the towing must not exceed 95 degrees, if aircraft is towing with turned-off engines.

If minimum 1 engine is turned on, maximum angle of turn of A319/A320 nose gear during the towing must not exceed 40 degrees.

Applicable for A321-251N / A321-253NX

Maximum angle of turn of A321-251N / A321-253NX nose gear during the towing must not exceed 73 degrees, if aircraft is towing with turned-off engines.

If minimum 1 engine is turned on, maximum angle of turn of A321-251N / A321-253NX nose gear during the towing must not exceed 40 degrees.

11.6.3.7 B767-300BCF (-BDSF) & B757-200PCF MAXIMUM ANGLE OF TURN OF NOSE GEAR DURING THE TOWING

Maximum angle of turn of B767-300BCF (-BDSF) & B757-200PCF nose gear during the towing must not exceed 65 degrees during the towing.

11.6.4 WHEEL CHOCK REMOVAL

Prior to removal of chocks the responsible ground staff member (headset operator) shall:

a. Via the interphone or hand signals, confirm the aircraft parking brake is set.
b. Check all GSE have been disconnected from the aircraft, except for the GPU and ASU when air start is required.
c. Check the passenger boarding devices have been retracted from the aircraft, if applicable.
d. Check that the pushback tractor and towbar are fully secured to the nose gear and the parking brake is set on the tractor.
e. For TWL tractor operation, check that equipment is fully secured to the NLG (nose landing gear) and the parking brake is set on the tractor.
f. Give clearance to ground staff members to remove chocks. After removal, chocks shall be placed in their designated location.

Notes:

1. *If a chock is stuck and cannot be removed manually, the stuck chock can be removed by moving the aircraft after the aircraft brakes have been released, with precautions and in coordination with the responsible ground staff member for the departure.*
2. *Once high-wind or icy conditions have passed, any additional chocks that were added to the aircraft may be removed so that chock placement reverts to that for normal conditions.*
3. *If hand signals are used (i.e., the aircraft interphone system is inoperative), the responsible ground personnel shall seek confirmation that the aircraft parking brake is set prior to removal of the chocks.*

11.6.5 DEPARTURE COMMUNICATIONS

Departure communications procedures are a basic standard for both pushback and open ramp (taxi out) departures. IATA communication standard shall apply.

An aircraft departure shall always be conducted using interphone communications. Only if the interphone becomes unserviceable or under extreme circumstances where the interphone is not available, shall the responsible ground staff member and flight crew use conventional hand signals.

Aircraft pushback requires a communication interphone. If the interphone becomes unserviceable or communication is lost, the following procedure shall be followed:

1. In the case of a single person operation and if no other means of communication are available, stop the movement and immediately request assistance to continue the movement (depending on local situations and regulations).
2. In the case of a multiple person operation, communication with the flight crew will be established using hand signals. The tractor driver shall be able to receive the visual signals as relayed from the flight crew. Once hand signal communication has been established, the pushback can resume.

Notify air traffic control (ATC), via radio if available, and continue the movement in cooperation with ATC, depending on local regulations.

11.6.6 PUSHBACK MANEUVER

11.6.6.1 GENERAL PUSHBACK REQUIREMENTS

a. Prior to the aircraft movement, make sure the parking brake is released and the anti-collision lights are switched on, in accordance with local airport regulations.
b. Headset operator shall signal “Clear to Push” to the pushback tractor driver and wing walkers (if applicable) once the flight crew advises that the aircraft brakes have been released and approval for pushback is given by the flight crew.
   Note: In the case of single person pushback operation, the pushback operator performs headset functions.
c. Select the appropriate gear on the tractor and slowly begin movement. Start the pushback operation in a straight line.
d. Carry out the pushback maneuver at a pace no greater than 5 km/h or 3 mph (walking speed) and when required, apply the vehicle brakes gently.
e. During the maneuver, the pushback tractor driver shall ensure the taxiway (including other movement areas in the intended aircraft path) is free of other aircraft/equipment/obstacles. If an obstacle is identified, the pushback shall stop immediately until the obstacle is clear.
f. During pushback, ensure the steering turn limits are not exceeded and advise the flight crew if any are exceeded. Damage may occur to the nose gear.
   CAUTION: *The flight crew shall be notified immediately in the event any connection between the tractor and the aircraft is lost during aircraft movement.*
g. At the end of the maneuver, the aircraft/pushback tractor shall both be correctly aligned with the taxiway centerline.
h. When the pushback maneuver is complete, headset operator will receive the “Vehicle Brakes On/Stop“ signal from the tractor driver to confirm that the tractor parking brake is set. Prior to the disconnection of the tow bar or towbarless tractor from the aircraft nose gear, headset operator:
   1. Request flight crew to set the aircraft parking brake and hold the existing position until final clearance signal to taxi.
   2. When confirmation that the aircraft brakes have been set is received from the flight crew:
      i. Give the “Vehicle Brakes On/Stop” signal to the tractor driver and wing walkers, if applicable. Tractor driver releases the tractor parking brake and puts the gear in neutral to release any pressure on the towbar.
      ii. Give authority to disconnect pushback equipment.

11.6.6.2 ANTI-COLLISION LIGHTS

During a standard departure, once all aircraft doors are closed, the flight crew requests pushback clearance from ATC. Once clearance is obtained, the flight crew will switch on the aircraft’s anti-collision lights.

CAUTION: *Anti-collision lights that are switched on are a visual indication to ground staff of imminent engine start-up or aircraft movement. Vehicle traffic shall stop until the aircraft has departed from the area.*

CAUTION: *If the anti-collision lights are switched on unexpectedly (other than in preparation for the departure or towing operation), ground staff shall move away and remain outside the ERA. The responsible ground staff member shall check with the flight crew before resuming ground handling activities.*

CAUTION: *In case of the lower anti-collision light failure, the flight crew shall inform the personnel responsible for the departure operation to inform personnel involved in the operations about the imminent engine startup or aircraft movement.*

11.6.6.3 STAFF SAFETY DURING PUSHBACK MANEUVER

Tow Bar/TWL Tractor Operations

1. Throughout the pushback operation, all staff walking on the ramp (including the headset operator when the aircraft is moving) shall remain clear of:
    i. The area on the ground directly under any part of the aircraft (including, but not limited to, the fuselage, wings, stabilizer, engines, nose gear);
    ii. The aircraft's path;
    iii. The tractor's path;
    iv. Engine danger areas.
2. The headset operator shall:
    i. Be in visual contact with the tractor driver throughout the pushback;
    ii. Avoid walking backwards and maintain situational awareness to reduce the possibility of tripping;
    iii. Use a headset cable long enough to operate safely and be allowed freedom of movement while not posing a trip or tangle hazard (not applicable when a wireless headset is used);
    iv. Ensure the headset cable remains clear of aircraft/pushback wheels.
3. If the responsible ground staff member is too close to the nose gear or pushback equipment, the tractor driver shall stop the pushback and review the required safety clearance conducted.

Remote-Controlled Pushback Operations

When pushback operations are undertaken using remote-controlled pushback equipment connected to the NLG, the responsible ground staff member shall:

1. Stand forward of the aircraft;
2. Follow its movements and always be in sight of the flight crew;
3. Stay outside the engine's intake/suction area and wheel path of the aircraft during the entire pushback maneuver;
4. Maintain sufficient clearance between the equipment and themselves throughout the pushback maneuver, where the pushback equipment is connected to the NLG;
5. Be in continuous communication with the flight crew via the interphone system.

Pushback and Pull Forward

When a pull forward maneuver is performed after a pushback maneuver, particular attention must be paid to the end of the pushback maneuver and during the whole pull forward maneuver. To prevent the aircraft from overtaking/pushing the pushback vehicle during the pull forward phase, the following precautions shall be applied:

1. The aircraft engines shall be at idle thrust during all of the pushback/pull forward maneuver.
   Note: *If the requirement to pull forward is known in advance, consider not starting the engines until the pull forward maneuver is completed.*
2. The pull forward maneuver shall be performed with the pushback vehicle in the lowest gear available.
3. Braking shall be performed smoothly and without jerks.
4. The flight crew shall be alerted immediately to stop the aircraft using gentle braking if aircraft control cannot be ensured/maintained from the pushback vehicle.

   Notes: The following factors increase the risk that the aircraft will overtake/push the pushback vehicle and shall be, therefore, taken into account:
   - Aircraft type and number of engines started/running;
   - Slope of the parking stand and taxiway;
   - Use of a tractor and towbar to undertake the pushback/pull forward maneuver;
   - Adverse weather conditions.

CAUTION: *Care shall be taken to avoid a jackknife situation between the aircraft and the pushback vehicle due to asymmetric thrust from the aircraft (one engine running) during the transition from push to pull or vice versa.* ***Do not exceed the manufacturer's maximum tow angles!***
DANGER: *If the aircraft overtakes/pushes the pushback vehicle, the responsible ground staff member shall ensure they stay well clear of the path of the pushback vehicle and the aircraft NLG wheels.*
CAUTION: *Flight crew and aircraft maintenance personnel must be informed if the aircraft overtakes/pushes the pushback vehicle, as both the pushback vehicle and the aircraft NLG may be damaged by the incident. To relieve torsional stresses applied to the landing gear components and tires, move the aircraft in a straight line for a few meters to ensure the nose wheels are in the straight-ahead position when completing the pushback maneuver.*
DANGER: *If the nose wheels are not in the centered position, they can turn quickly to their centered position when the steering bypass pin is removed. This can result in personnel injury and aircraft damage.*

11.6.6.4 MANEUVERING DURING WINTERY OR SLIPPERY CONDITIONS

During adverse weather conditions (e.g., fog, rain, ice, snow), visibility and traction will be affected. The tractor driver shall reduce and adapt vehicle speed as required by the current conditions. When maneuvering the aircraft on slippery apron surfaces, extreme caution is required to avoid losing control of the tractor due to skidding, which may also lead to jackknifing (where the tractor is pushed around by the aircraft in an uncontrolled movement). Many elements can contribute to the hazards involved (i.e., strong winds, slippery road surfaces, pavement slopes). Therefore, the following minimum precautions must be observed:

a. Avoid sudden turns, deceleration or acceleration.
b. Except when using an ASU, do not start aircraft engines unless:
    1. The condition of the pavement is such that reasonable traction is ensured;
    2. The aircraft parking brake is set;
    3. The aircraft is disconnected from the tow tractor/TWL tractor.

11.6.6.5 MANEUVERING DURING LOW-VISIBILITY CONDITIONS

a. Airport operators are responsible for developing low-visibility procedures that are relevant for the airport.
b. Ground handling personnel shall be trained/authorized, as appropriate, prior to undertaking low-visibility aircraft ground movement operations.
c. Ground handling personnel shall observe the movement limitations and other regulations applicable to the airport's low-visibility procedures at all times.
d. Pushback tractors should be equipped with an airfield map, where this is available.
e. If there is any doubt as to the exact position of the pushback tractor/aircraft, the tractor driver shall stop the tractor/aircraft and inform the air traffic controller (ATC) immediately.

Caution: The responsible for the departure (headset operator) should be positioned outside the tractor at safety distance during:

1. Low-visibility conditions (heavy rain, fog, bad lighting);
2. Lack of sufficiently visible markings;
3. Obstructions behind the pushback (e.g., GSE, light post).

11.6.7 ENGINE START

Communication During Engine Start

Coordinate the engine starting sequence with the flight crew by conducting a predeparture briefing.

a. During the engine start, communicate with the flight crew only if the responsible ground staff member observes circumstances that require immediate notification and action by the flight crew.
b. When starting up with an ASU, supply the pressure at the request of the flight crew.
c. If ramp conditions are below standard for a normal pushback (e.g., hazards, obstacles, slippery, icy), the in charge of pushback will inform the flight crew that engine start clearances will not be given until either:
    1. The aircraft is moving over an area of the ramp where the conditions are safe for an engine start, or
    2. The pushback has been completed, the aircraft has come to a complete stop and the parking brake has been set.

Note: From the flight crew seat facing forward, the engine on the left is referenced as engine number one.

Engine Start Using an Air Start Unit

a. Only personnel and equipment involved in engine starting or aircraft pushback are permitted within the ERA during engine start.
b. Personnel and equipment involved in the engine start shall remain clear of engine danger areas.
c. Establish communications with the flight crew and confirm the total number of engines to be started, the engine start sequence to be used, the number of ASUs being used and their positioning.
d. Advise the engine start sequence to the ASU operator(s) and any other ground staff.
e. Where possible, the ASU should be positioned on the opposite side of the aircraft to the engine being started.
f. The ASU shall be positioned in accordance with the following to prevent damage to the aircraft and personal injury.
    1. It will not hamper other ramp operations, such as loading and fueling.
    2. It is parked outside the engine danger areas (if possible).
    3. It is parked at least 2 meters from the aircraft.
    4. The towbar is directed away from the aircraft and coupled to the tractor to simplify its removal after engine start-up (towed ASU).
    5. It could be easily removed after engine start-up, avoiding the engine danger areas.
    6. The exhaust pipe of the unit is directed away from the aircraft fuselage and wing.
g. When connecting the air supply hose to the aircraft, ensure that:
    1. The air supply hose is laid in such a way as to avoid any twists that could affect the air flow.
    2. The aircraft receptacle is free from FOD or any fluid.
    3. Ensure that the air supply hose coupling is firmly attached to the aircraft connector and pressurize the ASU after consulting the flight crew.

CAUTION: If the ASU is positioned within an engine danger area, ensure that this engine will only be started after disconnection/removal of the ASU.

h. If the aircraft is to be pushed back, connect the pushback tractor and set the tractor’s parking brake, where this is possible without disconnecting ground electrical power.
i. If a pushback tractor is not connected, position a chock in front of the nose wheel.
j. Confirm with the flight crew that the aircraft parking brake is set, then remove main gear chocks.
k. The ASU operator shall ensure the unit is ready to supply air pressure.
l. The headset operator shall inform the flight crew that the ground crew are ready for engine start.
m. Prepare for engine(s) start.
n. When engine start is complete, the headset operator shall signal the ASU and ground power operator(s) to disconnect the ASU and remove ground power.
o. Disconnect the ASU hose(s).

p. Close and latch external air start and electrical panels.

DANGER: When connecting and disconnecting ASU hose(s), walk directly underneath the fuselage, or close alongside it, keeping clear of engine danger areas.

Communication During Fire

a. Engine Fire

The flight crew normally detects an engine or APU fire and will take action using the engine/APU fire extinguishing system. However, the responsible ground staff member shall alert the flight crew immediately via the headset if flames are noticed from the engine or engine pylon. If a headset is not available, the appropriate “Fire” hand signal must be used.

b. Engine Tailpipe/Exhaust Fire

If flames from the engine tailpipe are noticed during engine starting, the responsible ground staff member shall alert the flight crew immediately, as such a fire might not be detectable via temperature sensors and/or fire warning systems in the aircraft.

CAUTION: Do not fight engine fires with fire extinguishers on the ground when the flight crew is in the flight deck. The flight crew will take all necessary action.

11.6.8 PUSHBACK DISCONNECTION

Pushback Tractor and Tow Bar Disconnection

a. The responsible ground staff member shall remove the tow pin securing the towbar to the pushback tractor.
b. The Towbar shall be disconnected from the tractor before disconnecting from the aircraft (except where the towbar is specifically designed to be disconnected from the aircraft first).
c. The pushback tractor driver shall check that other personnel are clear of the intended travel path and slowly drive the pushback tractor to a position in the aircraft's path and visible to the flight crew, if possible, ready for the towbar to be reconnected.
d. The responsible ground staff member shall disconnect the towbar from the NLG and reconnect to the pushback tractor and move clear of the pushback tractor, in view of the driver.
e. The responsible ground staff member shall give an “OK” signal to the pushback driver to confirm that the towbar is reconnected, and it is clear to drive away.
f. The pushback driver shall check that other staff are clear of the intended travel path and slowly drive the pushback tractor to a position visible to the flight crew until the responsible ground staff member on the interphone has disconnected and is in view of the flight crew.

Note: Ensure the towbar is disconnected from the tractor before disconnecting from the aircraft (except where the towbar is specifically designed to be disconnected from the aircraft first).

Tow Barless Tractor/Remote-Controlled Tractor Disconnection

a. The pushback driver shall ensure the tractor wheels are centralized and lower the aircraft nosewheel and open the tractor cradle.
b. The pushback driver shall check that other personnel are clear of the intended travel path and slowly drive the pushback tractor to a position in the aircraft's path and visible to the flight crew, ensuring that the wheel cradle is completely clear of the aircraft NLG before commencing a turn.
c. The pushback driver shall rotate the driver's seat to the direction ready to drive away, if applicable.

The pushback driver shall remain in a position visible to the flight crew until the responsible ground staff member on the interphone has disconnected and is in view of the flight crew.

11.6.9 PUSHBACK COMPLETION

Pushback completion includes repositioning the pushback tractor, removing the nose gear steering bypass pin and displaying the steering bypass pin to flight crew, if equipped:

a. Remove the nose gear steering bypass pin and/or ensure the nose gear steering mechanisms are set to normal conditions for taxiing (as applicable to the aircraft type).
b. If previously disconnected, reconnect the torque link and inform flight crew.
c. Complete the headset communication and, after receiving flight crew approval, disconnect the headset and close the access panel (if applicable to the aircraft type).
d. Move clear of the aircraft to a safe position visible to the flight crew and away from its intended path.
e. Display the steering bypass pin to the flight crew (if applicable to aircraft type).
f. Give the “All Clear” signal once eye contact has been made with the flight crew and they are expecting the signal. In low-light conditions, the flight crew will turn on the interior lights of the flight deck.
g. Remain in position until an acknowledgement from the flight crew is received.
h. Drive the tractor back to the terminal, the appropriate holding position, or to the next task.

DANGER: *If the nose wheels are not in the centered position, they can turn quickly to their centered position when the steering bypass pin is removed. Personnel injury and/or aircraft damage could result.*
Do not disconnect the interphone communication cable until the towbar or TWL tractor has been disconnected from the nose gear.
DANGER: *After disconnection of the headset, no attempt shall be made to approach the aircraft unless cleared by the flight crew to do so via hand signals.*

11.7 AIRCRAFT TOWING

Aircraft towing may be carried out for three reasons:

a. Maintenance Towing. Towing an aircraft without passengers, without cargo and with minimum fuel on board.
b. Operational/Dispatch Towing. Towing an aircraft loaded with passengers and/or fuel and/or cargo to/from the terminal gate or parking area to/from a remote location.
c. Repositioning Towing. Movement of an aircraft to/from a remote parking area with/without cargo or fuel.

Ground Staff Member Responsibilities

a. **Responsible Ground Staff Member for Towing.** The responsible ground staff member is defined as the person who has overall responsibility for the towing maneuver and is normally the pushback tractor driver, although the function may be performed by different ground staff members in different roles. The responsible ground staff member in charge of each towing maneuver shall check to ensure all requirements or the towing operation are met prior to commencing towing operations.
b. **Brake Operator.** Where applicable, in accordance with local procedures, the brake operator shall:
    1. Be responsible for communication with ATC.
    2. Complete a flight deck checklist for towing.
    3. Ensure all aircraft doors are closed by authorized personnel.
    4. During towing, the brake operator must be seated with the seat belt fastened.
    5. Apply the “Brakes On” and “Brakes Off”. procedures in coordination with the headset operator.
    6. Switch on and switch off the external anti-collision lights of the aircraft.
    7. Position the seat in such a way that the brakes can be easily applied when required.
    8. Inform the headset operator immediately if potential contact with any object(s) is detected.
    9. Only apply the brakes during the tow when instructed by the headset operator/tractor operator or when it is clear the aircraft has become separated from the tractor.

Notes: Presence on board of staff, other than the brake operator, is forbidden throughout the maintenance or repositioning towing operations, except for flight crew and maintenance staff. The brake operator must inform them that they must be seated with the seat belt fastened and must follow his safety orders if necessary.

c. **Headset Operator.** The headset operator is responsible for communications with the brake operator and/or VHF operator.
d. **VHF Operator.** The very high frequency (VHF) operator is responsible for communications with ATC and/or ground movement control (GMC).

Note: The VHF operator may be positioned in the pushback tractor or on the flight deck depending on the ground staff member functions carrying out the towing maneuver.

Pre-Towing Activities

The following requirements shall be met to perform an aircraft tow:

a. Carry out a predeparture walkaround.
b. Make sure the flight crew or a qualified brake operator (VHF operator where required) is on the flight deck, if applicable.
c. Communication shall be established between the headset operator and the flight crew, brake operator (VHF operator, where required), if applicable.
d. The responsible ground staff member shall conduct a briefing with all persons involved in the aircraft movement to review and confirm how the aircraft will be maneuvered.
e. Ensure the hydraulic system pressure for aircraft braking and/or brake accumulator is within the required pressure range.
f. Ensure any electrical systems required for towing are energized.
g. Ensure all landing gear safety pins are installed. After the tow, ensure all pins are removed and stowed.
h. Connect the pushback tractor/equipment.
i. Remove the wheel chocks once ready to do so.

CAUTION: Inform the brake/VHF operator, headset operator and/or maintenance department for technical inspection if anyone:

1. Observes any type of excessive fluid leakage.
2. Notices any signs of unmarked aircraft damage.
3. Observes any fault, failure, malfunction or defect that may affect the safe operation of the aircraft for the intended flight.

Preliminary walkaround inspection shall be done prior towing / pushback operations as per requirements set forth in Section 11.6.2.1 GOCHM.

11.8 LONG-TERM PARKING FOR AIRCRAFT

Long-term parking of aircraft requires a variety of specific measures to be put in place to ensure the continued safety, security and general airworthiness of the aircraft.

Successful execution of the long-term parking operation, as well as the recovery and reintroduction of the aircraft back into service after long-term parking, requires close coordination and cooperation between all the relevant airside and aviation stakeholders, including (but not limited to) the aircraft operator, airport authority, GHSP and maintenance provider.

The long-term parking plan shall ensure:

a. Spacing between adjacent aircraft.
b. When not parked at a bay (e.g., taxiway), aircraft are parked facing into the prevailing wind.
c. Anchor points are available for high-wind conditions.
d. Processes to monitor and adjust for severe weather conditions.

CAUTION: In regions with hot climates, it is preferable to park aircraft on hard surfaces such as concrete or high module asphaltic material rather than on flexible surfaces such as bituminous asphalt. This will avoid indenting those areas during long parking periods.

11.9 EXAMPLES OF FLIGHT DOCUMENTS AND EXPLANATION FOR THEIR READING LOADSHEET

```
L O A D S H E E T            CHECKED BY          APPROVED      EDNO
ALL WEIGHTS IN KG 1             TASOV A.V. 2        3          4  02F
   5        6         7         8                9        10       11
FROM/TO   FLIGHT    A/C REG   VERSION          CREW     DATE     TIME
DXB TAS   R62706    UK32100   Y180             3/6      01MAY23  1535
                              WEIGHT          DISTRIBUTION
LOAD IN COMPARTMENTS 12       1332 3/1332
PASSENGER/CABIN BAG  13       8064 91/0/12/2 14      TTL  105 CAB
                              PAX 103 15                  16
TOTAL TRAFFIC LOAD            9396 17
DRY OPERATING WEIGHT         43182 18
ZERO FUEL WEIGHT ACTUAL      52578 19 MAX  62500  L   ADJ 24
-------------------------------
TAKE OFF FUEL                 9833 20
TAKE OFF WEIGHT  ACTUAL      62411 21 MAX  77000      ADJ 24
-------------------------------
TRIP FUEL                     7321 22
LANDING WEIGHT   ACTUAL      55090 23 MAX  66000      ADJ 24
-------------------------------
BALANCE AND SEATING CONDITIONS              LAST MINUTE CHANGES 28
DOI      52.81 25                      DEST  SPEC    CL/CPT + - WEIGHT
LIZFW    60.95 MACZFW    29.96
LITOW    57.69 MACTOW    27.94 26
LILAW    61.77 MACLAW    30.09
STAB TO   0.1  LINEAR VARIATION BETWEEN 17% AND 40% 27

CABIN AREA TRIM
SEATING
0A/41 0B/31 0C/31 29

UNDERLOAD BEFORE LMC      9922 30              LMC TOTAL + -
CAPTAIN INFORMATION/NOTES
* LIZFW LIMITS 40.05 / 80.50 * MACZFW LIMITS 20.49 / 38.83
* LITOW LIMITS 36.94 / 84.88 * MACTOW LIMITS 20.01 / 38.32 31
* LILAW LIMITS 36.14 / 77.81 * MACLAW LIMITS 19.00 / 37.04

LOADMESSAGE BEFORE LMC

THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH THE
LOADING INSTRUCTIONS INCLUDING THE DEVIATIONS RECORDED.32
THE LOAD HAS BEEN SECURED IN ACCORDANCE WITH COMPANY
REGULATIONS

SIGNED 33 .........................

LDM
C62706/05.UK32070.Y180.3/6 34
-TAS.91/12/2.T1332.3/1332
.PAX/103.PAD/0
SI
PAX WEIGHT USED M/84 F/84 C/35 35
NOTOC NIL
PANTRY STANDART 500/+2.4
```

Explanation of fields

1. Document type and measurement units (in current example – KG).
2. Name of a person issued the document.
3. Name and signature of the PIC that confirmed the acceptance of the document.
4. Version number of the document.
5. Route of the flight.
6. Flight number.
7. Registration number of the aircraft.
8. Cabin layout: F - number of first-class seats, C - number of business class seats; Y - number of economy class seats.
9. Number of flight and cabin crew members.
10. Date of departure.
11. Time of departure.
12. Total weight of payload, placed into the cargo compartments and its distribution between compartments and sections (first figure means number of compartment and second means weight).
13. Total weight of passengers.
14. Number of passengers by categories (men (M), women (F), children 2-12 years old (C), infants 0-2 years old without a seat (INF)).
15. Total amount of occupied seats.
16. Total amount of passengers (include INF).
17. Total weight of payload (include baggage, equipment, mail, cargo).
18. Dry Operating Weight of aircraft.
19. Zero Fuel Weight (MAX ZFW (MZFW) is shown right from the Actual Zero Fuel Weight).
20. Take-off fuel weight.
21. Actual Take-Off Weight (MTOW is shown right from the Actual TOW).
22. Trip Fuel Weight.
23. Estimated Landing Weight (MAX Landing Weight is shown right from the Actual Landing Weight).
24. Space to add adjustments in case of LMC.
25. Aircraft Index for DOW.
26. Actual W & B parameters (CG positions for different weights).
27. Stab Trim for actual CG position.
28. Space to input LMC (if needs).
29. Passenger distribution between sections of pax cabin (0A, 0B, 0C, etc.).
30. Underload information – how much could you load extra to current flight before you will exceed any limit (s).
31. Max FWD and AFT CG positions for current weights.
32. Confirmation: A/C is properly loaded.
33. Space for signature.
34. LDM message for current flight and load distribution.
35. PAX and Catering weight information.

LOADING INSTRUCTION REPORT (LIR)

```
MY FREIGHTER   A320 - 233

LOADING INSTRUCTION/REPORT              PREPARED BY                    EDNO
ALL WEIGHTS IN KG                       TASOV A.V. 1                   2 02

   3        4          5        6                                 7        8
FROM/TO   FLIGHT    A/C REG   VERSION                          DATE     TIME
RKT TAS   C62706    UK32070   Y180                             05MAY23 1535

PLANNED JOINING LOAD
TAS     C 0         M 0         B 1332      E 0
 9      10          11          12          13
                                                                  ACTUAL
LOADING INSTRUCTION                                               WEIGHT
**************************************************************************
CPT 1 FORWARD  MAX 3402 15
:11 14                                                          :
:ONLOAD: N 16                                                   :
:REPORT:                                                        :
          17
.........................................................................
:12                                                             :
:ONLOAD: N                                                      :
:REPORT:                                                        :
.........................................................................
:13                                                             :
:ONLOAD: N                                                      :_____________
:REPORT:                                  18 CPT 1 TOTAL:
_________________________________________________________________________
CPT 3 AFT  MAX 2426
:31                                                             :
:ONLOAD: TAS B/800 19                                           :
:REPORT:                                                        :
```

Explanation of fields

1. Full name and signature of the person who issued the document.
2. Version number of the document.
3. Route of the flight.
4. Flight number.
5. Registration number of the aircraft.
6. Cabin layout: F - number of first-class seats, C - number of business class seats; Y - number of economy class seats.
7. Date of issue of the document.
8. Time of release of the document.
9. Destination of the flight.
10. Number of seats and weight of cargo (Cargo).
11. Number of places and weight of mail (Mail).
12. Number of seats and weight of baggage (Baggage).
13. Number of seats and weight of equipment (Equipment).
14. Section number of the cargo compartment.
15. Maximum load weight in a given cargo hold.
16. Actual loading in this section of the cargo compartment (if any).
17. Line for making remarks (including handwritten ones).
18. Total load weight in a given cargo hold.
19. An example of information about the quantity, type of load and its destination (if there is a load in the compartment).

PASSENGER NAME LIST (PNL)

PASSENGER MANIFEST
Owner or Operator: MY FREIGHTER 1
Flight No Aircraft A/P of departure 2
MFX8011 A320 URGENCH
15 URGENCH AIRPORT
16 Page 1 of 2
14 Date Time
17.02 21:30

PASSENGERS (checked)

3 SEQ	4 Surname	5 Gen	6 Cl	7 S. No	8 CHD	9 INF	10 Bag	11 Cabin	12 Bag. Tag. No	13 Remarks
1	IVANOVA OLGA	F	Y	31A			1/17	1/5	0954256128	SVAN
2	IVANOV MIKHAIL	M	Y			X				
3	DAINEKO PAVEL	M	Y	22A			2/20	1/5	0954256333	WCHR
4	GATALSKIY OLEG	C	Y	01C			1/10		0954256888	BLND

Explanation of fields

1. The name of the airline.
2. Information about the flight, type of aircraft and airport of departure.
3. The serial number of the registered passenger.
4. Full name of the registered passenger.
5. Passenger category (F - woman, M - man, C - child 2-12 years old, INF - child 0-2 years old without a seat).
6. Passenger class: F - first class, C - business class; Y - economy class.
7. Passenger accommodation.
8. CHD mark (if the passenger is between 2 and 12 years old).
9. Mark INF (if the passenger is from 0 to 2 years old, and he is transported without providing a seat on the hands of an adult accompanying him).
10. Number of pieces and weight of checked baggage carried by the passenger.
11. Number of pieces and weight of hand baggage carried by a passenger.
12. Baggage tags on checked baggage carried by a passenger.
13. Field for entering remarks (if any).
14. Date and time of issue of the document.
15. Full name of the employee who issued the document, or an indication of the airport where the document was issued.
16. Indication of the number of pages of the document.

11.10 DELAY CODES AND DESCRIPTIONS

Delay codes must be used in MVT and SFR to notify OCC and next station (-s) about reason (-s) of delay. Most relevant codes must be used. If needs additional description, mention it after abbreviation SI placed after code and time of delay (refer to example below).

Maximum 4 different codes can be used for single flight.

Example:

DL11/93/01:00/00:30

SI: DELAY DUE TO THE MISTAKES OF CHECK-IN STAFF AND LATE AIRCRAFT ARRIVAL

CODE	REASON
Delay codes and descriptions specific to the airline	
01	Lack of required information in transit airport. Late information receiving. Incorrect information. (*Describe reason in SI*).
Others	
06	There is no boarding gate / stand availability due to own airline activity (late/early arrival, etc.).
09	Schedule ground time is less than declared minimum ground time.
Passengers, baggage, catering	
11	Late finalization of check-in. Passengers' acceptance after planned time of check-in finalization.
12	Late finalization of check-in. A lot of passengers in check-in zone.
13	Check-in error during the check-in of passengers and baggage.
14	Overbooking.
15	Booking discrepancies and paging, missing checked-in passenger.
16	Late arrival of VIP-passengers.
17	Catering order problems. Late catering order. Incorrect catering order.
18	Baggage handling problems.
19	Embarkation/disembarkation of PWD passengers (include ambulift usage).
Cargo and mail (if delays due to the mail handling can be identified separately, use codes DL27-29, if not – use codes DL21-26).	
21	Documentation, errors during documentation issue, etc.
22	Late positioning of cargo/mail.
23	Late acceptance in warehouse.
24	Inadequate packing.
25	Overbooking, booking errors.
26	Late cargo/mail preparation in warehouse.
Mail handling	
27	Documentation, packing, etc.
28	Late positioning.
29	Late acceptance in warehouse.
Aircraft and ramp handling	
31	Late / incorrect documentation for aircraft; W&B mistakes; GENDEC mistakes; Passenger manifest mistakes, etc.
32	Loading/unloading. Heavy and/or oversized cargo. Lack of GHA staff for loading/unloading.
33	Loading equipment. Lack or malfunctions of loading equipment or lack of qualified staff (*for example, there are no operators for highloader, etc.*).
34	Servicing equipment: lack of equipment, lack of staff, malfunctions, etc.
35	Aircraft cleaning.
36	Fueling. Dump of fuel. Late arrival of fuel truck.
37	Late catering delivery. Late catering loading.
38	Lack of ULDs or unserviceable ULDs.
39	Malfunctions or lack of ground handling equipment. Lack of GHA staff.
Technical and aircraft equipment	
41	Aircraft defects.
42	Scheduled maintenance. Late release.
43	Non-scheduled maintenance. Special checks and/or extra maintenance beyond the schedule.

44	Lack of spare parts or INOP spare parts. Lack of maintenance equipment or malfunctions of maintenance equipment.
45	Delay due to the awaiting of AOG spare part for further delivery to another station.
46	Change of aircraft due to the technical reasons.
47	Standby aircraft. Lack of reserve aircraft due to the technical reasons.
48	Change of passenger cabin or cargo compartment configuration.
Damage to aircraft	
51	Damage during flight operations. Bird strike. Lightning strike. Turbulence. Collide on apron during the taxiing.
52	Damage during ground operations. Collisions (other than during taxiing). Damage during the loading/unloading. Contamination of aircraft. Towing. Extremal weather conditions. (*Describe reason in SI*).
Hardware / Software Failure	
55	Failure during the flight documents issue (except OFP).
56	Failure during the documentation issue (for cargo, mail, equipment).
57	Failure during the OFP issue.
58	Failure during the W&B documentation issue.
Flight operations. Crew issues.	
61	OFP: late issue. OFP: change of documents.
62	Operational requirements. Payload change or fueling change due to the operational requirements.
63	Late flight crew boarding or departure procedures.
64	Lack of flight crew. Crew sickness. Dead time. Restrictions of flight crew duty time. Crew catering. Restrictions of crew visa. Health documents, etc.
65	Special requirements of flight crew out of standard requirements.
66	Late arrival of cabin crew (or engineers, or loadmasters).
67	Lack of cabin crew (or engineers, or loadmasters). Crew sickness. Dead time. Restrictions of crew duty time. Crew catering. Restrictions of crew visa. Health documents, etc.
68	Lack of cabin crew, or request out of standard requirements.
69	Captain’s request to provide AVSEC check. Abnormal situation.
Weather conditions	
71	Extremal weather conditions on departure station.
72	Extremal weather conditions on destination station.
73	Extremal weather conditions en-route or alternate.
75	De-icing (except cases of de-icing equipment malfunction).
76	Snow, sand, water and ice removal from airport territory.
77	Ground handling impaired due to the extremal weather conditions.
Air traffic control issues	
81	ATC has been applied restrictions on route due to the traffic. Standard problems of ATC.
82	ATC has been applied restrictions on route due to the staff/equipment on route. ATC equipment malfunctions. Routes are overloaded due to the traffic.
83	ATC has been applied restrictions in airport. Or airport/runway has been closed due to the obstacles/blocked runway (include routine maintenance of runway). Or airport is closed due to the lack of staff, political issues. Or airport is closed at night time. Or airport is closed due to the handling of special flights.
84	ATC has been applied restrictions on route and in airports departure/arrival due to the weather issues.
Airport and governmental issues	
85	Observation of mandatory security requirements.
86	Boarder and immigration issues. Customs issues. Health check issues.
87	Airport facilities issues. Problems on parking spots. High traffic on apron. Lightning issues. Restrictions for embarkation/disembarkation, etc. *Needs description in SI.*
88	Restrictions in destination airport. Or airport/runway has been closed due to the obstacles/blocked runway (include routine maintenance of runway). Or airport is closed due to the lack of staff, political issues. Or airport is closed at night time. Or airport is closed due to the handling of special flights. *Needs description in SI.*

89	Restrictions in departure airport. Or airport/runway has been closed due to the obstacles/blocked runway (include routine maintenance of runway). Or airport is closed due to the lack of staff, political issues. Or airport is closed at night time. Or airport is closed due to the handling of special flights. *Needs description in SI.*
Reactionary delays	
91	Cargo connection between flights. Awaiting of cargo/mail/baggage from another flight.
92	Results of check-in errors happened on previous stations – passengers and baggage.
93	Late aircraft arrival from previous flight.
94	Cabin Crew rotation. Awaiting of Cabin Crew from another flight (include engineers and loadmasters, if included into Crew List).
95	Flight Crew rotation. Awaiting of Flight Crew from another flight.
96	Load pulling. Passengers pulling. Change of aircraft due to the reasons, differs from technical.
Others	
97	Impact due to the airline's internal activity. *Needs description in SI.*
98	Impact due to another outer activity (other companies and people). *Needs description in SI.*
99	Another reason (if no one reason, shown above, cannot properly describe reason of delay). *Needs description in SI.*

INTENTIONALLY LEFT BLANK

PART 12. FUELING OPERATIONS

12.1 GENERAL PROVISIONS

Jet aircraft engines use kerosene of a certain density as fuel. Permitted types of the fuel are described in the technical documentation of the aircraft.

Using fuel that is not approved by the aircraft manufacturer is strictly prohibited.

12.2 RESPONSIBILITIES

Only approved fuel shall be used.

Fuel quality is the responsibility of the fuel company.

Refueling without a document certifying the quality of the fuel is prohibited.

The document certifying the quality must be checked before refueling by the person responsible for the maintenance of the aircraft.

The personnel of the fuel company responsible for the refueling equipment and the personnel directly involved in refueling / unloading of fuel must: present to the person responsible for aircraft maintenance the document on fuel and a sample of the fuel drained from the refueler's drain tank.

The control over the refueling process lies with the employee responsible for aircraft maintenance.

The person in charge of aircraft maintenance must do the following before refueling:

- check the validity of the document for fuel, the correspondence of the type of fuel to the type of aircraft, the presence of anti-crystallization additives, the date and time of the test performed on a sample of fuel from the drain tank of the tanker, confirming the signatures of officials of the fuel company on the document;
- visually check the sample of fuel drained from the drain tank of the tanker;
- check the availability of fire-fighting equipment at the aircraft parking area;
- make sure that at least one person capable of working with firefighting equipment is present at the aircraft parking area;
- make sure that there are no other machinery and equipment under the aircraft, since during loading and refueling the change in the height of the aircraft can reach 70 cm, and an appropriate clearance of more than the specified value is required in order to avoid possible damage to the aircraft, machinery, equipment.

The person responsible for the maintenance of the aircraft gives permission to start refueling.

The start of refueling and the shutdown of refueling equipment must be coordinated with the flight crew if the aircraft is under the responsibility and control of the crew.

Other personnel on board the aircraft (including ground handling personnel) must be notified (verbally) that refueling has commenced by the person in charge of aircraft maintenance.

In the event of an emergency, the flight crew and other employees (and persons carried on the aircraft) must be notified by the person responsible for aircraft maintenance.

During refueling, the person in charge of aircraft maintenance is responsible for continuously monitoring the condition of the aircraft for fuel leaks and fuel spills at the wingtip vents.

In case of fire or fuel spillage all personnel must follow up instructions provided in ***Section 12.6 Part 12 GOCHM***.

In addition, the person responsible for maintaining the aircraft must notify OCC in case of emergency.

Note: *two-steps fueling in case of long ground time (in excess of 6 hours) when the first step is performed upon arrival, the second step is performed at departure is not allowed as per the Boeing recommendations.*

12.3 FUEL QUALITY REQUIREMENTS

Warning!
Observe these fuel classification restrictions. Using the wrong type of fuel can cause flaring, performance degradation or engine damage.

Make sure that the fuel source contains the required type of fuel in accordance with the aircraft manufacturer's instructions and Flight Operations Manual.

The use of different types of fuel is prohibited. Read the fuel panel warning label for information on using Jet B and JP-4 fuel.

12.4 ALLOWED TYPES OF FUEL

The engine must operate satisfactorily using fuels and additives that meet the manufacturer specification.

APPROVED FUELS

Class D50TF2	Description	Freezing point°C	Specification
CL-A ***Aviation kerosene***	Jet A Jet A-50	- 40 - 45.6	ASTM D1655
CL-C Kerosene ***With low crystallization temperature***	Jet A-1 (AVTUR) JP8 JP8+100 no. 3 Jet Fuel TS-1	- 47 - 47 - 47 - 47 - 50 to - 60	ASTM D1655 (DEF STAN 91-91) MIL-DTL-83133 MIL-DTL-83133 PRC GB6537 GOST 10277-86 GOST 320.00149943.011-99
CL-D High flash point kerosene	JP5 (AVCAT)	- 46	MIL-DTL-5624, (DEF STAN 91-86)
CL-E Low flash point kerosene	RT	- 50 to - 60	GOST 10277-86 GOST 320.00149943.011-99

The above fuels can be mixed in any part without affecting the performance or operation of the engine. Fuel mixing does not require engine adjustment.

Warning!
GE D50TF2 Class B aviation fuels are prohibited, such as Jet B, JP-4, NATO F-40, CIS T-2 and PRC #4 (RP-4).

The following Russian additives are approved for use on an intermittent basis (no more than 20 percent of flights per year):

a. **Fluid I.** It is allowed to use an anti-icing additive to fuel GOST 8313 (ethyl cello solution) in a concentration of not more than 0.15 vol.%.
b. **Liquid fuel additive I-M-TU 6-10-1458 (50% liquid AND 50% methanol)** may be used at a concentration not exceeding 0.15 percent by volume.
c. **Fuel conductivity additive SIGBOL TU 38.101741-78** can be used in a concentration of not more than 0.0005% by volume.

12.5 FUEL DENSITY FOR ALL TYPES OF AIRCRAFT

AC TYPE	MIN. DENSITY	MAX. DENSITY
B767-300BCF (-BDSF)	6 LB/US GALLON (0.719 kg/l)	7.1 LB/US GALLON (0.8507 kg/l)
B757-200PCF	6.5 lb/U.S. gallon (0,7789 kg/l)	7.1 lb/U.S. gallon (0,8507 kg/l)
A319-153N	0.760 kg/l	0.888 kg/l
A320-232(-233)		

Refueling and flight with a fuel density greater or less than the specified limit values are prohibited!

If it is necessary to refuel with a density greater or less than indicated, a special permit must be obtained from the aviation engineering service.

12.6 FUELING SAFETY AND EMERGENCY PROCEDURES

See also ***Section 10.2 Part 10 GOCHM***.

For fuel spill response refer to Section 10.2.2 Part 10 GOCHM.

For fueling operations with passengers/supernumeraries on board refer to Section 10.2.3 Part 10 GOCHM.

As aircraft ground handling activities take place at the same time as aircraft fueling operations, which covers refueling and defueling, these activities shall be compatible to ensure the safety and integrity of the operation.

12.6.1 FUELING SAFETY ZONES

For description and scheme of fueling safety zone refer to Section 10.2 Part 10 GOCHM.

For fueling in conditions of an atmospheric electrical activity refer to Section 10.3.3.4, part 10 GOCHM.

For fueling in conditions of a strong wind refer to Section 10.3.3.5, part 10 GOCHM.

a. Area with radius of at least 3 m (10 ft.) or as specified by local regulations, from filling and venting points on the aircraft, fueling vehicle and within the hydrant pits. Recommend Cones around all fuel equipment and vents.
b. Equipment performing aircraft servicing functions shall not be positioned within a 3 m (10 ft.) radius of aircraft fuel system vent openings.
c. Due to the fire hazard associated with fuel vapors, personnel shall not use items and processes such as matches, open flames, welding, use of photographic flashbulbs, electronic cigarettes etc. while fueling is taking place on the aircraft stand.
d. Portable electronic devices, such as Mobile (Cell) Telephones, Portable Radios and Pagers, should not be used within the fuel safety zone.

12.6.2 OPERATIONS IN FUEL SAFETY ZONES

a. The connection or disconnection of any aircraft electrical equipment, including GPUs, batteries and battery chargers, is not permitted.
b. Only tail mounted APU may be started during refueling if the start is an initial start or a restart after normal shutdown.

c. If the APU exhaust discharges cross the upper surface of the aircraft wing, over wing fueling shall not be carried out while the APU is running.
d. If the APU exhaust discharges to the side or rear of the aircraft, fueling vehicles should be positioned to avoid any risk of coming in the path of the exhaust stream i.e., the APU exhaust shall discharge outside the fueling zone.
e. Do not attempt to start the APU during fueling if the APU had an automatic shutdown or a failed start attempt. Make sure the fueling operation is complete and the hose disconnected before another APU start is attempted.
f. The APU may be shutdown (manual or automatic) during the refueling operation.
g. The engines of unattended GSE should be switched off.
h. GSE shall not be parked under the aircraft wingtip fuel vents.
i. Equipment shall be positioned so that the fueling vehicle has a clear exit route and can be moved away from the aircraft in a forward direction.
j. A distance of 1 m (3 ft) should be maintained, wherever possible, between ground support equipment and any fueling equipment, i.e., vehicles, hoses, hydrant pits.
k. Ground Power Units (GPUs) shall not be operated unless they are positioned 3 m (10 ft) from the aircraft fueling vents and venting points.
l. The GPU shall be started and electrical connections made before fueling begins. The unit shall not be disconnected, or switches operated during fueling.
m. In the event of fuel spillage, if safe to do so, the GPU shall be stopped immediately and shall remain stationary until the spill is removed and there is no danger from flammable vapor.
n. Equipment with metal wheels or metal studded tires capable of producing sparks shall not be moved in the safety zones.
o. Only authorized persons and vehicles are permitted in the fueling zone.
p. Fueling operations with Air Conditioning Units in operation may be carried out subject to the same conditions as those applicable to general aircraft servicing, with the exception that, in the event of fuel spillage, the engine of the unit shall be stopped. This is to prevent the possibility of flammable vapors being passed into the aircraft passenger compartment.

SAFE FUELING PROCEDURES

a. Refueling vehicles should, if possible, always move forward into the fueling position. If a fueling vehicle has to be reversed, a guidance person shall be used.
b. Vehicles should approach the aircraft at walking speed.
c. Fuel trucks and their hoses shall not block the access to the cabin and hold doors.
d. Each trailer tank or towed service shall remain coupled to their tractors.
e. The aircraft and the fueling vehicles shall be electrically bonded together throughout the fueling operation to ensure that no difference in electrical potential exists.
f. If the bonding cable connecting the fueling vehicle to the aircraft becomes disconnected during ground operations the fuel operator shall be immediately advised.
g. Access to the hydrant emergency stop button shall be visible and clear of obstruction and all ramp staff trained in its location and use.
h. A lanyard shall be attached to the hydrant pit valve and should be extended on the apron such that it is free of obstruction and readily accessible to the fueling operator and ground staff.
i. The hydrant pit valve shall be identified by a four winged flag or equivalent and clearly visible to other ground equipment handlers.
j. Minimize length of hydrant inlet hose to limit the exposure of the hose to damage.
k. The fuel operator shall maintain control of fueling operations using the handheld Deadman device throughout the operation, remaining outside the vehicle cab at all times.
l. Fueling vehicles and equipment shall have hoses of sufficient length to allow the fueling platform to be fully lowered whilst the hoses/couplings are connected to the aircraft fueling manifold.

m. Extreme care shall be taken to position refueling vehicle and equipment correctly, ensuring that strain is not applied to the fueling hoses, coupling and manifolds on the aircraft when the platform is lowered.
n. Vehicles shall be designed to ensure that the fueling hoses cannot become entangled on equipment during movement of the fueling vehicle's platform.
o. Platforms shall not be raised or lowered while fueling operations are taking place.
p. When raising the lift platform of fueling vehicle, care shall be taken to ensure that it does not touch any part of the aircraft.
q. The fuel operator should conduct a final walk around the vehicle before leaving the aircraft to ensure all hoses have been disconnected and stowed correctly.
r. Fueling of an aircraft which has one propulsion engine running is a non-routine, emergency operation and requires very strict safety precautions. The procedure outlined below applies specifically to underwing fueling. Over-wing fueling with one engine running is not permitted under any circumstances. The procedure should be used only when an aircraft engine cannot be restarted because of inoperative ground aircraft starting equipment.

CAUTION: *The fueling representative shall himself ensure that the fueling operation with one engine running, as requested by the airline customer, is within the scope of the current airport regulations.*

12.6.3 FUELING WITH ONE AIRCRAFT ENGINE RUNNING

a. Shall be supervised by a qualified airline representative
b. Because of its non-routine nature, the operation shall be reviewed beforehand by the airline and fueling company representatives
c. The aircraft shall be positioned at a distance of at least 50 meters away from the passenger loading area of the terminal and any other building or other aircraft
d. The aircraft should be headed into the wind
e. Where one-man fueling would normally be carried out, an additional supervisor should also be present
f. Not to be started until all passengers have disembarked the aircraft and are kept at a distance of at least 50 meters
g. All personnel involved in the fueling operation shall be clear of the running engine, and all other personnel not directly needed for the fueling operation shall maintain a safe distance of at least 50 meters from the aircraft. Mobile fire-fighting equipment, with engine running and properly manned, shall stand by the aircraft.
h. Fuel shall be loaded on the side opposite to that of the running engine. The fueling equipment should be positioned a maximum distance from the running engine
i. When additional fuel is required on the other side of the aircraft the operation should be carried out in the following order:
    1. Remove fueling equipment from the side where the fueling has just been completed. Position fueling equipment at least 50 m from engine to be started;
    2. Airline personnel start engine on the side which has just been fueled;
    3. Airline personnel shut down the engine of the side to be fueled;
    4. Position fueling equipment adjacent to the wing to be fueled at a maximum distance from the running engine;
    5. Load fuel.

    No other servicing activities shall be undertaken until fueling has been completed.

12.6.4 EMERGENCY PROCEDURES

Follow all airport fire safety, rescue and fuel spill procedures and provisions of ***Section 10.2 Part 10 GOCHM***.

Emergency procedures include the following information and procedures:

- ✓ Location of the emergency shutdown of the fuel supply;
- ✓ Telephone numbers for the airport fire department;
- ✓ Evacuation of the crew and supernumeraries from the aircraft;
- ✓ Limiting fuel spills and reducing the likelihood of ignition;
- ✓ Location and use of fire extinguishers;
- ✓ Responsibility of personnel responsible for refueling and maintenance of the aircraft.

Refuel the aircraft in areas that provide free air circulation, as well as the movement of firefighting and other emergency equipment.

Stop refueling the aircraft when any change in conditions may result in an unsafe condition for people or equipment, or as directed by the crew.

In the event of a fire or fuel spill, the aircraft maintenance and refueling specialist must call the fire brigade to the scene.

12.6.4 RESTRICTIONS AND PRECAUTIONS FOR FUELING WITH CREW, PASSENGERS, SUPERNUMERARIES ON BOARD

Refer to Section 10.2.3 Part 10, GOCHM.

In the event of a fuel spill, proceed in accordance with ***Section 10.2.2, Part 10 GOCHM***.

12.6.5 AIRPLANE SYSTEM PRECAUTIONS

WARNING! Strictly follow airplane system precautions during a refuel operation otherwise fire or explosion can occur

Follow below airplane system precautions during a refuel operation:

a. Do not operate HF communications system (the SATCOM system can be operated during a refuel operation).
b. Do not connect or disconnect the battery chargers, aircraft ground-power generators or other electrical ground-power components. Do not test the power equipment until after the refuel operation is complete.
c. Do not fill or change oxygen bottles.
d. Do not remove electrical power.
e. Do not begin refueling if a fire or engine overheat warning EICAS message is displayed.
f. Do not begin refueling if any part of the landing gear is unusually hot.

Make sure these components are in the closed position before you begin the refuel operation (where applicable):

a. Wing pressure relief valves;
b. Landing gear doors;
c. Make sure the wingtip vents are not blocked before you begin the refuel operation.

Note: *Fuel spills, damage to the airplane or inability to close doors can occur if these components are not closed.*

Do an inspection of refuel adapter before you connect the refuel nozzle. Damage or wear at the refuel receptacle adapter can cause fuel leaks.

To prevent fuel leaks:

a. Make sure there are no fuel leaks
b. Make sure the mating surface of the fuel hose and refuel receptacle adapter are clean and free from unwanted material.
c. Make sure the slots, lugs and screws on the adapter are not damaged or loose.
d. Use a wear gauge to make sure the adapter is within operational limits (Refuel Receptacle Adapter Check).
e. Make sure the defuel lever is correctly positioned in the recess for the refuel receptacle adapter.

Make sure the landing gear wheel chocks do not touch the tires. The wheel chocks can wedge against the tire after you add fuel.

A refuel operation with an engine operating is an emergency procedure. Follow all airport emergency procedures.

Make sure the fueling vehicles are in a position that avoids any risk of coming in the path of the APU exhaust stream.

If an APU fire occurs, do these steps in this sequence:

a. Stop the refueling operation;
b. The APU should shutdown automatically, otherwise do the APU Emergency Shutdown Procedure;
c. Discharge the APU fire extinguishing bottles;
d. Obey all airport provided fire protection, emergency procedures;
e. Notify persons onboard and airport fire services.

If a fuel spill occurs refer to ***Section 10.2.2 Part 10 GOCHM.***

12.6.6 DISTANCE LIMITATIONS BETWEEN AIRCRAFT AND GROUND EQUIPMENT

WARNING! Observe the indicated distances when refueling. Failure to follow these instructions may result in a fire or explosion.

EQUIPMENT IGNITION SOURCES	REFUEL/DEFUEL SEPARATION DISTANCE[1]
Running engine	50 feet (15 meters)
Refueling equipment (measured from engine or exhaust system)	10 feet (3 meters) from fuel vents
Ground power source	20 feet (6 meters)
Aircraft maintenance equipment (measured from engine or exhaust system)	10 feet (3 meters)
Electrical equipment that can cause electrical arcs or sparks	50 feet (15 meters)
Photographic equipment	10 feet (3 meters)
Battery powered equipment	10 feet (3 meters) from fuel maintenance equipment or fuel spill[2]
Open flames, heat sources, flammable materials and any other potential sources of ignition	50 feet (15 meters)
Transmitters, powered by electricity	See table below

[1]*Distance is measured from a point on the ground directly below the vents or filling equipment.*
[2]*Does not apply to battery powered equipment approved by an independent testing laboratory for use in a Class 1 Division 1 hazardous location.*

POWER (EIRP[1]) OF EQUIPMENT TRANSMITTING RADAR OR RADIO	REFUEL/DEFUEL SEPARATION DISTANCE[2]
More than 100 watts (radio or radar)	200 feet (60 meters)
25 to 100 watts (radio or radar)	50 feet (15 meters)
Less than 25 W[3]	10 feet (3 meters)

[1]EIRP is a measure of effective radiated power in watts.
[2]The distance is measured from a point on the ground directly below the vents or from the filling equipment.
[3]This category includes mobile phones, pagers, two-way radios, etc. There are low power communication systems that are approved for use in hazardous locations. Such devices can be safely used in areas containing fuel vapors (UL 913 or equivalent standards).

An example of a secure mobile communications device label.

12.6.7 LIMITATIONS AND PRECAUTIONS FOR REFUELING/DEFUELING

12.6.7.1 FUEL SERVICING EQUIPMENT PRECAUTIONS

Strictly follow all separation distance requirements.
Use only approved fuel servicing equipment in a serviceable condition.
Do not disable deadman shutoff controls.

Note: *Wire, rope or tools used to disable the deadman control can prevent the immediate shutoff of pressurized fuel. A disabled deadman control can cause a fuel spill hazard.*

a. Fueling vehicles shall not be driven at excessive speeds and speed limits imposed by the airport authorities shall not be exceeded. Where no regulations exist, a limit of 25km/h shall be enforced on the apron.
b. Before entering the aircraft service area, brakes shall be tested to ensure satisfactory operation (at least one brake test up to complete stop approx. 15m from aircraft).
c. The approach into/move out an aircraft shall be such that collision will be avoided in the event of brake failure.
d. The fueling position approach and leave shall be at speed not more 5km/h.
e. Fueling vehicles should move forward into and leave the fueling position in accordance with aircraft parking stand plan such that there is a clear exit path.
f. The approach into/move out of fueling vehicles shall be performed with assistance of a guide man. Proximity sensors/switches may be used instead of guide man assistance if it is approved by airport authorities and fueling service provider operational documents.
g. If a fueling vehicle has to be reversed into or out of the fueling position, the maneuver shall be performed with the assistance of a guide person positioned behind the vehicle and visible to the driver.
h. Reversing speed shall not exceed 3km/h. Wherever possible, reversing should be performed in a straight line.
i. Reversing aids (e.g. cameras with a screen inside driver cabin or reversing sensors/proximity switches) may be used instead of guide man assistance if it is approved by airport authorities and fueling service provider operational documents. Fueler with semitrailer shall be reversed only with guide man assistance. Fueler and drawbar trailer combination shall not be reversed.

Ramp Supervisor shall ensure that aircraft parking stands at particular airport used for MF aircrafts parking are designed in such manner that fueling vehicles can be positioned safely relative to the aircraft as described above and shall take action with the airport authority in writing if it is not possible to meet all

of these requirements. If it is not possible due to airport parking stands design or aircraft configuration, the individual approach and positioning plans are recommended to be developed.

While positioning fuel servicing vehicles make sure the equipment:

a. Has a clear exit path at all times. If the exit path becomes obstructed then the fueling operations shall be stopped until the path is clear. For hydrant servicers, a clear exit path should be also maintained but this is not considered mandatory.
b. Does not interfere with access to the aircraft for rescue or firefighting.
c. Does not obstruct the passenger evacuation routes.
d. Does not obstruct the rescue chute deployment areas.
e. The vehicle engine is not under the wing. If yes shall have flash suppressor on exhaust manifold.
f. The fueling operator should be aware of the possible hazard of aircraft flaps being lowered without warning.

12.6.7.2 GROUND EQUIPMENT AND AIRPLANE SERVICING EQUIPMENT PRECAUTIONS

a. Do not put ground equipment below the fuel system vents at the wingtips. The fuel tanks are vented through the wingtips vents. An explosive mixture of fuel vapour can exist at these locations.
b. Added fuel weight will compress the landing gear shock struts and lower the airplane. Make sure all stands, ladders, vehicles and equipment that can come in contact with the airplane are removed before the refuel operation begins.

12.6.7.3 PERSONNEL PRECAUTIONS

a. Personnel that refuel the airplane must be trained in the safe operation of these systems and procedures:
    1. Fuel servicing operations for applicable aircraft type;
    2. Fuel servicing equipment;
    3. Fuel spill prevention;
    4. Emergency controls;
    5. Emergency equipment;
    6. Emergency fuel spill and fire protection procedures;
    7. Fuel vapour hazard locations (wing tips, engine locations, etc.).
b. Wear eye protection (chemical splash goggles or safety glasses and face shield) during the connection of the fuel hose and during the initial pressurization of the hose after hook-up.
c. At some airport locations, a fuel safety person may be needed to monitor aircraft refueling operations.

Refueling area

WARNING! Observe safety precautions in the refueling area. Failure to follow these instructions can result in a fire or explosion, injury to the persons or damage to equipment.

Refueling must only take place in areas approved by the airport where fire protection, emergency equipment and safe distances are provided.

A refueling zone exists around an aircraft at any time the aircraft is being prepared for refueling or refueling is in progress.

Fire and rescue equipment, including approved fire extinguishers, must be available nearby.

In the refueling area, observe the following requirements:

✓ Observe the requirements for distances between equipment (Table in Section 12.6.6).
✓ Access is restricted to authorized persons and vehicles. Persons on board the aircraft are not allowed to enter the zone.

- ✓ All personnel must perform work on the basis that refueling is carried out at any time while the refueling vehicle is in the refueling area.
- ✓ Limit aircraft maintenance to activities that do not increase the risk of fuel vapor ignition.
- ✓ All electrical equipment must be approved for use in the area where it will operate.
- ✓ Do not leave the vehicle engine running unless necessary for aircraft maintenance.
- ✓ Metal wheels or studded tires are not allowed.
- ✓ Keep the following hazards within 15 m (50 feet) of the aircraft:
  - The presence of an open flame
  - Availability of heat sources
  - Presence of flammable materials
  - Boots with metal clasps
  - Other potential sources of ignition

12.6.7.4 ADVERSE WEATHER CONSIDERATIONS

When thunderstorms or lightning are within 16 km (10 miles) radius of the immediate area, the fueling/defueling procedures should stop.

Strong wind conditions can cause a build-up of static electricity. Large charges of static electricity can develop on support equipment while parked as a result of the movement of dust particles and air currents during strong wind conditions. Strong wind conditions can also cause the unwanted movement of items or equipment which can hit the airplane or injure persons. Wind gusts can damage airplane structure. Fueling procedures should stop if strong wind conditions are present.

For fueling in conditions of an atmospheric electrical activity refer to Section 10.3.3.4, part 10 GOCHM.

For fueling in conditions of a strong wind refer to Section 10.3.3.5, part 10 GOCHM.

12.7 FUELING OPERATIONS A319-153N, A320-214, A320-232, A320-233, A321-251N, A321-253NX, A330-343

12.7.1 A319-153N

Fueling/ fuel draining is controlled from an external panel located in the fuselage fairing under the right half-wing. No additional hardware is required to access it.

On the lower surface of the right semi-wing there is one refueling/draining fitting.

The fueling sequence is set automatically: fueling starts from the external tanks, if the specified quantity exceeds the capacity of the wing tanks, then the central tank is simultaneously filled.

It takes approximately 20 minutes to fully fill all tanks at nominal fuel supply pressure.

Refueling is also possible through the use of fuel nozzles through the ports located on the top of the wing.

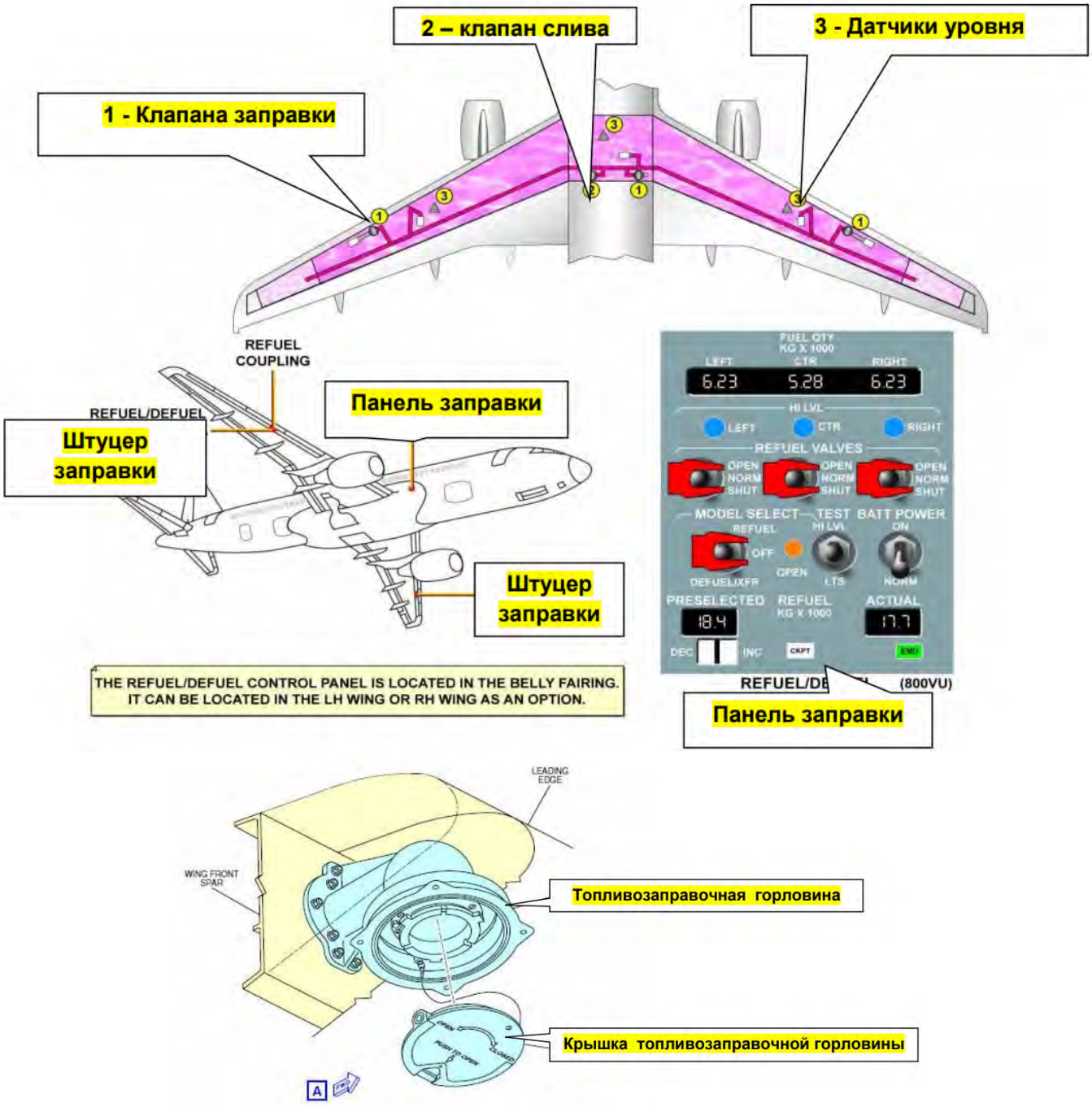


Fig. 12.7A. Fuel system of A319/A320

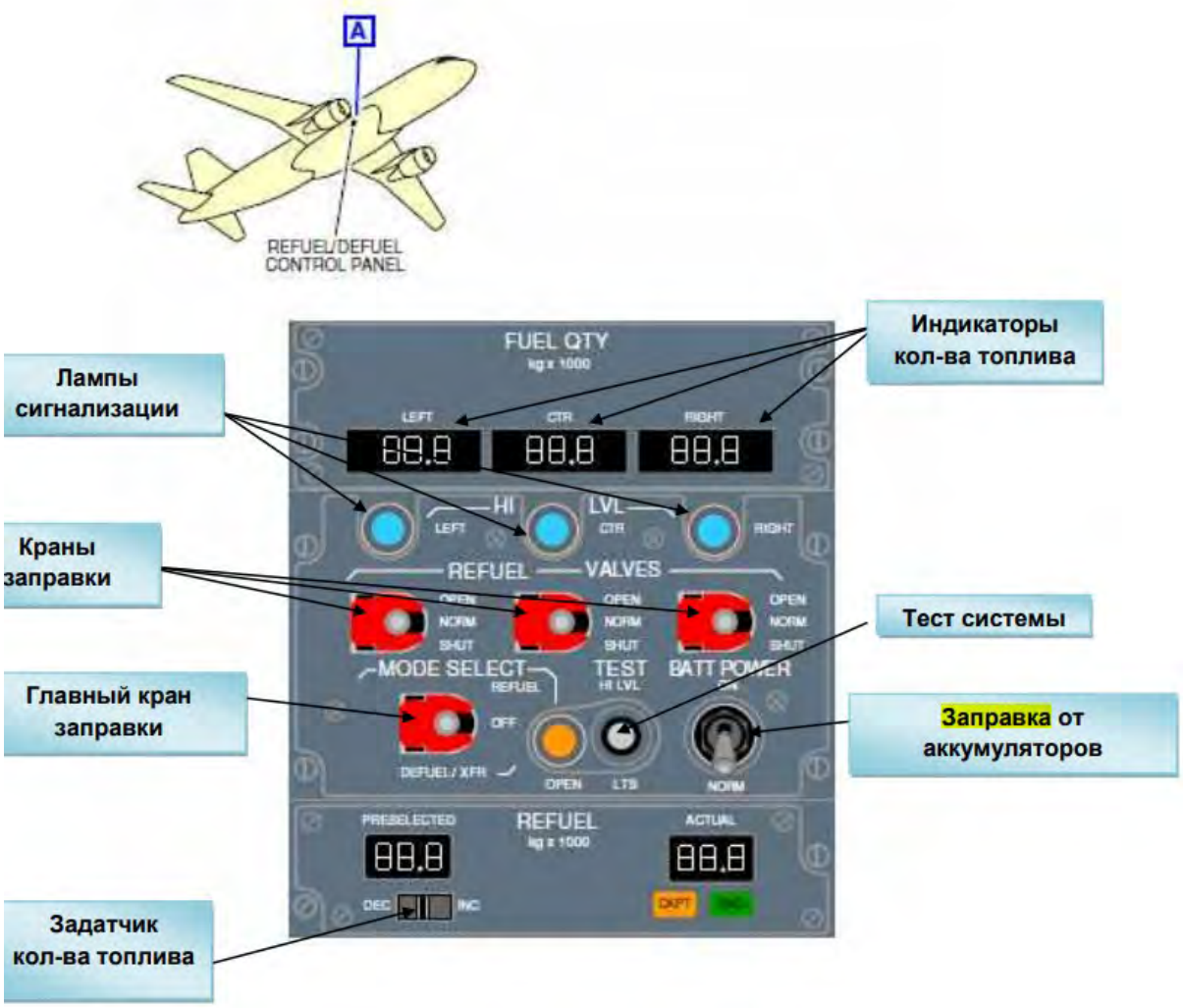


Fig. 12.7B. Arrangement and location of the A319/A320 refueling panel

Fig. 12.7C. Fuel system indication in the cockpit of the A319/A320

Preparation for aircraft refueling in automatic mode

a. Obtain from the supervisor (airline representative, PIC) information on the amount of fuel for the flight.
b. Determine the actual fuel level on the refueling panel using the fuel gauges, or get this information from the engineers.
c. Subtract the actual remaining fuel from the amount of fuel provided by the supervisor. Get the amount of fuel that needs to be filled.
d. Convert the mass (kilograms) of fuel to be refueled into liters (divide the fuel required for refueling by the density indicated in the control coupon) and report the number of refueling liters to the refueling operator (in case of aircraft automation failure).

Refueling is given to the fuel service provider in liters - just as the calculation of the amount of fuel dispensed from the fuel vehicle is carried out in liters.

Minimum/Maximum Fuel Temperature:

- fuel crystallization temperature according to GOST, TS-1 -600 C, RT -55 0 C. In the control coupon for fuel, the crystallization temperature is lower than GOST data.
- fuel heating temperature +55°C.

WARNING: Do not connect a dispensing valve to a damaged fuel filler neck.

a. After making sure that the dispensing valve is clean and in good condition, connect it to the fuel filler neck.
b. Open the 192MB hatch and run a proof test on the 800VU charging panel.
c. Obtain confirmation from the crew or maintenance staff that the CROSSFEED valve is in the closed position.
d. Make sure the REFUEL VALVES toggle switches are in the NORM neutral position.
e. On the dial, set the desired amount of fuel in tons by turning and holding the "PRESELECTED" rocker in the "INC" (increase in quantity) or "DEC" (decrease in quantity) position.
f. On the 800VU, move the MODE SELECT toggle switch to the REFUEL position.

NOTE: during the fueling, it is necessary to monitor the operation of the fuel automatics, and if any malfunction is detected (the control light goes out, the difference in values for groups of tanks is more than 500 kg, etc.), stop refueling and call an aircraft technician through a supervisor.

NOTE: it is recommended to turn off all aircraft fuel pumps to perform this procedure. This reduces the risk of fuel spillage.

NOTE: it is not recommended to leave the wing tank pumps on, provided that the corresponding tank contains a minimum of 750 kg of fuel.

NOTE: if it becomes necessary to transfer or drain fuel, contact the flight crew or maintenance personnel.

g. Give a command to the fuel truck operator to start refueling.
h. Make sure that the displayed total amount of fuel on the display "ACTUAL" of the dial gauge and the amount of fuel in the tanks on the display of the "FUEL QTY" indicator increases.
i. After refueling is complete, make sure that:

(i) On the dialer panel:

- the “END” lamp is on;
- the set amount of fuel on the PRESELECTED display and the actual total amount on the ACTUAL display are +/- 100kg;

(ii) On the "FUEL QTY" display:

– make sure that the fuel is distributed correctly and symmetrically among the tanks (the difference in the amount of fuel between the left and right tanks should not exceed 200 kg;

(iii) On the 800VU panel, when the tanks are filled to full capacity, the corresponding "HI LVL" lamps will light up.

j. Give a command to the fuel truck operator to stop refueling.
k. Disconnect the transfer valve from the aircraft.
l. Check the condition of the fuel filler cap and its circuit.
m. Install the fuel filler cap.
n. On the 800 VU panel: move the "MODE SELECT" toggle switch to the "OFF" position and lock it.
o. Make sure the work area is clean and free of tools and equipment.
p. Close the filling panel hatch.

If it is necessary to perform refueling in manual mode, or to drain the fuel, inform the engineering and technical staff and follow their instructions.

Information on the procedure for performing the above operations and the procedures that include them is contained in the AMM.

12.7.2 A320-214, A320-232, A320-233

TBA

12.7.3 A321-251N, A321-253NX

TBA

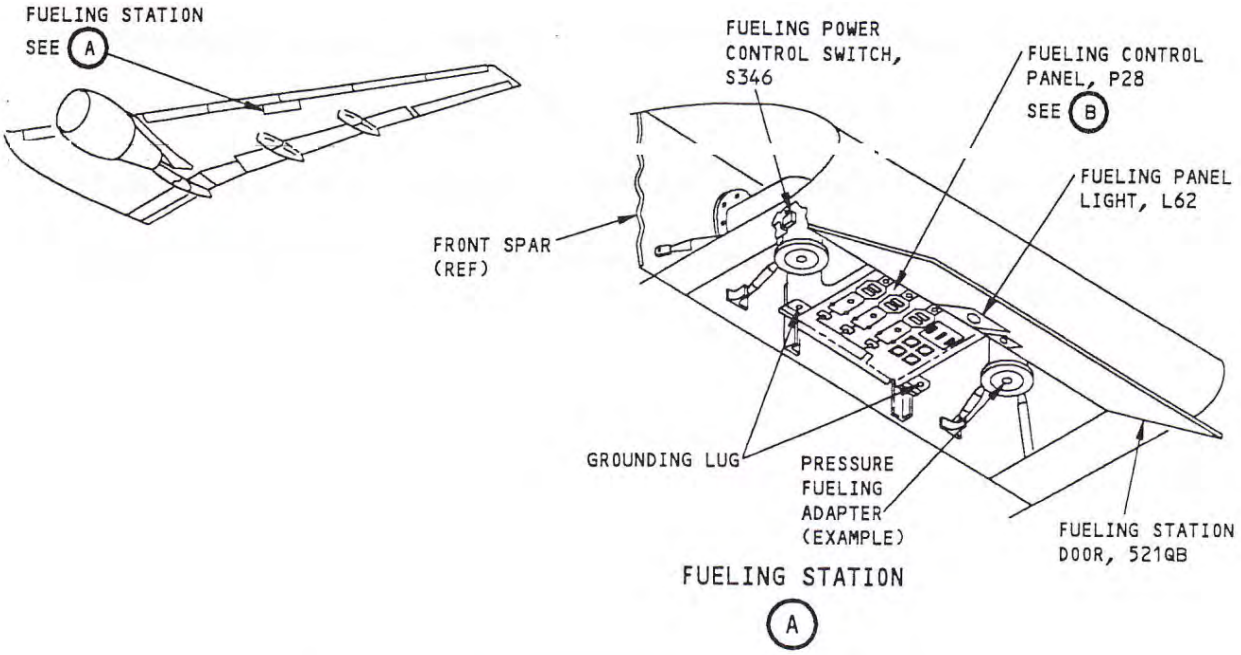
12.7.4 A330-343

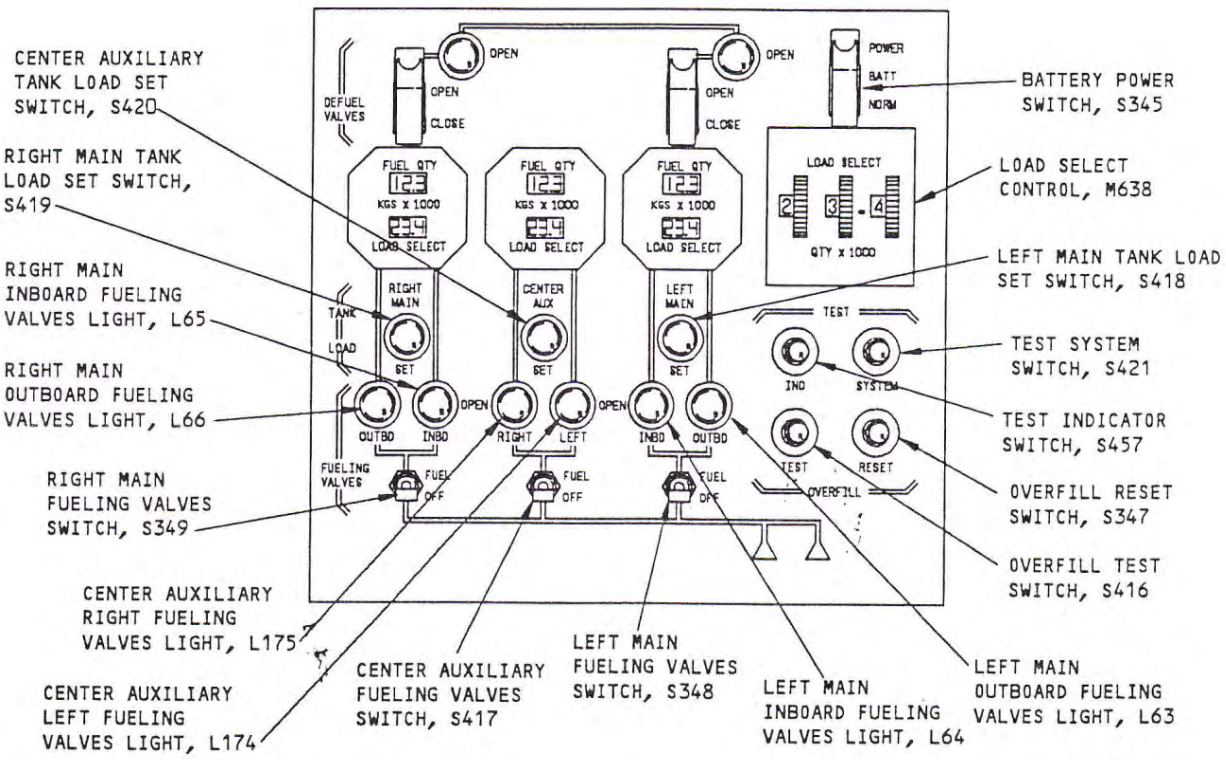
TBA

12.8 FUELING AND DEFUELING OF B767-300BCF (-BDSF)

12.8.1 FUELING OF B767-300BCF (-BDSF)

Fuel Control Panel is located on left side of fuselage. Technical step requires for access.
Fuelling is automatical: wing tanks first, center tank seconds.





12.8.2 DEFUELING OF B767-300BCF (-BDSF)

1. Make sure the airplane and defueling truck are grounded.
   NOTE: Static grounding of the airplane by positive grounding means is not necessary when performing pressure refueling or pressure defueling of the airplane. Electrical bonding between the airplane and the refueling vehicle is required.

2. Supply electrical power.
3. Perform Pressure Defueling the following way:
   a) Open the fueling station door and make sure that the fueling panel light comes on. This shows the presence of 28 volts dc.
   b) Connect the ground cable at the fueling station.
      NOTE: Static grounding of the airplane by positive grounding means is not necessary when performing pressure refueling or pressure defueling of the airplane. Electrical bonding between the airplane and the refueling vehicle is required.
      NOTE: Static grounding of the airplane by positive grounding means is required when performing maintenance activities using devices such as lights, power tools, and instruments powered from external electrical power sources.
   c) Set the fueling adapters to DEFUEL.
   d) Connect the fueling nozzles to either or both fueling adapters.
   e) Select the power source at the battery power switch on the fueling control panel.
   f) Do a test of the load select indicators by pushing the TEST IND switch; 88.8 should show on the top and bottom LCD displays.
   g) Do a test of the defueling valve indicator light by press-to-test.
   h) Set the defueling valve switches to DEFUEL. The blue indicator light should come on.
   i) There is no minimum fuel restriction. Do not use JP4 or JET-B fuel.

WARNING! DO NOT OPERATE A FUEL PUMP IF THE LOW PRESSURE LIGHTCOMES ON AND STAYS ON. FUEL VAPORS IN THE FUEL TANK MAY IGNITE AND CAUSE A FIRE OR AN EXPLOSION.

   j) To operate any of the fuel pumps, you must be in the flight compartment to continuously monitor the fuel quantity and the low pressure indication in the fuel tank.
   k) Immediately set the applicable fuel pump switch to OFF if the LOW PRESSURE light comes on and stays on.
   l) Set the applicable fuel boost pump switch or override pump switch on the overhead panel, P5, to ON. Defueling will begin.
   m) Make sure the pump low pressure indication is operating.
   n) Monitor the load select indicators at the fueling station for the quantity of fuel in the fuel tanks.
   o) Set the applicable fuel boost pump switch or override pump switch to OFF when the necessary quantity of fuel has been unloaded. The defueling operation can be stopped at any time if you put the defueling valve switch to CLOSED.

12.9 FUEL QUALITY MONITORING AND ANALYSIS SYSTEM

Fuel sample during each aircraft refueling

Visual inspection of fuel samples is carried out at each refueling carried out by a tanker or dispenser.

Fuel should be visually inspected for cleanliness, brightness and presence of water. A chemical water or contaminant detector may be used according to local procedure or at the request of the flight crew or aircraft ground handling personnel. A fuel sample is taken at the fuel outlet of the filter after 1,000 liters (265 US gal) of fuel has been drawn from the fuel dispenser into the aircraft tanks. If several tankers are used for refueling, a visual inspection is carried out for each tanker.

Upon request, a fuel sample for visual and/or chemical verification of the presence of water must be provided to the aircraft crew or the person responsible for aircraft maintenance.

If water or impurities are found in the sample (for example, a change in the color of the chemical water detector has occurred), a second sample should be taken immediately. If the presence of water or foreign matter is again confirmed, refueling is terminated and the crew or person responsible for maintaining the aircraft is immediately informed of this. Further refueling is not carried out until the cause of the presence of water or foreign matter is determined and measures are taken to eliminate their presence in the fuel in accordance with the rules of the airport.

Taking fuel samples from aircraft tanks during regular maintenance.

Fuel samples to check the growth of microbiological contamination are taken from aircraft tanks in accordance with the maintenance program every 24 months.

Aircraft engine fuel filters are tested for microbiological and foreign contamination growth after replacement in accordance with the Maintenance Program. The results of checking the replaced filters are sent to the quality service in a free form by e-mail. When levels of microbiology or contamination are high, unscheduled fuel samples should be taken from aircraft fuel tanks in accordance with the Maintenance Program.

Detected growth of microbiological contamination should be removed manually in small areas. If checking the fuel tank shows that the area of contamination is large or difficult to access (manual removal is not applicable), then the pressure washing method should be used.

Copies of the results of laboratory testing of fuel samples taken from the fuel tanks are sent by the person responsible for random inspection of maintenance to the quality service for fuel quality analysis.

Fig. 12.10. Conditional fuel (left) and substandard (right).

Quality of provision of services by aircraft refueling suppliers

Purchasing should take into account the characteristics of the selected suppliers by checking the supplier's status on the IFQP resource before awarding a contract and avoid contracts with refueling service providers that have a "Red" status.

Access to the IFQP resource is provided to certified IFQP inspectors and purchasing staff.

In the event that any of the fuel service providers for MF acquire the status "Red" on the IFQP resource, then the decision on changing the fuel provider shall be made by the airline management. Control over the change in the status of providers after the publication of the results of the inspections is carried out by IFQP certified inspectors. The IFQP Inspector must notify via email Director of GHOD and Quality Department about providers whose status has changed to Red.

Fuel sampling and testing at the station

Fuel samples must be taken by competent and trained personnel using proper procedures and equipment. This is responsibility of engineering service of airline.

- Samples are taken from a designated drain point.
- Sample containers should be glass or metal. Specially approved plastic fuel sampling containers are allowed. Metal containers should preferably be coated on the inside with a suitable epoxy coating.
- Sample containers, even new ones, must be thoroughly rinsed at least three times with the fuel being sampled.
- The sample container must not be completely filled with fuel. About 5% of the volume should always be left free.
- Containers must be sealed and labeled immediately after filling. The label must contain the following information:
  1) Sample number;
  2) Date and time of sampling;
  3) Selected by;
  4) Place of selection;
  5) Identification number of the tanker (dispenser);
  6) Fuel batch number;
  7) Brand or Specification;
  8) Flight number.
- Records of all samples taken must be kept in accordance with the procedure of the fuel service provider.
- If requested by another party (for example, a fuel service provider), a duplicate sample must be taken and kept until the laboratory test results are available.

Fuel samples are taken at the station and sent to an independent laboratory in the event of a discrepancy in fuel quality at the next station after refueling (for example, the fuel filter of an aircraft engine is clogged), the person responsible for the aircraft maintenance informs the OCC duty manager. The OCC duty manager sends an e-mail request for fuel sampling at the aircraft departure station to the responsible employee of this station with a copy to the quality service. Samples should be taken as soon as possible and sent to a local independent laboratory for analysis.

Fuel sampling is the responsibility of Engineering and Maintenance Department.

Sampling and quality control of fuel during audits and inspections

Checking for the presence of water and impurities in the fuel is carried out by engineering service of airline during the audits conducted in accordance with the requirements of the quality manual and annual airline’s audit plan.

Checking for the presence of water and foreign matter in the fuel is done by engineering service of airline.

Storage of fuel sampling and analysis data

The results of fuel quality checks must be kept by the Quality Department in any accessible format for at least 3 years. Access to the test results is provided upon request to the GHOD, FOD, Safety Department, Engineering and Maintenance Department.

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PART 13. AIRCRAFT DE-ICING AND ANTI-ICING

This Part of the Manual was created for management purposes and applies to aircraft de/anti-icing procedure with the aim of implementing the “clean aircraft concept”.

This part establishes requirements for the implementation of measures to remove snow and ice deposits and anti-icing treatment of aircraft during aircraft preparation for departure.

The users are the managers and the employees implementing the procedure.

13.1 CLEAN AIRCRAFT CONCEPT REQUIREMENTS

Implementation and use of established procedures and requirements in aircraft de-/anti-icing operations is aimed to ensure safe and regular operation of MyFreighter fleet. The Part 13 Aircraft de-icing and anti-icing of the Ground Handling Operations Manual is a regulatory document which contains obligatory requirements for all the employees of the airline, as well as for the companies providing AC de-/anti-icing services.

This Part is based on ICAO Doc 9640 principle of a «clean aircraft concept»: «**During conditions conducive to aeroplane icing during ground operations, take-off shall not be attempted when ice, snow, slush, or frost is present or adhering to the wings, propellers, control surfaces, engine inlets or other critical surfaces**».

Any deposit of ice, snow, or frost on the external surfaces of an airplane, except as permitted in the flight operations manual, may drastically affect its performance due to reduced aerodynamic lift and increased drag resulting from the disturbed airflow. Furthermore, slush, freezing snow or ice may cause moving parts, such as control surfaces and flap-actuating mechanisms, to jam, thus creating a hazardous situation. These adverse effects on the aerodynamic properties of the airfoil may result in a sudden departure from the commanded flight path and may not be preceded by any cockpit indications or aerodynamic warnings to the pilot.

De-/anti-icing procedures must be carried out exclusively personnel trained and qualified on this subject.

The chapter describes procedures and processes for de-icing/anti-icing operations on aircraft operated by MY FREIGHTER LLC of following types:

- Boeing 767-300BCF(-BDSF);
- Boeing 757-200PCF;
- Airbus 319;
- Airbus 320/321;
- Airbus 330

And in the airports according to approved schedule and charter destinations where de-/anti-icing procedures are applicable.

Any questions and proposals concerning de-/anti-icing procedures for MyFreighter shall be sent one-mail address: a.shevsov@centrum-air.com.

13.2 DUTIES AND RESPONSIBILITIES OF PERSONNEL INVOLVED IN THE DE-/ANTI-ICING PROCESS.

According to the «clean aircraft concept» the PIC shall not decide to take off, if outside surface of the aircraft will not be treated against any contamination, which may a negative impact on aircraft flight performance, except permitted by the AMM.

The PIC is responsible for ensuring that the aircraft conforms to the requirements of the clean aircraft concept. The ground personnel share this responsibility and directly fulfill the requirements of the clean aircraft concept. This is the reason why the aircraft must be checked for contamination (during contamination check) thereafter should be determined whether de/anti-icing is needed or not. The responsibility of performing a contamination check lies with the release personnel and a crew member who check the aircraft for any contamination on its surface. The crew shall carry out a check before each departure during the exterior inspection of the aircraft.

Contamination check by the release personnel is defined by a contract in MyFreighter network. Engineering and maintenance personnel preparing the aircraft for departure is responsible for carefully checking the aircraft surfaces and parts for contamination as set forth in aircraft technical documents (AMM, etc.).

If critical aircraft surfaces are contaminated and the crew rejects the de-/anti-icing, the personnel that perform checks (and reports to the crew) shall immediately inform the Shift Head of OCC to report the information to Flight Operations Department and Flight Safety Inspection.
Contact telephone number for reporting the information to MyFreighter OCC:

- ✓ **SITA**: TASOOC6
- ✓ **Phone**: +998992071125 (preferrable means of communication. Telegram is available on this number).
- ✓ **Email**: occ@centrum-air.com.

If the views of the ground and flight staff regarding the AC surfaces, when preparing for the flight, are different – treatment requirement (whether initial or second) has a priority.

Whenever possible, the information about the need for deicing/anti-icing shall be given in writing. If deicing/anti-icing operations are performed at a remote stand or after closing the aircraft doors, aircraft interphones (headsets) or VHF radio communication shall be used.

The deicing/anti-icing process shall be supervised by qualified personnel.

Upon completion of treatment, the result shall be checked by qualified ground personnel and the anti-icing code shall be transmitted to the PIC. After receiving the code, the PIC is responsible for continually monitoring the condition of the aircraft and for ensuring that the aircraft complies with the Clean Aircraft Concept at the time of take-off. It is up to the PIC to decide on performing the de-/anti-icing at any stage of preparing the aircraft for departure, depending on changing weather conditions. The list of aircraft de-/anti-icing procedures and the persons responsible for their performance is set forth in ***Appendix 13-13 Responsibility distribution matrix of Aircraft de-icing***.

Any damages detected during the exterior inspection/contamination check and/or any damages detected or caused during the de/anti-icing operations shall be immediately reported to the flight crew and to the engineering and maintenance personnel for carrying out further investigation and deciding on the aircraft airworthiness.

13.2.1 RESPONSIBILITIES OF THE PILOT-IN-COMMAND

The PIC shall:

a. carry out «contamination check» according to ***13.4.1 Contamination Check*** to establish the need for deicing;
b. accept a work completion report on mechanical removal of contamination and/or preliminary treatment of the aircraft with deicing/anti-icing fluids from the ground personnel;
c. make a decision on the need for aircraft deicing/anti-icing;
d. correctly determine the holdover time, type and required concentration of deicing/anti-icing fluids for the anti-icing step, based on the required holdover time, weather conditions, precipitation intensity, taxiing time;
e. make sure the aircraft has been configured before the start of the deicing/anti-icing operations and advise the ground personnel that the aircraft is ready for the treatment.

The PIC is responsible for:

a. immobilizing the aircraft and its controls for the duration of deicing/anti-icing until receiving the anti-icing code;
b. accepting and registering the results of deicing/anti-icing procedures (receiving the anti-icing code);
c. conducting an aircraft preflight check;
d. making a decision on whether to take off under the current weather conditions or to return the aircraft for re-deicing.

13.2.2 RESPONSIBILITIES OF THE RELEASE PERSONNEL

The release personnel shall (as applied to all the stations of MyFreighter network):

a. agree with the PIC upon the method of treatment and deicing/anti-icing fluid concentration, inquire about the fuel temperature in the fuel tanks of the aircraft;
b. perform a careful visual check of the aircraft parts as required in ***13.4.1 Contamination Check*** to establish the need for deicing;
c. immediately advise the PIC of any contamination that is not permitted;
d. provide full information to the deicer operator performing the treatment;
e. check availability of the copies of documents in the deicer acknowledging the quality of deicing/anti-icing fluid, conformance of the deicing/anti-icing fluid being used to the requirements for aircraft deicing/anti-icing;
f. receive acknowledgment from the PIC that the aircraft has been configured for treatment;
g. clearly and distinctly give a command to the operator to start the deicing/anti-icing;
h. control correctness and completeness of the deicing/anti-icing;
i. keep to the symmetry of treatment being performed;
j. control meeting all safety requirements throughout the deicing/anti-icing operations;
k. perform the post deicing/anti-icing check. If the post deicing/anti-icing check responsibility is assigned by the service provider to the deicer operator, the operator shall be responsible for completeness and quality of the post deicing/anti-icing check performed, cleanness of the aircraft surfaces and transmission of the anti-icing code.
l. communicate the anti-icing code to the PIC in compliance with ***Chapter 13.12 Communications procedures***;
m. control the condition of the aircraft until it starts taxiing under its own power.

13.2.3 RESPONSIBILITIES OF THE ENGINEERING AND MAINTENANCE PERSONNEL PREPARING THE AIRCRAFT FOR DEPARTURE

The engineering and maintenance personnel preparing the aircraft for departure shall:

a. carry out a careful check of the aircraft surfaces and parts for contamination in accordance with the aircraft technical documents (AMM etc.) while conducting a preflight and post-flight check of the aircraft (***see 13.4.1 Contamination Check*** to establish the need for deicing for more details);
b. provide reasons for, perform timely and quality operations on mechanical removal of contamination from the aircraft surfaces and parts for which deicing/anti-icing fluid application is restricted or forbidden;
c. as agreed, upon with an airline representative, provide reasons and make a timely decision on the need for preliminary deicing/anti-icing using deicing/anti-icing fluid (if the crew is not on board);
d. configure the aircraft before starting preliminary deicing/anti-icing operation and supervise the process of carrying out preliminary aircraft deicing/anti-icing operation using deicing/anti-icing fluid (if the crew is not on board);
e. in a timely manner and correctly fill out the documents on preliminary aircraft deicing/anti-icing completed;
f. at the preflight briefing, report to the aircraft crew on the aircraft surface condition, deicing operations performed with mechanical method and/or preliminary deicing/anti-icing using deicing/anti-icing fluid, and the need for carrying out preflight deicing/anti-icing.

13.2.4 RESPONSIBILITIES OF THE DEICER OPERATOR PERFORMING THE TREATMENT

The deicer operator performing the treatment shall:

a. perform deicing/anti-icing operations that have been ordered in compliance with the requirements of this manual;
b. use deicing/anti-icing fluid which meets concentration and temperature requirements;
c. observe the safety regulations when operating the equipment and deicers to exclude any damage to the aircraft, deicers, equipment, and people;

d. perform a thorough visual check of the wings, horizontal stabilizer, fin and fuselage, including static ports and pitot tubes, angle of attack and temperature sensors for presence of any unallowable contamination if they are not specified in the deicing/anti-icing order;
e. secure no contamination present on the aircraft surfaces that have been treated as required by this manual;
f. perform the post deicing/anti-icing check if the quality control is carried out by the operator;
g. upon completion of the treatment, in a timely manner precisely communicate all necessary information and prepared documentation to the person responsible for transmission of the anti-icing code;
h. write down and transmit the anti-icing code if the deicing/anti-icing quality control responsibility is assigned by the service provider to the deicer operator.

13.2.5 RESPONSIBILITIES OF THE DEICER DRIVER

The deicer driver shall:

a. safety driving during de-icing/anti-icing operations;
b. sprayer's orders and requirements realization during de /anti-icing operations.

13.2.6 RESPONSIBILITIES OF DEICING/ANTI-ICING SERVICE PROVIDER

Deicing/anti-icing service provider is responsible for:

a. the safety and operability of the designated deicing facilities;
b. aircraft ground deicing/anti-icing procedures.

A deicing service provider shall have aircraft Deicing/Anti-Icing Procedures, including a Quality Control (QC) Program. These procedures, which ensure compliance with the relevant regulations and global aircraft deicing standards such as AS6285, AS6286, and AS6332, shall cover all aspects of the aircraft ground Deicing/Anti-Icing process, including (but not limited to) instructions, tasks, responsibilities, authorizations, and infrastructure for the Deicing/Anti-Icing process as follows:

a. Use of suitable deicing/anti-icing treatment method according to this Aerospace Standard 6285;
b. Remote deicing/anti-icing instructions (when applicable);
c. Sufficient number of trained and qualified deicing/anti-icing personnel;
d. Qualified staff to coordinate and supervise the deicing/anti-icing treatments;
e. Use of suitable deicing/anti-icing equipment meeting specification ARP1971, maintain in operable state anti-icing vehicles and equipment in accordance with manufacturer's requirements, preserve results of technical check and maintenance of anti-icing vehicle for audit purposes;
f. Special handling procedures for Types II, III, and IV deicing/anti-icing fluids to maintain quality;
g. Post-deicing/anti-icing check (when applicable);
h. Protocol for communications with cockpit crew for both gate and remote locations (when applicable);
i. Reporting the anti-icing code to the cockpit crew (when applicable);
j. Documentation of all deicing/anti-icing treatments;
k. Personnel safety arrangements;
l. Provisions for tools and clothing for deicing/anti-icing personnel;
m. Environmental arrangements;
n. Establishing a QC program.

13.3 STAFF TRAINING AND QUALIFICATION

De-/Anti-icing procedures must be carried out exclusively by personnel trained and qualified on this subject. The handling company is fully responsible for providing training to the personnel involved in de-/anti-icing operations, which meets the requirements to de-/anti-icing methods and procedures of current version SAE AS6286 «Training and Qualification Program for Deicing/Anti-icing of Aircraft on the Ground».

A deicing training program shall be maintained and executed by the organization that performs the deicing. The training program shall address all elements of the training material, levels of qualifications, verification of success, functions, duties, responsibilities, quality control, and regular overview of instructing. The training program shall refer to current industry standards and regulations.

All training records shall be kept as per the regulatory or company's recordkeeping policy. The training program shall be reviewed at least annually to ensure that it covers all current aspects of deicing/anti-icing operations.

Training programs must include a detailed description of initial and annual recurrent training and qualification concerning the specific requirements of the program and the duties, responsibilities, and functions detailed in the program. There shall be a Quality Management System (QMS) to monitor and maintain a high level of competence. An ongoing review plan is advisable to evaluate the effectiveness of the deicing/anti-icing training received. The program shall have a tracking system that ensures all required personnel have been satisfactorily trained. Records of personnel training and qualification shall be maintained as proof of qualification. Training success shall be proven by an exam that shall cover all training subjects. Each part shall have a test to verify the correct procedures. The theoretical parts shall have a written examination, with a passing score of 75% minimum, and the practical part shall have a demonstration of skill. Only persons who pass the exam can be qualified. Where an individual has passed an examination but has not achieved a perfect grade, it is recommended that incorrect answers are reviewed with the individual to promote error-free learning. The training shall be divided into different groups according to levels of qualification and operational expertise.

13.3.1 TRAINING PROGRAM FOR PERSONNEL PERFORMING AIRCRAFT DEICING/ANTI-ICING TREATMENT

The qualification level for all operational positions shall be clearly defined according to current version SAE AS6286 «Training and Qualification Program for Deicing/Anti-icing of Aircraft on the Ground» and deicing roles. The content of de/anti-icing training should cover (but are not limited to) the following:

1. Common standards, regulations, and recommendations;
2. Basic knowledge of aircraft performance;
3. Effects of frost, ice, snow, slush, and fluids on aircraft performance;
4. The Clean Aircraft concept, regulations, and recommendations;
5. Meteorological considerations on ice formation;
6. Types of checks required;
7. Contamination Check (to establish the need for deicing);
8. Post Deicing/Anti-Icing Check;
9. General techniques for removing deposits of frost, ice, slush, and snow from aircraft surfaces and for anti-icing;
10. De-icing/anti-icing by fluids procedures in general and specific measures to be performed on different aircraft types and de-icing using cold air;
11. Basic characteristics of aircraft de-icing/anti-icing fluids, including causes and consequences of fluid remaining on surfaces, and dried and/or rehydrated residues;
12. Types of fluid checks required and the equipment for this;
13. De-icing/anti-icing equipment and facilities operating procedures including actual operation;
14. Fluid application and the use plus the limitations of Holdover Time (HOT) tables;
15. Communication procedures and deicing/anti-icing code, knowledge of the English language;

16. Aircraft in general and common critical areas of surfaces and instruments;
17. Safety precautions and human factors;
18. Environmental considerations (e.g. where to de-ice, spill reporting, hazardous waste control etc.);
19. Emergency procedures;
20. Fluid application and limitations of holdover time tables;
21. Special provisions and procedures for contract de-icing/anti-icing;
22. New procedures, new developments and alternative technologies, lessons learned from previous winters;
23. Conditions which can lead to the formation of ice on the aircraft;
24. Local rules and restrictions;
25. Airport operational procedures and ATC;
26. Quality control;
27. Company and customer procedures;
28. De-icing coordination procedures in general;
29. Instructional procedures in general.

13.3.2 TRAINING RECORDS AND DOCUMENTATION REQUIREMENTS

Records of the training of all qualified personnel shall be maintained in accordance with current version SAE AS6286 "Training and Qualification Program for Deicing / Anti-icing of Aircraft on the Ground".

Records shall be kept of all tests and scores, for both the theoretical exam and the practical assessment. A test record shall indicate the trainee, the qualification being sought, the date of the test, the evaluating instructor, and the score. A failed examination can be retaken, and this must be noted in the record. The evaluation process must lead to a qualification before the trainee shall be allowed to carry out the required role. Any restriction to a qualification shall be documented. A certificate should be given to the person to verify successful training and qualification. A copy of the certificate should be kept. All documentation for the current season should be kept easily at hand for verification by approved deicing staff. Records shall be available (or retrievable) at all stations as proof of qualification.

13.4 DEICING/ANTI-ICING OPERATIONS AND PROCEDURES

Deicing/anti-icing process in the airline depends on conditions and procedures approved at each airport and on the deicing/anti-icing contract. All steps shall be carried out only by qualified personnel, persons in charge of each particular step can be changed (for example, at one station the check is performed by release personnel and the PIC, at the other the same can be done by the PIC and engineering and maintenance personnel preparing the Aircraft for departure), but the step itself shall be fully completed. ***Appendix 13-13 Responsibility distribution matrix of Aircraft de-icing*** provides more detailed description of implementation of this process.

13.4.1 CONTAMINATION CHECK TO ESTABLISH THE NEED FOR DEICING

Under conditions contributing to aircraft ground icing, the aircraft cannot be dispatched for departure unless the qualified personnel perform the check for any contamination present on the aircraft surface. The Contamination Check is a check performed by the flight crew or ground crew under the contract prior to departure to verify the presence of adhering contamination to establish the need for deicing/anti-icing. For flight crew it is a part of the exterior inspection before the flight. A Contamination Check shall visually include all critical parts of the aircraft and shall be performed from points offering sufficient visibility of those parts (e.g., from the deicing vehicle itself or any other suitable piece of equipment, including ladders, or from inside the aircraft - whatever means are necessary to perform a thorough check must be employed). Any frozen contamination found, except frost allowed by the aircraft technical documents in certain areas, shall be removed by a deicing treatment; this shall be followed by an

anti-icing treatment if required per the weather conditions. ***See Appendix 13-09 No spray areas*** diagrams showing the areas allowed for treatment with Type I, Type II, Type IV deicing/anti-icing fluids.

Aircraft flight manual allows for maximum 3mm of frost to be present on the underwing surfaces in the fuel tank area. This is due to moisture condensation in the air when in contact with cold surfaces, the temperature of which is below the freezing point. If the frost continues forming and becomes thicker than 3mm, it must be removed before departure.

The presence of thin layer of frost on the upper surface of the fuselage is allowed if all vents and ports are clean. Usually, it builds up on open surfaces under conditions of cold cloudless night. The layer of frost should be thin, so that all the items applied on the surface, such as paint, markings, and letters, could be observable under the frost. However, any frost may be required to be removed before the flight under the PIC`s request.

Frost allowed to stay on the lower side wing surface, and having no critical impact during standard takeoff conditions, can become a critical factor in climb under icing conditions acting as a source for intensive icing. Upon demand from the crew any frost deposits must be removed.

a. If OAT ranges from +15 ºC to +6 ºC, the underwing surface in the fuel tank area shall be checked.
b. If OAT is +6 ºC and lower, contamination check of all critical aircraft surfaces shall be carried out.

This check must include a thorough inspection of the following areas after completion of deicing/anti-icing treatment, and those areas must be clear of contamination before departure according to the following requirements:

a. Wings, tail, and control surfaces (rudders, ailerons, flaps, slats etc.) must be clean of ice, frost, snow and slush. A thin coating of frost (3mm or less) on lower wing surfaces, in areas between forward and aft spars, cold-soaked by fuel is permitted.
   NOTE: Frost or any other contamination is not acceptable on the lower side of the horizontal stabilizer and elevators.
b. Pitot probes, static pressure probes, angle-of-attack, temperature sensors, icing probes must be free from ice, slush, snow, frost, and residues of fluids.
   NOTE: Ice ridges can form on the nose of the fuselage while on the ground. These ridges will disrupt air flow into the pitot tubes, and which can result in false measurements. All contamination shall be removed from this area.
c. Engines, intake ducts and blast pipes, inlets of cooling systems, control systems' probes and openings must be free from ice and snow. Engine fan blades must be free from ice, frost and snow and should rotate freely.
d. Air inlets, outlets, pressure-release valves, and outflow valves shall be free of frost, snow, slush, or ice, and shall be unobstructed.
e. Landing gear and landing gear doors shall be unobstructed and free of frost, snow, slush, or ice.
   NOTE: Do not spray deicing/anti-icing fluids directly onto wiring harnesses and electrical components (receptacles, junction boxes, etc.) brakes, wheels, exhausts, or thrust reversers.
f. Fuel tank vents must be free from ice, slush, snow, and frost.
g. Fuselage must be cleared from ice, slush, and snow. Frost can be present on the fuselage surfaces. The presence of thin layer of frost on the upper surface of the fuselage is allowed if all vents and ports are clean. The layer of frost should be thin, so that all the items applied on the surface, such as paint, markings, and letters, could be observable under the frost. Fuselage is also critical surface, ice and snow deposits must be removed from it, primary hazard posed by ice and snow accumulation on the fuselage is that they may break off the structure during take-off and damage engines or other parts of the aircraft causing an emergency condition. During freezing precipitation, it is required also anti-ice the fuselage.
h. Nose radome area and cockpit windscreens: any deposits of snow, slush, or ice on the windscreens or on areas forward of the windscreens shall be removed prior to departure. Heated windscreens of the cockpit usually do not require de-icing. Any forward area from which fluid may flow back onto the windscreens during taxi or subsequent takeoff shall be free of fluid prior to departure.

NOTE: During falling precipitation, heated windows may cause liquid runoff to freeze near sensors, requiring deicing.

Dried thickened-fluid (SAE Types II, III, or IV) residues can occur when surfaces have been deiced/anti-iced, but the aircraft has not imminently been flown and has not been subject to precipitation. The fluid may then have dried on the surfaces. In such situations, the aircraft must be checked for dried residues from thickened fluids and cleaned, as necessary.

Aircraft shall be treated symmetrically, that is, left hand and right-hand side shall receive the same and complete treatment, even when only one side of the aircraft needs treatment.

Anti-icing treatments shall always cover the entire wing, the entire vertical stabilizer/rudder and horizontal stabilizer/elevator on both sides on the aircraft.

Clear ice can form on the aircraft surfaces under the layer of snow or slush, and whenever there is a doubt that the clear ice is not present on the supposedly most affected areas, a physical (hand-on, without a glove) check shall be performed to verify the surface is clean.

Carrying out a check for surface condition, engineering and maintenance personnel must check the areas for the presence of contamination in accordance with AMM.

Where an aircraft has been deiced and/or anti-iced some time prior to the arrival of the flight crew, an additional contamination check shall be carried out prior to departure, in order to establish whether further treatment is required.

Requests for deicing/anti-icing shall specify the parts of the aeroplane requiring treatment. The decision that deicing/anti-icing is required may be determined when one or more of the following circumstances is applicable:

a. An aircraft is parked overnight and subjected to ice or snow conditions;
b. When ice has accumulated in flight (inflight ice);
c. During taxi to the gate occurring in icing and/or snow conditions;
d. Following an inspection or check by the flight crew at the gate;
e. As indicated by the check by a qualified de-icing/anti-icing person;
f. Active frozen or freezing failing precipitation is occurring;
g. When cold soaked fuel has created ice or frost on critical surfaces or components;
h. When aircraft has been deiced/anti-iced some time prior to flight crew arrival.

13.4.2 CLEAR ICE PRECAUTIONS

Clear ice can form on aircraft surfaces below a layer of snow or slush. Therefore, it is important that surfaces are closely examined following each deicing operation, in order to ensure that all deposits have been removed. Significant deposits of clear ice can form in the vicinity of the fuel tanks, on wing upper surfaces, as well as underwing. Aircraft are most vulnerable with regard to this type of buildup when one or more of the following conditions exist:

a. wing temperatures remain well below 0°C (32°F) during the turnaround or transit;
b. ambient humidity is high and/or precipitation occurs while the aircraft is on the ground;
c. frost or ice is present on lower surface of either wing;
d. ambient temperatures between -2°C and +15°C (28°F and 59°F) are experienced, although clear ice may form at other temperatures if the other three conditions listed above exist.

Clear ice formation is extremely difficult to detect. Therefore, when the above conditions prevail, or when there is otherwise any doubt that clear ice may have formed, a close examination shall be made visually and/or physically (by hand without glove, see caution below) prior to departure, in order to ensure that surfaces are free of clear ice. If clear ice is believed to be present, deicing is required.

NOTE: Low wing temperatures associated with this type of buildup normally occur when large quantities of cold fuel remain in wing tanks during the turnaround/transit and any subsequent refueling is insufficient to cause a significant increase in fuel temperature.

CAUTION: When there is a doubt that the clear ice is not present on the areas supposedly most affected by ice, a physical (hand-on, without a glove) check shall be performed.

Finding clear ice and removing it shall always be noted to the flight crew.

13.4.3 PRELIMINARY DE-ICING TREATMENT

During lengthy aircraft parking and due to accumulation of large amounts of precipitations, there is need to perform preliminary treatment of aircraft surfaces. This pre-deicing process may be performed with various means (e.g., infrared technology, brooms, forced air, fluid injected into forced air, heat) or with ADF. For mechanical methods see ***13.15 De-Icing/Anti-Icing fluid decrease consumption methods***, for ADF methods in accordance with the requirements of ***13.4.4 Aircraft preparation for de/Anti-Icing procedures, 13.4.5 Procedures for De-icing/Anti-Icing with fluids, 13.4.6 One Step and Two Step Procedures***.

If the pre-step process is used, make sure that the subsequent deicing process removes all frozen contamination including the contamination that may have formed on surfaces and/or in cavities due to the pre-step process.

Timely decision on the need for preliminary deicing/anti-icing shall be made by engineering and maintenance personnel preparing the aircraft for departure, as agreed upon with a representative of MyFreighter, after which they shall undertake appropriate actions for further arrangement of work.

CAUTION: The presence of qualified release personnel at preliminary deicing/anti-icing is mandatory.

ATTENTION! In order to prevent the aircraft from tipping over the tail, heavy accumulations of snow or ice shall always be removed from the tail first.

EP, responsible for maintenance and repair aircraft, after preliminary de-icing shall check surface condition and parts of aircraft, where can accumulate ADF and water (***see Section 13.7 Post de-/Anti-Icing check***) and if found, takes steps to remove them. Also, after preliminary de-icing aircraft with ADF, EP shall record in TLB about procedure:

a. type ADF;
b. ADF/water mixture;
c. de-icing start time (UTC, according TLB requirements):
    1. in one step de-icing – start time of application;
    2. in two step de-icing – start time of application in second step (anti-icing);
d. date of de-icing.

For example (TYPE I/60, 13:35, (01 Nov 2024))

CAUTION: If the aircraft has been deiced or anti-iced before arrival of the flight crew, an additional contamination check by engineering and maintenance personnel, crew and release personnel shall be performed before departure in order to determine if a subsequent additional deicing/anti-icing treatment is needed.

13.4.4 AIRCRAFT PREPARATION FOR DE/ANTI-ICING PROCEDURES

Preparation of the aircraft for deicing/anti-icing shall be performed in compliance with the requirements of the aircraft manufacturer. Before the start of deicing/anti-icing, release personnel shall agree the procedures with the PIC (engineering and maintenance personnel if the flight crew is not available on board and preliminary deicing/anti-icing is needed). Then obtain PIC's acknowledgment that the aircraft is ready for the start of deicing/anti-icing treatment and issue a permit to the operators to start the deicing/anti-icing.

CAUTION: It is forbidden to start the treatment without PIC's authorization (engineering or maintenance personnel when the crew is not on board for preliminary deicing/anti-icing).

De-icing/Anti-icing procedure is usually performed with engines turned off, but if necessary and if the service company has the required procedures, this can be carried out with engines running, the procedure is regulated in ***Section 13.10 De/Anti-icing procedure with running engines***.

Before giving the clearance for the start of deicing/anti-icing, the PIC (engineering and maintenance personnel when the crew is not on board and for preliminary deicing/anti-icing) shall make sure that:

a. APU air bleed OFF (if APU running);
b. engine(s) bleed ON, the air conditioning packs (all) OFF (if engine(s) running);
c. the parking brake is set;
d. all the doors are closed (the doors cannot be closed before all ice or snow in the door openings is removed);

   NOTE: when the ground handling is completed and all the doors, except for the front L1 door, are closed, de-icing/anti-icing can be started at a distance from the opened front door, provided that:

   1. the PIC has been informed and consents to perform the procedure;
   2. deicing/anti-icing fluid can no way get on the crew, persons on board and ground personnel;
   3. the fuselage in the opened door area is not treated;
   4. direction and power of wind exclude any possibility for the fluid to get onto the opened door area.

Before starting to treat the aircraft with deicing/anti-icing fluid, all ground personnel and vehicles not involved in this procedure shall leave the aircraft handling area (except tow tractor and/or GPU if needed (e.g. APU is inoperative) and/or not restricted by local procedures).

13.4.5 PROCEDURES FOR DE-ICING/ANTI-ICING WITH FLUIDS

These procedures specify the recommended methods for de-icing and anti-icing of aircraft on the ground with fluids to provide an aerodynamically clean aircraft.

When aircraft surfaces are contaminated by snow, frost, slush, or ice, they shall be de-iced prior to dispatch (de-icing). When freezing precipitation exists and there is a risk of contamination of the surface at the time of dispatch or take-off, aircraft surfaces shall be anti-iced (anti-icing).

If both deicing and anti-icing are required, the procedure may be performed in one or two steps.

The selection of a one- or two-step procedure depends upon actual weather conditions, available equipment, available fluids, aircraft condition (whether contamination is present on its surfaces) and the holdover time to be achieved. Performing a one-step procedure, the same fluid applied for deicing serves also for anti-icing (***see Appendix 13-02 Guidelines for the application of Type I and Appendix 13-03 Guidelines for the application of Type II and Type IV***).

13.4.6 ONE STEP AND TWO STEP PROCEDURES

Critical aircraft surfaces (if contaminated with frost, snow, ice, or slush) must be cleaned before dispatch. Under continuing precipitation conditions, condition of snow and ice deposits formation, when there is a risk of aircraft icing before take-off, two step operations must be accomplished. With regard to holdover time provided by the applied fluid, the objective is that it is equal to or greater than the estimated time from the start of anti-icing to the start of takeoff based on existing weather conditions.

13.4.6.1 ONE-STEP DEICING/ANTI-ICING PROCEDURE

One-step procedure is used when de-icing and anti-icing are performed at the same time. One-step de-icing procedure is used with Type I fluid mixed with water and heated to not less than 60°C at the nozzle and not more than 82°C. Type I fluids provide short holdover time and in precipitation conditions are recommended for use only for de-icing.

CAUTION! Concentration of Type I fluid mixed with water for use in one-step procedure is selected on the assumption that freezing point of mixture is lower than ambient temperature not less than 10°C. ***See Appendix 13.02 Guidelines for the application of Type I***.

Wing skin temperature may differ and, in some cases, may be lower than OAT. A concentration can be used under the latter condition to ensure a sufficient buffer.

NOTE: Increasing the concentration of Type I fluid in water mixture does not result in increased holdover time.

If holdover time is critical concern, deicing/anti-icing procedures must be carried out in two steps using Type II, III or IV fluid in the second step. However, use of heated Type II, III and IV fluids mixed with water is allowed for de-icing, if there is no Type I. If Type II, III or IV used in one step process, then an appropriate inspection and cleaning program shall be established. Such inspections are performed in compliance with AMM.

CAUTION! The application of Types II, III, or IV fluids, especially when used in a one-step process, may cause fluids to collect in aerodynamically quiet areas, cavities, and gaps which can dry out and leave dried residues.

Dried residues may rehydrate and freeze following a period of high humidity and/or rain conditions. This may impede flight control systems. These dried residues may require removal. In order to detect dried residues, it may help to spray a water mist onto the affected surfaces. This causes the dried residues to rehydrate and swell into a gel.

NOTE: If removal of contamination is required on the lower side of the wings and the horizontal stabilizer and elevator, deicing/anti-icing fluid shall be applied sparingly to minimize fluid flow into drain holes.

ATTENTION! **Whenever suitable, de-ice and anti-ice with only Type I.**

The correct fluid concentration Type II, III, IV shall be chosen with regard to desired holdover time, outside air and wing temperature and weather conditions (***see Appendix 13-03 Guidelines for the application of Type II and Type IV***).

13.4.6.2 TWO-STEP DEICING/ANTI-ICING PROCEDURE

Two-step de-icing/anti-icing procedure is performed in two steps: de-icing and anti-icing.

First step in two-step procedure

The correct fluid(s) shall be chosen with regard to OAT (***see Appendix 13-02 and Appendix 13-03***). The second step is performed with anti-icing fluid to protect the surfaces. This fluid and its concentration are chosen with regard to desired holdover time, which is dictated by OAT and weather conditions (see application tables). The second step shall be performed before the first step fluid freezes, if necessary, area by area.

Service providers shall ensure the first step fluid and the second step fluid used on aircraft are compatible. This can be accomplished by contacting the respective fluid manufacturer(s).

Fluid mixture with water should be heated to no less than 60°C and no more than 82°C. Correct concentration of mixture used in first step shall be chosen with regard to ambient temperature.

Use a second step spraying technique to cover completely the first step fluid using the method described in 13.6 Anti-icing fluid application strategy with a sufficient amount of second step fluid. For guidance on the approximate amount of fluid, refer to AS6286 requirements and 13.9 Recommended fluid minimums. Where re-freezing occurs following the initial treatment, both the first and second step must be repeated.

CAUTION! Wing skin temperature may differ and, in some cases, may be lower than OAT. A mix with higher glycol concentration can be used under these conditions to ensure a sufficient temperature buffer.

CAUTION! The application of Types II, III, or IV fluids, especially when used in a one-step process or in the first step of a two-step process, may cause fluids to collect in aerodynamically quiet areas, cavities, and

gaps, which can dry out and leave dried residues. Dried residues may rehydrate and freeze following a period of high humidity and/or rain conditions. This may impede flight control systems. These dried residues may require removal. The use of hot water or heated mixture of Type I fluid/water for the first step of a two-step deicing/anti-icing process will minimize the formation of dried residues.

NOTE: These fluids shall not be used below -25°C (-13°F) in active frost conditions (see Appendix 13-04).
CAUTION! For correct ADF usage See Appendix 13-02 Guidelines for the application of Type I Appendix 13-03 Guidelines for the application of Type II and Type IV.

CAUTION! Fluids must not be used at temperatures below their lowest operational use temperature (LOUT). The second step shall be applied before first step fluid freezes, typically within 3 minutes (this time may be higher than 3 minutes in some conditions, but potentially lower in heavy precipitation, colder temperatures, or for critical surfaces constructed of composite materials. If necessary, the second step shall be applied area by area).

Anti-icing of the lower side of the wings and/or horizontal stabilizer and elevator is normally not foreseen. However, if these surfaces must be deiced, the deicing fluid freezing point must be low enough to prevent refreezing.

Second step in two-step procedure

Use of anti-icing fluid in the second step provides limited protection from accumulation of ice, snow, slush, or frost on aircraft critical surfaces. The second step is recommended to perform with unheated concentrated Type II, III or IV fluid. However, if holdover time is not a critical concern, and it is allowed to dilute anti-icing fluid with water, second step is allowed to treat with Type II, IV fluid in mixture with water in the second step (100/0, 75/25 or 50/50 ***see Appendix 13-02***). Concentration of Type I fluid mixed with water for use in the second step of a two-step procedure is selected on the assumption that fluid freezing temperature is lower than ambient temperature by no less than 10°C (18°F) (***see Appendix 13-03***).

CAUTION! Ensure that the surfaces are free of any contamination prior to the start of second step treatment (anti-icing).

The same fluid may be used for first and second step of treatment (de-icing and anti-icing). Fluid used on the second step (anti-icing) is recommended to applicate not heated that will be diluted slowly by precipitations. Recommended concentrations for Type I, II, III and IV fluids in water mixtures versus ambient temperatures are shown in ***Appendix 13-02, Appendix 13-03, Appendix 13-04, Appendix 13-05, Appendix 13-06, Appendix 13-07, Appendix 13-08***.

Fluids of Type II, III, IV normally have higher operational use limit (warmer) than fluids of Type I. Operational use limit for fluid Types II, III, IV in the second step may be lower (depending on the manufacturer) provided that their freezing temperature will be lower than ambient temperature not less than 7°C. In all cases, this temperature cannot be lower than lowest operational use temperature (LOUT).

NOTE: These fluids shall not be used below -25 °C (-13 °F) in active frost conditions (See Appendix 3-07). In this condition consider to use Type I.

CAUTION! Aircraft shall be treated symmetrically, that is, left-hand and right-hand side shall receive the same and complete treatment, even when only one side of the aircraft needs treatment. Procedures in ***Section 13.6 Anti-icing fluid application strategy*** shall be followed if an anti-icing treatment is to be performed on the aircraft.

WARNING! The aircraft is considered UNSAFE if this requirement is not met.

13.4.7 GENERAL FLUID APPLICATION REGULATIONS

For de-icing/anti-icing operations, all possible precautions must be taken to minimize fluid exposure of aircraft areas where fluid application is limited or prohibited. Ground personnel must have knowledge of no-spray areas specified in aircraft diagram and strictly follow safety precautions and limitations during de-icing/anti-icing operations.

B767-300BCF (-BDSF), A319, A320, A321 no spray and limited areas to use ADF Diagrams in ***Appendix 13-09 No spry areas*** state the requirements and the associated symbols, which are then used to indicate (where necessary) the locations of “no spray” areas.

It is recommended that contamination removal from the nose area/radome area and cockpit windows should be performed manually (e.g. by means of rubber scraper plates or brushes) or, if there is no possibility to apply this method, by using ADF of Type I/water fluid mixture. Fluids shall not be sprayed directly onto flight deck or cabin windows as this can cause crazing of acrylics or penetration of the window seals.

Application of fluids Type II, III & IV on the windshield is forbidden!

If SAE Types II, III, or IV fluids have been used, all traces of the fluid on flight deck windows shall be removed prior to departure, with particular attention paid to windows fitted with wipers. Thickened fluid (SAE Types II, III, or IV) can be removed by using a diluted Type I mixture, water (where it has been determined that refreezing will not occur), a manual method (ensuring that windscreen heat is turned off), or another cleaner as approved by the aircraft manufacturer.

NOTE: During falling precipitation, heated windows may cause liquid runoff to freeze near sensors, requiring deicing.

Attention must be paid when spraying fluid near engine or APU intakes even if they are shutdown. Fluid residues may flow inside during engine start and cause engine damage, cabin smoke and smoke from engine nozzle.

NOTE: If under strong wind conditions this requirement is impossible to comply with, then personnel or crew should consider switching APU off.

Manually remove snow or ice accumulation from the wheels, brakes, or tires. A hot air blower may be used for this purpose.

Carbon brakes which have been intentionally soaked with de-icing or anti-icing fluids should be removed and decontaminated.

CAUTION! Do not try to move the aircraft if the tires are frozen to the ground. Make sure that the wheels turn when you move the aircraft. If the wheels do not turn, damage to the wheels and the aircraft can occur.

It is prohibited to spray de-icing/anti-icing fluid directly on static ports and pitot probes, angle of attack sensors.

Do not point a solid flow of fluid directly at the surface. Apply the fluid at a low angle. Do not use a high-pressure spray to blow the ice and snow off the aircraft surfaces. Damage to aircraft surfaces may occur.

CAUTION! Do not use more than 10 psi (69 kPa) on an area of 25 in2 (161 cm2). Temperature of the fluid used for de-icing is limited.

The temperature of fluid and water mixture must be at the nozzle not less than 60°C and not more than 82°C.During fluid application, always spray the fluid from wing or stabilizer leading edge to trailing edge (don`t spray from rear). Spray from highest part to the lowest.

For maximum deicing effect, fluids shall be applied close to the surface of the skin to minimize heat lost.

13.5 DEICING BY FLUIDS

These techniques establish methods for removal of various types of ice and snow deposits on critical aircraft surfaces with de-icing fluids.

CAUTION! See 13.4.7 for limitations for the maximum application pressure and temperature.

13.5.1 REMOVAL OF FROST AND LIGHT ICE

A nozzle setting giving a solid cone (fan) spray should be used. This ensures the largest droplet pattern available, thus retaining the maximum heat in the fluid. Providing the hot fluid is applied close to the aircraft skin, a minimal amount of fluid will be required to melt the deposit.

13.5.2 REMOVAL OF LOCAL AREA CONTAMINATION

When no precipitation is falling or expected, and when there is no active frost, a “local area” deicing may be carried out under the below mentioned or similar conditions. In some cases, a full or complete deicing is not necessary. When the presence of frost and/or ice is limited to localized areas on the surfaces of the aircraft and no holdover time is applicable, only the contaminated areas will require treatment.

This type of contamination will generally be found on the wing and/or stabilizer leading edges, or in patches on the wing and/or stabilizer upper surfaces. Spray the affected area(s) with a heated fluid/water mixture suitable for a one-step procedure. Both sides of the wing and/or stabilizer upper surfaces shall receive the same type of fluid; the same area in the same location on each wing/stabilizer shall be sprayed, including when conditions would not indicate the need for treatment of both wings/stabilizers.

It is the responsibility of the deicing service provider to ensure that the treatment is performed symmetrically and that upon completion, all frozen deposits have been removed. After this check has confirmed that the areas are clean, the following statement shall be given to the flight crew: “Local area deicing only. Holdover times do not apply.”

13.5.3 LOWER WING SURFACE (UNDERSIDE OF WING) DEICING PROCEDURES

Treatments must be symmetrical and may include flaps and lower surfaces. Spray the affected areas with a heated fluid/water mixture suitable for a one-step procedure as required (see caution below), and then spray the same areas under the other wing.

Both wings must be treated identically (same areas, same amount and type of fluid, same mixture strength), even if the frozen contamination is only present under one wing. Holdover times do not apply to underwing treatments. It is the responsibility of the deicing service provider to ensure that the treatment is performed symmetrically, and that on completion, all frozen deposits (with the possible exception of frost, which may be allowed) have been removed.

When it is confirmed that the treated areas are clean, the following statement shall be given to the flight crew: “Underwing deicing only, holdover times do not apply.”

CAUTION! Under wing frost and ice are usually caused by very cold fuel in the wing tanks. Use a hot fluid/water mix with a higher concentration of glycol than is usually required by the OAT to prevent refreezing.

13.5.4 REMOVAL OF SNOW AND SLUSH

A nozzle setting sufficient to flush off deposits and minimize foam production is recommended. Foam could be confused as snow.

The method adopted will depend on the equipment available and the depth and type of snow; i.e., light and dry or wet and heavy. In general, the heavier the deposits, the heavier the fluid flow that will be required to remove it effectively and efficiently from the aircraft surfaces.

NOTE: heavy accumulation of snow will always be difficult to remove from aircraft surfaces and vast quantities of fluid will invariably be consumed in the attempt. Under these conditions, serious consideration should be given to removing the worst of the snow manually before attempting a normal de-icing procedure.

CAUTION! In order to prevent the aircraft tail tipping, heavy accumulations of snow or ice shall always be removed from the tail first.

For light deposits of both wet and dry snow, similar procedures as for frost removal may be adopted.

Wet snow is more difficult to remove than dry snow and until deposits are relatively light, selection of high fluid flow will be found to be more effective. Under certain conditions it will be possible to use the heat, combined with the hydraulic force of the fluid spray to melt and subsequently flush off the deposits of snow and slush. Slush is ice and/or snow which have not completely melted. Thus, ice and snow removal and prevention procedures are applied also to slush. Slush does not need any special removal procedure.

However, where snow has bonded to the aircraft skin, the procedures detailed in ***Section 13.5.5 Removal of ice*** should be utilized.

13.5.5 REMOVAL OF ICE

Heated fluid shall be used to break the ice bond. The method makes use of the high thermal conductivity of the metal skin. A steam of hot fluid is directed at close range onto one sport at an angle of less than 90 degrees, until the aircraft skin is just exposed.

The aircraft skin will then transmit the heat laterally in all directions raising the temperature above the freezing point thereby breaking the adhesion of the frozen mass to the aircraft surface. By repeating this procedure, a number of times, the adhesion of a large area of frozen snow or glazed ice can be broken. The deposits can then be flushed off with either a low or high flow, depending on the amount of the deposit.

NOTE: Temperature of the fluid used for de-icing is limited. The temperature of fluid and water mixture must at the nozzle not less than 60°C and not more than 82°C. Do not use more than 10 psi (69 kPa) on an area of 25 in2 (161 cm2). Do not point a solid flow of fluid directly at the aircraft surfaces.

13.6 ANTI-ICING FLUID APPLICATION STRATEGY

Ice, snow, slush, or frost will, for a period of time, be prevented from accumulating on aircraft surfaces by the application of anti-icing fluids. The process should be continuous and as short as possible. Anti-icing should be carried out as near to the departure time as possible in order to utilize available holdover time. The anti-icing fluid shall be distributed uniformly and with sufficient thickness over all surfaces to which it is applied. In order to control the uniformity, all aircraft surfaces shall be visually checked during application of the fluid.

CAUTION! Personnel, performing de-icing treatment, should be sure that the surfaces are free of any contamination prior to the start of (anti-icing) second step treatment.

To use Type I Holdover Times Guidelines in all conditions, including active frost, an additional amount of 1 l/m^2 of heated Type I fluid mixture with a nozzle temperature at least 60°C must be applied to the surfaces after all frozen contamination is removed (***see Appendix 13-02***). This application is necessary to heat the surfaces, as heat contributes significantly to the Type I fluid holdover times. The required protection can be provided using a one-step method by applying more fluid then is strictly needed to just remove all of the frozen contamination (the same additional amount stated above is required).

For Types II, III, or IV fluids which flow readily over surfaces, the correct amount is indicated by fluid just beginning to run off the leading and trailing edges. For fluids which form a more static layer, the minimum quantity required will typically be 1 l/m^2 applied in an even layer across the surface. For further guidance on the amount of fluid, refer to AS6286 training documentation and/or the fluid manufacturer's documentation (***see Appendix 13-03***).

Anti-icing treatments shall be symmetrical and shall always cover:

a. Wing upper surfaces including leading edges and upper control surfaces;
b. Wing tip devices;
c. Both sides of vertical stabilizer and rudder to receive anti-ice protection when freezing precipitation conditions exist;
d. Horizontal stabilizer upper surfaces including leading edges and elevator upper surfaces;
e. Fuselage upper surfaces, when freezing precipitation conditions exist.

Anti-icing fluids may not flow evenly over wing leading edges, horizontal and vertical stabilizers. These surfaces shall be checked to ensure that they are properly coated with fluid.

Spray from the leading edge to the trailing edge on wings, horizontal and vertical stabilizers. Do not spray from the rear.

Start at the highest point of the surfaces and work to the lowest parts. On vertical surfaces, start at the top and work down.

For longer anti-icing protection, undiluted Type II, or Type IV fluid should be used.

CAUTION! The fluids based on acetates (salts and ester of acetic acid) and formate (salts and ester of formic acid), when used for removal of contamination:

1. May significantly reduce holdover time Type II, III, IV when used in combination with those fluids;
2. May cause corrosion of aircraft materials.

Refer to the aircraft technical documents and actual version of AMS1424/1, AMS1424/2, AMS1428/1, and AMS1428/2 for more details.

The high fluid pressures and flow rates normally associated with de-icing are not required for this operation and, where possible, pump speeds should be reduced accordingly. The nozzle of the spray gun should be adjusted to provide a medium or wide spray.

It is the responsibility of the deicing service provider to ensure that the surfaces mentioned above are free of frost, snow, slush, or ice prior to the start of the anti-icing treatment, and that on completion of the treatment, these surfaces are fully covered with an adequate layer of anti-icing fluid.

13.7 POST DE-/ANTI-ICING CHECK

A verification of clean surfaces (regarding contamination) shall always be made after the deicing/anti-icing. This verification can be either visual or tactile. Note that any visual check may not be sufficient in certain situations (like clear ice). A tactile check is recommended whenever there is a doubt.

After the de-icing/ anti-icing procedures and before take-off aircraft surfaces must be clean of ice, frost, snow and slush according to requirements (***see 13.4.1 Contamination Check*** to establish the need for deicing).

When the request for de-icing/anti-icing is not specify the fuselage, it shall also receive a visual check in order to confirm that it has remained free of contamination (with the possible exception of frost which may be allowed by aircraft manufacturer.) In case of any contamination found is out of limits, it shall be removed during treatment and post de-/anti-icing check shall be performed.

It shall be clearly defined by the aircraft operator which company is responsible for conducting the post-deicing/anti-icing check and providing the flight crew with the anti-icing code. If two different companies are involved in the deicing/anti-icing treatment and post-deicing/anti-icing check, it must be ensured that the anti-icing code is not given before the post-deicing/anti-icing check has been completed.

The company conducting the deicing/anti-icing treatment shall be responsible for the treatment and transmit all information about the treatment to the company conducting the post-deicing/anti-icing check. The company conducting the post-deicing/anti-icing check shall have overall responsibility for the performance of the company conducting the deicing/anti-icing treatment.

The personnel carrying out post de-/anti-icing check is fully responsible for check of all aircraft critical surfaces for contamination before departure and timely transmission of the anti-icing code to the PIC. This will allow the crew to receive a confirmation that aircraft had been subject to proper deicing/anti-icing treatment and free of frozen contaminations.

Check should visually cover all critical parts of the aircraft and be performed from points offering sufficient visibility of these parts (e.g. from the deicer itself or another elevated piece of equipment).

Any contamination found, shall be removed by further de-icing/anti-icing treatment and the check repeated.

Additional check of the flight control system monitored by the ground personnel from the outside may be required after de-icing. This is especially important if the aircraft has been parked in icing conditions for a long period of time and was covered by a thick layer of ice or snow.

NOTE: In case getting ADF into the whole receivers static and dynamic pressure ports, it is mandatory for engineering personnel to check (according AMM recommendations) the aneroid-membrane instruments.

13.8 PRE-TAKEOFF CHECK

After de-icing and anti-icing procedures and verifications, the proper checks, (after all engines start) the aircraft is ready to taxi. The PIC shall continue monitoring the weather conditions after completion of deicing/anti-icing. Prior to takeoff, the PIC shall assess if the estimated holdover time is applicable, and/or the untreated surfaces could have become covered with precipitation. The pre-takeoff check shall be performed as closer to the time of aircraft take off roll as possible. The pre-takeoff check is usually carried out from inside the cockpit. If the condition of the critical aircraft surfaces cannot be assessed effectively by the pre-takeoff check or when the holdover time has been exceeded, a preflight contamination check is performed.

Preflight Contamination Check

This check shall be carried out if the condition of the critical aircraft surfaces cannot be assessed effectively by the pre-takeoff check or when the holdover time has been exceeded. The preflight contamination check is a check of critical surfaces for contamination outside the aircraft. The alternative for a preflight contamination check is a complete aircraft re-deicing procedure.

Flight Control Check

A functional flight control check using an external observer may be required after deicing/anti-icing, depending upon aircraft type (see AMM, FCOM). This is particularly important in the case of an aircraft that has been subjected to an extreme ice or snow covering.

13.9 RECOMMENDED FLUID MINIMUMS

De-icing

Amount of fluid used for removal of ice and snow deposits must be sufficient for total cleaning of all critical aircraft surfaces from all contamination. After treatment, aircraft surfaces must be in accordance with clean aircraft concept (***see Appendix 13-02, Appendix 13-03***).

Anti-icing

Special care should be taken during anti-icing to ensure that aircraft surfaces be covered with continuous fluid film after treatment has been completed. Interruptions in fluid film indicate fluid discontinuity and loss of full protective action under specific conditions. Insufficient amount of fluid degrades treatment quality and reduces holdover time accordingly.

The table 13.9.A below gives recommended minimums for the anti-icing step in favorable conditions. The amount of anti-icing fluid (second step) mentioned here is only as a guideline and current operational conditions must be considered. Vertical stabilizer surface area and upper fuselage area are not mentioned here.

Table 13.9A Recommended fluid minimums for the anti-icing step

AC type	Area					Recommended minimum (both sides)		
	Full body (m^2)	Wing (m^2)	Tail (m^2)	Wing + tail (m^2)	Full body (l)	Wing (l)	Tail (l)	Wing + tail (l)
B767-300BCF (BDSF)	1013	284	60	344	1216	390	90	480
A319	294	123	31	154	353	180	50	230
A320	310	123	31	154	372	180	50	230
A321	339	123	31	154	307	180	50	230

** Each given value is approximate value for every aircraft type. It can change as minus or plus %10. The amount is total fluid + water.*

13.10 DE-/ANTI-ICING PROCEDURE WITH RUNNING ENGINES

Deicing/anti-icing operations are usually performed when the engines are shut down, but, if necessary and the handling company has a command of the required procedures, deicing/anti-icing can be carried out with the engines running at idle power. The handling company should have its own procedure of performing de-/anti-icing with running engines, determining the order of the ground personnel's activities, additional precautions, and emergency actions according to requirements established in current version SAE AS6285. Such procedure shall guarantee full safety of persons on board, flight crew, ground personnel, aircraft, and ground support equipment.

The treatment of the AC with running engines can be performed only upon prior coordination with de-/anti-icing operator, with respect to each flight, to perform de-/anti-icing services. Before being treated on a special remote stand the AC shall be prepared by engineering and technical personnel by means of mechanical treatment of all surfaces which are forbidden or restricted for ADF.

Before starting the engines, it is necessary to make sure the rotors are rotating easily, and front and back sides of the fan blades are free from ice. During anti-icing procedure with running engines or APU, the AC air conditioning system shall be switched off. It is forbidden to directly treat the exhaust nozzles and thrust reverses with fluid.

While performing AC de-icing/anti-icing with running engines:

a. APU air bleed OFF (if APU running);
b. Engine(s) bleed ON, the air conditioning packs (all) OFF (if engine(s) running);
c. always position the deicers clear of the blast effect areas;
d. always position the deicers clear of the engine intake areas;
e. be especially careful with securing all the structure components of the deicer;
f. make sure there are no contamination and foreign objects on the surface of the ground support equipment;
g. it is forbidden to direct the fluid stream to the engine inlet;
h. performing underwing de-/anti-icing of AC in this case is forbidden.

After the aircraft's positioning or taxiing-in to the stand for de-/anti-icing ground employee releasing the AC /chief or deicer dispatcher shall communicate to the AC flight crew to configure the AC for de-/anti-icing and to set parking brakes and then to receive acknowledgement of performance from the crew. Only after getting the AC crew's acknowledgement ground employee releasing the AC / chief or deicer dispatcher can give a command to the deicers to approach the AC.

Throughout the treatment the crew shall keep the AC parking brakes set and shall not increase the engine power nor change the aircraft's configuration.

Confirmation that equipment and personnel are safely away from the aircraft

The flight crew shall receive a confirmation from the ground crew that all deicing/anti-icing operations are complete and that all personnel and equipment have been removed from the area before reconfiguring or moving the aircraft.

13.11 DE-/ANTI-ICING EQUIPMENT

All de-icing/anti-icing vehicles must meet the requirements current versions of ISO11077 «Aerospace –self-propelled De-icing/Anti-icing vehicles – functional requirements», SAE ARP1971 «Aircraft Deicing Vehicle - Self-Propelled», SAE AIR6284 «Forced Air or Forced Air/Fluid Equipment for Removal of Frozen Contaminants» in accordance with SAE AS6285.

Safety requirements

The de-icing vehicle contains many areas where safety precautions must be noted. Some of these areas to be noted are the use of hot fluids, the high pressure of the spray, large and heavy vehicles moving around aircraft, precautions when filling the vehicle, precautions when using the boom and maneuvering, reliability of means of communication between the driver and operator of the deicer (where applicable), the at times poor visibility while spraying, the use of safety harnesses among other things. The use of the vehicle should be performed in a manner that the following user can continue without any doubts of the safe performance of the vehicle. Any discrepancies shall be informed and noted, and measures shall be taken to indicate to other users that the vehicle may not be usable or that the use is limited.

Operational requirements

The vehicle should be checked for proper operation before use. The basic operation shall be verified, and discrepancies noted. The different systems used in the vehicle should be checked for proper performance, e.g. fluid quantity indication, burner and other similar elements that have to do with the proper operation of the vehicle. Additional equipment shall be checked and located (e.g. safety harnesses, hearing protectors, fire extinguisher). The vehicle should be checked for all fluids needed when in use (e.g. windshield washing fluid, fuel etc.). Note that the vehicle is usually used in areas where space is limited, where visibility can be limited and where the surface is slippery due to ice or the mix of glycol on the ground. It is recommended to test the brakes before approaching the aircraft to verify how slippery the surface is and in general test the performance of the brakes.

There are some limitations on the use of de-icing vehicles. These limitations refer, among others, to the maximum wind velocity with the boom elevated (limitations typically are 10-25 m/s), operational speed in de-icing/anti-icing, and movement velocity of the boom (normally, 5-6 km/h max), load capacity of the basket/cabin, spray pressure and heat of fluids.

The boom (basket) may not in some case extend to the particular height required but there may be an extending nozzle boom that covers the remaining distance. It must be noted that the further away the spraying is performed the less heat and pressure is transferred to the aircraft surface. Any particular limitations and/or requirements shall be referred to in the current de-icing vehicle standards and manufacturers' publications. Some systems are needed to be tested and verified for use, such as the spray system, emergency system, visibility during operation, controls, monitoring devices and displays, lights, speeds, warning devices, braking and steering.

The vehicle also needs labelling at all appropriate areas, such as hoses, fluids, filling ports, instructional plates etc. Labelling of different hoses and filling ports is important so no confusion would exist when performing de-icing and anti-icing respectively. Since some operators use uncolored de-icing and anti-icing fluids, this aspect is even more important. Spray tests must be performed periodically for thickened fluid in order to verify that the vehicle (pumps, nozzles etc.) do not degrade the viscosity of the fluid when sprayed.

A maintenance schedule shall be introduced and recorded by the company performing such service. All vehicles should be maintained in accordance with vehicle manufacturer manual and recommendations. If the operator has leased this service, then a verification of the performance should be recorded. All records about vehicle maintenance, calibration and reparation should be available. The quality control also includes

a verification of the fluid used (visual and refractive index/freezing point) and a verification of the fluid temperature. Many vehicles have temperature measurements from the tank but temperature at the nozzle shall also be verified.

The vehicle shall also be able to provide data for the customer after each de-icing event. Minimum parameters shall be recorded, such as the date, aircraft de-iced/anti-iced, fluid used/mixtures and holdover time started. Additional data is usually collected and thus also provided.

Requirements to de-icing equipment in emergency situations

The emergency system must contain an emergency stop/emergency shut off system at key points around/in the vehicle, an emergency lowering system of the boom, a fire extinguisher and a system to prevent any overheating, overfilling and overpressure in the deicing fluid system. Reliable communication between the driver and the operator must be provided. Use of emergency vehicle systems, emergency procedures and communication systems operating procedures must become an essential and integral part of personnel training in operation of the deicing/anti-icing equipment.

13.12 COMMUNICATIONS PROCEDURES

The personnel communicating with the flight crew shall have a basic knowledge of the English language in order to communicate properly (operational level or equivalent according to the current version of the training document AS6286). For local flights involving local flight and ground crews, local language may be used by them (refer to the current version of training document AS6286).

The information transmitted between the PIC and the deicer crew can be given in writing (for example, Appendix 13-10 De-icing Anti-icing order form) and orally. During the treatment of the aircraft performed after closing the doors, aircraft interphones (headsets) or VHF radio communication shall be used. Electronic message boards may also be used in “off stand” situations. Use of hand signals for communications with flight crew regarding of de-icing/Anti-Icing operations/procedures is prohibited, except “All clear signal” (see Figure 13.12.A. Affirmative/All Clear). Raise right arm to head level with wand pointing up or display hand with a thumb up, left arm remains at side to hip.

Figure 13.12.A Affirmative/All Clear

13.12.1 COMMUNICATION PRIOR TO STARTING DE-ICING/ANTI-ICING TREATMENT

a. Before de-icing/anti-icing, the PIC shall be requested to confirm the treatment required (✓ (i.e., surfaces and components to be deiced, anti-icing requirements, plus any special deicing procedures).). For this purposes it is recommended to use MyFreighter De-/Anti-icing order form (***see Appendix 13-10 De-icing Anti-icing order form***) or standard form, adopted by the airport provider.
b. Before fluid application starts, the PIC shall be requested to configure the aircraft for de-icing/anti-icing (surfaces, controls and systems, as per aircraft type requirements). The deicing crew shall wait for confirmation that this has been completed in compliance with ***13.4.4 Aircraft preparation for de/anti-icing procedures*** before commencing the treatment.

If deicing/anti-icing is carried out in the flight crew's absence, a qualified specialist from engineering and maintenance personnel preparing the aircraft for departure shall be assigned, who has to confirm the required treatment and that the aircraft is properly configured.

NOTE: During de-/anti-icing treatment presence of release person is required.

Any damages detected during the exterior inspection / contamination check and/or any damages detected or caused during the deicing/anti-icing operations shall be immediately reported to the flight crew and to the engineering and maintenance personnel for carrying out further investigation and deciding on the aircraft airworthiness.

13.12.2 POST DE-ICING/ANTI-ICING COMMUNICATION

An aircraft shall not be dispatched for departure after a de-icing/anti-icing operation until the PIC has been notified of the type of de-icing/anti-icing operation performed (Anti-icing code).

The Anti-icing code shall be provided by a qualified person upon completion of the treatment, indicating that the checked surfaces (***see 13.7 Post de-/anti-icing check***) are free of frost, snow, slush, or ice; that deicing/anti-icing is complete, that equipment is cleared from the area; and in addition, providing the necessary information for the flight crew to estimate the appropriate holdover time for the prevailing weather conditions when anti-icing fluid has been used.

The anti-icing code shall not be transmitted to the crew before the post deicing/anti-icing check is completed. Transmission to the PIC information about type ADF, ADF concentration and local time confirms that a post deicing/anti-icing check was completed, and the airplane is clean.

When a treatment is interrupted for a significant period of time (e.g., truck runs out of fluid), the flight crew shall be informed stating the reason, the action to be taken, and the estimated time delay.

When continuing the treatment, the previously treated surfaces must be fully deiced and anti-iced again, when the holdover time of the treatment from before the interruption is not sufficient. Under no circumstances should an aircraft that has previously been anti-iced receive a further coating of anti-icing fluid directly on top of the contaminated fluid film. When it becomes necessary to apply another coating of anti-icing fluid, the aircraft surfaces must first be de-iced before the final coating of anti-icing fluid is applied. It should be ensured that any residues from previous treatment are flushed off. Performing only the anti-icing step should not be permitted.

13.12.3 ANTI-ICING CODE

The following elements comprising the anti-icing code shall be recorded and be communicated to the flight crew by referring to the final step of the fluid deicing/anti-icing treatment procedure; it shall be provided in the sequence given below:

NOTE: This information shall not be communicated in circumstances where anti-icing holdover times do not apply, e.g., local frost prevention in cold-soaked wing areas, symmetrical local area deicing, or deicing of specific surfaces only (such as leading edges for removal of impact ice), etc. In these circumstances, upon completion of the treatment, the flight crew shall be provided with the deicing fluid type applied (e.g., "Type I"), a statement that holdover time does not apply (e.g., "Local area deicing only. Holdover times do not apply."), and confirmation that the post-deicing check has been completed (e.g., "Post-deicing check completed").

a. fluid Type; i.e. Type I, II, III, IV;
b. fluid name (manufacturer and brand/tradename) of Type II, III and IV anti-icing fluid;

NOTE: Communication of this element is not required for Type I.

c. concentration of fluid within the neat fluid/water mixture, expressed as a percentage by volume for Types II, III, or IV (i.e. 100% (“neat”) = 100% fluid, 75%=75% fluid + 25% water, 50%=50% fluid + 50% water);

NOTE: Communication of this element is not required for Type I.

d. local time (hours and minutes), either:
    1. for a one-step de-icing/anti-icing operation: at the start of the final treatment, or
    2. for a two-step de-icing/anti-icing operation: at the start of the second step (anti-icing).
e. date in the following format: day, month, year (DDMMMYY (e.g., 28JAN20 = January 28,2020));

NOTE: this is required for record keeping, optional for PIC notification.

f. the statement "Post de-icing/anti-icing check completed”

NOTE: for specific aircraft types, additional requirements exist, e.g. tactile checks for clear ice on wing surfaces. Such checks shall be acknowledged additionally to the PIC. Special checks are not included into the standard post deicing/anti-icing check procedure.

EXAMPLE: Information about the deicing/anti-icing which second step is the use of a mixture of 100% of a Type IV fluid, CLARIANT MAX FLIGHT AVIA, commencing at 13:35 local time on November 01, 2020, is transmitted as follows:

TYPE IV/CLARIANT, MAX FLIGHT AVIA/100%/1335/01NOV20/«Post De-Icing/Anti-Icing check completed».

NOTE: an alternative means of visual communication of the Anti-icing code to the PIC can be used (e.g. written on paper, EMBs, ACARS, EFBs, etc.).

Record the information about the performed procedure in TLB.

13.12.4 POST DE-ICING/ANTI-ICING CHECK AND TRANSMISSION OF THE ANTI-ICING CODE TO THE FLIGHT CREW

For each regular station of MyFreighter airlines, shall be clearly defined which company is responsible for carrying out the post de-icing/anti-icing check and providing the flight crew with the Anti-icing Code.

If two different companies are involved in the deicing/anti-icing treatment and post deicing/anti-icing check, it shall be ensured that the anti-icing code is not given before the post de-icing/anti-icing check is completed.

The company conducting the deicing/anti-icing treatment shall be responsible for the treatment and transmit all information about the treatment to the company conducting the post-deicing/anti-icing check. The company conducting the post-deicing/anti-icing check shall have overall responsibility for the performance of the company conducting the deicing/anti-icing treatment.

Confirmation that equipment and personnel are safely away from the aircraft/ «all clear signal»

The flight crew shall receive a confirmation from the ground crew that all deicing/anti-icing operations are complete and that all personnel and equipment have been removed from the area before reconfiguring or moving the aircraft (***see Figure 13.12.A Affirmative/All Clear***).

13.13 DE-ICING/ANTI-ICING FLUIDS

The most common techniques for removing frozen precipitation from aircraft critical surfaces and protecting the aircraft against re-contamination are accomplished with aircraft de-icing and anti-icing fluids respectively.

All de-icing/anti-icing fluids must meet the current versions requirements of:

1. AMS1424/1 Deicing/Anti-Icing Fluid, Aircraft SAE Type I Glycol (Conventional and Non-Conventional) Based;
2. AMS1428/1 Fluid, Aircraft Deicing/Anti-Icing, Non-Newtonian (Pseudoplastic), SAE Types II, III, and IV Glycol (Conventional and Non-Conventional) Based;
3. to be included in a list of "fluids tested for anti-icing performance and aerodynamic acceptance" from published by FAA document "Holdover time guidelines", current edition.

There are currently four different fluid types. These fluids are called Type I, II, III and IV. The compound of each individual certified fluid varies but the types are known and accepted all over the world.

Aircraft deicing fluids (Type I) are typically ethylene glycol, diethylene glycol or propylene glycol based containing water, corrosion inhibitors, wetting agents and dye. These fluids are formulated to assist in removing ice, snow and frost from the exterior surfaces of aircraft. They also provide a short period of anti-icing protection. The Type I fluids are typically used for the deicing function.

Anti-icing fluids are similar in composition except that they contain polymeric thickeners. They are formulated to prevent formation of unabsorbed frozen contamination for a longer period of time than deicing fluids; however, the protection is still for a limited period of time. Any of the approved fluids, including Type I fluids, may be used for anti-icing, however, Types II, III & IV fluids are typically used in the anti-icing role because they can last for a significantly longer period of time than the Type I fluids.

The fluid must be accepted (among others) according to its type for holdover times, aerodynamic performance and material compatibility. The coloring of these fluids is also standardized.

Non-thickened fluids

True or Newtonian fluid is characterized as a fluid which viscous behavior displays no dependency on shear force as well as duration of its application. Fluid will commence motion immediately upon application of force and there is no need to apply any effort to start fluid flowing.

Type-I fluids (so called Newtonian fluids) are without any thickener and thus suits best for de-icing operations. Type-I fluid is linear in this regard and does not change character by shear rate. Type I – contains a minimum 80% glycol (e.g. ethylene glycol, di-ethylene glycol, or propylene glycol as well as their mixtures), 19% water and about 1% additives (if colored – orange). Type-I fluids can also be used as an anti-icing fluid, but the holdover time is limited. Type-I fluid is generally mixed with water either as a premix or proportional mix. The mixture depends on outside air temperatures. Propylene based Type-I fluids do not have as low a usable outside air temperature (around –30ºC) as ethylene-based Type-I fluids have (around –50ºC), these limits depend on the mixture with water.

Type-I fluid should not be used as a neat manufacturer product (100%) unless pre-diluted with water. In general, this limit is 70% depending on fluid manufacturer. Type I fluids are warmed up to provide for maximum application efficiency. Type I fluids are diluted by water so that the freezing point would correspond to the procedure applied.

Type I fluids provide a fairly limited holdover time, so under falling out precipitations it is advisable to use them exclusively for icing removal.

Thickened fluids

Type-II/III/IV fluids (so called non-Newtonian fluids) are fluids with thickener and thus suits best for anti-icing operations (also de-icing when diluted).

Non-Newtonian fluids are defined as fluids whose viscosities are shear and time dependent and whose shear rate is not directly proportional to its shear stress.

Type II - de-icing or anti-icing fluid that contains a minimum of 50% glycol, 49% water and about 1% additives. In contrary to type I fluids it contains a thickener which gives this fluid a higher viscosity and thus longer holdover times. For anti-icing it may be used mixed with water in fixed ratios of 50/50, 75/25 and 100/0, depending on OAT and freezing point of the fluid/water mixture (in general –transparent).

Type III – fluids were initially designed for the use on smaller aircraft with a low rotation speed. It is fluid with properties similar to type II or IV fluids, however, with different aerodynamic properties (if colored - yellow).

Type IV – de-icing or anti-icing fluids that are very similar to type II fluids, however, its generally provide longer holdover times (if colored - green).

There are exceptions for using thickened fluids as a de-icing fluid. In this case the fluid is diluted below the normal anti-icing mixtures but whenever possible, Type-I fluid should be used for de-icing to minimize the possibility of residue problems.

13.14 HOLDOVER TIME TABLES

Holdover time: estimated time for which an anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft whilst on the ground before commencing take-off roll. The protection ends when commencing the take-off roll, and there is no protection from the fluid during flight.

With a one-step de-icing/anti-icing the holdover time begins at the start of the treatment and with a two-step de-icing/anti-icing at the start of the second step (anti-icing).

Holdover time will have effectively run out when frozen deposits start to form/accumulate on treated aircraft surfaces. Due to their properties, Type I fluids form a thin liquid wetting film, which provides limited holdover time, especially in conditions of freezing precipitation. With this type of fluid, no additional holdover time would be provided by increasing the concentration of the fluid in the fluid/water mixture.

Type II, III, and IV fluids contain a pseudo plastic thickening agent, which enables the fluid to form a thicker liquid wetting film on external aircraft surfaces. This film provides a longer holdover time especially in conditions of freezing precipitation. With this type of fluid additional holdover time will be provided by increasing the concentration of the fluid in the fluid/water mixture, with maximum holdover time available from undiluted fluid.

The holdover time which can be relied upon under conditions of precipitation is published in FOM, Supplementary Procedures, Adverse Weather and in ***Appendix 13-03 Appendix 13-08***. Due to the many variables that can influence holdover time, these times should not be considered as minimums or maximums as the actual time of protection may be extended or reduced, depending upon the particular conditions existing at the time. Holdover times in the tables can only be used when de-icing/anti-icing has been done with flaps/slats retracted.

NOTE: The responsibility for the application of this data remains with the user. Before applying it make sure you use actual tables for current season.

CAUTION: Heavy precipitation rates or high moisture content, high wind velocity or jet blast may reduce holdover time below the lowest time stated in the range. Holdover time may also be reduced when aircraft skin temperature is lower than OAT. Therefore, the indicated times should be used only in conjunction with a pre-takeoff check.

13.15 DEICING/ANTI-ICING FLUID DECREASE CONSUMPTION METHODS

Reducing the amount of deicing fluid used can have a positive impact on both the cost and the environmental. Manual methods of snow removal should be used whenever possible, as long as safety is not compromised. There is a wide variety of devices available to assist in the removal of frozen

contaminants from aircraft. Factors such as temperature, amount of contamination, wind conditions, and contaminant location must be taken into account when choosing the method.

If there is a lot of snow, in order to minimize the fluid consumption, it is advisable that a two-step procedure should be used, applying hot water/Type I ADF water mixture with freezing point equal to outside air temperature at the first step, and Type I ADF or hot water mixture with freezing point 10ºC lower than the outside air temperature at the second step.

It is necessary to remove snow from a parked aircraft regularly. This will ensure that a large quantity of snow will not collect and possibly freeze on the aircraft surface.

There are three decrease consumption fluid methods:

a. mechanical;
b. hot air;
c. forced air.

Mechanical method

1. Brooms and brushes. Brooms and brushes are normally used for cleaning of windows and other sensitive aircraft areas (e.g. landing gear), where use of hot fluid is limited or prohibited altogether. Brooms are also effective to remove accumulation of light or dry snow from aircraft surface.
2. Ropes. Ropes are used to remove large accumulations of snow from the wing or stabilizer. Especially recommended, when thick layers of snow are covering the aircraft, before De-/Anti-Icing fluid can be properly applied. For this procedure, rope is normally see-sawed by two technicians in slight contact with the aircraft surface. Rope can also be used to remove condensed frost from the upper wing or tail.

   CAUTION: Special care must be taken to prevent damage to paint coating or skin.
3. Scrapers. Scrapers are especially effective to remove large accumulations of wet and heavy snow from aircraft surface.

With mechanical de-icing it is essential to take all precautions to prevent the AC skin from damage. Even slightest risks which remained on the AC skin may affect its airworthiness in the future.

Only qualified personnel are allowed to use mechanical methods for de-icing. Special safety equipment is required.

CAUTION! Complete de-icing of an aircraft with mechanical method only should be followed by checking the condition of the AC surfaces. After accomplishing mechanical de-icing, the surface of the AC shall be necessarily checked by touch. If the check reveals any contamination frozen to the critical surface of the AC it shall be removed before the departure. To get completely clean surfaces it might be needed to continue cleaning the AC using some other method, e.g. by means of ADF.

Hot Air

Hot air is mainly used to remove ice and snow contamination from wheels, carbon components of brake systems, engine intakes and exhausts, vanes, static ports, pitot heads and other parts of aircraft where use of de-icing fluids is limited or prohibited altogether.

This method removes deposits but does not provide protection from their re-freeze. Hot air technique is not sufficient for complete de-icing. Special precautions must be taken when using this method. Water produced by melting of ice and snow deposits may ingress into flight controls or other gaps and eventually freeze. This, in turn, may lead to a failure or, even worse, to malfunctioning of aircraft systems. Moreover, in precipitation, ice and other contamination may form on aircraft surfaces which have become warm and wet under exposure to hot air.

CAUTION! It is mandatory continuously monitoring temperature and exposure of aircraft surfaces to avoid overheating of treated areas of the aircraft. Such equipment generates enough heat to damage them.

Forced Air

Contaminations removal by deicers using compressed air is an effective and compromise method of aircraft de-icing. Forced air flow can be used in accordance with current version of SAE AIR6284 "Forced Air or Forced Air/Fluid Equipment for Removal of Frozen Contaminants" for removal of ice and snow deposits from aircraft surface both with fluid and without.

NOTE: Sprayer nozzle must be held no closer than 1,5 m from aircraft surface. This limitation is related to possible damage of aircraft structure with the composite content. Forced air flow must not be directed on engines, static ports and pitot heads or angle of attack vanes.

Use of forced air for de-icing is especially effective for removal of dry unfrozen snow. Supplied forced air must have nearly the same temperature as the ambient air. If forced air temperature is higher, ice and snow contaminants may melt and create icing of aircraft surface later on. Procedure of removal contaminations from the critical aircraft surfaces by forced air corresponds to the main strategy of de-icing treatment. Steer the flow from the front edge to the rear, move from the upper part to the low positioned part of the surface. The stream should be aimed at an angle which allows to avoid damaging the aircraft by chunks of ice blown out.

Upon completion of the procedure, de-icier operator must perform a tactile check to make sure treated surface is clean and free from any contaminants. If forced air failed to remove all contaminants from the treated surface or there is no certainty that they had been totally removed, treatment with heated fluid is required.

13.16 DEICING/ANTI-ICING QUALITY

All companies providing deicing/anti-icing services shall have a quality program. The purpose of the program is to ensure that deicing/anti-icing of aircraft on the ground is accomplished in accordance with regulatory requirements and guidance, industry standards, and the operator’s program. To verify effectiveness of the deicing/anti-icing of aircraft on the ground, the quality program should include both quality assurance (QA) and quality control (QC) processes and procedures.

Quality Assurance

To meet QA requirements, a company must provide proof it follows the rules and instructions in any specific field correctly, and that it has a proper and efficient QC program. QA is confirmed by auditing. All companies should have a QA program in place. QA programs shall follow the standards published in AS6332.

Before the beginning of every winter season the annual plan of audits shall be prepared based on analysis of winter flights table, previous checks, completed “checklists” and considering new routes together with auditors’ workload.

Any questions and proposals concerning de-/anti-icing procedures for MyFreighter airline shall be sent on an e-mail address: a.shevsov@centrum-air.com.

Quality Control Program

A QC program shall cover all aspects of aircraft ground deicing/anti-icing and shall include, but is not limited to, the following checks:

a. Procedures and instructions are up to date.
b. Responsibilities and tasks are clearly defined and up to date.
c. Communication procedures/protocols are up to date.
d. All personnel are trained and qualified.
e. The quality of deicing/anti-icing fluid from all storage tanks, all equipment tanks, and all spray nozzles are within limits.
f. Correct and safe functioning of deicing/anti-icing spray equipment.
g. Correct and safe functioning of (remote/centralized) deicing/anti-icing facility (if applicable).

h. Reporting methods and reports are up to date.

Quality Control Checks

To ensure the necessary safety margins are maintained in the deicing/anti-icing operation, the fluid used to both deice, and anti-ice aircraft surfaces must meet specification and be at the correct concentration. Factors like pumping, storing, heating, and spraying may cause degradation/contamination of deicing/anti-icing fluids. The quality control checks of the fluid are carried out according to the parameters specified in the current version SAE 6285 standard and the manufacturer's recommendations, which sets the requirements for the control of the fluid. Results of all testing shall be recorded.

13.17 HEALTH AND SAFETY

Operational safety is one of the key factors affecting every employee involved in operations including those involved in de-icing/anti-icing operations.

In the process of personnel training, one should emphasize the hazards arising in the process of de/anti-icing in the aircraft service area, while operating the equipment and the filling station for de/anti-icing fluid, during operations at the airport in general, including the knowledge of the lanes of aircraft traffic on the apron, the hazard of jet engines.

The de-icing vehicle should be checked for proper condition before use. Items such as fire extinguisher, boom emergency lowering, emergency stop buttons, work lights, the chassis in general, fluid filling ports, engine area, manuals, communication equipment, safety gear and fluids (among others) should be in correct condition and available. When filling de-icing vehicles with heated fluids caution should be taken because of high temperatures as the fluid can be up to 82°C (180°F).

The fluid shall have a minimum flash point of 100°C (212°F) and should be used with extreme care when applied in the immediate vicinity of heaters or engine exhausts.

The operation around aircraft can be subjected to many dangerous elements such as noise, jet blast (and suction), turning propellers, moving aircraft, low visibility. The procedure for each situation must be clear and proper training should be received.

Communication is an important part of the procedure (especially during centralized/remote operation) to verify a safe and correct operation. No misleading comments shall be spoken, and unclear issues shall be verified. The airport usually gives out the limitations and requirements of how and where de-icing procedures can be performed. These directions should be considered and any special issues should be noted.

The safety harness should be worn at all times when operating from an open basket. Whenever there is a need to verify the aircraft surface by hand feel or if brushing the surfaces, safety harnesses or equal safety ropes should be used.

CAUTION! Extreme care should be taken when walking on icing and wet aircraft surfaces or parking apron on which de-icing fluid is present. Personnel, when working on aircraft surfaces, must use safety belts.

Do not get deicing/anti-icing fluid in your mouth or eyes, or on your skin. Put on goggles, gloves, and clothing for protection when you use deicing/anti-icing fluid. De-icing/anti-icing fluid is poisonous. It can cause injuries to personnel.

13.17.1 OPEN BASKET OPERATIONS

The following minimum precautions should be taken when deicing from an open basket:

a. Ensure that the fall restraint device is securely anchored, and the safety harness is always worn when deicing from an open basket.
b. Ensure that the basket door or safety chain is securely latched.
c. Caution should be taken to avoid exposure to a running Auxiliary Power Unit (APU).

13.17.2 CLOSED BASKET OPERATIONS

The following minimum precautions should be taken:

a. Ensure the seat belt is always worn.
b. Ensure the windows of the cabin are clean. Check wiper(s) for condition and check window washer fluid level.
c. Ensure the door of the cabin is securely closed.
d. Ensure there are no obstructions to the cabin heater/ventilation system.

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PART 14 EMERGENCY MANAGEMENT

14.1 INCIDENT NOTIFICATIONS AND IMMEDIATE ACTIONS

14.1.1 GENERAL INTRODUCTION

During ground operations, there is a risk of incident, accident or other emergency situations, such as, but not limited to:

1. Fuel and oil spills;
2. Dangerous goods events;
3. GSE collisions/accidents;
4. Situation requiring an aircraft evacuation without passengers;
5. Personnel injuries;
6. Severe weather emergencies;
7. Illicit acts (e.g., security breach).

Depending on the severity and magnitude of the event, the airline and/or airport emergency response procedures might be activated as per airline's Emergency Response Plan MF.SMS3-02.

GOCHD personnel carrying out a supervisory function must be familiar with the emergency response procedures and/or reporting protocol of:

- Airline;
- airport (where applicable);
- regulatory authorities (where applicable).

Most common types of the emergencies:

1. Fuel spill (***refer to GOCHM Section 10.2.2 Part 10)***;
2. Aircraft fire (***refer to GOCHM Section 10.1.4.2 Part 10 and 14.1.2 Part 14***);
3. Dangerous goods incident (***refer to GOCHM Section 7.11 Part 7***);
4. Security incident (***refer to GOCHM Section 15.8***).

14.1.2 IMMEDIATE ACTIONS

In the event of an incident or accident, all frontline personnel shall understand and be familiar with the immediate response, which includes, but is not limited to the following general actions:

a. Stop the activity/process, if applicable to the type of event (e.g., switch off engine/activate emergency stop button).
b. Ensure all passengers and personnel (unless involved in mitigating actions) are moved away from the incident.
c. Immediately notify the relevant parties and any personnel directly involved or impacted by the nature of the incident (e.g., flight crew, OCC, airport authorities, local authorities).
d. Report the event to the supervisor/line manager and emergency services, if deemed necessary, who will then assume responsibility to initiate the local response plan:
    1. Secure the event area.
    2. Ensure compliance with all instructions from emergency services, if applicable.
    3. Report, as required, to the airline management and local authorities and be in constant communication.
    4. Complete incident/accident report(s) as required to collect all relevant information regarding the event.
    5. Support any post-incident investigation, analysis and/or review.

The actions, as documented above, are not in chronological order, which will depend on the nature and severity of the event. Additional actions may require, depending on the situation and as per airline/airport/local authorities' regulations.

14.1.3 ACCIDENTS/INCIDENTS INVOLVING AIRCRAFT, PASSENGERS OR CREW

Emergency response procedures come into effect if an incident or accident occurs with an airline's aircraft, for example, total or partial loss of the aircraft or injury / death of passengers or crew members.

These procedures apply to the ground handling service provider (GSP) at the following stations:

- Departure station.
- Station of (intended) arrival.
- Nearest station (usually the station in the country where the accident/incident occurred, if different from the departure and arrival stations).

INITIAL ALARM MESSAGE

Any GSP informed of an accident or incident involving an aircraft, passengers or airline crew should immediately send an initial emergency message to SITA (or fax/e-mail if SITA is not available) to **Operational Control Center (OCC)**:

SITA: TASOOC6
Phone: +998992071125 (Telegram is available on this number).
Email: occ@centrum-air.com

Message content:

- Flight number;
- Departure airport;
- Actual departure time (UTC);
- Destination airport;
- Aircraft type and registration;
- Passengers on board (PAX+INF);
- Date of incident;
- Time of incident;
- Location of the incident;
- Description of the incident;
- Objects are damaged;
- Name and department of the person sending the message.

NOTE: Do not delay sending a message, even if the part of the reported information is missing. Report as much as you know.

Task card in an emergency

The following is a minimum list of tasks for a Ground Handling Provider on duty. When all tasks are completed, further instructions from the airline must be awaited.

EMERGENCY TASK CARD	
Actions	***Time***
Send initial alarm message.	
Establish telephone contact with the mission control center, confirm receipt of the message.	
Notify local airport/ATC authorities.	
Issue an emergency report.	
Establish a local emergency coordination center and communicate SITA contacts/telephone/fax/e-mail to ATC.	
Restrict access to the Passenger Manifest in the local DCS system.	
Keep a log of all activities	
Inform local authorities about dangerous goods and any special cargo on board.	
If this is the airport of departure or arrival, start searching for all flight documents	
Inform all airlines of the emergency operating at the airport regarding interline transfer passengers on board the aircraft.	
Assign personnel and vacate premises to assist passengers/crew members/greeters and escorts, if necessary.	
Release the premises for use by the airline's field team (upon arrival).	
Redirect all telephone inquiries from the press to the airline's press group.	
Check for the following items:	
– Copy of original alert;	
– Emergency Report Form;	
– List of on-board documents;	
– Incident Log Form;	
– List of local telephones;	
– Airport/city map.	
Name:	
Department:	
Signature:	

Further actions shall be completed in accordance with emergency task cards described in ***MF.SMS3-02 Emergency Response Plan***.

Retention of records of accidents and incidents associated with aircraft ground handling operations is performed as per Ch.4 of ***Safety Management Manual MF-SMS2-01.***

14.2 EMERGENCY EVACUATION

In the event of an emergency during ground handling, it may be necessary to evacuate passengers and aircraft personnel. The safety of passengers and staff in such circumstances is paramount. The decision and method of evacuation depends on the circumstances and is at the discretion of the aircraft commander or authorized person.

It is the responsibility of each ground handling company involved in aircraft handling and servicing to ensure that personnel are familiar with their specific responsibilities in the event of an emergency. All ground handling companies must instruct and train their personnel in the procedures to be followed in an emergency. Procedures should clearly allocate responsibility for directing passengers and personnel to a safe muster location according to the type of emergency and the conditions at the time.

14.2.1 EMERGENCY EVACUATION ACTIONS ON GROUND (NO CREW PRESENT)

Emergency evacuation of aircraft by ground personnel may be required when there is no aircrew on board. The following guidelines are provided:

- Procedures should be established and implemented for aircraft emergency evacuation situations. The procedures should be written in conjunction with and complement existing building evacuation procedures as appropriate.
- These procedures would apply only when aircrew are not on board the aircraft and apply to ground personnel such as engineering, cleaning, catering, ramp etc.
- A designated person “in charge” (supervisor etc.) on board the aircraft would take charge of the emergency, co-ordinate the evacuation and direct personnel to the assembly point.
- Different methods of evacuation from the aircraft should be included in the procedures, e.g. mobile stairs, loading bridge etc.
- Means of communicating the evacuation should also be considered (radios, audible warnings).
- Effective communication is vital to a safe evacuation.
- Staff should be trained in the evacuation procedures including periodic evacuation drills/practices.

14.2.2 EMERGENCY EVACUATION ACTIONS ON GROUND (CREW ON BOARD)

When any necessitate of evacuation of passengers from aircraft or buildings, personnel of ground handling agents shall apply the emergency procedures of local airport authorities.

Procedures of passengers evacuation are established in ***MF.FLT2-01 Flight Operations Manual, Part B-1, Chapter 2*** and is responsibility of the cabin crew. When passengers are evacuated from aircraft, ground-handling service provider personnel shall take all necessary actions for safety and security of passengers and crew on the ground.

14.3 MANDATORY REPORTING OF ACCIDENT OR SERIOUS INCIDENT

The occurrence of an accident or serious incident is an emergency.

An emergency report form shall be filled out and all personnel involved in the emergency coordination center are informed. An emergency report must be provided at the request of the airline and local airport/ATC/police/rescue services.

It shall not be distributed to passengers, the press, or others outside the company without the permission of the General Director.

In the event of an accident or serious incident, ***refer to Section 14.1.3 Part 14*** for reporting.

Ground handling agents at the airport of departure and at the airport of arrival must obtain the following documents related to the flight: Loadsheet, LIR, NOTOC, Passenger Manifest, PNL.

Below documents shall be retained in the airline's HQ office in order to be provided to the authorized parties in the course of the investigation:

NO.	DESCRIPTION OF DOCUMENTS
1.	W&B documents
2.	LIR
3.	Refueling order/receipt
4.	Order for de-icing/anti-icing treatment
5.	Notice to the captain (NOTOC)
6.	Incoming and/or outgoing download message (LDM)
7.	Passenger manifest
8.	Passenger ticket coupons and boarding passes collected at the boarding gate
9.	Shipping documents (air waybill and manifests)
10.	Mail documents (AV7 or other mail documents)
11	Weather
12.	Company flight plan / NOTAM (if available)
13.	Air traffic services plan
14.	Crew list and crew briefing materials (if available)
15.	Logbook extracts (if available)
16.	Copies of all telexes sent and received related to the flight
17.	Other Important Documents

NOTE: The passenger manifest must not be made available to the press and mass media or to others outside the company unless authorized by the airline. However, it can be handed over to local police and rescue services upon request.

All flight documents must be kept for at least 3 months. Longer periods may be required by local laws or regulations.

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PART 15 AVIATION SECURITY PROCEDURES

It is the responsibility of airline's Aviation Security Department to ensure aviation security procedures are in place throughout the rout network.

All airline employees shall know and apply aviation security procedures relevant to their duties.

15.1 SECURING AN AIRCRAFT DURING OVERNIGHT OR LAYOVER PARKING

Procedures of securing an aircraft during overnight or layover parking are performed by the contracted local airport security services. At stations, where applicable agreement is not in place, it is the responsibility of a flight crew and/or maintenance personnel to ensure the following:

a. Aircraft is searched prior to parking to ensure no persons are on board;
b. Aircraft is parked in the secured areas within an airport operating area;
c. Aircraft is parked under conditions that permit maximum security and protection;
d. Doors or panels giving access to the aircraft are closed and locked or sealed and steps are removed while parked;
e. Doors or panels giving access to the aircraft are locked or sealed if the aircraft is accessible from the ground or passenger boarding bridge.

Aircraft search and sealing procedures as well as other procedures relevant to securing an aircraft during overnight or layover parking are contained in MF.SEC2-01 (Aviation Security Program) and MF.SEC3-03 (Aircraft overnight and layover parking security procedures).

Security of Aircraft Used in Cargo Operation

All cargo, courier mail, express parcel and mail intended for loading on airline's aircraft, whether passenger or all cargo, shall be subjected to security controls in accordance with the requirements of the CAA of the Uzbek Republic and/or the destination of the affected cargo as applicable.

As a minimum, the cargo security controls outlined in this Chapter shall be applied:

a. Where cargo operations are handled by a ground handling agent, the GHA shall be responsible in ensuring that security controls are implemented in accordance with applicable programs.
b. Before cargo loading begins, an Aircraft Security Check (visual) shall be conducted to ensure that no prohibited items are in the aircraft. The aircraft cargo hold area must be searched by crew and/or ground staff for any left behind cargo and/or suspicious, restricted, threat items before cargo loading commences.
c. Access to the aircraft shall be controlled and maintained after it has been searched to maintain the integrity of the security system.
d. Aircraft servicing personnel, cargo attendants and other supernumeraries, and their equipment and accessible items shall be subjected to screening or other appropriate security controls prior to boarding the aircraft.

15.2 SECURITY CHECK AND SECURITY SEARCH OF AN AIRCRAFT

Aviation security check and aviation security search is performed by the cabin crew (on passenger flights) or flight crew (on cargo flights) according to the requirements and procedures described in MF.SEC2-01 (Aviation Security Program).

Security check include:

a. Inspection of the exterior of the aircraft (special attention shall be paid to the wheel bays and technical areas);
b. Comprehensive inspection of the interior of the aircraft, including the passenger cabin area, seats, overhead luggage lockers, toilets, galleys, technical areas and all other areas of an aircraft that are easily accessible without tools. Seals can be used to ensure the integrity has not been compromised.

Security search is a thorough in-depth inspection of the interior and exterior of the aircraft. Aircraft security search checklist is established internally and conducted by cabin crew and flight crew. When the

search is performed, completed checklist shall be verified by the person responsible for conducting the inspection and retained in the flight operations department.

To ensure the effectiveness of the aircraft security search and check, it shall be performed in the presence of qualified person (engineer having an appropriate type rating for AC) in a good lighting conditions or personnel performing such activities are provided with lighting sufficient for the purpose.

Aircraft access control is typically imposed prior the commencing a search, and the search is conducted with a minimum number of persons on board to ensure devices are not introduced to the aircraft once it has been cleared. Control of access is typically maintained until the aircraft doors are closed prior to flight departure.

15.3 SECURITY PROCEDURES RELATED TO CARGO

15.3.1 GENERAL PROVISIONS

Cargo transported on any company's flight shall be protected from unauthorized interference from the point of acceptance after screening or security controls have been applied until arrival at the airport of destination.

Not a single piece of crew baggage, cargo, mail is allowed to be loaded on board the departing aircraft without applying security controls (screening).

Responsible personnel of the Airline or its contracted service provider must:

a. stay near the cargo compartments of the aircraft from the moment they are opened;
b. upon arrival of cargo, before loading it, it is necessary to check the passes (IDs) of employees of the airport cargo unit (pay attention to checking the identity with the photo on the pass and check the validity of the pass and the availability of the access zone);
c. confirm the number of pieces of cargo indicated in the airwaybill;
d. when loading cargo, pay attention to the stickers indicating that security measures (screening) were applied) on each item (unless another method of authorizing cargo for transportation is provided at the airport). If during control it is discovered that there is no sticker on any piece of cargo, the operator is obliged to stop loading cargo, demand that the item to be removed, and report the fact to the PIC. The pilot-in-command is obliged to demand from the airport security service to re-inspect the removed item;
e. after loading the cargo, supervise the closure of the cargo compartments doors.

Aircraft operator or regulated agent should verify that a consignor tendering a cargo shipment for air transport is:

- either a known consignor;
- or perform 100% screening of the cargo before loading it to an aircraft.

IATA IMP-code identification can be utilized to provide information about cargo security status. The coded identification of the security status indicates whether the consignment is secure for:

— passenger, all-cargo and all-mail aircraft ("SPX")
— all-cargo and all-mail aircraft only ("SCO")
— passenger, all-cargo and all-mail aircraft, in accordance with high-risk requirements ("SHR")
— not secured yet ("NSC"). NSC cargo is forbidden for transportation until proper security measures are applied.

15.3.2 AIR CARGO SECURE SUPPLY CHAIN

The air cargo secure supply chain is a set of interconnected security procedures that are applied to a cargo consignment to maintain the integrity of such a consignment from the point where screening or other security controls are applied until it arrives at its last airport of arrival, including through transit and/or transfer points.

The air carrier is only one component of the system that will bring the consignment from the shipper to the consignee. It is therefore important, in order to ensure that each consignment is properly secured, that security controls be implemented throughout the supply chain. Therefore, security controls need to be in place to ensure similar and harmonized security in a manner that does not impede the flow of cargo and does not reduce or eliminate the inherent speed of air cargo.

Known shippers/consignors, regulated agents and air carriers are the three key parties for a supply chain security system. Known shippers/consignors, regulated agents and air carriers as appropriate depending on the nature of the supply chain are the minimum required in an air cargo supply chain security system. Ideally, other freight methods such as trucking, maritime and rail cargo could be integrated. However, until security controls of these methods of transport can be harmonized at a level equal to or superior to the air cargo supply chain, when consignments are transferred from one of these modes of transport to the air cargo they must be treated as unknown and be subjected to the appropriate security controls as required by the applicable state. Trucking carried out under the direction of accredited supply chain entities can be considered secure if the cargo is protected from unauthorized interference at all times.

15.3.3 CONSIGNMENT SECURITY DECLARATION

Cargo security declarations is an important part in ensuring that secure cargo and mail remain uncompromised throughout the secure supply chain by providing an unbroken and verifiable trail of accountable entities.

Cargo security declaration must at least contain the following information:

a) the identification data of the registered agent, consignor, known consignor or other entity sending the cargo;
b) individual reference data, for example, air waybill number, internal waybill number or tracking number;
c) contents of the consignment and / or information about the consolidation, if any;
d) point of departure of the shipment;
e) point of destination of the shipment;
f) the security status of the consignment, indicating whether it can be transported on:
   - cargo, all cargo and all mail aircraft (SPX status);
   - only on purely cargo and purely mail aircraft (SCO status); or
   - passenger, all cargo and all mail aircraft in accordance with the requirements applicable to high-risk cargo or mail (SHR status);
g) the reason for the assignment of the security status, indicating that this consignment:
   - received from an approved known shipper;
   - received from the consignor-client;
   - screened using appropriate screening techniques (to be specified); or
   - released from inspection (must indicate the reason for the release);
h) a statement that, to the best of the entity's knowledge, the contents of the consignment do not pose a danger to carriage on a passenger or purely cargo aircraft;
i) a statement that the given consignment was protected and was not exposed to unauthorized opening while it was in the jurisdiction of the given entity;
j) signature of a staff member who has undergone proper training and is authorized to draw up a declaration, or another method of authentication, if electronic transmission is used; and
k) warning that a false declaration will lead to criminal prosecution, if permitted by law.

If no security status is indicated, or no consignment security declaration is issued, it should be deemed that no security controls have been previously applied.

15.3.4 REGULATED AGENTS

Regulated agent status should provide assurance to aircraft operators regarding the standard of security controls applied to cargo and mail consignments received from a regulated agent.

A regulated agent is an entity such as a freight forwarder that conducts business with an aircraft operator and provides security controls that are accepted or required by the appropriate authority in respect of air cargo and/or mail.

15.3.4.1 REQUIREMENTS TO REGULATED AGENTS

Any entity applying for a regulated agent designation should complete an application form approved by the appropriate authority, and the form should be signed by an accountable senior manager of the entity.

The appropriate authority, prior to issuing a regulated agent designation to an applicant, should conduct an inspection of the applicant's facilities or premises to validate the information provided on the application form, and the policy, procedures and measures contained in the applicant's regulated agent security program.

Each approved regulated agent should be issued a unique reference number, and the number issued to one regulated agent should not be issued to another.

A regulated agent should be required to:

a) establish and register the identity of con-signors and establish the credentials of the person who delivers the consignment as an agent of the consignor;
b) ensure that the consignor provides a full description of the consignment contents;
c) ensure that consignments are safeguarded after reception, and that access to the cargo is controlled;
d) ensure that the reception, processing and handling of cargo are carried out by properly recruited and trained staff;
e) designate one or more persons as responsible for the implementation, application and super-vision of required security controls; and
f) ensure that each consignment tendered to an aircraft operator or a regulated agent is ac-companied by documentation, either on the air waybill or a separate declaration, providing the following information:
    - name, address and contractor details of regulated agent;
    - name and address of consignor;
    - contents of the consignment; and
    - Cargo Security Declaration.

15.3.4.2 CARGO ACCEPTANCE

When accepting consignments to which security controls have been applied, the regulated agent should:

a) establish the identity and the address of the consignor or regulated agent;
b) establish that the person delivering the consignments is delivering them on behalf of the consignor or regulated agent; and
c) establish the identity of the person delivering the consignments.

The person delivering the consignments should present an identity card, containing a photograph of the person, which has been issued by or on behalf of the national authorities. The card should be used to verify the holder's identity.

These requirements should apply whenever security controls have been applied by a known consignor, account consignor or another regulated agent, regardless whether the consignments are consolidated or not.

15.3.4.3 SECURITY CONTROLS AND SCREENING

Regulated agents should screen all air cargo and mail unless it has been verified that:

a) the required security controls have been applied by a regulated agent, and the consignment has been protected from unauthorized interference from the time those security controls were applied until

acceptance for onward transport by air;

b) the required security controls have been applied by a known consignor, and the consignment has been protected from unauthorized interference from the time those security controls were applied until acceptance for onward transport by air;
c) appropriate security controls have been applied by an account consignor, and the consignment has been protected from unauthorized interference from the time those security controls were applied until acceptance for onward transport by air, and the consignment is not carried on passenger aircraft; or
d) the consignment is exempt from screening and has been protected from unauthorized interference from the time it was identified as air cargo or mail until acceptance for onward transport by air.

When screening air cargo or mail, regulated agents should use a means or method likely to detect IEDs, taking into consideration the nature of each consignment.

15.3.4.4 DOCUMENTS

After the security controls have been applied, the regulated agent should ensure that any consignment tendered to an air carrier or another regulated agent is accompanied by documentation, either on the air waybill or on a separate declaration, providing the following information:

a) the name and address, or the unique identifier received from the appropriate authority, of the regulated agent;
b) the unique transaction identifier of the consignment;
c) the contents of the consignment; and
d) the security status of the consignment.

15.3.4.5 STORAGE

The following measures should be implemented by regulated agents when securing consignments designated as air cargo or mail to be carried on a commercial aircraft:

a) air cargo and mail should be packed and/or sealed using methods that will easily indicate any signs of tampering;
b) air cargo and mail should be stored in an area that is inaccessible by unauthorized persons and be protected until delivered to another regulated agent or an aircraft operator, in accordance with the regulated agent security program’s access control measures;
c) air cargo and mail should be stored in a way that ensures that secured and unsecured cargo are not mixed (e.g. different storage areas, labelling); and
d) air cargo and mail remain secure until they are transferred to another regulated agent or an aircraft operator in order to maintain the integrity of such consignments and prevent the introduction of prohibited articles in consignments.

15.3.4.6 TRANSPORTATION

Regulated agents should ensure that all vehicles used in the transport of air cargo or mail, whether their own or a contractor’s, are secured against unauthorized interference at all times, using tamper evident seals or other appropriate methods.

15.3.5 KNOWN CONSIGNORS (SHIPPERS)

A known consignor is a consignor who originates cargo and/or mail for its own account and whose procedures meet common security rules and standards set by the appropriate authority sufficient to allow the carriage of cargo or mail on any aircraft.

The purpose of the known consignor concept is to place the emphasis for the practical implementation of security controls on the actual shipper or originator of the goods and to ensure the security of air cargo and mail as they move throughout the supply chain. This requires goods to be produced, packaged, stored, transported and handled in a manner that ensures their integrity and protects them from unauthorized interference from the point of origin and throughout the secure supply chain.

15.3.5.1 REQUIREMENTS TO KNOWN CONSIGNORS

Known Consignors should ensure that:

a) facilities are protected against unauthorized access, which may include use of physical barriers such as fences or gates, and that appropriate access control procedures are in place, with emphasis on areas or facilities where air cargo or mail is processed;
b) areas or facilities where items or products are assembled or packaged for transport by air are supervised by suitably trained staff to prevent unauthorized articles or substances from being introduced at this stage;
c) consignments designated as air cargo or mail are stored in an area that is inaccessible to unauthorized persons and protected until delivered to a regulated agent or aircraft operator; and
d) access to areas where consignments are dispatched are controlled, and procedures are implemented to ensure that only authorized persons and vehicles access such areas.

15.3.5.2 TRANSPORTATION

The consignor should provide the regulated agent or aircraft operator with details concerning the method of transport of consignments designated as air cargo or mail, and the security measures applied to such transport to protect the consignment against unauthorized access until delivery and acceptance by a regulated agent or aircraft operator.

15.3.6 CARGO AND MAIL SCREENING

Screening of cargo and mail for transport by air may be conducted using threat detection techniques and threat activation techniques through the use of approved technologies or physical search procedures.

Screening should apply to cargo and mail:

a) received by a regulated agent or aircraft operator from an entity which is not registered as a regulated agent, known consignor;
b) received by a regulated agent or aircraft operator and originating from a known consignor or account consignor but which was thereafter handled by an entity not registered as a regulated agent or known consignor; or
c) that passed out of the custody of a regulated agent, known consignor, or its authorized agent, or an aircraft operator;
d) consignments of secure cargo or mail which show signs of tampering, or that were not protected from unauthorized access, or for which there is a reasonable suspicion of unauthorized access;
e) high-risk cargo;
f) consignments on specific flights upon request by the aircraft operator;
g) random shipments, if a State requires that a certain percentage of secure cargo or mail undergo inspection.

15.3.7 GROUND TRANSPORT OF CARGO AND MAIL

To ensure the integrity of the secure supply chain, cargo and mail that have been subjected to appropriate security controls should be transported only by:

a) vehicles operated by a regulated agent, known consignor, account consignor or aircraft operator; or
b) providers of ground transport whose operating procedures and security measures have been approved in writing by a regulated agent or aircraft operator, or the appropriate authority.

When a cargo consignment is transported to an aircraft or its next storage point, it should be checked by an appointed, trained staff member to ensure that it has not been interfered with in any obvious way. The integrity of cargo coming from unsecured areas should be checked, including the seal controls, before it enters a security restricted area.

15.3.8 ACCEPTANCE PROCEDURES

Cargo or mail shall only be accepted from a known consignor, account consignor or regulated agent under the following conditions:

a) the consignment is delivered by an established employee or authorized representative of the regulated agent or known consignor;
b) the known consignor or regulated agent has provided a consignment security declaration certifying that the cargo has been cleared in accordance with its security program
c) when delivery of cargo is made or arranged by the known consignor or regulated agent, the employee receiving the cargo for shipment verifies that the consignment is being delivered by the person identified on the consignment security declaration or other accompanying documentation;
d) there is no sign of tampering with the consignment (taking into account normal wear and tear when moving cargo);
e) the consignment was protected from unauthorized interference throughout the chain of custody since the point that cargo gained its secured status.

If the consignment cannot be identified as having the application of screening or other security controls confirmed or accounted for by a regulated agent or an entity approved by the relevant authority (unknown cargo), **such cargo shall be screened and/or other security controls shall be applied as accepted by the applicable state**.

Once the cargo or mail has been accepted, the following shall be ensured by the airline service provider:

a) ensure that there is no sign of tampering until it is placed on the aircraft (e.g. signs of tampering may have been missed upon acceptance, or tampering could have occurred after the consignment was accepted);
b) determine the appropriate security controls to be applied to any given consignment;
c) carry out appropriate security controls to the required level and record the details of the security controls applied;
d) protect the consignment from unauthorized interference while it is in the aircraft operator’s custody;
e) ensure that all consignments have been appropriately secured before being loaded onto an aircraft;
f) ensure that all consignments placed on board an aircraft are recorded on the cargo manifest; and
g) issue appropriate security documentation or electronic records for the consignment.

If there are any suspicions that that the carriage of a consignment may compromise the safety and/or security of the aircraft, the transport of such a consignment shall be refused.

15.3.9 TREATMENT OF SUSPECT CARGO AND MAIL

Any suspicion raised by a cargo or mail consignment should be resolved before it is transported for carriage by air. A suspect cargo or mail consignment should:

a) be treated as unsecure cargo or mail and subjected to appropriate security controls, including screening; and
b) be transported by an aircraft operator only if it can be confirmed that the consignment is secure because it does not contain any prohibited articles.

If security controls detect a suspicious item in a consignment, it is important that:

a) staff members do not touch the suspicious item and immediately contact their supervisor to assist in confirming suspicion; and
b) if a suspicion is confirmed, staff members follow the emergency procedures established by their organization for the handling of such events, which may include the following:
    1. the relevant security, law enforcement and/or Explosive Ordnance Disposal (EOD)

organizations are contacted, as appropriate;
2. the suspicious item, and the consignment in which it is contained, are handled by EOD personnel only; and
3. evacuation and contingency plans are implemented, in coordination with security, law enforcement and emergency services officials.

15.3.10 TRANSFER AND TRANSIT CARGO AND MAIL

Transfer cargo is a subject to appropriate security controls in accordance with requirements of the relevant State authority before being transported on an international flight.

Transfer and transit cargo and mail, which have not been subjected to continuous security controls from the point of departure or en-route, shall be treated as unsecure cargo and is subjected to appropriate security controls.

Transit cargo arriving by air need not have the security controls provided that it is protected against unauthorized interference at transit stations.

15.3.11 ACCESS CONTROL TO CARGO FACILITIES (STORAGE AREAS, TERMINALS)

General provisions:

a. Security measures shall be implemented in any cargo terminal in accordance with standards and with requirements established under the appropriate civil aviation security program, GOCHM and the MyFreighter Aviation Security Program.
b. Procedures shall be in place for persons and vehicles with access to security restricted areas in or around any cargo terminal to be subjected to appropriate security controls.
c. Cargo terminals utilized shall be equipped with dedicated and specifically configured storage facilities and be appropriate for special cargo.
d. Cargo, courier material, express parcel and mail (revenue/non-revenue) that are moved about or stored at the airport shall be guarded or monitored by relevant staff to ensure that they remain inaccessible from unauthorized interference.
e. Consignments previously subjected to security controls at an acceptable airport may not have to be re-screened when the consignments have been protected against unlawful interference since those controls were implemented, subject to the acceptance of the screening authorities at point of transit and destination.
f. Where regulated agents' programs exist, all consignments accepted from persons other than known shippers or regulated agents for carriage on MyFreighter flights requires 100% security control measures to be implemented to both regulated agents and known shippers.

With a view of protecting the facilities where the handling of cargo is carried out, as minimum, the following access control measures shall be introduced:

a. Access to cargo areas shall be security controlled.
b. Each access point to the air cargo handling area shall be clearly provided with signage, indicating that access is restricted only to authorized persons.
c. Only persons nominated to work in the cargo areas shall prepare air cargo.
d. All cargo staff and contracted personnel working in cargo areas shall display valid Airport identification (ID) cards issued by the relevant issuing authority.
e. Airport ID cards shall be checked ensuring that the ID is valid, and the photograph matches the person.
f. Employee ID cards shall be surrendered to the issuing authority whenever an employee is terminated or suspended. Lost ID shall be reported to the issuing authority immediately.
g. Visitors with legitimate requirement to access secured landside areas where air cargo is sorted or handled by the airline or its agents shall display a visitor's pass issued by the airline or the handling agent as appropriate. Details of visitors and passes issued are to be entered in a register and maintained for a minimum of six months.

h. Physical measures must be used as appropriate to prevent and deter unauthorized access and criminal activities to cargo premises, baggage and mail holding areas, as well to protect any other material that is moved about or stored on the airport and is intended for carriage on the aircraft. Such measures may include guard-posts, barriers (fences, walls and gates) locking mechanisms, security signage and lighting and Closed-Circuit Television (CCTV).

i. All persons shall strictly observe the requirements for access of vehicles by the airport authorities. This will include vehicle inspection, vehicle sticker, rotating beacon light, etc. Vehicles and persons are allowed to access into security restricted area or controlled area provided they display either a valid security restricted area pass or an airport security permit valid for the controlled area for which access is required.

15.4 SECURITY OF HOLD BAGGAGE

All checked baggage loaded on international or domestic flights is:

a) Subject to screening in order to detect explosives and explosive devices prior to being loaded into an aircraft;

b) Shall be protected from unauthorized interference from the moment of acceptance until loading on board an aircraft.

Depending on the state of departure and local airport aviation security regulations, the following methods or a combination of methods can be used to ensure its compliance to the aviation security requirements:

a) manual searches;

b) conventional X-ray:
   i. single view; and
   ii. multi view;

c) algorithm-based X-ray:
   i. single view;
   ii. multi view;
   iii. computed tomography; and
   iv. diffraction;

d) neutron scanners;

e) metal detection;

f) explosives trace detection:
   i. particles; and
   ii. vapour; and

g) canine (explosives detection dogs).

To ensure effective baggage attribution procedures, the persons carried must comply with the following categories:

a) Departing passengers. Particular attention should be paid to passengers waiting for available seats and other passengers receiving seats immediately prior to departure to ensure proper and clear identification of passengers' baggage; situations where a passenger is removed voluntarily or inadvertently from a flight prior to pushback of the aircraft shall also be taken into account.

b) Transfer (or connecting flight) passengers. The baggage of a transfer passenger carried in the cargo compartment is loaded only if this passenger has checked in and boarded the flight, and the baggage belonging to the passenger has been established. In conditions of increased threat levels, it is envisaged that the passenger will physically identify his or her baggage before transportation. All transfer hold baggage is subject to screening prior being loaded to AC.

c) Transit passengers disembarking. If passengers disembark before arriving at their final destination, the baggage (and hand luggage) carried in the cargo hold is removed from the aircraft. Whenever transit passengers are allowed to remain on board the aircraft during the transit stop, such passengers shall positively identify their belongings while the security check/search is performed by placing

them on their laps or by any other means considered sufficient by the cabin crew. Any articles found on board the aircraft during the security check/search in transit are considered suspicious and shall be removed from the aircraft immediately.

d) Crew members. If crew members check in baggage at the airport check-in counter, the same procedures as for departing passengers apply (a special "Crew Member" tag is attached).

In the event that flight and cabin crew members independently deliver their baggage to the aircraft, such baggage is checked by the airport aviation security services in accordance with the General Declaration.

Only secured hold baggage is allowed on board the aircrafts. The following shall be strictly observed:

a) each item of hold baggage is identified as accompanied or unaccompanied;
b) during the boarding process, a passenger presents a valid boarding pass or equivalent corresponding to the hold baggage that was checked-in;
c) hold baggage of passengers who did not board or left the aircraft before departure is identified and removed from the aircraft.

If the passenger is not on board the aircraft, the hold baggage corresponding to his boarding pass or equivalent shall be considered as unaccompanied.

Unaccompanied hold baggage shall not be transported, unless that baggage has been either separated due to factors beyond the passenger's control or subjected to appropriate security controls.

Airline aviation security staff or staff of aviation security providers shall ensure that each item of unaccompanied hold baggage is clearly identifiable as authorized for transport by air. The reason that the baggage became unaccompanied shall be recorded before it is loaded onto an aircraft, unless it is screened.

Hold baggage that becomes unaccompanied baggage due to factors other than those factors beyond the passenger's control shall be removed from the aircraft and rescreened before loading it again.

For the purpose of the transport of unaccompanied hold baggage, the following may be considered as factors beyond the passengers' control:

1. the passenger was denied boarding and he did not volunteer to give up his seat; or
2. the passenger and/or his/her baggage was re-routed onto another flight and it was not at his request; or
3. the baggage failed to transfer between two flights due to unforeseen reasons, causing it to miss the departing flight; or
4. there was a malfunction of the baggage system, causing the baggage to miss the departing flight; or
5. the baggage was loaded onto an aircraft other than that for which it was checked in;
6. the airline decides not to load or unload a bag for operational reasons and the passenger has not influenced the decision by changing his travel itinerary.

In the case of points 3) – 6), it shall be ensured that the passenger did travel on the flight on which he/she was checked in. If the passenger did not travel on the flight on which he/she was checked in, then the baggage shall be subjected to the appropriate security controls for unaccompanied hold baggage.

The crews, airline staff and other persons are inspected before boarding the aircraft in accordance with the procedure established for passengers. All items carried by these persons are inspected and studied in accordance with the procedure for passengers established by airline's Aviation Security Program.

Protection of Hold Baggage

Airline aviation security staff or appointed ground handling agent is responsible for protecting screened departing hold baggage intended to be carried on an aircraft from the point at which it is screened or accepted, until the departure of the aircraft on which it is to be carried. Hold baggage intended to be carried on an aircraft shall be protected from unauthorized interference from the point at which it is screened or accepted until the departure of the aircraft on which it is to be carried.

Passengers shall not be allowed to access the screened hold baggage, unless it is their own baggage and they are supervised to ensure that:

1. no prohibited items are introduced into the hold baggage; or
2. no prohibited items are removed from the hold baggage and introduced into the security restricted

areas or on board an aircraft.

Hold baggage that has not been protected from unauthorized interference shall be rescreened.

Transfer Hold Baggage Screening and Hand Searching

Airline aviation security staff or staff of aviation security providers (where applicable) ensure that any transfer hold baggage for a domestic or international passenger flight:

a. is subjected to screening prior being loaded into an aircraft; or
b. has been screened at the point of origin and subsequently protected from unauthorized interference from the point of screening at the originating airport to the departing aircraft at the transfer airport.

15.5 SECURITY OF MISHANDLED BAGGAGE

Any checked baggage that has been involuntarily or inadvertently separated from passengers or crew members is considered mishandled baggage.

Security measures shall be observed in all airports to prevent Mishandled Baggage:

a. Hold baggage shall be accepted only from ticketed passengers and only by responsible agents or authorized service providers of the aircraft operator;
b. A baggage once accepted by the airline shall be protected from unauthorized access until the time the baggage is returned to the passenger at the destination or transferred to another operator;
c. Access to baggage handling areas and baggage transfer points shall be restricted to authorized personnel only;
d. Any security personnel of the airline, or airport authorities/managers may challenge unauthorized persons and deny access;
e. Baggage handler/loader transporting baggage to and from the aircraft shall be cautious in preventing unauthorized baggage from being placed on conveyor belts, carts or vehicles, and ensuring that loaded baggage carts are not left unattended in areas accessible to the public.

Guidelines in case of Mishandled Baggage:

a. Storage area for mishandled baggage shall be established in all airport terminals to ensure secured storage of mishandled baggage until forwarded, claimed or disposed in accordance with local laws;
b. Airline service providers designate appropriate storage area and establish a filing system top expedite claim by its rightful owners;
c. The airline shall be duly notified and informed by their respective handler/loader or security personnel of any incident of mishandled baggage for appropriate action or possible passenger and baggage reconciliation;
d. All mishandled baggage shall be subjected to security screening prior storage. Explosive Detection System and/or Explosive Detection Dog shall be used for suspicious baggage. In case of discovery of explosive, such shall be reported to the airline and local authorities for appropriate action.

15.6 SECURITY OF CATERING AND AIRCRAFT CLEANING SUPPLIES

15.6.1 GENERAL REQUIREMENTS

The purpose of the security measures applied in relation to catering, related equipment and flight supplies, as well as the organization engaged in cleaning an aircraft, is to prevent any items hidden among them from being carried onto the aircraft, which can be used to perform the act of illegal interference.

Security measures should be implemented by aircraft catering and cleaning service providers to prevent the introduction of weapons, explosives or other restricted articles on board an aircraft through catering and cleaning stores and supplies.

Organizations that provide onboard catering, supplies, as well as those involved in cleaning aircrafts, develop and coordinate with the civil aviation authority aviation security programs.

To ensure security of the process itself and the buildings used for the preparation and storage of catering and related equipment, as well as flight supplies, appropriate control measures are taken, detailed in the aviation security program of the entity.

At base airport responsibility for security screening of catering and related equipment, as well as flight supplies lies with the airport.

Catering and flight supplies providers appoint a security manager who is responsible for the implementation and control of aviation security measures in the company, who has undergone appropriate training and certification.

All catering and cleaning staff with access to security restricted areas of an airport should be subjected to background checks and should hold a valid identification permit.

Catering staff engaged in security duties, especially those with access to security restricted areas, staff engaged in the preparation and delivery of catering stores and supplies, and aircraft cleaning staff should be provided with appropriate security awareness training so that they understand their security related responsibilities. Such training should be completed before being permitted unescorted access to stores and supplies and to aircraft.

15.6.2 REQUIREMENTS TO PREMISES

The premises used for preparing and storing aircraft catering or cleaning supplies intended for carriage on board an aircraft should be secured at all times against unauthorized access. Such security may be achieved by implementing appropriate access control measures and procedures, which may include a permit identification system and/or electronic card access.

If an aircraft catering or cleaning establishment is located within a security restricted area, all airside security requirements should be met. If the establishment is located outside the airport perimeter, supplies should be transported to aircraft in locked or sealed vehicles just after security measures has been applied.

15.6.3 REQUIREMENTS TO TRANSPORTATION

Security of catering and cleaning stores and supplies should be maintained during transfer from a company’s premises to aircraft.

If seals are used to secure carts and vehicles used for storing and transporting stores and supplies intended for carriage on an aircraft, aircraft catering and cleaning service providers should only use seals that are tamper-evident and numbered. In order to prevent any unauthorized use of such seals, proper stock control and auditing procedures should be instituted.

If any doubt arises regarding potential misuse of the seals or if the integrity of the seal stock is compromised, the catering company should proceed to remove all seals used on catering carts and vehicles intended for transport on an aircraft, and thoroughly search the catering carts and vehicles from which seals have been removed.

Cleaning company vehicles should be checked by drivers for any signs of tampering if they have been left unattended.

Drivers should notify the aircraft operator of any evidence of interference, and all cleaning supplies to be taken on board an aircraft should be checked to ensure that no dangerous devices, articles or substances are concealed in such supplies.

15.6.4 ACCEPTANCE BY THE AIRLINE

When accepting catering, supplies or accessories on board the aircraft, the PIC appoints a responsible crew member (flight engineer, loadmaster) to monitor aviation security measures applied in relation to the received catering, supplies or accessories.

Not a single item of on-board supplies, accessories, technical means, special shipments of the carrier and on-board catering may be placed on board a departing aircraft without reliable evidence of security controls been applied. When accepting catering on board the aircraft, the company that prepares and delivers it is obliged to present a security declaration for the loaded batch of in-flight catering and supplies. The crew member responsible for the acceptance of catering is obliged to make sure that there is a security

declaration, to verify the numbers of the seals applied to the seals with the numbers indicated in the accompanying documents. The accompanying documents must contain a mark about the control for security purposes (usually such a mark is put in the security declaration), or a sticker indicating the security inspection of the catering trollers.

In the absence of seals, or a sticker, a declaration, a mark in the accompanying documentation on control for the security purposes of catering, such catering shall not be accepted on the aircraft. In this case, it is necessary to notify the airport's security and demand to re-apply security measures in order to ensure security of catering and supplies.

Any consignment of catering stores or supplies showing evidence of unauthorized interference should be regarded as unsecure and be removed from the aircraft. All irregularities should be immediately reported to the crew. Crew must report to airport security and company management.

15.7 LIST OF ITEMS PROHIBITED IN SECURITY RESTRICTED AREAS

The following articles are prohibited in the cabin of an aircraft and in security restricted areas for security reasons:

a. guns, firearms and other devices that discharge projectiles designed to cause serious injury by discharging a projectile, or capable of being mistaken for such devices, including:
    1. firearms of all types, including pistols, revolvers, rifles and shotguns;
    2. toy guns, replicas and imitation firearms capable of being mistaken for real weapons;
    3. component parts of firearms, excluding telescopic sights;
    4. compressed air and carbon dioxide guns, including pistols, pellet guns, rifles and ball bearing guns;
    5. signal flare pistols and starter pistols;
    6. bows, crossbows and arrows;
    7. harpoon guns and spear guns; and
    8. slingshots and catapults;
b. stunning devices designed specifically to stun or immobilize, including:
    1. devices for shocking, such as stun guns and stun batons;
    2. animal stunners and animal killers; and
    3. disabling and incapacitating chemicals, gases and sprays, such as mace, pepper or capsicum sprays, acid sprays, animal repellent sprays, and tear gas;
c. objects with sharp points or sharp edges capable of being used to cause serious injury, including:
    1. items designed for chopping, such as axes, hatchets and cleavers;
    2. ice axes and ice picks;
    3. razor blades and box cutters;
    4. knives with blades of more than 6 cm;
    5. scissors with blades of more than 6 cm as measured from the fulcrum;
    6. martial arts equipment with sharp points or sharp edges; and
    7. swords and sabers;
d. workers’ tools capable of being used either to cause serious injury or to threaten the safety of aircraft, including:
    1. crowbars;
    2. drills and drill bits, including cordless portable power drills;
    3. tools with blades or shafts more than 6 cm capable of use as weapons, such as screwdrivers and chisels;
    4. saws, including cordless portable power saws;
    5. blowtorches; and
    6. bolt guns and nail guns;
e. blunt instruments capable of being used to cause serious injury when used to hit, including:
    1. baseball and softball bats;
    2. clubs and batons, such as billy clubs, blackjacks and night sticks; and

3. martial arts equipment;

f. explosives and incendiary substances and devices capable of being used to cause serious injury or threatening the safety of aircraft, including:
    1. ammunition;
    2. blasting caps;
    3. detonators and fuses;
    4. replica or imitation explosive devices;
    5. mines, grenades and other explosive military stores;
    6. pyrotechnics, including fireworks;
    7. smoke-generating canisters or cartridges; and
    8. dynamite, gunpowder and plastic explosives.

15.8 AVIATION SECURITY EMERGENCY RESPONSE

15.8.1 GENERAL PROVISIONS

Emergency response procedures are activated in case of an act of unlawful interference. Act of unlawful interference is any act or attempted act that may jeopardize the security of civil aviation, including, but not limited to:

a. Unlawful seizure of aircraft;
b. Destruction of aircraft in service;
c. Hostage-taking on board an aircraft or at an airport;
d. Forcible intrusion on board an aircraft at an airport or on the premises of a related civil aviation facility;
e. Introduction onboard an aircraft or at an airport of a weapon, a hazardous device or material intended for criminal purposes;
f. Use of an aircraft in service for the purposes of causing death, serious bodily injury or serious damage to property or the environment;
g. Communication of false information that jeopardizes the safety of an aircraft in flight or on the ground, or the safety of passengers, crew, ground personnel or the public, at an airport or on the premises of a related civil aviation facility.

In an event of the act of unlawful interference, immediately contact the airline **Operational Control Center (OCC)**:

- ✓ **SITA**: TASOOC6
- ✓ **Phone**: +998992071125 (preferrable means of communication. Telegram is available on this number).
- ✓ **Email**: occ@centrum-air.com

Message content:

- Flight number;
- Departure airport;
- Actual departure time (UTC);
- Destination airport;
- Aircraft type and registration;
- Passengers on board (PAX+INF);
- Date of incident;
- Time of incident;
- Location of the incident;
- Description of the incident;
- Objects are damaged;
- Name and department of the person sending the message.

In case of a bomb threat call:

- Get the attention of your supervisor or colleague so that efforts can be made to track the call.
- If possible, ask another person to listen to the call.
- He speaks calmly and slowly. If possible, do not allow the caller to set the pace of the conversation. Constantly interrupt the interlocutor and ask him to repeat what was said.
- **Pay attention to exactly what words the caller used**.
- Try to drag out the conversation by asking questions, and ask the interlocutor to repeat what he says under the pretext that the conversation is not recorded and is hard to hear.
- Try to get as much information as possible and try to keep the phone line open - the longer the caller talks, the more information you can collect.
- Ask caller:
    - ✓ *WHERE is the bomb?*
    - ✓ *WHEN will it explode?*
    - ✓ *WHAT does she look like?*
    - ✓ *Why are you doing this?*
    - ✓ *Who you are?*

NOTE:

1. Questions should be open-ended, not leading. For example, asking "Where exactly is the bomb?" rather than "Is the bomb in the cargo hold of the aircraft?".
2. If possible, test the reliability of the caller by making up a non-existent flight number, flight time, and destination and asking the caller if this is the flight in question.
3. Any background noise should be listened to as this will help the technician assess the hazard.
4. Fill out the report.

15.8.2 BOMB THREAT ON THE GROUND

If a bomb threat is associated with an aircraft that is still on the ground, and once the warning has been assessed, our airline, in consultation with airport authorities, under control of PIC, should:

a. disembark all crew with all cabin baggage using steps or jetties. Escape slides should only be used in extreme emergencies;
b. move the aircraft to a remote location such as the isolated parking position;
c. crew members their baggage, cargo and catering supplies mush be inspected and/or screened, searched and declared safe;
d. unload all cargo, which should then be screened or searched before it is reloaded;
e. unload and check the integrity of catering supplies; and
f. search the aircraft.

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APPROVALS LIST
OF GROUND OPERATIONS AND CARGO HANDLING MANUAL
"MY FREIGHTER" LLC
MF.GRH2-01.ENG (Edition 6 / Revision 0, date of revision 15AUG2025)

Position	Signature	Name
FROM "UZAVIATION AGENCY": Head of OSNPP		Nishanov R. M.
Head of OLGVS		Salahitdinov R. Z.
FROM "MY FREIGHTER" LLC": Deputy of CEO - Aviation Engineering Director		Kasenov T.A.
VP for Quality Assurance		Tarsukova N. O.
Deputy of CEO - Flight Director		Hamdeev E. R.
Director of Ground Operations and Cargo Handling Department		Tsarkov K. V.

ПРИЛОЖЕНИЕ 1.2А. КУРАТОРСКАЯ (СТАЖИРОВОЧНАЯ) ФОРМА ЛОУДМАСТЕРА И СПЕЦИАЛИСТА ПО ЦЕНТРОВКЕ /
LOADMASTER AND LOADPLANNER CURATORIAL PHASE

Ф.И.О. тренера *Trainer's name*	**Ф.И.О. куратора** *Curator's name*	**Ф.И.О. стажируемого сотрудника** *Trainee's name*	**Станция** *Station*

ПРОВЕРКА ТЕОРЕТИЧЕСКИХ ЗНАНИЙ KNOWLEDGE AND COMPETENCE ASSESSMENT	
Глава РОНО / *GOCHM Part #*	**Оценка знаний** / *Evaluation result*

1. РАСЧЕТЫ ЗАГРУЖАЕМОСТИ ВС ПО ЗАЯВКАМ КОММЕРЧЕСКОГО ДЕПАРТАМЕНТА LOADING ABILITY CHECKS (BASED ON REQUESTS OF COMMERCIAL DEPARTMENT)							
№	**Дата** *Date*	**Запрос от** *Request from*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) / *Additional tasks (if any)*_____

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2. РАСЧЕТЫ КОМПЛЕКТАЦИИ ГРУЗОВ НА РЕЙСЫ АК
CARGO BUILD UP CALCULATIONS

№	**Дата** *Date*	**Запрос от** *Request from*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____

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3. ОФОРМЛЕНИЕ ИНСТРУКЦИЙ ПО КОМПЛЕКТАЦИИ ГРУЗОВ НА РЕЙСЫ АК
CARGO BUILD UP INSTRUCTIONS

№	**Дата** *Date*	**Запрос от** *Request from*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____

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4. КОНТРОЛЬ КОМПЛЕКТАЦИИ ГРУЗОВ, МАРКИРОВКИ, ОБСЛУЖИВАНИЯ И ХРАНЕНИЯ
SUPERVISION OF CARGO BUILD UP AND WAREHOUSE ACTIVITIES

№	**Дата** *Date*	**Запрос от** *Request from*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____

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5. КООРДИНАЦИЯ РАБОТ GHA ПО ОБСЛУЖИВАНИЮ ВС И ГРУЗОВ SUPERVISION OF GHA ACTIVITIES DURING THE GROUND HANDLING OF A/C AND CARGO							
№	**Дата** *Date*	**Куратор** *Curator*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____

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6. ЦЕНТРОВКА ВС И ПОДГОТОВКА LIR, LOADSHEET LOADPLANNING AND W&B PREPARATION, INCLUDING LIR/LOADSHEET							
№	**Дата** *Date*	**Куратор** *Curator*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____

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7. ОЦЕНКА РАБОТЫ ЛОУДМАСТЕРА ПРИ ВЫПОЛНЕНИИ РЕЙСОВ В СОСТАВЕ ЭКИПАЖА* EVALUATION OF LOADMASTER ACTIVITIES DURING THE FLIGHTS PERFORMANCE (AS A CREWMEMBER)*							
№	**Дата** *Date*	**Номер рейса** *Flight number*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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*Часть 6 данной формы заполняется только при стажировке Лоудмастера и не применяется при стажировке Специалиста по центровке / *Part 6 of this form is not applicable for Loadplanner unless they perform Loadmaster functions*

Дополнительные задания (если применимо) / *Additional tasks (if any)*_____
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Решение куратора о допуске (недопуске) сотрудника к самостоятельной работе (указать причины недопуска) / *Curator's decision regarding the clearance to work unsupervised (mention reasons in case of refusal)*:

Рекомендации куратора по прохождению дополнительного обучения / *Curator's recommendations about additional trainings (if required)*:

Дата допуска:
Date of clearance to unsupervised work:

Ф.И.О. и подпись куратора:
Curator's name and signature:

ПРИЛОЖЕНИЕ 1.2.В КУРАТОРСКАЯ (СТАЖИРОВОЧНАЯ) ФОРМА ПРЕДСТАВИТЕЛЯ АВИАКОМПАНИИ

AIRLINE REPRESENTATIVE AND AIRLINE RAMP SUPERVISOR CURATORIAL PHASE

Ф.И.О. тренера *Trainer's name*	**Ф.И.О. куратора** *Curator's name*	**Ф.И.О. стажируемого сотрудника** *Trainee's name*	**Станция** *Station*

ПРОВЕРКА ТЕОРЕТИЧЕСКИХ ЗНАНИЙ KNOWLEDGE AND COMPETENCE ASSESSMENT	
Глава РОНО / *GOCHM*	**Оценка знаний** / *Mark*

1. КОНТРОЛЬ ЗА ХОДОМ РЕГИСТРАЦИИ ПАССАЖИРОВ И БАГАЖА В АЭРОПОРТУ
MONITORING AND CONTROL OF CHECK-IN PROCESS IN AIRPORT

№	**Дата** *Date*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Особенности рейса /** *Flight specific features*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) / *Additional tasks (if any)*_____

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2. КООРДИНАЦИЯ РАБОТ GHA ПО НАЗЕМНОМУ ОБСЛУЖИВАНИЮ ВС SUPERVISION OF GHA ACTIVITIES DURING THE GROUND HANDLING							
№	**Дата** *Date*	**Станция** *Station*	**Маршрут** *Route*	**Тип ВС** *A/C type*	**Характер груза** *Commodity*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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При заполнении стажировочной формы – допускается учитывать работу на одном и том же рейсе по различным разделам (например, одновременно учитывать один и тот же рейс в разделах 1 и 2 настоящей формы).

Дополнительные задания (если применимо) / *Additional tasks (if any)*_____

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Решение куратора о допуске (недопуске) сотрудника к самостоятельной работе (указать причины недопуска) / *Curator's decision regarding the clearance to work unsupervised (mention reasons in case of refusal)***:**

Рекомендации куратора по прохождению дополнительного обучения / *Curator's recommendations about additional trainings (if required)***:**

Дата допуска:
Date of clearance to unsupervised work:

Ф.И.О. и подпись куратора:
Curator's name and signature:

ПРИЛОЖЕНИЕ 1.2.С КУРАТОРСКАЯ (СТАЖИРОВОЧНАЯ) ФОРМА СПЕЦИАЛИСТА ПО ОПЕРАТИВНОМУ УПРАВЛЕНИЮ ГРУЗО- И ПАССАЖИРОПОТОКАМИ

CARGO HUB AND DSC OPERATIONS AGENT CURATORIAL PHASE

Ф.И.О. тренера *Trainer's name*	**Ф.И.О. куратора** *Curator's name*	**Ф.И.О. стажируемого сотрудника** *Trainee's name*	**Станция** *Station*

ПРОВЕРКА ТЕОРЕТИЧЕСКИХ ЗНАНИЙ KNOWLEDGE AND COMPETENCE ASSESSMENT	
Глава РОНО / *GOCHM*	**Оценка знаний /** *Mark*

1.КОНТРОЛЬ ГРУЗОПОТОКОВ (ЗАПОЛНЕНИЕ ХАБОВОЙ ТАБЛИЦЫ) CONTROL OVER HUB OPERATIONS (HUB TABLE)						
№	**Маршрут** *Route*	**Рейс прилета** *Flight in*	**Рейс вылета** *Flight out*	**Особенности рейса /** *Flight specific features*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____

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2.ИСПОЛЬЗОВАНИЕ СИСТЕМЫ БРОНИРОВАНИЯ BOOKING SYSTEM					
№	**Дата** *Date*	**Рейс вылета** *Flight out*	**Количество накладных забронировано** *AWB number booked*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____
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3.ПОДГОТОВКА СООБЩЕНИЙ FFM FFM PREPARATION					
№	**Дата** *Date*	**Рейс вылета** *Flight out*	**Количество FFM** *FFM prepared*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____
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4. РАБОТА В СИСТЕМЕ РЕГИСТРАЦИИ ПАССАЖИРОВ И БАГАЖА DCS SYSTEM						
№	**Маршрут** *Route*	**Дата и рейс прилета** *Date and Flight in*	**Дата и рейс вылета** *Date and Flight out*	**Особенности рейса /** *Flight specific features*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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Дополнительные задания (если применимо) */ Additional tasks (if any)*_____
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5. ПРЕДВАРИТЕЛЬНОЕ ИНФОРМИРОВАНИЕ О ПРИБЫВАЮЩИХ ПАССАЖИРАХ ADVANCED PASSENGER INFORMATION SYSTEM					
№	**Маршрут** *Route*	**Дата и рейс** *Date and Flight*	**Особенности рейса /** *Flight specific features*	**Комментарий куратора** *Curator's comment*	**Оценка** *Mark*
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9.					
10.					

Дополнительные задания (если применимо) */ Additional tasks (if any)*_____
_____

При заполнении стажировочной формы допускается учитывать один и тот же рейс в разделах 1, 2, 3; и 4, 5 настоящей формы.

Решение куратора о допуске (недопуске) сотрудника к самостоятельной работе (указать причины недопуска) / *Curator's decision regarding the clearance to work unsupervised (mention reasons in case of refusal)***:**

Рекомендации куратора по прохождению дополнительного обучения / *Curator's recommendations about additional trainings (if required)***:**

Дата допуска:
Date of clearance to work unsupervised:

Ф.И.О. и подпись куратора:
Curator's name and signature:

COMAIL NOTIFICATION / УВЕДОМЛЕНИЕ ОБ ОТПРАВКЕ COMAIL

АЭРОПОРТ ОТПРАВКИ DEPARTURE AIRPORT	НОМЕР (-А) И ДАТА (-Ы) РЕЙСОВ FLIGHT(-S) NUMBER (-S) AND DATE (-S)	ОТПРАВИТЕЛЬ SHIPPER	ПОЛУЧАТЕЛЬ CONSIGNEE	ФАМИЛИЯ БОРТПРОВОДНИКА, ПРИНЯВШЕГО К ПЕРЕВОЗКЕ SURNAME OF FLIGHT ATTENDANT, WHO ACCEPTED FOR SHIPPING	ДАТА ПРИНЯТИЯ К ПЕРЕВОЗКЕ DATE OF ACCEPTANCE

НАПОМИНАНИЕ	NOTIFICATION
• Отправка личных вещей, денежных средств, платежных карт посредством служебной почты не допускается. При сомнении в характере содержимого СБЭ имеет право вскрыть корреспонденцию для проверки содержимого и отказать в дальнейшей перевозке в случае нарушения данного правила. • Отправка служебной корреспонденции без указания данных отправителя и получателя не допускается. • Также не допускается отправка более 2 конвертов формата А4 на одном рейсе.	• It is prohibited to send private property, cash or credit cards as COMAIL. In case of doubts Chief Flight Attendant can open the envelope to check the CONAIL commodity and refuse shipping in case of deviations. • It is prohibited to send COMAIL without clear information about shipper and consignee. • It is prohibited to send more than 2 envelopes (A4 size) on single flight.

Below the mandatory content of training programs for GOCHD staff is provided. List of topics can be extended.

1. AVIATION BASICS

Aviation Basics (GEN01)
1. Aviation definitions 2. Airport and airline terminology 3. Common abbreviations 4. Phonetic alphabet 5. Universal time control and time zones 6. Day and month codes 7. IATA and ICAO codes–country/city/airport/airline 8. Geography/Hubs and location 9. Aircraft types 10. International vs domestic flights 11. Sector, leg and route 12. Introduction to IATA reservation interline messages procedures (IRIMP) codes 13. Introduction to aviation related authorities and regulatory framework 14. Airline and ground handler roles and responsibilities 15. Alliances and codeshare 16. Irregular operations
Training method: Theoretical
Assessment method: Theoretical, as the part of on-the-job training
Recurrent training is not required.

2. AIRLINE SAFETY MANAGEMENT SYSTEM BASICS

Airline Safety Management System Basics (GEN02)
1. Introduction to safety and safety policy and program [SMS] 2. Safety philosophy [SMS] 3. Company values and commitments 4. Employer responsibilities [SMS] 5. Employees responsibilities [SMS] 6. Safe systems of work [SMS] a. Uniforms and personal protective equipment (PPE) b. Airport and workplace environment c. Safety awareness–noise, use of chemicals, use and maintenance of tools and equipment d. Equipment, tools (job relevant) 7. Accidents in the workplace and the cost [SMS] 8. Accident/injury prevention [SMS] 9. Aircraft damage and cost of accidents and incidents [SMS] 10. Accident and incident report [SMS] 11. Confidential reporting [SMS] 12. Crisis management awareness [SMS]
Training method: Theoretical
Assessment method: Written test
Recurrent training within 36 months.

3. OCCUPATIONAL HEALTH AND SAFETY

Occupational Health and Safety (GEN02)
1. First aid arrangements 2. Health and safety law, regulations 3. Occupational Health and Safety Program (OHS) 4. Health and Safe working practices/safe operating practices
Training method: Theoretical
Assessment method: Theoretical, as the part of on-the-job training
Recurrent training within 36 months.

4. FIRE SAFETY AWARENESS

Fire safety awareness (GEN02)
1. Fire safety awareness
Training method: Theoretical
Assessment method: Theoretical, as the part of on-the-job training
Recurrent training within 36 months.

5. AIRSIDE SAFETY AND HUMAN FACTORS

Airside Safety and Human Factors (GEN03, GEN04)
I. Airside Safety 1. Workplace environment 2. Airport environment a. Local airport layout b. Working in restricted areas 3. Ramp markings and signage 4. Types of aircraft 5. Safe work practices and general ramp safety rules 6. Airside hazards a. Vehicle movements b. Pedestrian movements c. Aircraft movements d. Jet engine and prop aircraft hazards e. Aircraft antennae and other protrusions f. GSE safety g. Working around special handling equipment h. Danger from work equipment and other safety factors i. PBB awareness j. Spillage k. Fuel safety–aircraft fueling and fuel spills l. Adverse and seasonal weather conditions m. Night operations n. Working at height o. Slips, trips and falls p. Noise awareness q. Runway incursions 7. Risk Management Awareness a. Assessment b. Mitigation procedures 8. Foreign Object Damage (FOD) Program

a. Damage and prevention
b. Aircraft arrival

9. Personal Protection
    a. Personal protective equipment
    b. Weather exposure
10. Accidents, Incident and emergency situations
    a. Alarm and notification
    b. First aid arrangements
    c. Immediate actions and procedures
    d. Aircraft accident or incident
    e. GSE accident and incident
    f. Personnel injuries
    g. Security threats
    h. DGR incidents and spillages
    i. Emergency fuel shut-off (hydrant system related)
    j. Severe weather
    k. Vehicle accident (e.g., collisions, strike with aircraft)
    l. Aircraft on-stand evacuation

II. Human Factors

1. Motivation and attitude
2. Human behavior
3. Ergonomics and musculoskeletal disorders (MSD)
4. Effects of psychoactive substances
    a. Basic facts on drugs and alcohol and their effects on health.
    b. How misuse of drugs and alcohol impact on company operations, productivity, employee health and safety.
    c. How drugs and alcohol affect the family, other relationships and the community.
    d. The use of self-assessment tools to help individuals identify the status of their drug and alcohol use.
    e. Examples of accidents that have occurred involving drug and alcohol use.
5. Situational awareness
6. Dirty Dozen and Mitigations
    a. Lack of communication
    b. Distraction
    c. Lack of resources
    d. Stress (time, peers)
    e. Complacency
    f. Lack of teamwork
    g. Pressure
    h. Lack of awareness
    i. Lack of knowledge
    j. Fatigue (impact, management)
    k. Lack of assertiveness
    l. Norms
    m. Note

Training method: Theoretical
Assessment method: Written test, theoretical assessment as the part of on-the-job training
Recurrent training within 36 months.

6. AIRLINE EMERGENCY RESPONSE BASIC AWARENESS

Airline Emergency Response Basic Awareness (GEN06)
1. Types of emergency situations at airports 2. Key organizations involved in responding to emergency situations 3. Responsibilities and main tasks of key organizations involved in emergency situations 4. Facilities used by various key organizations involved in emergency situations 5. Set up of the Local Incident Control Center (LICC) 6. Roles and responsibilities of assistance to persons involved in an aircraft accident/incident or major event 7. Measures to maintain a continued airport (station) operation (contingency plan)
Training method: Theoretical
Assessment method: Theoretical assessment as the part of on-the-job training
Recurrent training within 36 months.

7. AIRCRAFT WEIGHT AND BALANCE PRINCIPLES AND AIRCRAFT LOADING

Aircraft Weight and Balance Principles and Aircraft Loading (LOD01, LOD02, LOD03)
I. Aircraft Weight and Balance Principles 1. Aircraft Weight and Balance Principles a. Theory of flight b. The four forces c. Flight controls d. Consequences of an overweight or out-of-balance aircraft 2. Structural Weights a. Aviation units of measure - (ICAO Annex 5) b. Maximum zero fuel weight c. Maximum taxi weight d. Maximum takeoff weight e. Maximum landing weight f. Maximum weight restrictions 3. Standard and Actual Weights a. Basic weight b. Dry operating weight c. Operating weight (wet operating weight) d. Service weight adjustment e. Zero fuel weight f. Payload g. Traffic load h. Underload i. Service weight and adjustments 4. Fuel a. Ramp (block) fuel b. Contingency fuel c. Alternate fuel d. Landing fuel e. Fuel loading (standard/non-standard) f. Taxi fuel g. Takeoff fuel h. Trip fuel i. Unusable fuel j. Ballast fuel k. Trapped fuel

l. Fuel density
5. Principles of Balance
   a. General principles of balance
   b. Definitions: Ref. Sta., LEMAC, MAC, %MAC, Index Unit %RC
   c. Principles of Centre of Gravity (CG)
   d. Movement of CG
   e. Aircraft CG
   f. Mean Aerodynamic Chord (MAC)/Reference Chord (RC)
   g. Safe range of MAC/RC by percent
   h. BI–index for BW
   i. DOI–index for DOW
   j. Dead Load Index (DLI)
   k. LIZFW–index for ZFW
   l. LITOW–index for TOW
   m. LILAW–index for LAW
   n. MACZFW–%MAC for ZFW
   o. MACTOW–%MAC for TOW
   p. MACLAW–%MAC for LAW
   q. Stab trim
   r. Ground stability
6. Structural Strength Limits
   a. Structure
   b. General design limits
   c. Fuselage limits

II. Load Planning and Load Sheet

1. Load Control and Distribution
2. General Principles
3. Precision Time Schedule (PTS) and workflow
4. Consequences of Improper Loading on Flight and Personnel Safety
5. Aircraft Unit Load Devices
6. Aircraft Locations
   a. Standard terminology
   b. Designation of aircraft holds, compartments, net Sections, bays and cabin (AHM 505)
7. Aircraft Holds-Dimensional Limitations on Loading
   a. Hold/compartment-loading position limits
   b. Dimensions
   c. Door dimensions
   d. Height limitations
   e. Contour limitations
   f. Aircraft structural load limitations principles
   g. Area load limitations
   h. Cumulative load limitations
   i. Combined load limitations
   j. Hold limitations
   k. Compartment limitations
   l. Asymmetrical load limitations
   m. Floor loading limitations
   n. Contact load limitations
   o. Point load limitations
   p. Maximum gross weight of ULD
   q. Running load limitations
   r. Load spreading/shoring
8. Loading Restraint Systems
   a. General principles

   b. Bulk load
   c. ULD load
   d. ULD restraint system
   e. Missing or inoperative restraints
   f. Restraining load in ULDs
   g. Pallets
   h. Containers
   i. Tie-down equipment-rules and principles
9. General Rules for Load Securing
10. Standard Lashing
11. Securing Load by Filling by Volume
12. Aircraft Handling Awareness
   a. Aircraft type-specific instructions
   b. Carrier-specific instructions
   c. Bulk loaded aircraft
   d. Containerized aircraft
   e. Aircraft loading principles
   f. Preparation before loading an aircraft
   g. Cargo hold doors
   h. Anti-tipping procedures
   i. Bulk loading
   j. Off-load equipment
   k. On-load equipment
   l. Seat loading
   m. ULD loading
   n. Load categories
   o. Loading and off-loading priorities
   p. Special loads
   q. Optimum trim
   r. Multi-leg flights
   s. Special cargo loading and securing/lashing
13. Loading Instruction Report (LIR)
   a. LIR layout (AHM 514–AHM 515)
   b. Requirements and/or EDP LIR
   c. LIR preparation (electronic and manual modes) and release
   d. Loading instructions
   e. Communication of loading instructions
   f. Offloading instructions
   g. Responsibilities
   h. Signatures
   i. Finalization of LIR–crosscheck of planned and actual load
   j. Input of deviations
   k. Processing of deviations
   l. Acknowledgement and validation of deviations
14. Load Planning–Passengers and Baggage
   a. Passenger and baggage weights (standard/actual/non-standard)
   b. Crew weights and crew bag weights
   c. PWR use and calculations
   d. Cabin sections (zones or areas): trim by cabin section, trim by seat row
   e. Finalization of passenger and baggage
   f. Gate baggage addition to LIR/LS
   g. Crosscheck of planned and actual load
15. Fuel Planning
   a. Block/trip/taxi

b. Density
c. Fuel and optimum CG
d. Non-standard fueling
e. Standby and top-up fuel
f. Gross error checks of fuel uplift

16. Load and Trim Sheet
    a. Load and trim sheet layout
    b. Requirements load and trim sheet (balance tables/charts)
    c. EDP load and trim sheet
    d. ACARS load and trim sheet
    e. Load sheet preparation (electronic and manual modes) - manual is optional to airline requirements
    f. Crosscheck of passenger and baggage and all cargo mail commodities
    g. Crosscheck of final loading reports for LS preparation
    h. LCO validation and final loading report according to airline requirements
    i. LS completion and release
    j. LMC procedures
    k. Signatures

III. Documentation and Messaging

1. General
2. Reading and Sending Standard Messages
3. Movement Messaging
4. Load Messaging (i.e., LDM, CPM)
5. ULD Messaging (i.e., CPM/UCM)
6. Carrier-Specific Messaging (e.g., UWS)
7. Offload messaging
8. Statistical Load Summary (SLS)
9. Flight File
10. Operational Flight Plan
11. Notification to Captain (NOTOC)
12. Specific Requirements

Training method: Theoretical and practical

Assessment method: Written test, practical tasks as the part of on-the-job training

Recurrent training within 24 months.

8. AIRCRAFT LOADING SUPERVISION

Aircraft Loading Supervision (RMP04, RMP09, RMP10, RMP17, RMP18)

I. Ramp Services-Basic Hand Signals

1. Guide Person Hand Signals for GSE
    a. Guide person responsibilities
    b. Guide person standards and regulations
    c. Own responsibilities to ensure own safety
    d. Own responsibilities to ensure the safety of others
    e. Be able to implement the hand signals (See IGOM 3.4)
    f. Identify potential hazards and its elimination
2. General Conditions for Using Hand Signals
    a. Use approved hand signals ONLY.
    b. Wear a high-visibility vest and use of wands, if applicable.
    c. Maintain the same role throughout the process.
    d. Constant visual contact

3. Pushback Hand Signals
    a. Aircraft Movement Hand Signals–Wing Walker to Headset Operator, Tractor Driver, Marshaller, Flight Crew (as applicable)
    b. Aircraft Movement Hand Signals–Headset Operator to Tractor Driver

II. Ramp Services-Aircraft Loading/Unloading

1. Principles of Aircraft Loading/Unloading
2. Loading/Unloading Process
    a. Safety requirements specific to aircraft Loading/unloading
    b. Aircraft ground stability
    c. Cargo Hold Inspection (Checks/spillage/reporting of damage)
    d. Bulk handling
    e. ULD handling
    f. Main Deck Freighter handling
3. Handling Special Loads
4. Loading Incompatibilities and segregation
5. Identification of Dangerous Goods During Loading
6. Load Damage and Spillage
7. Handling of ULDs (for specifics, see ULDR)
8. Securing Loads, including ULDs and Barrier Nets in Aircraft Cargo Holds/Compartments
9. Positioning and Operation of Loading Equipment
10. Operation of Aircraft Loading System
    a. Cargo loading system (CLS)
    b. Identification and consequences of malfunctions of in-plane loading system
11. Aircraft Cargo Hold Access Door Operation
12. Loading/offloading Documentation General Awareness
    a. Offloading Instructions report (OIR) if applicable
    b. Load Instructions Report (LIR)
    c. Notification to captain (NOTOC)
    d. Load sheet/Last Minute changes (LMC)
    e. LDM/Container Pallet Messages (CPM)/UCM
13. Emergency Procedures and Reporting

III. Ramp Services-Aircraft Arrival

1. Preparation of Resources, Equipment and Estimated Time of Arrival (ETA)
    a. Communication with all involved parties
    b. Resources availability (staff/GSE)
    c. Arrival Roles and Responsibilities
2. Airport Gate/Stand Layout
    a. Clear Space for Aircraft and GSE maneuvering or any considerations on restricted space
    b. (FOD checks)
    c. PBB correctly parked, if applicable
3. Any Aircraft Specific considerations
4. Aircraft Arrival Procedures
5. Aircraft Chocking
6. External Electrical Power, if required
7. Aircraft Coning
8. Post-aircraft Arrival Procedures
    a. External damage check
    b. Correct positioning of GSE
    c. Pre-conditioned Air, if required
9. Passenger Deplaning Methods
    a. Securing safe passenger route (during stairs or PBB operations)
10. Emergencies Situations

IV. Ramp Services-Aircraft Loading Supervision

1. Safety Precautions
2. Aircraft Loading Supervision Roles and Responsibilities
   a. Aircraft Load Management process
   b. Action prior unloading
   c. Action during unloading
   d. Cargo hold check
   e. Action before loading
   f. Action during loading
   g. Action after loading
3. General Weight and Balance Awareness
   a. Weight and balance terminology
   b. Optimization of payload (Trim/weight)
   c. Center of gravity (Ground stability awareness)
   d. Structural limitation
   e. Basic Load conformance
4. Aircraft Unit Load Devices
   a. Identification of airworthy ULDS
   b. Labelling of ULDs
   c. Checking ULD Condition on the ramp
   d. Visual detectable damage check
   e. Unserviceable ULDs
5. ULD and Bulk Hold Loading
6. Loading Instructions Report (LIR) to include freighter if applicable,
7. Loading/offloading Documentation General Awareness
   a. Offloading Instructions report (OIR) if applicable,
   b. Load Instructions Report (LIR)
   c. Notification to captain (NOTOC)
   d. Load sheet/Last Minute changes (LMC)
   e. LDM/Container Pallet Messages (CPM)/UCM
8. Special Loads
9. Positioning and Operation of Loading Equipment
10. Irregular Conditions and Emergencies and reporting

V. Ramp Services-Turnaround Coordination

1. Turnround management
   a. Passenger rights awareness
   b. Aviation weather (MET)
   c. Coordination with crew
   d. CLC communication
   e. Airline differences
2. Turnaround Coordination
   a. Gate/Stand Preparations
   b. Coordination of Passenger Embarkation/Disembarkation Procedures
   c. PBB and Stand entry guidance
   d. Aircraft passenger doors
   e. Pre-departure Aircraft Procedures
   f. Post-aircraft Departure Procedures
   g. Irregular Conditions and Emergencies
   h. Aircraft fueling awareness
   i. Aircraft deicing awareness, if applicable
   j. Safety precautions
3. General Weight and Balance Awareness
   a. Weight and balance terminology

b. Optimization of payload c. Center of gravity (ground stability awareness) d. Basic Load conformance 4. General loading principles a. Aircraft hold layout (bulk load) b. Aircraft hold layout (containerized) c. Unit load device (awareness) d. Loading Instructions report e. Load sheet and NOTOC f. Last Minute Changes 5. LDM and CPM **VI. Ramp Services-Aircraft Cargo Hold Access Doors** 1. Overview of Aircraft Types-Mechanism 2. General Safety Precautions, including Fall Protection (physical) and Fall Prevention (process) 3. Checks before opening cargo hold access doors 4. Opening Cargo Hold Access Doors 5. Checks before Closing Cargo Hold Access Doors 6. Closing Cargo Hold Access Doors 7. Checks after Closing Cargo Hold Access Door (visual inspection) 8. Reopening Cargo Hold Access Doors 9. Reporting Defects 10. Main Deck Cargo Door Operation/Nose door operation 11. Understanding the different door opening mechanisms for specific aircraft types. 12. Communication with all involved parties 13. Requirement for instalment of Safety Net Main Cargo Door
Training method: Theoretical and practical
Assessment method: Written test, practical tasks as the part of on-the-job training
Recurrent training within 36 months.

9. PASSENGER HANDLING

Passenger Handling (PAX01, PAX02, PAX03, PAX05, PAX06, PAX08, PAX09, PAX10, PAX11)
I. Customer Service 1. Customer service basics a. Define your customers (external, internal, customer chain) b. Basic human needs c. Develop a customer friendly approach d. First impressions e. Greetings and salutations f. Telephone etiquette g. Body language h. Situational awareness 2. Communication a. Types of communication b. Communication models and styles c. Communication techniques 3. Handling challenging situations and handling unruly passengers a. Defusing the situation b. Acknowledge and apologize c. Escalation process to resolve a situation 4. Follow-up and reporting

5. Customer service excellence (personal service)
    a. Understand customer behavior
    b. Empathy surpassing customer expectations
    c. Building resilience
    d. Customer relationship management
6. Passenger rights, conventions and regulations

II. Passenger Handling

1. Pre-arrival
    a. Arrival gate preparation
    b. Resources
    c. Equipment
    d. Estimated time of arrival (ETA)
    e. Flight loads, incoming messages
2. Arrival
    a. Transfer, connecting and transit passengers and announcements
    b. Immigration control
    c. Customs clearance
    d. Baggage claim
3. Preboarding
    a. Gate setup/stationary required
    b. Announcements
    c. Communication to crew
    d. Priority boarding procedures
4. Boarding process
    a. Verifying passenger suitability for travel
    b. Cabin baggage
    c. Gate-checked Items, including delivery at aircraft (DAA)
    d. Handling of ancillary services and excess baggage at the gate
    e. Verification of DGR
    f. Handling of passenger boarding discrepancies
    g. Handling boarding in the case of DCS failures
    h. Information to the crew (if applicable)
    i. Boarding of passengers
5. Finalization of boarding process
    a. Gate closure activities including management of passenger on/off-load
    b. Departure work preparation and crew communication
    c. Coordination with Load Control and/or ramp team for flight finalization

III. Baggage Services

1. Pre-Planning
    a. Arrival of a flight
    b. Customer airline liability
    c. First need expense and/or kits
    d. Communication within the organization and with passengers
2. Baggage Categories
    a. Local baggage (terminating)
    b. Standby baggage
    c. Connection, transfer and transit baggage (inbound, interline)
    d. Unauthorized baggage
    e. Expedite (Rush) baggage
    f. Permanent tags and locator devices
3. Customs and Regulatory Requirements
    a. Regulatory requirements

   b. Customs clearance
   c. Liaison with passengers on customs and regulatory requirements
4. IATA Baggage Descriptions
5. IATA Reason for Loss (RL) Codes
   a. IATA RL codes
   b. Purpose of using RL codes
   c. Reporting
6. Baggage Action Categories
   a. Baggage tracing
   b. Found/Left behind–Unclaimed/on-hand (OHD) baggage
   c. Missing baggage/Advise if hold (AHL)
   d. Baggage taken in error/Baggage exchange–switch
   e. Security removed items
   f. Damaged baggage report (DPR) files
   g. Pilfered baggage
   h. Lost and found articles (Passenger Irregularity Report (PIR), communication cards, rush tags, mini rush tags, security forms)
7. Report completion (World Tracer WT)
8. Delivery of baggage

IV. Passenger Handling

1. Check-in policies and procedures
   a. Product and ancillary services
   b. Tickets if applicable
   c. Types of check-ins
   d. Frequent flyer programs
   e. Encode/Decode
2. Counter Set-Up
   a. Desk, scales, printers, signage if required
   b. Baggage belt operation
   c. Security of stationery items, work areas and systems
3. Documents Required for Travel
   a. Destination and/or transit requirements
   b. TIM/TIMATIC (if applicable)
   c. Disposal
4. Passenger information collection and vetting
   a. Visa, entry conditions and limitations
   b. Advance passenger information (API)
   c. Watch list processing
   d. Selectee
5. Passenger acceptance
   a. Steps of check-in
   b. Manual check-in
   c. Passenger identification
   d. Passenger assessment
   e. Verification of DGR
   f. Onward connections and in-transit
   g. Revenue and non-revenue processing
   h. Upgrade and downgrade
   i. Offloading
6. Seating
   a. Seat maps
   b. Assignments
   c. Restrictions

   d. Exit row
   e. Jump seat
7. Baggage acceptance
   a. Cabin baggage
   b. Checked baggage
   c. Verification of DGR
   d. Baggage allowance
   e. Baggage tags and labelling
   f. Customs clearance
   g. Special/Non-Standard Load
   h. Baggage fees and payment
8. Special baggage
   a. Carriage of firearms
   b. Sports equipment
   c. Bulky and oversize
   d. Musical instruments
   e. Live animal (AVIH)
9. Passenger direction and information
   a. Positive close
   b. Boarding pass and baggage tag
   c. Flight and boarding times
   d. Security and gate direction
10. Check-in closure
   a. Deadlines
   b. Check-in closure activities
   c. Flight status change
   d. Release of flight to gate control
   e. Coordination with Load Control and/or gate teams
   f. Late passengers

V. Irregular Operations

1. Types of delays and handling–controllable and uncontrollable
2. Rebooking
3. Missed connections
4. Flight cancellations
5. Diversions
6. Denied boarding
7. Aircraft changes
8. Passenger rights and regulations
9. DCS failure

VI. Post-Flight Requirements

1. Post flight messages
   a. Teletype Passenger Manifest (TPM), Passenger Transfer Message (PTM)
   b. Passenger Service Message (PSM)
   c. Passenger Protection Message (PPM)
   d. Seat Occupied Message (SOM)
   e. Industry Discount Message (IDM)
   f. Advanced Passenger Information (API)
   g. Electronic Ticket List (ETL)
   h. Others as required
2. Monitor DCS activities
3. Reports as required
4. Government travel requirements

a. API requirements
b. Electronic documents

5. Flight files (electronic and paper) and document retention
6. Security
   a. Stationery and work areas
   b. Document disposals
   c. Systems
7. Inventory Management (e.g., Flight interruption manifests, (FIMs), used, excess baggage collected, denied boarding compensation, meal vouchers)

VII. Special Category Passengers

1. Special category passengers
   a. First class/Business class
   b. Commercially important passengers (CIPs)
   c. Very important persons (VIP/VVIP)
   d. Frequent flyer program/s
   e. Unaccompanied minors (UM) and young passengers (YP)
   f. Passengers travelling with infants and/or children
   g. Expectant Passengers
   h. Person of size–extra space/belt extender
   i. Allergies–buffer zone seating, allergies to cats, dogs and Severe food allergies (peanuts)
   j. Others
2. Inadmissible passengers (INADs)
3. Deportees accompanied (DEPA)/Deportees unaccompanied (DEPU)
   a. Passengers subject to judicial proceedings
   b. Persons under law custody
4. Passengers travelling with weapons and/or firearms
   a. Law enforcement officers
   b. Passengers travelling with sporting equipment, weapons and/or firearms
   c. Labelling and loading
   d. Baggage requirements
5. Special passenger handling
   a. Product and services
   b. Regulatory requirements and restrictions–refusal of carriage
   c. Check-in, baggage acceptance, seating
   d. Special service requests
   e. Communication requirements
   f. Reporting
6. Notification to captain

VIII. Transfer of Load Information

1. DCS setup–allowances and calculations and link between check-in and load control
2. Passenger weights, groups
3. Carry-on/cabin baggage
4. Checked baggage
5. Medical equipment and mobility aids
6. Sporting equipment
7. Live animal in hold (AVIH) or Pet in cabin (PETC)
8. Cabin baggage on seat (CBBG) e.g., musical instruments
9. Other non-standard load items
10. Communication methods to load control
11. Check-in closure
12. Final figures for passengers, baggage
13. Seats occupied by zone (bay split, trim Sections)

14. Passengers available for disembarkation 15. Supernumerary crew members 16. Jump seat occupancy 17. Gate tagged and gate checked items, (DAA) 18. Last minute changes (LMC) **IX. Passenger Handling** 1. Pre-arrival preparations 2. Disembarkation procedures 3. Security requirements 4. Immigration and customs requirements 5. Gate check-in and transfer 6. Boarding of transit and connecting passengers 7. Loading of all transit and connecting baggage communication 8. Missing passenger procedures 9. Missed connections 10. Irregular operations a. Delays, cancelled flights, aircraft changes b. Rebooking c. Passenger rights and compensations 11. Post-flight requirements
Training method: Theoretical and practical
Assessment method: Written test, practical tasks as the part of on-the-job training
Recurrent training within 36 months.

10. DEPARTURE CONTROL SYSTEM (DCS) OPERATIONS

Departure Control System (DCS) Operations (PAX12)
1. System setup and Functionality a. System access b. Screen features and navigation c. Quick reference and shortcuts d. Messaging according to system and airline specific e. Error reports/helpdesk 2. Flight a. Flight details and updating b. Flight comments c. General declaration d. Passenger lists e. Upgrading/Downgrading f. Onloading g. Denied boarding h. Flight closeout i. Flight activities j. Flight monitor 3. Passenger identification a. Swiping and manual options b. Web/Mobile/Kiosk c. Passenger records d. Passenger history e. Passenger name records (PNR) f. E-Tickets

g. Frequent flyer (FQTV) profiles
h. Revenue and non-revenue passenger
i. Outbound and inbound connections
j. Groups

4. Travel documentation
   a. Adding/updating/deleting travel documentation
   b. Add secondary/additional documentation
   c. Advanced Passenger Information (API), Advanced Passenger Processing (APP), Advanced Quick Queries (AQQ) responses, Electronic System for Travel Authorization (ESTA)
   d. Override entries
   e. TIM/TIMATIC
   f. ETA checks
5. Passenger acceptance
   a. Passenger acceptance
   b. Regulatory data
   c. TIM/TIMATIC
   d. Advanced Passenger Information (API), Advanced Passenger processing (APP), Advanced Quick Queries (AQQ) responses
   e. ETA
   f. Selectees
   g. Credit card verification
   h. NOREC/GOSHOW
   i. Staff acceptance
   j. Cancel acceptance
6. Updating passenger
   a. Passenger details
   b. Infants
   c. Linking, if applicable
   d. Alternate destinations
   e. Comments
   f. FQTV
   g. Itineraries
   h. Special Service Requests (SSR)
   i. Special Category Passenger
   j. Paid services, if applicable
   k. Staff details
   l. E-Tickets & Electronic Miscellaneous Document (EMD)
   m. Volunteers for Denied Boarding (VDB)
7. Seating
   a. Seat maps
   b. Seating information
   c. Restrictions
   d. Allocate and de-allocate seat
   e. Change seats
   f. Block and unblock seats
   g. Cabin capacity
   h. Jump seat acceptance
8. Baggage
   a. Baggage allowance
   b. Acceptance of baggage
   c. Baggage pooling, if applicable
   d. Baggage records
   e. Baggage status
   f. Baggage lists

g. Cabin baggage h. Checked baggage i. Dangerous in baggage j. Baggage tags and labelling k. Baggage manager connection, if applicable l. Special/Non-standard load m. Crew baggage n. Rush baggage o. Baggage fees and payment p. Updating of baggage q. Baggage Tracing Systems e.g., World Tracer (WT) 9. Printing a. Boarding pass b. Baggage tag c. E-ticket and payment receipts d. Screen data 10. Boarding a. Open boarding b. Boarding information c. Monitor d. Boarding ineligibility e. Deboarding f. Boarding notifications g. Passenger information list (PIL) h. Crew lists i. Closing and finalizing boarding j. Flight status change k. Post-flight reports l. Flight files
Training method: Theoretical and practical
Assessment method: Written test, practical tasks as the part of on-the-job training
Recurrent training within 36 months.

11. DANGEROUS GOODS TRAINING

11.1 FUNCTION 7.3 PERSONNEL RESPONSIBLE FOR PROCESSING OR ACCEPTING DANGEROUS GOODS CONSIGNMENTS

Personnel responsible for processing or accepting dangerous goods consignments (Function 7.3)
0. Understanding the Basics of Dangerous Goods 0.1 Dangerous goods applicability 0.1.1 Understand the definition 0.1.2 Recognize the legal framework (global, national) 0.1.3 Identify the application and scope 0.1.4 Differentiate between hazard and risk 0.2 Understanding the general limitations 0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions 0.3 Identifying roles and responsibilities 0.3.1 Clarify the individual and collective role of the supply chain stakeholders 0.3.3 Recognize the impact of State & operator variations 0.4 Understanding the importance of classification & packaging

0.4.1 Identify the general information about classes, divisions 0.4.2 Understand general principles of packing groups 0.4.3 Consider multiple hazards 0.5 Understanding hazard communication 0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling requirements 0.5.3 Identify the required documentation 0.6 Familiarizing with basic emergency response 0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the employer's emergency response requirements *3. Processing / accepting cargo* 3.1 Review documentation 3.1.1 Verify Shipper's Declaration 3.1.2 Verify other transport documents (e.g. Air Waybill) 3.1.3 Verify other documents (exemptions, approvals, etc.) 3.1.4 Verify State/Operator variations 3.2 Review package(s) 3.2.1 Verify marks 3.2.2 Verify labels 3.2.3 Verify packaging type 3.2.4 Verify package conditions 3.2.5 Verify State/Operator variations 3.3 Complete acceptance procedures 3.3.1 Complete acceptance checklist 3.3.2 Provide shipment information for load planning 3.3.3 Retain documents *7. Collecting safety data* 7.1 Report Dangerous Goods accidents 7.2 Report Dangerous Goods incidents 7.3 Report undeclared/misdeclared Dangerous Goods 7.4 Report Dangerous Goods occurrences
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

11.2 FUNCTION 7.6 PERSONNEL RESPONSIBLE FOR THE PLANNING OF AIRCRAFT LOADING

Personnel responsible for the planning of aircraft loading (Function 7.6)
0. Understanding the Basics of Dangerous Goods 0.1 Dangerous goods applicability 0.1.1 Understand the definition 0.1.2 Recognize the legal framework (global, national) 0.1.3 Identify the application and scope 0.1.4 Differentiate between hazard and risk 0.2 Understanding the general limitations 0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions 0.3 Identifying roles and responsibilities 0.3.1 Clarify the individual and collective role of the supply chain stakeholders 0.3.2 Understand the passenger's responsibilities

0.3.3 Recognize the impact of State & operator variations 0.4 Understanding the importance of classification & packaging 0.4.1 Identify the general information about classes, divisions 0.4.2 Understand general principles of packing groups 0.4.3 Consider multiple hazards 0.5 Understanding hazard communication 0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling requirements 0.5.3 Identify the required documentation 0.6 Familiarizing with basic emergency response 0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the employer's emergency response requirements *4. Managing cargo pre-loading* 4.1 Plan the load 4.1.1 Determine stowage requirements 4.1.2 Determine segregation, separation, compartment limitations 4.3 Issue NOTOC 4.3.1 Enter required information 4.3.2 Verify conformance with load plan 4.3.3 Transmit to loading personnel *6. Transporting cargo/baggage* 6.1 Load aircraft 6.1.6 Provide NOTOC information to pilot-in-command and flight operations officer/flight dispatcher *7. Collecting safety data* 7.1 Report Dangerous Goods accidents 7.2 Report Dangerous Goods incidents 7.3 Report undeclared/misdeclared Dangerous Goods 7.4 Report Dangerous Goods occurrences
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

11.3 FUNCTION 7.7 FLIGHT CREW

Flight crew (Function 7.7)
0. Understanding the Basics of Dangerous Goods 0.1 Dangerous goods applicability 0.1.1 Understand the definition 0.1.2 Recognize the legal framework (global, national) 0.1.3 Identify the application and scope 0.1.4 Differentiate hazard and risk 0.2 Understanding the general limitations 0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions 0.3 Identifying roles and responsibilities 0.3.1 Clarify the individual and collective role of the supply chain stakeholders 0.3.2 Understand the passenger's responsibilities 0.3.3 Recognize the impact of State & operator variations 0.4 Understand the importance of classification & packaging 0.4.1 Identify the general information about classes, divisions 0.4.2 Understand general principles of packing groups

0.4.3 Consider multiple hazards 0.5 Understanding hazard communication 0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling requirements 0.5.3 Identify the required documentation 0.6 Familiarizing with basic emergency response 0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the employer's emergency response requirements *6. Transporting cargo/baggage* 6.2 Manage dangerous goods pre and during flight 6.2.1 Address dangerous goods not permitted in baggage 6.2.2 Interpret NOTOC 6.2.3 Apply procedures in the event of an emergency 6.2.4 Inform the flight operations officer/controller/air traffic controller in the event of an emergency 6.2.5 Inform emergency services of the dangerous goods on the NOTOC in the event of an emergency *7. Collecting safety data* 7.1 Report Dangerous Goods accidents 7.2 Report Dangerous Goods incidents 7.3 Report undeclared/misdeclared Dangerous Goods 7.4 Report Dangerous Goods occurrences
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

11.4 FUNCTION 7.9 CABIN CREW

Cabin crew (Function 7.9)
0. Understanding the Basics of Dangerous Goods 0.1 Dangerous goods applicability 0.1.1 Understand the definition 0.1.2 Recognize the legal framework (global, national) 0.1.3 Identify the application and scope 0.1.4 Differentiate hazard and risk 0.2 Understanding the general limitations 0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions 0.3 Identifying roles and responsibilities 0.3.1 Clarify the individual and collective role of the supply chain stakeholders 0.3.2 Understand the passenger's responsibilities 0.3.3 Recognize the impact of State & operator variations 0.4 Understand the importance of classification & packaging 0.4.1 Identify the general information about classes, divisions 0.5 Understanding hazard communication 0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling requirements 0.5.3 Identify the required documentation 0.6 Familiarizing with basic emergency response 0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the employer's emergency response requirements

5. Accepting passenger and crew baggage 5.2 Accept baggage 5.2.1 Apply operator requirements 5.2.2 Verify passenger baggage requirements *6. Transporting cargo/baggage* 6.2 Manage dangerous goods pre and during flight 6.2.1 Address dangerous goods not permitted in baggage 6.2.3 Apply procedures in the event of an emergency *7. Collecting safety data* 7.1 Report Dangerous Goods accidents 7.2 Report Dangerous Goods incidents 7.3 Report undeclared/misdeclared Dangerous Goods 7.4 Report Dangerous Goods occurrences
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

11.5 FUNCTION 7.8 FLIGHT OPERATION OFFICERS AND FLIGHT DISPATCHERS

Flight operation officers and flight dispatchers (Function 7.8)
0. Understanding the Basics of Dangerous Goods 0.1 Dangerous goods applicability 0.1.1 Understand the definition 0.1.2 Recognize the legal framework (global, national) 0.1.3 Identify the application and scope 0.1.4 Differentiate between hazard and risk 0.2 Understanding the general limitations 0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions 0.3 Identifying roles and responsibilities 0.3.1 Clarify the individual and collective role of the supply chain stakeholders 0.3.2 Understand the passenger’s responsibilities 0.3.3 Recognize the impact of State & operator variations 0.4 Understanding the importance of classification & packaging 0.4.1 Identify the general information about classes, divisions 0.4.2 Understand general principles of packing groups 0.4.3 Consider multiple hazards 0.5 Understanding hazard communication 0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling requirements 0.5.3 Identify the required documentation 0.6 Familiarizing with basic emergency response 0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the employer’s emergency response requirements *6. Transporting cargo/baggage* 6.2 Manage dangerous goods pre and during flight 6.2.1 Address dangerous goods not permitted in baggage 6.2.2 Interpret NOTOC 6.2.3 Apply procedures in the event of an emergency 6.2.4 Inform the flight operations officer/controller/air traffic controller in the event of an emergency

6.2.5 Inform emergency services of the dangerous goods on the NOTOC in the event of an emergency
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

11.6 FUNCTION 7.5 PERSONNEL RESPONSIBLE FOR ACCEPTING PASSENGERS AND CREW BAGGAGE, MANAGING AIRCRAFT BOARDING AREAS AND OTHER FUNCTIONS INVOLVING DIRECT PASSENGER CONTACT AT AN AIRPORT

Personnel responsible for accepting passengers and crew baggage, managing aircraft boarding areas and other functions involving direct passenger contact at an airport (Function 7.5)
0. Understanding the Basics of Dangerous Goods 0.1 Dangerous goods applicability 0.1.1 Understand the definition 0.1.2 Recognize the legal framework (global, national) 0.1.3 Identify the application and scope 0.1.4 Differentiate between hazard and risk 0.2 Understanding the general limitations 0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions 0.3 Identifying roles and responsibilities 0.3.1 Clarify the individual and collective role of the supply chain stakeholders 0.3.2 Understand the passenger's responsibilities 0.3.3 Recognize the impact of State & operator variations 0.4 Understanding the importance of classification & packaging 0.4.1 Identify the general information about classes, divisions 0.5 Understanding hazard communication 0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling requirements 0.5.3 Identify the required documentation 0.6 Familiarizing with basic emergency response 0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the employer's emergency response requirements *5. Accepting passenger and crew baggage* 5.1 Process baggage 5.1.1 Identify forbidden dangerous goods 5.1.2 Apply approval requirements 5.2 Accept baggage 5.2.1 Apply operator requirements 5.2.2 Verify passenger baggage requirements 5.2.3 Advise pilot-in-command, when applicable *7. Collecting safety data* 7.1 Report Dangerous Goods accidents 7.2 Report Dangerous Goods incidents 7.3 Report undeclared/misdeclared Dangerous Goods 7.4 Report Dangerous Goods occurrences
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

11.7 FUNCTION 7.4 PERSONNEL RESPONSIBLE FOR HANDLING CARGO IN A WAREHOUSE, LOADING AND UNLOADING UNIT LOAD DEVICES AND LOADING AND UNLOADING AIRCRAFT CARGO COMPARTMENTS

Personnel responsible for handling cargo in a warehouse, loading and unloading unit load devices and loading and unloading aircraft cargo compartments (Function 7.4)

0. Understanding the Basics of Dangerous Goods

- 0.1 Dangerous goods applicability
  - 0.1.1 Understand the definition
  - 0.1.2 Recognize the legal framework (global, national)
  - 0.1.3 Identify the application and scope
  - 0.1.4 Differentiate between hazard and risk
- 0.2 Understanding the general limitations
  - 0.2.1 Develop a sense of forbidden dangerous goods
  - 0.2.2 Recognize potential hidden dangerous goods
  - 0.2.3 Familiarize with passenger provisions
- 0.3 Identifying roles and responsibilities
  - 0.3.1 Clarify the individual and collective role of the supply chain stakeholders
  - 0.3.3 Recognize the impact of State & operator variations
- 0.4 Understanding the importance of classification & packaging
  - 0.4.1 Identify the general information about classes, divisions
  - 0.4.2 Understand general principles of packing groups
  - 0.4.3 Consider multiple hazards
- 0.5 Understanding hazard communication
  - 0.5.1 Recognize the basic marking requirements
  - 0.5.2 Recognize the basic labeling requirements
- 0.6 Familiarizing with basic emergency response
  - 0.6.1 Create awareness about general emergency procedures
  - 0.6.2 Understand the employer’s emergency response requirements

4. Managing cargo pre-loading

- 4.1 Plan the load
  - 4.1.1 Determine stowage requirements
  - 4.1.2 Determine segregation, separation, compartment limitations
- 4.2 Prepare load for aircraft
  - 4.2.1 Check packages for indications of hidden/undeclared dangerous goods
  - 4.2.2 Check packages for damage and/or leakage
  - 4.2.3 Apply stowage requirements (i.e. segregation, separation, orientation, securing and protecting from damage)
  - 4.2.4 Apply ULD tags when applicable
  - 4.2.5 Transport cargo to aircraft

6. Transporting cargo/baggage

- 6.1 Load aircraft
  - 6.1.1 Transport cargo/baggage to aircraft
  - 6.1.2 Check packages for indications of hidden/undeclared dangerous goods
  - 6.1.3 Check packages for damage and/or leakage
  - 6.1.4 Apply stowage requirements (i.e. segregation, separation, orientation, securing and protecting from damage)
  - 6.1.5 Verify aircraft load against NOTOC
  - 6.1.6 Provide NOTOC information to pilot-in-command and flight operations officer/flight dispatcher
- 6.3 Unload aircraft
  - 6.3.1 Apply specific unload considerations

6.3.2 Check packages for indications of hidden/undeclared dangerous goods 6.3.3 Check packages for damage and/or leakage 6.3.4 Transport cargo/baggage to facility/terminal *7. Collecting safety data* 7.1 Report Dangerous Goods accidents 7.2 Report Dangerous Goods incidents 7.3 Report undeclared/misdeclared Dangerous Goods 7.4 Report Dangerous Goods occurrences
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

12. TRAIN-THE-TRAINER

Train-the-Trainer (GEN10)
1. Trainer's role a. Responsibilities and attributes b. Boundaries of the role of a trainer 2. Teaching and learning approaches, styles and strategies a. Principles of adult learning b. Different personality types c. Adapting to learning style differences d. Difficult situations with different personality types 3. Session planning skills a. Classroom management b. Planning and preparation c. Learning objectives 4. Training delivery a. Questioning techniques and training aids b. Presentation skills c. Facilitation skills d. Objection handling e. Difficult situations f. Listening skills g. Delivery of a theory lesson h. Delivery of a practical lesson i. Give and receive feedback j. Microlearning and microteaching 5. Use of different assessment methods to evaluate a. Effectiveness of training b. Participant competence c. Training solution 6. Digital learning (as appropriate to the organization) a. Learning in the digital age, digital natives b. Digital learning tools c. Delivery of virtual learning
Training method: Theoretical
Assessment method: Theoretical and practical
Recurrent training within 36 months.

13. ON-THE-JOB TRAINER

On-the-job Trainer (GEN08)
1. Roles and responsibilities of a supervisor 2. Principles of effective leadership 3. Coaching 4. Delegating and goal setting 5. Effective feedback (giving and receiving feedback) 6. Effective communication styles & channels 7. Briefing/debriefing 8. Creating and maintaining a safety culture and open reporting culture (Just culture) 9. Planning and problem solving 10. Performance management–operational excellence
Training method: Theoretical
Assessment method: Written test
Recurrent training: not required

14. CARGO TERMINAL

Cargo Terminal
1. Cargo transportation by air a. International regulations. International organizations regulating the carriage of goods. Regulatory documents b. National regulations c. Basic terminology d. Acceptance of cargo. “Ready for carriage” cargo e. Ground Operations and Cargo Handling Manual f. Aircraft construction 2. Unit Load Devices a. ULD types b. ULD identification c. ULD storage and transportation d. Auxiliary equipment (ULD connectors) 3. Contours a. Main deck contours of B767-300BCF (-BDSF) and B757-200PCF b. Lower deck contours of A330, B767-300BCF (-BDSF), B757-200PCF and A320 family c. Scale contour templates d. Cargo doors e. Cargo loadability check 4. Cargo holds weight limitations a. Linear load, areal load, ULD maximum load limits on Main Deck b. Linear load, areal load, ULD maximum load limits on Lower Deck c. Linear load, areal load, ULD maximum load limits on Bulk section d. Unsymmetrical load limits 5. Basic build-up principles and sequence a. Basic build-up principles b. Basic build-up sequence. c. ULD weight determination d. ULD tag completion e. Additional equipment 6. Shoring a. General rules of shoring usage

b. Methods of shoring calculation c. Simplified method of shoring calculation d. Shoring charts 7. Cargo tie-down to ULD a. General rules of cargo tie-down b. Tie-down calculation c. Tie-down scheme d. Cargo center of gravity and ULD net securing capability 8. Transmission of information about the prepared ULD (UWS, onload sheet)
Training method: Theoretical
Assessment method: Written test
Recurrent training within 24 months.

15. SPECIAL CARGO HANDLING

Special Cargo Handling
1. Special cargo transportation by air a. “Special Cargo” definition. Types of special cargo b. Influence of aircraft characteristics on cargo transportation c. Special conditions of cargo transportation d. Temperature sensitive cargo. Temperature control during transportation e. International and local regulations specific for special cargo transportation f. Transportation process g. IMP-codes and FSU-messages h. Airwaybill 2. Perishable cargo transportation a. Types of perishable cargo b. Documentation, packaging and labeling c. Requirements to transportation and storage of perishable cargo 3. Pharmaceutical cargo transportation a. Types of pharmaceutical cargo b. Documentation, packaging and labeling — Shipper’s and carrier’s responsibilities — Requirements to airwaybill — TTSP packaging — Labeling c. Requirements to transportation and storage of TTSP — Booking — Acceptance — Storage — Build-up and break-down — Apron transportation — AC Loading and unloading 4. Live animals transportation a. Live animals classification and CITES requirements b. Documentation, packaging and labeling — Shipper’s and carrier’s responsibilities — Documentation requirements — Container requirements — Labeling c. Requirements to transportation and storage of live animals — Booking

— Acceptance — Storage and apron transportation — AC Loading and unloading — Feeding and water supply — Hygiene requirements 5. Heavy and outsized cargo transportation 6. Risks to cargo and risks related with cargo during air transportation
Training method: Theoretical
Assessment method: Written test
Recurrent training within 36 months.

STATION FLIGHT REPORT FOR CARGO AIRCRAFTS

Station:		MGT:	

ARRIVAL INFORMATION

Date		Flight		Route		A/C REG №	

STA	Offloading		Any damage of airplane found:	
	Start	Complete		
ATA			Roll in/ Roll out - Offloading	
Landing / Block				
			Number of supernumeraries on board	

FOD inspection performed by(company and name)	Special cargo (temperature sensitive,VUN,VAL,OHG,CAR) handling supervised by(company and name)

Any discrepancy requiring add manpower/equipment according MEL		Cargo manifest signed by load control agent	

Detailed irregularity description with the time of occurrence. Report the details.

RAMP SAFETY CONTROL

Adverse weather conditions information sent to ground handling company and necessary actions are taken			

GSE approach to aircraft controlled by (company and name)	

Number of staff involved in loading/ unloading operations	Main deck 4
	Lower deck 2

Security			Safety cones			Bug sprays		

DEPARTURE INFORMATION

Date		Flight		Route		A/C REG №	

STD	Onloading		Fueling		Fuel uplift (kg)	Any damage of airplane found:	
	Start	Complete	Start	Complete			
ATD					Roll in/ Roll out - Loading		
	Actual ground time						
Off block / Take off	Tie-down Tie-down must be shown only for BIG, HEA, ENG, Rigid cargo, automobiles				Crew briefing docs on board(on crew hand)		
	Start		Complete		Cargo docs on board		

Catering		Payload (kg)	Payload (index)	ZFW (kg)	ZFW % MAC	TOW (kg)	TOW % MAC
Start	Complete						

FOD inspection performed by(company and name)	Special cargo (temperature sensitive,VUN,VAL,OHG,CAR) handling supervised by(company and name)

Bulk physically checked by		Number of cargo attendants onboard	

Detailed irregularity (delay) description with the time of occurrence. Report the details only in case of delay and/or irregularities happens.

Load Control Agent on Arrival	Reporting date and time	Signature
Load Control Agent on Deparrture	Reporting date and time	Signature

Appendix 1.5 Station Flight Report for Passenger Aircrafts

STATION FLIGHT REPORT

FROM: **TO:**

all times shall be in UTC

Booking figures	
Destination	
Transit	
Transfer	
TOTAL	

Remained fuel on arrival, kg	
Uplifted fuel, kg	

Flight-No.:				DATE		
A/C Type:				REG		
Crew:				Departure		Arrival
Config.:				STD:		STA
Gate:				ETD:		ETA
Position:				ATD:		ATA
Delay Code		*FLT*	NIL	Delay Code		*FLT*
Dealy Time		*IN*	NIL	Dealy Time		*OUT*

Catering	Crew	Pax	TTL	Order Time
Planned				
1. Reorder				
2. Reorder				

Checklist	Time		
Check-In started			
No. of Counter open	Economy		
Check-In ended			
Gate opened			
Boarding ok to board			
Boarding start			
Boarding end			
A/C door closed			

Pax on Board IN					
Total		M	F	CHD	INF
Pax Disclosure					
QTY →					
Cargo					
Mail					

Pax on Board OUT					
Total		M	F	CHD	INF
Pax Disclosure					
QTY →					
Cargo					
Mail					

Extra service revenue:			
Type	Qty	Amount	Currency
XBAG	0	0,00	UZS
BIKE	0	0,00	UZS
SPEQ	0	0,00	UZS
PETC	0	0,00	UZS
SEAT	0	0,00	UZS

TOTAL TICKETS					
Pax	Inf	Paper	MCO	EXC	Etkts

COMMENTS :	

OPS RAMP	
OPS CHECK-IN	

File completed by	Signature

GROUND OPERATIONS OCCURRENCE REPORT

AIRPORT _____

Title _____

One line statement on the main features of incident/accident _____

_____

PART 1. DAMAGE BY

Other aircraft	☐	Foreign Object Debris	☐
Ramp equipment	☐	Unknown (previously unreported)	☐
Vehicle	☐	Jet blast	☐
Other (specify):	_____		☐

Date:	_____	Time of occurrence:	_____
Aircraft Reg.:	_____	Aircraft type:	_____
Area (stand, etc):	_____	Phase of operation:	_____
Flight Nr.:	_____	Flight cancelled (Y/N)	_____
Scheduled Ground Time:	_____	Actual Ground Time:	_____
Flight Delay:	_____		

PART 2. DETAILS OF DAMAGE

PART 3. NUMBER OF CASUALTIES

	FATAL	NON-FATAL
Employees		
Passengers		
Others		

PART 4. VEHICLE/RAMP EQUIPMENT DETAILS AND CONDITION REPORT

	Serviceable	Faulty	REMARKS
Tires	☐	☐	
Brakes	☐	☐	
Steering	☐	☐	
Lights	☐	☐	
Wipers	☐	☐	
Protection	☐	☐	
Warning Devices	☐	☐	
Stabilizers	☐	☐	
Tow Hitch	☐	☐	
Field of vision from driving position	☐	☐	

Serial Fleet Nr.:	_____
Type:	_____
Owner:	_____
Area (stand, ect.):	_____
Age of Vehicle/ Ramp Eq.:	_____
Last Overhaul:	_____

PART 5. DETAILS OF PERSONNEL INVOLVED

	1		2		3
Name:		Name:		Name:	
Job Title:		Job Title:		Job Title:	
Company:		Company:		Company:	
Staff ID.:		Staff ID.:		Staff ID.:	
License:		License:		License:	

PART 6. CONDITIONS

Visibility (m, km): Wind/gust (kts): Temperature (°C):

Weather:	☐ Rain	☐ Snow	☐ Sleet	☐ Hail	☐ Fog	
Surface:	☐ Dry	☐ Wet	☐ Snow	☐ Slush	☐ Ice	☐ Contamination
Lighting:	☐ Good	☐ Poor	☐ Day	☐ Night	☐ Twilight	

PART 7. CONTRIBUTORY FACTORS

Identify factors which in your opinion contributed to the incident/accident by major factor:

Other factors (specify):

Which of these contributory factors are normal practice?

PART 8. SKETCH

PART 9. NARRATIVE

Give a description of what happened. Include details of relevant contributory factors identified.

PART 10. INITIAL FINDINGS

PART 11. INITIAL ACTION TAKEN

PART 12. CLOSING ACTION

PART 13. PREPARED BY

Name (Block Capitals): _____

Signature: _____

Status: _____

НЕСОПРОВОЖДАЕМЫЙ РЕБЕНОК
UNACCOMPANIED MINOR
KUZATIB BORUVCHISIZ BOLA

Пожалуйста, заполните форму печатными буквами */ Please fill in the following form capital letter / Marhamat qilib, shaklni bosma hariflarda to'ldiring*

Полное имя ребенка Full name of minor Bolaning to'liq ismi

_____

Фамилия/ Surname/ Familiyasi /Имя/ Name/ Ismi Отчество/ Other name (s) / Otasining ismi

Возраст Age Yoshi _____ Пол Sex Jinsi _____

Постоянный адрес и номер телефона ребенка Permanent address and telephone NO of minor Bolaning yashash manzili va telefon raqami

_____

Маршрут следования Flight details Yo'nalish marshruti

_____	_____	_____	_____
№ рейса/ Flight number/ Qatnov	Дата/ Date /Sana	Из/ From/ Dan	В/ To/ Ga
_____	_____	_____	_____
№ рейса/ Flight number/ Qatnov	Дата/ Date /Sana	Из/ From/ Dan	В/ To/ Ga

Данные о провожающем Personal seeing off on departure Kuzatib qo'yuvchi to'g'risida ma'lumotlar

_____

Фамилия/ Surname/ Familiyasi/ Имя/ Name/ Ismi Отчество/ Other name (s)/ Otasining ismi

_____ _____

_____ _____

Адрес/Adress/Manzil Номер телефона/ Telephone N/Telefonraqami

Данные о лице, встречающей ребенка в пункте назначения Person meeting on arrival Bolani belgilangan punktda kutib oluvchi to'g'risida ma'lumotlar

_____

Фамилия/ Surname/ Familiyasi /Имя/ Name/ Ismi Отчество/ Other name (s) / Otasining ismi

_____ _____

Адрес/Adress/Manzil Номер телефона/ Telephone N/ Telefon raqami

Подпись, заверяющая доставку ребенка по назначению / Signature for release of minor from airlines' custody / Bolani belgilangan manzil bo'yicha yetkazish tasdiqlovchi imzo _____

Заполняются персональные авиакомпании-перевозчика Company use only Tashuvchi-aviakompaniya xodimi tomonidan to'ldiriladi

Сопровождающий на посадку в пункте отправления

Accepted by origination station check agent	_____	_____
Samolyotga kuzatuvchi	Ф.И.О/ Name/ I.F.SH	Подпись/Signature/ Imzo
Передан бортпроводнику		
Transferred to flight attendant	_____	_____
Bortkuzatuvchiga topshirildi	Ф.И.О/ Name/ I.F.SH	Подпись/Signature/ Imzo

Передан в пункте смены экипажа		
Transferred to new crew	_____	_____
Ekipaj almashganda topshirildi	Ф.И.О/ Name/ I.F.SH	Подпись/Signature/ Imzo
Представитель А/К в пункте назначения		
Released to termination station airline rep	_____	_____
Belgilangan manzildagi A/K vakili	Ф.И.О/ Name/ I.F.SH	Подпись/Signature/ Imzo

Агент группы сопровождения и сопровождающий в полете предупреждены о передаче ответственности за несопровождаемого ребенка в каждом соответствующем пункте посадки и высадки. В случае смены экипажа или изменения маршрута замена сопровождающих должна быть подтверждена их подписями.

The agent and the flight attendants are required to acknowledge the transfer of responsibility for the unaccompanied child at each enplaning and deplaning point as may be applicable. In the event of a crew change en route transfer between flight attendants must be acknowledged by their signature.

Kuzatib borish guruhining va parvozda kuzatuvchi agent har bir tegishli qo'nish va tushirish punktida kuzatilmayotgan bola uchun javobgarlikni topshirish to'g'risida ogohlantirgan. Ekipaj almashtirilishi yoki marshrutning o'zgarishi hollarida kuzatib boruvchilarning almashtirishi ularning imzolari bilan tasdiqlanishi lozim.

Декларация родителей или опекунов

Я подтверждаю, что упомянутые выше лица обеспечат сопровождение ребенка до аэропорта отправления и встречу в аэропорту стоп-овера и/или в назначения. Эти лица будут оставаться в аэропорту вплоть до вылета рейса и/или в назначенное время прибытия рейса будут ждать ребенка в аэропорт. В случае, если ребенок не будет встречен в пункте стоп-овера или назначения, я уполномачиваю перевозчика(ков) на любые действия, которые он сочтет необходимыми для обеспечения безопасности ребенка, в том числе и на возврат ребенка в аэропорт первоначального отправления, и я согласен на возмещение перевозчику(кам) всех понесенных им расходов и издержек, связанных с такой перевозкой . Я удостоверяю, что ребенок имеет при себе все документы, необходимые для перевозки и требуемые действующими законами (свидетельство о рождении, визы, медицинские справки и т.д). Я, нижеподписавшийся, родитель/опекун указанного выше ребенка, выражаю согласие на его перевозку и удостоверяю точность приведенной выше информации.

DECLARATION OF PARENT OR GUARDIAN

I confirm that I have arranged for the above-mentioned minor to be accompanied to the airport on departure and to be met at stopover point and on arrival by the persons named. These persons will remain at the airport until the flight has departed and/or be available at the airport at the scheduled time of arrival of the flight. Should the minor not be met at stopover point or destination, I authorize the carrier(s) to take whatever action they consider necessary to ensure the minor's safe custody including return of minor to the airport of original departure, and I agree to indemnity and reimburse the carrier(s) for the costs and expenses incurred by them in taking such action.
I certify that the minor is in possession of all travel documents (passport, visa, health certificate, etc.) required by applicable laws. I the undersigned parent or guardian of the above-mentioned minor agree to and minor named above and certify that the information provided is accurate.

OTA-ONALAR YOKI VASIYLAR DEKLARATSIYASI

Men, yuqorida keltirilgan shaxslar bolani jo'nash aeroportigacha kuzatib qo'yish va stop-over va/yoki belgilangan aeroportda kutib olishni ta'minlashlarini tasdiqlayman. Bu shaxslar qatnov uchib kenguncha qadar aeroportda bo'ladilar va/yoki qatnov kelgan vaqtda Bolani aeroportda kutib turadilar . Bola stop-over yoki belgilangan punktda kutib olinmaganligi taqdiri'da men tashuvchiga u bolaning xavfsizligini ta'minlash uchun nimani lozim topsa, shu harakatlarga, jumladan Bolani birlamchi jo'nash aeroportiga qaytarishga ham vakolat beraman hamda men bu tashuv bilan bog'liq bo'lgan tashuvchi(lar)ga tomonidan ketgan barcha xarajatlarni qoplashga roziman.
Tashuv uchun zarur bo'lgan va amaldagi qonunlar talab qiladigan barcha hujjatlar bolaning o'z yonida (tug'ilganlik haqida guvohnoma, vizalar, tibbiy ma'lumotnomalar va h.k.) ekanligini tasdiqlayman. Men, quyida imzo chekuvchi,

yukorida nomi ko'rsatilgan bolaning ota-onasi/vasiyi, uning tashuvi amalga oschirishlariga rozilik bildiraman va yuqorida keltirilgan ma'lumotning aniqligini tasdiqlayman.

Подпись/ Signature/ Imzo _____

Адрес/ Address/ Manzil _____

Телефон/ Telephone №/ Telefon raqami _____

ИНФОРМАЦИЯ ДЛЯ АГЕНТОВ И ПРЕДСТАВИТЕЛЕЙ АВИАКОМПАНИИ:

- Подготовить не менее 6 копий данного документа.
- Первый заполненный и подписанный экземпляр запроса остается у родителей или опекунов, второй и все последующие, по ходу обслуживания несопровождаемого ребенка под контролем и ответственностью сопровождающих лиц, остаются уполномоченным лицам, передающим ребенка на каждом из этапов обслуживания другому сопровождающему.
- Копия Запроса, подписанная лицом, встречающим несопровождаемого ребенка, остается в представительстве или аэропорту РУз, передавшем ребенка встречающему лицу.

INFORMATION FOR AGENTS AND AIRLINE REPRESENTATIVES (SUPERVISORS):

- Prepare minimum 6 copies of this document.
- Give 1st filled and signed copy of this document to parents (or persons, who delivered UM to check-in).
- Remain copies shall be distributed between persons, responsible for UM during the travelling (flight attendants, airport supervisors, etc.).
- Last copy shall be signed by meeting person and remain in Airline Airport Office, where UM was transferred to meeting person.

+998 55 518 88 88
262, Buyuk Ipak yuli street, Tashkent, Uzbekistan
info@myf.global
myf.global

MY FREIGHTER

CENTRUMAIR

+998 55 518 88 88
38, Oybek street, Tashkent, Uzbekistan
info@centrum-air.com
centrum-air.com

ACT of refusal of transportation

Airport: _____
Date:_____
Flight No.:_____
Route: _____
Full name of the passenger _____
Ticket number: _____
Cabin _____ class, seat No. _____, boarding pass No. _____
(if the refusal of carriage is carried out after the passenger, baggage and hand luggage have been checked in)
Reasons for refusal (mark the actual one(s)):

□	1	the need to ensure the safety of the aircraft flight (a detailed comment from an airline representative is required).
□	2	the need to comply with the requirements of government agencies (including a ban on entry into the country of transit and destination.
□	3	the need to comply with the requirements of government agencies (including a ban on entry into the country of transit and destination.
□	4	discrepancy between the data in the identity document specified when purchasing the ticket and the document presented during registration, or the expiration of the validity period of this document.
□	5	violation by a passenger of the established rules for the use of air transport and failure to obey the orders of the aircraft commander or other authorized officials of the airline.
□	6	the passenger is in a state of alcoholic, toxic or narcotic intoxication.
□	7	violation of public order rules by a passenger.
□	8	the creation by the actions of a passenger of a direct threat to the safety of the flight or the lives of passengers or crew members on board the aircraft.
□	9	the age, mental or physical condition of a passenger may cause a deterioration in his health during the flight or create a danger to his life, as well as create a threat to the health and life of others.
□	10	passenger late for check-in/failure to appear for boarding at the appointed time.
□	11	lack of seats on board an aircraft due to the fault of the airline.

Comments from an airline representative:

_____

_____

_____

Airline representative (name, position, date, signature):

_____

SAB employee (full name, position, date, signature):

_____

Representative of the medical service (if the passenger is denied transportation for medical reasons, or subject to a medical examination) (full name, position, date, signature):

_____

In some cases, when a passenger is denied transportation on a booked flight due to the fault of the Carrier, the latter may be provided with additional services or paid compensation according to established standards. Please contact the airline's general representative office in Tashkent to clarify the possibility of receiving compensation.

PASSENGER RIGHTS

If a passenger with a valid ticket or reservation is refused a seat on an aircraft by the Carrier, and if this results in the passenger being delayed at the flight destination longer than the established time, the damage caused to the passenger is covered by the carrier by a compensation payment or by providing additional services free of charge.

The procedure for payment and the amount of the compensation payment are established by the Carrier on the basis of civil legislation, in accordance with the Air Code of the Republic of Uzbekistan, as well as the legislation of the country of departure or transit and the requirements of international commercial unions.

If the flight is delayed, the Carrier is obliged to compensate the passenger for the damage caused. The amount of damage is determined by the Carrier based on the cost of the ticket.

For the damage caused to the passenger, the Carrier provides the following additional free services:

- one telephone conversation or sending one telegram or one-time use of other means of communication;
- food and drinking water (depending on the duration of a waiting period) or transportation by another means of transport;
- hotel accommodation (depending on the duration of a waiting period);
- transport to deliver the passenger to the temporary place of residence and back;
- refund of the of expenses related to the delay of connecting flights stipulated in the ticket.

Refund is not paid to the passenger if:

- passenger refuses to fly on another flight and demands immediate refund within the limits of the unfulfilled part of the obligation;
- passenger violated the requirements related to the terms of ticket purchase and check-in established by the Carrier;
- passenger checked in, but did not arrive at the departure point;
- passenger is offered transportation in a higher class than indicated in his ticket, without additional payment;
- transportation is free of charge;
- passenger is removed from a flight due to:
    i. violation by the passenger of customs, border, sanitary and quarantine and other requirements related to air transportation established by the legislation of the country of departure, destination and transit;
    ii. the health condition of the passenger, requiring special conditions of air transportation or threatening the safety other persons or of the passenger himself, which is confirmed by medical documents; or leads to disorder and does not allow the carrier to provide other passengers with the services stipulated by the terms of carriage;
    iii. violation by the passenger of the rules of conduct on board the aircraft, creating a threat to safety, or a threat to property or lives or health of persons on board the aircraft;
    iv. refusal of the passenger to comply with the requirements established by the rules of air transportation.

MEDIF - Medical Information for Fitness to Travel or Special Assistance

PART 1
To be completed by Passenger

All sections must be completed clearly. See MEDIF Part 3 for guidance. Use Block letters or a typewriter when completing this form.
Yes/No boxes should be completed with a cross in the relevant box.
NB. The MEDIF should be submitted at least 48 hours before travel is due to commence

Passengers travelling with any one of the following conditions are requested to prepare a Medical Information Form (MEDIF) and submit it when making a reservation.

- Passenger whose medical condition requires oxygen supply, or needs stretcher, medical escort and / or medical treatment onboard the flight.
- Carriage and use of medical equipment or instruments.
- Passenger whose fitness for air travel is in doubt, as evidenced by recent instability, disease, treatment or surgery.
- Passenger who comes under any one of the categories listed on MEDIF part 3 as usually unacceptable for travel, or other serious or unstable sickness / injuries.

1. Passenger Details:

1.1 Family name, Initials	1.2 Age	1.3 Languages	1.4 Contact Telephone No.

2. Itinerary: Note: You may need to allow longer for transfer between flights **Booking Ref. Number: ……**

Date	Flight No.	From	To	Class	Reservation status	Date	Flight No.	From	To	Class	Reservation status

3. Nature of Incapacitation / Illness	4. Intended Escort Details:	5. Stretcher needed
	Name: _____ □ Travel Companion □ Medical Escort Qualification*:_____ *for Medical escort only	Yes ☐ No ☐ (All stretcher cases must be escorted) **6. Incubator needed?** Yes ☐ No ☐ Type:

6. Wheelchair needed (choose one):

			Own wheelchair?	Collapsible?	Power Driven?	Battery type spillable?
Yes ☐	Can climb steps and can walk in cabin	**(WCHR)** ☐				
	Unable to climb steps, can walk cabin	**(WCHS)** ☐	No ☐	No ☐	No ☐	No ☐
No ☐	Unable to climb steps or walk in cabin	**(WCHC)** ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐

Note: Wheelchairs with "spillable" batteries are considered Dangerous Goods

7.Have ambulance arrangements been confirmed? (choose one)

At Departure port?	Yes ☐ No ☐	Airside/ Landside
At Transit port?	Yes ☐ No ☐	Airside/ Landside
At Arrival port?	Yes ☐ No ☐	Airside/ Landside

8. Has hospital admission been confirmed at arrival port?

*Hospital details: (full name, address and telephone number)

9. Are any special in-flight arrangements required?

Special meals, special seating, extra seat(s), special equipment etc. For provision of special equipment such as oxygen etc., please complete Part 2 of this form.

10. Do you have a valid FREMEC card? Yes ☐ No ☐

If yes, add below FREMEC data to your reservation requests.
If no, (or additional data needed by carrying airline(s)), ask your physician to complete Part 2 of this form.

Number:	Issued by:	Valid until:
Incapacitation:	Limitation:	

Passenger's declaration

I hereby authorize_____(name of nominated physician) to complete Part 2 for the purpose as indicated overleaf and in consideration thereof, I hereby relieve that physician of his/her professional duty of confidentiality in respect of such information, and agree to meet such physician's fees in connectiontherewith.

I take note that my journey will be subject to the general conditions of carriage/tariffs of the carrier(s) concerned and that the carrier(s) do not assume any special liability exceeding those conditions/tariffs. I am prepared at my own risk to bear any consequences which carriage by air may have for my state of health and I release the carrier, its employee's servants and agents from any liability for such consequences. I agree to reimburse the carrier upon demand for any special expenditures or costs in connection with my carriage.

Passenger or Agent's signature	
I have read and understood MEDIF Part 3 Signed.....	

MEDIF - Medical Information for Fitness to Travel or Special Assistance

PART 2
To be completed by attending Physician

NB. The MEDIF should be submitted at least 48 hours before travel is due to commence

This form is intended to provide confidential information to enable the airlines' medical departments to aid in assessment of fitness for travel and to provide for the passenger's special needs. Please ensure information is accurate and current. All sections must be completed clearly using Block letters or a typewriter.
Yes/No boxes should be completed with a cross in the relevant box.

Notes for completion:
N.B. Cardio-pulmonary cases as well as those requesting continuous oxygen, stretcher or incubator should enclose a recent detailed medical report with the MEDIF (A copy of a specialist or hospital referral would generally be sufficient).
Physicians should refer to MEDIF Part 3 for guidance with specific medical conditions.
Cabin attendants are NOT authorized to give special assistance to particular passengers, to the detriment of their service to other passengers, nor are they permitted to administer injections, to give medication, to lift passengers or to assist in the toilet.

MEDA 1	PATIENT'S NAME, INITIAL(S)	SEX	AGE
MEDA 2	ATTENDING PHYSICIAN	Phone number:	Name of Hospital or clinic:
MEDA 3	MEDICAL DATA: DIAGNOSIS in detail (including vital signs as clinically indicated)		Date of operation / diagnosis
	Temp (°C): Pulse: BP: RR: Oxygen Saturation (Room Air) %		Day / month / year of first symptoms
MEDA 4	**PROGNOSIS for the flight(s):** Please consider the potential effects of the itinerary and physiological stresses of flight on the patient's state of health and mention if Terminal case. Narratives should be provided for guarded / poor.		
	GOOD (no problems anticipated) / **UNDER CLOSE ATTENTION** (potential problems in flight) / **POOR** (problems likely)		**Narrative (**e.g. late stage disease, unstable**)**
MEDA 5	**CONTAGIOUS** AND **COMMUNICABLE** disease?		Yes ☐ No ☐ Specify ☐
MEDA 6	Would the physical and/or psychological condition of the patient be likely to cause distress or discomfort to other passengers?		Yes ☐ No ☐ Specify ☐
MEDA 7	Can patient use normal aircraft seat with seatback placed in the **UPRIGHT POSITION** when so required? If "no", patient will need a stretcher on board.		Yes ☐ No ☐ Specify ☐
MEDA 8	Can patient take care of his own needs on board **UNASSISTED** (including meals, visit to toilet, etc.)? If not, specify type of help needed:		Yes ☐ No ☐ Specify ☐
MEDA 9	If to be **ESCORTED**, is the arrangement satisfactory to you? If not, specify type of escort proposed by you:		Yes ☐ No ☐ Specify ☐
MEDA 10	Does the patient need **SUPPLEMENTARY OXYGEN** equipment in flight?		Yes ☐ No ☐ Specify ☐
	GUIDANCE: Patients who can walk 50 meters without dyspnea generally do not require supplementary Oxygen. Please Specify **FLOW RATE** required.		Constant flow Oxygen (mask, tracheostomy) Specify Flow Rate: 2☐ 4 ☐ (L/min)
	Can patient go without oxygen for short periods of time? (e.g. for toileting)		Yes ☐ No ☐
	For Oxygen use in **STRETCHER** cases, two types of regulators are available 1. Low output pressure for an adjustable constant flow rate through a humidifier to a facemask or other low-pressure medical equipment and 2. High output pressure and a self-sealing valve outlet needed for high-pressure medical equipment.		Indicate which regulator (no other regulators can be used). **Low pressure regulator (1 psi)** **High Pressure regulator (40-60 psi)**
MEDA 11	Does patient need any medication other than self-administered, and/or the use of special equipment such as respirator, incubator, nebulizer etc.? **NOTE: all equipment on board must be dry cell battery operated**	(a) on the GROUND while at the airport(s):	Yes ☐ No ☐ Specify ☐
MEDA 12		(b) on board of the AIRCRAFT:	Yes ☐ No ☐ Specify ☐
MEDA 13	Does patient need HOSPITALISATION? (If yes, indicate details of arrangements made) NOTE: The attending physician is responsible for all arrangements.	(a) during long layover or night stop at CONNECTING POINTS en route:	Yes ☐ No ☐ Specify ☐
MEDA 14		(b) upon arrival at DESTINATION:	Yes ☐ No ☐ Specify ☐
MEDA 15	Other remarks or information in the interest of your patient's smooth and comfortable transportation (specify if any):		
MEDA 16	Other arrangements made by the attending physician:		

Attending Physician's Signature……..

I have Read and understood Part 3 of the MEDIF form……

License/Provider Number ……. **Date:……..**

Official Stamp

MEDIF Part 3

NOTES FOR THE GUIDANCE OF MEDICAL PRACTITIONERS AND PASSENGERS

The principal factors to be considered when assessing a patient's fitness for air travel are:

- Reduced atmospheric pressure (Cabin air pressure changes greatly during 15-30 minutes after takeoff and before landing and gas expansion and contraction can cause pain and pressure effects)
- Reduction in oxygen tension. (The cabin is at a pressure equivalent to an altitude of 6,000 to 8,000 feet and oxygen partial pressure is approximately 20% less than on the ground).

Any medical condition which would render a passenger unable to complete the flight safely, without requiring extraordinary medical assistance during the flight is considered unacceptable for air travel.

Conditions usually considered unacceptable for air travel (Although these are suggested limiting factors, each individual case must be considered on its merits and is dependent on whether or not the passenger is accompanied by a professional escort):

- Anemia of severe degree.
- Severe cases of Otitis Media and Sinusitis.
- Acute, Contagious or Communicable Disease.
- Those suffering from Congestive Cardiac Failure or other cyanotic conditions not fully controlled.
- Uncomplicated Myocardial Infarction within 2 weeks of onset complicated MI within 6 weeks of onset.
- Those suffering from severe respiratory disease or recent pneumothorax.
- Those with GI lesions which may cause hematemesis, melena or intestinal obstruction.
- Post-operative cases:
  a) Within 10 days of simple abdominal operations.
  b) Within 21 days of chest or invasive eye surgery (not laser).
    i. Fractures of the Mandible with fixed wiring of the jaw (unless medically) escorted.
    ii. Unstable Mental illness without escort and suitable medication for the journey.
    iii. Uncontrolled seizures unless medically escorted.
    iv. Uncomplicated single Pregnancies beyond the end of the 36th week or multiple pregnancies beyond end of the 32nd week.
    v. Infants within 7 days of birth.
    vi. Introduction of air to body cavities for diagnostic or therapeutic purposes within 7 days.

NOTES ON OTHER SPECIFIC ITEMS

Allergies: Simple requests for a special meal do not require completion of this form. If your patient has a life-threatening food allergy that may require treatment in-flight, particularly if they react to the presence of traces of food in the air, this form should be completed.

Note: MY FREIGHTER cannot guarantee peanut free meals.

Asthma: Medication must be carried in cabin baggage. Nebulizers are no longer required to have their own power source. Spacer devices used with an inhaler is an effective onboard alternative.

Fractures: All new long bone fractures and full leg casts (cast must be at least 48hrs old) require a medical certificate. Plasters should be split for fresh injuries (48hrs or less), which could swell inside the cast on a long flight. Extra legroom for leg elevation is not possible in economy class; however, an aisle seat can be reserved. Please state whether the injury is left or right.

Lung or heart disease: Cardiopulmonary disease which causes dyspnea on walking more than 100m on the flat, or has required oxygen in hospital or at home (or in-flight previously) may require supplementary oxygen. The aircraft oxygen is for emergency use only. Serious cardiopulmonary cases as well as those requesting continuous oxygen, stretcher, or incubator should enclose a recent detailed medical report with the medical certificate. (A copy of a specialist or hospital referral would generally be sufficient).

Physical Disabilities: There is no need for this form if you simply require a wheelchair as far as the aircraft door; the travel agent can indicate this on the reservation if you wish.

Note: Civil Aviation Rules require all passengers to be able to use the aircraft seat with the seatback in the upright position.

Special Meals: Special diets for religious or other medical reasons can be ordered direct from your travel agent without using this form. If you have a food allergy please see the section on "allergies" above.

Terminal Illness: Passengers in the advanced stages of terminal illness will normally require a medical or nursing escort.

In-flight care: MY FREIGHTER does not provide nursing attendants for invalid passengers. Cabin crew are trained in First Aid only.

Escorts: should ensure that they have all appropriate items for the proper care of their patient, and are responsible for attending to all aspects of their patient's bodily needs. Due to food handling regulations, Cabin Staff cannot assist with these needs.

Processing MEDIFs

- The MEDIF should be completed based on passenger's (patient's) condition within one month from the date of commencement of air travel and submitted at least 48 hours before travel is due to commence. Please be advised that MY FREIGHTER Medical Services may request further information or clarification prior to approval of the MEDIF. MY FREIGHTER must be notified immediately of any change in the patient's condition PRIOR to travel.
- Passengers whose condition has deteriorated or has not been accurately described in this MEDIF may be refused boarding in line with flight safety considerations. (Please refer to conditions of carriage Article 7.3).

АКТ ПЕРЕДАЧИ ВЕЩЕЙ, ЗАБЫТЫХ ПАССАЖИРАМИ/ЧЛЕНАМИ ЭКИПАЖА НА БОРТУ ВС

Дата: _____

№ рейса: _____

Маршрут: _____

Место обнаружения: _____

Салон _____ **класса, место №**_____

Описание обнаруженной вещи (вещей), подробное описание ее содержимого:

Представитель авиакомпании (*компания, ФИО, должность, дата, подпись*):

Сотрудник САБ (*компания, ФИО, должность, дата, подпись*):

В осмотре обнаруженных забытых вещей участвовал 3-й сотрудник (*компания, ФИО, должность, дата, подпись*):

Сдал (*компания, ФИО, должность, дата, подпись*):

Принял (*компания, ФИО, должность, дата, подпись*):

PAGE 1 / СТРАНИЦА 1	
OWNER OR OPERATOR **Оператор / Egasi yoki foydalanuvchi**	CENTRUM AIR
MARKS OF NATIONALITY AND REGISTRATION **Отметки о национальной принадлежности и регистрации ВС / Millatka mansub belgilar va qayd belgilari**	
FLIGHT № **Номер рейса / Qatnov №**	
DATE **Дата / Sana**	
POINT OF EMBARKATION **Пункт посадки пассажиров / Q'onish joyi**	
POINT OF DISEMBARKATION **Пункт высадки пассажиров / Tushish joyi**	

SURNAME AND NAME / ФИО	**REMARKS / КОДЫ**

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OWNER OR OPERATOR **Оператор / Egasi yoki foydalanuvchi**	CENTRUM AIR
MARKS OF NATIONALITY AND REGISTRATION **Отметки о национальной принадлежности и регистрации ВС / Millatka mansub belgilar va qayd belgilari**	
FLIGHT № **Номер рейса / Qatnov №**	
DATE **Дата / Sana**	
POINT OF EMBARKATION **Пункт посадки пассажиров / Q'onish joyi**	
POINT OF DISEMBARKATION **Пункт высадки пассажиров / Tushish joyi**	

SURNAME AND NAME / ФИО	REMARKS / КОДЫ

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MARKS OF NATIONALITY AND REGISTRATION **Отметки о национальной принадлежности и регистрации ВС / Millatka mansub belgilar va qayd belgilari**	
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SURNAME AND NAME / ФИО	REMARKS / КОДЫ

PASSENGER REMINDER

Centrum Air Airlines apologizes for any inconvenience caused by handling your baggage and informs you that if you discover damage to your checked baggage or if you do not receive your checked baggage, you must contact the baggage tracing service and the airline representative at the international airport of arrival before leaving the baggage claim area of the airport terminal to draw up a corresponding report and take the necessary measures to search for and establish the causes of the incident.

The search for registered baggage is carried out for 21 days from the moment of arrival of the relevant flight and in case of loss and non-receipt of baggage within the established time frame, you have the right to send a written claim to the Airline.

In cases of loss, damage, shortage of part of the contents and late delivery of checked baggage, you can submit a claim within the following time periods established by the legislation of the Republic of Uzbekistan:

- in case of damage to or shortage of received baggage (damage to baggage) - immediately upon discovery of damage, but no later than 7 days from the date of receipt of baggage;
- in case of delay in delivery – no later than 21 days from the date of transfer of the baggage to the recipient;
- in case of loss of baggage - within two years from the date of arrival of the aircraft at the destination or from the date of termination of transportation.

For domestic transportation within the territory of the Republic of Uzbekistan, written claims against the carrier may be submitted within six months.

The following documents must be attached to the claim:

- report on defects during transportation;
- passport;
– luggage tag;
- air ticket;
– checks, receipts and other documents confirming the damage.

The claim must contain the address of the Airline, the passenger's home address, contact telephone number, the claimed amount, the essence of the appeal indicating the contents of the baggage.

The period for consideration of a claim, in accordance with Article 126 of the Air Code of the Republic of Uzbekistan, is 3 (three) months, and in relation to a claim for transportation in direct mixed traffic or in which several carriers participate - within six months.

Contact numbers for information:

Call center of the airline "Centrum Air": +99855 5188888

Details for sending a written claim:

The airline's email address is info@centrum-air.com

Administration of the airline CENTRUM AIR

To airline representative

_____

(*Name, surname*)

From _____ (*Name, surname*)

Residing at:

_____

_____

_____

Passport № _____

COMMITMENT

Me, passenger _____ of the flight № _____, will undertake all airline expenses happened due to the violation of the border rules (destination or transit country), entry refusal and related costs (include the costs of return transportation to Uzbekistan).

I have no complaints about the airline staff.

_____

Name

_____

Signature

КАРТА ДОСМОТРА ОРУЖИЯ, ПЕРЕВОЗИМОГО НА БОРТУ ВОЗДУШНОГО СУДНА

Правила перевозки огнестрельного оружия в багаже, перевозимом в грузовом отсеке:

Вам разрешается перевозить принадлежащее вам огнестрельное оружие в зарегистрированном багаже, перевозимом в грузовом отсеке воздушного судна, при условии, что:

- **о наличии оружия заявлено перевозчику**, оружие разряжено, и пассажиры во время полета не имеют доступа к багажу, перевозимому в грузовом отсеке воздушного судна;
- в зарегистрированный багаж, перевозимый в грузовом отсеке воздушного судна, **запрещено помещать боеприпасы россыпью**. Боеприпасы в небольших количествах могут быть приняты к перевозке, только если они упакованы в соответствии с правилами перевозки опасных грузов. Обратитесь в ДНООП за дальнейшими инструкциями.

Заявляя перевозчику о соблюдении вышеизложенных условий, я прошу обеспечить авиаперевозку _____ (указать тип оружия).

КОПИЯ ЭКИПАЖА ВОЗДУШНОГО СУДНА

Аэропорт: _____ **Карта досмотра оружия №** _____

Дата: _____ **Пункт назначения:** _____

Рейс № _____ **Место №** _____

Багажная бирка № _____ **Тип оружия и серийный №** _____

Пломба №:

ФИО и подпись сотрудника службы досмотра АБ _____

ФИО пассажира и подпись об ознакомлении с правилами _____

ФИО и подпись КВС _____

МЕСТО ШТАМПА ДОСМОТРА _____

Линия отреза ----------

КОПИЯ ПАССАЖИРА

Аэропорт: _____ **Карта досмотра оружия №** _____

Дата: _____ **Пункт назначения:** _____

Рейс № _____ **Место №** _____

Багажная бирка № _____ **Тип оружия и серийный №** _____

Пломба №:

ФИО и подпись сотрудника службы досмотра АБ _____

ФИО пассажира и подпись об ознакомлении с правилами _____

ФИО и подпись КВС _____

МЕСТО ШТАМПА ДОСМОТРА _____

Линия отреза ----------

КОПИЯ СЛУЖБЫ АВИАЦИОННОЙ БЕЗОПАСНОСТИ (ДОСМОТР)

Аэропорт: _____ **Карта досмотра оружия №** _____

Дата: _____ **Пункт назначения:** _____

Рейс № _____ **Место №** _____

Багажная бирка № _____ **Тип оружия и серийный №** _____

Пломба №:

ФИО и подпись сотрудника службы досмотра АБ _____

ФИО пассажира и подпись об ознакомлении с правилами _____

ФИО и подпись КВС _____

МЕСТО ШТАМПА ДОСМОТРА _____

+998 55 518 88 88
262, Buyuk Ipak yuli street, Tashkent, Uzbekistan
info@myf.global
myf.global

MY FREIGHTER

CENTRUMAIR

+998 55 518 88 88
38, Oybek street, Tashkent, Uzbekistan
info@centrum-air.com
centrum-air.com

FINAL RELEASE

_____ (name of the company) represented by _____ acting on the basis of _____(POA or some other document), acting on behalf _____(name of the company in case the release is signed with the agent of shipper or consignee), hereby declare that, upon receipt of an amount of _____ (write the sum in numbers) _____(write the sum in words) from My Freighter LLC in full and final settlement of all claims on any account whatsoever, arising out of or in connection with the carriage or acceptance for carriage under

Air waybill number:
Date of issue
From:
To:
release, indemnify and hold harmless My Freighter LLC, its employees, agents and independent contractors, insurers or re-insurers and all other carriers involved in the above-mentioned transportation, in respect of any further claims made and arising from the carriage of the goods under the above air waybill including all costs incident thereto.

Bank account number_____
Bank _____
SWIFT _____
IBAN _____
City _____
Under reference _____

_____
Name

_____
Signature

_____
Job Title

_____
Date

СОГЛАШЕНИЕ ОБ УРЕГУЛИРОВАНИИ ПРЕТЕНЗИИ

_____ (наименование компании) в лице _____, действующий на основании _____ (доверенность другой документ), действующий от имени _____ (наименование компании, в случае, если соглашение подписывается с агентом грузополучателя или грузоотправителя), настоящим подтверждает, что после получения суммы в размере _____ (указать сумму) _____ (сумма прописью) от ООО «My Freighter» в качестве полного и окончательного урегулирования любых претензий, которые могут возникнуть в связи с перевозкой или приемкой груза
Номер авианакладной:
Дата выпуска:
Пункт отправления:
Пункт назначения:
освобождает от ответственности и обязательств ООО «My Freighter», его сотрудников, агентов и независимых подрядчиков, страховщиков или перестраховщиков, а также других перевозчиков, участвовавших в перевозке, в отношении любых дальнейших претензий касательно перевозки груза по вышеуказанной авианакладной, включая все возникшие расходы.

Расчетный счет_____
Наименование банка _____
SWIFT _____
IBAN _____
Город_____
Компетенция _____

_____
Имя

_____
Подпись

_____
Должность

_____
Дата

IATA LIVE ANIMALS ACCEPTANCE CHECK LIST

Air Waybill No.: _____ Origin:_____ Destination:_____ *Note*

1: Prepare form in duplicate.
Note 2: If goods are rejected, hand the original of this form to the Duty Officer and show the shipper's and agent's name below.
Note 3: Never reject a shipment until all items have been checked.
Note 4: If goods are accepted, attach the original of this form to the air waybill. The duplicate must be placed on the appropriate file.
Note 5: Answer "not applicable" only where an "N/A" box is provided.
Note 6: If any question is answered "NO", do not accept the shipment and give the duplicate copy of this form back to the shipper or agent together with the consignment.

	General Acceptance	**YES**	**NO***	**N/A**
1.	Have advance arrangements/bookings been made with all the carrier(s) participating in the carriage of the live animals?	□	□	
2.	When laboratory animals, such as monkeys, which may carry diseases communicable to humans are being shipped, has the carrier(s) been advised in order to make the necessary arrangements?	□	□	□
3.	Have advance arrangements been made at the airport of destination, i.e. for quarantine and delivery?	□	□	
4.	In the event of attendants accompanying the animal(s), have advance arrangements been made with all the carriers concerned?	□	□	□
5.	Does the shipment comply with current regulations in force at transit stations?	□	□	
6.	Where applicable, have carrier/governmental exceptions been complied with?	□	□	□
	Air Waybill			
7.	Are the live animals the only entries on the air waybill?	□	□	
8.	Are all the flight numbers for which bookings are held for the entire routing indicated?	□	□	
9.	Is the 24-hour emergency telephone number shown in the "Handling Information" box?	□	□	
10.	Is the quantity of animals in the consignment, as well as their common names, which must as far as possibly correspond with that listed in the IATA Live Animals Regulations, shown in the "Nature and quantity of goods" box?	□	□	□
11.	Are all relevant permits, including CITES where necessary, licenses and certificates required for export, transshipment and import, securely attached to the air waybill and copies of those required affixed to the container?	□	□	□
	Shipper's Certificate			
12.	Is it completed in full and in duplicate?	□	□	
13.	Does the description and quantity of animals agree with the information on the air waybill?	□	□	
14.	Is it signed by the shipper or his authorized agent? (Check that this is not an IATA cargo agent, consolidator, forwarder or indirect carrier.):	□	□	
	Container			
15.	Does it comply with the specific container requirement(s) as detailed in the IATA Live Animals Regulations?			
	(a) Is the size suitable for the particular type of animal?	□	□	
	(b) Does it provide for sufficient ventilation?	□	□	
	(c) Is the construction adequate?	□	□	
	(d) Does it contain adequate handholds/lifting devices to facilitate handling and to prevent the handler from coming into close proximity of the animal(s).	□	□	
	(e) Is it leak and escape proof?	□	□	
	(f) Is the container clean?	□	□	
	(g) Does it contain sufficient absorbent material? (Check that this is not straw, as some countries prohibit the importation of straw.)	□	□	
	(h) Does the container have suitable feeding/watering facilities?	□	□	□
	Labelling and Marking			
16.	Is the consignee's name, street and city address as per air waybill, and a 24-hour contact phone number shown on each container?	□	□	
17.	17. Is the correct number of "Live Animals" and "This Way Up" labels attached to each container?	□	□	
18.	Has each "Live Animals" label been completed, i.e. reflecting the correct contents?	□	□	
19.	For live animals which can inflict a poisonous bite or sting, is the container marked in bold letters "POISONOUS"?	□	□	□
20.	For Specific Pathogen Free (SPF) animals for laboratory use, are "Laboratory Animals" and "This Way Up" labels attached to each container?	□	□	□

		YES	NO*	N/A
21.	When sedatives, tranquilizers or psychoactive drugs have been administered to the animal, have details been made immediately available with the container, i.e. time given, type, dosage and estimated duration?	☐	☐	☐
	Feeding and Watering			
22.	If it is required that the animal(s) must be fed/watered en route, have arrangements been made by the shipper/carrier with the other carriers/personnel downline?	☐	☐	☐
23.	Are the feeding instruction affixed to the container and are supplies (if required) attached to the outer top side of the container?	☐	☐	☐
24.	Has the shipper confirmed that food or bedding (if provided) for the animal(s) is in accordance with the regulations of the country(ies) of transit or importation?	☐	☐	☐

Comments:

CHECKED BY:
NAME (BLOCK LETTERS)

Place: SIGNATURE:

Date: AT (STATION):

Time: SHIPPER/AGENT:

***IF ANY QUESTION IS ANSWERED WITH A "NO", DO NOT ACCEPT THE SHIPMENT AND GIVE THE DUPLICATE COPY OF THIS FORM BACK TO THE SHIPPER OR AGENT TOGETHER WITH THE CONSIGNMENT.**

Air Waybill No: _____ Origin: _____ Destination: _____ Temp. Regime: _____

SOP No (if applicable) _____

Note 1: *Answer "not applicable" only where an N/A box is provided.*
Note 2: *If any question is answered "NO", inform MY FREIGHTER.*

	YES	NO	N/A
A. Air Waybill			
1 Single handling temperature range indicated on Air Waybill	☐	☐	
2 24 hours emergency contact number(s)	☐	☐	
B. Temperature Checks			
1 Shipment delivered on temperature-controlled vehicle set at the correct temperature within the range as per the Air Waybill	☐	☐	
2 Temperature measurement* of shipment	☐		
3 Measured temperature is within handling temperature as per Air Waybill	☐	☐	
C. Shipment / Labelling			
1 IATA Time & Temp. Sensitive Label affixed or pre-printed on the shipment	☐	☐	
2 Temperature range in Celsius on the label matching the temperature regime on the Air Waybill	☐	☐	
D. Active Temperature Controlled Container (ACT)			
1 ACTAC Check Sheet completed & placed in container pouch	☐	☐	☐

**** Remark:*** *Temperature Measurement of the cargo to be determined as follows:*
- *Inside temperature as per ACT display (if cargo has arrived in ACT) or*
- *Temperature reading made on TTSP loose packages before offloading truck (where possible).*

Comments

Checked by:	**Delivering Person:**
Name: _____ Place: _____	Name: _____
Date/Time: _____ Signature: _____	Signature: _____

DANGEROUS GOODS CHECKLIST FOR A NON-RADIOACTIVE SHIPMENT

The recommended checklist appearing on the following pages is intended to verify shipments at origin.

Never accept or refuse a shipment before all items have been checked.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (DGD)

Air Waybill No.:		**Origin:**		**Destination:**	

		YES	NO*	N/A
1.	Two copies in English and in the IATA format including the air certification statement. This question may be indicated as not applicable "N/A" only when the Shipper's Declaration data is submitted electronically. [8.0.2.1, 8.1.1, 8.1.2, 8.1.6.12]	☐	☐	☐
2.	Full name and address of Shipper and Consignee. [8.1.6.1, 8.1.6.2]	☐	☐	
3.	If the Air Waybill number is not shown, enter it. [8.1.6.3]	☐		☐
4.	The number of pages shown. This question may be indicated as not applicable "N/A" only when the Shipper's Declaration data is submitted electronically [8.1.6.4]	☐	☐	☐
5.	The non-applicable Aircraft Type deleted or not shown [8.1.2.5.2, 8.1.6.5]	☐	☐	
6.	If full name of Airport or City of Departure or Destination is not shown, enter it. [8.1.6.6 and 8.1.6.7]	☐		
7.	The word "Radioactive" deleted or not shown [8.1.2.5.2, 8.1.6.8]	☐	☐	
	IDENTIFICATION			
8.	UN or ID number(s), preceded by prefix [8.1.6.9.1, Step 1]	☐	☐	
9.	Proper Shipping Name and the technical name in brackets for entries with ★ [8.1.6.9.1, Step 2]	☐	☐	
10.	Class or Division and for Class 1, the Compatibility Group, [8.1.6.9.1, Step 3]	☐	☐	
11.	Subsidiary hazard, in brackets, immediately following Class or Division [8.1.6.9.1, Step 4]	☐	☐	☐
12.	Packing Group [8.1.6.9.1, Step 5]	☐	☐	☐
	QUANTITY AND TYPE OF PACKING			
13.	Number and Type of Packages [8.1.6.9.2, Step 6]	☐	☐	
14.	Quantity and unit of measure (net, or gross followed by "G", as applicable) within per package limit [8.1.6.9.2, Step 6]	☐	☐	
15.	For Class 1 (Explosives), the net quantity supplemented with the net explosive mass followed by unit of measurement [8.1.6.9.2, Step 6]	☐	☐	☐
16.	When different dangerous goods are packed in one outer packaging, the following rules are complied with:	☐	☐	☐
16.1	– Compatible according to Table 9.3.A.	☐	☐	☐
16.2	– Conditions met for UN packages containing Division 6.2 [5.0.2.11(c)]	☐	☐	☐
16.3	– Wording "All packed in one (type of packaging)" [8.1.6.9.2, Step 6(f)]	☐	☐	☐
16.4	– Calculation of "Q" value which must not exceed 1 [5.0.2.11 (g) & (h); 2.7.5.6; 8.1.6.9.2, Step 6(g)]	☐	☐	☐
17.	Overpack:	☐	☐	☐
17.1	– Compatible according to Table 9.3.A.	☐	☐	☐

17.2	– Wording “Overpack Used” [8.1.6.9.2, Step 7]	☐	☐	☐
17.3	– If more than one overpack is used, identification marks shown and total quantity of dangerous goods [8.1.6.9.2, Step 7]	☐	☐	☐
	PACKING INSTRUCTIONS			
18.	Packing Instruction Number [8.1.6.9.3, Step 8]	☐	☐	
19.	For lithium batteries in compliance with Section IB, “IB” follows the packing instruction [8.1.6.9.3, Step 8]	☐	☐	☐
	AUTHORIZATIONS			
20.	Check all verifiable special provisions. The Special Provision Number A1, A2, A4, A5, A51, A81, A88, A99, A130, A176, A190, A191, A201, A202, A211, A212, A224, A225, A331, A334 if used [8.1.6.9.4, Step 9]	☐	☐	☐
21.	Indication that governmental authorization is attached, including a copy in English and additional approvals for other items under [8.1.6.9.4, Step 9]	☐	☐	☐
	ADDITIONAL HANDLING INFORMATION			
22.	Additional handling information shown for self-reactive and related substances of Division 4.1 and organic peroxides of Division 5.2, or samples thereof, PBE, infectious and controlled substances, fireworks (UN0336 & UN0337) and viscous flammable liquids [8.1.6.11]	☐	☐	☐
23.	Name of Signatory and Date indicated and Signature of Shipper [8.1.6.13, 8.1.6.14 and 8.1.6.15]	☐	☐	
24.	Amendment or alteration signed by Shipper [8.1.2.6]	☐	☐	☐
	AIR WAYBILL–HANDLING INFORMATION			
25.	The statement: “Dangerous goods as per associated Shipper's Declaration” or “Dangerous Goods as per associated DGD” [8.2.1(a)]	☐	☐	
26.	“Cargo Aircraft Only” or “CAO”, if applicable [8.2.1(b)]	☐	☐	☐
27.	Where non-dangerous goods are included, the number of pieces of dangerous goods shown [8.2.2]	☐	☐	☐
	PACKAGE(S) AND OVERPACKS			
28.	Packaging free from damage and leakage [9.1.3 (i)]	☐	☐	
29.	Packaging conforms with packing instruction	☐	☐	☐
30.	Same number and type of packagings and overpacks delivered as shown on DGD [9.1.3]	☐	☐	
	MARKS			
31.	UN Specification Packaging, marked according to 6.0.4 and 6.0.5:			
31.1	– Symbol and Specification Code [6.0.4.2.1 (a), (b)]	☐	☐	☐
31.2	– X, Y or Z meets or exceeds Packing Group/Packing Instruction requirements [6.0.4.2.1 (c)]	☐	☐	☐
31.3	– Gross Weight within limits (Solids, Inner Packagings or IBCs [SP A179, 6.0.4.2.1 (d)]	☐	☐	☐
31.4	– Plastic drums, jerricans and IBCs within permitted period of use [5.0.2.15]	☐	☐	☐
31.5	– Infectious substance package mark [6.5.3.1]	☐	☐	☐
32.	UN or ID number(s), preceded by prefix [7.1.4.1(a)]	☐	☐	
33.	The Proper Shipping Name(s) including technical name where required [7.1.4.1(a)]	☐	☐	
34.	The full name and address of Shipper and Consignee [7.1.4.1(b)]	☐	☐	

35.	For consignments of more than one package of all classes (except ID 8000 and Class 7) the net quantity, or gross weight followed by "G", as applicable, unless contents are identical, marked on the packages [7.1.4.1(c)]	☐	☐	☐
36.	Carbon Dioxide, Solid (Dry Ice), the net weight marked on the packages [7.1.4.1(d)]	☐	☐	☐
37.	The Name and Telephone Number of a responsible person for Division 6.2 Infectious Substances shipment [7.1.4.1(e)]	☐	☐	☐
38.	The Special Marking requirements shown for Packing Instruction 202 [7.1.4.1(f)]	☐	☐	☐
39.	Limited Quantities mark [7.1.4.2]	☐	☐	☐
40.	Environmentally Hazardous Substance mark [7.1.5.3]	☐	☐	☐
41.	Battery mark for Section IB [7.1.5.5]	☐	☐	☐
	LABELLING			
42.	The label(s) identifying the Primary hazard as per 4.2, Column D properly affixed [7.2.3.1; 7.2.6]	☐	☐	
43.	The label(s) identifying the Subsidiary hazard, as per 4.2, Column D properly affixed [7.2.3.1; 7.2.6.2.3]	☐	☐	☐
44.	"Cargo Aircraft Only" label [7.2.4.2; 7.2.6.3]	☐	☐	☐
45.	"Orientation" labels on two opposite sides, if applicable [7.2.4.4]	☐	☐	☐
46.	"Cryogenic Liquid" label, if applicable as per 4.2, Column D [7.2.4.3]	☐	☐	☐
47.	"Keep Away From Heat" label, if applicable as per 4.2, Column D [7.2.4.5]	☐	☐	☐
48.	Any irrelevant marks and labels removed or obliterated [7.1.1; 7.2.1]	☐	☐	☐
	FOR OVERPACKS			
49.	Packaging use marks and hazard and handling labels, as required must be clearly visible or reproduced on the outside of the overpack [7.1.7.1, 7.1.7.2, 7.2.7]	☐	☐	☐
50.	The word "Overpack" marked if marks and labels are not visible on packages within the overpack [7.1.7.1]	☐	☐	☐
51.	If more than one overpack is used, identification marks shown and total quantity of dangerous goods [7.1.7.3]	☐	☐	☐
	GENERAL			
52.	State and Operator variations complied with [2.8]	☐	☐	☐
53.	Cargo Aircraft Only shipments, a cargo aircraft operates on all sectors	☐	☐	☐

Comments:

Checked by: _____

Place: _____ **Signature:** _____

Date: _____ **Time:** _____

*** IF ANY BOX IS CHECKED "NO", DO NOT ACCEPT THE SHIPMENT AND GIVE A DUPLICATE COPY OF THIS COMPLETED FORM TO THE SHIPPER.**

DANGEROUS GOODS CHECKLIST FOR A RADIOACTIVE SHIPMENT

The recommended checklist appearing on the following pages is intended to verify shipments at origin.

Never accept or refuse a shipment before all items have been checked.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (DGD)

Air Waybill No.:		**Origin:**		**Destination:**	

		YES	NO*	N/A
1.	Two copies in English and in the IATA format including the air certification statement. This question may be indicated as not applicable "N/A" only when the Shipper's Declaration data is submitted electronically [10.8.1.2, 10.8.1.4; 8.1.1; 10.8.3.12.2].	☐	☐	☐
2.	Full name and address of Shipper and Consignee [10.8.3.1, 10.8.3.2]	☐	☐	
3.	If the Air Waybill number is not shown, enter it. [10.8.3.3]	☐		☐
4.	The number of pages shown. This question may be indicated as not applicable "N/A" only when the Shipper's Declaration data is submitted electronically [10.8.3.4].	☐	☐	☐
5.	The non-applicable Aircraft Type deleted or not shown [10.8.1.6.2, 10.8.3.5]	☐	☐	
6.	If full name of Airport or City of Departure or Destination is not shown, enter it. [10.8.3.6 and 10.8.3.7].	☐		
7.	The word "Non-Radioactive" deleted or not shown [10.8.1.6.2, 10.8.3.8]	☐	☐	
	IDENTIFICATION			
8.	UN number, preceded by prefix "UN" [10.8.3.9.1, Step 1].	☐	☐	
9.	Proper Shipping Name and where Special Provision A78 applies, the supplementary information in brackets [10.8.3.9.1, Step 2].	☐	☐	
10.	Class 7 [10.8.3.9.1, Step 3]	☐	☐	
11.	Subsidiary hazard, in brackets, immediately following Class [10.8.3.9.1, Step 4] and Packing Group if required for Subsidiary hazard [10.8.3.9.1, Step 5]	☐	☐	☐
	QUANTITY AND TYPE OF PACKING			
12.	Name or Symbol of Radionuclide(s) [10.8.3.9.2, Step 6 (a)].	☐	☐	
13.	A description of the physical and chemical form if in other form [10.8.3.9.2, Step 6 (b)].	☐	☐	☐
14.	"Special Form" (not required for UN 3332 or UN 3333) or low dispersible material [10.8.3.9.2, Step 6 (b)].	☐	☐	☐
15.	The number and type of packages and the activity in becquerel or multiples thereof in each package. For Fissile Material the total weight in grams or kilograms of fissile material may be shown in place of activity [10.8.3.9.2, Step 7]	☐	☐	
16.	For different individual radionuclides, the activity of each radionuclide and the words "All packed in one (type of package)" [10.8.3.9.2, Step 7].	☐	☐	☐
17.	Activity within limits for Type A packages [Table 10.3.A], Type B, or Type C (see attached competent authority certificate)	☐	☐	☐
18.	Words "Overpack Used" shown on the DGD [10.8.3.9.2, Step 8].	☐	☐	☐
	PACKING INSTRUCTIONS			
19.	Category of package(s) and overpack if applicable [10.5.15.1 (a), 10.8.3.9.3, Step 9 (a) and Table 10.5.C].	☐	☐	

20.	Transport Index and dimensions (preferably in sequence Length x Width x Height) for Category II and Category III only [10.8.3.9.3, Step 9 (b) and (c)]	☐	☐	☐
21.	For Fissile Material the Criticality Safety Index (with, in addition and if applicable*, reference to paragraphs 10.6.2.8.1.3 (a) to (c) or 10.6.2.8.1.4), or the words "Fissile Excepted" [10.8.3.9.3, Step 9 (d)].	☐	☐	☐
	AUTHORIZATIONS			
22.	Identification marks shown and a copy of the document in English attached to DGD for the following [10.5.7.2.3; 10.8.3.9.4, Step 10; 10.8.7]:	☐	☐	☐
22.1	– Special Form approval certificate	☐	☐	☐
22.2	– Type B package design approval certificate	☐	☐	☐
22.3	– Other approval certificates as required.	☐	☐	☐
23.	For radionuclides not listed in 10.3.A, the type of radiation and use of Table 10.3.B is referenced [10.3.2.2; 10.3.2.5.2; 10.8.3.9.4, Step 13]	☐	☐	☐
24.	**Additional Handling Information [10.8.3.11].**	☐	☐	☐
25.	**Name of Signatory and Date** indicated [10.8.3.13 and 10.8.3.14] and **Signature** of Shipper [10.8.3.15]	☐	☐	
26.	Amendment or alteration signed by Shipper [10.8.1.7].	☐	☐	☐
	AIR WAYBILL-HANDLING INFORMATION			
27.	The statement: "Dangerous goods as per associated Shipper's Declaration" or "Dangerous Goods as per associated DGD" [10.8.8.1(a)]	☐	☐	
28.	"Cargo Aircraft Only" or CAO, if applicable [10.8.8.1(b)].	☐	☐	☐
29.	Where non-dangerous goods are included, the number of pieces of dangerous goods shown [10.8.8.2].	☐	☐	☐
	PACKAGE(S) AND OVERPACKS			
30.	Same number and type of packagings and overpacks delivered as shown on DGD, and are in proper condition for carriage [9.1.3; 9.1.4]	☐	☐	
31.	Unbroken transportation seal [10.6.2.4.1.2]	☐	☐	☐
	MARKS			
32.	UN number, preceded by prefix [10.7.1.3.1]	☐	☐	
33.	The Proper Shipping Name and where Special Provision A78 applies, the supplementary information in brackets [10.7.1.3.1]	☐	☐	
34.	The full name and address of the Shipper and Consignee [10.7.1.3.1]	☐	☐	
35.	The permissible gross weight if the gross weight of the package exceeds 50 kg [10.7.1.3.1].	☐	☐	☐
36.	Type A packages, marked as per 10.7.1.3.4.	☐	☐	☐
37.	Type B packages, marked as per 10.7.1.3.5.	☐	☐	☐
38.	Type C packages, Industrial Packages and packages containing Fissile material marked as per 10.7.1.3.6, 10.7.1.3.3 or 10.7.1.3.7.	☐	☐	☐
	LABELLING			
39.	Same category labels as per DGD properly affixed to two opposite sides of package. [10.7.4].	☐	☐	
39.1	– Symbol of radionuclide and/or LSA/SCO indicated as required. [10.7.3.3.1]	☐	☐	
39.2	– Activity in Bq (or multiples thereof). For Fissile material, the total mass in grams may be used instead [10.7.3.3.2]	☐	☐	
39.3	– For Category II & III, same TI as per DGD, rounded-up to one decimal place. [10.7.3.3.3].	☐	☐	☐

40.	Applicable label(s) identifying the subsidiary hazard [10.7.3.2; 10.7.4.3]	☐	☐	☐
41.	Two "Cargo Aircraft Only" labels, if required, on the same surface near the hazard labels [10.7.4.2.4; 10.7.4.3.1; 10.7.4.4.1]	☐	☐	☐
42.	For fissile materials, two correctly completed Criticality Safety Index (CSI) labels on the same surface as the hazard labels [10.7.3.3.4; 10.7.4.3.1]	☐	☐	☐
43.	Any irrelevant marks and labels removed or obliterated [10.7.1.1; 10.7.2.1].	☐	☐	☐
	FOR OVERPACKS			
44.	Package use marks and labels clearly visible or reproduced on the outside of the overpack [10.7.1.4.1; 10.7.4.4]	☐	☐	☐
45.	The word "Overpack" marked if marks and labels are not visible on packages within the overpack [10.7.1.4.1]	☐	☐	☐
46.	If more than one overpack is used, identification marks shown [10.7.1.4.3].	☐	☐	☐
47.	Hazard labels reflect the content(s) and activity of each individual radionuclide and the TI of the overpack [10.7.3.4].	☐	☐	☐
	GENERAL			
48.	State and Operator variations complied with [2.8]	☐	☐	☐
49.	Cargo Aircraft Only shipments, a cargo aircraft operates on all sectors	☐	☐	☐
50.	Packages containing Carbon dioxide solid (dry ice), the marking, labelling and documentary requirements complied with [Packing Instruction 954; 7.1.4.1 (d); 7.2.3.9.1]	☐	☐	☐

Comments:

Checked by: _____

Place: _____ **Signature:** _____

Date: _____ **Time:** _____

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ACCEPTANCE CHECKLIST FOR DRY ICE (CARBON DIOXIDE, SOLID) (For use when a Shipper's Declaration for Dangerous Goods is not required)

A checklist is required for all shipments of dangerous goods (9.1.4) to enable proper acceptance checks to be made. The following example checklist is provided to assist shippers and carriers with the acceptance of dry ice when packaged on its own or with non-dangerous goods.

DOCUMENTATION

Air Waybill No.:		**Origin:**		**Destination:**	

		YES	NO*	N/A
	The "Nature and Quantity of Goods" box of the Air Waybill or an alternate transport documentation contains the following information [8.2.3]			
1.	"UN1845"	□	□	
2.	The words "Carbon dioxide, solid" or "Dry ice".	□	□	
3.	Number of packages (unless these are the only packages within the consignment)	□	□	
4.	The net weight of dry ice in kilograms.	□	□	
	STATE AND OPERATOR VARIATIONS			
5.	State and operator variations complied with [2.8]	□	□	□
	Note: *The following questions do not apply where the dry ice, or packages containing dry ice, is offered in a ULD* **QUANTITY**			
6.	The quantity of dry ice per package is 200 kg or less [4.2].	□	□	
	PACKAGES AND OVERPACKS			
7.	Same number of packages as shown on the Air Waybill	□	□	
8.	Packages free from damage and leakage.	□	□	
9.	The packaging conforms with Packing Instruction 954 and the package is vented to permit the release of gas.	□	□	
	MARKS & LABELS			
10.	"UN1845" marked [7.1.4.1(a)]	□	□	
11.	The words "Carbon dioxide, solid" or "Dry ice" [7.1.4.1(a)]	□	□	
12.	Full name and address of the shipper and consignee [7.1.4.1(b)] ***Note:*** *The name and address of the shipper and consignee marked on the package may differ from that on the AWB.*	□	□	
13.	The net weight of dry ice within each package [7.1.4.1(d)].	□	□	
14.	Class 9 label properly affixed [7.2.3.9, 7.2.6].	□	□	
15.	Irrelevant marks and labels removed or obliterated [7.1.1(b); 7.2.1(a)]	□	□	□
	FOR OVERPACKS			
16.	Packaging Use marks and hazard and handling labels, as required must be clearly visible or reproduced on the outside of the overpack [7.1.7.1, 7.2.7].	□	□	□
17.	The word "Overpack" marked if marks and labels are not visible on packages within the overpack [7.1.7.1].	□	□	□
18.	The total net weight of carbon dioxide, solid (dry ice) in the overpack [7.1.7.1.1]	□	□	□

Comments:

Checked by: _____

Place: _____ **Signature:** _____

Date: _____ **Time:** _____

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DANGEROUS GOODS OCCURRENCE REPORT
ОТЧЕТ ОБ ИНЦИДЕНТЕ С ОПАСНЫМ ГРУЗОМ

See the Notes on the next page of this form Those boxes where the heeding is in italics need only be completed it applicable

Mark type of occurrence: Accident ☐ Incident ☐ Other Occurrence ☐

1. Operator:	2. Date of occurrence:		3. Local time of occurrence:
4. Flight date	5. Flight no.:		
6. Departure airport:	7. Destination airport:		
8. Aircraft type:	9 Aircraft registration:		
10. Location of occurrence:	11 Origin of the goods:		
12. Description of the occurrence, including details of injury, damage, etc. (if necessary, continue on the next page)			
13. Proper shipping name (including the technical name):			14. UN/ID no. (when known):
15. Class/division (when known):	16 Subsidiary risk(s):	17 Packing group:	18 Category, (class 7 only):
19. Type Of packaging:	20 Packaging specification marking:	21 No. of packages:	22 Quantity (or transport index, if applicable):
23. Reference no of Air Waybill:			
24. Reference no. of courier pouch, baggage tag, or passenger ticket:			
25. Name and address of shipper, agent, passenger, etc.:			

26. Other relevant information (including suspected cause, any action taken):	
27. Name and title of person making report	28. Telephone no.:
29. Company/dept code. E-mail or IntoMail code:	30 Reporter ref.:
31. Address:	32 Date/Signature
Description of the occurrence (continuation):	

NOTE: Any information, provided in this Form shall be reported via ICARUS system.

Схему разработал Plan has been developed by		Дата Date	
Схему утвердил Plan has been confirmed by		Дата Date	

Тип ВС A/C Type		Рег. номер ВС A/C Reg.		Позиции на борту Positions onboard	
№ рейса / Flight number			Дата рейса / Flight Date		
Масса груза (паллеты), кг ULD weight, kg			Номер паллеты ULD Number		

ЛЕГЕНДА / LEGEND: ST – ситтрек

Направление швартовки *Restraint direction*	**Точка швартовки** *APT location*	**Угол (град.)** *Angle (degr.)*	**Кол-во доступных АРТ** *Number of available APTs*	**Нагрузка на 1 АРТ, кг** *Allowable load per one APT, kg*	**Суммарная нагрузка, кг** *Total allowable load, kg*	**Минимальное кол-во ремней** *Minimal required number of straps*
1	2	3	4	5	6	7
ВПЕРЕД ***FWD*** ***Всего ремней (Total straps):***						
НАЗАД ***AFT*** ***Всего ремней (Total straps):***						
ВЛЕВО ***LEFT*** ***Всего ремней (Total straps):***						
ВПРАВО ***RGHT*** ***Всего ремней (Total straps):***						
ВВЕРХ ***UPWARD*** ***Всего ремней (Total straps):***						

Для данного расчета требуется графическая схема!
Draw the tie-down plan for current calculation!

ПРИМЕЧАНИЯ / NOTES

_____

_____

_____

Outside Air Temperature (OAT)[1]	One-Step Procedure De/Anti-icing[2]	Two-Step Procedure	
		First Step: Deicing	Second Step: Anti-icing[3]
0 °C and above	Heated mix of fluid and water with a freezing point of at least 10°C below OAT	Heated water or a heated fluid/water mixture	Heated mix of fluid and water with a freezing point of at least 10°C below OAT
Below 0 °C to LOUT		Heated fluid/water mixture with a freezing point at OAT or below	

NOTES

1. Fluids must not be used at temperatures below their lowest operational use temperature (LOUT).
2. When anti-icing using the one-step procedure, a minimum quantity of 1 litre/m2 (~2 gal./100 sq. ft.) of Type I fluid mixture heated to at least 60°C is required after all frozen contamination is removed. This is achieved using a continuous process. This application is necessary to heat the surfaces, as heat contributes significantly to the Type I fluid holdover times.
3. To be applied before first-step fluid freezes, typically within 3 minutes. (This time may be higher than 3 minutes in some conditions, but potentially lower in heavy precipitation, colder temperatures, or for critical surfaces constructed of composite materials. If necessary, the second step shall be applied area by area (sectionally).

CAUTIONS

- This table is applicable for the use of Type I holdover time guidelines in all conditions, including active frost. If holdover times are not required, a temperature of 60 °C at the nozzle is desirable.
- If holdover times are required, the temperature of water or fluid/water mixtures shall be at least 60 °C at the nozzle. Upper temperature limit shall not exceed 82 °C.
- To use Type I Holdover Times Guidelines in all conditions including active frost, an additional minimum of 1 liter/m2 (~2 gal./100 sq. ft.) of heated Type I fluid mixture must be applied to the surfaces after all frozen contamination is removed. This application is necessary to heat the surfaces, as heat contributes significantly to the Type I fluid holdover times. The required protection can be provided using a 1-step method by applying more fluid than is strictly needed to just remove all of the frozen contamination (the same additional amount stated above is required).
- The lowest operational use temperature (LOUT) for a given Type I fluid is the higher (warmer) of:
  a) The lowest temperature at which the fluid meets the Aerodynamic Acceptance Test for a given aircraft type, or
  b) The actual freezing point of the fluid plus a freezing point buffer of 10 °C.
- Wing skin temperatures may be colder or warmer than the OAT. Causes can include radiation cooling, cold-soaked wing, or hangar storage.

GUIDELINES FOR THE APPLICATION OF SAE TYPE II AND IV FLUID (FLUID CONCENTRATIONS IN % VOLUME)

Outside Air Temperature (OAT)[1]	One-Step Procedure De/Anti-icing	Two-Step Procedure	
		First Step: Deicing	Second Step: Anti-icing[2]
0 °C and above	100/0, 75/25 or 50/50 Heated[3] Type II or IV fluid/water mixture	Heated water or a heated Type I, II, III, or IV fluid/water mixture	100/0, 75/25 or 50/50 Heated or unheated Type II or IV fluid/water mixture
Below 0 °C to -3 °C	100/0, 75/25 or 50/50 Heated[3] Type II or IV fluid/water mixture	Heated Type I, II, III, or IV fluid/water mixture with a freezing point at OAT or below	100/0, 75/25 or 50/50 Heated or unheated Type II or IV fluid/water mixture
Below -3 °C to -14 °C	100/0 or 75/25 Heated[3] Type II or IV fluid/water mixture	Heated Type I, II, III, or IV fluid/water mixture with a freezing point at OAT or below	100/0 or 75/25 Heated or unheated Type II or IV fluid/water mixture
Below -14 °C to LOUT	100/0 Heated[3] Type II or IV fluid	Heated Type I, II, III, or IV fluid/water mixture with a freezing point at OAT or below	100/0 Heated or unheated Type II or IV fluid

NOTES

1. One step or second step fluids must not be used at temperatures below their lowest operational use temperature (LOUT). First step fluids must not be used below their freezing points. Consideration should be given to the use of Type I fluid when Type II/IV fluid cannot be used due to LOUT limitations (see Appendix 13-02 Guidelines for the application of Type I). The LOUT for a given Type II/IV fluid is the higher (warmer) of:
   a) The lowest temperature at which the fluid meets the Aerodynamic Acceptance Test for a given aircraft type;
   b) The actual freezing point of the fluid plus its freezing point buffer of 7 °C.
2. To be applied before first step fluid freezes, typically within 3 minutes. (Time may be longer than 3 minutes in some conditions, but potentially shorter in heavy precipitation, in colder temperatures, or for critical surfaces constructed of composite materials. If necessary, the second step shall be applied area by area.)
3. Clean aircraft may be anti-iced with unheated fluid.

CAUTIONS

- For heated fluids, a fluid temperature not less than 60 °C at the nozzle is desirable.
- Upper temperature limit shall not exceed fluid and aircraft manufacturers' recommendations.
- Wing skin temperatures may be colder or warmer than the OAT. Causes can include: radiation cooling, cold-soaked wing, or hangar storage.. A stronger mix (more glycol) may be needed under these conditions. Whenever frost or ice occurs on the lower surface of the wing in the area of the fuel tank, indicating a cold soaked wing, the 50/50 dilutions of Type II or IV shall not be used for the anti-icing step because fluid freezing may occur.
- An insufficient amount of anti-icing fluid may cause a substantial loss of holdover time. This is particularly true when using a Type I fluid mixture for the first step in a two-step procedure.
- When conducting aircraft deicing using a Type I fluid and not using the 10 °C/18 °F buffer, procedures must be developed and approved to ensure refreezing does not occur prior to takeoff.

Температура наружного воздуха**1,2,3**	Тип I
-1 °C и выше	0:45 *(0:35)*[5]
Ниже -1 до -3 °C	
Ниже -3 до -10 °C	
Ниже -10 до -14 °C	
Ниже -14 до -21 °C	
Ниже -21 до -25 °C	
Ниже -25 °C до минимальной температуры применения (LOUT)	

Температура наружного воздуха[2,3]	Концентрация Жидкость/вода По % Объёма	Тип II	Тип III[4]	Тип IV
-1 °C и выше	100/0	8:00	2:00	12:00
	75/25	5:00	1:00	5:00
	50/50	2:00	0:30	3:00
ниже -1 до -3 °C	100/0	8:00	2:00	12:00
	75/25	5:00	1:00	5:00
	50/50	1:30	0:30	3:00
ниже -3 до -10 °C	100/0	8:00	2:00	10:00
	75/25	4:00	1:00	5:00
ниже -10 до -14 °C	100/0	6:00	2:00	6:00
	75/25	1:00	1:00	1:00
ниже -14 до -21 °C	100/0	3:00	2:00	6:00
ниже -21 до -25 °C	100/0	2:00	2:00	4:00
ниже -25 °C	100/0	Времени защитного действия не существует		

ПРИМЕЧАНИЯ

1. Смесь жидкости и воды типа I следует выбирать таким образом, чтобы точка замерзания смеси была как минимум на 10 ° C ниже температуры наружного воздуха.
2. Убедитесь, что соблюдается минимальная температура применения (LOUT).
3. Изменения температуры наружного воздуха (OAT) в течение продолжительного воздействия инея могут быть значительными; подходящее время защитного действия для использования — это время, предусмотренное для самой холодной THB, которое произошло за время между нанесением жидкости для удаления / защиты и взлетом.
4. Чтобы использовать время защитного действия для инея жидкости Типа III, необходимо знать марку используемой жидкости. AllClear AeroClear MAX должна наноситься не нагретой.
5. Значение в скобках относится к воздушным судам с критическими поверхностями, которые преимущественно или полностью изготовлены из композитных материалов.

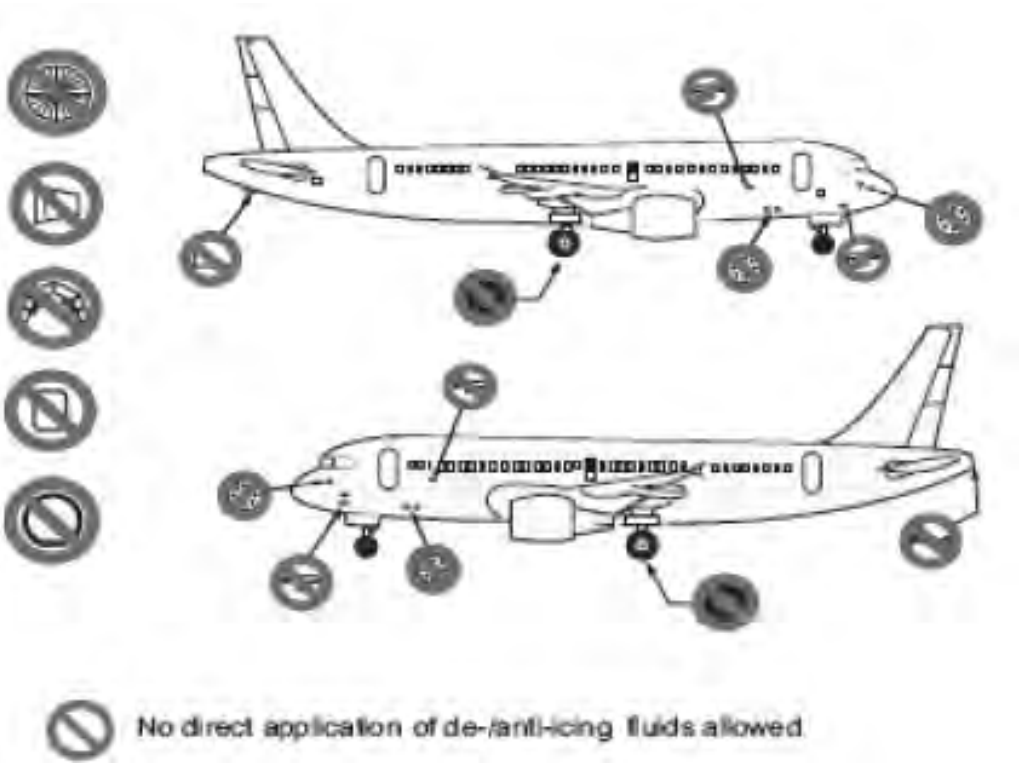
ВНИМАНИЕ

- Ответственность за использование этих данных остается за пользователем.
- Жидкости, используемые при наземной защите от обледенения, не обеспечивают защиты от обледенения в полете.
- Эта таблица предназначена только для планирования вылета и должна использоваться вместе с процедурами предвзлётной проверки.

Aircraft types «No sprays» area

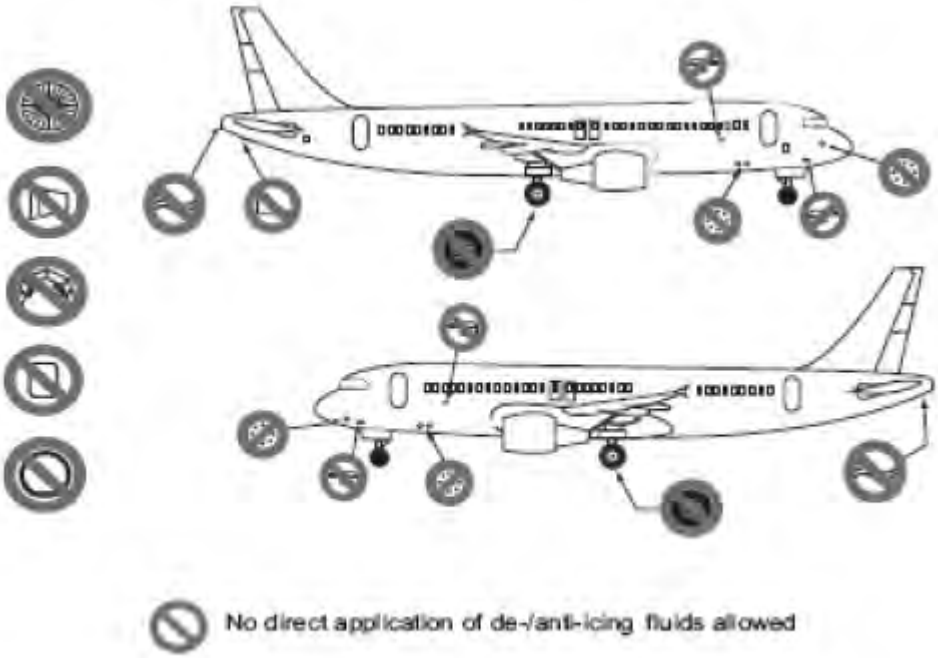
The general restrictions below apply to all aircraft types. The list below states the requirements and the associated symbols, which are then used on the aircraft type diagrams on the following pages to indicate (where necessary) the locations of 'no spray' areas, for each of the aircraft types illustrated.

Applicable for A319:



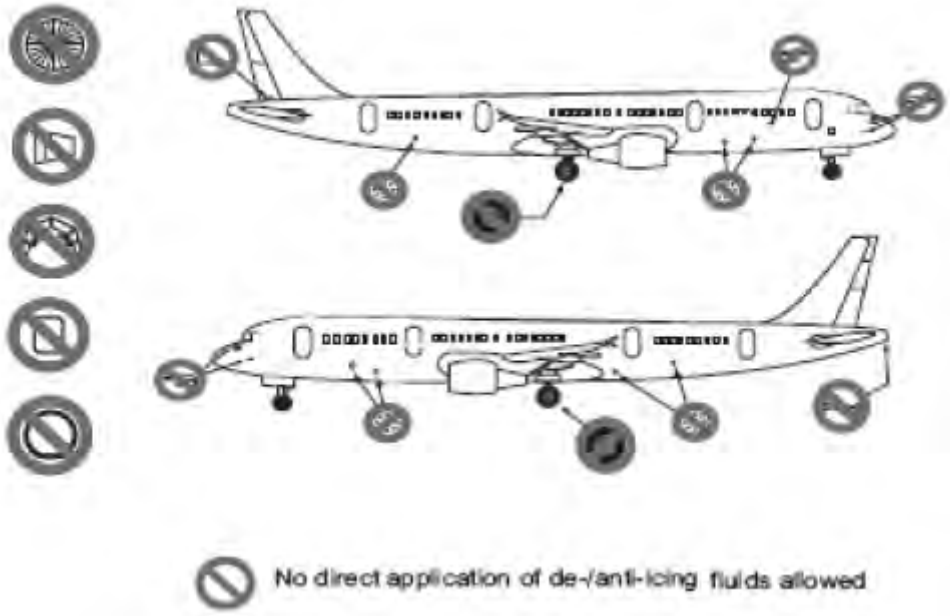
No direct application of de-/anti-icing fluids allowed

Applicable for A320:

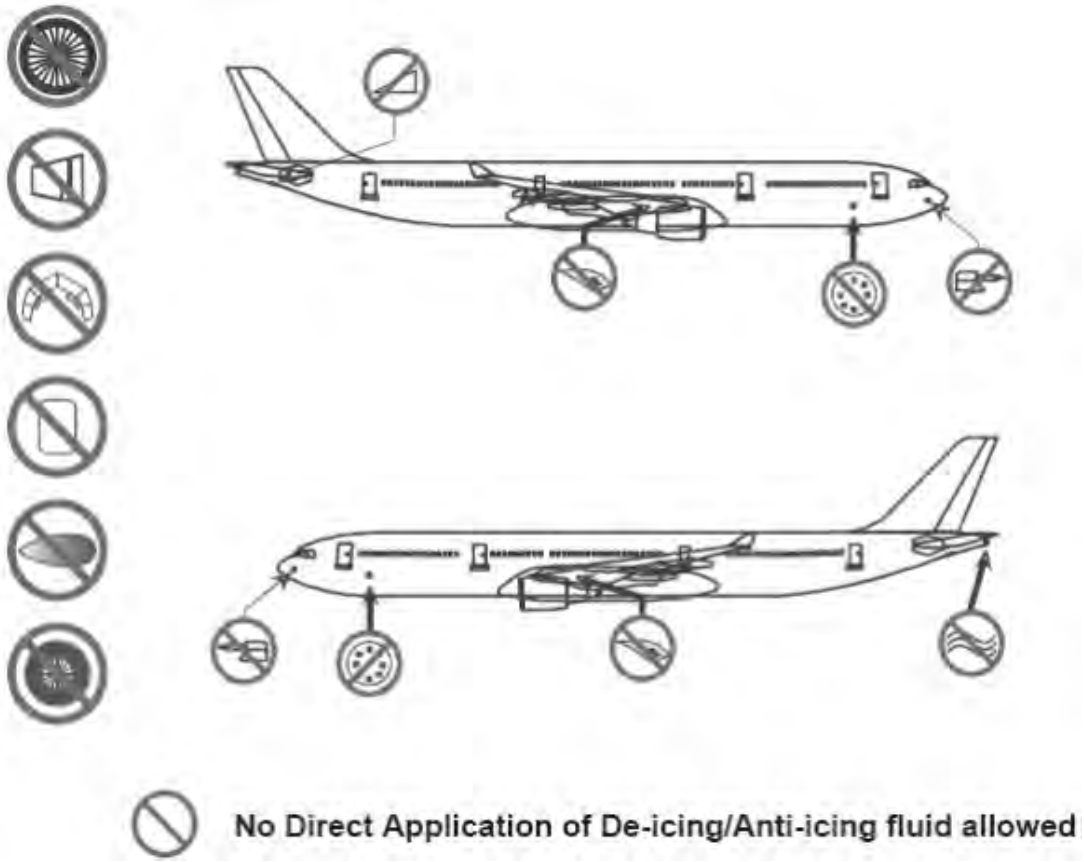


No direct application of de-/anti-icing fluids allowed

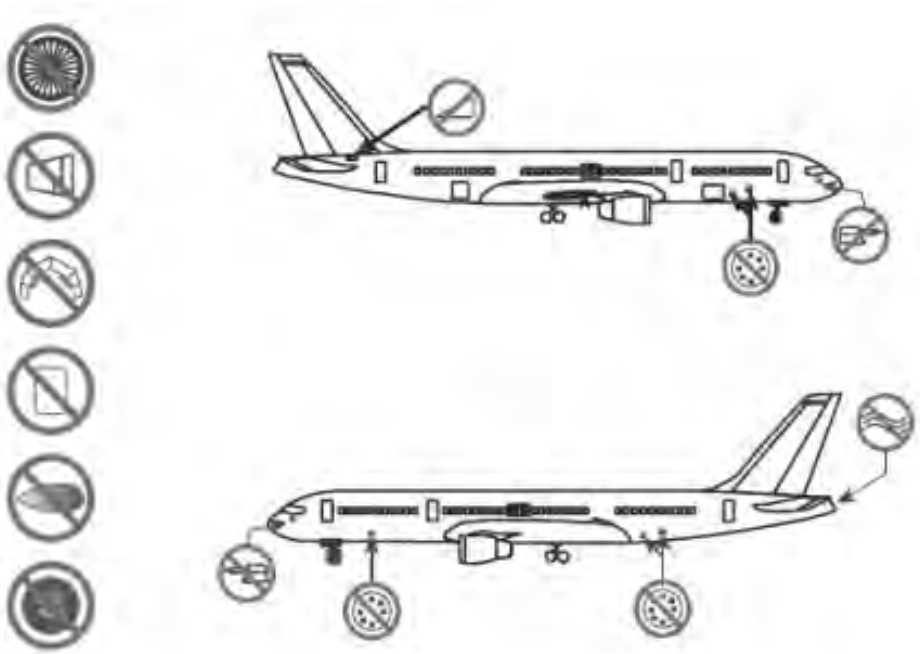
Applicable for A321:



Applicable for A330:



Applicable for B757:



Applicable for B767: