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GROUND OPERATIONS MANUAL (GOM)

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APPENDIX B – FORMS B-1

0.2 Scope and purpose

This manual is applicable for **HiSky Europe SRL** (Romania), operating under brand name: **HiSky**. All references in this manual are applicable for brand name **HiSky**.

Ground Operations Manual (GOM) contains detailed description of airline's rules, regulations, standards and procedures applicable to the ground handling services provided to HiSky at all stations. Its content is based on HiSky Policies as well as on regulations, laws and requirements issued by Aviation Authorities and Aircraft Manufacturers. Therefore, all staff involved in Ground Handling must be thoroughly familiar with these instructions. However, regulations can never be a substitute for good judgment and common sense should always prevail.

GOM of HiSky shall be distributed over all ground handling companies providing contracted services based on IATA Standard Ground Handling Agreement. Therefore, all staff involved in ground handling must be thoroughly familiar with GOM requirements.

Supervision of GOM requirements implementation must be arranged by the Compliance Monitoring Department of the airline and through "Compliance Monitoring Program".

Scheduled / Unscheduled audits performed by the HiSky Compliance Monitoring Department shall be considered as basic measurement tool applicable for measuring handling agent's activity compliance/non-compliance with the GOM provisions.

0.3 Revision procedure / Distribution

Ground Operations Manual (GOM) is issued **only** in electronic version. GOM is revised and updated periodically in accordance with current editions of all reference documents and distributed by HiSky Ground Operations Department, only in electronic version to:

HiSky intranet (cloud storage)
(responsible for intranet site update with the current version and disposal of obsolete version is Director IT Department).

HiSky stations
(responsible for retention of the current version and disposal of obsolete version is HiSky Station Representative, if available).

HiSky ground handling agents
(responsible for retention of the current version and disposal of obsolete version is Ground Handling Station Manager, or other designated person from handling company).

To update the manual at HiSky stations and ground handling agents:

- Obsolete version must be completely replaced with the current updated version of GOM

- The responsible person must send the confirmation of replacement to the following address:

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HiSky Ground Operations
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Updates in GOM new revisions will be emphasized on the involved pages and text. A new edition of GOM will be issued when the quantity of the revised pages will be more than 25% from total amount of the manual pages. Revised text will be highlighted with Orange, Accent 6, Darker 25% color.

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0.5 Fleet

Aircraft type	Manufacturer serial number (MSN)	Registration number	MTOM (kg)	Seat capacity
Airbus 320-232	MSN 4493	YR-SKY	77.000	180 seats
Airbus 320-232	MSN 6223	YR-BEE	77.000	180 seats
Airbus 320-232	MSN 6513	YR-JOY	77.000	180 seats
Airbus 320-232	MSN 6278	YR-SUN	77.000	180 seats
Airbus 321-271NX	MSN 10928	YR-WOW	97.000	220 seats
Airbus 321-271NX	MSN 10948	YR-WIN	97.000	220 seats
Airbus 330-243	MSN 01138	YR-KID	233.000	274 seats

0.6 Responsibilities and Contacts

Mr. Sergiu MALAI
Director Ground Operations
e-mail: sergiu.malai@hisky.aero / ground.ops@hisky.aero

Ms. Inna MATASA
Handling Manager
e-mail: inna.matasa@hisky.aero / ground.ops@hisky.aero

Operations Control Center (24/7)
e-mail: occ@hisky.aero / dispatch@hisky.aero
tel: +40 742 179 242

Customer Service
e-mail: customer.service@hisky.aero
tel: +40 374 955 955
tel: +373 22 955 595

1. PASSENGER HANDLING PROCEDURE

1.1 Departure

1.1.1 Passenger data

All passenger data for scheduled flights are automatically generated via PNL/ADL.

Passengers name list (PNL) is a detailed list of passengers of some particular flight including the following: a numeric summery of the passengers booked, passengers names and details referring to SSR/OSI information, seat reservation, connecting flights, ticket number etc.

- All handling agents shall provide the HiSky Ground Operations Department its addresses list for PNL/ADL messages.
- PNL is sent automatically by the reservation system into DCS.

All changes in passenger lists are sent via **Addition/Deletion List (ADL)** including the following: additional passengers booking, cancellations of existing bookings, changes in SSR/OSI etc.

Passengers assistance list (PAL) is a notification message that informs in advance the destination station about the booked passengers with reduced mobility on a flight. The PAL message will include: passenger name with selected SSR code applied to PRM requirement, inbound and/or outbound flight, and total number of PRM's. The PAL message is sent for each departure and arrival airport 36 hours prior to departure of the flight.

Change assistance list (CAL) is an update list of passenger changes that occurred in the reservation system since the dispatch of the PAL. The elements of the CAL are: cancellations (DEL), new bookings (ADD), Changes in the requested service, class etc (CHG). The CAL messages are sent at the time of each PNR change.

1.1.2 Special Services Requests key words

AVIH	Animal in hold
BLND	Blind Passenger
BULK	Bulky (oversized) Baggage
DEAF	Deaf Passenger
DEPA	Deportee (accompanied)
DEPU	Deportee (unaccompanied)
ETKT	Electronic Ticket
EXST	Extra seat
FQTV	Frequent traveler number
INAD	Inadmissible passenger
MAAS	Meet and assist
MEDA	Medical case including leg rest cases
OTHS	Other services
PETC	Pets in cabin
SPEQ	Sports equipment (type of equipment to be specified)
STCR	Stretcher
TKTL	Ticket Time limit
TKNE	Electronic Ticket Number
UMNR	Unaccompanied minor
WCHC	Wheelchair Cabin (it must be specified if passenger is traveling with own wheelchair and used the applicable codes i.e. WCBD, WCBW, WCMP, WCLB)
WCHR	Wheelchair Ramp (must be specified as shown above)
WCHS	Wheelchair Steps (must be specified as shown above)

WCMP	Wheelchair-manual power (used in conjunction with WCHC / WCHR / WCHS)
WCBD	Wheelchair-dry cell (conjunction use as above)
WCBW	Wheelchair-wet cell battery (conjunction use as above) not accepted as baggage
WCLB	Wheelchair – lithium ion battery (conjunction use as above)
WEAP	Weapons, fire arms and ammunition in checked baggage
XBAG	Excess Baggage

1.1.3 Transportation documents

1.1.3.1 Passenger ticket

Passenger ticket presents a contract between the passenger and the carrier and it is needed for check-in. This document contains general information about the conditions of air transportation to be provided by HiSky. HiSky is using only Electronic Tickets (tickets issued electronically).

The passenger is accepted for transportation only possessing a valid ticket properly issued by:

- Airline's sales offices
- Airline's General Sales Agents
- Contracted sales agents provided by the stock of HiSky tickets
- Interline Agreement partners of HiSky (according Interline Agreements)
- Code Share partners of HiSky (according Code Share agreements)
- Special Prorate Agreement (SPA) partners of HiSky (according SPAs)

Rules concerning the tickets:

- Each passenger must have a separate ticket.
- Flight coupons must be used in the sequence shown on the ticket. The ticket will not be honored if all the coupons are not used in the sequence provided in the ticket.
- All restrictions in the ticket must be correctly applied.
- Tickets are not transferable to other persons
- In case another person presents a ticket, with the purpose of full refund of the ticket fare amount or partial refund of ticket fare amount, such person should have a notarized power of attorney from the owner of the ticket.

Passenger name in the ticket and in the travel document
During check-in passengers will be accepted for flight only if the name in the ticket and check-in system is the same as in the travel document. Name discrepancies have to be observed before accepting the passengers.
The following spelling discrepancies may be accepted at check-in without changing the ticket:

- passengers holding the tickets with minor spelling mistakes (up to 3 letters) in passenger's name and surname if the error causes a minor discrepancy and does not change the name radically and/or phonetically
  - language specific spelling errors like X ↔ CS/KS (e.g. Alexandru/Alecsandru), CH ↔ C/K (e.g. Christopher/Kristopher), Y ↔ I (e.g. Tatiana/Tatyana), C ↔ K (e.g. Askarov/Ascarov), etc.
  - missing one of the double letters (e.g. Russu/Rusu)
- Missing one name in the cases when the name consists of several first and last names: e.g. name in passport is Croitor Ana-Maria in the ticket Croitor Ana
- API data shall be collected and transmitted identically as from travel document

Passengers with different names in the ticket or major errors and passport will not be accepted at check-in unless a correction of the name in the ticket and reservation is made. In the cases when the passenger changes the name/surname, after ticket purchase, (confirmed by a legal act - marriage/divorce certificate etc), he/she should address to the airline/ticket agent in advance for name change/correction in the ticket prior to the departure of the flight, presenting all relevant documents as confirmation.

1.1.3.2 Electronic ticket

Electronic Tickets (ETKT) offer passengers the possibility to travel without requiring the issuance of paper value document. The Electronic Ticket and associated coupons are stored in a separate electronic flight coupon database.
If a passenger holds an E-ticket, he/she may present several forms of identification FOID as the check-in process is based on the FOID:

- E-ticket itinerary receipt containing E-ticket number
- Passenger name
- Frequent flyer program customer card
- Credit Card

E-ticket itinerary receipt

- It is recommended that passengers have e-ticket itinerary printed and keep it until the end of the journey.
- It can be received printed at time of e-ticket issuance.

Accounting

- The E-ticket coupon shows a certain status which enables check-in. After the flight closure, this status must be BOARDED for accounting purposes.
- Usually during the check-in and boarding process the status changes automatically. If due to any reason the data base is not updated by the system, the status has to be changed manually.

1.1.3.2.1 Electronic ticket interlining

Electronic Ticket Interlining enables the passenger to have electronic tickets combined with different airlines. It ensures acceptance and honoring other airlines documents in accordance with interline passenger and/or baggage agreements. Each airline has got its own database, but access will be granted to the joining airlines.

1.1.3.2.2 Electronic tickets fall back procedure

In case the passenger holds an E-ticket and there is a system break down, following actions have to be taken:

- Issue a manual boarding pass and collect the following data on it
  - name of the passenger
  - e-ticket number
  - flight number and routing
- At time of boarding, keep the part of the boarding pass in which E-ticket number is indicated

If there is no PNL with all necessary information (E-tickets, EMDs) on the respective flight, it can be requested from HiSky by email: customer.service@hisky.aero
After the departure of the flight, when the system starts working, each station is responsible to:

- check the passengers with e-ticket in the system
- and change the status of the e-ticket coupons to BOARDED (by sending ETL or each ticket manually)
- forward to customer.service@hisky.aero ; ground.ops@hisky.aero the collected data on the ticket and passenger name if the respective e-ticket coupon is not found

See also Chapter 1.1.5.6 Check-in in case of DCS break down.

1.1.3.3 Electronic Miscellaneous Document (EMD/MPD)

Electronic Miscellaneous Document (EMD/MPD) is an electronic document used to accept fees outside a ticket for payments for excess baggage, PETC and UMNR service, rebooking fee and other charges. Passengers are recommended to have paper receipt of EMD, as an additional evidence of payment besides the information present in the passenger record in DCS and which may help in case any questions arise with regard to the checking process of the payment, but it is not mandatory to present it at check-in.

1.1.4 Pre-departure activities

When a **ticket counter** is located at the airport:

- Display airline signage, both electronic and manual versions at ticket sales counters
- Dangerous Goods notices shall be displayed prominently at all ticket sales counters.

Passenger pre–flight preparation
Perform a pre-flight preparation prior to the opening of airport check-in and verify all necessary data has been transferred into the check-in system correctly.

- review the booking status
- review the curtain version (if applicable)
- confirm the PNL and ADL were properly transmitted and match the booking status
- block seats for crew, weight and balance and if any seats are unserviceable
- confirm the seating plan is set according to the actual aircraft type and version
- review the flight remarks, if applicable
- review the boarding time, departure time and gate
- brief staff about the reason for any delays
- apply payload restrictions, if any
- check the passenger list for special passengers (UMNR, WCH etc) and pre-assign as per HiSky policy and according to the aircraft type
- if not pre-reserved, prepare seating for families with infants/children as per HiSky policy
- check total infants booked
- if by some reason, free seating is applied, inform the crew and passengers and appropriate seats shall be ensured for special category of passengers
- airport check-in can be opened once the pre-flight preparation is complete

Staff briefing
Conduct a staff briefing for check-in agents before check-in counters are opened, receive and review any summarized flight information. Summarized flight information regarding aircraft/version changes with impact on seating, boarding gate and time, special passengers and/or special baggage handling procedures, irregularities if any and any current procedure change will be offered to staff concerned.

Check-in counter requirements
Before opening the check-in counters:

- start and test the equipment
- make sure scales are functioning well and without errors
- stock boarding cards and bag tag printers
- ensure adequate stock of any other tags and forms/declarations is available (HiSky forms, declarations, reports, and manifests can be used from Appendix B of this manual)
- display HiSky signage (and marketing, if applicable), both electronic and manual versions
- Dangerous Goods notifications shall be prominently displayed at the check-in area, ticket office, baggage drop-off areas, and transfer counters indicating the prohibition of dangerous goods in passenger baggage
- regulation on liquids in carry-on baggage shall be posted at check-in desks
- where applicable and available prepare for check-in baggage seizers and other HiSky materials
- separate check-in shall be provided for business (if any) and economy class passengers, where available
- the number of check-in desks will be provided as per sighed SLA depending on the number of the booked passengers for the flight
- proper number of check-in desks shall be provided to ensure a smooth check-in process
- check-in desks, check-in area and all materials should be clean and tidy

1.1.5 Passenger check-in

Check-in is the complete sequence of steps which involves the registration of the passengers and their baggage in DCS or manually, labeling of the baggage and the issuance of one or more boarding passes. Boarding passes containing the passenger name must be issued for all passengers.

1.1.5.1 General policy

Check-in staff requirements

- Check-in can be performed by the staff of handling agents authorized by HiSky
- Staff involved in passenger handling must
  - be warm, attentive, caring and friendly when discussing with passengers
  - be aware of appropriate interaction with disabled person or person with reduced mobility
  - have a comprehensive knowledge of the regulations on passengers and aircraft handling
  - have sufficient knowledge of English to understand the instructions published in this manual and to communicate with passengers (check-in dialogue)
  - be properly trained and qualified according to airlines training requirements as documented in Chapter 3 of this manual.

Security requirements

- All materials that are used for passenger and hold baggage processing (boarding passes, baggage tags and labels etc) must be protected and be under surveillance at all time in order to prevent unauthorized access and use:
  - before leaving the counter, remove boarding passes and baggage tags from the respective printers and lock them
- Departure control system (check-in system) shall be controlled to prevent unauthorized access:
  - follow airport procedures intended to prevent unauthorized use and access to un-used (blank) boarding passes
  - before leaving the counter sign-out, log off and close the counter
  - observe regulations concerning the usage of sign-ins and passwords
- Printed materials such as boarding passes, passenger's lists and handling forms may have to be reprinted and therefore left behind as waste. Dispose (tear up to pieces) of these documents according to the data protection rules as they contain passenger data.

Check-in opening

- Web check-in is available **72 hours** prior STD.
- Airport check-in desks will be opened **2 hours** prior STD.
  *Exceptions: flights from **TLV**/**JFK** – **4 hours** prior STD, **STN** – **3 hours** prior STD.*
- Before opening the check-in, appropriate flight preparation shall be ensured, staff briefing is recommended.

Check-in deadline

HiSky check-in deadline shall be strictly applied, respecting applicable passenger rights and on time departure requirements. Check-in deadlines are defined as follows:

- web check-in deadline is **3 hours** prior to STD.
  *Exception: flights from **TLV**, **JFK** and **STN** – **4 hour** prior STD.*
- airport check-in deadline is **45 minutes** prior to STD.
  *Exception: flights from **TLV**, **JFK** and **STN** – **1 hour** prior STD.*

Till the mentioned deadline all check-in activities must be finished and all information shall be transmitted to load control.

Passenger's booking status

Depending on the reservation status in the ticket the passenger will be accepted on the flight

OK – the passenger holds a confirmed reservation
RQ – the passenger holds a waitlist booking
SA – the passenger holds a ticket for stand by travel, subject to space available

NOREC passenger

- a “NOREC” passenger holds a ticket with a booking status OK, but is not shown in the PNL or ADL of the flight, by some reason.
- the passenger has to be accepted as an usual passenger with booking status OK.

Operating carrier and Marketing carrier

- The passenger shall be informed latest at time of check-in about the operating carrier, if different from the one mentioned as “carrier” on the ticket
- The operating carrier is the operator who provides the aircraft for the respective flight
- In case of a code share flight the carrier that is mentioned in the ticket, which is not actually operating the flight, is called marketing carrier
- The baggage tag must always show the operating carrier’s flight number

Overbooking

- In case of overbooking, more seats then actually available on board the aircraft have been sold, and all passengers are holding tickets with booking status OK, the consequences can be denied boarding
- Overbooking could also be the effect of a seat restriction or aircraft change. For handling of denied boarding passengers see Chapter 1.6.11 Denied boarding due to irregularity.

Airport check-in for ECONOMY BASIC booking fares

Economy BASIC subclasses are **A, O, G, U, E, X, P**.
Passengers with tickets booked in Economy BASIC:

- can do web check-in **free** of charge (in advance)
- are not entitled for free check-in at the airport and must pay a charge of **10 EUR** for check-in **at the airport counter**

No exceptions for PRMs, UMNRs and pax with PETC, Sport Equipment, Extra seats are made, and such passenger categories must pay airport check-in fee of **10 EUR** if web check-in was not done.

Priority check-in

HiSky offers airport priority check-in for passengers and baggage. The service can be booked in advance on HiSky web site or authorized sales agents. Cost of the service is **5 EUR**.

NOTE: Passengers with **Premium Plus** (subclasses Y, S, W, R, F, I, J) and **Business** (class C, D) fares are offered Priority check-in **free** of charge.

Passengers who booked this service are accepted for check-in on the flight without staying in the queue. Confirmation of payment for this service must be shown at check-in.
When passengers booked this service and did the web check-in, they can check-in their baggage without staying in the queue.

NOTE: Whenever possible, a separate check-in counter must be arranged for this purpose, if the counter is not charged additionally.

1.1.5.2 Check-in procedures

WELCOME AND DOCUMENT CHECK
1) Welcome the passenger.
2) Ask the passenger for flight tickets, including conjunction tickets and travel documents (passport).
3) Identify the passenger in the check-in system: passenger name must be present in the PNL and an e-ticket number is found. If passenger record and/or e-ticket is not found, send the passenger to the ticket counter or contact airline Representative / Customer Service.
NOTE: passengers without valid tickets must not be accepted for travel.
4) Check the identity of the passenger by comparing the name in the PNL with that mentioned in passport/travel document. Ensure match between the booked name and travel document. For exceptions in case of spelling errors see Chapter 1.1.3.1.

5) If passenger is holding Economy BASIC fare ticket, **10 EUR must be charged** for check-in at the airport check-in desk.
6) Observe passenger behavior to reveal any disruptive behavior and pay attention to any signs that passenger might not be allowed to travel:

- passenger shows behavior giving reason to believe that he might cause trouble during the flight or is a threat to other passengers.
- passenger shows signs of infectious disease or intoxication (under influence of alcohol/drugs).

7) Check the ticket for final destination and have this confirmed by the passenger.
8) Inform the passenger about operating carrier in case of code share flight
9) Check passport, visa and other travel documents until final destination, if applicable, see Chapter 1.1.6.
10) APIS data shall be collected for destinations required, see Chapter 1.2.6.1.

PASSENGER CHECK-IN
1) Check if any SSR remarks for special request (UM, WCH, etc.) are present and confirm it with the passenger. Add missing services requested considering airline applicable rules.
2) Enter the number of the HiSky Club card into DCS, if the passenger presents it.
3) Business class passengers (if any) will be invited into business lounge and will be informed about its location.
4) Perform check-in of the passenger in DCS

- Ensure that seating limitations for special categories of passengers (UM, PRM, INF, CHD etc) are followed, see Chapter 1.1.7.2. Seating Restrictions
- In the case of UMs check the payment for the service
- Check if passenger data in DCS is updated with ASR element indicating that the passenger has a specific seat reserved and ensure allocation of the reserved seat to the passenger as requested if not limited due to seating restrictions and safety rules.

5) Through check the passenger, if applicable. Do not check the passenger to a destination further than shown on the baggage tag. In case of a delay, the connection time for the onward flights of the transfer passengers shall be checked and if necessary, in coordination with airline representative a decision will be taken if the passenger can fly or need a rebooking.
6) Ask the passenger for his baggage and observe the rules for cabin baggage and checked baggage. Confirm with the passenger that they do not carry dangerous goods or forbidden item for carriage.
7) Issue a boarding pass. Make sure the e-ticket number is printed on boarding pass.
8) Hand over boarding pass(es) and ticket(s) to the passenger.

- Confirm with the passenger number of pieces and final destination of the checked bags.
- Inform the passenger about seat and gate number and boarding time.
- If applicable, inform about custom, transfer or other procedures.

9) Advice the passenger to proceed immediately with all necessary formalities like passport and security control and be on time for boarding.
10) In case of a turn–around flight, inform the passenger about the transit airport and transit procedures on their way to the destination airport.
11) Say goodbye and wish the passenger a pleasant flight.

BAGGAGE CHECK-IN:
For details on handling of checked baggage see Chapter 2.2.3 Standard baggage check in and 2.2.3.1 Baggage acceptance procedure

1.1.5.3 Types of check-in

Check-in may be provided at check-in counters or via self-service method (web check-in) and may be performed using a departure control system (DCS) or manually.

Manual check-in
When DCS is not available or not functioning, established manual check-in procedures must be applied:

- Manual issuance of boarding passes and baggage tags
- Use of seat charts for seat allocation
- Before check-in start PNL/ADL lists should be available to the check-in staff
- Use of manual Passenger Manifest to enter passenger and baggage data

- All close out activities are performed manually
- Check-in staff actions should be clearly defined in order to avoid mishandling situations and manually issued documents must be checked carefully.

DCS Automated check-in
Check-in is performed with a computerized departure control system (DCS).
Common features of DCS are:

- boarding passes and baggage tags are issued automatically, except the special tags
- seat allocation is done automatically
- all closeout procedures are performed automatically (automated dispatch of messages etc)
- accounting of electronic tickets is ensured

Self-Service check-in

- Only web check-in is available on HiSky flights
- Currently other self-service check-in options are not available on HiSky flights

Web check-in
Web check-in means that the passenger can check-in on HiSky web site www.hisky.aero

Web check-in on HiSky web site is free of charge for passengers in all booking classes!

Web check-in is applicable and may be provided if the following conditions are met:

- Passenger is holding an electronic ticket
- Passenger logs in via the respective link
- The passenger meets the qualifying criteria set by the airline for the web check-in
- The API data collection, if required, is ensured during the web check-in process.
- Service is applicable for passenger with or without baggage

Conditions for Web check-in:

- Web Check-in is opened **24 hours** prior to departure of the flight and is available until **3 hours** before departure of the flight
- Passenger must be present at the boarding gate not later than the time specified on the boarding pass
- Passenger has to print out his/her boarding pass before arriving to the airport and present it for boarding. If the passenger, by any reason did not print the boarding pass, the passenger needs to approach the check-in desk and ask for boarding pass.
- Passenger has to confirm during web check-in that he/she does not carry any dangerous goods, articles forbidden or limited for carriage in checked or cabin baggage
- Boarding passed in electronic form on mobile devices (smartphone, tablet) are accepted, if permitted by the airport security and boarder police at specific location. If not permitted, boarding pass must be printed at the check-in counter.
- If the passenger has luggage to be checked, the passenger needs to go the Baggage Drop Off counter (if available) or to the designated check-in desk opened for the respective flight in order to check the luggage.

Web check-in restrictions will apply for:

- certain connecting flights
- passengers with special service requests: UMNRs, PRMs, MEDA Cases, etc.
- passengers with special baggage like PETC, Sport Equipment, Extra Seat for CBBG etc.

Handling of web checked-in passenger:
All checked on-line passengers will have a printed boarding pass or electronic version on a mobile device. At the first point of contact at departure, check-in desk or boarding, the respective handling agent shall ensure:

- ID check, travel document check
- Where applicable, API data check - if not collected or if it is wrong or incomplete, API data of the passenger shall be entered accordingly
- Acceptance of baggage in hold, if applicable

- Handling of the unchecked baggage and checked baggage according to all procedures described in Chapter 2 of this manual
- Confirmation from the passenger that he/she does not carry any dangerous goods, articles forbidden or limited for carriage in checked or cabin baggage
- Issuance of boarding pass in case the passenger could not print it at home
- Check seating and ensure that seating restrictions as per Chapter 1.1.7.2. are followed.

NOTE: A passenger who passed web check-in and did not show up for boarding needs to be handled as any regular checked passenger, following all the procedures for missing passenger described in 1.1.8.3 Passenger boarding discrepancies.

Baggage Drop-Off:
Passengers, who have used a self-service check-in (web check-in), may drop their checked baggage at baggage drop-off, when available. If not available, baggage should be checked-in at the designated check-in counters.
At this point:

- review the boarding pass and pull up the passenger data in the check-in system
- verify identity and travel document, review and/or collect API
- asses carry-on baggage and accept checked baggage
- add baggage information and any SSR's to the DCS if required and apply any related fees as per operating airline policy

1.1.5.4 Passenger through check-in

Perform through check-in whenever possible and according to HiSky interline agreements.
Through check-in (TCI) means check-in at the current departure station onto continuing flight(s) by offering following customer service:

- offering check-in/boarding pass(es) on transfer flight(s), if applicable
- sending the baggage to the determined baggage destination, observing the rules in Chapter 2.2.3 Standard baggage check-in
- never check-in the passenger to a destination further then shown on the baggage tag.

The following rules will be applied for TCI:

- the flights shall be ticketed in one ticket or in a conjunction ticket
- travel documents must be checked for all through checked parts of the journey

NOTE: if an airport change is involved, TCI is not permitted

Inter-Airline Through Check-In (IATCI) is possible if interline through check-in agreement is in force between airlines.

1.1.5.5 Return check-in

Return check-in means that at the current departure station the passenger is checked also for the return flight. The PNLs must be processed on both involved flights before check-in, which means its flight editing is finalized. Return check-in is permitted if:

- the flight is open and the return journey is within 24 hours after departure
- no airport change is involved
- the departure and return stations are handled in the same DCS
- no checked baggage is permitted for the outbound flight

1.1.5.6 Check-in in case of DCS break down

In case of DCS break down, local back-up procedures must be established in every station and tested regularly. The following rules apply for check-in:

- All basic principle described in Chapter 1.1.5.1 General Policy should be followed

- If DCS breakdown appears during check-in time, the check-in process needs to be interrupted and the passengers in front of the counters must be informed accordingly
- The station manager or company representative is responsible to
  - find out the duration of the break down, if possible
  - decide upon if and when to start with manual check in
  - inform all departments concerned about the system breakdown
- Equip check-in desks with boarding cards and baggage tags which can be used for manual issuance
- Prepare a manual seat chart according to the respective aircraft version and manual passenger manifest (see forms in Appendix B). Free seating is preferable to be avoided
- Collect APIS manually, introduce DOCS data in the system when it starts working and submit APIS accordingly
- Inform the passengers about manual check-in and excuse extended waiting times
- All figures needed for the weight and balance purpose must be forwarded to the respective staff/department
- Observe the fall back procedure for e-tickets subchapter 1.1.3.2.2 Electronic Tickets Fall Back Procedure

Manual check-in process:

MANUAL BOARDING PASS

1) Issue a manual boarding pass by writing all required data on a standard boarding pass
2) Collect passenger and flight data as following and write them on the boarding pass:
   - passenger's name: family name followed by the first name (at least the initials) and gender/passenger type (MR/MRS/CHD/INF)
   - flight number and routing
   - e-ticket number
3) Mark the boarding pass with the respective compartment class for easy and fast recognition at the time of boarding by writing "C/class" or "Y/class" in big visible letters
4) Apply seating according to the applicable manual seat chart writing down the respective seat number either at time of check-in or at gate

NOTE: a local procedure must be applied in order to avoid double seating

5) Note down the boarding gate and boarding time
6) Write all relevant information regarding the passenger name and routing in the passenger and baggage list/manifest.

MANUAL BAG TAG

7) Issue a manual baggage tag by completing an IATA standard interline baggage tag
8) Find out the passenger's final destination and onward flight numbers if applicable, from the passenger's ticket or itinerary
9) Document the following data on the bag tag and attach it to the bag
   - the operating carrier flight number
   - passenger name
   - flight date
   - final destination
10) Attach specific, additional bag labels if applicable

SPECIAL SERVICE REQUESTS

11) Collect any note of special services requests (UM service, WCH, needed on board and/or on destination station for PSM message

MANUAL PASSENGER MANIFEST

12) Write the following data on the passenger/baggage manifest:
   - passenger's name: family name followed by the first name (at least the initials) and gender/passenger type (MR/MRS/CHD/INF)
   - flight number and routing
   - class of service
   - number of checked baggage and tag numbers

- any special services request remarks

NOTE: It must be properly filled out as it meant to assist the manual handling for close out activities

1.1.5.7 Late check-in

Late check-in means accepting a passenger after the official check-in deadline. Late passenger may be accepted after check-in deadline only if authorized by HiSky representative and under following conditions:

- the departure of the flight shall not be delayed – if there is any risk to delay the flight, the passenger shall not be accepted
- the passenger shall be kindly informed by the handling company staff that his/her departure is not guaranteed and that his rights to transportation and care are limited
- meals may not be ordered, if no time for it and the passenger agrees to travel without meal; crew must be informed if a passenger is accepted without a meal
- usual check-in routine described in Chapter 1.1.5.2
- In case DCS system is already disconnected, check-in procedures may be performed manually:
  - If there's no possibility to determine passenger's baggage weight impact on balance of the aircraft, such baggage shall not be accepted to transportation
  - Last Minute Changes notice should be made on Boarding Pass of the passenger (passenger name, weight and number of bags checked)
  - Last Minute Changes should be made in all relevant departure documents (load sheet, passenger list, baggage tag list etc.), see also Chapter 1.1.5.8.

1.1.5.8 Last minute changes procedure (LMC)

Last Minute Changes (LMC) are all changes in traffic load made after the closure of check-in and issuance of the load sheet. In case of Last Minute Changes of passenger/baggage after check-in closure, passenger handling staff should report all the final figures to the load control staff and to the crew.
The following rules shall be followed:

- All LMC (minus or plus) shall be made in passenger and bag tags lists.
  - passenger name and outbound details
  - info on checked baggage (pieces and weights) and tag numbers
- Authorized staff shall make all the changes in load sheet.
- All LMC must be reflected in DCS prior to flight release.
- All related post departure messages must also contain all LMC.
- The maximum LMC allowance per aircraft is described in Chapter 7 and Chapter 8.

1.1.6 Travel documents and verification

All passport and Visa control procedures must be arranged according to the local laws and regulations of each station. According to the "General Conditions of Carriage of Passengers and Baggage", the passenger is fully responsible for complying with the rules and regulations imposed by countries of:

- departure
- transit, transfer
- destination

Information concerning entry requirements of the different countries is found in the Travel Information Manual TIM and TIMATIC.

Noncompliance with the entry rules and regulations may result in

- refusal of admission and immediate return of the passenger
- fines imposed on the carrier and/or the passenger
- the aircraft could be grounded

Passport and visa control must be performed at check-in and/or boarding by check-in staff of the handling agent.

NOTE: HiSky reserves the right to refuse transportation of passengers whose travel documents are incomplete and/or invalid.

The following actions must be taken when checking all travel documents:

- Check the validity of the ticket regarding the itinerary, flight data, carrier, reservation status, class and restrictions
- Check the ticket for the final destination and confirm this with the passenger
- Verify the passenger's identity against the travel document presented, including review of birth date, expiry status of document, a visual comparison of the photo to the passenger, and ensure the name on the travel document matches the booked name
- Verify the travel documents is valid and good for all persons traveling, as not all states allow family members to be registered in a single passport
- Report any document that shows signs of tampering
- Locate the passenger in the DCS and review any special remarks
- Check travel documents until final destination and/or transit requirements
- Review Visa or entry conditions or limitations, if required
- Collect Advanced Passenger Information (API), if required
- When you identify an issue with a document, notify your supervisor who will contact the appropriate authority for assistance

1.1.6.1 Advance Passenger Information (API)

Most governments require airlines to submit Advance Passenger Information (API) at specified times for disembarking passengers. Information is generally collected at the time of check-in or provided from data collected during booking and verified during presentation of the travel document.
Irrespective of the nationality of the passenger API must be applied for all passengers on HiSky flights to/from:

- **Romania**
- **United Kingdom**
- **France**
- **Ireland**
- **Italy**
- **Israel**
- **Germany**
- **Russia**
- **Belgium**
- **Spain**
- **Egypt**
- **Turkey**
- **Greece**
- **UAE**

Following data must be collected for API:

- Passport country of issue
- Passport number
- Passenger nationality
- Date of birth
- Gender of passenger
- Passport expiry date
- Passenger surname
- Passenger first name

Procedure at **check-in**:

- Collect API data in DCS directly, using passport readable machine, if available.
- If passport readable machine is not available, all passenger data must be entered into DCS manually under DOCS element containing all information mentioned above.
- Review DOCS data already provided from the reservation, and correct/complete if necessary

Procedure at **boarding gate**:

- Complete missing and correct erroneous API data, if required
- API data collection shall be reviewed for web checked-in and transfer passengers. If not collected or if it is wrong or incomplete, API data of the passengers shall be entered accordingly

API data shall be transmitted to border control authorities, after the flight departure and prior to flight arrival. Always protect passenger's personal information and securely dispose of any related paperwork not kept on file.

1.1.7 Passenger acceptance

The acceptance of passengers is based on HiSky General Conditions of Carriage. Certain categories of passengers may be refused to travel at HiSky discretion. Assess each passenger in terms of security risk by looking for anomalies and observing certain emotional characteristics and/or body language. Be on the lookout for overall fitness to fly, including potentially communicable diseases, medical conditions, intoxication, etc. Further questioning may be required to assist with passenger assessment:

- When you identify a potential problem passenger, notify your supervisor.
- The supervisor will contact the appropriate local authority for assistance.

1.1.7.1 Seating

The number of saleable seats can be limited due to:

- Government restrictions
- Payload restrictions, seats blocking for crew
- Weight and balance reasons
- Other technical or aircraft equipment restrictions: e.g. number of oxygen masks, life vest etc.

The availability of seats rows for business and economy class is determined by the applicable cabin version

- On aircraft with a variable business/economy class configuration separation between business and economy class is achieved by a movable cabin divider.
- If the need arises the cabin version can be changed and implemented by the authorized personnel.

Seats allocation is part of check-n routine and is granted during check-in. Check-in agents should kindly inform the passenger about possibility of seat allocation and listen carefully for his/her preference. All possible actions shall be taken to provide the passengers with the requested seat allocation.

- Free seating is not applicable on HiSky flights
- Each passenger (except infants not occupying a separate seat) is assigned an individual seat number per flight
- Seats for special categories of passengers will be allocated according to HiSky policy
- The acceptance of passengers on the wait list is based on booking status and HiSky directives. For order of acceptance see Chapter 1.1.7.3 Acceptance of passengers from wait list and loading priorities. Seat allocation shall be firstly provided to all revenue passengers holding valid tickets with confirmed reservation (OK reservation status in the ticket)
- The following principles must be applied:
  - check for a special pre-seat assignment
  - accommodate specific requests such as aisle, window, near the toilet etc.
  - observe facility seating and seating restrictions
- The passenger's seat number is shown on the boarding pass (printed automatically or written manually)

ADVANCE SEAT RESERVATION (ASR)

ASR is available for HiSky regular flights and is subject to an additional charge. It can be booked during ticket purchase. The information about the requested seat is updated as ASR element automatically in the passenger PNR and when the PNL is generated, the ASR information is updated as well in DCS. The reserved seats under the service ASR **must not be changed** as they were booked and paid for.

In case of aircraft changes, take all efforts to re-allocate passengers with ASR to the defined seats on the new aircraft, by manual action if it did not happen automatically.

Refer to **Appendix B – Forms** of this manual for **Seat Selections rules and charges** during check-in depending on the aircraft type and flight origin/destination.

When seats in emergency exit rows or other specified rows are available during check-in and the passengers wish to select these seats/rows, these seats can be offered to passengers on request at airport check-in desks as per established ASR costs (respecting restrictions). The other seats are offered at check-in desks without any additional charge. Seat selection (ASR) is free of charge for Premium Plus and Business class passengers during check-in. Seats in business class can not be offered at extra costs to economy class passengers.

If web checked passengers wish to be reseated, this must be done as per established ASR costs.

UPGRADE TO BUSINESS CLASS

In case of flights with business/economy configuration, passengers may select UPGRADE to business class at the check-in or boarding (if seats are available), paying the appropriate upgrade fee. Refer to **Appendix B – Forms** of this manual for **Seat Selections rules and charges** for applicable UPGRADE fares.

The upgrade involves only the allocation of a seat in BUSINESS class, the other options will only be offered in case of availability. The upgrade fee will be collected during airport check-in.

HiSky seating rule for rows 1 and 2 in the case of full economy configurations

PNL is sent to DCS 3 hours before STD and relevant ASRs in rows 1-2 must be properly assigned automatically in DCS system. The remaining unreserved seats in rows 1-2 **must be blocked** before airport check-in start and remain blocked till the end of check-in process. Seats in rows 1-2 can be offered during check-in as per above ASR charges.

In case of a fully booked flight, the seats in rows 1-2 can be unblocked one by one (first row 2, then row 1), only when there are no other seats available in the plane (from row 3 to the aft).
When non-standard configuration is used, where only the 1st row is allocated for business class cabin, the seats in row 2 shall be offered last, when there are no other seats available in the plane (economy class cabin).

1.1.7.2 Seating restrictions

The following seating rules shall be strictly respected:

- Two children are not allowed on one seat
- Each passenger older than 2 years shall be seated on one passenger seat in cabin
- Passenger younger than 2 years (infant) may be seated:
  - together with an able bodied adult (over 18 years old) on one passenger seat - maximum 1 lap infant per accompanying adult
  - in an approved child restrained seat on a separate seat (if available)
- Revenue passengers are not allowed on crew seats

The seat choice is limited and special facility seats apply for certain categories of passengers such as:

- infants
- children
- deportees
- extra crew
- passengers with reduced mobility
- passengers needing extra oxygen on board
- passengers traveling with pets in cabin
- passengers needing extra seat

The facility seats are based on the type of the aircraft and the location in the cabin. In case of an aircraft or version change resulting in different seating scheme, the pre-assignment of seats must be re-checked. Seat layout description for specific aircraft type can be found in Chapter 7 of this manual.
Passenger occupying seats in emergency exit row must be able-bodied. Only those passengers who appear willing physically and mentally able to open the emergency exit may be seated in an exit row, therefore, the passengers must be informed at time of check-in that they have been seated in an exit row. Occupancy of emergency exit rows is restricted in accordance with HiSky policy and safety requirements.
Following categories of passengers, who may slow down an evacuation because of physical reason or who may not understand and follow the instruction given by the crew, must not be seated in an emergency exit row:

- children including UMs
- passengers with infants or/and children
- all kinds of PRMs and/or MEDA cases
- passengers traveling with PETC
- passengers younger than 18 years old

- obese passengers
- old passengers
- passengers who do not understand languages approved by the company (Romanian, Russian, English)
- passengers with extra seat
- passengers with an extra seat for CBBG
- INAD passengers and deportees
- pregnant women

1.1.7.3 Acceptance of passengers from waitlist

Passengers can be put on waitlist for a flight:

- due to their ticket /reservation status (waitlisted or seat available status) , or
- due to capacity reason (which can be restricted due to various reasons like payload restrictions, seat blocking, change of aircraft with lower capacity, etc)

The acceptance of passengers on waitlist is usually handled after the check-in has been closed. The order of accepting passengers from waitlist is based on:

- the ticket/reservation status
- the category of passengers
- the booking class

In case of waitlist situation, the following criteria shall be considered when ranking the passengers:

- Ticket/ reservation status: Confirmed, Waitlist/ Seat available basis
- Denied boarding status
- Booking Class: Business Class and Economy Class
- Special categories of passengers and services indicated by SSR: UM, PRM, PETC, EXST etc.
- Passengers with inbound/outbound flights

1.1.7.4 Loading priorities

All onboard loads are subject to priority order on the following sequence.

Top priority load

1. Urgent lifesaving medicines and transplant organs
2. Technical equipment for aircraft on ground
3. National diplomatic courier baggage
4. National diplomatic mail
5. National diplomatic cargo
6. Express cargo

Confirmed status

7. Ground staff needed for emergency aircraft repairs at outstations
8. Business Class passengers
9. Special passengers: UM, PRMs, INAD, deportees etc.
10. Passengers with inbound/outbound flights
11. Revenue passengers who were denied boarding on previous flights
12. Commercial important passengers and groups
13. Locally joining passengers
14. No record passengers
15. ID, company staff with confirmed booking on duty travel
16. Volunteer passengers for denied boarding
17. ID, company staff with confirmed booking on private travel

Waitlist status

18. Revenue passengers with RQ/SA ticket status
    a. business class passengers
    b. special passengers UM, PRM, INAD
    c. passengers with inbound/outbound flights
19. company staff with RQ/SA status

1.1.8 Passenger boarding

1.1.8.1 Boarding general policy

Boarding procedures shall be arranged by the handling agent and supervised by HiSky representative (if available). Boarding procedure may be started as soon as the crew gives corresponding authorization.
Boarding times will depend on the following conditions:

- number of passengers and number of loading bridges/passenger stairs
- type of aircraft
- parking position
- additional requirements for security measures
- local airport infrastructure

Boarding time shall be established with the aim of on-time departure of the flight (scheduled time of departure). Board the passengers in the following sequence:

- deportees
- passengers needing special assistance: UMs, PRMs
- families with small children
- economy class passengers
- business class passengers

NOTE: The boarding sequence may be influenced by local facilities of an airport regarding economy and business class passengers.

Passenger ID check at boarding

- Passenger's identity must be verified at boarding
- Name on boarding card, on the ticket respectively, must be cross checked with the name/photo in the passport.
  NOTE: In case of any discrepancies, local authorities must be informed.
- Prevent exchange of boarding cards

Safety requirements

- The passengers' safety must be observed throughout the entire boarding process
- In case of remote parking (bus or foot), the passengers' movement on the apron between aircraft and terminal or bus must be closely supervised:
  - ensure the route to the aircraft is safe and clearly marked for both passengers and staff
  - passengers must be kept away from the danger areas around the aircraft, engines, ground equipment, fueling zones
  - take care the buses are not overloaded and passenger stairs are not overcrowded
- For jet bridge boarding, secure and mark off the route to the aircraft. Avoid long queues in the loading bridge
- Crew must be on board at time of boarding

Security Requirements
All gate and departure areas need to be secured by keeping door closed, and by using appropriate barricades when directing passengers.

- Ensure that all access doors are closed when not in use
- Position staff is required to direct passengers
- If passengers have to walk on the apron to aircraft, ensure passengers proceed directly to the aircraft
- If transportation has to be provided to passengers to move them from the terminal building to the aircraft, ensure only authorized staff and screened passengers are allowed to board the bus.

Boarding during fueling
Regulations concerning fueling while embarkation/disembarkation are published in the Operations Manual (OM). Special conditions for boarding while fueling must be observed. It is also subject to the applicable local regulations and local station organization.

- Shall be authorized by the commander and supervised by authorized staff
- Safety requirements for fueling in progress must be followed as per HiSky GOM, Chapter 4.2.4
- The passenger handling staff shall be informed by the ramp handling that fueling will take place
- Passengers must be kept outside the appropriate restricted zone
- The flow of passengers while boarding must be controlled, congestions on the bridge/passenger stairs and in front of the aircraft doors must be avoided

1.1.8.2 Boarding procedure

Preparation for boarding

- Check that boarding facilities and gate monitors are displaying flight information
- Make sure that all required systems at the gate are functioning
- Ensure Dangerous Goods and Prohibited Articles notices are displayed at the boarding gate
- Check the flight for passengers requiring pre-boarding like: DEPA, INAD, PRM, UM etc.

Boarding process

1) Obtain clearance for boarding from the flight crew, according to local procedure and HiSky policy
2) Before boarding all passengers and cabin baggage must be security screened
3) Make the boarding announcements
4) Arrange and offer pre-boarding for DEPA, INAD and passengers needing special assistance
5) Start boarding according to the sequence mentioned above in this chapter
6) Verify each passenger's identity/passport and where applicable, check visa as well
7) Check the name on the passenger identity document with one on the ticket/boarding card, and visually match passenger with photograph
8) Check if APIS data collected – ensure correct APIS data for transfer and web check-in passengers
9) Whenever possible use a gate reader for automatic boarding. Confirm each passenger's boarding acceptance in the DCS before allowing them to board
10) For manual or non automated boarding – check the flight number and date on the boarding card
11) Apply HiSky cabin baggage policy and remove excessive/untagged cabin baggage, if applicable. Excessive cabin baggage will be checked in hold, collecting the relevant baggage fees, in accordance with procedures described in Chapter 2.1.2, if applicable and time allows
12) Account for any gate tagged baggage
13) Attention shall be laid on indications and signs for the presence of dangerous goods. If any item in the carry-on of the passenger raises suspicion regarding possible content of dangerous goods, it shall be removed or reported to local security staff and an additional security check of that passenger and his/her carry-on shall be requested
14) Give the passenger receipt of the boarding card to the passenger
15) Secure the flight by matching the checked-in passenger to the boarded passengers
16) Report to the crew when boarding completed and provide final passenger numbers to cabin and/or flight crew
17) Provide all required flight documents to cabin and/or flight crew
18) Advise ramp staff and/or load control about the gate baggage to be loaded
19) Ensure communication with load control about passenger and baggage information
20) Send required post flight messages upon flight close out.

1.1.8.3 Passenger boarding discrepancies

If there are passenger discrepancies (minus or plus), they must be resolved prior to closing the aircraft door.

Too many passengers on board

If the crew reports "more passengers on board" than boarded in the system:
1) Find out the respective passenger in cooperation with the crew
2) Check if this passenger is on the correct flight.

- If "YES" and there is space on the flight, accept the passenger if time permits, provided all necessary procedures are ensured - check of the ticket and travel document/visa, APIS collection
- If the passenger was boarded on the wrong flight, accompany him off this flight and refer him to the correct gate/flight.

3) Notify crew and load controller of any last minute changes to passenger and/or baggage load, if applicable.

Missing passenger on board
In case of a missing passenger the following rules shall be applied:
1) Find out the name of the missing passenger
2) Make every attempt to locate missing passenger and obtain visual proof of boarding and documents if they are located on the aircraft.
- Make an individual nominative call for the passenger (on board, at gate, and in terminal)
- Request a head count by cabin crew and check if passenger is on board
- Verify for any check-in errors (e.g. checked twice)

3) Check if the missing passenger has any checked baggage and arrange baggage search
4) If the passenger does not show-up in reasonable time, the passenger needs to be offloaded according to the procedure described below.
5) Notify crew and load control of any last minute changes to passenger and/or baggage load.

Passenger offloading
Based on General Conditions of Carriage, the reservation of the passenger not showing up at the boarding gate on time (boarding time printed on the boarding card or mentioned at check-in desk) may be cancelled. Government regulation and below handling procedure with the respect to the removal of baggage of passengers who checked-in but fail to board must be applied.
- If the passenger does not have any baggage checked in:
  - Offload him in the DCS
  - Advise load control and/or crew
- If the passenger has checked baggage:
  - Retrieve the baggage tag numbers stored in the passenger check-in file from DCS
  - Immediately request the ramp supervisor to locate and offload the baggage
  - As soon as the baggage is offloaded, offload the passenger in the DCS
  - Advise load control and/or crew

1.1.8.4 Gate closing time

Boarding gates must be closed latest:
- **15 minutes** prior to STD when aircraft is parked at remote stand.
- **10 minutes** prior to STD when aircraft is parked at loading bridge.

Passengers, who fail to present themselves at boarding gate before the gate closing time, will not be accepted for boarding. Relevant last minutes changes shall be done in all flight documents. In case of considerable number of no-show passengers at gate, all actions shall be coordinated with pilot-in-command or HiSky OCC.

1.1.8.5 Boarding in case of DCS breakdown

Manual boarding procedures apply where DCS is not available or in case of DCS failure. Every station shall have established a back-up procedure which will also consider principles described in this manual under Chapters 1.1.8.1 and 1.1.8.2.
- Inform the crew and load control about system break down
- Note passenger and baggage figures as
  - the number of male/female/child/infant passengers
  - total number and weight of baggage
- Baggage reconciliation must be ensured (via baggage identification during boarding or manual reconciliation with collected baggage data)
- Inform load control about
  - total number of passengers per class and per gender (male / female / child / infant)
  - total number and weight of baggage
- Inform the crew about
  - total number of passengers per class and number of infants
  - passengers with special services needed onboard (e.g. UMNR, PRMs)

- Ensure the final checked-in count matches the boarded passenger count prior to door closure and prepare and board a final manifest.
- Mandatory messages as PTM, PSM must be transmitted in alternative manner via e-mail or fax.

1.1.8.6 Announcements

Announcements should be made:

- Before boarding starts
- In case of irregularities, at regular intervals, even if no new details about ETD are known, in order to ensure the passengers that airline cares for them.

Any announcement must:

- Be at least in English and the local language(s).
- Contain flight number, destination, gate number and boarding sequence, if applicable
- Mention the operating carrier and partner carrier, if the flight is operated in code-share
- Use simple and clear sentences

1.1.8.7 Boarding passes

The boarding pass is a document, issued at check-in and containing boarding information for the passenger. It is also a tool for the airline to perform boarding control and to distinguish categories of passengers at embarkation.
Un-issued boarding passes should be kept properly and secured from unauthorized use. Type of the boarding passes to be used is chosen according to local best practices of the handling company.
The number of electronic ticket is printed on the boarding pass. A “home printed” Boarding Pass is a web check-in Boarding Pass, printed by the passenger during the web check-in process on his/her home printer. Original format is A4.

1.1.9 Passenger security screening

Passenger security screening procedure is performed with the aim of preventing prohibited articles from being carried into security restricted areas and on board of an aircraft.
The following rules apply for passenger security screening:

- All departing (transit, transfer, originating) passengers and their carry on are security screened either by electronic device or physical search.
  - This procedure is also applicable for special category passengers (e.g. PRM) and all types of mobility device (e.g. wheelchairs).
  - Transfer/transit passengers will go through security check at transfer point even if these passengers were screened or searched at the originating airport.
- Security screening is also applied to airline staff and crew
- Security screening of the passenger and their carry on is provided by local airport authorities
- Security check of the passengers will take place prior to boarding or at the departure gate or be centralized on entry into secured area of the airport.
- In case a passenger has an item in the carry-on baggage which is not allowed for carriage on board it will be removed at security check point.
  - If the nature of this item is such that it can be carried as checked baggage, then the passenger may be sent to the check-in desk to check-in the removed item and it will be handled as limited release baggage.
  - If the nature of this item is such that it can not be carried neither in carry on baggage nor in the checked baggage, the respective item is confiscated. Local airport security authorities are responsible for the handling of confiscated dangerous goods.

Refusal to security screening
According to the General Conditions of Carriage of Passengers, boarding shall be refused to any passenger who refuses to be screened or physically searched.

It is the responsibility of supervision staff to ensure all security threats are immediately reported to the HiSky, the flight crew and applicable authorities as per local requirements and airline's policy.
Apply HiSky and/or regulatory airport authority security procedures for the handling of passengers and their baggage in the event of:

- A bomb threat condition.
- An increased security threat condition.

1.1.10 Flight documents to the crew

Provide the flight crew with the required documents according to Chapter 6.7.6.3 Aircraft Documents.

Passenger Manifest (Passenger Information List) – provides information to the cabin crew about passengers on board (name, seat number, special service requirements). Check-in systems can provide a passenger information list or a similar list with the requested contents automatically. Passenger manifest must be provided to the senior cabin crew member before departure.

Captain Load Information (CLI) is a document that gives information to the commander about certain categories of passengers with their seats and special baggage (e.g. certain dangerous goods permitted in passenger or crew baggage).

CLI must contain such information:

- Passenger name
- Passenger category / SSR Code
- Seat number
- The location of the special baggage on board (e.g. packed battery)

NOTE: Any other information, needed to be provided to the captain, shall be mentioned in the CLI in the "special conditions" box as supplementary information.

Captain's Load Information is completed after check-in closure by ground handling personnel and handed over to the crew at the departure. If HiSky Captain's Load Information form is not available, ground handling agent may use a similar or an applicable version of the CLI form.

The CLI must be issued in duplicate:

- The original to be handed over to the crew
- And one copy for the station file

1.1.11 Post flight departure activities

All relevant messages **PSM**, **PIL, PTM, PFS, ETL**, **FTL - must be sent** according to HiSky GOM Appendix A.
API messages must be sent to appropriate state/immigration authorities as per each destination country requirements.

1.1.11.1 Messages

The **Passenger Service Message (PSM)** is a message informing the disembarking and, if necessary, the transit station(s) of passengers on the flight who require assistance or special handling upon arrival.

- The purpose of the PSM is to enable the disembarking station to make special arrangements if necessary- provided the passenger records have been correctly updated in DCS.
- The PSM is mandatory on all flights carrying passengers who need special assistance (UMs, Wheelchair passengers, stretchers etc.).
- The PSM must be dispatched immediately after the completion of check-in. It is automatically dispatched by all stations using an automated DCS and must be sent by telex by all stations working manually to the next destination of the flight.

The **Passenger Transfer Message (PTM)** is a report to subsequent stations on transfer passengers having a connecting flight within 24hours and their checked baggage.

- The purpose of the PTM is to enable the connecting station to ensure the transfer of passengers and baggage onto the connecting flights.
- The PTM is mandatory - even if there are no transfer passengers on board.
- The PTM must be dispatched immediately after the completeness of check-in.
- It is automatically dispatched by all stations using an automated DCS and must be sent by telex by all stations working manually.
- In case of delay of the flight, a preliminary PTM must be sent at STD. A final version must be sent at actual departure of the flight.

The **Electronic Ticket List (ETL)** is a list of passengers who used electronic tickets on a flight. This list includes the passenger name along with pieces and weights of baggage.

- The ETL must be dispatched after the flight departure.
- It is automatically dispatched by all stations using an automated DCS and must be sent by telex by all stations working manually.

The **Frequent Traveler List (FTL)** provides a list of all passengers having a Frequent Traveler number attached to their Check-in record.

- The FTL must be dispatched after the flight departure.
- It is automatically dispatched by all stations using an automated DCS and must be sent by telex by all stations working manually.

1.1.11.2 Flight documents

After a flight departure the Handling Agent shall prepare the Flight Documents Envelope, which is the batch envelope containing all revenue documents together with any other flight relevant documentation, if required. These activities consist in preparation and compiling all revenue documents in an envelope.

1.1.11.2.1 Flight documents envelope

The Flight Documents Envelope must be prepared thoroughly and neatly as the information contained in it is very important for the revenue accounting of the flight. Observe the following instructions:

- the front side of the envelope must be completed with all relevant information
- the number of the revenue documents written on the Flight Documents Envelope must match the number of documents (MCOs, EBTs, etc.) in the envelope
- only manual revenue documents (MCOs, EBTs) to be included Flight Documents Envelope
- same envelope can be used for numerous flights, depending on the number of flights/documents

Flight Documents Envelopes are handed to HiSky Representative (if available) and are sent as co-mail to HiSky head office on periodical basis. It is recommended to keep a list/record with flight numbers and dates of the Flight Documents Envelopes handed to the airline. The airline representative must check the content of the envelopes and if the information written on the envelope corresponds with the number of documents inserted in it.
In case of revealing any of the discrepancies, the Flight Documents Envelope must not be accepted, and the Handling Agent must rectify the errors as soon as possible. If this is not possible, the relevant remark must be made on the envelope.

1.1.12 Business lounge

As per HiSky policy, business class passengers will be offered business lounge access.

- access is based on boarding pass showing C or D class
- if locally required, an invitation card will be issued

Business lounge access may be offered to specific passengers when additionally requested by HiSky Ground Operations Department.

1.2 Arrival

1.2.1 Arrival basic activities

Pre-arrival:
Before arrival of the flight the handling staff must review the pre-arrival information from the messages and/or DCS (if available):

- In regard to type of the aircraft
- In regard to number of passengers on board in view of the number of busses to be foreseen
- Check estimated time of arrival:
  - prepare for short connections if applicable
  - in case of delay of arrival, check onward connections and make new reservations, if required
- Check PSM message and arrange facilitations for passengers requiring assistance e.g. PRMs, UMNRs. Make sure that necessary personnel and equipment is present on arrival of the flight in order to provide individual passenger service and assist passengers
- Check requirements for any gate mobility aids
- Ensure necessary handling staff to arrange disembarkation and transportation of the passengers

Arrival:

- Prepare jet bridge or stairs (in proper number), ensuring it is free of debris and position as per standard height for the aircraft type
- Secure the disembarkation route of passengers
- Cabin doors must be opened only by the cabin crew
- Ensure proper number of busses

The company representative is responsible for supervision of handling staff actions in order to ensure the adequate quality of service provided upon arrival and necessary assistance to the passengers. Appropriate assistance, as specified in GOM must be provided to special categories of passengers including transfer passengers.

1.2.2 Disembarkation

1.2.2.1 Disembarkation procedures

NOTE: Aircraft passenger's doors are opened/closed only by the crew from inside.

Disembarkation of passengers may only start after receiving positive decision of ground staff (ramp agent).

- Make sure steps or jet bridge are in correct position
- Secure the disembarkation route - passengers' safety must be observed throughout the entire disembarkation process
- Disembark passenger according to HiSky policy
- If disembarkation is done by bus, make sure busses are not overloaded
- In case passengers have to walk on the apron, they must be escorted, and ramp safety regulations shall be observed
- Provide assistance to passengers requiring it. Communicate any delays in providing assistance services
  - Passengers needing special assistance (reduced mobility, passengers with infants, etc.) must be assisted in every possible way up to the arrival hall.
  - Unaccompanied minors must remain under the airlines' or handling agent's custody until handed over to the awaiting party.
- Where applicable, passengers should be provided with relevant information concerning immigration and customs clearance.

DAA baggage:

- Whenever applicable, “Delivery at aircraft” items must be offloaded and placed at passengers’ disposal at time of disembarkation.
- This procedure should not cause any delay.

1.2.2.2 Disembarkation order

Disembark passengers in the following sequence:

1) Business class passengers.
2) Economy class passengers.
3) UMs
4) Passengers with reduced mobility or needing special assistance.
5) Deportees

1.2.3 Baggage delivery

Baggage delivery standards are determined in the countersigned Service Level Agreement (SLA).

- Baggage delivery should be provided as quickly as possible to make waiting time minimal
- Handle with priority unloading and delivery of the transfer baggage and priority baggage
- Ensure assistance in case of baggage irregularities, see Chapter 2.4 Baggage Irregularities
- Wherever applicable, checked baggage shall be claimed against presentation of the baggage claim tag

1.3 Transfer

1.3.1 Definition

Transfer passengers are passengers arriving by aircraft at a given airport, holding a confirmed or requested reservation for a connecting flight by the same or another carrier, and whose baggage was checked through on that connecting flight at the original boarding station. Transfer passengers hold separate flight coupons and receive separate boarding passes for the different parts of the journey.

1.3.2 Minimum connecting times

The Minimum Connecting Time (MCT) is the minimum time required for a passenger and his checked baggage to transfer from the delivering flight onto the connecting flight. It varies according to station, carrier, type of the aircraft and type of the flight. Standard MCT and exceptions are published in reservation system for each specific airport.

1.3.3 Handling procedures at connecting station

1.3.3.1 General handling procedures

Upon receipt of the Passenger Transfer Message (PTM) and Baggage Transfer Message (BTM), the handling agent shall make all necessary arrangements to ensure a smooth transfer of the passengers and their baggage.

The following actions shall be taken:

- Check the inbound/outbound connections and the number of passengers affected
- Check time-critical connections and inform gate staff of onward transfer
- Prepare for handling of passengers requiring assistance, as per PSM message
- Meet the transferring passengers upon arrival of the incoming flight
- For disembarkation and arrival assistance, follow the rules described in Chapter 1.2.2 Disembarkation. If possible, let the passengers with short connection disembark first
- Direct through checked passengers to the appropriate departure gates(s)
- Direct non-through checked passengers for check-in to the transfer desk or gate whichever is applicable
- Unaccompanied minors must remain under the handling agents' custody during the complete transfer time
- Passenger needing special assistance (reduced mobility, passengers with infants etc) must be assisted in every possible way during the transfer.
- Give the passengers all relevant information concerning immigrations and customs clearance, if applicable.

Airport change
If an airport change during transfer is involved, through check-in of passengers and through labeling of baggage is not permitted.

In case of **"short connection"** - a connection within the minimum time period required for transfer procedures, all possible actions should be taken to avoid lost of outbound flight

- assistance in passing passport and visa checks upon arrival and before departure,
- guidance to the consecutive check-in desk/gate and security control etc.

In case of "misconnection" a particular set of measures according Carrier's instructions shall be performed, as per Chapter 1.6 Passenger irregularities.

1.3.3.2 Other special transfer facilities

Some connections routes are operated by other means of transportation (by bus or train), although they carry a flight number and the passenger has a flight coupon.
In case of a bus/railway transfer:

- No through check-in of passengers and baggage onto bus/train
- No through labeling of baggage onto bus/train
- Passenger must claim baggage upon arrival of aircraft and personally transfer it to bus/train
- No special services like UM, PRM can be ensured on bus/railway transfer

1.4 Transit

1.4.1 General

Transit passengers are passengers who:

- Arrive at an intermediate station on a multi-leg flight, and
- Continue their journey on that same flight.

In this case only one flight coupon and one boarding pass is issued. Transit passengers may be allowed to disembark when scheduled ground time and local circumstances and facilities permit (local law, airport infrastructure, ground time, duration, station equipment, etc.), in accordance with HiSky policy.
Certain categories of passengers should be escorted during the transit time.
Local government requirements must be applied regarding security of transit passengers up to and including screening requirements. A transit flight might involve also an aircraft change.

1.4.2 Disembarkation of transit passengers

In case transit passengers are obliged to leave the aircraft in the transit point of destination, the following actions should be taken:

- Advise passengers to take all their carry-on baggage and personal belongings with them when disembarking
- When passengers are disembarking, call the transit passengers by destination and flight number
- Provide each passenger with a transit boarding pass or instruct passengers to retain their original boarding pass. The number of transit passengers disembarking and number of boarding passes distributed, must be the same
- Inform the passengers about boarding time and gate and available facilities
- Give all relevant information concerning immigration/customs clearance, if applicable
- Transit passengers must be re-secured, when re-boarding the flight (check of travel document, boarding status verified, transit card collected)

1.4.3 Transit passengers remain on board

General procedures

- Cabin crew must check the number of passengers remaining on board to ensure that only transit passengers stay on board; in case of discrepancies, check the original boarding pass stub
- Handling agent shall be informed about the number of passengers remaining on board
- Aircraft stairs or loading bridge must be positioned
- In unusual cases, the captain must be informed before landing that the passengers must stay on board

There may be categories of passengers that will stay on board if locally permitted, during fueling.

- passengers needing special assistance (e.g. passengers with reduced mobility, UMNRs, deportees, etc
- passengers with small children
- pregnant women

For procedures on fueling with passengers on board, see Chapter 4.2.4 on this manual.

1.4.4 Boarding transit passengers

- Board transit passengers before local passengers, collecting the boarding passes.
- Re-secure the flight by checking travel documents and validating boarding status by collection of the transit card or review of the original boarding card. Validation may also be done by using the flight manifest or DCS
- Apply the general boarding procedure described in Chapter 1.1.8.2 Boarding Procedure.

Missing Transit Passengers
The flight must be re-secured before door closure. If passengers are missing, apply the procedures for missing passenger described in Chapter 1.1.8.3 Passenger boarding discrepancies.

1.5 Special categories of passengers

1.5.1 Infants and children

Infant is a minor under 2 years of age, not having reached its 2nd birthday.

- An infant shall hold an individual ticket issued on the applicable infant fare.
- An infant traveling on an infant ticket is not entitled to a separate passenger seat.
- In case an infant reaches the 2nd birthday during the journey, he/she will be considered a child as of the birthday, and he/she must be assigned a seat and the ticket for the return flight will be issued on the applicable child fare.
- Infants must not be seated in emergency exit rows
- Infants may not be accepted within the first 7 days after birth except as medical case.
- Maximum 1 lap infant per accompanying adult over 18 years old - on exceptional basis, if within same family (sister or brother), the minimum age of over 16 years old for the person to be responsible for an infant may be applied, only with prior approval of HiSky Ground Operations and Flight Departments.
- An able-bodied adult is allowed to travel with 2 infants, if at least one infant is accommodated on an aircraft seat in a child restrained device approved for use on aircraft.
- An infant can occupy his/her own seat provided:
  - holding a ticket on a fare entitled to own seat (child fare)
  - accepted in DCS as “child”
  - all safety requirements regarding seating are respected – the infant must be properly secured during take-off and landing, in a child restraint device.
- Aircraft baby basinets are not available on HiSky flights.
- For infants, transportation of a baby stroller (including buggies consisting of two pieces) is free of charge regardless whether being treated as checked baggage or DAA
  - advice the passenger concerning DAA procedure
  - all detachable or external accessories must be removed and securely affixed to the stroller when giving in hold; usage of a package is recommended to prevent pieces going missing in the aircraft hold and/or damage
  - a remark shall be entered in DCS about the stroller when checked in hold
- Maximum number of allowed infants on board is limited by the number of supplemental oxygen masks, life vests and infant belts available on the aircraft. It consists about 10% of the seating capacity of the aircraft.
- Limitations of infants – **maximum:** **14 infants** are allowed on **A319**
  18 infants are allowed on **A320**
  22 infants are allowed on **A321**
  27 infants are allowed on **A330**

Child is a minor between 2 and 12 years of age, having reached its 2nd birthday but not reached its 12th birthday.

- A child shall hold an individual ticket issued on the applicable child fare.
- Children must occupy an individual passenger seat
- Children must not be seated in emergency exit rows
- 2 children on one seat are not allowed
- A child shall always seat in the same class of service as his/her accompanying person
- In general, no special acceptance rules for accompanying children

Child restraint device may be used on board by infants and children as well. If used for infants, a regular passenger seat will be booked at the applicable child fare. The use and acceptance on board depends on specifications and dimensions of the child restraint device or car type seat. The conformity will be verified and airline specific limitations will be respected as not all seats may be suitable.

- the bottom of the child restrained device shall not exceed 40x40 cm in order to allow installation in all cabin seats – dimensions limitations shall be respected as not all seats may be installed

- the seat will have restraint belts installed to securely hold the child and a label indicating approval for use on aircrafts (most of the safety seats that are approved for use in motor vehicles are acceptable for use in aircraft)
- do not assign a seat for the child restraint device in an emergency exit row, or the row forward or rear of an emergency exit row
- make sure the child restraint device is placed on a seat which will not hinder the evacuation of any passenger

1.5.2 Unaccompanied minors

Unaccompanied minor (UM/UMNR) is a child between 5 and 12 years old having reached his/her 5th birthday but not his/her 12th birthday and not accompanied by an adult who is taking care of the child during the journey.

UMNR service consists in supervision of the child traveling alone, provided against a special service charge, where the minor is:

- taken into the custody of the airline or handling agent (on behalf of the airline) at the time of check-in.
- accompanied by ground staff to the aircraft and handed over to the flight attendant
- cared for flight attendants during the entire flight
- met by ground staff upon de-boarding and escorted to the connection flight, if any, or to the exit and passed to the escort upon arrival as documented in the UM handling advise.

Minors citizens (up to 18 years old) of Republic of Moldova (RM) traveling alone from/to Moldova:
Minors, citizens of Republic of Moldova, have the right to exit and enter the Republic of Moldova only accompanied by a parent, legal representatives (persons designated by law to exercise the parental rights) or by an attendant over 18 years old, appointed by a written declaration legally notarized. The declaration will mention the purpose of travel, length of the stay and destination country.
A minor citizen of Moldavian citizenship traveling alone on HiSky flights from/to Republic of Moldova, will need a declaration from a parent or a legal representative legally notarized, which will appoint HiSky flight crew members as accompanying persons on the respective flights. The declaration is mandatory to be presented to Immigration Authorities of **Republic of Moldova**.

Minors citizens of Romania (up to 16 years old) traveling alone from/to Romania:
Minors, citizens of Romania, have the right to exit and enter Romania only accompanied by a parent, legal representatives (persons designated by law to exercise the parental rights) or by an attendant over 18 years old, appointed by a written declaration legally notarized. The declaration will mention the purpose of travel, length of the stay and destination country and the person to who will be the minor passed to upon arrival.
A minor citizen of Romania citizenship traveling alone on HiSky flights from/to Romania, will need a notarized statement from both parents confirming that they agree for the minor child to travel escorted by a HiSky Company representative – in the declaration will be all the identification data. The declaration is mandatory to be presented to Immigration Authorities of **Romania**. Declaration sample can be obtained from Customer Service (customer.service@hisky.aero).

Minors (up to 18 years old), citizens of other countries, traveling alone:
As some countries' immigration authorities require additional documentation (like legally notarized declaration or permits) for minors traveling alone, it is recommended that parents consult the exit/entry requirements of the residence country of the minor, of the country of departure and arrival, and ensure that all necessary documentation are prepared for the minor traveling alone.

Applicability of UMNR service for minors, regardless of the citizenship:

1. The unaccompanied minor procedure **MUST be applied** (mandatory) for:
   - all children from 5 up to 12 years old traveling alone,
2. The unaccompanied minor procedure **MAY be applied** (not mandatory) for:
   - other minors from 12 up to 18 years old traveling alone
     - ➢ on parents' request, or
     - ➢ in case of doubt of child's ability to travel alone

UM handling fee

50 EUR service charge is applicable for the UM service per each HiSky flight/leg.

Booking

- Unaccompanied minor service needs to be requested at the time of booking via respective SSR code UMNR
- Prior confirmation of UMNR service must be received from all carriers involved before issuing the ticket.
  NOTE: If the ticket was issued without prior confirmation, the sales agent holds whole responsibility if the service is not confirmed due to limitations.
- Parents shall be advised to consult the exit/entry requirements for minors traveling alone

Acceptance restrictions

The following restrictions shall be observed when accepting UMs:

1) Maximum number of permitted UMs per aircraft:
   from 5 up to 16 years old: **5 UMs** on A319 / **8 UMs** on A320 / **10 UMs** on A321 / **12 UMs** on A330
   from 16 up to 18 years old: **10 UMs** on A319/A320/A321/A330

NOTE: If no UMs of age category from 5 up to 16 years old or less then the limitations above for this category of UM, then it is allowed to be accepted more than the limit number of UMs with the age of 16 up to 18 years, but total quantity of UMs must not exceed 15 UMs (A319) / 18 UMs (A320) / 20 UMs (A321) / 22 UMs (A330).

2) To be observed in case of connecting flights
   - same day connections are allowed if all reservations have been confirmed and each airline confection time limits are followed
   - stopovers or night stops are only permitted if the parents/guardian have made arrangements for an authorized adult escort during the stopover or night stop.

3) UMNR service will not be confirmed by HiSky to transfer/transit passengers if connection time in transfer airport is less than 1 hour and more than 4 hours.

4) Unaccompanied minors are not allowed to travel with PETC

5) The provision of UMNR service is not possible on HiSky flights for disabled minors who:
   - have a physical impairment or have an acute medical condition or
   - are completely immobile or
   - are reduced in mental ability

6) The UM service will not be provided if the confirmation of the service from HiSky and all other airlines involved in the journey is not received, and all applicable charges are not paid.

1.5.2.1 Procedures for handling Unaccompanied Minors

Responsibility

Parents/tutor/guardian or legal representative's responsibility:

- Arrange for the necessary travel documents and make the flight reservation
- Arrange for an authorized adult on departure to stay at the airport until the flight is airborne
- Arrange for an authorized adult upon arrival to be at the airport at the actual time of arrival
  NOTE: The designated adult as stated on the Handling Advice must be identical to the person meeting the child. In case the designated person is prevented for any reason, the meeting person must hold a written authorization by the responsible parent/guardian stating that he/she is allowed to pick up the child.
- Pay all costs involved in return transportation (meals, accommodation, return fare, ground transport, etc.) in case the authorized adult fails to meet the UM upon arrival.
- Sign the handling advice form

Airline's responsibility:

- The UM becomes airline's full responsibility from the moment he/she is handed over
  - ➢ by the parents, guardian or authorized adult upon departure, or
  - ➢ by the delivering carrier at the transfer station
- Until he/she is handed

- back to the parents, guardian or authorized adult upon arrival, or
- over to the receiving carrier at the transfer station

Seat allocation for UMs

During pre-flight preparations UMs have to be pre-assigned with seats:

- UMs must not be assigned seats in emergency exit rows
- Special facility seating applies according to Chapter 7.4.2 – seats for UM are in the front part of the cabin

UM interline handling

- UM interlining with other airlines might be restricted and is only granted subject to the condition that the SSR UMNR is confirmed for all airline segments in the itinerary.
- In case of onward flight where other airline is involved always check the PNR before accepting the UMNR if all relevant confirmations are granted

Departure station handling procedures:

1) During pre-flight preparation the staff from departure station shall pre-assign seats for UMs
2) During check-in, ensure that the UM is holding:
   - All necessary documents (passport, visa, etc)
   - Payment for the UM fee. If no, then refer the passenger to the ticketing desk/ representative and apply UM handling fee.
3) Complete the UM handling advice form in sufficient copies (at least by one copy for each station, for cabin crew, and for other carrier at the interline transfer point) ensuring the responsible adult has signed authorization and provided proof of identity. Indicate the person's name accompanying the minor at departure airport and the person's name meeting at destination, their address, contacts and all other relevant information.
4) Ensure the correct remarks and SSR codes are entered in the check-in record for PSM dispatch
5) Ensure the UM is assigned a seat according to Chapter 7.4.2 of this manual
6) UMNR must not be unsupervised until handed over to the cabin crew
7) Pre-board the UM and hand over to the cabin crew in charge, checking the presence of all necessary documentation. Where pre-boarding is not possible e.g. due to late incoming, board the UM last
8) Cabin crew shall fill in the respective fields of the handling advice "escort in flight".
9) Distribute copies of handling advice as required and keep one copy for station file.
10) Inform the destination station and the transit/transfer station by means of a PSM.
11) File the necessary copies of the UM handling advice.
12) Inform the responsible adult at departure airport that only the person mentioned in the Handling Advice shall be handed over the minor on arrival and that the designated person must be present at destination airport on arrival time of the flight. Seek confirmation that the designated person will be present on arrival and meet the UM.
13) Inform the responsible adult to remain at the airport until the aircraft is airborne
14) Advice/release responsible adult once the flight is airborne

Arrival station handling procedure:

1) Meet the UM at the front door of the arriving aircraft and assist.
2) Complete the handling advice for airline staff responsible and collect any travel documents from the cabin crew.
3) Ensure baggage of UM is collected, where applicable.
4) Guide the UM through immigration, baggage claim, customs, etc.
5) Hand over the UM only to the designated adult noted on the handling advice after verifying the identity of the person and having received his/her signature for receipt of the UM.
   - If the meeting person at the arrival station is not the person mentioned on the handling advice, this person must present a written authorization by the responsible parent or guardian stating that he/she is allowed to pick up the child.
   - If the designated adult is not present or not the person mentioned on the handling advice, make effort to contact the designated person for verification
     - If this is not possible, contact the parents/guardian at the origin station
     - If necessary, return the UM to the station of origin.

NOTE: All costs involved for this operation shall be debited to the parents/guardian.
5) All decisions and actions must be recorded in the station file.

Transfer station procedure:
1) Meet the UM at the front door of the arriving aircraft and assist.
2) Fill in the respective field of the handling advice and collect any travel documents from the cabin crew.
3) If applicable, perform the check-in for the connecting flight and check the travel documents.
4) Keep the UM in safe custody of the handling personnel, until boarding or until handover to the receiving carrier
5) Hand over the UMNR to the cabin crew of the connecting flight, or to the onward connecting airline agent, in case of an interline transfer.
6) The receiving carrier or the onward connecting airline agent must sign the copy of the handling advice
7) Proceed further as described under departure station procedure
8) If flight is canceled at transfer station, UMNR to be accompanied at all times.

Transit station procedure:
1) If possible, leave the UM on board during ground stop, under the supervision of the crew
2) If disembarkation is required, meet the UM at the front door of the aircraft and keep him in safe custody until re-boarding. Handling advice must be signed accordingly.
NOTE: for re-boarding proceed as for departure station.

In case of operational irregularities:
Handle any UM with priority and special care

- Arrange substitute or onward transportation
  NOTE: for substitute transportation consult and agree with UM tutor regarding the transportation and ensure that all confirmations from the carriers are received and the UM is accompanied by a dedicated staff
- Inform the escort at departure station and the person at destination about the irregularity and the arrangements concerning alternative transportation and accommodation.

Diversion:
If a (possible) diversion has been communicated prior to departure a local UM shall be rebooked/re-routed to the final destination in accordance with the parents or guardians and not be accepted on the flight.
A “transfer UM” shall be accepted on the flight and transport to the final destination has to be ensured, provided no other arrangement made with the parents or guardians.
If the decision for a diversion is taken during the flight:

- The commander informs the diversion station about an UM on board as soon as possible.
- The diversion station shall act as mentioned in irregularities in general.
- The cabin crew must take care of the UM until safe custody on ground is guaranteed

Documentation:

UM handling advice – to be completed mandatory

- contains the waiver of liability, to be signed by the parents/legal guardian.
- shall contain information concerning the UM (name, contact, address details, routing) and names, contact, address of the adult escort on departure and upon arrival
- contains several copies: one copy for each station concerned, crew, and for onward connecting airline agent/or other carrier at the interline transfer point (make sure enough copies are available for the complete journey, transfers, etc.)
- gives opportunity to follow back the way of handling: each staff involved fills in the field “airline staff in charge of minor whilst in their custody”

UM document holder bag (recommended) is a split-on wallet for safe carriage of the UM’s documents with space provided to fill-out name, routing and other details.

UM baggage tags (recommended): tag for easy identification of baggage, giving priority in baggage delivery.

1.5.3 Passengers with reduced mobility

1.5.3.1 General

PRM definition: Passengers with Reduced Mobility (PRM) are persons whose mobility is reduced due to physical incapacity, an intellectual deficiency, age, illness or any other cause of disability, who require individual attention/accommodation and who needs assistance when using transport, which normally are not given to other passengers.

MEDA definition: A medical case passenger is a passenger for whom medical clearance is required (SSR code MEDA). Medical clearance is based on the completed MEDIF by the treating physician and provided to the airline prior to the flight departure.

General handling policy
For passengers with disabilities and those requiring or requesting assistance, any agent in contact shall:

- ask the passenger what assistance they require and how they can be helped
- advise passengers what services and assistance are available based on their needs
- discuss the most appropriate seating based on their individual needs and the aircraft specifications, even if seats have already been pre-assigned
- advise the passenger of operating airline equipment such as on board wheelchairs, if available and accessible lavatories
- provide information to passengers in alternate formats upon request
- ensure accurate SSR codes and any other relevant information are recorded in the PNR and DCS

Appropriate IATA SSR code, based on specific passenger needs is used:

SSR	Definition
WCHR	Passengers who can ascend and descend steps and move in the aircraft cabin, but who requires a wheelchair to/from the aircraft.
WCHS	Passengers who cannot ascend and descend steps, but who can move in the aircraft cabin; they require a wheelchair to/from the aircraft and must be carried up/down the steps.
WCHC	Passengers who are completely immobile; they require a wheelchair to/from the aircraft and must be carried up/down the steps and to/from their seat.
BLND	Passengers who are blind and need assistance; Specify if accompanied by a service dog.
DEAF	Passengers who are deaf and need assistance for any announcement on the ground and on board; Specify if accompanied by a service dog.
STCR	Passenger who requires transportation on a stretcher, i.e. in laying position.
LEGR	Passengers with a right leg in a full cast (to use in conjunction with SSR code WCH)
LEGL	Passengers with a left leg in a full cast (to use in conjunction with SSR code WCH)
LEGB	Passengers with both legs in a full cast (to use only in conjunction with SSR code MEDA)
OXYG	For passengers traveling either seated or on a stretcher, needed oxygen during the flight (to be used only in conjunction with SSR code MEDA)
DPNA	Disabled passengers with intellectual or development disability needed assistance
MAAS	Meet and assist (to use only in conjunction with one of the above SSR codes for PRM assistance

NOTE: MAAS (Meet and assist) service is offered only to passengers with reduced mobility, if required. At time of booking or check-in, the code MAAS plus the reason for special attention and service specification (kind of service BLND, WCHS etc) shall be entered into the reservation / DCS system.
NOTE: MAAS, as additional services for non-PRM passengers, is not confirmed by HiSky.

Maximum number of disabled passengers per aircraft:

- PRMs traveling accompanied can be accepted without limitations.
- Maximum PRMs traveling unaccompanied will not exceed **6** on **A319**, **8** on **A320**, **10** on **A321**, **12** on **A330**
  NOTE: Higher number of PRMs unaccompanied may only be approved after coordination with Flight Operation Department.

- For groups of PRMs, a lesser number of assisting persons may be required, if agreed with the Flight Operation Department.

Seating
PRM/non-MEDA and PRM/MEDA passengers must NOT be seated in emergency exit rows

The persons with reduced mobility should be seated in accordance with their needs. Taking into account the following factors, they should be seated:

- not far from access doors (for immobile passengers);
- in front of the aircraft cabin
- in a window seat
- PRM shall not occupy seats where their presence could impede the crew in their duties.

MEDA passengers are entitled to appropriate seating according to their needs, including the stowage of on-board medical devices or equipment.

- Appropriate seating, special facility seats for PRMs as per seat maps should be assigned to:
  - passengers needing extra oxygen on board or traveling
  - completely immobile passengers
  - passenger traveling with a service animal
  - passenger with a fused or immobilized leg
- Provide adjacent seating as applicable for:
  - a personal care attendant
  - a safety assistant
  - a reader/interpreter in case of a vision or hearing impairment

1.5.3.2 Passengers not requiring medical clearance

Medical Clearance is not required for PRM/Non–MEDA passengers, who need special assistance in the airport and/or for embarkation /disembarkation, who are able to sit in a normal passenger seat with back in upright position and who are able to meet his own needs independently in passenger cabin. For example:

- Persons who are visually or hearing impaired (blind/partially sighted, deaf/hard of hearing). The passenger should be able to take care of himself/herself and communicate with the attendants. If not, then an escort should accompany the passenger
- Passengers with simple fractures or injuries (lower limb, forearm, hand, foot), provided they have been treated with appropriate thrombosis prophylaxes
- Persons who are reduced in mobility due to age
- Persons requiring WCHR/S/C, provided the need for a wheelchair is not a result of a medical condition but it is a result of a chronic and stable impairment which has remained unchanged during the last 6 months (e.g. since birth, a disability caused due to an accident).
- DPNA - passengers with intellectual or development disability but being self-reliant passengers

1.5.3.3 Passengers requiring medical clearance

MEDA cases are passengers requiring medical clearance to be provided before acceptance:

- Passengers who appear to have a communicable disease or condition that could pose a direct threat to the health and safety of others on the flight
- Persons who have a medical condition which may adversely affected by the flight environment and/or whose medical condition gives reasonable doubt that the individual can complete safely without requiring extraordinary assistance during the flight e.g. persons with acute medical conditions as recent heart attack, stroke, embolism, persons with recent surgery
- Passengers requesting medical treatment during the flight, e.g. needing extra oxygen or other medical equipment, infusions on board,
- Passengers needing transportation on a stretcher
- Passengers with one or both legs fully in cast,
- Babies under the age of 7 days,
- Expectant mothers from 28th week of pregnancy will be required to provide medical certificate

Acceptance of MEDA case passenger

- MEDA cases will be accepted for carriage only if medical clearance has been granted and confirmed by HiSky Medical Service
- the passenger can be accepted according to the conditioned agreed upon and stated in PNR and/or notification message

Extra Oxygen for medical use

Passengers requiring supplementary oxygen for medical use will be offered company oxygen suppliers on board, subject to prior approval from HiSky.

NOTE: Passengers' personal oxygen bottles are not accepted on board.

Once the transportation of the passenger needing supplementary oxygen has been accepted:

- arrange pre-boarding of the passenger
- add appropriate SSR codes for assistance
- seat the passenger as per special facility seats for PRMs as per seat maps and arrange the stowage of the equipment

Interlining of MEDA-cases

In case of interline connection:

- each operating carrier has to be contacted individually for medical clearance
- the itinerary may not be confirmed unless all involved carriers have agreed upon the medical transportation and requested assistance.

1.5.3.4 Escort requirement for PRM/MEDA cases passengers

In general, MEDA cases must be accompanied by persons older than 18 years old qualified as: able-bodied attendants/assistance or medical escorts.

- Medical escorts are persons who have undergone adequate medical training, depending on the type of passengers' needing assistance. They are required:
  - for passengers traveling in stretcher
  - if requested by HiSky medical service or Ground Operation Department due to severe medical condition
- A safety attendant/assistant is a person, physically and mentally able to assist a PRM during the flight. They are required for the following PRMs:
  - for a passenger who of a mental disability is unable to comprehend or respond appropriately to safety instructions from carrier personnel
  - for a passenger with a mobility impairment so severe that he/she is unable to physically assist in his/her own needs and evacuation of the airplane
  - for a passenger who has both severe hearing and severe vision impairments and cannot communicate with cabin crew with regard to safety briefing and evacuation of the aircraft in the event of an emergency
  - for a passenger needing individual or special nursing or care during the flight

1.5.3.5 Pre-flight arrangements

Advance notifications

Passengers are asked to advice all their needs at the time of reservation in order to allow sufficient time for proper arrangements. All types of PRM services or other assistance must be requested at least 72 hours before the flight departure.

Advance notification is required for the following, subject to the company acceptance and approval:

- special equipment needed during transportation (e.g. wheelchairs, stretcher)
- the use of oxygen on board or use of personal portable concentrator, ventilator or respirator onboard
- the passenger is carrying a battery powered wheelchair or other battery powered mobility device
- service animal accompanying PRM

Booking
It lies with the responsibility of booking office and/or agent to:

- find out if medical clearance is required or not, based on passenger's needs and medical condition
- contact the passenger or agent directly in case further clarification required
- amend all relevant info in the PNR
- inform the passenger that he/she needs to be accompanied if he/she is unable
  - ➢ to follow safety instructions of the cabin crew independently,
  - ➢ or assist in his/her own evacuation in case of an emergency in reasonable time
- provide all info to HiSky Medical Service if required
- wait for positive reply from airline medical service before giving confirmation to the passenger

If medical clearance is not required the requested assistance for PRM will be confirmed in accordance with airline regulations, as per information in the PNR and details received from the agent about the passenger condition.
If medical clearance is required, the assistance of the PRM or PRM/MEDA will be confirmed after receiving the positive medical clearance from HiSky Medical Service.

When processing the requests and passenger assessment, the following should be considered:

- Medical clearance **not required** - chronic disability, stable impairment
- Medical clearance **required** - acute illness, acute/unstable medical conditions (due to recent stroke, heart infarct, surgery, terminal stage of illness), need of special medical equipment (e.g. oxygen, infusions, etc.)

Medical clearance procedure
Transportation of a passenger requiring medical clearance is coordinated and authorized by HiSky Medical Service.
The basic required assistance and medical data are collected via:
1) PRM transportation request form – is an information sheet for passengers requiring special assistance - to be completed either by the passenger or travel agent
2) MEDIF, Medical Information Sheet - is an information sheet for passengers requiring medical clearance

- to be completed by the passenger's treating physician
- represents the basis for the decision of the acceptance
- medical clearance can only be given by the operating carrier and therefore is valid only for the issuing carrier's flights and dates specified on the clearance
- the department responsible for medical clearance (HiSky Medical service) may overrule the decisions made by the passenger's treating physician

MEDIF form can be received by e-mail upon request from customer.service@hisky.aero

When medical clearance required, the following procedure for processing the requests must be followed.

- Upon receiving information of a potential MEDA case passenger, the agent and/or passengers shall be advised about the necessity of submission of a completed MEDIF form
- MEDIF shall be completed by the passenger's treating physician based on passenger medical condition. If more information or clarification required, passenger's doctor
- Completed MEDIF form will be submitted with 72 hours prior to departure of the flight to HiSky email: customer.service@hisky.aero . Exceptions are decided on a case by case basis
- The passenger/agent/passenger's physician may be contacted, if more information or clarification required to asses fitness for travel
- Medical Service will also decide for each case individually about the needed type of escort
- Once the medical clearance is granted by HiSky medical service, the airline reservation control office will reflect the confirmation of assistance/carriage in the passenger PNR
- In case of interline journey, medical clearance shall be received from all carriers involved before confirming the itinerary
- Additional requests for arrangements for special services, (like oxygen, stretchers, or need of medical equipment on board) or any requests for an extraordinary assistance on departure and arrival, shall be coordinated with Medical Service, Ground Operation Department, Technical and Safety Department

- Arrangements for hospitals, ambulances outside/inside the airport shall be made by the passenger, passenger's family or physician

Notification message is an informative message for pre-arrangements to all personnel concerned (depending on the case: reservation office, ground operation department, crew, stations concerned, HiSky representative, technical department etc) about the details on carriage of PRM and/or MEDA.

- pax name and date/flight routing
- requested service
- description of kind of assistance needed on board
- equipment required

1.5.3.6 Handling procedures for PRM/MEDA cases passengers

It is recommended that passengers needing special assistance report themselves for check-in well before the check-in deadline in order to process and/or organize all requested assistance. PRMs should be provided with special care and kind assistance at all stations of the itinerary.

Handling at departure station:

- Check if special needs have been notified via respective SSR codes and entered into DCS and PNR.
- Verify if requested service meets the passenger need and if escort requirements are fulfilled. If not, proceed as specified in paragraph "un-notified cases" in this chapter and correct the special service request in DCS, if required.
- Ensure that all respective service requests are reflected in PSM and on CLI
- Apply correct seating according Chapter 7.4.2 of this manual
- In case the passenger is carrying his personal wheelchair:
  - DAA procedure may be applied only for foldable wheelchairs, in case the passenger needs it for embarkation/disembarkation. Use DAA tag and regular tag will be attached as well
  - if the passenger's wheelchair is not foldable, check-in the wheelchair and attach a regular baggage tag
  - in case of a battery powered wheelchair/mobility aid, apply the acceptance rules for dangerous goods regulations, see Chapter 2.3.5.5 Wheelchairs/Mobility aids with batteries
- Organize assistance for embarkation as per passenger needs: wheelchair service, and/or necessary assistance staff and equipment
- Arrange pre-boarding PRMs and/or MEDA case passengers
- Complete the CLI (or other similar informative document),
  - original shall be given to crew
  - a copy to be put in the station file
- Inform cabin crew
- Ensure that PSM message was dispatched to all stations involved after flight departure

Handling procedure at transfer station

- Assist the PRM and organize wheelchair service for disembarkation / embarkation as requested in PSM message or other notification message
- If applicable, perform the check-in for the connecting flight and ensure transfer to onward flight

Handling procedure at arrival station

- Assist the PRM and organize wheelchair service for disembarkation / embarkation as requested in PSM message or other notification message
- Assist the PRM through immigration, baggage claim and customs, if required.
- If applicable, return all special equipment (stretcher, oxygen bottles etc) to the station of origin.

Handling in case of irregularity

- In case of a misconnection due to the delay of the delivery carrier's flight, the delivering carrier is responsible for all arrangements necessary for the care and welfare of the passenger.
- Passengers with reduced mobility or special needs shall be offered special treatment and provided assistance as soon as possible and with priority

Un-notified cases
In case special needs were not notified at the time of booking or a passenger is identified as PRM or a potential MEDA case upon departure it is the duty of the passenger handling staff and airline representative to:

- take all reasonable efforts to accommodate the passenger in accordance with HiSky regulations and limitations
- find out the needs of the passenger
- find out if escort is needed
- asses if medical clearance is needed
  - if medical clearance needed, requests it on the spot via HiSky medical service or at an authorized medical service in the airport, if available
- decide upon acceptance or refusal of the passenger in accordance with pilot in command
- In some cases, sick persons may be requested to fill out before the flight the form “Declining of Responsibility Declaration for ill persons”, which will confirm the fact that such passengers have been informed about the impact that the flight may have on their health. The declaration can be found in Appendix B.
- amend necessary SSR in the DCS and ensure it is reflected in PSM
- apply correct seating according Chapter 7.4.2 of this manual
- Inform the crew via CLI

Handling of suspected cases of communicable diseases:

- All agents and other personnel in direct passenger contact shall always be attentive on passengers with obvious signs for a communicable disease, especially when an outbreak of specific disease has been announced
- A suspected case of a communicable disease shall be handled as un-notified MEDA case
- Passengers suffering from a contagious disease have to be identified paying attention to the following medical conditions and symptoms:
  - passenger has a visible skin rash
  - passenger is obviously unwell
  - passenger complaints of severe cough, high fever, high fever accompanied by abnormal bleeding, persistent diarrhea
- Passengers with a contagious disease or condition that could pose a direct threat to the health of others on the flight (passengers and/or crew) shall be refused

NOTE: The commander has the final authority to reject the PRMs and MEDA cases for a specific flight. This authority is valid for un-notified cases, as for already accepted PRMs and MEDA cases.

1.5.3.7 Refusal of PRMs and/or MEDA Cases

NOTE: Do not refuse the passenger unless there is a legitimate reason for refusal.

A PRM and/or MEDA Cases may be refused on the basis of the General Conditions of carriage (“Right to refuse carriage”). Passengers will not be refused unless one of the following reasons is applicable and in accordance with HiSky policy:

- the person has such a degree of physical infirmity that the trip would likely to result in complications (e.g. like diversion) or death
- the person requires individual nursing or care during flight, if not accompanied by a suitable escort
- the person who because of his physical or medical condition, pose a direct threat to the health or safety of other passengers, their property, the aircraft or crew that cannot be eliminated by providing aid or services or by other means (e.g. face mask, separate seating)
- the person fails or refuses to submit themselves to the specific conditions of carriage required by company regulations
- information is required about the passenger's medical condition (diagnosis) where the passenger's own physician refuses to disclose such information to Medical Service
- the person has a communicable disease

The power of refusal of a passenger lies within: HiSky representative, HiSky medical service, station supervisor, provided a reason for refusal is applicable. The pilot in command has the final authority to reject the PRMs and/or MEDA cases for a specific flight. This authority is valid for un-notified cases, as for already accepted PRMs and MEDA cases.

Handling of refusal
In case of a refusal of a PRM and/or MEDA case:

- Inform the passenger and explain the reason for refusal with reference to the General Conditions of Carriage
- If applicable, make efforts to accommodate the passenger on the next possible fight and help the passenger with respect to rebooking to a later date or refund the ticket as per ticket fare rules.
- Enter all relevant information about the reason for refusal into the PNR.
- Complete a report about the details on refusal and reason of it and submit it to: ground.ops@hisky.aero and customer.service@hisky.aero

1.5.3.8 Wheelchair passengers

Wheelchair service shall be provided:

- free of charge
- for passengers with reduced mobility who depend on the use of wheelchair
- for passengers who need assistance in getting to/from the aircraft and to/from passenger seat

The acceptance of passengers requiring a wheelchair service is linked to:

- the acceptance conditions of PRM and/or MEDA cases, depending what is applicable
- confirmation of the service for HiSky flights and from all other carriers involved in case of an interline connection

Booking
Passengers requiring wheelchair service are asked to advice their specific needs at the time of booking. A wheelchair service is requested via respective SSR code:

WCHR (ramp)	passengers who can ascend and descend steps and move in the aircraft cabin, but who require a wheelchair to/from the aircraft.
WCHS (step)	passengers who cannot ascend and descend steps but who can move in the aircraft cabin; they require a wheelchair to/from the aircraft and must be carried up/down the steps.
WCHC (cabin)	passenger who is completely immobile; they require a wheelchair to/from the aircraft and must be carried up/down the steps and to/from the seat.

If the passenger is traveling with personal wheelchair the information about the wheelchair type shall be inserted in the passenger PNR via additional SSR codes (in conjunction with WCHC/WCHR/WCHS) and confirmation from carrier shall be received prior to departure.

WCMP – manual powered wheelchair
WCBD – dry battery operated wheelchair
WCBW – wet battery operated wheelchair (to be sent as cargo only)
WCLB – lithium ion battery wheelchair
WCOB – On-Board wheelchair service - **not** available on HiSky flights.

Transport of passengers' own wheelchair
The following shall be observed if a disabled person or a person with reduced mobility requests the transport of his/her own wheelchair/mobility device:

- the transport of up to 2 pieces of mobility devices is free of charge
- the transport is subject to possible space limitation on board the aircraft
  - ➢ the wheelchair/mobility device is accepted as checked baggage and it is regularly tagged
  - ➢ the DAA procedure will be applied for fully collapsible and foldable wheelchairs only
- in case of a battery powered wheelchair/mobility aids apply the acceptance and limitation rules for dangerous goods, see Chapter PHM chapter 2.3.5.5.

Acceptance of WCH passengers
If the wheelchair service has been confirmed at the time of booking:

- the passenger is accepted according to the confirmed service in the PNR
- in case the confirmed service is not appropriate for passenger's need or in case of a wheelchair request not notified at time of booking
  - lead an appropriate passenger assessment as stated in paragraph "un-notified cases" in Chapter 1.5.3.4 Handling procedures for PRM and/or MEDA cases passengers
  - amend necessary SSR in the DCS
- apply appropriate seating as per seating facilities for PRM passengers
- ensure it is reflected in PSM and in CLI
- organize assistance for embarkation: wheelchair service, and/or necessary assistance staff and equipment
- arrange pre-boarding
- inform cabin crew

At transfer station

- organize wheelchair service and arrange assistance as requested in PSM
- check for DAA – wheelchair and organize transfer to onward flight
- ensure transfer to onward flight

At arrival station

- organize wheelchair service and arrange assistance as requested in PSM
- check for DAA – wheelchair and organize offloading, if necessary, and arrange hand over to passenger
- ensure assistance through immigration, baggage claim, and customs, if required.

1.5.3.9 Expectant mothers

Expectant mothers can be accepted for carriage:

- up to the end of 35th week of pregnancy in the cases of single uncomplicated pregnancies
- up to the end of 32nd week of pregnancy in the cases of multiple (twins) uncomplicated pregnancies

A medical certificate which will state the pregnancy term and fitness for travel will be required to be presented by the expectant mothers:

- with a pregnancy term after 28th week of pregnancy
- medical certificate shall be dated not more than 7 days prior to departure
- "Declining responsibility declaration for pregnant woman" will be signed by passenger (see Appendix B).

Expectant mothers shall not be seated in emergency exit rows.

1.5.3.10 Stretcher Passenger

Transport on a stretcher (SSR code – STCR) is needed for passengers:

- who requires transportation in laying-down position
- who cannot sit in upright position during the flight

Passengers on a stretcher are considered MEDA cases and advance notification and medical clearance is required accordingly.
Acceptance of stretcher passengers is linked to:

- the acceptance conditions of PRM/MEDA cases
- the possibility for stretcher installations onboard the aircraft
- authorization of the Ground Operations Department of HiSky.

HiSky does NOT provide STCR service due to lack of special equipment needed on aircraft for transportation of stretcher case passengers.

1.5.3.11 Sensory disabled passenger

Sensory disabled passengers are passengers who are:

- blind or partially sighted
- deaf or hard of hearing
- blind and deaf
- mute

NOTE: Blind and deaf passengers need to be accompanied by an escort, as no means of communication with crew can be ensured.

The passenger should be able to take care of himself/herself on board and communicate with the attendants. If not, then an escort should accompany the passenger. Provide passengers who identify themselves as persons having a visual or hearing impairment with access to the same information provided to other passengers. Assistance on the way to/from the aircraft and to/from passenger seat shall be provided, if requested. Passengers with a visual or hearing impairment may be accompanied by a certified service dog and it may be accepted into cabin based on specific acceptance conditions. Appropriate seating shall be provided with room for both the passenger and the animal, including additional floor space where mandate or blocked seat.

Handling procedure

- ensure accurate SSR codes and other relevant information are recorded in the PNR and DCS
- accept the passenger according to the confirmed service item in the PNR. If un-notified case, make the passenger assessment as stated in paragraph “un-notified cases” in Chapter 1.5.3.6 Handling procedures for PRM/MEDA cases passengers and make all efforts to accept and assist the passenger
- assign appropriate seating for the passenger as per Chapter 7.4.2 of this manual
- if appropriate, block a seat near the passenger traveling with guide dog
- ensure that the respective SSR is reflected in PSM and CLI
- inform cabin crew
- at transfer station arrange assistance as per PSM and assist to the onward gate and/or receiving carrier staff
- at arrival station arrange assistance as per PSM and assist ensure assistance through immigration, baggage claim and customs

1.5.3.12 Passenger with intellectual or developmental disability

DPNA are passengers with intellectual or developmental disability e.g. passengers with difficulty in learning, Alzheimer, Down syndrome, autism etc.

DPNA will only be used for self-reliant passenger with an intellectual disability who can understand and respond to safety instructions who requires assistance through the airport (departure & arrival) to the boarding gate.

The SSR code DPNA has to be used when pre-notifying such passenger and booked in advance. The acceptance and confirmation of passengers with intellectual or developmental disability is linked to:

- the acceptance conditions of PRMs
- the fulfillment of escort requirements, see Chapter 1.5.3.4 Escort’s requirement for PRMs/MEDA cases passengers

It is preferable, that DPNA passengers are accompanied by an attendant. DPNA passengers have to be accompanied:

- if they are not self reliant
- if they can not understand and respond to safety instructions of the cabin crew
- if they can not assist themselves in their own needs on board of aircraft

- if the carrier doubts of the passenger's ability to take care of his/her needs during the flight and/or to understand and respond to safety instructions of the cabin crew and the passenger may need individual nursing or attention during the flight.

NOTE: According to HiSky rules, mentally ill persons must be accompanied.

1.5.3.13 Leg Support

Leg support (or leg rest, if available) can be offered to passengers

- who are not able to bend a leg and/or
- need to place a leg in a stretched position during flight

The acceptance conditions of passengers requiring leg support or leg rest is linked to:

- enough space availability for leg rest of the respective aircraft seat
- the acceptance conditions of PRM and/or MEDA cases depending on what is applicable
- the availability of an extra seat/extra seats for leg support provision if the space of a normal aircraft seat is not enough to place a leg in a stretched position
- the fulfillment of the escort requirements, if applicable

A leg support service

- must be pre-arranged and requested 72h in advance
- means that the passenger leg is accommodated on extra seat or extra seats
- notified at time of booking via SSR code MEDA or WCH followed by one of the following codes:
  LEGR – rest needed for right leg
  LEGL – rest needed for left leg
  LEGB – rest needed for both legs
- booked in connection with required number of extra seats
- charged according to the number of extra seats

The leg support service may be granted free of charge if the aircraft seats have enough space and no extra seat is needed to provide this service without any impediment for the crew to fulfill their duties. The leg support service has to be charged according to the number of extra seats (EXST) required if no other possibility to provide the service.

Acceptance

- In case the leg support has been confirmed and extra seats are booked, the passenger is accepted according to the confirmed service items in the PNR
- In case the leg support has not been notified at time of booking
  - take all reasonable efforts to accommodate the passenger
  - check if leg support could be provided on basis of seat availability (the seat next to the passenger to keep free)
- ensure the SSR is present in DCS to be reflected in PSM and CLI
- inform cabin crew

1.5.4 Passengers needing extra seat for comfort

Some passenger may want to have extra room for their comfort during their journey so they can request to buy an extra seat.

An extra seat for comfort is:

- an unoccupied seat adjacent to or in front of the passenger to increase his personal
- comfort
- must be reserved and paid for
- on the ticket EXST is mentioned next to the name

The purchase of an additional seat for the purpose to locate a baggage, which is unsuitable to be checked in hold, is referred to Chapter 2.1.6 Cabin seat baggage CBBG.
The purchase of an additional seat is not permitted for use by pets flying in cabin baggage. The baggage allowance is not raised by the number of the extra seats.

Check-in

- allocate suitable seats – the additional seat, adjacent to the passenger, shall be blocked
- inform load control
- issue one boarding pass for the passenger
- inform cabin crew and reflect it in CLI

1.5.5 Groups

1.5.5.1 Definition

All passengers willing to travel as a group could be accepted to transportation with or without group fare application, but only in case of positive decision received from the Yield Department of HiSky.

A group is defined as a party:

- minimum of 10 passengers (not counting infants) traveling together
- showing up at check-in together
- organized by a group leader

1.5.5.2 Procedures

Group check-in, pre-seating and special assistance should be provided were available.

Check-in procedures:

- where possible, provide group check-in counter, if available, depending on the number of passengers within the group
- check-in and accept all passengers individually
- when possible, assign seats together, respecting any special seating requirements
- issue baggage tags individually for every passenger from the group, each piece of baggage shall bear the respective passenger's identification
- pooling of baggage is not permitted: exception for family members with the same Family name booked in one reservation
- the load control has to be informed in case of a unusual/non-standard group of passengers carrying exceptionally heavy baggage or anything outside of the standard
- in case of irregularities:
  - offloading or downgrading of single passengers traveling with a group shall be avoided
  - in case of involuntary rebooking, group passengers shall be offered rebooking alternatives all together, unless they agree on separate booking solutions

1.5.6 Inadmissible passengers, deportees and related categories

Deportees and Inadmissible passengers are not necessarily criminals and are to be treated accordingly. Deportees shall be accepted for carriage only on request of an Authority and confirmed by the airline.

1.5.6.1 Inadmissible passengers

An inadmissible passenger (**INAD**) is a passenger who is or will be refused admission to a State by its authorities (police, immigration, etc.), or who is refused onward carriage by a government authority at a point of transfer due to the lack of visa, expired passport or other reasons. If a passenger is declared to be inadmissible by the Immigration Authorities, the transporting carrier is responsible for the removal of the

passenger in accordance with ICAO Convention, Annex 9: The aircraft operator shall remove the inadmissible person to: a) the point where he commenced his journey; or b) to any place where he is admissible. Except as may be contrary to applicable law or government regulation, INAD passengers are responsible for any expenses for food, hotel accommodation etc. incurred at the place where they are refused admission (According to IATA Resolution 701 - Inadmissible Passengers and Deportees). In case of INAD:

- The responsibility for inadmissible passengers lies with the carrier(s) concerned
- The carrier is responsible for transportation back to point of origin or point of transfer from where the INAD passenger boarded the carrier's flight.
- Every station will make efforts to keep the number of INADs as low as possible: routine procedures for document/visa checks, validity, etc

Policy for return transportation

- When a passenger is declared INAD, a report has to be sent to HiSky on e-mails: ground.ops@hisky.aero; customer.service@hisky.aero; occ@hisky.aero
- Stations must organize and coordinate INAD transportation in coordination with the Local authorities, consulates/embassies concerned, with on-line stations and final destination station.
- The inadmissible passenger has to be booked for the return flight using passenger type code INAD.
- If the passenger holds a return flight ticket this must be used or the value of any unused coupons withdrawn in full or part payment of the fare for the new ticket. If there are any restrictions on the original ticket such as minimum stay, fare validity, etc, such restrictions will be waived and the ticket is used for immediate onward/return carriage. A remark “RESTRICTION WAIVED DUE INAD” shall be made in the "Endorsements/Restrictions" box of all remaining flight coupons.
- INAD passengers, who have no return tickets, shall pay for a ticket in a minimal applicable fare with all airport fees for its inbound/outbound journey to the airport the passenger is returned to.
- However, if the passenger is unable to cover fully or partly the return or onward fare and/or if the available amount is not sufficient to cover the entire/ onward fare, the carriers involved in the inbound transportation will nevertheless be obliged to carry the passenger back to the point of origin (or the point where he is admissible).
- Efforts shall be made to collect/cover the fare due for return/onward transportation. Follow below procedure in case the passenger is unable to pay for the return ticket:
  - Company representative should demand of passenger to sign the receipt form for INAD passengers (G/OPS-3007-01). Company representative should assist the passenger to fill up the receipt (two copies) and then transmit the receipt to HiSky Accounts department through the captain of the aircraft and inform about such passenger(s) HiSky OCC / Ground Operations (according to the standard procedure of announcement).
  - If passenger does not pay return fare on arrival, the passenger will be denied boarding from his/her any subsequent HiSky flight. The ticket status will be changed accordingly and passenger will be considered as debtor.
  - If the same passenger (debtor) further purchases the next HiSky flight ticket, he/she also is denied boarding, but the ticket remains unchangeable.

Unaccompanied or accompanied travel

- In general INAD passengers travel without being accompanied.
- INAD passengers need to be accompanied if:
  - the INAD passenger physically resist carriage
  - he has already been denied transportation by another airline
  - there is any sign that he might endanger the safety of the flight or passengers

  NOTE: For the above reasons, unaccompanied INADs may also be refused at any stage.

Refusal of INADs

If an INAD resists transportation or gives rise to the assumption that he/she will be the source of annoyance to other passengers or crew members, then accept him/her only according to the procedure for DEPA.
Refuse the carriage of inadmissible passenger if they are likely to:

- involve any risk to the safety of the flight
- involve any hazard or risk to himself, other passengers or crew members
- cause discomfort or make himself objectionable to other passengers
- require special assistance from ground or in-flight staff

NOTE: In any doubtful case, the commander has the final authority to refuse an INAD.

Handling procedure

- Inadmissible passengers shall be treated with the same courtesy and tact as all other passengers.
- Experienced and qualified staff shall assist the inadmissible passengers and take care of those who need special assistance, providing full support to the immigration or other authority to settle all the problems related to these passengers.
- INAD passengers shall be seated as far away from the cockpit in the rear part of the cabin.
- INAD passengers shall not be seated in emergency exit rows and adjacent to exits.
- If possible, pre-board INAD passengers.
- INAD passengers will be accompanied to the board by local immigration authority's representatives, if applicable.
- Travel documents and covering letter must be handed over by Handling Agent/HiSky representative directly to the Commander of the aircraft for safekeeping. Upon arrival the documents must be handed over to the immigration Authority. If the travel documents are confiscated, the authorities shall issue a covering letter for seized documents with an attached photocopy of the forged documents.
- The SSR code INAD must be added to the passenger record in DCS to be reflected in PSM message and passenger manifest or must be manually entered in PSM and manifest in case of DCS breakdown.
- The commander must be informed about INADs by means of CLI stating the name of passenger, seating and other relevant information.
- The final decision on acceptance of the INAD remains with the commander regardless whether the INAD is unaccompanied or accompanied.

1.5.6.2 Deportees

Deportee is a passenger:

- who was formally ordered by the authorities to leave that State
- who is under arrest who has to be transported to another State for legal reasons
- who has applied for asylum transferred to the state responsible for application
- described by the term "Dublin Convention" as reason for transportation

The special purpose code DEPO needs to be specified as there can be two categories of deported passengers and respective SSR codes are used to pre-notify and specify deportees in dependence of the case.
DEPU – **unaccompanied deportees**: a deportee who is not escorted by security escorts during the flight
DEPA – **accompanied deportees**: a deportee who is escorted by security escorts during the flight

The responsibility for Deportees lies fully with the states concerned. Deportees will be accepted for carriage only on request of an Authority and upon airline approval.
HiSky Aviation Security Service should be informed about the movement of deportees in written not less than 3 working days in advance of the scheduled flight departure at email: avsec@hisky.aero
Requests for deportees' transportation and carriage approval are coordinated with company Aviation Security Service.

For approval of DEPU or DEPA passengers it is necessary to get from the deporting authority the information about:

- name of the deportee
- the reason for deportation
- mental/physical condition of deportee
- status if he is willing to return to other authorities
- other information that would identify that the deportee is not a threat to flight safety and that any additional security measures are not necessary
- special conditions and precautions for carriage, if necessary

HiSky reserves the right to refuse carriage of deportees if believes that the safety of the aircraft, crew or passengers is deemed to be at risk as the result of carriage of such persons. Deportees who physically resist deportation at time of check-in and boarding or who due to their behavior are believed to be a hazard to the aircraft, crew or passengers shall be refused. The final decision on acceptance of the deportees remains with the commander regardless whether they are unaccompanied or accompanied. The authority deporting the passenger cannot overrule the decision of the commander. In case a deportee is stranded or offloaded at a transfer or transit station and no alternative onward transportation can be arranged, the station/reservations office of origin must be contacted. Advice should be requested from the competent deporting authority for onward or return transportation.
Incidents and irregularities must be reported to the station of origin at the following address: avsec@hisky.aero; ground.ops@hisky.aero

Unaccompanied Deportees - DEPU
Persons being carried as DEPU are accepted on board without escort if they do not provide signs of aggressions or a potential threat. Maximum number is up to 7 DEPUs (persons entered illegally in a country) per flight. If the number of DEPUs exceeds the number of 7 persons, escorts are required.

Handling and acceptance
- prior approval required
- DEPU shall be treated with the same courtesy and tact as other passenger
- DEPU shall be seated as far away from the cockpit in the rear part of the cabin.
- DEPU passengers shall not be seated in emergency exit rows and adjacent to exits.
- Ensure the remark DEPU is entered in DCS for PSM message dispatch and Passenger Manifest List
- The pilot in command crew must be informed about the DEPU (or any passengers with judicial proceeding) by means of CLI stating the passenger name and seat number
- DEPU should be pre-boarded.
- Travel documents of DEPU are handed to the pilot-in-command

Accompanied Deportees - DEPA
In accordance with ICAO Convention, Annex no 9, the Authorities of a country who have decided deportation of a person must provide the escort. Deportees are to be escorted if the following conditions apply:
- the deportee's conduct is considered to create a safety risk
- the deportee's appearance or conduct could cause discomfort to other passengers
- the deportee has a mental or physical condition which require special attention or care
- the deportee is wanted by the Police in another state or has committed a criminal act
- the deportee has some form of addiction (e.g. drug addiction)
- the deportee personally objects to flying or is likely to resist deportation.

Standard escorts requirement and limitations:

DEPA category	DEPA number	Escort Number	Maximum
Persons who have committed illegalities*	1	2	2 DEPA
Persons who have committed major offence	1	2	1 DEPA
Mentally alienated	1	2	1 DEPA

* HiSky may accept 2 DEPA escorted by 3 escorts.
At least one person from escort should be of the same gender of the deportee.

NOTE: Depending on the degree of threat additional escorts may be requested to be provided.

Handling and acceptance
- prior approval required
- DEPA shall be treated with the same courtesy and tact as other passenger
- DEPA and escorts shall be seated shall be seated as far away from the cockpit in the rear part of the cabin and shall not be seated in emergency exit rows and adjacent to exits. DEPA shall be offered seats according to the table below in this chapter
- DEPA and escorts must be boarded first and disembarked last
- Ensure the remark DEPA is entered in DCS for PSM message dispatch and Passenger Manifest List

- The commander must be informed about the DEPA by means of CLI stating the passenger name and seat number
- Travel documents of DEPA remain with the escorts
- Notify cabin crew about the DEPA and escorts seats to refrain serving alcohol to these passengers

Seating facilities for escorts and deportees:

Aircraft Type/Reg.	DEPA seats	Escort seats	Maximum DEPA per aircraft
A319	23B 23E	23A, 23C 23D, 23F	2
A320	29B 29E	29A, 29C 29D, 29F	2
A321	35B 35E	35A, 35C 35D, 35F	2
A330	55F 56F	55D, 55G 56D, 56G	2

1.5.7 Armed law enforcement officers / state couriers

It is prohibited for passengers and crewmembers to carry firearms/ammunition on board an aircraft.

HiSky will not accept for carriage on board the aircraft any type of weapon and ammunition, except for law enforcement officers and other authorized persons in the performance of their duties.
The authorized carriage of weapons refers to the following categories of personnel performing exclusively their official duties:

a) officers when ensuring the security of the protected officials;
b) state couriers when accompanying special or diplomatic bags;
c) officers when escorting deportees, being under arrest;

Permission for weapon carriage must be requested in advance 3 (three) working days and it is authorized by security department of the company in accordance with the legislation. Any incidents or deviations must be reported to the following contacts: avsec@hisky.aero
The arm carrier is responsible for the conditions and rules applicable in countries of departure, transit or destination.

IMPORTANT: Local laws at the station of origin or destination may even be more restrictive than the rules described hereunder; in that case the more restrictive rule applies.

Carriage of arms in the cabin, for the above mentioned categories will be permitted only if the following conditions are applied:

- At check-in, make sure that the passenger (except the armed officers escorting protected officials) has filled in the “On board arms carriage Notice” in three copies (see Appendix B).
  - the first copy is given to HiSky security officer
  - the second copy is given to pilot-in-command
  - the third copy is attached to passenger boarding pass
- The arms, the ammunition and all corresponding permissions (including the permission from the carrier) are presented to the police (security) authorities when passing the pre-flight security check
- A police representative or other authorized and duly qualified person must make sure and must determine that the arm to be boarded is not loaded and free of ammunition. This fact will be confirmed in the “On board arms carriage Notice” with a signature.
- The passenger is accompanied by the police and/or security staff to the aircraft
- The ammunition must be carried separately from the arm.
- The arm must be hidden under clothes and stowed in a place and in a manner that is inaccessible to any unauthorized person during the flight.
- The commander is informed about the seat allocation of the armed passengers on board in written form.

1.5.8 Unruly passengers

All necessary actions should be taken to avoid potentially disruptive and abusive passengers to get on board aircraft. During check-in, passengers have to be observed to reveal any disruptive behavior. This must be performed in order to ensure that the safety of the aircraft is not being compromised, also to ensure that the safety of the crew or other passengers is not at risk. In case such passenger is recognized and denied boarding, the form Disruptive Passenger Ground Incident Report (G/OPS-3008-01) will be completed in 2 copies, one for local law enforcement authorities and another for HiSky Security Service (see Appendix B).

Unruly passengers are persons who:

- fail to observe and fulfill HiSky and its authorized staff relevant instructions
- are causing annoyance and problems to other passengers or airline staff
- behave themselves rudely
- jeopardize the safety and security of passengers, staff and aircraft by disruptive behavior
- commit an act of assault, intimidation or menace which endangers good order or the safety or property or persons
- commit an act of assault, intimidation or interference with a crew member in performance of duties or which lessens ability to perform duties
- willfully remove any of aircraft equipment or willfully damage the aircraft, its equipment or any airline property such as to endanger good order and safety

Two categories of unruly passengers can be identified: **intoxicated** or **disruptive** passengers.

For flight safety HiSky may refuse carriage or onward carriage of any unruly passenger and/or of passengers who appear by manner or physical indications to be under the influence of alcohol or drugs:

- who may constitute a nuisance or danger to himself or to other passengers, whether as a result of his refusal to obey instructions, his personal behavior or excessive interference with other passengers and might become an unruly passenger during the flight
- who's behavior is such as to jeopardize or is likely to jeopardize the safety of the aircraft, persons, property on board or good order and discipline on board
- who is or respectively appears to be intoxicated or under the influence of alcohol or drugs to the extend where the safety of the aircraft, passengers and crew or where good order is likely to be endangered.
- who deliberately damaged or removed any of aircraft equipment, in-flight equipment or any airline property.
- who has committed misconduct and disruptive behavior or has made other security threat mentioned in this chapter on a previous flight.

NOTE: HiSky representative (or station supervisor at station where HiSky representative is not delegated) is empowered to exclude any passenger from the flight in accordance with the company conditions of carriage if the passenger has been identified as a potential troublemaker and his/her action will be fully supported by the Management.

Legal basis

The legal basis for the handling of unruly passengers is provided by

- HiSky General Terms and Conditions of Carriage
- Tokyo Convention and
- applicable law, regulations or order of any state or country to be flown from, into or over

Station responsibility

In respect of unruly passengers incidents station supervisors and HiSky representative shall:

- implement preventive measures as observations and reporting of unusual behavior
- deny boarding to a passenger who is unsuitable for carriage on the basis of General Terms and Conditions of Carriage, Right to refuse carriage
- ensure to record details of the unruly passenger incident
- send the Disruptive Passenger Ground Incident Report (see Appendix B) to avsec@hisky.aero; ground.ops@hisky.aero

General handling

There are several possibilities for handling company staff and HiSky staff to recognize the potential troublemakers.

- Special attention shall be paid on unusual passenger behavior at all contact points: check-in, boarding, lounges.
- Handling staff shall:
  - report any observations of unusual passenger behavior to station supervisor and/or HiSky representative
  - put the baggage of such passenger on stand-by and load only after a final decision is taken
  - if necessary ask the local authority (police) to support or stand-by
- The station supervisor and/or HiSky representative shall
  - approach the passenger and assess the situation and if in his/her opinion the passenger is unfit for travel initiate the exclusion of the passenger from the flight
  - decide on acceptance of the passenger in accordance with the commander so that special attention shall be given during the flight or refusal on base of General Terms and Conditions of Carriage

Refusal due to "unruly"

- The power to refuse a passenger due to "unruly" lies within
  - HiSky representative or station supervisor at station where official HiSky representative is not delegated
  - the commander
- Handling procedure if passenger is refused carriage:
  - inform the passenger and explain the reason for refusal
  - if necessary ask local authority for support or to stand by
  - offload passenger in the DCS and offload his baggage and all necessary amendments has to be made in relevant documentation on board.
  - return uplifted ticket (if paper ticket) and all other documentation (e.g EBT, MCO) and assist the passenger with airport facilities and baggage claim
  - document the case in airline report and send a Disruptive Passenger Ground Incident Report (see Appendix B) to: ground.ops@hisky.aero; avsec@hisky.aero
- Handling procedure if the decision is taken to accept the passenger for travel:
  - inform Pilot-in-Command and the senior cabin crew member
  - document the case in the airline report with details of the passenger's conditions
  - report the incident to ground.ops@hisky.aero; avsec@hisky.aero and onward airport

Handling procedures on arrival/post flight:

- upon arrival station support for an "unruly passenger incident" might be requested by
  - the commander or the purser
  - Operations Control Centre
  - station manager or security officers
- the station supervisor and/or HiSky representative shall organize assistance upon arrival of the aircraft
  - inform the local authority (police) to stand-by on arrival at the aircraft side if requested by the commander
  - decide on further actions as per handling procedures for unruly passengers
- assistance shall be granted to the passenger in baggage claim matters if the passenger is being detained by the local authority

Unruly passengers which has been refused embarkation or who has been disembarked are left with the airport authorities.

In order to assist the Commander in the proper exercise of his authority, all company personnel engaged in passenger handling and loading, including other crew members, handling agents and check-in personnel, should alert the Commander if at any time they consider that the condition of a particular passenger could jeopardize the safety of a flight.

The Tokyo Convention states:
The commander may, in as far as it is necessary to protect the safety of the aircraft, persons or property therein, or to maintain good order and discipline on board, disembark in the territory of any State in which the aircraft lands any person who he has reasonable grounds to believe has committed, or is about to commit on board the aircraft an act which may or does jeopardize the safety of the aircraft, persons or property therein.
The commander may deliver to the competent authorities of any Contracting State in the territory of which the aircraft lands any person who he has reasonable grounds to believe has committed on board the aircraft an act which, in his opinion, is a serious offence according to the penal law of the carrier's home country.
Signatory countries to the Tokyo Convention are obliged to take custody of such passengers.
The commander has the obligation to deliver evidence and information to the authorities at the point of landing.

1.5.9 HiSky club / frequent flyer program

Currently, HiSky does not have any club / frequent flyer program.

1.5.10 Special Meals provided to passengers

Currently, special meal service is not available on HiSky flights.

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1.6 Passenger irregularities

1.6.1 General guidelines

Responsibility

- The responsibility to take care about the passenger, about all arrangements in case of any irregularity lies within the duties of HiSky representative
- In case of HiSky representative absence, station manager of the contracting handling company shall coordinate all necessary arrangements and will arrange assistance
- In case of a code share flight, the responsibility lies with the operating carrier, unless otherwise defined in the code share agreement.

Staff attitude

In case of irregularity, HiSky representative and handling staff involved should adopt the following attitude:

- Provide maximum respect and attention to passengers, to their requests and questions
- Do your best and assist the passengers independently, weather the irregularity is related to the carrier or not.
- Keep calm and friendly even when the passengers are angry and aggressive
- Listen to the passenger
- Be discreet: try to solve specific or particular problems aside the crowd:
- Assist with priority passengers with reduced mobility and special needs
- Try to keep passengers calm and satisfied with the way they are treated

Information flow

Irregularity messages are sent by HiSky Operation Control (OCC), in the following irregularity cases: cancellations, delays, diversions. When receiving information about the irregularity, HiSky representative and/or handling staff should:

- Ensure that the reason of the irregularity is stated clearly, in order to provide accurate information to passengers
- Ensure that relevant airport information systems are updated with revised and correct flight status/ departure time, gate change etc.
- Check with HiSky OCC if any information on the new departure time or flight status is not clear from the message or update information about the irregularity or flight departure does not follow.

In order to enable effective communication, it is mandatory that HiSky representative or contracting handling agent, stay in contact with HiSky OCC and crew:

- inform the pilot-in command when a delay is expected
- notify HiSky OCC immediately if a delay occurs

Communication of information to passengers

- Passengers must be advised and notified of delays and kept informed at regular intervals.
- The following guidelines must be applied by company representative / handling staff when providing the information to passengers in irregularities cases:
  - Ensure that staff is briefed for consistent delivery of information. Information provided to the passengers about the irregularity should be correct and accurate.
  - Ensure that airport information systems display updated information on new departure time, and/or flight status and arrange verbal announcements where possible.
  - Give immediate and accurate information. If not available, make inquires and find out.
  - Where applicable, provide passengers delay notice or information on passenger rights and in alternate formats to passengers with impairments.
  - Inform the passengers when more information will follow and meet these times.
  - Provide specific contact points for information.
  - Keep the passengers informed regularly of the ongoing situations. All updated information with regard to the flight status or flight departure shall be provided to the passengers
  - Before providing all information, introduce yourself.

The information should include:

- flight number (including marketing flight number), destination
- reason for delay
- expected local departure time
- details on refreshments, meals, accommodations etc, to be provided if appropriated
- time and location of next information
- an apology on behalf of HiSky for inconveniencies

Handling Instructions

- As soon as there is any risk for an irregularity, inform all departments and stations concerned in order to make the necessary arrangements.
- React immediately to a first signal of irregularity,
- If known in advance, prepare solutions before the passengers arrive.
- For specific handling rules on the various irregularity cases refer to the respective subchapters and provide necessary service/assistance to passengers according to present manual.
- Passengers shall be informed clearly about the assistance they will receive as well about the exact location where passengers can receive the assistance (meals, rebooking etc)
- The presence of HiSky staff/handling agent in irregularity cases gives the passenger trust in our operations, therefore the presence of experienced staff, who will provide answers and assistance, shall be ensured at check-in/gate counter or other places where passengers from delayed or canceled flight are present
- Give priority and special attention to:
  - passengers with reduced mobility – ensure necessary care and equipment
  - unaccompanied minors – ensure safe custody of UMs
  - business class passengers – arrange Business Lounge access during delay, where possible
  - passengers with children – arrange mother-and-child room, where available
- Check onward connection and re-protect the passengers. If necessary, involve HiSky Customer Service by e-mail: customer.service@hisky.aero
- Ensure necessary information is updated in DCS (change of departure time, gate, aircraft version etc)
- Use common sense.
- Upon finalizing flight handling procedure (where irregularity occurred), HiSky representative must fill in the Report, and add all relevant about the irregularity and additional information at “Comments” like:
  - how many meals offered and value of meals voucher,
  - how many passengers accommodated
  - transport offered to/from hotels
  - or other relevant information to respective irregularity

NOTE: If, by any reason, the passenger does not agree with the offered assistance and refuses the assistance offered by the airline, a relevant Assistance Refusal Note shall be filled in and signed by the representative and the passenger. If the passenger refuses to sign it, a relevant remark about the passenger refusal to sign it, shall be made in this note. The representative will keep one copy for records. Use Assistance Refusal Note form from Appendix B.

1.6.1.1 Force majeure reasons

Force majeure reasons mean reasons beyond the control of the carrier. The following reasons are considered to be “force majeure” reasons:

- Political instability; Unlawful acts (e.g. terrorism); Sabotage
- Security risks
- Metrological conditions obstructing the flight operation (fog, ice, snows, storms etc.)
- Strikes (strikes within the airlines, or within essential service companies, such as airports etc)
- Air Traffic management decisions (ATC delays, slots)
- Unexpected safety shortcomings (airport related problems e.g. runaway closure or limitation)
- Medical grounds
- Bird-strikes

The following guidelines apply to irregularities due to force majeure.

- See guidelines for the respective irregularity in Chapters 1.6.2 – 1.6.7.
- HiSky will not cover any expenses for hotel accommodation in case of an irregularity caused by force majeure reasons
- HiSky will not pay any compensation due to irregularity caused by force majeure reasons

1.6.1.2 Financial compensation due to irregularity

The payment of any financial compensation due to an irregularity case (delay, cancelation) is not stipulated herewith. Any complaints with regard to the irregularity issues will be settled by the HiSky after the passenger hands over the complaint to the airline. Claims shall be submitted to the e-mail: customer.service@hisky.aero

1.6.2 Delay

1.6.2.1 Authority to delay a flight

Authorization for a flight delay lies within Operation Control Center of HiSky. When deciding to delay a flight, the following criteria must be taken into account:

- Departure/Arrival slot, if applicable,
- Generally, checked baggage should travel with its owner,
- The number of late transfer passengers in relation to the total passenger load,
- The status of the late transfer passengers (PRMs, transfer passengers, etc.),
- The consequences of a delay on:
  - Aircraft rotation,
  - Onward connections at down line station(s),
  - Crew rotation,
  - Operational and weather conditions and developments,
  - Transfer passengers booked on the return flight;
- Type and time of the flight,
- Re-routing possibilities to the final destination on:
  - HiSky's flights,
  - Other carriers' flights;
- Available hotel accommodation.

The information regarding any irregularity case (flight delay, cancellation, schedule change) is sent by HiSky Operation Control Center to all Representatives/handling office by e-mail, SITATEX and/or by phone. Follow-up information should be sent in the same manner. HiSky OCC message regarding a flight delay, cancellation, schedule change should contain the reason of the irregularity. If a delay is scheduled to be less than 15 minutes, the delay will not be communicated to the passengers nor be displayed.

1.6.2.2 Handling procedures

In case of flight delay, HiSky will offer to the passengers:

- Rebooking/rerouting as per Chapter 1.6.4.
- Refreshments and meals as per Chapter 1.6.6.
- Communication facilities as per Chapter 1.6.7.
- Hotel accommodations, including transportation as per Chapter 1.6.8.

Delay known before check-in starts

- If a delay caused by slot, the check-in should be started according to the schedule.
- If a delay caused by weather conditions or technical reason, HiSky OCC shall authorize the check-in start, the information should be coordinated by representative of the company.
  HiSky OCC e-mail: occ@hisky.aero
- If known in advance, all necessary actions must be made by HiSky Customer Service to inform the passengers about the delay or change of schedule

- If applicable, provide rebooking/rerouting solutions for any connecting flights
- Update revised times in the DCS
- Handling staff shall be involved in the assistance procedures and shall be briefed on the estimated time of departure, estimated time of arrival and any provisions to be offered

Take the following actions if the delay is known before check-in starts:
1) Perform actions according to the Chapter 1.6.1.
2) Coordinate closely with the crew, informing cabin crew and flight crew about any delay.
3) Offer refreshments, meals, according to the 1.6.6 Meals and Refreshments
4) Check onward connections and protect seats if necessary.
5) If necessary adjust the in-flight meal plan accordingly to the time of the day as well the meal order in coordination with the cabin crew and the local catering provider.
6) Passengers should be invited to remain at the airport. Should they want to leave anyway, confirm when they need to be at the airport again and if possible, ask for a contact.
7) If the delay is causing misconnections at the next station, anticipate and rebook /re-route passengers if necessary. For re-routing procedures, refer to 1.6.4 Rerouting.
8) When accepting the passenger, ensure the passenger is checked through on the rebooked flight.

Delay known before boarding
Take the following actions if a delay is known before boarding:
1) Perform actions according to the Chapter 1.6.1.
2) Apologize on behalf of HiSky. Advice passengers accordingly on the extent of delay at regular intervals and on reason.
3) Reconfirm the departure gate and time to the passengers.
4) Update the revised times in the DCS
5) Coordinate closely with the crew, informing cabin crew and flight crew about any delay.
6) Send preliminary PTM (to protect on ward carriage).
7) Offer refreshments, meals, according to the 1.6.6 Meals and Refreshments and other services according to circumstances
8) Confirm at what time the passengers should be back at the gate.
9) Check onward connections and protect seats if necessary.
   - If there are passengers who possible miss their connections at the next station anticipate and rebook/re-reroute the passengers (see Chapter 1.6.4 Rebooking/Rerouting).
   - If necessary inform down line station (representative/handling agent) to provide assistance.
10) If necessary and possible, adjust the in-flight meal plan accordingly to the time of the day, and meal order in coordination with the cabin crew and the local catering provider.
11) Passengers should be invited to remain at the airport. Should they want to leave anyway, confirm when they need to be at the airport again and if possible, ask for a contact.

Guidelines for Boarding in case of ATC Delay (Slot)
In case of ATC delay, the boarding time will depend on:
- The parking position of the aircraft (e.g. at a loading bridge, boarding by bus, etc.),
- The number of passengers to be boarded,
- The size of the aircraft,
- Whether connected to a GPU or not.

Guidelines for boarding
- the delay is less than 60 minutes, then board as scheduled
- the delay is more than 60 minutes then board later, but always keeping a 60 minutes margin.

Quick turnaround
- All possible measures should be taken in order to shorten the turn-around of a late incoming flight.
- Always to be coordinated with operations control, flight crew and cabin crew.
- Such measures may include:
  - reduced cleaning
  - boarding while fueling (see Chapter 4.2.4)

- already boarding departing passengers into the bus, while still disembarking the arriving passengers
- adding an extra bus for boarding
- adding an extra staircase

Delay known after completion of boarding
Passengers may be kept on board for a limited time - maximum 60 minutes. Such decision is to be taken in close cooperation with the flight deck, cabin crew, airport authorities and other relevant departments.

The following aspects should be taken into account when making such decision:

- Extent of delay
- Airport facilities
- Number of passengers on board
- Passenger comfort on board the aircraft
- Eventual further delay caused by disembarkation and re-boarding
- In case of inadequate airport facilities and subject to local regulations, a meal/refreshment may be served on board
- Take into consideration the feasibility and the time needed without endangering the new departure time

Check the connection of the passengers and if necessary:

- take all necessary measures to eventually disembark and re-route the passengers who will miss their connection due to the delay.
- If no possibility to disembark the passengers, then inform the down line station (representative and handling agent by e-mail and phone) about the passengers on board who possible miss their further connection in order to assist them upon arrival providing rebooking/rerouting.

If all passengers must be disembarked:
1) Advise the passengers to take along all carry-on baggage and belongings
2) Distribute transit boarding passes
3) Reconfirm boarding gate and new boarding time
4) Whenever possible, arrange that business class passengers may get back to the lounge

Delay involving a night stop
Take the following actions if the delay involves a night stop:
1) Off-load and distribute the baggage to the passengers as required. Inform the passengers about the baggage pick-up location.
2) Make sure that any baggage not taken by the passenger is kept in a secure place and/or reloaded onto the flight.
3) Note the passenger's contact.
4) Ask if the passenger still wants to travel on the delayed flight.
5) Arrange for hotel accommodation (see 6.8 “Hotel accommodation”)
6) Reconfirm the new flight departure time.
7) Assist passengers with entrance/immigration and customs formalities and documentation, if necessary.
8) If possible, accompany the passengers by bus to/from the hotel.

1.6.3 Misconnection

Situations of misconnection are covered by IATA Resolution 735d.
Misconnection - Situation when a passenger is unable to use reserved accommodation out of a connection point due to late arrival or cancellation of the delivering flight.
Forwarding member - The member and/or non-IATA carriers responsible for the condition, which creates a need for involuntary change in the passenger's journey.
Original receiving member - The member on whose flight a passenger is originally ticketed to be carried from a connection point.

New receiving carrier - A new carrying member or non-IATA air carrier or surface transportation carrier selected for onward carriage by the forwarding member from the point where an involuntary change becomes necessary.

IATA Resolution 735d paragraph 5 in regard to cost absorption:
"In an interline journey, it is the responsibility of the carrier responsible for a delay causing involuntary change of a passenger's journey to arrange for a reasonable alternative route within a reasonable time and, if such time limit is not feasible, to comply with the requirements of absorption of passenger's expenses as may be incurred during the period of the passenger's delay at the place where the involuntary change occurred and to absorb such expenses at subsequent points en route where they are a direct consequence of such a change, provided that they are limited to essential expenses such as hotel room, suitable meals and beverages without regard to class of service, ground transportation, transit taxes and reasonable communication costs necessarily incurred by the passenger because of the involuntary change".

The following guidelines have to be applied in cases of misconnection:

- Misconnection caused by HiSky as forwarding carrier
  - Take full responsibility for the irregularity, including all related expenses.
  - Perform actions according to the Chapter 1.6.1
  - Rebook/Reroute passengers according.
  - Offer refreshments and/or meals (see Chapter 1.6.6 Meals and Refreshments)
  - Hotel accommodation (see Chapter 1.6.8 Hotel accommodation)
- Misconnection caused by other carrier as forwarding carrier
  - Assist the passenger in every possible way.
  - Give special attention to the special categories of passengers.
  - Insist that the forwarding carrier covers all expenses.
  - If negative, any expenses must be authorized by the HiSky Ground Operations Department.

1.6.4 Rebooking / Rerouting

1.6.4.1 Substitute air transportation

HiSky will offer rebooking/rerouting free of charge in the following cases:

- Delay/Misconnection caused by the carrier
- Schedule change
- Denied boarding
- Cancellation
- Diversion

Whenever rebooking/re-routing becomes necessary due to an irregularity observe the following:

- Rebooking/re-routing to the final destination (stopover point) at the earliest opportunity, or at a later date at the passenger convenience.
- Use the same booking class as mentioned in the original ticket. If no alternatives, rebook the passenger in an upper class receiving confirmation from the receiving carrier according to IATA recommendation, involuntary upgrade.
- Substitute air transportation will be offered with respect to the minimum difference between the original passenger's ticket fare and the fare to be applied according new route or the carrier change.
- In case of involuntary rebooking or re-routing the free baggage allowance will be accepted as indicated in the new exchanged tickets.
- Final decision about rerouting should be made by the carrier's representative, coordinating the actions with HiSky Customer Service - customer.service@hisky.aero

Substitute air transportation shall be offered in the following priority sequence:

- HiSky flights
- Other airlines flights

Whether or not new routing will differ from the original one, an approval from the receiving carrier must be requested and confirmed.

- If there will not be a change of routing, original flight coupon should be endorsed properly
- In case of change of routing, passenger should be re-ticketed

Special category of passengers
Special attention shall be paid when rebooking and rerouting special categories of passengers like UM, PRM, DEPA etc.

- Confirmation of service needs to be received from all carriers involved.
- Long connection time between flights when rerouting such passengers will be avoided.
- Parents or guardian of UM shall be consulted when rerouting UMs.

1.6.5 Cancellation

If known in advance about a flight cancellation, HiSky Customer Service:

- should take all necessary steps to inform the passengers about the cancellation using all necessary facility phone, e-mail, sms message etc
- advise about the planned solutions (rebooking or rerouting variants)
- insert in the passenger PNR a remark, whether the passenger is or isn't informed about the irregularity

In case of a flight cancellation the assistance to the passengers must be arranged by company's representative or handling agent in accordance with HiSky regulations. The following actions and solutions are to be taken by the representative and handling staff:

- Action as prescribed in Chapter 1.6.1.
- Rebooking/Rerouting of passengers (Chapter 1.6.4)
- Hotel accommodation and transportation (Chapter 1.6.8)
- Meals and refreshments (Chapter 1.6.6)
- Communication facilities (Chapter 1.6.7)

NOTE: In case a schedule change is announced less than two weeks before the new schedule time, HiSky offers the assistance as described in Chapters 1.6.1-1.6.8.

1.6.6 Meals and refreshments

HiSky will offer meals and refreshments in following irregularity cases:

- Denied boarding
- Flight cancelation
- Long delays
- Misconnections caused by HiSky
- Irregularity due to force majeure reasons

Irrespective of the reason of the delay meals must be offered to all passengers according to the table below, depending on the duration of the delay and time of the day.

Primary Delay	Meals
Up to 2 hours	N/A
2 to 4 hours of delay	**Refreshments** (water 0,5 l) **Snacks** (e.g. sandwiches)
4 to 6 hours of delay	**Refreshments** (water 0,5 l) **Hot meal**
More then 10 hours of delay	Hotel accommodation with meals included

NOTE: If a delay of 6 hours duration is recognized from the start, hot meals vouchers must be offered to the passengers immediately or during the first 4 hours of delay. If the delay continues and it exceeds slightly more than 6 hours, snacks and drinks will be offered additionally, if time permits.
In long delays, additional hot meals vouchers shall be provided to passengers during each 5 hours of delay after previously offered meal.

Provision responsibility and voucher value

- HiSky Representative or handling agent is responsible to have agreements with local catering providers or restaurants preferably in immediate proximity to airport.
- HiSky Representative or station supervisor is responsible to ensure the appropriate provision of refreshments/snacks/meals at a certain value.
- The value of the vouchers or meals shall be agreed upon with HiSky representative.
- If the meal price exceeds the mentioned herewith limits, it must be authorized by HiSky top management.
- Value of refreshments, snacks, meals depend on the local standards, but in general, it should be in the price limit of:
  - 10 EUR - per **Refreshment + Snack** voucher
  - 15 EUR - per **Refreshment + Hot Meal** voucher

Provision procedure
Decide with HiSky representative on the use of vouchers and its value and provide them to passengers

- Before sending a large number of passengers, inform the caterer/restaurants.
- At station where meal vouchers are not available, HiSky representative or station supervisor shall arrange the meals order and delivery, with the local catering provider.
- Ensure that meal vouchers are provided only to passengers from the affected flight by the irregularity: boarding pass check and/or provision on base of a passenger list etc.
- HiSky representative shall indicate all information on meals quantity and vouchers value offered to passengers, in the Quality Report which is filled in after the flight departure.

NOTE: Meals and refreshments need not to be offered if the provisions would itself cause a further delay.

1.6.7 Communications facilities

In case of irregularities, communication facilities may be offered (if available) to all passengers, regardless of class of service. Facilities include:

- Phone calls (2 calls per passenger)
- E-mail service (2 e-mails per passenger)

1.6.8 Hotel accommodation

1.6.8.1 General

HiSky will offer hotel accommodation and transportation free of charge in all irregularity cases, except force majeure reasons, being authorized by the carrier's representative, provided the passenger is affected by one of the following irregularity cases:

- Denied boarding
- Long delays
- Flight cancellations
- Misconnection provided by HiSky
- Flight diversion

NOTE: No hotel accommodation will be offered if the irregularity is caused due to force majeure reasons. Reference: Chapter 1.6.1.1 Force majeure reasons. However, HiSky will assist in every possible way the passengers needed in hotel accommodation but on the passengers' own expenses

1.6.8.2 Guidelines

- HiSky shall offer hotel accommodation to passengers affected by an irregularity:
  - if an additional stay of one or more nights becomes necessary
  - if delay exceeds 10 hours (day time)
- Additionally to hotel accommodation, passengers will be offered free of charge
  - transportation to/from the hotel
  - appropriate meals, in reasonable relation to the waiting time as mentioned in Chapter 1.6.6.1.

  NOTE: Meals costs should not exceed the meal costs limits described in chapter 1.6.6.1.
- HiSky does not cover telephone and minibar expenses from the hotel.
- Whenever possible, transportation within the city where delay occurred may be provided for passengers who arrange their accommodation by themselves, according to the existing agreements between airline representative/handling agent and the transport company. Relevant reports should be inserted in the Quality Reports for the flight, with details: passenger names, flight/date.
- The following will be taken into account when pre-arranging hotel accommodation:
  - number of passengers and rooms availability
  - existing contracts between HiSky representative/handling companies and hotels (hotels should not be less than 3 or 4 stars category)
  - location of the hotel in the near proximity to the airport
  - the possibility of transportation to/from the hotel
- Hotel accommodation should be provided as follows:
  - an individual room per passenger
  - two or more passengers in one room is possible when they are family members or only if a consent is received from the passengers (if possible in written form)

Responsibility

- HiSky representative or station manager are responsible to have agreements with hotels
- HiSky representative or station manager will make the pre-arrangements for the hotel accommodation, as well as for the appropriate meals during the accommodation
- Transportation of passengers to/from hotel should be arranged and provided on base of existing agreements between HiSky representative and/or handling company with transport company.
- All records and invoices for hotel accommodation, meals and transportation costs shall contain all relevant information about the passengers and irregularity: name, flight number, date.
- In case of any irregularities occurred in the hotel, Company's representative must try and make his/her best to settle the problem occurred.
- Passengers who need transit visa will be assisted by HiSky representative in arrangements for transit visa so that passengers can be accommodated at the hotel in irregularity cases when it involves a night stop. This issue concerns, especially, passengers of special categories like PRM, passengers with children, infants, etc.

Handling procedure

- Decide how many passengers need hotel accommodation and how many rooms will be necessary to book
- HiSky representative or station manager will make the pre-arrangements for the hotel accommodation, as well as for the appropriate meals during the accommodation
- Arrange transfer to/from the hotel.
- Inform the passengers about departure time of the bus to the hotel and from the hotel. If the departure time from the hotel to airport is not yet available, inform the passengers that the relevant information will be provided to the hotel staff later.
- Make sure with the hotel staff, that passengers were informed about departure time of the bus from the hotel.

- Inform passengers and advise hotel staff that HiSky will not cover hotel expenses for phone calls and minibar.
- Whenever possible, accompany the passengers to the hotel.
- HiSky representative/station manager will fill in the Quality report with all relevant information about the passengers' accommodation after the flight departure.

1.6.9 Change of aircraft

Aircraft changes include the following options:

- change of aircraft within the fleet on scheduled flights
- wet lease aircraft operating a scheduled flight

Cabin version change

- Cabin version may be adapted according to the actual booking status
- A change of cabin version shall be preferred in order to avoid unnecessary involuntary upgrades or downgrades

Seating

In case of an aircraft or cabin version change, use the same seats for the already checked in passengers and for passengers with seat pre-assignment as they have been assigned on the previous aircraft. If the seating does not correspond anymore:

- re-seat the passengers
- issue new boarding passes
- call the passengers to exchange the boarding passes

NOTE: It is preferably to avoid free seating on board of HiSky aircraft. Free seating may be accepted only in exceptional case, when the above described procedure risks to leading to heavy delay, and after coordination with HiSky Ground Operation Department. Cabin crew shall be advised if free seating used.

Overbook due to change of aircraft

If the flight is overbooked as a result of aircraft change, proceed as described in Chapter 1.6.11 Denied Boarding due to irregularity.

No financial compensation is paid to the passengers, if they are denied boarding as a result of aircraft change due to force majeure reasons.

1.6.10 Involuntary change of class

An involuntary change of class is necessary when the number of passengers holding an OK ticket exceeds the available allotment in the class concerned due to:

- reservation reason
- change of aircraft
- overbooking
- payload restrictions

The following general rules apply in case of involuntary upgrading or downgrading

- Free baggage allowance is according to the class originally paid for
- Splitting up parties when up-/down-grading should be avoided

1.6.10.1 Involuntary upgrades

Different class passengers should never be seated in one compartment. In case of moving the class divider or change of aircraft version, some of "Economy" class passengers may need involuntary upgrade due to lack of

seats in economy. For such passengers should be provided business class service and meals, if possible, and does not involve a further flight delay.

The following passengers should never be involuntary upgraded:

- INAD, deportees
- UMs
- Passengers with reduced mobility
- Children or families with children
- Passengers with pets in cabin
- Passengers with extra seats
- Passengers who ordered a special meal

Priority sequence for involuntary upgrading:

- HiSky staff with confirmed economy class ticket
- Economy highest fare ticket passengers
- All other revenue passenger

The standing and/or appearance of the upgraded passengers must be in accordance with the standards of the class the passenger is upgraded to.

Handling of involuntary upgrade
If the risk of involuntary upgrading is known in advance, check upgrading possibilities eventually via PNL in order to foreknow a potential passenger for involuntary upgrading. If involuntary upgrading is needed eventually at closure of check-in:

- Check the passenger list
- Decide which passenger to upgrade according to the priority sequence listed in 1.6.10.1.
- Call the passenger to be upgraded
- Offer the upgrading in a discreet way.

The following general rules apply in case of involuntary upgrading:

- Free baggage allowance - is according to the class originally paid for

1.6.10.2 Involuntary downgrading

Involuntary downgrading of revenue passenger shall be avoided. It may happen if the ticketed class is physically full at closure of the flight.

NOTE: Take into consideration to change the cabin version “last minute” to accommodate all business class passengers accordingly.

In case of involuntary downgrading:

- the passenger will be informed that he can apply for a calculation difference between business and economy fare and receive a refund of the difference amount
- the passenger shall be offered seating in Economy Class as much possible in front of the cabin

1.6.11 Denied boarding due to irregularity

1.6.11.1 Basic principle and policy

Passengers holding a confirmed reservation may be denied boarding due to reasons such as:

- Overbooking of the flight,
- Reduced aircraft seating capacity due to unserviceable equipment,
- Change of aircraft version with less capacity

Overbooking General Policy
In order to optimize the load factor of the flights by minimizing the effect of "no-show" passengers, HiSky may overbook its flights to a certain extent. This is an accepted and common practice with the airline industry.
All passengers are entitled to all care services and benefits/compensation offered by the airline in case of denied boarding due to irregularity, providing:

- They hold a confirmed reservation and a valid ticket for the flight concerned (including tickets issued under a frequent flyer program)
- They present themselves for check-in within the time limits and conditions prescribed by HiSky.

Upgrade possibility
A passenger having a confirmed ticket, who cannot be accommodated in the ticketed class may be upgraded to the next service class. See chapter 1.6.10.1 Involuntary Upgrades.

Denied boarding general guidance
In case of denied boarding, the following general procedure must be applied:

- Request volunteers to give up their seats, starting from the moment of check-in opening
- If no volunteers or not sufficient volunteers are available, choose passengers to be offloaded according to the priority list in Chapter 1.1.7.4 Loading priorities
- The representative must ensure that the passengers once denied boarding are not affected again from denial of boarding on the next flight or on the rerouted flights

Never off-load the following categories of passengers

- Special categories of passengers such as UMs, passengers with reduced mobility, INADs, deportees, passengers less than 18 years traveling alone, etc
- Families with children, infants
- Elderly persons
- C-Class passengers
- Passengers with restricted immigration documents (e.g. one-entry visa)
- Transfer passengers

Denied Boarding Compensation (DBC) is the financial compensation paid to passengers in case of denied boarding. Passengers who cannot be accommodated on an HiSky flight, qualify for denied boarding compensation (DBC), if they hold a valid ticket with a confirmed reservation for the flight concerned and has presented themselves for check-in within the check-in dead-line.

DBC is not applicable:

- If the flight cannot be operated as scheduled for reasons beyond the control of an HiSky (e.g. due to weather conditions, strike etc.).
- If boarding is denied because government has requisitioned all or part of the aircraft capacity.
- If the passenger holds a reduced fare not available to the general public or a non-revenue ticket
- If the passengers are denied boarding because of reasons described in chapter 6.13 "Denied due to passenger condition".

1.6.11.2 Volunteer denied boarding

A volunteer is a passenger giving up his/her seat in exchange for benefits under conditions to be agreed upon between the passenger concerned and HiSky. In case a flight is overbooked and denied boarding is expected, the search for volunteers is mandatory.

A local procedure in order to call and handle volunteers according to the airport peculiarities has to be established in each station, and the representative or station manager is responsible for the benefits and condition to be agreed upon.

A volunteer shall be offered:

- Rebooking on the next HiSky flight or the most convenient rerouting for the passenger
- Financial compensation DBC

NOTE: Volunteers need not to be offered any further assistance concerning refreshments/meals or hotel accommodation but the representative or station manager is entitled to decide upon exceptions, if required, and the passenger insists on it..

Denied Boarding Compensation (DBC) is the financial compensation paid to passengers in case of denied boarding.

1.6.11.3 Non volunteer denied boarding

The following criteria have to be taken into account when choosing passengers to deny boarding:

- Urgency of the trip
- Passengers' age and travel experience
- Rebooking/re-routing possibilities
- Special categories of passengers (UMs, PRMs, etc.)
- Passengers with children
- Visa and passport requirements
- Passengers with or without checked baggage

In case a passenger is denied boarding against his/her will, the passenger will be offered the following:

- Rebooking on the next HiSky flight/or the most convenient rerouting for the passenger
- Meals and refreshments according to Chapter 1.6.6
- Hotel accommodation in case a further travel involves a stay for one night, see Chapter 1.6.8
- Communication facilities, Chapter 1.6.7.
- Financial compensation DBC.

If the flight is no longer serving any purpose for the passenger:

- Reimbursement of the full cost of the ticket
  NOTE: No DBC is offered in case of full refund of the ticket.

1.6.11.4 DBC procedure

If a risk of denied boarding exists, look for volunteers already at check-in level, starting from the moment of check-in opening. The following actions are suggested:

- Check in advance the number of booked passengers on the flight in order to be updated with the information if the flight is overbooked.
- Volunteers must be individually contacted, not through a public address system.
- If at check-in closure there are no sufficient volunteers contact again the noticed earlier potential volunteers and suggest a higher compensation.
- If still no sufficient volunteers, then proceed to offloading the passengers involuntarily according to the recommendations mentioned in Chapter 1.6.11.1 Basic Principle and Policy and Chapter 1.1.7.4 Loading Priorities

If a passenger accepts the conditions already at check-in desk, proceed as follows:

- Check-in the baggage on waiting list/stand by positions according to locally defined procedure. Ramp handling personnel must be advised immediately on the passenger name and tag number. Result: The baggage will not be loaded and will be on stand-by.
- Send the volunteers to the gate.
- After closure of the flight:
  - If the seat is needed, then offload the volunteer in the DCS system. If the seat is not needed, accept the passenger from the stand by and issue a new boarding pass.
  - if the passenger is accepted from the stand by position, contact immediately the baggage department and request to load the baggage.
- Rebook/Re-route the passenger.
- Mind immigration restrictions when rerouting.

Reporting on overbooked passengers
To have an overview of the number of DBC cases, an informative report with details on overbooked passengers and assistance offered must be sent to ground.ops@hisky.aero and customer.service@hisky.aero
The report will contain the following information:

- name of the denied passenger, flight and ticket details
- details on offered assistance: rebooking/rerouting with flight details, meals/hotel assistance

1.6.11.5 Non–revenue passengers

Non-Revenue and reduced fare passengers are passengers traveling on:

- Tickets with the basic designator ID (air industry employee)
- Reduced fare tickets not available to the general public

If denied boarding risks exist, look through the passenger list if there are non-revenue passengers on the flight. The non-revenue passengers must be boarded the last, after the revenue passengers have been boarded, if there are still seats available on the overbooked flight.
NOTE: The DBC is not applicable in case of denied boarding of non-revenue passengers or reduced fare passengers.

Non-revenue passengers with OK status tickets are entitled to care assistance in case of denied boarding.
Non-revenue passengers with SA status tickets are not entitled to care assistance in case of denied boarding.

Boarding priorities of non-revenue passengers
Boarding priorities are settled in accordance to the classification designators and reservation entitlement.
Boarding of the non-revenue passengers with **OK** status tickets are the first to be accepted according to the following boarding priorities:

1) HiSky crew staff traveling on duty (e.g. simulator training) or other carrier crew transferring to/from duty
2) HiSky staff or GSA staff traveling on duty
3) person traveling pursuant to a government order
4) HiSky staff or dependents traveling privately
5) Other carriers' staff traveling on duty
6) Other carriers' staff and GSA traveling privately, all other eligible persons

Non-revenue passengers with **SA** status are to be accepted for boarding only after the OK status tickets non-revenue passengers has been boarded, according to the following priorities.

1) HiSky staff or GSA staff traveling on duty
2) person traveling pursuant to a government order
3) HiSky staff or dependents traveling privately
4) Other carriers' staff traveling on duty
5) Other carriers' staff and GSA traveling privately, all other eligible persons

1.6.11.6 Responsibilities

Denied boarding procedure is a complex process and must be coordinated and properly supervised by the airline representative and sales agents.

Airline representative must:

- Ensure the accuracy of the application of Denied Boarding procedure
- Coordinate the actions of the handling agent
- Offer assistance to the denied boarding passengers
- Ensure rebooking on the next HiSky flight / the most convenient rerouting for the passenger or coordinate the actions of the sale agent/help desk in rebooking/rerouting process
- Supervise the entire process
- Attend the denied boarding passenger with maximum attention

- Send a report with details on the overbooked passengers at emails: ground.ops@hisky.aero and customer.service@hisky.aero

HiSky sales agent must:

- Ensure as fast as possible the rebooking on the next HiSky flight / the most convenient rerouting variant to the denied boarding passengers;
- Issue correctly all the flight documents
- Make all relevant remarks in the denied boarding passenger's PNR

HiSky Customer Service must:

- Ensure as fast as possible the rebooking on the next HiSky flight / the most convenient rerouting variant to the denied boarding passengers;
- Make all relevant remarks in the denied boarding passenger's PNR
- Issue correctly all the flight documents
- Never cancel the reservations with the remark: "invol rebooking/rerouting due to overbooking"
- Assist the sale agents to find the rebooking on the next HiSky flight / the most convenient rerouting variant for the denied boarding passengers

Handling Agent must:

- Make the relevant announcements at check-in or gate.
- Assist the airline representative in the service of the denied boarding passengers

NOTE: At stations where the representative carries out, as well, the function of the sale agent, the representative will assume the responsibilities of the last respectively.

1.6.11.7 Announcements

1. Announcements must be made already at check-in when searching for volunteers:
Mr…/Mrs… we would like to inform you that today's flight is full but we still have a number of passengers wishing to travel on this flight. Therefore we are searching for volunteers to give up their seats against benefits. If you agree to give up your seat, HiSky will compensate you …… EUR and will offer free rebooking/rerouting for a later flight.

2. Announcement made at gate if not enough volunteers has been found:
Ladies and Gentlemen, we would like to inform you that today's flight is overbooked and we are searching for volunteers to give up their seats against benefits. HiSky will compensate volunteers …… EUR and will offer free rebooking/rerouting for a later flight.

1.6.12 Flight diversion

The authority to divert or re-route a flight lies with the commander. The departure / destination station / HiSky OCC department shall send a message with all info regarding the passenger load to the diversion station responsible or handling agent, whichever is applicable. This includes standard messages such as LDM and PSM messages, any other information such as possible diversion stations, instructions as to further handling of passengers, etc.

In case of a diversion of a flight, HiSky will offer to passengers the following assistance.

- Rebooking/re-routing to the final destination or stopover, if possible, according to the Chapter 1.6.4.
- Meals and refreshments according to the Chapter 1.6.6.
- Communication facilities according to the Chapter 1.6.7.
- Hotel accommodation and transportation, if an additional stay of one or more nights becomes necessary, independently of the reason of diversion.

Take the following actions at the **DEPARTURE** station:
1) Inform the passengers about the planned/possible diversion, if applicable
2) In case of planned diversion, offer re-routing according to the principles of Chapter 1.6.4
3) Send all information regarding the passenger load to the diversion station's responsible or handling agent, whichever is applicable. This includes all standard messages such as PTM, PSM, TPM if required, etc.

Take the following actions at the scheduled **DESTINATION** station:
In respect of **inbound** passengers:
1) Coordinate all activities with the diversion station
2) Relay all information regarding the passenger load to the diversion station's responsible or handling agent, whichever is applicable.
3) Inform any awaiting party about the diversion and arrival of passengers, respecting the rules of passenger confidentiality.
In respect of **outbound** passengers:
1) Coordinate all activities with the diversion station.
2) If passengers are transferred:
- relay all information regarding the passenger load to the diversion station's responsible or handling agent, whichever is applicable and
- send a "bus departure message", containing information such as departure, time, license plate of the bus, company and color of the bus, mobile phone number of the bus driver and any other relevant information. Message must be sent via e-mail to destination station and to HiSky Operation Control Center.

3) If passengers will not be transferred
- action as described in Chapters 1.6.2 or 1.6.5
- if necessary, offer facilities and services as prescribed in Chapters 1.6.6-1.6.8

Take the following actions at the **DIVERSION STATION**:
- Coordinate all activities with the crew, airline representative, scheduled or departure station.
- If necessary and requested by the crew, they have to be offered hotel accommodation and transportation to/from the hotel.
- The crew must take care of the passengers until they are handed over to the handling agent and /or to HiSky ground staff.
  NOTE: An UM shall only be handed over if safe custody on ground can be ensured. Unaccompanied Minor Handling Advice must be signed accordingly.
- Meet and assist the passenger upon arrival of the diverted flight.
- The Company's representative should inform passengers about his contacts and stay with them providing with information required.
- Passengers should be advised to pay strong attention to flight statement loudly announcement at the airport
- If a passenger wants to leave the airport, the handling agent/representative staff should take his contacts.
- If passenger wants to take his/her baggage (flight time is not determined), the representative must ask him to sign the receipt confirming that passenger refuses the flight or he was informed about Now Show statement in case of time changing and not appearing in time at the check in desk
- Business class passengers should be offered business lounge.
- The passengers with children should be offered business lounge or provided with motherand-child room.
- Apologize for any inconveniencies.
- Offer services and facilities as described above in this chapter.

Handling in case passengers are taken **AT THE SCHEDULED DESTINATION AIRPORT**:
1) Inform all passengers of the route and schedule of the bus.
- a limited number of stopovers are allowed, including city stop,
- final stop is the airport of destination.

2) Dispatch a "bus departure message" to the station of destination and to HiSky OCC

1.6.13 Denied boarding due to passenger condition

HiSky may refuse carriage of any passenger if, in the exercise of its reasonable discretion, HiSky finds it necessary to deny boarding of a passenger:

- for reasons of safety in order to prevent violation of any applicable laws, regulations, or orders of any State of departure, destination or over-flight;
- because the behavior or mental or physical state of the passenger is such as to:
  - require special assistance of HiSky;
  - involve any hazard or risk to himself or to other persons or to property;
  - involve a threat to employee or the company due to abusive behavior
- because the passenger does not respect the regulation and instructions of the airline
- because the passenger refuses to undergo security checks
- because passenger failures to comply with travel document requirements
- because the passenger fails to present at check-in within the check-in time deadline
- because the passenger is under the influence of alcohol or drugs and behave unruly
- when the flight ticket presented by the passenger
  - has been obtained in an illegal way
  - does not belong to the passenger or the passenger cannot prove that he is the person mentioned in the ticket

In these cases of denied boarding due to passenger condition the passenger is not entitled for:

- any involuntary rebooking/ rerouting
- hotel accommodation
- meals/refreshments
- financial compensation

Handling procedure

- if already checked-in, offload such passengers in the DCS and advise load control and/or crew, as well ensure that passenger's checked baggage, if any, is offloaded from the aircraft and DCS record.
- do not accept the passenger in DCS and add a remark into the PNR reflecting the exact reason for denied boarding

See also Chapter 1.5.9 Unruly passengers and act accordingly if the passenger is denied due to unruly behavior.

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2. BAGGAGE HANDLING PROCEDURES

2.1 Cabin baggage

2.1.1 General rules

Cabin baggage (also referred to as carry-on baggage or unchecked baggage) is baggage that is carried in the cabin, under the passenger's control and personal custody, which can be safely stowed in the cabin of an aircraft.

Cabin baggage includes:

- cabin baggage carried within the HiSky free carry-on baggage allowance
- free carry-on items (personal items) permitted in addition to the standard
- special items permitted by the airline which require prior arrangements, notifications and/or specialized screening requirements or additional charges (e.g. pets in cabin)
- items of dangerous goods permitted in passenger baggage that require prior approval of the airline

Acceptance policy

- Cabin baggage cannot be accepted if it is:
  - unsuitable for air carriage in the cabin due to its weight, size or nature
  - not fitting under the seat or which cannot be stowed in the overhead compartment
  - unsuitably packed
  - likely to endanger the aircraft, persons or property
  - forbidden by any applicable laws or regulations of any state to be carried from, into or over
- Other restrictions:
  - items refused by security screening must be hold-checked if the items is not forbidden by any regulation (e.g. IATA DGR) to be accepted in hold. For information on handling of security removed items see 2.2.12.1 Security removed items
  - certain items, because of their weight, size or nature are only accepted with the consent of the airline
  - for security reasons, many countries restrict the carriage of liquids, aerosols and gels in hand luggage

Cabin baggage must be stowed on board:

- In the overhead compartment
- Under the seat in front of the passenger

Liability

According to General Conditions of Carriage, HiSky declines any responsibility for loss or damage to unchecked baggage.

IATA Security Advisory Committee, also, forbids the following objects on passengers:

- Firearms and ammunition
- Toys and other items that are realistic replicas of weapons
- Grenades, explosives, detonators, incendiary devices
- Devices that emit gas or noxious substances
- Daggers, flick knives or switch blades
- Scissors (of any kind), metal nail files
- Needles
- Liquids, etc.

If any of these items is found on passengers at the security point, it will be removed. Security removed items are handled in accordance with local airport regulations. See also Chapter 2.2.12.1 Security removed items.

2.1.2 Cabin baggage allowance

Cabin baggage allowance and mass:

Class of service		**SMALL cabin bag** **only 1 pc** **up to 8 kg** **up to 40x30x20 cm**	**LARGE cabin bag** **only 1 pc** **up to 10 kg** **up to 50x40x25 cm**
Economy BASIC	A, O, G, U, E, X, P	Free of charge	20 € on web / 30 € at airport
Economy CLASSIC	V, T, Q, N, M	Free of charge	Free of charge
Economy PREMIUM	L, K, H, B	Free of charge	20 € on web / 30 € at airport
Economy PREMIUM PLUS	Y, S, W, R, F, I, J	Free of charge	Free of charge
Business	C, D	Free of charge	Free of charge

- Passengers in all booking classes are permitted to carry 1 (one) small cabin bag (up to 8 kg) free of charge.
- Passengers in Economy CLASSIC, Economy PREMIUM PLUS and BUSINESS class are permitted to carry one (1) additional large cabin bag (up to 10 kg) free of charge.
- Passengers in Economy BASIC and Economy PREMIUM are required to pay 15 EUR in case of additional large cabin bag. In case of onward HiSky flight, large cabin bag fee is paid only once for both legs (initial HiSky flight and connecting HiSky flight).
- Only 1 additional large cabin bag is permitted, taking into consideration above acceptance rules.

NOTE: On **CHARTER FLIGHTS** only 1 cabin bag (up to 8kg, up to 50x40x25cm) is permitted free of charge. Additional cabin baggage is not permitted.

NOTE: A foldable suit bag (no larger than 57x54x15 cm) may also be accepted as cabin luggage free of charge, regardless of the above rules.

NOTE: **Baggage exceeding above mentioned size and weight limits must not be accepted in aircraft cabin and shall be checked in hold.**

Passengers also may carry, free of charge, the following personal items:

Item	Applicable to
• 1 overcoat • 1 umbrella	All passengers except infants
• 1 infant's carrying basket or fully collapsible stroller/pushchair or car seat (in hold, if applicable). • Infant's food for consumption on board.	Infants
• up to 2 mobility or other assistance devices (including wheelchairs (as DAA and/or in hold), crutches, braces or any other orthopedic device)	Passengers with reduced mobility who depend on such mobility equipment
• Guide/Medical service dogs	Passengers with reduced mobility depending on such animal.

NOTE: In exceptional cases 1 (one) fully collapsible stroller/pushchair can be accepted free of charge for children aged up to 4 years if the children's comfort depends on it.

Small musical instruments which exceed in dimensions a few centimeters (such as violins, trumpets, etc.) may be accepted as cabin baggage respecting above described rules for Cabin Baggage allowance.

2.1.2.1 Acceptance of cabin baggage

In order to avoid numerous and huge baggage in aircraft cabin the handling agent and company representative must:

- check cabin baggage weight and dimensions at check-in and boarding
- advice the passenger during check-in process about free cabin baggage allowance, rules of handling it and about the Gate Baggage Rule for excessive cabin baggage
- tag properly all cabin baggage at check-in and boarding with CABIN or DAA tags (DAA where applicable)

Gate Baggage Rule for excessive cabin baggage

Gate Baggage Rule is applicable for excessive cabin baggage, noted during the boarding process at gate after the passenger has passed the check-in and has been advised about the airline policy regarding the cabin baggage.

Excessive cabin baggage (additional, oversized, and overweighed) must not be accepted in the cabin of aircraft. It shall be taken away or checked in hold. If checking the excessive cabin bag in hold and charging for it, is not possible, this excessive cabin baggage will not be accepted for carriage. Only properly tagged and verified cabin baggage shall be accepted in the aircraft cabin.

Passenger may be refused for boarding if:

- the passenger refuses to comply with HiSky cabin baggage policy despite the advice at check-in and boarding
- the passenger refuses to reduce/dispose of the excessive cabin baggage
- the passenger refuses to check excessive cabin baggage in hold and pay baggage fee when applicable
- there is no time to accept the excessive cabin baggage as checked baggage when the passenger refuses to reduce or dispose of the excessive cabin baggage

Handling procedures

The following handling procedure of cabin baggage must be followed at check-in:

NOTE: The cabin baggage checks must be strictly performed at check-in!

1) Advise the passenger about free cabin baggage allowance (and the 'delivery at aircraft' procedure, where applicable)
2) Ask the passenger to provide/show all cabin baggage that passenger intends to take on board of aircraft and asses it.
3) Check the size, weight and number of pieces according to the permitted allowance for cabin baggage. Use the cabin baggage gauge, where available.
4) If the weight, size and/or number of pieces are not within free carry-on baggage allowance, the bag must be either repacked or hold-checked and charged, if applicable.
5) Ensure to receive confirmation that cabin baggage does not contain commonly carried dangerous goods or any forbidden items.
6) Remind the passenger on the limitations for liquids in cabin luggage
7) If the carry-on baggage allowance is met, attach cabin baggage tag or DAA tag (where applicable)
8) It is mandatory to advice the passenger that only tagged and verified cabin baggage will be allowed for boarding and all untagged or excessive cabin baggage will be refused during boarding.
9) Advice the passenger about the Gate Baggage Rule for excessive cabin baggage.

The following handling procedure of cabin baggage must be followed at boarding:

NOTE: The cabin baggage checks must be strictly performed at boarding!

1) Check for any items which are unacceptable, oversized, overweigh or exceed the number of pieces as free cabin baggage, using the cabin baggage gauge (where applicable).
2) Excessive (additional pieces or oversized) cabin baggage noted at boarding, which cannot be accepted as cabin or as DAA baggage, must not be accepted in the aircraft cabin. These bags have to be taken away or collected and checked in hold in accordance with the Gate Baggage Rule for excessive cabin baggage.
3) Explain the passenger that no excessive cabin baggage is accepted on flight.
4) Ask and advise the passenger to reduce it or dispose of it, or otherwise it must be checked in hold.
5) If the passenger does not want to dispose of the excessive cabin baggage and agrees to check the excessive cabin baggage in hold, proceed as follows:

- Ask the passenger to pay Baggage Fee (if applicable) per each piece of checked baggage at gate.
  NOTE: If charging or checking the bag in hold is not possible, this excessive cabin baggage must not be accepted for carriage.
- Fill out a manual baggage tag to the final destination and attach it to the baggage

- Ask the passenger to take out all personal documents, medications and any valuable objects from the baggage which is going to be carried in hold of the aircraft.
- Check with the passenger that the baggage contents are in compliance with IATA DGR and it does not contain any dangerous goods which, are specifically prohibited in checked baggage (e.g. lithium batteries, e-cigarettes, etc.)
  NOTE: Have the passenger remove such items from the baggage to be carried in hold.
- Load Control must be advised about any baggage tagged at the gate or about any gate delivery item exceeding normal allowance for consideration in the load control process:
  - enter the baggage tag number into DCS check-in record if possible, or
  - make LMC (last minute changes) in the documents (pax list, loadsheet, etc)
  - all LMCs must be reflected in DCS before dispatching of flight messages.
- Advise the Ramp Staff and/or Load Control about the baggage to be loaded.
- Advice the Ramp staff / Loading staff to collect the baggage from the gate and place it in hold of a/c.
  - If not possible to take the baggage item from the gate, ask the passenger to leave the tagged baggage at the aircraft stairs or at aircraft door on jet bridge.
- Inform the passenger to pick up the baggage at the baggage claim area at final destination.

2.1.3 Delivery at aircraft

Delivery at aircraft baggage (DAA) is cabin baggage, loaded in hold at the time of boarding, and returned to the passenger when disembarking, i.e. at the aircraft stairs or at the loading bridge.

IMPORTANT: DAA bags shall be identified with passenger name and flight details on the DAA tag.

DAA is related to:

- fully collapsible baby strollers.
  NOTE: large baby carriages shall be checked-in
- mobility equipment, which are not needed during the flight but immediately after disembarkation and are difficult to store in cabin

Limitations
Based on local directives, restrictions on the “Delivery at aircraft” procedure may apply on certain station.

- Baby stroller DAA procedure is not applicable for STN station.

Handling of DAA (baby strollers and mobility devices)

The following actions must be taken at check-in:

1) Check for items which qualify for DAA
2) Inform passenger about the possibility DAA baggage process and actively ask whether the item is needed immediately after disembarkation
NOTE: If DAA procedure is not applicable, item has to be treated according normal checked baggage procedure.
3) Register the stroller/mobility equipment as checked baggage with actual weight and print an automated baggage tag or use a manual baggage tag to the final destination. Enter the following remark in DCS for the baby stroller accepted as checked baggage free of charge on HiSky flights: *BABY STROLLER 1PC 10KG*
4) Fill in the special “delivery at aircraft – DAA” tag with passenger name and flight details
5) On turnaround flight, indicate on DAA bag tag appropriate destination
6) Attach both tags (automated bag tag and DAA tag) to the stroller/mobility equipment.
NOTE: remove old DAA-tags.
7) Give the receipts to the passenger
8) Ask the passenger to report to:

- the gate staff for loading, and
- the cabin crew for unloading upon disembarkation

The following actions must be taken at boarding:

1) Check for any items, which qualify for delivery at aircraft
2) Fill in a manual baggage tag (up to the final destination)
3) Fill in a DAA-tag, with passenger name and flight details
4) On turnaround flight, indicate on DAA bag tag appropriate destination
5) Attach both tags to the item (automated bag tag and DAA tag). Remove old DAA-tags
6) Enter the tag number of the baggage into the DCS system with actual weight
7) Total quantity of DAA should be reflected in LDM message under remark SI
8) Advice ramp staff and/or Load Control about the number of DAA items to be loaded and/or about any gate delivery item exceeding normal allowances. Load control must consider it in the load control process.

DAA baggage ramp procedure:

- DAA pieces and WCH/baggies and their loading position must be noted on the Load Message under the remark SI.
- Ramp handling staff shall inform flight deck crew about the number of DAA bags that have been accepted in compartment.

DAA baggage security procedure:

- It must be guaranteed that no unaccompanied DAA baggage is left on board the aircraft.
- In case a passenger disembarks:
  - check if any DAA has been loaded for the respective passenger – if yes, then offload the respective DAA baggage
  - when in doubts, a full DAA baggage identification has to be performed.

DAA procedure upon arrival:

- as per LDM and/or crew request, unload the DAA items/baggage and deliver to the aircraft door
- passengers receive the DAA baggage when disembarking

2.1.4 Handling of pets

There are two methods of pet carriage.

- Pets carried in the passenger cabin in an approved container (PETC)
- Pets carried in cargo compartment (AVIH)

2.1.4.1 Pet in cabin

Transportation of animals is subject to governmental regulations concerning import, export and transit of live animals. The transport of pets in cabin (PETC) is restricted to:

- Dogs and cats belonging to a passenger traveling on the same flight, transported in cabin
- Service animals, accompanying disabled persons and special training dogs

Documentation
The passenger must hold:

- the necessary documents for import/export or transit of the animal, subject to the governmental regulations.
- pet passport
- health/vaccination certificates
- animal shall have an electronic identification system (transponder) or a visible tattoo

EU regulations for the transportation of pets

- Dogs and cats traveling into EU or even transiting via the EU must hold the necessary documents for entering into the EU.
- Pet animals going to EU countries, will be subject to the EU requirements for pets transportation in accordance with Regulation EC Nr.998/2003, which includes:

a. Identification: the animal shall be identified by an electronic identification system (transponder /microchip) which complies with ISO standard 11784. **NOTE:** Identification of the animal with a microchip shall be performed before the anti-rabies vaccination.

b. Veterinary health certificate for EU or EU type passport: the pet shall be accompanied by a veterinary certificate issued by an veterinarian authorized by the competent authority of the country or by the EU type passport in the case of a re-entry of the pet in EU, which will certify the anti-rabies vaccination or revaccination and compliance with this regulation.

c. A valid anti-rabies vaccination and blood titration test:

- the pet animal must have undergone anti-rabies vaccination at the minimum age of 12 weeks old
- the pet must have undergone, at least 30 days after vaccination, a blood test to determine the antibody titration (measuring level - at least equal to 0,5 IU/ml) confirming the efficiency of anti-rabies vaccination. This test must be done in an authorized EU laboratory.
- the blood titration test must be done three months before being moved to EU
  NOTE: The three months period will not be required in case of re-entry in EU, if successful blood test was done before the pet left the EU and the result is recorded in PET passport.

d. Minimum age for pet: Taking into consideration minimum age for the first anti-rabies vaccination, time when blood test can be done and three-month waiting period before pet moving, the minimum age of the pet carried into EU shall be at least 7 months old.

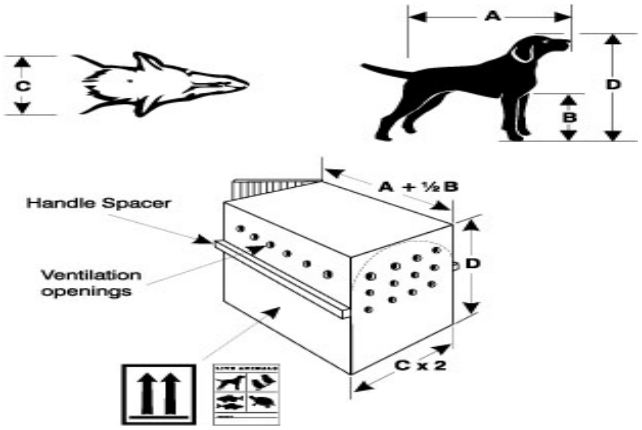
Full information can be found at:
http://ec.europa.eu/food/animals/pet-movement/eu-legislation

Limitations per destinations and responsibility

- Due to restrictive and/or special conditions for live animals transportation, HiSky will **NOT ACCEPT** pets transportation to/from **United Kingdom**.
- HiSky declines all responsibility for any deterioration in the animal's health, which may occur before, during or after the flight.
- HiSky cannot hold responsibility if an animal is refused entry into or transit a country.
- Passengers must sign the declaration form of limited responsibility for animal transportation before check-in and attach passport copy.

Conditions for acceptance to be followed

- The transport of animal in cabin:
  - must be requested at the time of reservation using SSR PETC, indicating kennel dimensions and total weight (container + animal)
  - has to confirmed in advance by HiSky and by all carriers involved in an interline transportation
- The animal:
  - must be clean, healthy, harmless, odorless, and must not be pregnant
  - may not annoy passengers
  - must be in a suitable container, i.e. the animal can stand in a natural position, turn around and lie down (except guide dogs and specially trained dogs)
  - must be transported in cabin only and never in the hold
  - must stay in the container during the entire flight
- The container or special soft sided bag:
  - dimensions shall not exceed 115 cm (25 H x 40 W x 50 L)
  - maximum weight, including animal and container is limited to 8 kg
  - may not be placed on the seat
  - must be well ventilated, securely fastened and leak-proof.
    NOTE: cardboard boxes are NOT suitable for air transport
  - must be right sized for the animal, according to the following indications:



Seating

Passengers with PETC:

- shall be offered window seats
- shall not be seated on first row
- shall not be seated in emergency exit rows

Limitations in pets' number per flight

- HiSky limits the number of pets per flight to:
  - 1 pet in "business class"
  - 2 pets in "economy class"
  - If no passengers with pets in "business class" - 3 pets in "economy class" may be accepted
- One PET container per passenger allowed
  - 2 small pets of same species in one container may be allowed, only if they are small enough to fit into one cannel and still have space to stand up and turn around comfortably

Charges

The weight of the PETC and the container is not included in the free baggage allowance.
Animal transportation is subject of additional charge of **50 EUR** per HiSky operated flight/leg.
In case of onward HiSky flight, PETC fee is paid only once for both legs (initial HiSky flight and connecting HiSky flight).

Handling procedures

1) Check if the pet was pre-notified.
   - If yes, ensure acceptance conditions described in this Chapter are followed
   - If not, the pet will be accepted only if it does not exceed the limitations on maximum number of pets per flight and only if acceptance conditions described in this Chapter are followed

2) Check TIMATIC for the entry regulations and accept only pets allowed to these countries and holding required documents.
3) Make sure the relevant remarks are entered into the DCS, enter quantity of containers per passenger and its weight, ex: PETC 1/7 (1- quantity of containers, 7- the weight of animal and container).
4) Check the size of container or kennel and its weight including the pet.
5) Request the passenger to pay the extra charges.
6) Mark 'PETC' on the boarding pass.
7) Inform the passenger that the pet must remain in the container during the complete journey and the kennel may never be placed on a seat.
8) Inform the load control department.
9) Fill out the Captain's Load Information

Refusal

- If the acceptance conditions are not fully met or there is any risk for safety on board, the transportation of the animal may be refused.
- The commander has the final authority to deny transportation if safety on board is likely to be endangered.

2.1.4.2 Service animals and special trained dogs

SERVICE ANIMALS SVAN

A service animal is a trained dog to assist a passenger with a disability: a visual or hearing disability (e.g. guide dogs) and other mobility disability where dogs can assist/alert (e.g. medical alert dogs). Passengers with certified service animals will be accepted into the cabin. Appropriate seating has to be provided with room for both the passenger and the animal, including additional floor space where mandate and possible.

Acceptance rules

The transport of a service animal:

- is accepted in the passenger cabin:
- is free of charge
- is subject to safety related limits in weight and size

  NOTE: the dog should not obstruct an aisle or other area that must remain unobstructed to facilitate an emergency evacuation.

Seating assignment

- a suitable seat has to be assigned to the disabled passenger
- in case the size of the dog exceeds the PETC limits, an extra seat has to be blocked for safety and comfort reasons free of charge regardless of reservation status

A disabled passenger traveling with a service animal:

- is asked for pre-notification of the dog at the time of reservation
- must prove the animal's status as "service animal", e.g. written documentation as a certificate, identification card, presence of harness
- is responsible for all necessary documents for the import/export or transit of the animal
- shall have a waterproof sheet for the dog to seat on it

The service dog:

- must be properly harnessed and muzzled but no need not to be caged
- is not allowed to move around in the cabin
- must not occupy a seat

SPECIALLY TRAINED DOGS

Specially trained dogs (e.g. rescue dogs, search dogs) may be transported in the cabin if transportation in hold is not possible but only with prior approval of Flight Safety and Ground Operation Departments.

Acceptance rules:

- the animal must be pre-notified as PETC
- prior approval is received from Flight Safety and Ground Operation Departments.
- safety related limits in weight and size do apply. The dog should not obstruct an aisle or other area that must remain unobstructed to facilitate an emergency evacuation)
- the animal must be pre-notified
- the passenger must hold written documentation, e.g. a certificate that proves the status "specially trained dog"

Seating assignment:

- a suitable aisle seat has to be assigned to the passenger
- an extra seat has to be blocked regardless of reservation status

The dog:

- must be properly harnessed and muzzled, but needs not to be caged
- is not allowed to move around in the cabin
- must not occupy seat

Charges:

- PETC fee is applicable
- the charge for an extra seat has to be applied in case blocking of a seat is required

2.1.5 Funeral urns

Rules for acceptance:
Funeral urns may be carried as checked baggage or cabin baggage. The passenger is responsible for all permits and documentation which the authorities of the departure, transit, arrival countries may require. If carried as checked baggage, make sure it is sealed and safely packed.
If carried in cabin, make sure:

- it shall not exceed hand baggage dimensions
- it is properly packed and sealed
- the package is neutral
- It may be stowed in the overhead compartment or under the seat in front

Funeral urns are not considered as dangerous goods.

2.1.6 Cabin Seat Baggage (CBBG)

Cabin Seat Baggage is baggage not usually suitable for loading in hold of the aircraft, due to its fragile or valuable nature and which passengers wish to take it with them on an extra seat. Such baggage may include musical instrument, works of art, electronic equipment, valuable baggage etc.

NOTE:

- Pets must never be booked and accepted on an extra seat as CBBG
- CBBG shall pass normal screening procedures for carry-on baggage.
- The normal free baggage allowance of the passenger is not raised by the number of CBBG.

One or more extra seats for cabin seat baggage “CBBG” must be reserved and paid for if:

- The weight and dimensions exceed the maximum permitted weight and dimensions for free carry-on baggage as mentioned in Chapter 2.1.2 Cabin Baggage Allowance
- The passenger is not willing to accept the inconvenience of his baggage accepted in hold and requests to take a part of his baggage into the passenger cabin.

Conditions for acceptance

- The passenger must have a separate ticket for the Cabin Seat Baggage CBBG
- The maximum authorized weight per seat is up to 75 kg
- Maximum acceptable dimensions:
  155 x 42 x 20 cm - from cabin floor
  110 x 42 x 50 cm - from seat
- Must be packed or covered in a manner to avoid possible injury to passenger and crew
- Must be properly secured by a safety belt or restrained device to avoid shifting during the flight
- Must not restrict access to, or use of, any required emergency or regular exits or aisle of the cabin
- Must not obscure any passenger's view of seat belt sign, no smoking or exit signs
- Must not contain dangerous goods
- Must be secured in a seat in the same cabin as the owner and preferably next to the owner

NOTE: If all above conditions are not accepted, it can travel as hold checked baggage, provided packaging is appropriate.

Charge
As a separate paid ticket for extra seat “CBBG”.

Seating
Passengers traveling with CBBG are not allowed to be seated in the emergency exit rows.

Procedure

- Check if the CBBG is booked and paid for: if not, send the passenger to the ticket counter
- Accept the CBBG in the check-in system and ensure correct seating
- Pre-board the passenger
- The cabin crew will be informed about the CBBG via CLI

Fixing CBBG on board
Cabin crew is responsible that the passenger item transported in cabin passengers seat is properly loaded (right placement), secured and lashed.

2.1.7 Liquids in cabin baggage

Only limited amounts of liquids may be taken in cabin baggage on board of flights that depart from/to EU countries. Liquids and gel-based products such as health care products and cosmetics may be carried in cabin luggage as long as they comply wit the following regulations:

- Each container with liquid and similar products must contain up to 100 milliliters (the printed maximum quantity apply)
- Total quantity of liquids or similar products must not exceed 1 liter
- All containers must be carried in a transparent re-sealable plastic bag (e.g. a so-called “zip lock”) with maximum capacity 1 liter
- One bag per person is permitted
- The bag must be presented separately at the security check

Exceptions:
Medication and food staff for babies, in the quantities needed during the flight, may be transported outside the plastic zip-lock bag and make exemption from the restrictions. But, in case of a doubt, the passenger may be requested to demonstrate that the carried products are medicine or special food and not something less innocent.

2.2 Checked baggage

2.2.1 General rules

Checked baggage, also called hold baggage, is baggage:

- for which the carrier takes custody and issues a baggage tag per every piece of baggage
- which is carried in the hold of the aircraft on which the passenger is traveling
- which is weighted at check-in
- not accessible to the passengers during the flight
- received at the station of arrival

Acceptance Rules

- All checked baggage must be properly packed in sufficiently rigid suitcases or similar containers to ensure safe carriage.
- Every piece of baggage must display the passenger name
- Certain items, because of their weight, size or nature are only accepted with prior consent of the carrier
- HiSky may refuse to carry checked baggage which is:
  - likely to endanger the aircraft, persons or property
  - prohibited by any applicable laws/regulations/orders of any state of departure or of the state that is carried into or over
  - prohibited by Dangerous Goods Regulations
  - inadequately packed
  - unsuitable for air carriage due to its weight, size or nature
- Checked baggage must not contain
  - fragile items
  - valuable items
  - perishable items products of animal origin
  - dangerous goods
  - weapons, ammunitions or explosives

  NOTE: Never use “FRAGILE” tags for such baggage - “Limited Release” tag must be used
- The following items should be carried as carry-on baggage and not in checked baggage
  - travel documents, business documents
  - money, jewelry
  - medicines
  - phones, portable PCs
  - spare lithium batteries, power banks, e-cigarettes
- In case of code share flight the operating carrier’s rules apply

Actual weight of the baggage

- Load control requires the actual weight of each checked baggage item (including all special baggage or other non-normal load items).
- The actual baggage weight shall be:
  - obtained at the time of baggage check-in by using calibrating scales
  - entered into DCS
  - transmitted to the load control department

Maximum single item weight

- Irrespective of the free baggage allowance one single piece of checked baggage is limited to 32 kg for handling (health) reasons
- Pieces weighing more than 32 kg must:
  - either repacked into more pieces weighing less than 32 kg each
  - or have to be sent as cargo

EXCEPTIONS: This weight limit may not be applied WCH, and some large sports equipment, subject to prior consent of HiSky is required.

Maximum dimensions
Baggage exceeding the defined maximum dimensions has to be pre-notified, as it is subject to space availability.

Two baggage allowance concepts
In general there are two standard checked baggage allowance concept

- **Weight Concept** - measured by total weight of checked baggage (shown as weight amount on ticket).
- **Piece Concept** - measured by the number of pieces of checked baggage (shown as PC on ticket). Each piece of baggage may not exceed a defined size and weight.

Baggage Reconciliation

- Baggage reconciliation shall be maintained as required, including:
  - standby passengers
  - off-airport and group check-in passengers
  - voluntary or involuntary deplaning
  - transit passengers
- Baggage that is separated from the passenger may be subject to additional security controls in accordance with local regulations
- Offload the hold baggage of any passenger who disembarks earlier than the station of arrival
- If the passenger fails to transfer for any reason, the passenger's checked baggage may be removed in accordance with local regulations

Security rules
Security measures shall be implemented for storage, handling systems and loading to ensure prevention of unauthorized access, tampering or introduction of prohibited articles into the hold baggage

- Hold baggage shall not be placed on board an aircraft unless the following measures are taken:
  - Each piece of hold baggage shall be properly marked externally with an individual baggage tag to permit identifications with relevant passenger
  - All hold baggage shall be screened according to local requirements including the detection of Dangerous Goods before being loading
  - The passenger to whom such baggage belongs shall be checked in for the flight on which is to be carried
  - Each piece of hold baggage shall be protected against unauthorized access from the point it is accepted for carriage or screened, whichever is earlier, up until it is loaded into the aircraft load. Prior to loading, hold baggage shall be held in an area of the airport to which only authorized persons have access
  - Screened hold baggage shall be kept under surveillance at all times
  - The baggage of a checked-in passenger, who did not show up for boarding or has been refused for boarding, must always be offloaded from the aircraft and not to be carried
  - Should a passenger need access to his already checked-in baggage (e.g. take out medication) such baggage must be re-screened
- Unaccompanied baggage may only be accepted in case of rush (expedite) baggage in accordance with the respective handling procedure. Rush baggage is subject to additional electronic or/and physical security control (e.g.re-screening) before being transported. Evidence has to be provided, either by a baggage manifest or any other means, confirming the identification and screening of the unaccompanied baggage
- Ensure there is no opportunity for the exchange of cabin baggage for hold baggage which may contain items to be used in a planned act of unlawful interference
- If passengers are required to personally identify their hold baggage before loading, do not load any baggage not identified
- When screening of hold baggage gives rise to suspicion regarding the contents, the local screening authority will proceed as per local regulations

2.2.2 Free checked baggage allowance

Passengers are entitled to a pre-determined baggage allowance which can vary based on the fare paid, passenger category, routing, group status or class. The free checked baggage allowance defines the certain amount of baggage, which can be checked-in without additional charge.

- It is based on the fare and the routing of the ticket and it is shown in the "Allowance" box on the ticket
- In the case of interline journey with other airline, the baggage allowance of the most significant carrier is applicable to the entire routing as per IATA Res 302
- The passenger is entitled to the free baggage allowance stated in the ticket
- A higher free baggage allowance may be applicable to certain passenger categories and to specific routings outlined in this chapter

The checked baggage allowance on HiSky regular flights is defined by Piece Concept rule.

IMPORTANT: For infants, transportation of a baby stroller (including buggies consisting of two pieces) is free of charge regardless whether being treated as checked baggage or DAA. During check-in, it is mandatory to enter a remark as PSM followed by a space and the free text "BABY STROLLER 1PC" into the passenger record in DCS, in order to receive it printed in the passenger list for revenue check purposes.

Free Checked Baggage allowance and mass:

Class of service		**Free Checked Baggage:**
Economy BASIC	A, O, G, U, E, X, P	**No free of charge** checked baggage permitted
Economy CLASSIC	V, T, Q, N, M	**No free of charge** checked baggage permitted
Economy PREMIUM	L, K, H, B	Permitted **free of charge**: 1 pc / up to **23 kg** up to 158 cm (in 3 dimensions)
Economy PREMIUM PLUS	Y, S, W, R, F, I, J	
Business	C, D	Permitted **free of charge**: 2 pcs / up to **32 kg** each up to 203 cm each (in 3 dimensions)
Children up to 2 years of age **(INF)**	All classes	Permitted **free of charge**: 1 pc / up to **10 kg** up to 115 cm (in 3 dimensions) plus 1 folding pushchair

Refer to Chapter **2.2.5 Excess baggage** for excess baggage rules and charges.

Baggage rules for interline travel
As per IATA Resolution 302, the baggage rules and charges of Most Significant Carrier (MSC) will be applied to interline itinerary (involving other carriers then HiSky) listed on a single ticket, which will be reflected on the ticket accordingly.

MSC (Most Significant Carrier) rule:
1) Journeys not covered by the U.S. or Canada Reservations, the Most Significant Carrier (MSC) is the Marketing Carrier:

- For travel between two or more Tariff Conference areas, the carrier performing carriage on the first sector that crosses from one area to another
- Exception: TC123 only, the carrier providing carriage on the first sector that crosses between TC1 and TC2.
- For travel between Tariff Conference sub-areas, the carrier performing carriage on the first sector that crosses from one sub-area to another.
- For travel within a Tariff Conference sub-area, the carrier performing carriage on the first international sector.
- For code-share flights the MSC will be the marketing airline, unless that carrier publishes a rule stipulating that it will be the operating carrier.

2) For passengers whose ultimate ticketed origin or destination is a U.S. point or Canada, involving carriers that file general rule tariffs with US DoT (Department of Transportation) and CTA (Canadian Transportation Agency), the baggage allowances and fees that apply at the beginning of a passenger's itinerary throughout his or her entire itinerary shall apply. In case of code-share flights that form part of an itinerary whose ultimate ticketed origin or destination is a U.S. or CA point, U.S./CA and foreign carriers must apply the baggage allowances and fees of the marketing carrier throughout the itinerary to the extent that they differ from those of any operating carrier.

If the Most Significant Carrier (MSC) does not publish baggage provisions for the journey concerned apply the published baggage provisions of the carrier accepting the baggage at check-in. If the carrier accepting the baggage at check-in does not publish baggage provisions for the interline journey concerned apply the published baggage provisions of each operating airline sector-by-sector.

NOTE: Baggage rules (Free Baggage Allowance and Excess Baggage Charges) for through itineraries on HiSky operated flights are determined by the baggage rules valid on first segment in each direction.

2.2.3 Standard baggage check-in

General requirements

- Based on the applicable security requirements:
  - passenger and baggage must always travel together
  - therefore, baggage must be assigned to the passenger it belongs to by issuing an individual baggage tag per passenger.
- Ensure dangerous goods signage is displayed
- Agent should be aware of items that due to their nature might contain dangerous goods.
- If applicable, ask the passenger any required security related questions
- Accept checked baggage that is appropriately packaged and labeled with passenger identification
- Review weight and pieces information for recording in the DCS and for applying appropriate fees
- Ensure the number and weight of each piece checked in baggage has been transferred automatically or manually to the load control office.

Baggage Tagging

- All old tags must be removed
- Apply appropriate destination tag and handling tags
- Place tags in an easily readable location on the bag and where they will not easily be torn off
- Follow tag instructions and do not stick glue directly to passenger baggage
- Use limited release tags as per operator policy, Chapter 2.2.3.3 Limited release baggage
- Follow HiSky procedure with respect supplementary tags on baggage items, Chapter 2.2.4.2 Baggage Tags

Baggage Destination

The baggage shall be through-labeled to one of the following points, whichever occurs first:

- the first stopover point of the passenger
- the final destination specified in the ticket including
  - any tickets issued in conjunction with this ticket
  - any separately issued tickets on the basis of an interline agreement
- the point to which the transportation was confirmed (OK in the ticket),
- the point where a change of airport is involved
- the point at which the passenger wishes to take possession of his entire checked baggage. Visa requirements shall be checked
- the connection is scheduled the same day or within 24 hours
- make sure that Minimum Connecting Time (MCT) is respected

General guidance for transfer baggage special cases:

Case	Through-labeling	Remark
Customs clearance required at the transfer point	NO	• advice the passenger to pick up the baggage at the transfer point • Refer to TIM/TIMATIC for country rules
The passenger specifically wants his baggage at a transfer point	NO	• Inform passenger about the risk of missing the connecting flight
Connecting to ground transportation (train, bus)	NO	-

Baggage through labeling

- Baggage of HiSky transfer passengers traveling with another HiSky flight must always be through checked-in till final destination.
- In order to speed up the loading and unloading it at the transfer station, all transfer baggage must be marked with TRANSFER tag.
- In case a passenger insists to check-in the baggage just to the transfer station only, handling agent should enter a remark in the DCS (relevant free text into the passenger record stating: bag checked to (destination) only on the pap request)
  NOTE: Passenger's request may be accepted only if connection time is long enough to permit pick up and re-check the baggage at the transfer point.

Restrictions for through-labeling

It is forbidden to make through check-in of passenger baggage:

- to a point that is not on the passenger's routing
- beyond the passenger's next point of stopover or, if there is no stopover, beyond the final destination designated on the ticket
- beyond a point at which the passenger wants to reclaim the baggage or any portion thereof
- beyond the point to which all applicable charges have been paid
- beyond a point at which the passenger is to transfer to a connecting flight, if that flight is scheduled to depart from an airport different from the one at which the passenger is scheduled to arrive
- if passenger's itinerary includes a transfer from any airport located on the territory of Russian Federation to any airport located on the territory of Republic of Belarus, Republic of Kazakhstan, Republic of Armenia and Kyrgystan
- in case there is no passenger and baggage interline agreement between HiSky and receiving carrier
- on separate tickets, unless subject to specific agreement between airlines

2.2.3.1 Baggage acceptance procedure

1) Ask the passenger for the number of checked baggage and carry on baggage.
2)

- Inquiry the passenger and make sure that the passenger is not carrying Dangerous Goods or forbidden items in their checked baggage and cabin baggage
  - ➢ Pay attention to the baggage of the passenger whether it is a regular bag/package or a baggage with installed lithium batteries. If the baggage is equipped with lithium batteries, act as described in Chapter 2.3.5.8 Baggage with installed lithium battery
  - ➢ Ensure that all passenger baggage does not bear any Dangerous Goods hazard labels or mark. In case any passenger baggage is marked with a dangerous goods hazard label or mark, clarify the actual contents with the passenger. Only when the baggage does not contain forbidden dangerous goods items, remove the labeling and proceed with baggage check-in.
  - ➢ Inquiry about the contents of any item where there are suspicions that it may contain Dangerous Goods and/or other restricted articles that are not permitted.
    NOTE: In case of dangerous goods / forbidden item are detected during check-in process contact the station manager / representative and act according to the procedures in Chapter 2.3.3.2
- Seek confirmation that passenger baggage was packed personally by the passenger and no articles had been placed in the baggage without his knowledge

- Seek confirmation that passenger does not have any baggage that does not belong to them and the baggage presented for check-in is personally.

3) Cabin baggage policy compliance:

- Examine the cabin baggage and ensure that its number and size do not exceed the company restrictions. Refer the passenger to cabin baggage dimensions frame, if appropriate.
- Mark the cabin baggage with a “cabin baggage” tag.
- In case the cabin baggage is not within the free carry-on baggage allowance and dimensions, the baggage has to be either repacked or checked in.
- Inform the passenger that only cabin baggage marked with “cabin baggage” tag will be accepted on board, and unmarked baggage will be denied on board.
- Inform the passenger about the airline policy with regard to cabin baggage and excessive cabin baggage.
- Apply DAA procedure, if applicable.

4) Check the ticket for final destination and have this confirmed with the passenger. Determine if it is an interline journey and act accordingly.

5) Remove old baggage tags.

6) Check if baggage is properly packed and examine it for any damages. Mark it “limited release”, if applicable.

7) Weigh all baggage. Observe free baggage allowance for checked baggage.

8) In case of excess baggage inform the passenger about payment.

- Before sending the passenger for payment, check the passenger data in DCS if the passenger has pre-prepayment of baggage.
- If no pre-paid excess baggage, direct the passenger to the ticketing counter for excess baggage payment
- If passenger does not agree to pay for excess baggage, kindly ask him/her to reduce baggage weight/pieces.

9) Enter number of pieces and **actual** baggage weight into DCS – bag tag numbers in the system must match the baggage owner’s name.

NOTE: Operations/load control must be informed about any exceptionally heavy and/or voluminous baggage (e.g. large sport equipment, instruments) and/or other non-normal or exceptional items which must be considered in the load control process.

10) Baggage tagging:

- Baggage must hold individual tags per passenger to permit identification with relevant passenger.
- Issue the tag to the final destination or to the transfer station, using the correct airport codes
- Attach it to passenger’s bag and other special purposes labels, if necessary
- If tagging baby stroller for infant, enter a remark as PSM (PSM BABY STROLLER FREE 1PC)
- In case of a code share flight, the baggage tag must show the operating carrier flight number.
- If necessary attach additional special purpose labels or tags to the baggage.
- For transfer passengers via KIV station, always make through check-in of baggage and attach “TRANSFER” tag to the through checked-in transfer baggage
- Hand over the baggage identification portion claim tag to the passenger.

11) Make sure every baggage has a name label.

2.2.3.2 Pooling of baggage

Pooling of baggage is not permitted.

EXCEPTION: It is only permitted to combine number of baggage pieces (but not the weight) of the individual allowance, exclusively for family members with the same family name traveling together, booked in one reservation.

NOTE: Combining the weight of baggage pieces is not allowed.

2.2.3.3 Limited release baggage

Limited release baggage is baggage for which the carrier assumes a limited liability, because of the conditions in which the baggage is accepted. Limited release baggage refers to:

- Excessive or oversized baggage taken away from the passenger at the gate
- Baggage which:
  - is fragile
  - is unsuitable packed
  - is damaged when presented at check-in
- Baggage/items taken away from the passenger for security reason

Handling of the limited release baggage (at acceptance)

1) Use the special limited release tag and complete the routing. If no limited release tag is available, the limited release portion of the regular baggage tag may be used.
2) Mark the reason for use
3) If used for damaged baggage, explain to the passenger that an already existing damage was marked on the tag and no liability will be taken for this damage.

- Request the passenger to sign the tag
- Affix the limited release baggage claim tag to the passenger ticket.
- Inform Load Control about number of pieces and weight of bag taken for security reason or at the gate.

Upon arrival

When a passenger claims baggage damage, the Lost and Found agent has to look for a limited release remark on the baggage tag.

2.2.4 Baggage handling

General

- The baggage room must prepare sufficient and pre-determined number of baggage carts a in accordance with the expected passenger load for the flight.
- Apply sorting and loading procedures into carts based on HiSky policy with regard to checked baggage items tagged as:
  - priority baggage
  - mobility aids or devices
  - heavy baggage
  - sporting equipment
  - transfer baggage
  - items with limited release tag
  - DAA baggage
  - items containing dangerous goods (e.g. dry ice)
  - strollers
  - standby baggage
- Once a flight has been closed for check-in, the baggage supervisor will:
  - review total pieces of baggage
  - cross check with load control on all baggage figures and request instructions for loading of the baggage on the aircraft
  - conduct baggage room sweep to ensure that there no left behind bags for respective flight

    NOTE: In case a baggage is left behind, report to Baggage Services. Appropriate messages must be sent to the down line station and arrangements made to expedite the baggage to the passenger.

Removal of checked baggage

- If instructed to remove hold checked baggage, obtain the name, tag number and number of pieces of the baggage requiring removal

- The baggage is removed and must be re-screened prior returning it to passenger services for further handling, subject to local security procedures
  NOTE: In certain countries, higher baggage screening standards may apply and must be therefore be followed.
- Always communicate with check-in/gate staff with respect to the addition or removal of any checked baggage

Connection baggage
In order to speed up unloading and loading of transfer baggage:
- Transfer baggage shall be segregated from the local baggage on board and shall be loaded in the aircraft the last into a separate net sector.
- The info about the loading position of the transfer baggage shall be mentioned in LDM.

Short connection baggage
Short connection baggage is baggage of passengers having onward connection out of a hub with a short scheduled connection time:
- Short connection baggage may be identified with the short connection tag at check-in.
- Apply the following short connection baggage procedure
  - identify all short connections and apply short connection tag to the baggage
  - handle with priority unloading and delivery to the terminal

Delivery of the baggage upon arrival:
- Baggage delivery from the aircraft to the baggage claim area at the respective terminal must be performed immediately in order to have the checked baggage available for pick up as soon as possible after disembarkation
- Priority baggage shall arrive on the baggage arrival belt before other baggage
- Wherever applicable, checked baggage shall be claimed against presentation of the baggage claim tag

2.2.4.1 Procedure at transfer stations

When checking-in transfer passengers:
- check the identification tag(s) for correct flight and destination
- check and put the correct number of pieces and weight of the transfer baggage into the DCS
- in case the baggage is not through-labeled or wrongly labeled take following steps:
  a) contact the local baggage department
  b) request them to change the baggage tag by using one of the following methods, whichever is locally applicable and/or feasible:
  - use an overlay / re-routing sticker to cover the original entry on the tag
  - issue a new baggage tag
  - request the passenger to pick up his baggage and re-check it

Security procedure at transfer point
When passengers have to collect their hold baggage during the transfer process (due to immigration or security policies of State), treat hold baggage as originating baggage
- if baggage is collected landside, submit it to screening before loading on the aircraft
- if the baggage is collected and transferred in the sterile area, re-screening may not be necessary.

Interline, transfer and connecting baggage must follow the reconciliation procedures as originating baggage as per paragraph “Baggage reconciliation” in Chapter 2.2.1.

2.2.4.2 Baggage tags

Baggage tags are documents issued for identification of checked baggage, i.e. baggage placed by the passenger under custody of the airline for transportation. A baggage tag consists of:
- A strap portion, to be attached to the baggage
- An identification portion (baggage claim tag) to be attached to the passenger's ticket

- Removable stubs, to be used for baggage reconciliation purposes

Baggage tags can be

- Automated tags
  - automatically printed by DCS
  - quality of the print shall be checked. If the quality is poor printer maintenance will be called to fix the problem
- Manual tags
  - have to be completed manually
  - use capitol letters only
  - are used for stations that do not issue automated tags or in case of DCS break down
  - it is also used for cabin baggage taken away at the gate

Security requirements

- Every piece of checked baggage must bear a baggage tag
- Un-issued baggage tags must be secured from unauthorized use

Special Purpose Tags

Special purpose tags are labels to identify special types of baggage or to point out special characteristics.

- **Limited release tag** - issued in case of unsuitable packed baggage, baggage received damaged at check-in or fragile baggage etc.
- **Priority tag** - marking baggage which must be offloaded first and segregated to be delivered with priority in the baggage claim area
- **Short connection tag** - marking short connection baggage
- **Heavy tag** - placed on baggage items over 23 kg warning handling staff of heavy item to avoid:
  - physical harm to person
  - damage to handling/sorting system
- **Transfer Tag** (connection tag):
  - used to mark the connection baggage in order to speed up the transfer
  - require segregation on loading and offloading
- **Cabin baggage** - this tag is used to mark cabin baggage which is within free cabin baggage allowance
- **Delivery at aircraft tag (DAA)** - used to mark the baggage delivered at aircraft
- **UM tag** - used to identify baggage of UMs and enable easier identification for assistance staff
- **PRM tag** - used to identify baggage of WCH passengers and enable easier identification for assistance staff

2.2.5 Excess baggage

General

- Excess baggage is that part of the baggage which is in excess of the free baggage allowance as reflected in the “bag-allowance box” in the ticket
- The transport of baggage exceeding the free baggage allowance is subject to an excess baggage charge
- Excess baggage fees per piece, overweight, or oversize are generally applied at the time of checked baggage acceptance
- Excess baggage charges are normally to be paid up to the point to which the baggage is checked-in
- Numerous pieces of baggage of a passenger will be subject of space availability. The priority is given to passengers’ baggage which is fitted in free baggage allowance
- Special service charges are applicable for transport of animals (Refer to Chapter 2.1.4.1 Pet in cabin and 2.2.6 Animals in hold)
- Calculation of the charges varies according to the applicable baggage concept:
  - **Weight concept** - Charges are calculated per kg excess baggage.
  - **Piece concept** - Charges are based on routing and piece’s number/weight/dimensions. Charges are calculated if the allowance is exceeded in:

- Number of pieces
- Dimensions
- Weight
- A combination of the above

Tolerance limit

- HiSky may tolerate a limit **up to 1 kg** in excess to the free baggage allowance on HiSky flights
- Such tolerance shall be coordinated and approved by local HiSky representative, or authorized by HiSky Ground Operations

Excess baggage identification – piece concept

- Find out the number of baggage pieces and its individual weight
- Identify the amount of excess baggage:
  - by pieces: total number of pieces minus pieces included in free baggage allowance
  - by dimensions per piece: any exceeding 158 cm (length + width + height)
- Check if an additional bag or first bag has been paid
- If no pre-payment, direct the passenger for excess baggage payment
- The weight of checked pieces of baggage cannot be combined; each piece is considered as such and charged in accordance with applicable excess baggage fees.
- In case of Code Share flights, the rules of operating carrier are applicable.

Excess baggage charges on HiSky **regular** flights:
Effective from 12 July 2024

	Economy **BASIC** A, O, G, U, E, X, P		Economy **CLASSIC** V, T, Q, N, M		Economy **PREMIUM** L, K, H, B		Economy **PREMIUM PLUS** Y, S, W, R, F, I, J		**BUSINESS** Class C, D	
1st piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to: **23 kg / 158 cm**	30 €	40 €	30 €	40 €	Free of charge		Free of charge		Free of charge	
up to: **32 kg / 158 cm**	50 €	70 €	50 €	70 €	50 €	70 €	50 €	70 €		
up to: **23 kg / 203 cm**	50 €	70 €	50 €	70 €	50 €	70 €	50 €	70 €		
up to: **32 kg / 203 cm**	50 €	70 €	50 €	70 €	50 €	70 €	50 €	70 €		
2nd piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to: **23 kg / 158 cm**	80 €	100 €	80 €	100 €	80 €	100 €	80 €	100 €	Free of charge	
up to: **32 kg / 158 cm**	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €		
up to: **23 kg / 203 cm**	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €		
up to: **32 kg / 203 cm**	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €		
3rd piece and each next										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to: **23 kg / 158 cm**	80 €	100 €	80 €	100 €	80 €	100 €	80 €	100 €	80 €	100 €
up to: **32 kg / 158 cm**	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €
up to: **23 kg / 203 cm**	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €
up to: **32 kg / 203 cm**	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €	100 €	120 €

NOTE: Large sport equipment and large bags (larger than 203 cm in 3 dimensions) will be charged **100 €** (on web) or **120 €** (at airport), regardless of any other checked baggage. Applicable for regular and charter flights.

NOTE: When baggage is not prepaid via HiSky web site/reservation, the airport fees are applied as per above table.

In case of onward HiSky flight, baggage fee is paid only once for both legs (initial HiSky flight and connecting HiSky flight).

Excess baggage charges on HiSky **charter** flights:
Effective from 01 June 2024

Checked baggage weight/size up to:	1st PC	2nd PC and each next
23kg / 158cm in 3 dimensions	FREE	100 EUR
32kg / 158cm in 3 dimensions	70 EUR	120 EUR
23kg / 203cm in 3 dimensions	70 EUR	120 EUR
32kg / 203cm in 3 dimensions	70 EUR	120 EUR

2.2.6 Animals in hold

Animals in Hold (AVIH) are transported as checked baggage in the aircraft hold. Animals transportation is restricted to domestic animals such as dogs, cats.
Transportation of animals in hold is subject to:

- Requirements laid down in the IATA Live Animals Regulations (LAR).
- Country specific regulations concerning import and export of live animals, animal age and health
- HiSky acceptance policy

HiSky does not provide AVIH service.

2.2.7 Arms and ammunitions

Carriage on board the aircraft of arms and ammunition, sport arms and ammunition by passengers and crew members is forbidden on HiSky flights.

HiSky will not accept for carriage on board the aircraft any type of weapon and ammunition, except for:

- officers and state couriers who may be authorized to carry weapons onboard in strictly performance of their duties, following airline and local security regulation/procedures
- weapons carried as cargo in aircraft cargo compartment in accordance with procedures described in HiSky Cargo Handling Manual.

Handling

- In the event a weapon or any item suspected to be a weapon is discovered, follow HiSky and local security regulation and procedures
- For handling procedures of arms and ammunition of the law enforcement officers and state couriers, apply all the procedures described in Chapter 1.5.7 Armed law enforcement officers and state couriers.

2.2.8 Wheelchairs / mobility equipment

This subchapter describes the handling of a passenger's own wheelchair/mobility equipment collapsible or battery-powered, which is:

- Checked in at check-in level
- Labeled with a regular baggage tag and carried in hold
  NOTE: Personal collapsible wheelchair or mobility equipment may be taken to the gate and Delivery at aircraft procedure is applied.

Charges

- The transport of up to 2 pieces of mobility equipment (including wheelchairs, crutches or other orthopedic devices) per PRM passenger is **free of charge**.
- Charge for additional mobility equipment: normal excess baggage rate to be applied.

There are manual powered wheelchairs and battery-powered wheelchairs.

Wheelchairs types:

WCMP - manual powered wheelchair
WCBD - wheelchairs with dry battery
WCBW - wheelchairs with wet battery
WCLB - wheelchairs with lithium battery

There are two main types of batteries used with wheelchairs/mobility aid devices.
1) Non-spillable battery:
- dry battery (including integrated battery)
- gel type battery
- wet (sealed) battery
- lithium-ion battery

2. Spillable battery
- wet battery

Acceptance conditions
For detailed definition and acceptance regulations of wheelchair/mobility aid with batteries, see Chapter 2.3.5.5.

Booking
- Passenger's own wheelchair/mobility aid must be pre-notified and confirmation shall be received in advance.
- One of the above IATA SSR code shall be used in the passenger's record for pre-notification purposes of a personal wheelchair of the passenger.
- Technical data might be required to be presented in order to determine correctly the type of the wheelchair.

General handling procedure
1) Inquire regarding the type of the wheelchair and act accordingly
- If accepting a battery powered wheelchair/mobility equipment, make sure that all acceptance requirements as described under Chapter 2.3.5.5.
- If applicable, issue NOTOC and advice pilot in command of the location of the wheelchair /mobility aid

2) Issue a regular baggage tag. Attach DAA tag, if applicable.
3) Use the special assistance label, to ensure priority treatment and a name tag. Inform the load control department of the carriage of electric mobility aids.
4) Stow and secure the wheelchair/mobility aid to prevent unintentional operation and ensure it is protected from being damaged by the movement of baggage, mail or cargo.

NOTE: Wheelchairs/mobility devices with spillable wet batteries are not accepted as baggage on HiSky flights and they have to be transported as **cargo only**.

2.2.9 Bulky / oversized baggage

Certain baggage requires, due to its size or nature, special handling. Baggage is considered bulky/oversized if the sum of its 3 dimensions exceeds 203 cm, but its weight does not exceed 32 kg. Pieces weighing more than 32 kg have to be repacked into pieces weighing no more than 32 kg each or have to be sent as cargo.

EXCEPTION: Special baggage items such as AVIH, WCH, large sports equipment may be excluded from this rule but only with prior approval of HiSky.

Due to its volume the transport of bulky baggage has to be pre-notified at time of reservation, under the SSR-code "BULK", including number of pieces, dimensions and weight. To prevent damage, bulky baggage must be packed accordingly.

NOTE: The maximum dimensions per aircraft type have to be checked in Chapter 7 of this manual.

IMPORTANT: During check-in process, load control must be advised on the acceptance for carriage of any exceptionally heavy and/or voluminous baggage (e.g. large sport equipment, instruments) and/or other non-normal or exceptional items which must be considered in the load control process.

2.2.10 Special baggage

Special baggage is regarded to sports equipment or other special baggage that may need special handling or approach during carriage.

Booking
Due to its volume and weight the number of sports equipment is restricted and must be pre-notified at time of reservation. The acceptance of items exceeding the maximum weight of 32kg and/or maximum dimensions of 158cm requires pre-authorization at any case. The transport of sports equipment is requested via the respective SSR code - SPEQ - sports equipment (type of equipment to be specified).

NOTE: the SSR-code SPEQ has to be specified by amended free text, e.g. SKI 8kg, GOLF 12kg, 170cm (170cm - sum of three dimensions), etc.

2.2.10.1 Sport Equipment

Booking
- Due to its volume and weight the number of sport equipment is restricted and:
  - must be pre-notified at time of reservation
  - and confirmed for the entire journey before departure
- The acceptance of items exceeding the maximum weight of 32kg and/or maximum dimensions of 158cm requires pre-authorization at any case.
- The transport of sports equipment is requested via the respective SSR code with details on weight and dimension:
  - SPEQ - sports equipment (type of equipment to be specified).
  - BIKE - for bicycles

Charges
- Sport equipment is included in the free baggage allowance (FBA). This means that Sport Equipment is free of additional charge if within regular baggage allowance mentioned in the ticket provided the limit for number of pieces / maximum weight / dimensions as per FBA are not exceeded
- When in excess to FBA, subject to standard applicable excess baggage charges (piece concept is applicable).
- Exception: Dimension limit of 158cm will be disregarded for ski, snowboard, golf, angling and bike equipment - only weight and piece limit will be taken into account when determining baggage excess.

Handling
- sport equipment will be presented as separate piece of checked baggage
- apply accepting conditions and special handling as per HiSky policy
- apply charges, if applicable, as per HiSky policy
- use limited release tag, if applicable
- load as per HiSky instructions described in Chapter 5 of this manual.

Ski and snowboard equipment
One set of ski or snowboard equipment consists of one snowboard or pair of skis, one pair of ski poles, one pair of ski bindings and one pair of boots. All the components of skiing equipment or snowboard equipment must be suitably packed and secured so as to prevent them from damaging other baggage.

Golf equipment
One set of golf equipment consists of one golf bag containing not more than 14 golf clubs, 12 golf balls and one pair of golf shoes. Golf clubs must be firmly secured inside the bag, in such a way as to avoid disturbances or damage when boarding or disembarking and during the flight.

Bicycles
The bicycle (non-motorized) is considered as single seat or tandem seat, touring or racing bicycle. Transportation requirements:

- Rotate the handle bar 90 degrees and tighten it in this position
- Remove the pedals
- Protect the bicycle from damage by packing it in a rigid package or a special plastic box
- Tires should be deflated.

Angling/fishing equipment
The angling equipment set consists of one tackle box, haversack or anglers' basket plus one rod, bag or box.

Other Small Sport Equipment
Sport equipment which may be considered relatively small are items which do not exceed the maximum allowed weight per item and 203 cm in three dimensions. It has to be pre-notified and confirmed in advance via SSR code - SPEQ.
The following sport items are considered as small sport equipment:

- Body boards
- Water skiing equipment
- Archery equipment
- Kite boards
- Scuba diving equipment
- Small surfboards

NOTE: For any item exceeding above maximum dimensions refer to "Large Sport Equipment" (below).

Acceptance

- For non-direct flights, confirmation from all carriers involved is necessary to be received and for the through check-in consult the applicable rules and charges of the interline carrier
- Scuba Diving equipment shall be accepted only if the oxygen bottle is empty, if pre-notified and confirmed in advance. For all acceptance rules see Chapter 2.3.5.16.
- Equipment must be suitable/properly packed in order not to damage the compartment.
- Regular baggage tag must be used

Large Sport Equipment
Large Sport Equipment - are items which may exceed normal applicable dimensions and weight of 203 cm / 32 kg. Large Sport Equipment needs pre-notification via SSR code - SPEQ and prior approval. Confirmation will be granted on case by case basis, due to size and space restrictions per aircraft type.
The following sports items are considered as large sport equipment:

- Windsurfing equipment i.e. one board, one boom, and one sail
- Hand gliders
- Large surfboards
- Pole vaulting equipment
- Large fishing rods

Acceptance

- HiSky approval is received
- For non-direct flights, confirmation from all carriers involved is necessary to be received and for the through check-in consult the applicable rules and charges of the interline carrier
- Equipment must be suitable/properly packed in order not to damage the compartment.
- Regular baggage tag must be used
- Charge as per applicable excess charges

2.2.11 Musical instruments

If musical instruments cannot be accepted in cabin due to size or weight limitations, it may be accepted as checked baggage, subject to additional recommendations and rules.

Acceptance rules as checked baggage:

- ensure the item is packed in strong/rigid package
- “Limited release” tag should be attached, and advice the passenger that airline liability is limited
- free of charge if within the regular baggage allowance according to passenger ticket
- if in excess, applicable excess baggage charges rate to be used.

If the passenger wants to take his musical instrument into the cabin of aircraft, but due to its size/weight it can be accepted as cabin baggage, the musical instrument may be accepted as “Cabin Baggage on Extra Seat” (CBBG). The service “Cabin Baggage on Extra Seat” is subject to additional charge and an additional seat shall be booked.

NOTE: Reference See also Chapter 2.1.6 Cabin Seat Baggage CBBG

2.2.12 Security baggage screening procedure

Hold baggage and cabin baggage shall be screened or searched according to local requirements, including the detection of Dangerous Goods, prior to passengers being allowed into security restricted areas and board the aircraft. If any item which is prohibited for carriage by air is found at check points, it should be retained and removed.
The following rules apply for security baggage screening:

- Hold baggage and cabin baggage shall be security screened by an electronic device
- If no electronic device is available, a physical search must be performed
- Baggage security screening is performed by local airport authorities
- All screened hold baggage has to be secured: prior to loading, hold baggage shall be held in an area of the airport where only authorized persons have access

With the aim of preventing Dangerous Goods to be placed in passenger baggage and taken on board of the aircraft, the check in staff seek confirmation from the passengers that they do not carry DG which are forbidden (see Chapter 2.5.2 Check-in Procedure).

2.2.12.1 Security removed items

Security removed items are items removed from the passenger at the security checkpoint, because carriage in the aircraft cabin is prohibited. Security removed items have to be handled in accordance with the local airport regulations.
The IATA Security Advisory Committee forbids the following objects on passengers:

- Firearms and ammunition
- Toys and other items that are realistic replicas of weapons
- Grenades, explosives, detonators, incendiary devices
- Devices that emit gas or noxious substances
- Daggers, flick knives or switch blades
- Scissors (of any kind), metal nail files
- Needles
- Liquids, Etc.

Items not permitted in hand baggage that are removed by security screening personnel may be accepted in checked baggage, provided that the item:

- is permitted to be carried in compartment and it can be suitably packed to be accepted as hold baggage
- has been security screened appropriately

Handling procedure
If the removed items are forbidden for carriage in cabin baggage and in checked baggage, such items shall be removed and confiscated. Confiscated dangerous goods shall be handled further according to the local authority procedure.
If the removed items found by security on person are allowed only as checked baggage then the passenger or the security staff takes the item back to the airline or handling agent, whichever is locally applicable.

The following actions when handling security removed items should be taken:
1) Pack the item in a bag or a security envelope
2) Mark name of the passenger, flight number and date
3) Issue a limited release tag. Label through to the final destination of the passenger
4) Enter tag number into DCS check-in record
5) Give the identification tag to the passenger
6) Inform the passenger that he can claim the envelope/bag in the baggage claim area, together with the other checked baggage

NOTE: The package shall be carried on the aircraft in a place not accessible to the passengers during the flight, on the flight on which the passenger travels.

2.3 Dangerous goods

Dangerous goods (DG) are articles and substances, which due to their chemical and/or physical characteristics are capable of posing a hazard to health and safety of the passengers and crew, to company property or other load on board or environment and which are shown in the list of dangerous goods in the IATA Dangerous Goods Regulations (DGR) or which are classified according to these regulations.
The ICAO Technical Instructions provide the basis which dangerous goods can be transported safely by air at a level of safety necessary to ensure that the aircraft or its occupants are not placed at additional risk. The provisions of IATA DGR comply fully with the ICAO Technical Instructions.
All passenger and baggage handling staff involved in handling dangerous goods shall have completed respective dangerous goods training in the requirements commensurate with their responsibilities in accordance with current edition IATA DGR and according to the requirements mentioned in Chapter 3 of this manual.
A document that contains information and provisions derived from current IATA DGR or ICAO Technical instructions, as well as the dangerous goods policies and procedures shall be accessible at locations where passengers are checked-in and boarded.

2.3.1 General Rules

The general rule is that dangerous goods are not allowed to be carried on board by passengers or crew.
Dangerous goods can be divided in two categories:

- dangerous goods that are too hazardous and therefore are forbidden to be carried under any conditions
- dangerous goods that may be accepted and safely transported under certain and specific conditions described in IATA DGR and pointed out in Chapter 2.3.4 “Provisions for DG for passengers and crew” and Chapter 2.3.5 “Dangerous goods carried under certain conditions”.

The acceptance of any luggage or items marked with dangerous goods hazard label or mark as checked-in or cabin or rush baggage is forbidden. For Dangerous Goods carried as cargo, see also current edition HiSky Cargo Handling Manual.

Forbidden Dangerous Goods
The following articles are prohibited in baggage and on one’s person and must never be accepted for carriage:

- Security type equipment such briefcases and attaché cases/cash boxes, etc. with installed alarm devices incorporating dangerous goods such as lithium batteries and/or pyrotechnic material
- Electro shock weapons
- Liquid oxygen devices
- Explosives: ammunitions, fireworks, flares, pyrotechnic material, party poppers, sparkle
- Gases (flammable, non-flammable, refrigerated, poisonous, toxic) e.g. fuel containers with camping gas or aerosols, camping stoves, gas lighter with blue flame, gas cylinders for preparation of soda water, methane gas cartridges
- Flammable liquids: lighter fuels including “blue flame”, “cigar lighter” or “Zippo lighter”, refills, paints, thinner or solvents, alcohol beverages over 70% by volume, petrol-operated equipment and tools that may have contained minimal amounts of petrol, fuel paste
- Internal combustion or fuel cell engines
- Flammable solids: “strike anywhere” matches, charcoal lighter, white gas and articles which are easily ignited, solid fuel
- Substances liable to spontaneous combustion
- Substances that on contact with water emit flammable gases
- Oxidizing substances: bleaches, stain, peroxide
- Organic peroxides e.g. hardener for fiberglass
- Poisonous (toxic) and infectious substances: infected blood, bacteria, live virus material, pesticides, insecticides
- Radioactive materials
- Corrosives: mercury, acids, alkalis and wet-cell batteries

- Disabling devices (mace, pepper, spray, etc) containing irritant or incapacitating substance
- Magnetized materials
- Other miscellaneous dangerous goods as listed in the IATA DGR: e-bikes with lithium batteries, lithium batteries over 160Wh

Information to passengers and notice measures

Passengers must be informed about dangerous goods in respect of what must not be carried aboard an aircraft, either as checked baggage or carry-on baggage. Information must be provided to passengers about the type of dangerous goods which are forbidden from transporting aboard an aircraft in text, pictorial form, electronically or verbally.

The notification system must ensure the following:

1) The information regarding dangerous goods forbidden for transportation onboard is provided to the passengers:
   - at the point of ticket purchase or if this is not practical, made available prior to issuance of boarding pass and
   - at boarding pass issuance, or when no boarding pass is issued, prior to boarding the aircraft

2) Where the ticket purchase and/or boarding pass issuance can be completed by a passenger without the involvement of another person, the passenger is required to acknowledge that the information on forbidden articles have been presented

3) Information with regard to dangerous goods forbidden for transportation shall be effectively communicated and presented:
   - at each of the places at an airport
     - where tickets and/or boarding passes are issued
     - passenger baggage is dropped off
     - in aircraft boarding areas, boarding gates
   - any other location where passengers are issued boarding passes and checked baggage are accepted (e.g. transfer desk)

Dangerous goods information should also be displayed in airport baggage claim areas. Passengers are advised periodically by public information announcements in the airports about the prohibited articles on board of aircraft.

During on-line ticket purchase, the passenger is normally provided with a text containing information on articles prohibited for carriage and it does not allow the completion of the process until the passenger acknowledges the restrictions presented. During on-line check-in process, the passenger is provided with information on articles prohibited for carriage in a pictorial/text form and it does not allow the completion of the process until the passenger confirms the restrictions presented. Implementation of the above standards is monitored by HiSky Quality Department.

Information to staff

In addition to the DGR training the check-in staff shall be provided with information on recognition of Dangerous Goods:

- general descriptions of often used items in passengers' baggage which may contain dangerous goods
- description of certain group of passengers of various professions or purpose of travel that may have items containing DG (e.g. divers, soldiers, mechanics)
- other signs and indications that dangerous goods may be present, like DG labels/markings present on the packages
- description of DGs which may be carried by passengers in accordance with IATA DGR, "Dangerous Goods carried by passengers and crew"
- description and details on "Recognition of hidden Dangerous Goods" can be found in Chapter 2.3.3.1

The Chapter 2.3 "Dangerous Goods" of this manual serves for this purpose and shall be made available to all staff involved in check-in.

Information to pilot-in-command
When required as per Dangerous Goods Provisions for Passengers and Crew, the pilot-in-command must be informed about the presence and location of the dangerous good/item on board by means of NOTOC or CLI and a remark on the load sheet.

1) Passenger handling staff shall communicate information to load planning to advise:
- the details of the item accepted, e.g. oxygen, mercury barometer, etc.
- the name of the passenger and seat number
- if the item is being carried in the cabin or if it will be loaded in the cargo hold

2) Load planning personnel must:
- insert a free text supplementary information (SI) item on the loadsheet and LDM message about the details of the item and passenger name and the loading location for the items loaded in the cargo hold
- communicate to ramp the required loading location for items loaded in the cargo hold

2.3.2 Limitations

Some dangerous goods are too dangerous to be carried by aircraft, others may be carried on cargo aircraft and some are acceptable on both cargo and passenger aircraft. Certain items are defined as strictly forbidden, others are permitted under specific transport conditions specified in the Dangerous Goods Provisions for passengers and crew, like:
- the approval of the operator is required
- permitted in or as checked baggage
- permitted in or as cabin baggage or on one's person
- the pilot-in-command must be informed

The transport of Dangerous Goods is limited to those article and substances mentioned in the IATA DGR and shall be accepted for carriage only in accordance with IATA DGR provisions and instructions. 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.

Dangerous Goods carried with operator's approval
Where required by Dangerous Goods Provisions for passengers and crew, the approval of the operator (reference Chapter 2.3.4), means that the operating carrier has to approve the transport before acceptance.
- All requests for approval for transportation of a certain item of Dangerous Goods for which the operator approval is necessary shall be addressed to HiSky Ground Operation Department at: ground.ops@hisky.aero at least 72 h prior departure.
- Manufacturer's documentations or technical description sheet might be needed to be consulted before the approval is granted.
- Requests are reviewed and approved individually by the respective department in coordination with airline cargo manager and safety department, provided all limitations and conditions have been observed. When approval is granted, a relevant notice, containing the type of DG item and approval for its transportation shall be entered in passenger record PNR via existing SSR codes and OSI remarks.
- Ground Operation Department will inform all relevant handling personnel of the departure station using all accessible means of information (e.g. e-mail, SITA etc) in duly time before flight departure, about the positive decision to grant the operator's approval for transportation of certain dangerous goods that need prior approval of the carrier.
- At the time of check-in/bag acceptance proceed as follows:
  - check if the approval is included in the PNR already or was sent to you by mail
  - if yes, check if all transport conditions are fulfilled as approved
  - if not, check the respective transport conditions "Dangerous Goods Provisions for passenger and crew" and obligatory contact the operator for approval providing relevant information about the item
  - if no approval is received, DG shall not be accepted

IMPORTANT: Dangerous goods requiring operator's approval will be accepted for carriage only if approval from HiSky was granted. If no operator's approval, the DG item must not be accepted for carriage, unless it is possible to check with the operator and receive approval during check-in. In case the operator approval is not possible to receive, such DG shall not be accepted.

Code-Share flights or interlining carrier

In case of code share flights or interlining with other carriers, the approval of the respective operating/interlining carrier shall be requested and obtained for the transportation of the baggage falling into the category of dangerous goods by sending all relevant requests with details about the item to all operating carriers involved in the carriage. The passenger must be advised to obtain the approval of all operating carriers that participates to the transportation in advance.

2.3.3 Dangerous goods detection procedure

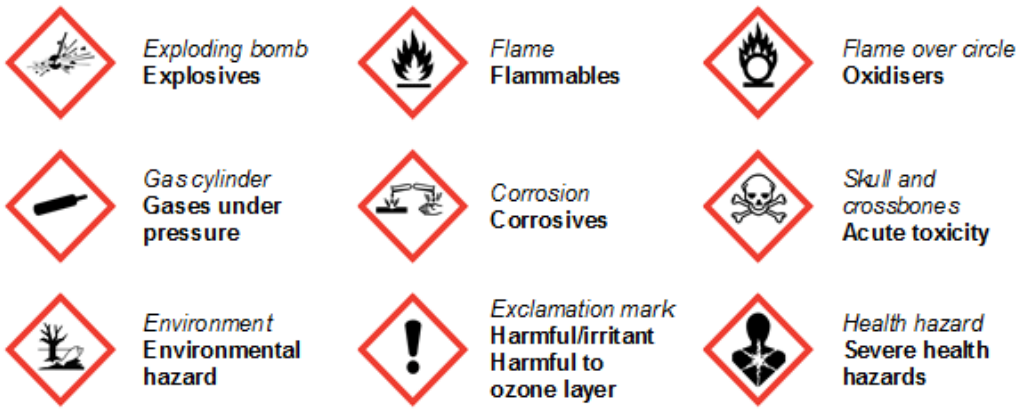
2.3.3.1 Check-in staff duties

Passengers do use articles and substances in their everyday work or life and do not recognize the hidden hazards contained in their luggage.

Handling instructions on recognition of hidden Dangerous Goods

Handling personnel shall pay special attention at check-in and boarding on indications for the presence of hidden Dangerous Goods which could be with:

- certain groups of passengers and their reason for travel
  - passengers with backpacks or camping equipment may carry gas stoves, flares, matches etc
  - passengers traveling for diving purposes
  - passengers traveling before New Year holiday (may carry fireworks, torches, lighters)
- passengers carrying certain pieces of baggage
  - automobile parts, electrical equipment, household goods, medical suppliers, repair kits, tools
- passengers having various professions like
  - military personnel (arms, ammunition)
  - painters (baggage may contain paints – which are flammable)
  - photographic artists (baggage may contain corrosive substances)
  - media or film crew (baggage may contain pyrotechnic devices, spare lithium batteries)
  - mechanics or engineers with different tools/instruments which may contain lithium or fuel cells
  - sportsmen carrying various sporting equipment (sporting arms, diving equipment, etc.)
  - seamen with tools/instruments
- other signs and indications like
  - a package that has visible frost or is very cold to the touch may contain dry ice
  - a stained or wet package may indicate spillage
  - any odours which may indicate a spillage or a leakage of a substance
  - packages generating smoke or fumes
  - exposed wires protruding from the package could also be considered threatening
  - packages with pictures of chain saws, lawn mowers, camping stoves, generators as the contents could have fuel residues
  - packages making noise (hissing, whistling, vibrating, ticking, or having a DG label)
  - a package or a reused package having dangerous goods marking or labels
  - hazard pictograms on the packages



Passenger handling staff duties

As dangerous goods cannot always be easily identified, it is essentially that awareness and vigilance are maintained at all times when examining or accepting baggage, these includes during check-in and boarding as well.

1) Check-in staff must ask directly the passengers about DG in baggage and shall seek confirmation that passengers are not carrying any dangerous goods in checked and/or cabin baggage that are forbidden or restricted.

2. Check-in staff shall ensure that passenger baggage does not bear any DG labels or marking.

- in case any passenger baggage is marked with a dangerous goods hazard label or mark, clarify the actual contents with the passenger. Only when the baggage does not contain forbidden DG items, remove the labeling and proceed with baggage check- in.
- baggage/package containing a DG hazard label/marking will not be accepted

3) Check-in staff shall be aware of the commonly carried items and shall question the passenger about the contents of any item where there are suspicious and signs that it may contain dangerous goods that are not permitted, like:

- passengers shall be asked about the portable electronic devices and spare batteries carried in their baggage and shall be advised how to pack
- backpackers shall be asked pro-actively about camping stoves
- passengers with diving equipment shall be asked about underwater torches or diving bottles
- hunters about ammunition
- other indications and signs - described also above in this Chapter “Handling instructions on recognition of hidden Dangerous Goods”

NOTE: If any item or passenger declaration raises suspicion regarding the content of DG, the check-in staff shall request the item for a visual check on markings or labels in order to identify if the item can be or not classified as DG and act accordingly.

4) Check-in staff shall alert passengers during check-in and boarding:

- that certain Dangerous Goods items - lithium batteries, power banks, e-cigarettes, etc
  - ➢ are prohibited in hold baggage, and
  - ➢ must removed from cabin baggage, when cabin baggage cannot be accommodated in the passenger aircraft cabin and from DAA baggage as well
- that damaged or recalled lithium batteries are forbidden for carriage in any baggage
- that portable electronic devices placed in checked baggage
  - ➢ must be completely switched off (not in sleep mode) and effectively protected from accidental activation
  - ➢ must be placed in protective packaging (e.g. rigid suitcase) and the clothing can serve as cushioning material to prevent movement

Confiscated dangerous goods

In case a passenger has an item in the carry on baggage which is not allowed due to the IATA DGR it must be removed at security check point. If any forbidden dangerous goods are detected in checked baggage such items shall be refused for carriage. The confiscated or refused dangerous goods shall be handled further according to the local authority’s established procedure.

2.3.3.2 Dangerous goods occurrences

All occurrences in connection with dangerous goods must be reported, so that an investigation by the operator and relevant authorities can establish the cause and corrective action can be taken. The passenger handling staff shall be familiar with the local procedures (who reports to whom, reporting forms) and relevant emergency contacts.

Dangerous goods occurrences include:

- **dangerous goods accidents** - a dangerous goods accident is defined as 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
- **dangerous goods incidents** - a dangerous goods incident is defined as 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
- **un-/mis-declared dangerous goods** - means any occasion when undeclared or mis-declared dangerous goods are discovered in baggage, cargo or mail.

Handling dangerous goods occurrences
In case of any dangerous goods incident/accident with DG in baggage or in case of undeclared/mis-declared dangerous good item is discovered in checked baggage or unchecked baggage or in case of any dangerous goods leakage, the following actions shall be taken:

- the processing of the baggage must be stopped until the content is clear
- do not touch damaged or leaking baggage, until the nature of the hazard is known and protective measures are taken, see Chapter 2.3.3.3 Emergency response chart and procedures
- necessary action shall be taken according to the local station DG emergency response procedure
- the occurrence must be reported to the supervisor, HiSky and to the appropriate Authority of the state
- the prohibited dangerous goods item detected in the baggage or on person shall not be permitted to travel

Reporting of Dangerous Goods occurrences
Refer to Chapter 5.9.2.7 Reporting of dangerous goods occurrences

2.3.3.3 Emergency response chart and procedures

The organizations responsible for the salvage of DG (fire brigade, technical and medical institution) must be informed immediately as locally agreed between the responsible manager of the station, handling agent and the authorities. The passenger handling staff shall be familiar with the local procedures (who reports to whom, reporting forms) and relevant emergency contacts.

- the respective telephones numbers must be shown on the posters Dangerous Goods Initial Emergency Response in case of damaged/leaking DG
- this poster must be clearly visible in the all ground handling operations offices, cargo offices and warehouses

Emergency procedure must be available wherever dangerous goods are handled. The general procedure to be followed during a DG incident comprises the following:

- notify immediate supervisor who may seek professional assistance
- identify the dangerous goods if safe to do so
- where safe to do, isolate the package by removing other packages or property
- avoid contact with contents of the package
- if the contents come in contact with the body or clothes then
  - wash off the body with plenty of water
  - remove the contaminated clothing
  - do not eat or smoke
  - keep hands away from eyes, mouth and nose

  - seek medical assistance
- staff involved in such incidents should stay on site until their names are noted or officially cleared
- the appropriate authorities and airline departments must be notified as per instructions from Chapter 2.3.3.2 Dangerous Goods Occurrences

For Emergency response chart refer to Chapter 5.9.2.6 Necessary actions in case of compartment contamination.

2.3.4 Provisions for DG for passengers and crew

Passengers and crew may have items in their baggage which can be considered dangerous goods. Dangerous goods must not be carried in or as passenger or crew checked or carry-on baggage, except as specified in table below based on current edition IATA DGR.

NOTE: When reference is made to specific IATA DGR sub-chapters, these details are provided in this manual, further in Chapter 2.3.5.

	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(s) is required
Alcoholic beverages, when in retail packaging, 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 5l.	NO	YES	YES	NO
Ammunition, securely packaged (in Division 1.4S, UN 0012 or UN 0014 only) in quantities not exceeding 5kg (11lb) 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.	NO*	NO*	NO*	NO*
Avalanche rescue backpack, one (1) per person, containing a cartridge of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing not more than 200mg net of Div. 1.4.S. 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. *Avalanche rescue backpack containing a pyrotechnic trigger mechanism is not permitted for carriage.	YES*	YES*	YES*	NO
Baggage with installed lithium batteries non-removable batteries **exceeding** 0.3g lithium metal or 2.7 Wh	FORBIDDEN			
Baggage with installed lithium batteries: - **non-removable batteries:** batteries must contain no more 0.3g lithium metal or for lithium ion must not exceed 2.7 Wh. **NOTE:** only lithium button cells battery allowed - **removable batteries:** batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin (see GOM 2.3.5.8)	NO	YES	YES	NO
Batteries, spare/loose, including lithium metal or lithium ion cells or batteries, for portable electronic devices must be carried in carry on baggage only. For lithium metal batteries the lithium metal content must not exceed 2 g for lithium ion batteries the Watt-hour rating must not exceed 100 Wh. 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. Each person is limited to maximum of 20 spare batteries. *The operator may approve the carriage of more than 20 batteries	NO*	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty tank and/or fuel container (see 2.3.2.5 IATA DGR or GOM 2.3.5.1)	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. IATA DGR or GOM 2.3.5.9)	YES	YES	YES	NO
Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are prohibited on the person, in checked and carry-on baggage.	FORBIDDEN			

	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(s) is required
Dry Ice (carbon dioxide, solid), in quantities not exceeding 2.5 kg per person when used to pack perishable 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 of dry ice.	YES	YES	YES	NO
Electronic cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries, must be individually protected to prevent accidental activation	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 cell containing fuel, powering portable electronic devices (e.g. cameras, cellular phones, laptop computers, and camcorders). See 2.3.5.10. IATA DGR or GOM 2.3.5.6.	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices, See 2.3.5.10. IATA DGR or GOM 2.3.5.6.	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 safety device such as a life jacket or vest. Not more than one (1) device per passenger, and up to two (2) spare small cartridges per passenger, not more than four (4) cartridges up to 50ml water capacity for other devices. (see 2.3.4.2 IATA DGR or GOM 2.3.5.4)	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 curlers containing hydrocarbon gas, up to one 1 per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. These hair curlers must not be used on board the aircraft at any time. Gas refills for such curlers are not permitted in checked or carry-on baggage.	NO	YES	YES	NO
Heat producing articles such as underwater torches (diving lamps) and soldering irons, see 2.3.4.6 IATA DGR or GOM 2.3.5.11.	YES	YES	YES	NO
Insulated packaging containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material containing only non-dangerous goods, see GOM 2.3.5.10.	NO	YES	YES	NO
Internal combustion or fuel cell engines, must meet A70, see 2.3.5.15 IATA DGR	NO	NO*	NO	NO
Lithium Batteries: Security type equipment containing lithium batteries (see 2.3.2.6 IATA DGR)	NO*	NO*	NO	NO
Lithium Batteries: Portable electronic devices (PED) containing lithium metal or lithium ion cells or batteries, including medical devices such as portable oxygen concentrator (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets, when carried by passengers or crew for personal use(see 2.3.5.9 IATA DGR or PHM 10.5.6). For lithium metal batteries the lithium metal content must not exceed 2g, and for lithium ion batteries the What-hour rating must not 100 Wh. Devices in checked baggage must be switched off and must be protected from damage. Each person is limited to a maximum of 15 PED. Baggage equipped with lithium battery, other than lithium button cells, the battery must be removable. If offered as checked baggage, the battery must be removed and carried in the cabin. *The operator may approve the carriage of more than 15 PED.	NO*	YES	YES	NO
Lithium batteries , spare/loose, including power banks, see → **Batterries, 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 content exceeding 2g but not exceeding 8g. Devices in checked baggage must be 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 portable medical electronic devices (PMED) or with a lithium content exceeding 2 g but not exceeding 8g for PMED only. Maximum of two spares batteries in carry- on baggage only. These batteries must be individually protected to prevent short circuits.	YES	NO	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(s) is required				
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.	NO	ON ONE’S PERSON		NO
Mobility Aids: Battery powered wheelchairs or other similar mobility devices **with spillable batteries** (see 2.3.2.2 IATA DGR).	NO*	NO*	NO*	NO*
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices **with non-spillable wet batteries or with batteries which comply with Special Provisions A123 or A199** (see details 2.3.2.2 IATA DGR or GOM 2.3.5.5.)	YES	YES	NO	YES
Mobility Aids Battery powered wheelchairs or other similar mobility devices **with lithium batteries (not removable)** (see 2.3.2.4. IATA DGR or GOM 2.3.5.5.)	YES	YES	NO	YES
Mobility Aids: Battery powered wheelchair or other similar mobility aid **with lithium ion batteries (collapsible)**, lithium-ion battery must be removed and carried in the cabin (see 2.3.2.4 (d) IATA DGR or GOM 2.3.5.5.)	YES	NO	YES	YES
Non-radioactive medicinal or toilet articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol.	NO	YES	YES	NO
Non-flammable, non-toxic aerosol in Division 2.2 with no subsidiary risk, for sporting or home use. The total net quantity of non-radioactive medicinal or toiletry articles and non-flammable, non-toxic aerosols in Division 2.2, must not exceed 2 kg (4.4 lb) or 2 L (2 qt), and the net quantity of each single article must not exceed 0.5 kg (1 lb) or 0.5 L (1 pt). Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.	NO	YES	NO	NO
Oxygen or air, gaseous, cylinders required for medical use. The cylinder must not exceed 5 kg gross. **NOTE:** Liquid oxygen systems are forbidden for transport.	NO*	NO*	NO*	NO*
Permeation devices, must meet A41(see 2.3.5.16 IATA DGR or GOM 2.3.5.16.	NO	YES	NO	NO
Portable electronic device containing non-spillable batteries, batteries must meet A67 and must be 12V or less and 100Wh or less. Maximum: 2 spare batteries may be carried (see details 2.3.5.13 IATA DGR or GOM 2.3.5.6.)	NO	YES	YES	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 attaché cases, cash boxes, etc. incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, 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 2.3.5.14 IATA DGR or GOM 2.3.5.15.)	NO	YES	YES	NO
Thermometer, medical or clinical which contains mercury, one (1) per passenger 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 IATA DGR or GOM 2.3.5.14)	YES	NO	YES	YES

HiSky does not accept for carriage in any baggage:

- Ammunition, see also Chapter 2.2.7.
- Avalanche rescue backpack containing a pyrotechnic trigger mechanism are not permitted for carriage.
- Internal combustion or fuel cell engines being carried separately or incorporated into a machine are not permitted for carriage.
- Wheelchairs/mobility devices with spillable wet batteries are not accepted for carriage as baggage. It may be carried as cargo only.
- Personal Oxygen Cylinders
- Security type equipment containing lithium batteries

  NOTE: Lithium ion batteries, lithium metal batteries or power banks without any clear marks of the What-hour or lithium metal content or where the Watt-hour rating can’t be calculated shall not be accepted.

2.3.5 Dangerous Goods carried under certain conditions

Passenger and crew may carry items in their baggage which can be considered dangerous Goods. Some baggage falling into the category of dangerous goods may be carried under certain conditions. Such items are outlined in this topic.

2.3.5.1 Camping stoves and fuel containers

Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container may be accepted for carriage provided:

- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	NO
The commander must be informed on the location	NO

- The camping stove and/or fuel tank/container must be completely drained of all liquid fuel
- Action has been taken to nullify the danger
  - the empty fuel tank and/or container must be allowed to drain at least 1 hour
  - the fuel tank and/or container must then be left uncapped for a minimum of 6 hour to allow any residual fuel to evaporate

  NOTE: alternative methods, such as adding cooking oil to the fuel tank and/or container to elevate the flash point of any residual liquid above the flash point of flammable liquid and then emptying the fuel tank and/or container are acceptable.
- The cap of the fuel tank/container has to be
  - securely fastened and wrapped in a absorbent material such as a paper towel and
  - placed in a polyethylene or equivalent bag
- The top of the bag must be sealed or gathered and closed with an elastic band or twine

  NOTE: In order to ensure that no vapors or fuel residue are left behind, an authorized company should perform the cleaning and provide a relevant certificate to be presented.

2.3.5.2 Carbon Dioxide, solid (Dry Ice)

Carbon Dioxide, solid Dry Ice used to pack perishable that are not subject to the IATA DGR. Dry Ice may be accepted for carriage provided:

- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

- Total net quantity per person is maximum 2,5 kg: the limit is for combined amount of dry ice in carry-on and checked baggage
- The package must permit the release of carbon dioxide gas
- Each piece of checked baggage containing dry ice must be marked with “Carbon dioxide solid” or “Dry Ice” and with net weight of dry ice or an indication that the net weight is 2.5kg or less

2.3.5.3 Electronic simulated smoking material / e-cigarettes

- Electronic simulated smoking materials like e-cigarettes, e-pipes, e-cigars are devices that mime smoking by producing a heated vapor which resembles smoke
- As they are battery powered, mostly by lithium batteries, these materials are regarded electronic devices
- Due to the high risk of fire that could be caused by accidental activation, the transport of electronic simulated smoking material is permitted in cabin baggage only
- the device shall remain stored all times
- the use onboard is strictly forbidden
- Recharging these on board the aircraft is not permitted

- Acceptance conditions of the spare batteries must be met, see paragraph “Lithium Batteries” in this chapter
- When DAA procedure is applied for baggage or when cabin baggage is placed in hold due to space limit, ensure that passengers take out from delivery at aircraft baggage the e-cigarettes and take them in cabin
- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	NO
Cabin Baggage	YES
The commander must be informed on the location	NO

2.3.5.4 Small Non-flammable Gas Cartridges Fitted into Devices

- Definition: small cartridges fitted into a self-inflating safety device such as a life-jacket or vest
- No more than one personal safety device per person
- the personal safety device must be packed in such a manner that it cannot be accidently activated
- Limited to carbon dioxide or other suitable gas in Division 2.2 IATA DGR, without a subsidiary risk
- Cartridge(s) must be for inflation purposes
- The device must be fitted with no more than two small cartridges; and
- Not more than two spare cartridges
- Other devices:
  - no more than four small cartridges of carbon dioxide or other suitable gas in Division 2.2 IATA DGR, without a subsidiary risk, per person;
  - the water capacity of each cartridge must not exceed 50 mL.

  NOTE: For carbon dioxide a gas cartridge with a water capacity of 50 mL is equivalent to a 28g cartridge
- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

2.3.5.5 Wheelchairs/mobility aids with batteries

Wheelchairs/mobility devices with spillable wet batteries are not accepted for carriage as baggage on HiSky flights. It may be carried as cargo only.

Wheelchairs/mobility aids with non-spillable wet batteries or batteries complying with special provisions A123 or A199 - WCBD.

- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	NO
The commander must be informed on the location	YES

These wheelchairs/mobility aids may be accepted as checked baggage provided IATA DGR provisions and instructions are followed:

- The approval of the operator is granted
- Non-spillable batteries must comply with Special Provisions A67 or the vibration and pressure tests of Packing Instructions 872 IATA DGR
- The battery terminals must be insulated to prevent from short circuits, e.g. by being enclosed within a battery container
- The battery is securely attached to the wheelchair or mobility aid
- Electrical circuits have to be inhibited
- the wheelchair or mobility aids
  - shall be carried in such a manner so as to prevent unintentional operation, and

  - must be secured against movement and protected from being damaged by the movement of baggage, mail, cargo
- Where the wheelchair/mobility aid is designed to allow its battery to be removed by the user
  - the battery must be removed → the wheelchair may then be carried as checked baggage without restriction
  - the removed battery must be carried in strong rigid packaging which must be carried in cargo compartment
  - the battery must be protected from short circuit and terminals must be insulated
  - the commander must be informed on the location of the wheelchair with the battery or of the packed battery by means of NOTOC (Notification to Captain) or CLI (Captain Load Information) and a remark on the load sheet should be entered

Provision A123
This entry applies to Batteries, electric storage, not otherwise listed in Subsection 4.2 – List of Dangerous Goods. Examples of such batteries are: alkali-manganese, zinc-carbon and nickel-cadmium batteries. Any electrical battery or battery powered device, equipment or vehicle having the potential of a dangerous evolution of heat must be prepared for transport so as to prevent:

- a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and
- accidental activation.

Provision A199
Nickel-metal hydride batteries or nickel-metal hydride battery-powered devices, equipment or vehicles having the potential of a dangerous evolution of heat are not subject to these Regulations provided they are prepared for transport so as to prevent:

- a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and
- unintentional activation.

Wheelchairs/mobility aids with lithium batteries - <u>WCLB</u>

- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	NO*
The commander must be informed on the location	YES

* **<u>NOTE:</u>** the removed lithium battery must be carried in cabin

Wheelchairs/mobility aids with lithium batteries (WCLB) may be accepted as checked baggage, provided IATA DGR provisions and instructions are followed:

- the approval of the operator is granted
- the acceptance conditions of the lithium batteries are met, see further in this Chapter “Lithium Batteries”
- the batteries must be of type which meets the requirements of each test in the UN Manual of tests and criteria, Part III, section 38.3
- if the battery can be removed by the user, ask to be removed - the removed battery must be carried in cabin
- handling personnel shall ensure that:
  - the battery terminals are protected from short circuits e.g.by being enclosed within a battery container
  - the battery is securely attached to the wheelchair/mobility aid
  - electrical circuits have to be inhibited
- the wheelchair or mobility aid
  - shall be carried in such a manner so as to prevent unintentional activation, and
  - must be secured against movement in the cargo hold and protected from being damaged by the movement of baggage, mail, stores or cargo
- if the wheelchair is collapsible and it is designed to allow its battery to be removed by the user

- then the battery must be removed and in this case the wheelchair may be carried in hold without restrictions
- the removed battery must be protected from short circuit by insulating the terminals, by taping over the exposed terminals
- the removed batteries must be protected from damage by placing each battery in a protective pouch and the battery must be carried in the passenger cabin
- removal of the battery from the device must be performed by following the instructions of the manufacturer or device owner
- the battery must not exceed 300Wh for devices with 1 battery or for a device that is fitted with 2 batteries, each battery must not exceed 160 Wh
- a maximum of one spare battery not exceeding 300Wh or two spares, each not exceeding 160Wh, may be carried

- the commander must be informed by means of NOTOC (Notification to Captain) or CLI (Captain Load Information) about the location of:
  - the wheelchair/mobility aid with installed battery, or
  - the lithium battery when removed and carried in cabin

2.3.5.6 Portable Electronic Devices and Medical Devices

Portable electronic device (PED) include

- consumer device as e.g. cameras, mobile phones, laptops and tablets and
- portable medical devices (PMD) such as portable oxygen concentrator

PEDs may contain: lithium metal or lithium alloy batteries, lithium iron cells/batteries, fuel cells, or non-spillable batteries

Portable Electronic Devices with lithium batteries
Portable electronic devices and medical devices for personal use containing lithium metal/alloy or lithium batteries may be accepted under the following conditions:

- Portable electronic devices: PEDs should be preferably carried in passenger cabin.
  - Identify the power capacity of the lithium battery before accepting for carriage any PED
  - PEDs containing lithium batteries up to 100 Wh rating or 2g lithium content
    - are permitted without operator's approval
    - devices may be carried in checked or carry-on baggage
    - each person is limited to a maximum of 15 PEDs (this includes also tooth brush, razor, alarm clocks, watch, etc. any device containing lithium battery)
  - Electronic devices containing lithium batteries above 100Wh for PED or over 2g lithium content for PMD only
    - require the operator's approval
    - PEDs with lithium battery rate above 160Wh and PMDs with lithium content over 8g are forbidden for transportation
  - Handling of PEDs when carried in checked baggage:
    - must be completely switched off (not in sleep or hibernation mode)
    - measures must be taken to prevent unintentional activation by taping the activation switch, as well any application alarms or pre-set configuration that may activate the device has to be to disabled or deactivated
    - must not be packed in same bag with flammable content (e.g.perfume)
    - must be protected from damage (suitale packaging, using rigid bag and using cushioning materials e.g.clothes)
    - each PED should be separated from each other e,g, by clothing
    - if possible, ask the passenger to remove the battery and take it in cabin
  - follow also the acceptance conditions of the lithium batteries defined in the chapter 2.3.5.7 "Lithium batteries"
- Electronic cigarettes (including e-cigars, e-pipes, other personal vaporizers) are permitted in cabin baggage only.
- Electronic-bikes are not permitted for transport in any baggage due to safety risk of the batteries

- Small electric vehicles powered by lithium batteries: like hoveboards, balance wheels, segways, airwheels, balance wheels, electric skateboard, electrically powered scooters, but not limited to only these, are not permitted for transport in any baggage under any circumstances due to related safety risk of the batteries

Devices with fuel cells

Fuel cells – and spare fuel cartridges, used to power portable electronic devices may be accepted provided the following:

- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	NO
Cabin Baggage	YES
The commander must be informed on the location	NO

- Fuel cell and fuel cell cartridge may only contain flammable liquids, corrosive substances, liquefied flammable gas, water-reactive substances or hydrogen in metal hydride
- Maximum 2 fuel cell or fuel cartridge per person allowed
- Refueling of fuel cells on board an aircraft is not permitted except that the installation of a spare cartridge is allowed
- The maximum quantity of fuel in any fuel cell or fuel cell cartridge must not exceed:
  - for liquids 200 mL; for solids 200g
  - for liquefied gases, 120 mL for non metallic fuel cells or fuel cells cartridges or 200 ml for metal fuel cells or fuel cell cartridges - for hydrogen in metal hydride the fuel cell cartridges must have water capacity of 120 ml or less
- Each fuel cell or fuel cell cartridge
  - must conform to IEC 62282-6-1 Ed.1;
  - must be marked with a manufacturer's certification that it conforms to the specification – in addition each fuel cell must be marked with the maximum quantity and type of fuel in the cartridge
- No more than 2 spare fuel cell cartridges may be carried in checked baggage or carry-on baggage or on the person
- Fuel cell containing fuel are permitted in carry-on baggage only
- Interaction between fuel cells and integrated batteries in a device must conform to IEC 62282-6-1 Ed.1
  NOTE: fuel cells whose sole function is to charge a battery in the device are not permitted
- Fuel cell must be of type that will not charge batteries when the portable electronic device is not in use and must be durably marked by the manufacturer "APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY"
- English should be the language for the marking above, in addition to the languages required by the State of Origin
- Fuel cell cartridges, spare, may be carried in checked baggage or carry-on baggage - max 2 per person

Also refer to IATA DGR: 2.3.5.10 – Portable Electronic Devices containing Fuel Cell Systems

Electronic equipment containing non-spillable batteries

Electronic equipment containing non-spillable batteries (except lithium batteries) may be accepted provided the following:

- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

- Packaging:
  - special provision A67 must be met, see details IATA DGR
  - must not contain any free or unabsorbed liquid
  - maximum 2 spare

- voltage of each battery must not exceed 12V and watt-hour rating must not exceed 100Wh
- the device must either be protected from inadvertent activation or the battery must be disconnected and the battery terminals insulated
- each spare batteries must be protected from short circuit by insulation of the battery terminals

2.3.5.7 Lithium Batteries

The transport of lithium metal or alloy or lithium ion batteries is subject to specific restrictions. Whether a lithium battery can be transported on board a passenger aircraft or not, depends on

- its configuration - contained in equipment or spares
- its power - watt hour (Wh) rating for rechargeable batteries and lithium content (LC) for nonchargeable batteries

Spare lithium batteries and/or power banks: (power banks are considered spare batteries)

- **up to 100Wh** rating or 2g lithium content
  - are permitted without operator's approval
  - must be carried in carry-on baggage only
- **above 100Wh** rating or 2g lithium content
  - require the operator's approval
  - must be carried in carry-on baggage only
- **above 160Wh** rating – forbidden for transportation
- damaged or recalled lithium batteries **must not be accepted** for carriage

NOTE: Lithium ion batteries, lithium metal batteries or power banks without any clear marks of the Watt-hour or lithium metal content or where the Watt-hour rating can't be calculated shall not be accepted.

Acceptance procedure and measures to be taken at check-in

When accepting for carriage lithium batteries and/or PEDs with lithium batteries the following steps must be observed:

1) Clarify whether it is a portable electronic consumer device or a medical device or a baggage with installed lithium battery. For baggage with installed lithium battery check also Chapter 2.3.5.8 "Baggage with installed lithium battery"

2) Check the configuration and find out whether the battery is contained in the equipment or carried as spare battery for the device

3) Find out if the battery is rechargeable (lithium ion) or non-rechargeable (lithium metal)

4) Identify the power of the battery

- in case of lithium ion battery check the watt hour (Wh) rate
- in case of lithium metal battery check the lithium content (g)
- some devices do not show the what-hour (Wh) rating but only milli Ampere-hours(mAh) or Ampere-hours (Ah): in order to convert mAh or Ah in Wh, use below formula:

mAh * V / 1000 = Wh or Ah * V = Wh

NOTE: passengers may not know the battery type and information provided by them might be wrong thus the handling staff shall check and identify the type of battery personally if necessary

5) The table further in this Chapter will assist to identify if the battery can be accepted and under which conditions

6) Spare batteries and power banks must be carried in cabin baggage only

- carriage of spare batteries in checked baggage or DAA baggage is forbidden
- must be individually protected to prevent short circuits and damage by placement in original retail packaging separately or otherwise insulating terminals: by taping over the terminals or placing in a separate plastic bag

7) Batteries contained in PEDs (laptops, cameras, mobile phones, tablets or medical devices), when carried in checked baggage:

- the PEDs must be switched off (not in sleep mode)
- measures must be taken to prevent unintentional activation by taping the activation switch and protect from damage (packed in rigid suitcase, using cushioning materials e.g. clothes)

8) When DAA procedure is applied for baggage or when carry-on baggage is placed in hold due to space limit, advise and ensure that passengers take out from delivery at aircraft baggage all spare batteries and e-cigarettes and take them in cabin

Summary table of acceptance conditions:

Wh or LC	Configuration	Carry-on baggage	Checked and DAA baggage	On one's person	Operator Approval
≤ 100Wh or 2g for personal use	In equipment	YES	YES	YES	NO
	Spares	YES	NO	YES	
>100Wh to ≤ 160 Wh	In equipment	YES	YES	YES	YES
	Spares (max 2)	YES	NO	YES	
Medical electronic devices only >100Wh to ≤ 160 Wh and >2g to ≤ 8g	In equipment	YES	YES	YES	YES
	Spares (max 2)	YES	NO	YES	
>160Wh	Not permitted				

Lithium Batteries for wheelchairs/mobility aids:

- the pilot in command must be notified on the location of the battery
- if the wheelchair or mobility device is designed to allow its battery to be removed by the user the battery must be removed. The wheelchair may then be carried as checked baggage without restrictions.

Wh or LC	Configuration	Carry-on baggage	Checked and DAA baggage	On one's person	Operator Approval
Either 1 battery max up to 300 Wh **or** 2 batteries max up to 160Wh each	In equipment	NO	YES	NO	YES
	Removed from wheelchair	YES	NO	NO	
	Spares	YES	NO	NO	

Samples of batteries:

SMALL lithium batteries and cells contained in: - watches - mobile phones - MP3 player - tablets - laptops - cameras **Lithium iron batteries** – **up to 100Wh** maximum rating **Lithium metal batteries** – **up to 2g** lithium content	
MEDIUM lithium batteries, cells, power bank e.g: - extended life batteries for laptops - batteries used for audiovisual professionals **Lithium iron** batteries – between **100Wh - 160Wh** For portable electronic devices only: **Lithium metal** batteries **between 2g - 8g** lithium content	
LARGE lithium batteries and cells over 160 Wh - contained in mobility devices	

2.3.5.8 Baggage with installed lithium battery

The following transport conditions are applicable to baggage with installed lithium battery:

Baggage with non-removable lithium battery

- battery must not exceed 0,3 g lithium metal content or 2,7 Wh rating
  - only lithium button cells allowed
  - permitted in cabin and checked baggage
  - must be completely switched off (not in sleep mode)
  - measures must be taken to prevent unintentional activation (e.g by taping the activation switch)
- battery exceeding 0,3 g lithium metal content or 2,7 Wh - **FORBIDDEN** for transportation
  - baggage with non removable lithium battery which exceeds 0,3 g lithium metal content or 2,7 Wh is forbidden for transportation

Baggage with removable lithium battery

- the battery must be removed if the baggage is to be checked-in
- removed battery must be carried in cabin and protected from damage and short circuits
- limitations on power capacity for lithium batteries shall be followed:
  - up to 100Wh rating or 2g lithium content – without operator's approval
  - over 100Wh rating – operator's approval required
  - exceeding 160Wh rating - **FORBIDDEN** for transportation

2.3.5.9 Chemical agent monitoring equipment

- Definition: instruments containing radioactive material not exceeding the defined activity limits e.g. chemical agent monitor (CAM) and/or rapid alarm and identification device monitor (RAID-M) carried by staff members of the Organization for the Prohibition of Chemical Weapons (OPCW) on official travel.
- The device must be securely packed and without lithium batteries
- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

2.3.5.10 Dry shipper

- Definition: insulated packaging containing refrigerated liquid nitrogen fully absorbed in a porous material containing only non-dangerous goods
- Must meet Special Provisions A152, see details IATA DGR
- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

2.3.5.11 Heat producing articles

- Definition: battery powered equipment capable of generating extreme heat, which could cause a fire if activating e.g. underwater high-intensity lamps, soldering irons
- The heat producing component and the battery must be removed and packed separately isolated from each other to prevent unintentional functioning during transport.
- Any removed battery must be protected against short circuits
  - by placement in the original retail packaging, or
  - by otherwise insulating terminals e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch
- For items powered by lithium batteries, the rules and limitations for this battery type have to be observed.

- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

2.3.5.12 Internal combustion or fuel cell engines

HiSky does not accept internal combustion or fuel cell engines for carriage.

- Definition: internal combustion or fuel or cell engines, carried separately or incorporated into a machine or other apparatus, which must meet Special Provision A70, see details IATA DGR

2.3.5.13 Matches or cigarette lighter

- Definition: one small packet of safety matches or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas
- Must be carried on one's person
- Lighter fuel and lighter refills are not permitted
  NOTE: "Strike anywhere" matches, "Blue flame" or "Cigar" lighters or other lighters powered by a lithium battery without a safety cap or means of protection against unintentional activation are forbidden.
- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	NO
Cabin Baggage	NO
On one's person	YES
The commander must be informed on the location	NO

2.3.5.14 Mercury barometer or thermometer

- Definition: a mercurial barometer or mercurial thermometer carried by a representative of a government weather bureau or a similar official agency
- The thermometer or barometer must be packed in
  - a strong outer packaging, having a sealed inner line, or
  - a bag of strong leak-proof and puncture –resistant material impervious to mercury, which will prevent the escape of mercury from the package irrespective of its position
- Acceptance conditions:

Approval of carrier required	YES
Checked baggage	NO
Cabin Baggage	YES
The commander must be informed on the location	YES

2.3.5.15 Non-infectious specimens packed with small quantities of flammable liquids

- Definition: baggage including non-infectious specimens, such as specimens of mammals, birds, amphibians, reptiles, fish, insects and other invertebrates containing small quantities of flammable liquids
- Shall be placed in strong outer packaging with suitable cushioning materials
- Must meet Special Provision A180, see details IATA DGR
- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	YES
Cabin Baggage	YES
The commander must be informed on the location	NO

2.3.5.16 Permeation devices

- Definition: permeation devices for calibrating air quality monitoring equipment
- Must meet Special Provision A41, see details IATA DGR
- Acceptance conditions:

Approval of carrier required	NO
Checked baggage	YES
Cabin Baggage	NO
The commander must be informed on the location	NO

2.3.5.17 Diving equipment

Diving equipment may contain hidden dangerous goods as:

- underwater torches (heat producing article provision shall be followed)
- diving bottles (oxygen or air, gaseous) and/or diving bottles must only be accepted empty and fully drained of all gaseous content
- other cylinders such as scuba tanks, vest bottles etc. or compressed gas (Provisions for passenger and crew, Chapter 2.3.4 shall be followed)

2.3.5.18 Dangerous goods classification and labels

Refer to Chapter 5.9.3 Classification of Dangerous Goods of this manual for DG classification and labeling.

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2.4 Baggage irregularities

2.4.1 General

All baggage irregularities are handled by the Lost & Found services of the appointed handling agent at all stations. During flight operation special handling staff must be available in the baggage claim area to promptly attend to customers with baggage inquiries and problems. Baggage irregularities cause inconveniences to passengers.
Follow below guidance when handling an irregularity baggage case:

- assist the passenger in the best possible way and ensure the passenger that all possible actions will be taken to remediate the irregularity
- passengers must receive a friendly and competent treatment at the Lost & Found counter.
- perform the actions described in this chapter without delay
- assist passenger with reduced mobility and special needs with priority. Damaged, delayed or missing mobility aids should be handled as priority.

Any kind of irregularities related to checked baggage has to be claimed by passenger to the Lost & Found staff of the appointed handling agent at the airport of arrival. All relevant action described in this chapter must be taken to help the passenger and all relevant messages has to be established in World Tracer System without delay.

Liability
HiSky is not liable for loss, damage or delay in delivery of below items which are included in the passenger's checked baggage, with or without knowledge of the carrier:

- Fragile and/or perishable articles
- Money, credit cards, cheques
- Jewelry, precious metals
- Business documents, negotiable papers
- Electronic equipment, computers
- Securities and keys
- Documents, passport and other identification documents
- Samples

Tracing System used in cases of mishandled baggage is World Tracer. World Tracer is a worldwide computerized system for baggage tracing actions and management.
Baggage irregularities are classified as follows:

- Missing baggage
- Found/Unclaimed baggage
- Damaged baggage
- Partial Lost – missing items out of the baggage, pilferage

Storage and general handling of mishandled baggage

- Mishandled, unidentified, unclaimed baggage shall be held in a safe and secure area where access is controlled.
- Mishandled or unclaimed found baggage details shall be entered into tracing system
- Make sure the baggage is subject to security controls before being loaded into an aircraft. Such controls could include a combination of:
  - manual search, X-ray, simulation chamber, vapor or trace analysis, delayed onward dispatch for 24h or more
  - follow the security requirements of the forwarding carrier
- Ensure that the number of unaccompanied bags is included in baggage counts for load control
- Use "RUSH" tags for tagging the expedite baggage

Acceptance of expedite baggage
The expedite baggage can be accepted only if:

- the baggage has been electronically or physically screened before loading to aircraft
- the baggage is identified by the forwarding airline as mishandled
- the baggage for which a claim has been made
- the baggage is tagged with expedite (rush tag)

2.4.2 Missing baggage

Missing baggage is checked baggage which is not available when the passenger presents baggage identification tag at the point of stop over or destination. Missing Baggage can be: baggage arriving late or baggage totally lost. Missing baggage is also referenced as **AHL** (Advice if Hold) baggage in World Tracer system. In case of missing baggage a **PIR** (Property Irregularity Report) has to be completed, which is a formatted handout for the passenger with selected relevant information taken from the AHL file.

Reporting

- Missing baggage shall be reported immediately after arrival at the transit area or at the local Lost & Found office
- Delay of baggage reported by the passenger after having left the airport or within 21 days after arrival have to be filed as Courtesy AHLs

Missing baggage must be immediately traced. Tracing activities until final settlement shall be done by the last carrier that brought the passenger to the point of stopover or destination. Mishandled baggage must be delivered by the quickest available means to the airport of destination and to passenger's permanent/temporary domicile if it is permitted by local custom clearance regulations.

Take the following action when handling missing baggage:
1) Apologies to the passenger for inconveniencies caused
2) Check the passenger's ticket and the legitimacy of the claim by checking:

- Baggage entries in the ticket
- Whether excess baggage was paid
- Number of baggage identification tags
- Destination on the identification tags
- Whether a limited release tag was issued and if so, the reason for the use

3) Explain what action will be taken to trace and recover the missing baggage
4) Perform a complete local search (of e.g. the aircraft, other terminals, customs area, airport facilities, etc.)
5) If all local searches are negative, create AHL file in World Tracer and hand out the printed variant or PIR to the passenger
6) Inform the passenger about the next step
7) Keep the passenger informed of the results of these actions.

Delivery arrangements

- All arrangements for delivery shall be coordinated with HiSky: ground.ops@hisky.aero; customer.service@hisky.aero
- HiSky will accept delivery of the baggage to passenger domicile and cover delivery costs only if the baggage irregularity happened due to airline direct fault.

2.4.3 Damaged baggage / pilfered baggage

In case of damaged baggage or missing out of the baggage a **DPR** (Damage Property Report) has to be completed. The Damage Property Report is a statement of occurrence and not a document of claim, therefore together with DPR a complaint must be made in written immediately after discovery of the damage upon arrival.

Reporting

- Damage/pilferage must be reported immediately on arrival at the moment of baggage pick up.
- Passenger who did not file a damage report upon arrival at the airport in person, can report the damage within 7 days upon receipt of the baggage, to receive a Courtesy Damage Report

In some cases of damaged or pilfered baggage the DPR may be completed as PIR with the relevant information regarding the damage underlined or circled.

Take the following actions when issuing a DPR:
1) Check if a limited release tag was issued for the damage at the station of departure
NOTE: If so, HiSky decline responsibility for further deterioration of the condition en route
2) Check the weight of the bag on scales
3) Inspect the damage of the bag in presence of the passenger
4) Create a DPR in World Tracer with a clear statement that damage is involved

- Fill out the report clearly
- Specify and describe the damage
- Include the amount claimed by the passenger

5) Hand out the PIR of the DPR and inform about repair and/or claim settlement to the passenger
7) Sign the PIR and have the passenger sign too
8) Advise the passenger that HiSky is not liable for damaged items mentioned in Chapter 2.4.1 General (Liability)

Take the following actions when handling theft and pilfered baggage
1) Check the weight of the pilfered baggage and compare to the one entered in the ticket or on baggage tag
2) Inspect the pilfered bag in presence of the passenger
3) Create a DPR (Pilfered Report) in World Tracer with a clear statement that pilferage is involved (both figures, original and actual weight, must be entered in DPR, PIR)

- Enter list of missing items
- Claim of pilferage combined with a claim of damage
- Enter kind of damage in the same DPR

4) Inform the passenger that HiSky is not liable for damaged items mentioned in Chapter 12.4.1. General (Liability). Nevertheless a PIR may be issued if needed as a proof for the police
5) Hand out the PIR of the DPR and inform about claim settlement to the passenger
6) Sign the PIR and have the passenger sign too

Claims, may be dealt with by the HiSky Customer Service: customer.service@hisky.aero

2.4.4 Found baggage

Found baggage is checked baggage with an airline baggage tag which is located at a station other than the one shown on the baggage tag; baggage without airline baggage tag or baggage left unclaimed. Found baggage is also referenced to as **OHD** (On Hand baggage) in World Tracer system.
The following general actions must be performed when handling found baggage:

- Found and unclaimed baggage which can be assumed to have been checked shall be taken into the local lost and found office for identification.
- Found baggage shall be stored in secure areas and protected from unauthorized access until claimed, forwarded or disposed.
- If possible, contact customers whose unclaimed checked baggage contains a legible, valid address or phone numbers
- A report (OHD) must be filed in World Tracer as soon as possible.
- If the baggage has no name or baggage tag, information about the contents must be filled into the system
- Found baggage, claimed by another carrier at another airport shall be immediately forwarded to that carrier/airport by the fastest possible way, using the services of any company (IATA Resolution 743).
- Send a forwarding message

Take the following actions when forwarding found baggage:
1) Forward the baggage to the requested final destination
2) Check the quickest routing taking into account special procedures, security checks and customs clearance en route
3) Issue an expedite tag (RUSH tag)
4) Send a forwarding advice to
- World Tracer with a FWD (forwarding message)
- The baggage tracing office at the destination
- All carriers involved at transfer station

5) If the baggage is damaged, mark it on expedite tag and in the forwarding advice
6) Advice the load control department of the forwarding carrier of the number of pieces and weight

2.4.5 Lost property

Lost property refers to hand luggage and personal items lost in the areas of HiSky activity: aircraft, check-in, departure gate, etc. HiSky declines any responsibility for loss or damage to unchecked items, but in case of loss, immediate tracing actions are initiated as a passenger service feature.

Tracing
1) if lost in airport:
- check if the lost item has been filed and stored at Lost and Found office or HiSky representative office (if available)
- check if the lost item has been registered in the World Tracer found property system and stored at Lost and Found office (outstations)

2) if lost on board:
- perform a local tracing (e.g. cleaning department, catering department, disembarkation agent etc.)
- check if the lost item has been filed and stored at Lost and Found office or HiSky representative office (if available)
- check if the lost item has been registered in the World Tracer found property system and stored at Lost and Found office (outstations)

If the lost item is not found during the 7 days period, consider the item as lost.

NOTE: Generally, the local airport authorities handle personal items lost or found within airport area.

2.4.6 Found property

Found property refers to personal belongings found in the areas of HiSky activity: aircraft, check-in, departure gate, etc. Any such items must be handed over to the handling agent of Lost and Found office for filling and stocking. Found items shall:
- be filed according to date and flight when found
- be registered in the World Tracer found property system
- be stored/kept at Lost and Found store until collection by the passenger

NOTE: No forwarding to the passenger's local address will be carried out. The item must be collected by the passenger.

HiSky declines any responsibility for the found items in case these items are handed over not to the owner, by accident.

NOTE: Generally, the local airport authorities handle personal items lost or found within airport area.

3. TRAINING REQUIREMENTS FOR GROUND HANDLING PERSONNEL

3.1 General

All HiSky personnel and contracted handling agents performing ground handling services activities on behalf of HiSky, must have the basic knowledge, skills, training, experience appropriate to the respective position and sufficient knowledge of English to understand the content of this manual and the requirements to perform their duties. Personnel of contracted handling agents must be familiar with HiSky GOM.
In order to ensure flight safety through an acceptable level of standardization and proficiency all personnel involved in ground handling operations must be trained and licensed according to the following training requirements. Prior to being assigned to perform operational duties, initial training must be completed.

3.2 Training programs

3.2.1 General

The ground handling company shall have a training program that ensures that personnel who perform duties in ground handling operations complete initial and recurrent training that includes:

- familiarization training on applicable regulations
- general and function-specific training prior to being assigned to perform ground handling duties
- recurrent training on a specified frequency to remain qualified to perform ground handling duties
- periodic testing or assessment to ensure ongoing competency

Training programs must contain requirements for training and qualifications that applies to all personnel who perform duties within the scope of ground handling operations.
Training programs must be periodically reviewed and updated by responsible person to remain operationally relevant and be in accordance with the latest industry and HiSky requirements.
Training programs for initial and recurrent training must cover the same subjects but recurrent one must also contain changes of procedures, regulations and rules that occurred during the period from last training.
Training programs must include a requirement for recurrent training to be completed by ground handling personnel on a frequency not less than once during every 36-month period.
Recurrent training in dangerous goods shall be completed on a frequency of not less than once within the 24-month period since the previous training in dangerous goods.
Ground handling personnel training programs, assessment and training records are subject of HiSky Compliance Monitoring Department external audits.

3.2.2 Function specific training requirements

Training program shall be developed individually for each category of personnel involved in ground handling operations and must ensure necessary knowledge to perform duties, execute procedures and operate equipment associated with specific ground handling functions and responsibilities:
Training program must include:

- familiarization training on applicable regulation
- in depth training on requirements, policies, procedures and operating practices
- safety training on associated operational hazards
- training in human factors principles
- HiSky specific procedures

3.2.2.1 Security training

Security training program must be in accordance with requirement of local authorities to ensure that all personnel are familiar with and know how to comply with all relevant security requirements and able to prevent acts of unlawful interference.

3.2.2.2 Dangerous Goods training

Aircraft handling personnel shall complete dangerous goods training appropriate to assigned operational functions and duties.
Passenger handling personnel shall complete dangerous goods training appropriate to assigned operational functions and duties in accordance with Table 1.5 A of current edition of IATA DGR.
Training syllabus must include as a minimum following aspects:

- General philosophy;
- Limitations;
- List of dangerous goods
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures
- Flight crew notifications
- Provisions for passengers and crew;
- Emergency procedures.

Recurrent training in dangerous goods is completed within a validity period that expires 24 months from the previous training to ensure knowledge is current; otherwise an initial training is mandatory.

3.2.2.3 Passenger handling training

All personnel with duties and/or responsibilities in operational passenger handling functions shall complete passenger handling training, which must include the following operational subject areas as applicable to assigned passenger handling function(s):

- Passenger and baggage check-in policies and procedures;
- Passenger and baggage handling procedures
- Manual check-in procedures;
- Cabin seating considerations, to include exit row, special passengers;
- Departure Control System (for passenger check-in personnel);
- Load control
- Baggage tracing system (for Lost & Found personnel);
- Travel documents;
- Flight documentation and messages;
- Passenger boarding policies and procedures, to include cabin baggage limitations;
- Cabin access door operation, if applicable.
- Boarding bridge operation, if applicable.
- Flight close-out and post departures activities
- Cabin access door operation, if applicable.
- Passenger boarding bridge operation
- Boarding process and boarding control
- Dangerous goods regulations, considerations and procedures;
- Security regulations, considerations and procedures;
- Load control consequences, coordination and procedures;
- Handling and boarding of weapons and authorized persons carrying weapons
- Passengers requiring special handling;
- Baggage Irregularity handling and baggage tracing system
- Communication procedures (HiSky representative, load control, authorities, others);
- Data protection and security;
- Document protection and security;
- Abnormal and emergency procedures (fire, dangerous goods, security, other);
- Health and safety;
- Emergency response procedures.
- Live animals regulations
- HiSky policies and specific procedures, as applicable

3.2.2.4 Airside Safety training

All personnel assigned to perform duties on airside area shall complete airside safety training, which must include the following subjects:

- Safety philosophy;
- Safety regulations;
- Hazards;
- Human factors;
- Airside markings and signage;
- Emergency situations;
- FOD prevention;
- Personal protection;
- Accidents, incidents and near misses;
- Airside safety supervision.

3.2.2.5 Airside Driver training

All personnel with duties that require the operation of vehicles and/or equipment in airside areas shall complete airside driver training, which must include the following subjects:

- Role and responsibilities of vehicle operators;
- Vehicle equipment standards;
- Hazards of airside driving;
- Reduced visibility procedures;
- Accident and incident reporting procedures;
- Rules and procedures for driving on ramps (aprons), stands and airside roads;
- Rules and procedures for driving in aircraft maneuvering areas.

3.2.2.6 GSE Operations training

All personnel with duties that require operation of Ground Support Equipment (GSE):
1) shall complete the training in operation of GSE as applicable to their assigned operational function(s);
2) must be qualified and/or authorized to operate SGE in station operations.

3.2.2.7 Load Control training

All personnel with duties and/or responsibilities in operational load control functions shall complete load control training, which must include the following subjects:
1) Operational subject areas as applicable to assigned load control function(s):

- Aircraft Weight & Balance principles:
  - General philosophy;
  - Theory of flight;
  - Aircraft masses and mass limitations;
  - Fuel requirements;
  - Principles of balance;
  - Structural strength limits.
- Load control and distribution:
  - General principles;
  - Aircraft locations;
  - Aircraft structural loading limitations;
  - Loading restraint systems;
  - Load planning;
  - Loading Instruction/Report (LIR);
  - Loadsheet (manual, EDP, LMC).
- Documentation:
  - General principles;
  - Messaging;

- Filing;
- Operational flight plan (OFP);
- NOTOC (Notification to Captain);
- NOTOC Summary;
- Manuals;
- Human factors.

2) Dangerous goods:
- General philosophy;
- Limitations;
- List of dangerous goods;
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures;
- Pilot-in-command notification;
- Provisions for passengers and crew;
- Emergency procedures.

All personnel with duties that include supervision of aircraft loading shall complete the training in:
1) Load control;
2) Dangerous goods.

3.2.2.8 Baggage Handling training

All personnel with duties and/or responsibilities in operational baggage handling functions shall complete baggage handling training, which must include the following subjects:
1) Operational subject areas as applicable to assigned baggage handling function(s):
- Baggage handling procedures (identification, sorting, loading);
- Manual baggage handling procedures;
- Security (regulations, considerations, procedures);
- Load control (consequences, coordination, procedures);
- Communication procedures (HiSky representative, load control, authorities, others);
- Data protection and security;
- Document protection and security;
- Abnormal and emergency procedures (fire, dangerous goods, security, other);
- Health and Safety;
- Emergency response procedures.

2) Dangerous goods:
- General philosophy;
- Limitations
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures;
- Pilot-in-command notification;
- Provisions for passengers and crew;
- Emergency procedures.

3.2.2.9 Aircraft Handling and Loading training

Personnel with duties and/or responsibilities in aircraft handling and loading functions typically include:
- General loader;
- Loading supervisor;
- Aircraft servicing (water, toilet);
- Passenger boarding equipment operator;
- Aircraft loading equipment operator;
- Ground support equipment operator (GPU, ASU, ACU);
- Aircraft chocking and use of marker cones;

- Aircraft ground movement assistance;
- Catering servicing and vehicle operator;
- De-/anti-icing servicing and vehicle/equipment operator.

All personnel with duties and/or responsibilities in aircraft handling and loading functions shall complete aircraft handling and loading training, which must include the following subjects:
1) Operational subject areas as applicable to assigned aircraft handling and/or loading function(s):
- Irregularity/incident/accident reporting process;
- Manual handling of load;
- Safety during aircraft fuelling;
- Principles of aircraft loading;
- Handling of loads that require special attention;
- Loading incompatibilities;
- Consequences of load damage and spillage;
- Positioning and operation of loading and servicing equip;
- Load notification to pilot-in-command;
- Passenger embarkation/disembarkation procedures;
- Standards of aircraft cleaning, lavatory and potable water servicing;
- Aircraft movement operations.

2) Dangerous goods:
- General philosophy;
- Limitations
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures;
- Pilot-in-command notification;
- Provisions for passengers and crew;
- Emergency procedures.

All personnel with duties that include the operation of aircraft access doors shall complete trainings applicable to each type of access door to be operated on HiSky aircraft.
All personnel with duties that include the operation of passenger boarding bridges shall complete trainings applicable to each type of operated boarding bridges, and include:
- Standard operating procedures;
- Bridge control system, including emergency switches, cut-offs and buttons;
- Out-of-limits procedures (for returning bridge to normal working limits);
- Back-off procedures and application;
- Manual wind-off procedures;
- Accident and incident response and reporting procedures;
- Fire procedures (bridge or aircraft).

3.2.2.10 Aircraft Ground Movement training

Personnel with duties and/or responsibilities in aircraft ground movement functions typically include:
- Aircraft ground movement supervisor;
- Pushback or towing tractor operator;
- Personnel that provide aircraft ground movement assistance;
- Personnel that perform aircraft marshalling.

All personnel with duties and responsibilities in aircraft ground movement functions shall complete the training in aircraft ground movement operations, which must include the following subjects:
- Aircraft ground movement operations;
- Operation of equipment;
- Equipment-aircraft connect and disconnect procedures;
- Aircraft ground movement standard verbal communications (ground-flight deck);

- Aircraft ground movement non-verbal signals (ground-flight deck, ground-ground);
- Aircraft marshalling;
- Aircraft ground movement assistance.

3.2.2.11 Aircraft Turnaround training

All personnel with duties and responsibilities as aircraft turnaround coordinators shall complete training in aircraft turnaround coordination operations. Such training shall provide coordinator personnel with the knowledge necessary to:

- Ensure turnaround activities are in compliance with applicable regulations and requirements of HiSky;
- Coordinate and direct operational activities within the turnaround period;
- Manage any disruptions to turnaround activities;
- Ensure processes are delivered within standards for performance and compliance limits;
- Ensure the activity sequence is consistent with the station aircraft turnaround plan, and all activities are delivered within agreed times;
- Liaise with and between teams, departments and suppliers to inhibit discrepancies in activity sequence or task performance;
- Act as a central point of contact during turnaround operations;
- Acts as safety coordinator for the duration of turnaround activities.

3.2.2.12 Aircraft fueling training

All personnel with duties and responsibilities in aircraft fueling functions shall complete the training in aircraft fueling operations, which must include the following subjects:

- Fuelling vehicle systems and controls;
- Approach and positioning the fuelling vehicle at the aircraft vicinity;
- Grounding fuelling vehicle;
- Hydrant systems and aircraft fuelling connectors;
- Connecting / disconnecting procedures;
- Refueling / defueling procedures and control;
- Fuel checks;
- Safety policy, procedures and safety equipment of the refueling system;
- Documentation.

3.2.2.13 Cargo and Mail Handling training

For Cargo and Mail handling training requirements refer to HiSky Cargo Handling Manual.

3.2.2.14 De-/anti-icing procedures training

For de-/anti-icing procedures training requirements refer to Chapter 4.4.6 - Staff training and qualification of this manual.

3.2.2.15 Safety Management System (SMS) training

Ground handling personnel shall complete Safety Management System (SMS) training in order to perform SMS duties. The training must be appropriate to the extent of staff involvement in the SMS.

3.3 Training Methods

Ground handling personnel must be trained theoretically and practically.
Theoretical training must be accomplished by all personnel involved in ground handling operations.
Practical (on the job) training must include practical exercises at the work place.

Personnel required to have both theoretical and practical trainings are not allowed to perform operational duties individually unless they have been evaluated accordingly (refer to chapter 6.4 Assessment).

3.4 Assessment

Evaluation procedure must be described in training programs and applied with the purpose of ground handling personnel to demonstrate adequate knowledge, competency and proficiency to perform duties, execute procedures and/or operate equipment upon completion of each training (initial and recurrent).

Minimum passing rate for test must be at least 80% and mentioned in training programs. All evaluation results must be documented.

Personnel who failed to gain the passing rate are not allowed to perform duties within the scope of ground handling operations. These procedures must be included in training programs.
Recurrent training tests and check should cover every item of the recurrent training in order to improve and maintain general proficiency of staff involved.

3.5 Training and qualification records

All required trainings and evaluations must be documented in records and must be maintained for each staff member. Training and qualification records must be retained for a period specified by local regulations, specified in training programs, but not less than 36 months.

Training and qualification records must include:

- the trainee name;
- training titles and completion dates;
- the name of instructor or organization providing each training;
- a copy of the certificate or other document confirming that trainee satisfactorily completed the training

Ground handling personnel training records are subject of HiSky Compliance Monitoring Department external audits.

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4. AIRCRAFT HANDLING PROCEDURES

4.1 Aircraft handling

4.1.1 Responsibilities

The supervision and performance of the Aircraft Handling at the arrival / departure are divided between:

- HiSky
- Airport Authorities
- Handling Company

HiSky personnel is responsible for local agreements, procedures and instructions, so that all personnel know about their specific responsibility.

Ground handling company providing services based on ground handling agreement must have an assignment of responsibility to coordinate and supervise all activities concerning the aircraft, crew, passengers and their baggage, cargo etc. as well as ramp handling in areas near and around the aircraft. Such assignment lays on one individual, called ramp-supervisor, ramp coordinator or flight dispatcher, or other similar, depending on the handling company.

4.1.2 Aircraft Security

4.1.2.1 Basic Principle

Access to an aircraft being prepared for flight is permitted only for:

- Staff on duty involved with the ground handling of the aircraft, being in possession of visibly displayed permits authorizing them to stay in a given area.
- Officials on duty (police, customs, immigration & health authorities).

4.1.2.2 Exceptions

Only the station responsible, in coordination with the flight crew, may allow exceptions for:

- Other airline staff.
- Guided tours for small groups of guests.

In such cases, the station responsible must:

- Obtain permission from the airport authorities, if required.
- Provide competent supervision of the visitors.

NOTE: Visits are not allowed during Fueling.

4.1.2.3 Layover Parking

- The aircraft must be searched prior to parking to ensure no persons are onboard;
- The aircraft must be parked only in secure areas within an airport operating area;
- The aircraft must be parked under conditions that permit maximum security and protection;
- The aircraft must not be left unattended during parking.

4.1.2.4 Unattended Aircraft

The following precautions must be taken if an aircraft is left unattended:

- Cabin doors and compartment doors must be closed.
- After coordination with the flight crew and/or ground engineer, passenger stairs, passenger loading bridges, container/pallet loaders, catering vehicles and conveyor belts must be removed.
- Aircraft must be secured.

HiSky is responsible for the security of its aircraft. For the security of the aircraft following responsibilities apply:

- Station with Station Mechanic: Station Mechanic
- Station seasonal or scheduled without Station Mechanic: Handling Agent
- Station charter without Station Mechanic: Crew

4.1.2.5 Prevention of Access by Unauthorized Persons during Ground Stops

Arrangements must be made with the authorities and/or handling agent to make sure that unauthorized persons have no access to the:

- Aircraft parking area.
- Parking / storage areas for ground handling equipment.
- Load storage and processing areas.

NOTE: The authorities must be informed of the presence of any suspicious or doubtful persons in the areas mentioned above.

4.1.2.6 Security Check and Aircraft Protection

The following ramp safety requirements need to be adhered to and an aircraft security check shall cover the following accessible areas of the exterior of the aircraft:

- The aircraft hold(s) for originating flights shall be examined to ensure that it does not contain items that do not belong there.
- The aircraft hold(s) for transiting flights shall be protected from unauthorized access to ensure the integrity of the reconciled hold baggage and cargo and to ensure that no unauthorized items are introduced.

In case of security incidents the threats must be assessed and handled according to the local security regulations. If required, all persons must be evacuated to a secured area.

4.1.2.7 The overnight aircraft security

After offloading and cleaning the aircraft, a technical check, preparing the aircraft for overnight staying, must be performed. For the overnight security, one of the following methods shall be used:

1. Airport security personnel.
2. Airport Video Surveillance System.
3. Airport Security Seals.

Sealing the aircraft must be performed appropriated to its type. Security seals requirements:

- Silver foil or polyester type.
- Permanent adhesive to ensure strong hold.
- Tamper evident security cuts.
- Residual VOID message to instantly indicate manipulation.
- Sequential numbering.

The documentation concerning the sealing of aircraft shall be filled.

After the overnight stay, the condition of the particular seals must be checked:

- if the seals have not been broken the aircraft may be used for further operations.
- If the seals have been broken the person responsible must inform a HiSky representative and the captain.

4.1.3 Aircraft Doors

4.1.3.1 General

Cabin and compartment doors shall be opened after all engines have been stopped and the aircraft's parking brakes have been set or the chocks are in position and anti-collision lights are off.
All doors shall be closed and locked before engine start.
For the below mentioned aircraft door operation, the authorized staff are defined as those, HiSky employees, appointed supervisors, or contracted handling agents, that have completed the training for the specific door and specific aircraft type.
NOTE: Sometimes (when no APU/GPU available or other cases) doors may only be opened on the opposite side from the working engine.
NOTE: Strong attention must be applied when opening outside doors to prevent accidental damage to ground equipment. Please refer to respective aircraft description for doors dimensions and clearances.

4.1.3.2 Cabin doors

Cabin doors are defined as those that open access to the passenger cabin area, thus passenger entrance doors and catering service doors. Cabin doors shall be opened from the inside by cabin crew and/or authorized staff. In the event that cabin doors need to be opened from the outside, only authorized (thus properly trained) staff are allowed to operate them.
NOTE: Always make sure evacuation slide is disarmed before opening the door.

The cabin doors must be opened before final positioning of ground equipment and a safety device has been put across the aircraft door opening.
Before removing ground service equipment from cabin doors, the ground handling personnel shall advise the cabin crew. Ground service equipment must not be removed unless a safety device has been put across the aircraft door opening or the aircraft door is being closed.
If necessary, ground staff shall assist crew in opening or closing of the cabin doors.

4.1.3.3 Compartment doors

Only HiSky aircraft maintenance personnel or authorized personnel of the contracted handling company may open/close compartment doors (manually or electrically operated).
The compartment doors must be opened before final positioning of ground equipment.
Strong attention must be applied when opening outside doors to prevent accidental damage to ground equipment. Please refer to respective aircraft description for doors dimensions and clearances.
Compartment doors must be closed as soon as loading is completed.
Before closing the doors, make sure that:

- the baggage, cargo and mail is properly secured;
- the load restraint nets and the door protection nets are properly installed;
- the compartment lights are switched off;
- the loading supervisor has given the authorization to close the compartment doors;
- the door and door frame show no visible damage.

NOTE: Any irregularity, including damage, must immediately be reported to the Commander and/or HiSky aircraft maintenance personnel.

Detailed procedures on opening/closing aircraft compartment doors are described in Chapter 7 and Chapter 8 of this Manual according to aircraft type.

4.1.3.4 Signals

In order to prevent injury to personnel and damage to aircraft and equipment due to misinterpretation, only the standard signals must be used to indicate to flight attendants responsible for door operation that:

- ground equipment (passenger steps, passenger loading bridges, galley loading vehicles, etc.) are correctly positioned;
- the area for the deployment of integral stairways is free from obstruction.

The standard signals to be employed for this purpose are:

- knocking at the door
- thumb-up signal

4.1.3.5 Door sizes and ground clearances

All the dimensions and clearances may be found in Chapter 7 and Chapter 8 of this Manual.

4.1.4 Communication with Flight Crew

4.1.4.1 General

Timely and comprehensive information to the flight crew is essential in the interest of:

- safety;
- regularity of flight operations;
- courtesy to flight crew;
- good customer service.

Ground handling personnel (and/or HiSky representative) must promptly inform the Commander of any relevant operational aspect, in particular:

- of possible irregularities in the ground handling and the reasons;
- of unusual occurrences at the airport that can cause irregularities in the ground handling, such as breakdown of airport facilities, strikes, intensified security controls, reception of high ranking persons, presence of military forces, demonstrations, etc.;
- of any unusual observations or occurrences at and around the aircraft (in that case inform the Commander immediately).

Contact the Commander as early as practicable; if the irregularity is known before the arrival of the aircraft, use the CUT if available.
Make, or suggest, recommendations for minimizing the negative effects of such irregularities on the flight schedule and passengers.
The ground to cockpit communication shall be performed by qualified staff, by means of interphone (headset). If this is not possible, for any reason, the hand signals shall be used.
After disconnection of the headset, hand only signals apply.
Upon aircraft arrival, parking brakes shall not be released until:

- all engines have been shutdown;
- the flight crew has ascertained that chocks have been inserted;
- and that the airplane is not moving.

The following persons are responsible for communication with flight crew by means of the interphone system (or signals):

- authorized personnel of the contracted handling company.

<u>Language and Signals:</u>
Communication must be in English, firm knowledge of the standard phrases and signals is required.
Signals must be executed in a clear and precise manner in order to preclude confusion between different signals.

<u>Establishing interphone communication:</u>
After the aircraft has come to a complete stop at the parking position, the staff assigned to this duty shall:

- connect the headset to the aircraft and call the flight crew
- make visual contact with the flight deck if interphone communication has proven unsatisfactory.

<u>Re-establishment of interphone communication:</u>
This procedure is to be used in case that ground staff, or flight crew, wishes to reestablish interphone communication, after it has been disconnected. This should be used only if the situation cannot be resolved via radio communication (CUT or ATC).

The procedure must be followed strictly, by all parties, using the below steps:

- the person that will establish the contact shall make sure that he has been seen, and his intention to approach the aircraft is understood, by the flight crew, before any movement towards the danger area;
- only such person shall approach the aircraft (no one else);
- when approaching the aircraft, a sufficient safety distance to running engines must be observed;
- the aircraft must be approached from a direction ensuring that visual contact with the flight crew can be maintained as long as possible.

If the reestablishment of communication is requested by the cockpit crew:

- the use of the ground horn by the cockpit, if unserviceable (or not available) flashing of landing lights, signals that the flight crew wishes to re-establish interphone communication;
- upon this signal the ground staff responsible for engine starting and/or pushback establishes visual contact with the flight crew;
- by waving his headset (at night illuminated by a torch light, if necessary), he acknowledges that he has understood the signal;
- only when the landing lights stop flashing (or ground horn stops blowing), the aircraft shall be approached and communication established through the interphone system;
- when the matter has been clarified, the “all clear” signal must again be shown to the flight crew.

When ground staff is requesting the re-establishment of communication:

- the flight crew must first be informed via radio (CUT or ATC) that ground staff wishes to re-establish interphone communication;
- upon this request the flight crew will flash the landing lights (or blow the ground horn), indicating that the aircraft can be safely approached;
- the person establishing the interphone communication shall then follow the same procedure as if it were flight deck initiated (see above).

Thunderstorm precautions

For safety reasons, the interphone system may not be used for communication with the flight crew during a thunderstorm (risk of electrical discharges between aircraft and the interphone system). In such cases, only manual signals are to be permitted.

“All clear” signal

Normally the person responsible for the “all clear” signal shall be positioned on the left hand side of the aircraft.

In the event that this is not possible (due to safety reasons, obstructed visual contact with the flight deck, etc), the “all clear” signal may also be given from the right hand side of the aircraft, provided this has been agreed with the Commander beforehand.

4.1.4.2 Ground/Flight Deck Communication

No person should attempt to marshal or guide an aircraft unless trained, qualified and approved to carry out such functions and where allowed by the local Airport Authority.

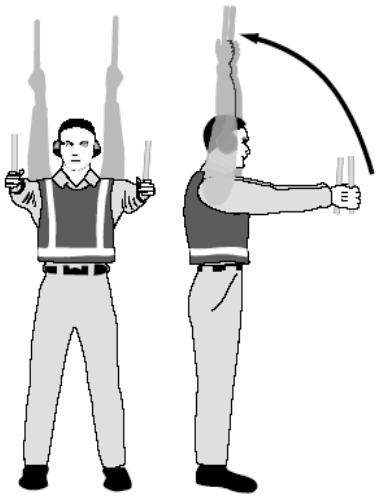
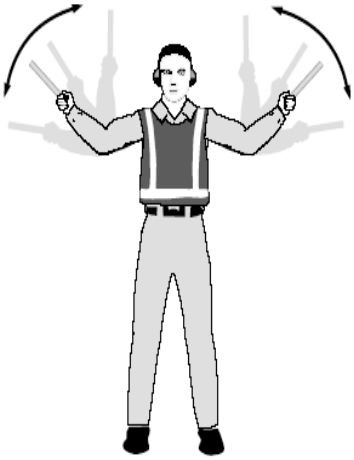
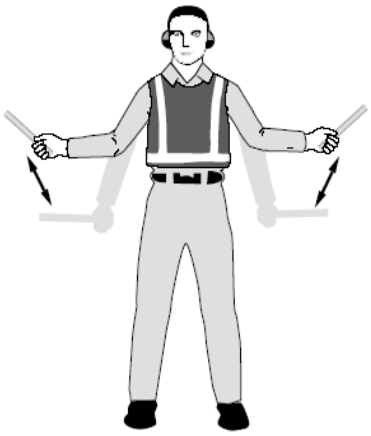
A Marshaller will be responsible for providing standard marshalling signals, in a clear and precise manner, to arriving and departing aircraft. This person MUST wear a distinctive Identification Vest to identify to the Flight Crew that he is the person in charge of the marshalling operation.

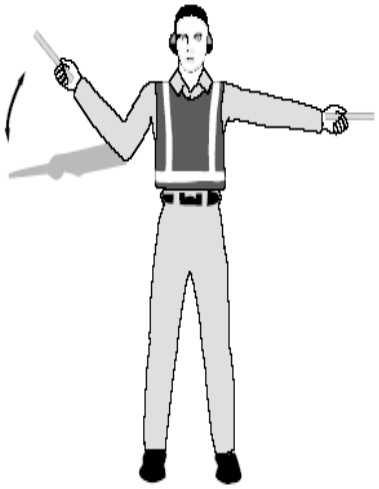
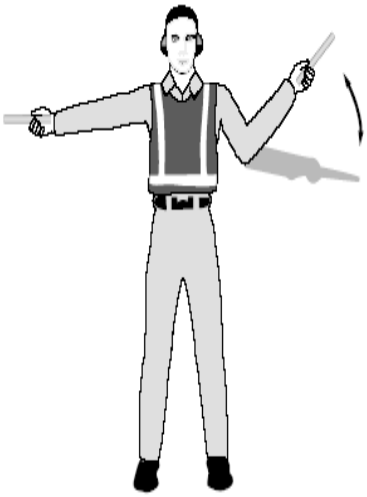
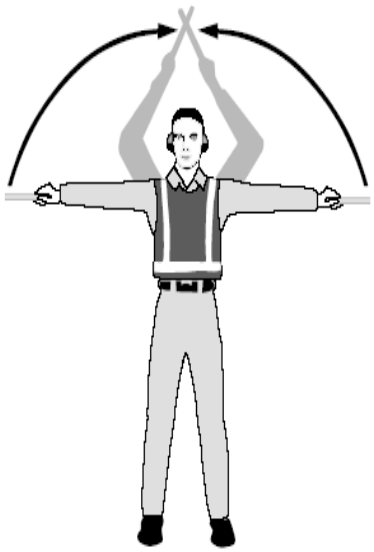
‘Dayglo’ wands, tabletennis bats or gloves MUST be used for ALL signaling by ALL participating Ground Staff. Illuminated wands MUST be used at night or in low visibility.

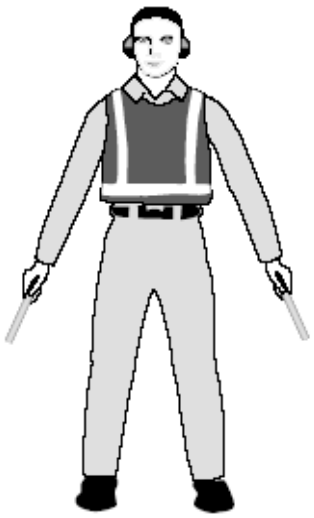
4.1.4.2.1 Arrivals

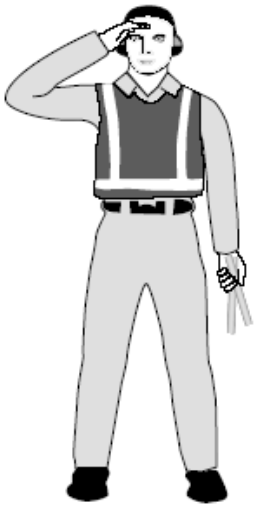
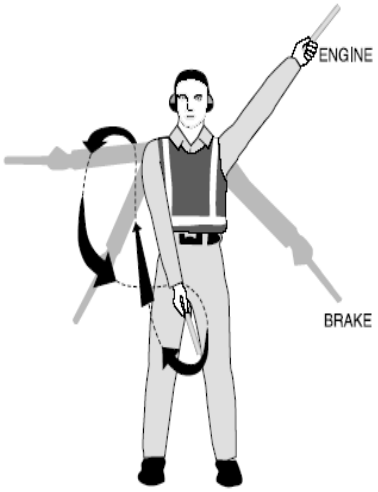
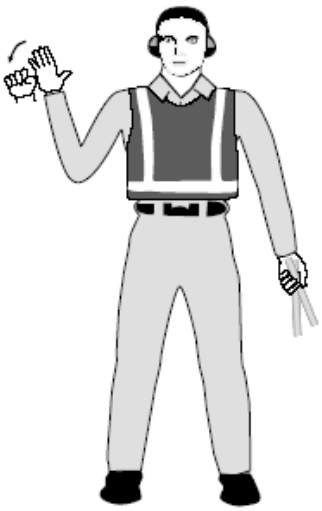
The table below shows standard phrases and signals

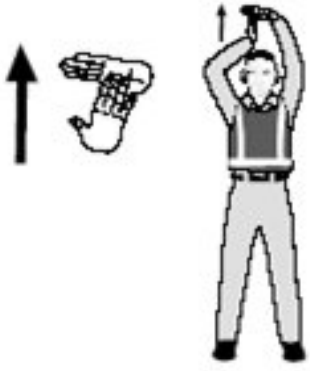
In the following, reference to wands may also be read to refer to 'Dayglo', tabletennis bats or gloves (daytime only).

Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Identify gate Raise fully extended arms straight above head with wands pointing up, move hands fore and aft to keep from blending into background.				
Continue to taxi straight ahead Bend extended arms at elbows and move wands up and down from waist to head.				
Slow down Move extended arms downwards in a "patting gesture", moving wands up and down from waist to knees.				

Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Turn right (from the pilots 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 pilot the rate of aircraft movement desired.				
Turn left (from the pilots 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 pilot the rate of aircraft movement desired.				
Normal Stop Fully extend arms and wands at a 90° angle to the sides and slowly move above the head until wands cross.				

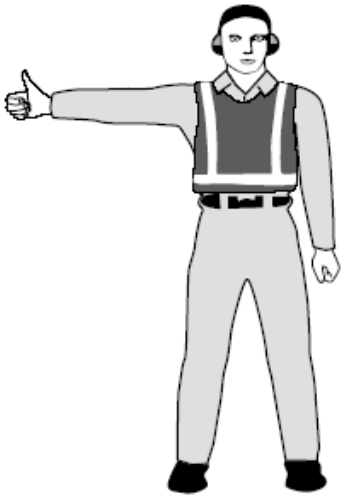
Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Emergency stop Abruptly extend arms and wands to top of head, crossing wands.				
Hold position / Stand-by Fully extend arms and wands downwards at a 45° angle to the sides. Hold the position until the aircraft is clear for the next maneuver.				
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.				

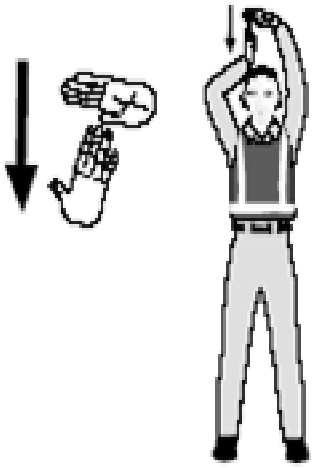
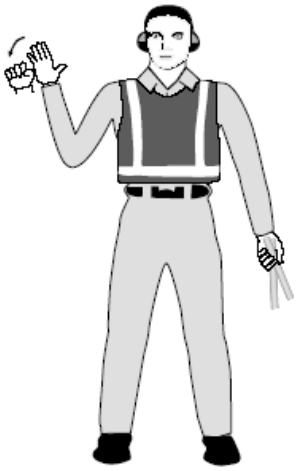
Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
End Marshalling Perform a standard military salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with the flight crew until the aircraft has begun to taxi.				
Fire Move right hand wand in a “fanning” motion from the shoulder to the knee, while at the same time pointing with the left-hand wand to				
Set Brakes Raise hand just above shoulder height with open palm. Ensuring eye contact with the flight crew, close hand into a fist. DO NOT move until receipt of thumbs up acknowledgment from the flight crew.				
Acknowledgement				

Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Chocks Inserted With arms and wands fully extended above head, move wands inward in a “jabbing” motion until the wands touch.	Chocks on			
Acknowledgement NOTE: Upon this acknowledgement, the commander will release the brakes.		Chocks OK		
Connect ground power Hold arms fully extended above head, open left hand horizontally and move finger tips of right hand into and touch the open palm of left hand (forming a “T”). At night, illuminated wands can also be used to form the “T” above the head.				

4.1.4.2.2 Pushback

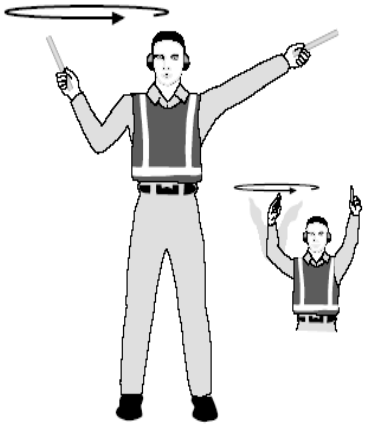
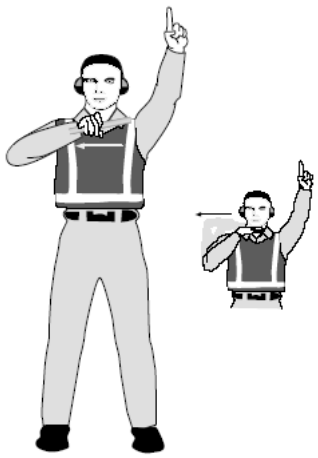
The table below shows standard phrases and signals
In the following, reference to wands may also be read to refer to 'Dayglo', tabletennis bats or gloves (daytime only).

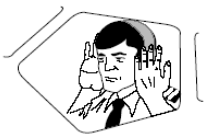
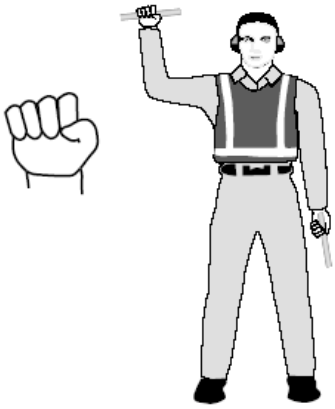
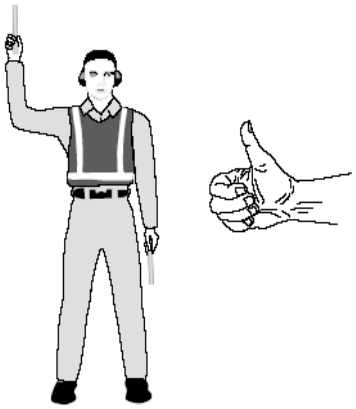
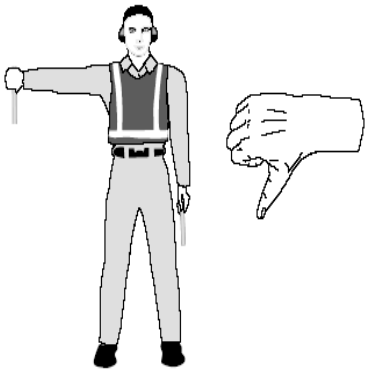
Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Pushback clearance not yet received		Standing by for clearance		
Acknowledgement	Standing by			
As soon as **Pushback Clearance received**		Ready for pushback		
Removal of wheel chocks		Remove wheel chocks		
Connect the towbar Bring arms above the head and grasp forearm with opposite hand				

Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Disconnect Ground Power Hold arms fully extended above head with finger tips of right hand touching the open horizontal palm of the left hand (forming a "T"), then move 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.				
Chocks removed With arms and wands fully extended above head, move wands outward in a "jabbing" motion. DO NOT remove chocks until authorised by the flight crew.	Chocks removed			
Release Brakes Raise hand just above shoulder height with open palm. Ensuring eye contact with the flight crew, close hand into a fist. DO NOT move until receipt of thumbs up acknowledgment from the flight crew.	Release brakes			
Confirmation after parking brake released		Brakes released		

4.1.4.2.3 Technical / servicing signals

The table below shows standard phrases and signals.
In the following, reference to wands may also be read to refer to 'Dayglo', tabletennis bats or gloves (daytime only).

Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
If engine starting clearance must be requested in advance from the ATC		Ready in ... minutes		
Acknowledgement	Ready in ... minutes			
If flight crew not ready		Standby		
If flight crew ready		Starting engines		
If external air starter unit required for engine starting		Pneumatic pressure		
Start Engines Raise right arm to head level with wand pointing up and start a circular motion with hand, at the same time with the left arm raised above head level point to engine to be started.	OK staring engines			
Cut engines Extend 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.				

Sequence of action	Standard phrases		Signals	
	Ground to flight deck	Flight deck to ground	Ground to flight deck	Flight deck to ground
Interphones Extend both arms at 90° angle rom body and move hands to cup both ears.				
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.				
Affirmative / All Clear Raise right arm to head level with wand pointing up or display hand with thumbs up, left arm remains at side by knee.				
Negative Hold right arm straight out at 90° angle rom shoulder and point wand down to ground or display hand with thumbs down, left hand remains at side by knee.				

4.1.5 Aircraft Disinfection

The disinfection procedure shall be applied on any HiSky aircraft, whenever we ascertain, or suspect, a potentially infective hazard to passengers, crew or other ground employees (e.g. after transportation of passengers with contagious diseases).This is not to be considered part of the normally planned disinfection operated during aircraft maintenance.

The following departments/staff may decide that an extraordinary disinfection is to be carried out:

- the heads of the Flight or Ground Operations Departments; HiSky Station Representative
- the Airport Health Authorities;
- the Pilot in Command of the concerned flight.

The disinfection of the aircraft is done by Cabin Cleaning staff, or by an external subcontracted company (depending on the stations).

Procedure:
The entire cabin is to be sprayed/treated, but particular attention has to be paid to those specific parts that are more likely to have been contaminated such as:

- the seat used by the patient(s);
- the toilet(s);
- any other object that might have been in contact with the patient(s).

After completion, all staff involved in the disinfection must carefully wash their hands and any other exposed parts with the disinfecting product.
Contaminated blankets/pillows must be collected by either cabin crew or cabin cleaning staff, whichever is applicable:

- put the blankets/pillows in a special plastic bag;
- attach a label indicating the origin and the reason for disinfection;
- mark the bag hospital cleaning.

Disinfectant products:
There is no precise indication of the type of product that is to be used for the disinfection of the aircraft, but the product must be approved beforehand by the HiSky Headquarters.

4.1.6 Aircraft Disinsection

Disinsection of aircraft is required by a number of states in order to prevent the introduction, or spreading, of communicable diseases or pests and must be performed at certain periods. Failure to comply with the local requirements may lead to the quarantining of passengers, crew and /or aircraft, for an indefinite time, by the Health Authorities of those countries.
Cargo compartments must be sprayed by ground staff, and the following procedures will be adhered to:

- each compartment must be treated 10 to 15 seconds prior to closing the compartment door;
- insecticide may never be directly sprayed on live animals;
- empty cans must always be returned to the cabin crew as they might be needed as evidence (upon arrival);
- if for any reason aircraft doors are opened after 'blocks-away' disinsection is completed, the treatment must be repeated prior to take-off.

Products:
There is no precise indication of the type of product that is to be used for the disinsection of the aircraft, but the product must be approved beforehand by the HiSky Headquarters.
It shall anyway be harmless to human beings when applied according to the manufacturer's prescription.

Rules:

- Have the disinsection performed by qualified personnel. These persons must have been instructed about:
  - correct method of spraying the disinsectant

- areas of the aircraft which must not be sprayed
- health risks and protection, personal hygiene

- The persons performing the disinsection must wear protective gloves
- In order to accelerate the process, the spraying may be performed by two persons in both aisles at the same time.
- Start with the disinsection only after passengers and crew have left the aircraft.
- Spray each cabin section shortly after cleaning has been performed. During spraying, no other persons should stay in the section concerned. The section should not been entered until two minutes after the spraying.
- In the cockpit, apply the disinsectant only to the floor area.

When performing the disinsection of a cabin section:

- First apply the disinsectant evenly to the floor area between the seats.
- Make sure that the disinsectant reaches the area under the seats.
- Then apply the spray to the area above the seats, using two cans (left and right hand) in shoulder height, walking evenly along the aisle.

4.1.7 Potable water

Potable water systems are susceptible to contamination by bacteria and other microorganisms. It is thus essential that such water is free from chemical substances/microorganisms which might cause illness and that it is chlorinated.
Ground handling company shall ensure that suitable bacteriological examinations of water samples taken from water supply systems and servicing vehicles are carried out at least four times a year. Records shall be kept at least one year and made available during HiSky compliance monitoring audits.
HiSky Technical Department shall ensure that suitable bacteriological examinations of
water samples taken from airplane water systems according to airplane maintenance program.
The station responsible must make sure that the handling company strictly adheres to the sanitary requirements and regulations.

- Drain the potable water system completely maximum 24 hours after filling.
- Cleaning and disinfection of potable water servicing vehicles must be performed at least weekly.
- Potable water equipment shall not be filled up from the same tap as toilet machinery.
- Potable water and toilet equipment shall not be parked in the same area.
- Personnel engaged in toilet servicing shall not perform water service.

WARNING: Do not do work on the toilet waste system and the potable water system at the same time. This will prevent contamination of the potable water system. Such contamination can be dangerous to health.

NOTE: At stations where the water supplied does not meet the quality standards, sterilization must take place using a HiSky approved product.

During winter operation, to prevent freezing of the water in the aircraft potable water system (tanks and lines), following precautions must be taken:

- drain the potable water system completely if the aircraft is parked in the open for several hours without electrical power supply (external or internal) and the temperature is or is expected to be below freezing point;
- replenish the potable water tanks only after the electrical power supply has been restored, and as shortly as possible before departure of the flight concerned.

Potable water servicing
During potable water uplift:
1) Persons known to have or suspected of having one or more of the following conditions are not allowed to conduct potable water service for aircraft water systems:

- Carrier of a communicable disease.
- Suffering from a gastrointestinal disease/illness.

- An open lesion or evidence of infection on exposed surfaces of body.
- Personnel engaged in removal or disposal of wastes from aircraft or other airport facilities.

2) Personnel handling drinking water service equipment shall keep hands clean at all times.
3) Water service tanks and connected plumbing, hoses, hose reels, racks, and cabinets must be kept clean at all times.
4) All plumbing and hoses must be water-tight with no leaks.
5) All tank openings except the tank vent must be capped or plugged at all times except when being repaired or serviced or when tank is being filled.
6) The hose end that is connected to the aircraft water system must be carried to and from its storage place and never allowed to touch the ground. When not in use, the hose end must be plugged, capped, or attached to an approved storage fitting.
7) When not in use, hoses must be stored on a hose reel or suitable bracket to prevent kinking, damage, and contamination from dirt, oil, etc.
8) Prior to connecting a service vehicle to the aircraft water system, flush the system.
9) Thoroughly flush mobile water trucks and carts every 1 to 2 days.

Requirements for system design:
1) Hoses for filling the aircraft potable water tanks must be equipped with a cap and keeper chain.
2) When the hoses are not in use, all nozzles or connectors must be protected from contamination either by covers or by immersing them in receptacles containing chlorinated water.
3) All hose connections for servicing the aircraft potable water system must be of a different size or type than those used for servicing lavatory facilities on the aircraft.
4) When hoses are transported on the potable water servicing vehicle, storage facilities shall be provided on the vehicle to protect hoses from contamination.
5) The fill line shall be completely independent and not cross-connected with any line used for non-potable liquids.
6) If insulation is used to protect hoses from freezing, it must be protected to prevent water adsorption and contamination.

To prevent contamination of the potable water during the water transfer and boarding process, the following specific guidelines are suggested:

- Daily checks for leaks, seals on fill ports, storage of fill hoses, and draining of tank dumps.
- Monthly checks of hose diameter (in relation to lavatory fill hose), tank vents, flushing and sanitizing of tanks, and “drinking water only” markings on vehicles.
- Attach cap to hoses.
- Use clean hands at watering point.
- Inspect watering point on regular basis.

4.1.8 Aircraft Cleaning

Cleaning should have been finished, and cleaning personnel should have left the aircraft before passenger embarkation. If passengers stay on board during transit, cabin cleaning should be performed in such a way as not to disturb the passengers.
The flight deck may only be cleaned on request and under supervision of an authorized employee of HiSky. Make sure that the windows are cleaned from outside, if possible and the cleaning personnel uses a safety harness.
For any station there are two categories of cabin cleaning:

- Transit/short turn-around cleaning
- Turn-around cleaning.

The HiSky Technical Department in connection with major maintenance activities will perform cleaning activities exceeding these categories.

Transit / Short Turn-around Cleaning

The transit/short turn-around cleaning shall be performed during every transit stop or during a short turn-around, respectively, and comprises the following duties:

- Removal of waste and extreme contamination from floor, cleaning of carpet/PVC cowers
- Removal of waste from seat pockets/nets and emptying of ashtrays.
- Cleaning of seats, cleaning of paneling windows, hack tracks/stowage beans and PSUs in case of extreme contamination.
- Arranging of seat belts.
- Proper folding and stowing away of blankets.
- Cleaning of lavatories including wash basins, faucets, toilet seats, toilet bowls, toilet cowlings, mirrors and floor, emptying of waste boxes/change of waste bags.
- Emptying, flushing and refilling of toilets with the appropriate quantity of toilet water as required for the receptive aircraft type.
- Cleaning of pantries including working surfaces and hand basins, emptying the waste boxes/change of waste bags.

If required, additional duties, which are included in the turn-around cleaning, may be performed on special request.

Turn-around Cleaning

Subject to turn-around time and condition of cabin and cargo compartments, a turnaround cleaning shall be performed comprising the following duties:

- Removal of waste and thorough cleaning of floor.
- Cleaning of cabin accessories and equipment (e.g. hat tracks, PSU, partitions Lockers and wardrobes including shelves magazine stowage, containers, blinds etc.).
- Cleaning of lavatories incl. wash basins, faucets, toilet seats, toilet bowls, toilet cowlings, mirrors and floors, emptying of waste boxes/change of waste bags.
- Emptying, flushing and refilling of toilets with the appropriate quantity of toilet water as required for the respective aircraft type.
- Cleaning of pantries including working surfaces and hand basins cleaning and emptying of waste boxes/change of waste bags.
- Cleaning of passengers' tables and their stowage bind as well as cleaning of bar tables.
- Cleaning of inside cabin windows.
- Changing of head rests and blankets.
- Cleaning of seats, arranging of seat belts.
- Emptying and cleaning of ashtrays as well as removal of waste from seat pockets.
- Distribution of items in cabin and toilets.
- Disinfecting of aircraft and/or spraying of aircraft interior with deodorants.
- Cleaning of compartments if required.

4.1.9 Toilet Service

The aircraft toilet waste tank must be serviced after each scheduled flight. Handling agents shall arrange to have:

- toilet track positioned and removed.
- toilets flushed.
- emptied tanks.
- recharged with fluid containing a dye-deodorant-disinfectant chemical solution.

As normal procedure, each time the lavatory is cleaned, a deodorizing and disinfectant chemical must be added to the aircraft's toilets:

- for hygienic reasons and to avoid obnoxious odors.
- in liquid or powder form.
- to be added to the prime charge (the amount of water being pumped into the tanks). generally dyed in blue color.

The toilet may be disinfected with any product that is commercially available, as long as it fulfils the aircraft manufacturer's specification(s).

During winter operation, to prevent freezing of the water in aircraft toilet tanks and lines, the following measures must be taken:

- drain toilets if the aircraft is parked in the open for several hours without electrical power supply (external or internal) and the temperature is or is expected to be below freezing point.
- service toilets only after electrical power supply has been restored, and as shortly as possible before departure of the flight concerned.
- add 20% by volume of anti-freeze to the water used as prime charge or use hot water for prime charge.

Coordinate all activities with HiSky Technical Department Representatives.

Anti-freeze products may be of any commercially available automotive type, e.g. Ethylene Glycol.

NOTE: Any of the above operations need to be requested, supervised and approved by the HiSky aircraft mechanic on duty.

A servicing vehicle requirement:

- hold waste
- provide flushing and recharging solutions
- illuminate the work area
- have an all-weather operating capability.

All components, lines and fittings not in heated areas have provisions to prevent freezing whenever aircraft is powered and the relevant circuit breakers are closed. For toilet service procedures according to the aircraft type please refer to Chapter 7 and Chapter 8 of this manual.

4.1.10 Air Conditioning

Air conditioning is to be provided whenever the outside air temperature requires such action and this must always to be coordinated with the flight crew.

Start Heating when the outside air temperature is Lower than 5°C
Start Cooling when the outside air temperature is Higher than 28°C

Air conditioning should be started approximately 60 minutes prior STD.
Air conditioning should be terminated shortly before embarking of the passengers.

NOTE: Local regulations to be observed for use of air conditioning units during Fueling.

4.1.11 Engine Start-up and Push-back

4.1.11.1 Danger

If the procedures and regulations are not observed, push-back may lead to accidents with serious injury or even death.

- Make sure that push-back is performed by specially and intensively trained personnel only.
- Make sure that these personnel have a push-back authorization.

4.1.11.2 Responsibility

According to local station instructions and airport regulations, the Station Engineer or the Ramp Agent or personnel of a handling company are responsible for the performance of the engine start-up and push-back procedures.

If other persons than a Station Engineer execute the tasks:

- Make sure that these personnel has a valid check-out for push-back.
- Make sure that you know about the procedures at your station and the details about your specific tasks.

4.1.11.3 Removal of Ground Support Equipment

The authorized ground staff must make sure that:

- Ground support equipment, which is no longer needed, is removed as soon as possible.
- Ground support equipment is parked in the designated parking areas.
- Cabin doors are closed by the flight attendants when embarkation of passengers is completed.
- Passenger steps and/or loading bridges are removed only after cabin doors have been closed.

4.1.11.4 Pushback Assistance

The responsibility is assigned to the authorized staff that may perform the pushback according to local contracts. The responsibility must be locally defined by each station applying pushback.
The interphone system must be used for communication with the commander. If not possible, signals must be used for communication between flight deck and ground. For pushback signals, refer to Chapter 4.1.4 ‘Communication with flight crew’.
The person communicating with the flight crew must maintain a sufficient safety distance from the nose landing gear during the pushback operation. When performing pushback, the cockpit must always be occupied by authorized staff.

4.1.11.5 Checks prior to Engine Starting

The authorized ground staff must make sure that:

- The interphone system is working, by connecting the headset to the aircraft and calling the flight crew, and/or that hand signal communication has been established.
- All staff not required for engine starting and/or pushback have left the parking position.
- The air intake and blast areas are clear of persons, ground support equipment and any other foreign objects.
- The ground support equipment for engine starting is ready, if required.
- A fire extinguisher is available near the aircraft.
- All cabin and compartment doors are closed.
- If the APU is not working, air for engine starting must be supplied by air starter units.
- When the flight crew is ready for engine starting and/or pushback, the anti collision lights will be switched on.
- When APU is not working and ASU is used, the flight crew must be briefed before pushback and engine starting.
- The flight crew must be informed, if the aircraft is covered by snow, ice or slush.

4.1.11.6 Starting of Engines

Depending on local procedures and regulations, engines can be started before, during or after pushback.
The interphone or hand signal system must be used for communication with the commander. If interphone communication is not possible, signals must be used for communication between flight deck and ground.
For starting of engines signals, refer to Chapter 4.1.4 ‘Communication with flight crew’.

IMPORTANT:

- The authorized staff must make sure no one enters the air intake and blast areas.
- The authorized staff will immediately alert the commander in case of any abnormal occurrence.

4.1.11.7 Checks after Engine Starting

The authorized staff must make sure that:

- The covers of the electrical power receptacle, and
- If applicable, the air starter connector panels are properly closed.

4.1.11.8 Starting of Engines during Pushback

Nose-gear controlled: Engines may be started during pushback, if local regulations allow it.
Main-gear controlled: Engine start is not allowed during pushback.

Starting of engines during pushback must be agreed between the commander and the authorized staff prior to starting pushback.
Everyone involved in the pushback, including the driver, must be informed accordingly.
In adverse weather and/or tarmac conditions, the driver of the pushback equipment may request not to start engines during pushback if he feels that this could jeopardize safe maneuvering.
The interphone system must be used for communication with the commander; if not possible, starting of engines during pushback is not permitted.
For commands and acknowledgments, standard phrases are to be used in an adapted sequence. For standard phrases for starting of engines during pushback, see 4.1.4 ‘Communication with flight crew’.
The person communicating with the flight crew must maintain a sufficient safety distance from the nose landing gear during the pushback operation.

4.1.11.9 Towing

During Maintenance Towing (positioning of the aircraft from/to the maintenance facilities), the cockpit must always be occupied by authorized staff. Maintenance Towing must only to be done with engines shut down.

EXCEPTION: Short forward towing during standard pushback/tow out to center the nose wheel may be done with engines running.

Anti-collision light must be switched on. Standard phrases and signals also apply to towing: in that case, replace the term 'pushback' by 'towing'. For specific aircraft type towing see Chapter 7 and Chapter 8 of this manual.

4.1.11.10 Assistance and Pushing Methods

The various assistance and pushing methods can be combined.

Walk-out assistance
This classic procedure is performed by two persons:

- as walk-out assistant: the responsible person for Engine Start-up and Push-back.
- the tow-truck driver.

If the tow-truck has a common driver/co-driver cabin:

- The Ramp Agent takes the co-driver seat.
- Make sure to have interphone contact with the Cockpit Crew.
- Lead the headset wire through the truck cabin window.
- Instruct the driver verbally about push-back direction and clearance.

If the tow-truck has separate cabins for driver and co-driver:

- Clearly agree with the driver about hand signals before starting push-back.

If the tow-truck does not at all have a seat for the Ramp Agent, or if local conditions or customer requirements do not allow to ride on the tow-truck:

- Walk along with the tow-truck.
- Clearly agree with the driver about hand signals before starting push-back.
- Make sure to observe all safety regulations for walk-out assistance according to Chapter 4.3 Ramp Safety.

'One-man' push-back

Following conditions must be met, if push-back shall be performed without walk-out assistance:

- Check if the 'one man' push-back is allowed.
- Local ramp conditions must allow a safe push-back without walk-out assistance.
- The tow-truck must be equipped with an intercom system for direct and clear verbal communication between the driver and Cockpit Crew
- The driver must have been instructed about all procedures according to:
  - Engine Start-up and Push-back and
  - Ground-to-Cockpit Communication, and about
  - All aircraft type related specials of the push-back training.

If a 'one man'-push-back shall be performed, inform the Cockpit Crew about this before connecting the tow-truck with the aircraft.

Push-back with tow-bar

Push with the tow-truck in forward gear only, not in reverse.

Before connecting the tow-bar to the aircraft:

- Set the steering bypass pin at the nose gear of the aircraft.
- Tow-bar and tow-truck must be connected to the aircraft by both the Ramp Agent and the driver.
- As Ramp Agent: check the proper connection of the tow bar.

If the tow bar is equipped with retractable wheels:

- Retract the wheels after the tow-bar has been connected with aircraft and tow-truck.

If engine start-up shall be performed on the parking position:

- Make sure that the tow-bar is connected to the aircraft before the engines are started.

Push-back with barless tow-truck

If using a barless tow-truck:

- Inform the Cockpit Crew about this before connecting the tow-truck with the aircraft.
- As Ramp Agent: use the seat or platform mounted on the truck for this purpose.
- Set steering bypass pin.
- Remove the wheel chocks.
- Connect the barless tow-truck to the aircraft and lift the aircraft.

4.1.12 Passenger Embarkation / Disembarkation

4.1.12.1 General

Passengers movement between aircraft and terminal building must be closely supervised by Airport security stuff at/on embarkation/disembarkation.
The use of mobile phones must be discouraged where passengers are embarked / disembarked until they are inside the terminal building or transporter.
The passenger movement must follow a clearly designated and visible route.
The passenger bus must be checked before and after every operation with the aim of detection of any FOD (Foreign Object Damage). A FOD check must be completed at each gate prior to embarkation or disembarkation.

4.1.12.2 Embarkation of Passengers

Local procedures must contain regulations about the clearance for the boarding of passengers.
Different procedures may be necessary for:

- embarkation via passenger jetways (loading bridges)
- embarkation via buses and passenger stairs.

Responsible personnel for control of the passenger flow can be the Ramp Agent or Passenger Handling staff. Make sure to know about the local procedure.

The standard procedure is:

- Get clearance for passenger embarkation in due time from the Cabin Crew directly. Do not start embarkation without that clearance.
- In case of simultaneous embarkation by 2 doors/stairs, make sure clearance is received from cabin crew at both doors.
- Make sure that the passenger route from bus/terminal to aircraft is secured.

4.1.12.3 Disembarkation of Passengers

The person in charge of ground handling of the flight concerned (Ramp Agent) is responsible for a safe disembarkation of the passengers.

- Make sure that passenger jetways or passenger stairs are positioned immediately after engine stop.
- Make sure that flight documents for the departure flight are handed over to the Cabin Crew immediately after passenger door has been opened and before disembarkation of passenger starts.
- Make sure that the passenger route from aircraft to bus/terminal is secured.
- Signal clearance to the Cabin Crew as soon as possible that disembarkation of passengers may start. Disembarkation will start at the crew's discretion.
  NOTE: Delegation of this task is possible to other persons, e.g. passenger handling staff, other aircraft handling/loading staff, bus drivers, etc., as locally agreed.
- Make sure that offloading of 'Delivery at Aircraft' baggage starts as soon as possible and is processed before passengers are disembarked, in order to make DAA bags available when passengers disembarked the aircraft.

4.1.12.4 Embarkation and Loading with Engines Running

Rules
The following rules apply to last minute embarkation of passengers and last minute loading of baggage, cargo and mail:

- Only applicable in co-ordination with the commander and under supervision of authorized staff.
- The aircraft must be in parking position.
- Passengers must board through the loading bridge or passenger staircase positioned at the forward cabin door.

Specific Airline Rules
Aircraft with wing-mounted engines:

- Passenger boarding permitted only through the loading bridge at the most forward cabin door.
- Loading is not permitted, neither in the forward nor in the aft compartments.

4.1.13 Marshalling

The HiSky aircraft maintenance personnel or authorized personnel of the contracted handling company, must make sure that effective marshalling is available, unless local conditions provide for safe taxiing and maneuvering of aircraft (specific guide-in system).

NOTE: In case of marshal-less aircraft taxiing, the HiSky aircraft maintenance personnel or authorized personnel of the contracted handling company must make sure that the aircraft maneuvering area is free of any vehicle, equipment, or object.

In case of any deviation to the norm, the cockpit crews' attention must be sought and the aircraft stopped immediately.
If required, marshalling is to be performed either by Airport authority staff or ground handling company.
Only properly trained and officially authorized staff are permitted to give marshalling signals.
Visible batons must be used for signaling, including torch lights or illuminated batons at night.

The Commander remains responsible for the safe operation of the aircraft.
If necessary, particularly when operating in tight areas, between obstacles, and/or in poor visibility, the marshaller is to be aided by one, or two wingmen (depending on the ramp layout situation).
These wingmen have the chore to aid the marshaller in monitoring that a safe distance is maintained between the aircraft's wingtips & tail and any possible obstacle. This is to be accomplished by following the aircraft on the external side of the wing tip and signaling to the marshaller (by "thumb-up") as long as the wing is clear of obstacles.

NOTE: In a wingmen operation, the marshaller is to immediately stop the aircraft whenever eye contact is lost with any of the wingmen.

The standard ICAO / IATA signals are to be performed by the authorized personnel (see Chapter 4.1.4 Communication with flight crew).

4.1.14 Flight check before departure and after arrival

4.1.14.1 General

Before each departure of a flight, a "flight check before departure" must be performed by:

- The flight crew
- A qualified HiSky aircraft maintenance personnel or authorized personnel of the contracted handling company.

After each arrival of a flight a "flight check after arrival" must be performed by:

- A qualified HiSky aircraft maintenance personnel or authorized personnel of the contracted handling company.

4.1.14.2 Responsibilities for Releasing Aircraft

Aircraft must be released for departure by the qualified personnel who performed "flight check before departure".
The check 'all doors and covers closed' and the aircraft release for departure may also be performed by the ramp agent/supervisor, after "flight check before departure" has been completed by:

- the flight crew, or
- HiSky aircraft maintenance personnel

NOTE: If aircraft doors must be opened again after the check 'all doors and covers closed' has been completed, the ramp agent/supervisor or HiSky aircraft maintenance personnel must make sure that they are again properly closed before releasing the aircraft for departure.

4.1.14.3 Responsibilities of Ground Personnel

HiSky aircraft maintenance personnel or authorized personnel of the contracted handling company is responsible for "flight check before departure" and "flight check after arrival".

IMPORTANT: The following instructions do not replace the pilot's or HiSky aircraft maintenance personnel's checks and have to be performed by the contracted company according the valid SGHA.

Ensure that all doors and panels are checked and closed prior to aircraft departure

- Check that all cabin and compartment doors are properly closed and door handles are fully retracted and flat with the aircraft surface.
- Check that all service panel covers are properly closed and no fluids are leaking.
  NOTE: In case of fluid leakage inform the flight crew and/or HiSky aircraft maintenance personnel immediately.
- Check that no foreign objects (pens, caps, documents, tie-down material, pallet tags, etc.) are placed in engine inlet, intake or blast area.

Ensure that aircraft are checked for damage <u>on arrival and before departure!</u>

<u>Arrival</u>

- Check that all compartment doors and doorframes show no visual damage
- Check during offload that compartment floors, walls, ceiling, panels, nets, locks, etc. show no visible damage.

<u>Departure</u>

- Check that compartment and cabin doors, structural parts, edges and tips are not visibly damaged.

<u>NOTE:</u> If any damage is detected contact the flight crew and/or HiSky aircraft maintenance personnel immediately.

<u>IMPORTANT:</u> Any damage to an aircraft must be reported according to Chapter 4.3.8 - Reporting ramp accidents and incidents of this manual.

4.1.15 Chocking of Aircraft

After the aircraft has stopped at its parking position:

- Secure the aircraft with wheel chocks.
- Inform the cockpit crew about the proper positioning of the wheel chocks.

Chocks should be of a high visibility color or be identified by high visibility markings.
Chocks should be triangular in shape, with an approximate 45° angle at the point at which the tyre makes contact. Chocks should be made of a material that has suitable coefficient of friction and that has adequate rigidity (made of rubber or composite materials). The length of the chock should be such that it covers the full width of the wheel(s) required to be chocked. The height of the chock should be in relation to the size of the wheel and the type of tyre. Chocks should be stored in a dedicated area so that they are not the cause of FOD. Personnel should be made aware of protrusions in the vicinity of the wheels, such as gear doors and antennae, which could cause injury.

4.1.15.1 Placing the wheel chocks

Chocks should be positioned on an aircraft according to airframe manufacturer recommendations.
Chocking of the aircraft main gear should be achieved by positioning the chocks in the front and rear of outboard tyres.
Placing of chocks on an arriving aircraft must only be performed after engine spool down, anti-collision lights switched off and clearance to approach the aircraft is given by the responsible person.
Chocks, when positioned, should be parallel to the wheel axle and only lightly touching the tyres.
As aircraft wheels are constructed in such a way, that in case of burst tires always burst in axial direction (i.e. in direction to the wingtips)
Staff placing the wheel chocks shall always approach and leave the landing gear either from the front or from the rear to avoid the danger of becoming severely injured.
The risk of bursting tires increases by heat caused after landings with exceeded maximum landing weight and/or interrupted take off run.
The placing of wheel chocks at the nose landing gear only is only permitted after the aircraft has come to a complete stop.
The placing of wheel chocks at the main landing gear wheels is only permitted after the engine shut down and as soon as the anti-collision light has been switched off.
In the event of high wind and adverse weather conditions, additional chocking/ other measures may have to be taken to secure the aircraft.

<u>Wind velocities of 25 to 40 knots:</u>

- Wheel chocks shall be placed in front of and behind the outside main landing gear wheels.

<u>Wind velocities of more than 40 knots:</u>

- Wheel chocks shall be placed in front of and behind the outer wheels of main landing gear (if possible chocks should be linked);
- Aircraft parking brake should be set;

- Passengers shall embark/disembark through the forward cabin door only;
- During the unloading process the afterward compartments shall be unloaded first whereas during the loading process the forward compartments shall be loaded first.

4.1.15.2 Removal of wheel chocks

Chocks should not be removed from an aircraft until the responsible person gives clearance.
The authorized staff must make sure that the wheel chocks are removed in the following sequence:
1. Wheel chocks at the main landing gear wheels must be removed prior to engine starting and provided confirmation has been received from the commander that the parking brake has been set.
2. All remaining wheel chocks are to be removed upon order from commander.

Adverse Weather and High Winds
The authorized staff must make sure that the wheel chocks are removed in the following sequence:

- Additional wheel chocks must be removed prior to engine starting, if approved by the commander.
- Steps (1) and (2) as described under 'normal conditions'.

CAUTION: Be aware that the aircraft can skid slightly when the parking position is covered with ice or snow.

After use, chocks should be removed to a designated storage area.
After unloading the aircraft, all servicing equipment and passengers steps not immediately needed for loading shall be removed from the aircraft and secured at distance of at least 15 m.

4.2 Fueling Procedures

4.2.1 Supervision and responsibility of Fueling

4.2.1.1 Responsibility

Every Fueling process must be supervised.
According to the local procedures and regulations:

- Station Engineer or
- Ramp Agent or
- qualified personnel of a handling company or
- personnel of the Fueling company

supervise the Fueling process and make sure that all regulations of this Chapter 4.2 Fueling Procedures are observed.

If you are not sure about the local procedures and agreements, and your specific responsibilities, ask your Operations Supervisor about this.
If you are not responsible for the supervision of Fueling, and also nobody of the personnel listed above seems to have this task, immediately inform your Operations Supervisor about this.
The Fueling supervisor does not need to be permanently present at the fuel inlet or at the fuel truck, except when Fueling is done with passengers on board, during embarkation or disembarkation – refer to Chapter 4.2.4 of this manual.

4.2.1.2 Punctuality

Fueling is one of the time critical departure activities, especially before flights which require nearly the whole tank capacity of an aircraft to be filled with fuel. Make sure that the fuel truck arrives on time according to local regulations to guarantee a scheduled departure. If the fuel truck does not arrive on time, order the fuel truck through the usual local communication channels.

4.2.1.3 Fuel check

The Fueling of HiSky aircraft is performed only by nominated suppliers. For this purpose, there are contracts signed with fuel suppliers at all HiSky's destinations, which are maintaining standards of fuel safety and quality, according to their IATA Fuel Quality Pool Certificate.

As an assurance that fuel suppliers are maintaining acceptable standards, it is essential that Fueling facilities are inspected at regular intervals.
The aircraft shall be fueled with the specific fuel, free from contamination, of the correct grade and specification for each aircraft type (see Operations Manual, Part B).
The Fueling shall start only after the check of fuel documents (fuel passport, period of its validity).
The Commander is responsible for determination of the final quantity of the fuel taking in consideration the fuel density and shall request a fuel-water check if doubts exist about the fuel quality.
To ensure fuel corresponds to the specification and grade of product necessary for the applicable aircraft type, scheduled/unscheduled audits are performed by Compliance Monitoring Department according to the approved plan at each location where HiSky has aircraft Fueling operations. These inspections cover:

- fuel facilities;
- fueling equipment;
- safety and quality procedure;
- training of personnel;
- personnel performance level.

4.2.2 Fueling safety regulations

- Observe all following safety regulations all the time during Fueling or defueling.
- Observe all local airport regulations for Fueling or defueling, which may exceed the regulations listed below.

If one or more of these safety measures and regulations are not observed or cannot be observed, immediately interrupt Fueling.

Precautions
The following precautions must be taken to prevent the ignition of fuel vapors that are always present during fueling/defueling operations:

- Relevant regulations are normally issued and enforced by local authorities.
- Air inlets of air conditioning units must be set in such a way as to eliminate the risk of sucking in fuel vapors.
- Batteries or battery chargers may not be connected, disconnected, operated, installed or removed during Fueling.
- The aircraft, fueling vehicle, hose nozzle, or any other appliance through which fuel passes, must be electrically bonded throughout the fueling operation. Connections must be made to designated points on the clean unpainted surface of the aircraft and the Fueling vehicle. Cables, clips or plugs used for bonding must be in good condition and regularly tested.
- A clear path must be maintained to permit the rapid removal of Fueling vehicles in case of emergency.
- Combustion heaters in the aircraft may not be used.
- Electrical equipment, e.g. vacuum cleaners, must be specially designed for use in the ramp area or in the aircraft.
- Fire extinguishers must be readily available. For more information refer to Chapter 4.3.3 ‘Fire protection’.
- Personnel on duty on the ramp may not wear shoes or boots with metal nails, hobnails, metal cleats or plates on the sole or heel.
- If excessive fuel odors or other hazardous conditions are detected, Fueling must be suspended until the condition is corrected.

Thunderstorms
If a thunderstorm can be seen or heard at or near the airport: Danger: Risk of serious injury or even death!
If the aircraft is electrically charged or hit by a lightning, fuel gases may be lighted by electrical decharging, agree with the Commander, if the Fueling shall be continued.
If the Commander is not on board, and there is any doubt about the safety, immediately interrupt the Fueling procedure.
In case of severe lightning or electrical storms in the vicinity of the airport, Fueling operations must be suspended.

Oxygen bottles
If oxygen bottles are filled or changed at the aircraft, do not fuel or defuel at the same time.

Fuel trucks

- Fuel trucks may only be driven backward to the aircraft, if they are marshaled by an accompanying person.
- The truck must be positioned in a way that the aircraft cannot be damaged when the truck drives towards or away from the aircraft.
- Keep free all the time an escape route for the fuel truck.
- Do not disconnect fuel trailers from the towing truck, if the trailer cannot be easily moved by hand.

Bonding
Any static electricity must be discharged before the Fueling starts.
Establish bonding connections from the fuel truck to the aircraft before connecting the fuel hoses.

Fuel hoses

- Lay fuel hoses by the nearest way to the fuel inlets.
- Keep a safety distance of at least 1 m between the fuel hoses and the aircraft wheel brakes and the APU air intakes.
- Never cross fuel pits or fuel hoses with Ground Support Equipment (GSE) or other vehicles.

Ground Power Units

Ground power units must:

- Be connected to the aircraft and switched on before Fueling starts.
- Not be switched off or disconnected before Fueling is completed.

Auxiliary Power Unit

Fueling with the APU running is allowed without restrictions.
If an Auxiliary Power Unit (APU) is required to operate during Fueling, start APU operation before the filler caps are removed or Fueling connections are made.
Do not restart the APU during Fueling if it stopped for any reason.

Deadman control switch

Press the deadman control switch all the time during Fueling.
If Fueling is performed by two persons, it is not necessary to press the deadman control switch.
In this case, make sure that one person is present all the time at the switch board of the fuel truck.

Spilled fuel

Immediately initiate a removal or dry up of spilled fuel according to all local airport regulations.
Inform the Cockpit Crew and your Operations Supervisor.
If the Auxiliary Power Unit (APU) had to be shut down due to the proximity and danger from flammable vapors or fuel spray: Do not restart the APU until the spillage is removed and there is no further risk from fuel or vapors.
Spilled fuel must be removed or dried up before passengers are boarding.
Additionally, if fuel is spilled because of damaged or burst fuel hoses, inform the Operations Control Center of HiSky.

Passengers disembarkation, on board, or disembarkation

If passengers are disembarking, on board, or embarking during Fueling, additionally observe all safety regulations of Chapter 4.2.5 Fueling with Passengers on Board.

Passenger routes

If embarking or disembarking and Fueling are made at the same time, do not lead passengers through the fuel venting areas.

No Smoking

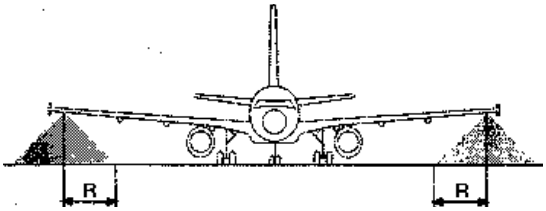
The ‘No Smoking’ rule must be rigidly enforced in the vicinity of the aircraft being refueled.

Use of mobile telephones, photo flash bulbs

During Fueling or defueling the use of mobile telephones and disposable photo flash bulbs within the fuel venting areas and in the immediate vicinity of the aircraft being refueled is forbidden.
EXCEPTION: mobile telephones marked with a yellow hexagonal label 'EX' are protected against explosion and may be used.

Fuel vents and venting areas

Aircraft fuel tank vents are hazard zones. Vehicles, equipment or load may not be positioned directly underneath, and persons or vehicles may not pass these zones while Fueling is in progress.
Do not position any vehicle within the venting areas during Fueling or defueling, not even fuel trucks.
The fuel vents are at the wing tips. For aircraft with additional tail tank they are also at the tip of the right horizontal stabilizer (in flight direction).



The venting area under the fuel vents is formed like a cone. The size of the cone is described by its base radius R. The venting area cone for Jet fuel at the wing tips of narrow body aircraft has an approximate base radius R = 1,5 m, at wide body aircraft R = 2,5 m.

Aircraft Engines
Generally, aircraft engines may not be running during Fueling.
EXCEPTIONS:

- In unusual operational conditions, individual cases may be decided by the commander in co-ordination with the airport authorities and the Flight Operations manager.
- In exceptional cases (e.g. if APU is out of order), the engine opposite to the fuel connection may be running; engines must be started before Fueling starts and may not be stopped until fuel flow has ceased, except in case of an emergency.

Combustion Engines
Combustion engines of equipment and vehicles operating on the ramp must be equipped with air filters. Its exhaust system must be free from defects, which may result in the emission of sparks or flames.

4.2.3 Standard fueling

4.2.3.1 Start and End of Fueling

Start of Fueling
The Fueling process starts at the moment when the fuel hoses are pressurized.

End of Fueling
The Fueling process ends at the moment when the fuel hoses are disconnected from the aircraft or with the explicit confirmation by the Fueling personnel that the fuel hose is not pressurized any longer.
Inform the Cockpit Crew about the end of the Fueling process.

Cockpit Crew
If it is not obvious that the Cockpit Crew is on board or not:

- Ascertain whether the Cockpit Crew is on board.
- Fueling personnel has to check with the responsible Ramp Agent, Head Loader or Station Engineer, or check actively himself by knocking on the cabin door or on the hull underneath the cockpit, before pressurizing the fuel hose.

Cockpit Crew on board
Whenever the Cockpit Crew is on board:

- Agree with the Cockpit Crew about the time to start Fueling.
- The Cockpit Crew ensures the necessary safety measures on board.
- Do not start Fueling without clearance from the Cockpit Crew. Clearance may be given verbally, with undoubtful hand signals, or via an indication at the Fueling operation panel of some aircraft types.
- Concerning the clearance for Fueling during disembarkation refer to Chapter 4.2.4 Fueling with Passengers on Board.

Cockpit Crew not on board
If the Cockpit Crew is not on board and the minimum take-off fuel (MINTOF) or block fuel is not known, do not start Fueling.

If the Cockpit Crew is not on board and the minimum take-off fuel (MINTOF) or the block fuel is known, Fueling up to MINTOF or block fuel, respectively, may be performed without agreement with the cockpit crew.

According to local procedures and regulations:
- Operations personnel (HiSky or handling agent) or
- Station Engineer or
- Fueling personnel

must make sure that the necessary safety measures are observed.

Personnel who perform this task must have been instructed. If you are not sure about your specific responsibilities, ask your Operations Supervisor about this.
Do not perform any activities in the cockpit or the cabin without an instruction.

4.2.3.2 Quantity of fuel

Ordered fuel
The Commander of the departing flight decides on the quantity of fuel. After he received the Operational Flight Plan (OFP) at the dispatch desk (or in the cockpit, if the crew is in transit or transfer):
- Ask commander about the required fuel quantity.
- According to local regulations and information channels, inform:
  - the Load Controller or
  - the Fueling supervisor or
  - the Fueling company or
  - any other person who needs this information about the required fuel quantity.

Delivered fuel
- Compare the quantity of fuel on the Fuel Delivery Sheet with the fuel gauges of the fuel truck
- If the quantity is correct: Sign the Fuel Delivery Sheet on behalf of HiSky.
- Show the Fuel Delivery Sheet to the Cockpit Crew.
- The Cockpit Crew compares the quantity on the Fuel Delivery Sheet with the indicated quantity at the cockpit fuel gauges.
- Keep the Fuel Delivery Sheet.
- File one copy of the Fuel Delivery Sheet in the Trip File.
- File the original or another copy separately for accounting reasons according to local procedures.

4.2.4 Fueling with passengers on board, during embarkation or disembarkation

4.2.4.1 General

Regulations concerning fueling/defueling with passengers on board or while embarking or disembarking are published in the Operations Manual (OM). Furthermore, it is also locally regulated and depends on the local station organization.
NOTE: The rules are in addition to the ones laid down in Chapter 4.2.2 ‘Fueling safety regulations’.

4.2.4.2 Fueling with Passengers on Board

In addition to the rules laid down in Chapter 4.2.2 ‘Fueling safety regulations’, the following regulations must be observed:
- If locally required, the airport authorities must be informed and/or permission must be requested.
- The fire-fighting department must be informed if locally required.
- The station responsible must inform the commander, the Fueling company and the ground engineer that passengers will remain on board during Fueling.

For Fueling with passengers on board, while embarking or disembarking the presence of a qualified person (other than the Fueling staff) is required in the immediate handling area of the aircraft:

- who must have been instructed in the general and locally applicable safety procedures and fire prevention regulations and
- who is in close contact with the cabin crew, e.g. via headset, mobile phone or other means.

If you are this qualified person responsible for Fueling supervision:

- Do not go into the building or into the aircraft during Fueling while passengers are embarking/on board/still disembarking.
- Supervise the Fueling process.
- You may perform coordination and communication tasks at the same time in the immediate handling area of the aircraft.
- If one or more of the safety measures and regulations shown above and on the next pages are not observed or cannot be observed, or in case of any other irregularity or emergency:
  - Immediately interrupt the fueling process.
  - Immediately inform the Cockpit Crew and the fire brigade.
  - If fueling is performed with passengers disembarking, on board, or embarking:
    - Observe 4.2.2 Fueling Safety Regulations, 4.2.3 Standard Fueling, and all additional safety regulations listed on the next pages.
    - Observe all regulations of 4.2.4 Fueling with Passengers on Board.
    - Observe all local airport regulations for Fueling with passengers disembarking, on board, or embarking, which may exceed the regulations listed below.
- Adequate communication must be established between the ground staff supervising the Fueling and the flight crew.
- The person responsible for Fueling shall inform crew/staff on board via headset and around the aircraft verbally (face to face) that Fueling is about to commence and when the Fueling is completed.
- The personnel responsible for Fueling supervision shall inform the crew/staff on board should a hazardous situation arise.
- One pilot must be on the flight deck and monitor the interphone system; he must be prepared to conduct emergency procedures concerning fire protection and fire-fighting, to handle communications and to initiate and direct and evacuation.
- Staff and passengers must be warned that Fueling will take place.
- The minimum number of cabin crew must be on board.
- The cabin crew must be informed when Fueling starts and ends.
- Passenger loading bridges and/or stairs must be positioned at the aircraft. When passenger loading bridges are in use, access to the terminal must be available.
- When a passenger loading bridge is not used, as a minimum a set of aircraft passenger steps should be positioned at the door normally used for embarking.
- Ground service activities and work inside the aircraft must be conducted in such a way that the aisles and emergency exits remain unobstructed.
- Emergency escape routes must be unobstructed. All exit areas, exit access areas, cabin aisles and cross aisles inside the aircraft should be kept clear of obstructions.
- The ground area beneath the exits intended for emergency evacuation and slide deployment areas must be kept clear.

In addition, the following precautions must be taken:

- Ground activities outside the aircraft and work within the aircraft, such as catering and cleaning, should be conducted in such a manner that they do not create a hazard or obstruct emergency exits.
- The ground area beneath exit doors should be kept clear of any obstructions.
- Aircraft fitted with integral stairs must have these deployed.
- In the event of a fuel spillage during Fueling operations with passengers or crew on board, the actions mentioned in Chapter 4.2.5 Fuel spillage should take place.

4.2.4.3 Fuel safety zones

Due to the fire hazard associated with fuel vapors all personnel must be cautioned to ensure that items and processes such as matches, open flames, welding, mobile telephones, portable radios, pagers, flashbulbs, etc. are kept out of the Fueling safety zone.

The refueling safety zone shall be regarded as an area extending 6m radially from Fueling receptacles, tank vents and Fueling equipment.
Equipment performing aircraft servicing functions shall not be positioned within a 3m radius of aircraft fuel system vent openings

NOTE: Passengers needing special assistance (passengers with reduced mobility, UMs, etc.) may remain on board during Fueling at transit stations, if local regulations do not explicitly require that they disembark, provided the minimum needed crew for the flight stays on board.

4.2.4.4 Fueling while Passengers are Embarking or Disembarking

In addition to the above rules, the following rules apply to Fueling while passengers are embarking or disembarking:

- Must be authorized by the commander.
- Must be supervised by authorized staff.
- Passengers must be kept outside the appropriate restricted zone.
- No smoking rules are to be rigidly enforced.

4.2.4.5 Defueling with Passengers on Board or Embarking/Disembarking

Permitted, the same precautions apply as for Fueling with passengers on board or embarking/disembarking. In addition, one fire brigade vehicle must be positioned at the aircraft.

4.2.5 Fuel Spillage

All fuel spills, irrespective of size, must be regarded as a potential source of fire.

In the event of a fuel spillage during fueling operations with passengers or crew on board aircraft the following actions must take place:

- Stop Fueling operation immediately.
- Call the airport fire brigade.
- Notify the flight crew or other qualified persons on board of aircraft.
- Keep persons and vehicles away from the area.
- As directed by the Captain, evacuate all persons from the aircraft and immediate area.
- Mobilize all available fire fighting equipment as standby protection until the arrival of the airport emergency services.
- Control the movement of unauthorized personnel and equipment into the area.
- As far as possible, restrict all activities inside and outside the spill area to reduce the risk of ignition.
- All electrical equipment in use during the Fueling operation must be switched off immediately.

Normal operations must 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.

If fuel is spilled on any load, then such items are NOT TO BE LOADED into the aircraft.

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4.3 Ramp Safety

General safety rules and procedures on the ramp ensure safe handling; therefore, safety regulations must be understood and always followed by drivers (or operators) of each type of ground support equipment as well as other related staff on and around aircraft, in hangars and workshops. Should even the slightest scratch or dent in the aircraft occur or be noticed it must immediately be reported to permit technical evaluation. As aircraft have to withstand very great forces at high altitudes personnel should be made aware that even minor deformations, apart from detracting from performance, could be the direct cause of serious accidents.

4.3.1 General safety measures on the ramp / responsibilities

4.3.1.1 Responsibilities

HiSky promote safety and continuous improvement practices in order to maintain the highest standards of safety. In this matter, ground handling company must have an assignment of responsibility to coordinate and supervise all activities concerning the ramp handling in areas near and around the aircraft. Such assignment lays on one individual, called ramp-supervisor, ramp-coordinator or flight dispatcher, or other similar, depending on the handling company.
He shall:

- be qualified, and trained, on all HiSky procedures and regulations;
- be present on the ramp during any ramp handling operation;
- must first of all enforce that all the staff working in and around the aircraft follow the HiSky rules and procedures;
- monitor and control all the activities on the aircraft during airside operations. These activities may be performed by the handling company, refueling, catering, etc.
- have time-limited authority over the parties involved during the whole transit/turnaround, thus functional authority over HiSky services and contractual authority over the handling company and other subcontractors;
- regarding passengers, at least, be able to initiate and check the regular operation of boarding;
- focus on prevention of damage to the aircraft;
- actively support and promote actions designed to enhance ramp safety;
- make sure that staff is instructed about hazards on the ramp and the relevant safety regulations;
- conduct staff briefings on ramp safety;
- make sure that ramp accidents and incidents are properly reported and followed up;
- check that ground handling equipment is available, serviceable and in position and required personnel is available and correctly dispatched and briefed of his duties.

In addition to the before mentioned duties, the Departure Coordinator shall check that the following functions are carried out safely, in due time and according to HiSky rules and procedures:

- Positioning of ground equipment;
- Passenger deplaning;
- Baggage, cargo and co-mail off and on-load;
- Cabin cleaning;
- Catering;
- Refueling;
- Cooling/heating the cabin;
- Water/toilet servicing;
- Closing of passenger check-in;
- Informing all parties involved in case of any irregularity;
- Crew briefing;
- Passenger enplaning;
- Removing ground equipment;
- Checking and completing all traffic documents according to actual load;
- Closing of aircraft doors;
- De-icing or Anti-icing as required;
- Aircraft push-back.

4.3.1.2 Personal protection

Subject to a risk assessment, any person whose duties require airside access should wear garments that contain reflective material and are of high visibility colors. The design, material and layout of the high visibility garment should take into consideration both local regulations and specific operating conditions, e.g. weather.
Personnel working in noise-intensity areas, i.e. on the apron, maintenance lines, etc., shall wear approved hearing protection. Safety shoes or boots should be worn to prevent foot injuries.
Clothing appropriate to the weather conditions should be made available to personnel. Gloves should be worn by material handling personnel and equipment operators. Protective gloves should be worn as appropriate to the job function, e.g. lavatory servicing.
Face protection should be worn where there is the possibility of fluid “splash back” in the job function.
Jewellery such as rings and identification bracelets should not be worn. Neckties should not be worn, unless they are quick release (clip) type.

4.3.1.3 Operating practices

- Personnel shall not walk or stand on a moving conveyor belt.
- Personnel must not ride up or down on the rear platform of a loader.
- Personnel should never attempt to jump off or on a moving vehicle.
- Personnel should not be transported on equipment unless there is a seat for them.
- Personnel on moving equipment must be seated properly and should keep their bodies within the confines of the vehicle structure.
- Personnel must not ride on elevating platforms when the vehicle is in the drive mode.
- Personnel should not walk on rollers or castors.
- Personnel should keep clear of aircraft engine intake/ exhaust areas and propellers.
- Personnel should stand clear of exits/entrances of facilities when a train of carts/dollies passes.

Operators of equipment shall ensure that other personnel are not entrapped by movement of load/pallet/containers either in the aircraft or on the loading equipment.
To prevent fingers and hands becoming jammed between objects all load should be slid into place rather than lifted.
Handling load by the metal strapping, which is frequently used to bind heavy or awkward shipments, should be avoided.
All load should be set down easily (rather than dropping it) to avoid injuries to the feet and toes as well as to prevent damage to aircraft flooring and load.
Gates of loaded carts should be lowered carefully. Serious injuries have resulted from cargo tumbling out of carts.
Extreme care should be exercised when entering and leaving aircraft cabins, holds and compartments. Aircraft cabins shall only be entered or exited by using stands, steps, loading bridges which have been properly positioned and secured. Holds and compartments shall only be entered or exited by using the appropriate elevating device and which has been positioned and secured, e.g. belt conveyor and cargo loader.
When handling live animals, fingers and hands should be kept clear of the interior of the containers to avoid being bitten.

4.3.1.4 Additional safety regulations

Make sure that – additionally to the safety regulations shown on previous and next pages – the following regulations are strictly observed:

- securing of aircraft (refer to Chapter 4.1.2 Aircraft security)
- Fueling with or without passengers on board (refer to Chapter 4.2 Fueling procedures)
- engine Start-up and Push-back, especially Chapter 4.3.5 Safety instructions for Aircraft movement.

No authorized person may enter the ramp or an aircraft. If any unauthorized person is detected, inform the local authorities directly or through the Operations Supervisor, according to local procedures.
Use only the marked walkways and traffic routes according to the local airport regulations.

Check the ramp surface frequently to avoid accidents, injuries of persons or damage to aircraft and equipment caused by oil, ice, snow, FOD (Foreign Object Damage: small or big stones or objects like tie-down rings, waste, etc.).
In any contamination of the ramp surface is detected, initiate an immediate removal of the contamination.
Lead the passengers to and from aircraft in a way that the risk of accidents is kept to a minimum.

4.3.2 Danger areas in the vicinity of the aircraft

Blast Area
Blast area is the area affected by the efflux of jet engines. This area depends primarily on engine thrust and on wind direction and velocity. Blast area can be considerably extended as a result of the thrust required under unfavorable conditions (bad condition of the tarmac surface, inclination of the tarmac, wind, snow, ice, etc.).

Intake Area
Intake area is the area covered by the safety distance from the inlet of running jet engines to avoid suction. It extends in front as well as aft of the inlet.

Depending on the circumstances, passengers shall be led/supervised by the ground staff to/from the aircraft as expeditiously as possible, respectively the passenger pathways to/from the aircraft shall be safe (free of ice, oil, etc.) and the intake area guarded by one of the following securing methods:

Reflective safety cones/posts with barrier cords:
- Shall be positioned to guard the area around the engine nacelle by a distance of at least one meter.
- The cones have to be positioned to enable the passengers to identify the guarded area.

Hand luggage trolley:
- Shall be positioned in front of the intake area before passengers are disembarking.
- If none of the above listed securing methods can be accomplished, the intake danger area must be secured by other suitable means of security (e.g. by the ground personal, until the hand luggage trolley is in position).

Whenever the rear passenger door is used, the blast danger area has to be additionally guarded by reflective safety cones.

Venting Area
Venting area is a spherical zone around the fuel vents of an aircraft, within which inflammable fuel vapors have to be expected during Fueling.

The extension of the venting area is:
- meters radius around the fuel vents for kerosene-type fuel.
- 8 meters radius for wide-cut-type fuel and/or a mixture of wide-cut-type fuel and kerosene-type fuel.

Vehicles, equipment or load may not be parked in the venting areas during Fueling.
Vehicles or persons may not pass through the venting areas during Fueling, except if specifically required for Fueling purposes.
Danger areas for each specific aircraft type are shown in Chapter 7 and Chapter 8.

Use Of Marker Cones
The purpose of "coning" aircraft is to create a safety buffer around specific areas on aircraft that are susceptible to ground damage.

The design of cones should:
- be conical in shape
- be of a minimum height of 750 mm

- have a minimum base mass of 4.5 kg
- be orange in color with reflective striping.

Cones should be positioned immediately after the aircraft is at its parking position:

- at each wing tip
- in front of all wing-mounted engines
- in front of other areas on an aircraft that are in conflict with the normal flow of equipment during handling operations
- at others areas around the aircraft only when clearance to approach the aircraft has been given
- at a distance from the "protected" area such that the intended purpose of the cone is not diminished.

Cones should be removed:

- just prior to the aircraft departure to ensure maximum protection of the aircraft
- after use, to a designated storage area.

4.3.3 Fire protection

General

Fire prevention is more important than fire fighting.
Good housekeeping is essential. Garbage should not be allowed to accumulate, but should be disposed of into approved containers.

- Any suspected or known fire must be reported immediately.
- Faults in electrical wiring must be reported immediately.

Smoking shall NOT be permitted on any apron areas or in any vehicles on the apron.
Personnel must know the location of fire-fighting equipment, fire alarms, emergency shut-offs, etc. Access to fire-fighting equipment, fire alarms, emergency shut-offs, etc. should not be obstructed.
If fire is discovered in a parked aircraft any persons on board should be immediately advised and evacuated. If possible, doors and hatches etc. on aircraft should be closed.
If fire occurs on a piece of ground support equipment, it should be controlled utilizing either the apron extinguishers or extinguishers on the equipment. As soon as is practical, the equipment should be removed from the vicinity of the aircraft.
Equipment should not be operated in the vicinity of a fuel spill.
Personnel should know the types of fire fighting equipment available and should be trained in their use.

In case of fire on or in the vicinity of an aircraft:

- The crew or staff on board the aircraft must be alerted immediately so that evacuation can start.
- The airport fire brigade must always be called at once.

Training of Personnel

Personnel working in the ramp area must:

- be familiar with the location of the portable fire extinguishers.
- receive appropriate training in the use of fire-fighting equipment, including theoretical instruction in fire-fighting.

Fire Extinguishers

Portable fire extinguishers must be available for immediate use. They must be used for fighting fires of spilled liquids and other combustible materials and for landing gear brake fires. Portable fire extinguishers must meet the applicable standards and must be periodically checked according to local regulations.
Fire extinguishers must be available in/on ramp vehicles, and at least one extinguisher with the capacity specified hereunder must be available within a radius of 50 meters from the aircraft parking position.

Aircraft Engine Fire

- May not be fought by means of fire extinguishers used by ground staff.
- Are fought by flight crew by means of the engine fire extinguishing system.

4.3.4 Strong Winds

Strong winds means whose speed is equal to or more than 20 knots (10 m/sec). All ground handling activities are prohibited if the wind speed reaches or exceeds more than 20 m/sec or more than 30 m/sec when the parking surface is dry.

- Aircraft should be appropriately secured, by using additional chocks, and/or setting of aircraft park brakes, and/or the tie-down of the aircraft.
- Aircraft doors should be closed and secured, as appropriate.
- Aircraft should be positioned into the wind and control surfaces locked, if necessary.

Reference should be made to the airframe manufacturers manuals for additional procedures applicable to aircraft type.
Ground Support Equipment should be moved away from the aircraft vicinity and secured.
Passenger boarding bridges should be retracted, placed in the lowest operating position and wheels secured and dependent upon the forecasted conditions, should be tied down.
High-lift vehicles should be lowered and stabilizers deployed.
Passenger stairs should be lowered and moved to a protected position.
Carts and dollies should be moved to a protected position and secured with the brake set.
Maintenance stands and non-motorized steps should be removed from open areas and/or secured.
All other items that may be affected by strong winds, such as garbage, waste containers, FOD bins, construction materials, should be adequately secured.

4.3.5 Safety instructions for Aircraft Movement Operations

Aircraft movement operations must be performed with extreme caution to prevent injuries to personnel as well as to avoid damage to aircraft, equipment and facilities. Independently of the minimum safety requirements incorporated into the design of ground support equipment, safety factors should be incorporated into the Standard Operating Procedures.

4.3.5.1 General

Only those personnel trained and qualified should perform aircraft movement operations functions. The person “in charge” of the operation should brief all other personnel involved in the operation of their responsibilities.
Personnel should be instructed on the hazards associated with aircraft movement operations (e.g. engine ingestion, nose wheel movement, aircraft track, etc).

- an inspection should be made of the surface conditions to determine if it is safe to conduct the operation, (e.g. ice, snow etc.)
- a visual inspection should be made of the aircraft to ensure all service doors/panels are closed and locked.
- personnel should ensure that all ground support equipment is removed from the aircraft and there are adequate clearances between the aircraft and facilities/equipment.
- a visual inspection should be made of the area of the operation to ensure it is clear of FOD.
- a verification should be made that power cables, loading bridges etc. are detached from the aircraft.
- a visual inspection should be made to ensure chocks are removed from all wheels.

Personnel performing the functions required by the operation should be positioned away from hazard zones.
Only those persons required to perform operating functions should be in the operating area.
During aircraft movement the maximum nose-gear turn limits shall not be exceeded in accordance with airframe manufacturers’ instructions.
Communication with the flight deck should if possible be achieved in a manner that eliminates the need for personnel to walk in close proximity to the aircraft nose gear or the tow tractor during the operation; e.g. use of flexible cord to the tractor driver, or cordless system.

If communication between the flight deck and tractor driver is relayed by a third person it is important that this person either uses a flexible cord between their headset and the connection to the aircraft or a cordless system to be able to maintain a safe distance from both the aircraft and tractor in motion.
Provision should be made for a back-up communication system in the event of a failure of the primary system.
Standard hand signals should be used for manual communications.
Prior to moving an aircraft all personnel involved in the operation must have agreed on how communication should be performed and towing maneuvered.
Standard operating procedures should be developed, in accordance with airframe manufacturers' recommendations, for each type of aircraft movement operation.
Personnel performing marshalling functions should utilize: during daytime operations both wands or mitts of a high visibility color and during low visibility/night operations lighted wands.
Operations conducted in poor surface/weather conditions should be performed at low speed.
The general area of the operation should be kept clear of ground support equipment.

Safety measures for aircraft movement operations

If a thunderstorm can be seen or heard at or near the airport, do not wear a headset connected to the aircraft.
Each aircraft in the electric field of this thunderstorm can build-up static electricity. This can happen even if the thunderstorm is several kilometers away.
If the aircraft is charged with static electricity or hit by a lightning and a headset is connected to this aircraft, the bearer of the headset is likely to be seriously injured or even killed, especially when it rains.
Agree with the Commander upon proceeding with ground handling or not, especially with Fueling or push-back.
Use a headset for the ground-to-cockpit communication during engine start-up and push-back whenever available, except during thunderstorms.
For use during walk-out assistance, the headset wire must have a minimum length of 5m.
Do not exchange any information via ground-to-cockpit communication during start-up, which is not relevant for these activities, for example LMC information.
If the headset is defective or cannot be used during push-back for safety reasons, Agree with the Commander upon use of hand signals for communication during engine start-up and pushback.
Refer to Chapter 4.1.4 Communication with the flight crew for description of hand signals.
If the interphone connection is interrupted during push-back for any reason, immediately stop push-back.

Health advice
Tow-bars are heavy. If available, use the crank mechanism to raise or to lower the tow-bar to avoid injuries.

Wing posts
If needed due to local ramp conditions (narrow position, a lot of ramp traffic etc.), position wing posts at the wing tips, who accompany the aircraft during push-back and communicate with the wing posts with the usual marshalling signals.

Walk-out assistance
If the tow-truck does not at all have a seat for the Ramp Agent, or if local conditions or customer requirements do not allow to ride on the tow-truck:

- Walk along with the tow-truck
- The headset wire must have a minimum length of 5 m.
- Never walk in front of or beside the nose gear.
- Walk in such a way beside the tow-truck/aircraft combination to keep a minimum safety distance of 3 m both to the truck and to the nose gear at all times.
- Keep clear from the intake areas.
- Stay in the inner circle of the push-back path, whenever possible.
- Never climb over or jump across the tow-bar while the tow-truck/aircraft combination is moving.
- Never walk around the nose gear to the other side while the tow truck/aircraft combination is moving.

Blast and intake areas
Before giving start-up clearance:

- Make sure that the blast and intake areas of the engines are free of personnel, load, equipment and small or big stones or objects like tie-down rings, waste, etc.
- Make sure that the blast and intake areas stay free all the time during the start-up process and at all places along the roll-off path or the push-back path.
- When walking along during pushing: Keep clear from the intake areas.

Escape areas
In the case of an emergency, emergency slides must be operated immediately.

- Start-up the engines at a place where all emergency slides can be operated.
- Make sure that after removing passenger stairs or jetways the escape areas are kept free of vehicles, Ground Support Equipment (GSE), load or any other things.
- Make sure that the escape areas stay free all the time during the startup process and at all places along the push-back path.

Use of Air Start Unit (ASU)
If an ASU is used to start the engines, the ASU in individual cases may block for a moment a maximum of one emergency exit escape area, if this is unavoidable because of equipment or aircraft construction.
In this case it is not necessary to reduce the maximum allowed number of passengers, just inform the Commander about the blocked exit.

Engine start-up on parking position with passenger jetways
If passenger jetways are used and engine start-up is made on the parking position:

- Observe the following regulations to ensure a safe operation of the emergency slides and a smooth evacuation of the aircraft in emergency cases.
- At narrow-body aircraft retract passenger jetways on the ground 8 m and at cabin door level 5m from the cabin doors.

When positioning a jetway sideways to the cabin door:

- At narrow-body aircraft keep a minimum clearance of 1m between the door edge and the edge of the jetway.
- At wide-body aircraft keep a minimum clearance of 2m between the door edge and the edge of the jetway.

If raised to a level above the upper door edge, the bridgehead may extend into the escape area.
At some airports the passenger jetways are installed in a way that makes it impossible to retract them or to swing them aside for adequate operation of the emergency slides. In this case, a necessary evacuation of the aircraft must be made via the passenger jetway(s).

- Keep the passenger jetway(s) as emergency exits in boarding position.
- Only if instructed by the Commander, the cabin doors at these exits may be closed during start-up of the engines.
- Make sure that the passenger jetway(s) stay in place until all the engines are running.
- Make sure that servicing personnel is available to remove the passenger jetway(s) when all the engines are running.

4.3.5.2 Pushback Operations

(To be read in conjunction with the content of Chapter 4.3.5.1)

4.3.5.2.1 Nose-gear controlled (tractor and towbar)

The tractor and towbar/shear-pin combination should be suitable for the operation, considering

- the aircraft type and weight,
- the weather conditions,
- the apron surface conditions.

The tractor should be in the appropriate drive mode prior to the commencement of the operation.

Chocks should not be removed from the main-gear until the tractor and towbar are fully secured to the nose-gear and the parking brake set on the tractor.
When connecting the towbar to the aircraft's nose-gear assembly the towbar should be detached from the tractor.
When connecting the towbar to the tractor personnel should be facing the tractor and have both legs on only one side of the towbar. I.e. they should not straddle the bar.
The tractor and towbar should be in-line with the centre line of the aircraft before the pushback commences.
The tractor should not be left unattended with its engine running.
The wheels on the towbar should be fully retracted/off the ground before the pushback commences.
For aircraft fitted with a Steering By-pass system, ensure that the by-pass pin is correctly installed prior to connecting the towbar to the aircraft and before pushback commences and is removed after pushback is complete.
For aircraft not fitted with a Steering By-pass system, ensure that either the steering hydraulic system is depressurized or the noseleg steering torque links are disconnected (as applicable).
Personnel should not step across the towbar whilst the pushback operation is in progress.
If the connection between the aircraft and tractor should be lost while in motion it is important to inform the flight deck to apply brakes gently.
When stopping the pushback the throttle on the tractor will be closed and brakes applied gently.
At the end of the pushback sequence and before the towbar is disconnected, the flight deck should be instructed to set the aircraft brakes and confirm to ground staff.
The towbar should be disconnected from the tractor before it is disconnected from the aircraft.
A chock may be positioned in front of the nosewheel while the disconnect of the towbar takes place.
Before the aircraft commences taxiing under its own power, ground staff shall give the all-clear signal, display the by-pass pin (if appropriate) to the flight deck and receive acknowledgement.

4.3.5.2.2 Nose-gear controlled (towbarless)

The tractor should be suitable for the operation, considering:

- the aircraft type and weight,
- the weather conditions,
- the apron surface conditions.

Chocks should not be removed from the main-gear until the tractor is fully secured to the nosegear and brakes on tractor set.
Ensure that the aircraft nose wheels are safely locked in the tractors locking mechanism when connected to aircraft.
Ensure that the nosewheels are lifted well above ground during the entire pushback.
The tractor should be in-line with the centre line of the aircraft before the pushback commences.
For aircraft fitted with a Steering By-pass system, ensure that the by-pass pin is correctly installed prior to connecting the tractor to the aircraft and before pushback commences and is removed after pushback is complete.
For aircraft not fitted with a Steering By-pass system, ensure that either the steering hydraulic system is depressurized or the nose landing gear steering torque links are disconnected (as applicable).
If the connection between the aircraft and tractor should be lost while in motion it is important to inform the flight deck to apply brakes gently.
At the end of the pushback sequence and before the tractor is disconnected the flight deck shall be instructed to set the aircraft brakes and confirm to ground staff.
Before the aircraft commences taxiing under its own power, ground staff shall give the all-clear signal, display the by-pass pin (if appropriate) to the flight deck and receive acknowledgement.
For aircraft not fitted with a Steering By-pass system, ensure that either the steering hydraulic system is depressurized or the nose landing gear steering torque links are disconnected (as applicable).

4.3.5.2.3 Main-gear controlled

Prior to connection of the unit to the aircraft a check should be made, at normal operating distance, to ensure that the unit's remote control system is functional.
When positioning the unit on an aircraft verification should be made that the unit is appropriately configured for the aircraft type.

Standard terminology should be used by the headset operator to enable the aircraft steering function to be performed from the flight deck, as follows:

“left, left”	— flight deck apply left steering
“right, right”	— flight deck apply right steering
“steady”	— flight deck hold steering in current position
“reduce turn”	— flight deck reduce steering angle
“neutral”	— flight deck place steering in neutral position
“rollers are open”	— standby for hand signals”

In the event of any equipment malfunction during pushback the headset operator should instruct the flight deck to gently apply the aircraft brakes.
At the end of the pushback the operator should verify that the rollers are fully open by observing the unit’s indicator lights, before giving the all-clear signal to the flight deck.
In the event that an emergency passenger evacuation is required during pushback, the maingear controlled unit may have to be removed from the aircraft so that it will not interfere with the evacuation process.

4.3.5.3 Powerback Operations

(To be read in conjunction with the content of Chapter 4.3.5.1)

Powerback operations should only be carried out within limitations/approval of the respective authorities.
Only wireless communication should be used for powerback operations.
The marshaller engaged in powerback operations should wear, in addition to their normal personal protective equipment, protective goggles.
Powerback operations should not be conducted if any one of the following conditions exist:

- if any member of the ground crew is not properly protected,
- the departure gate is not approved for such operations,
- the entire area of the operation is not adequately illuminated,
- visibility is restricted due to weather conditions,
- an accumulation of ice, snow or slush is on the apron,
- verbal agreement is not reached between the marshaller and the flight deck.

To terminate a powerback only the “come straight ahead” signal is to be given to the flight deck, the “stop” signal only being given when the aircraft has achieved forward movement.

4.3.5.4 Towing Operations

(To be read in conjunction with the content of Chapter 4.3.5.1)

4.3.5.4.1 Tractor and towbar

The tractor and towbar/shear-pin combination should be suitable for the operation, considering:

- the aircraft type and weight,
- the weather conditions,
- the apron surface conditions.

The tractor should be in the appropriate drive mode prior to the commencement of the operation.
Chocks should not be removed from the main-gear until the tractor and towbar are fully secured to the nose-gear and the parking brakes on the tractor are set.
For aircraft fitted with a Steering By-pass system, ensure that the by-pass pin is correctly installed prior to connecting the towbar to the aircraft and before pushback commences and is removed after pushback is complete.
For aircraft not fitted with a Steering By-pass system, ensure that either the steering hydraulic system is depressurized or the noseleg steering torque links are disconnected (as applicable).
Prior to the commencement of any towing operation a check should be made to ensure the aircraft is “configured” correctly for the operation.
Prior to the commencement of any towing operation a check should be made that the communications link between the tractor and the aircraft is functional.

In the event that the communications link between the tractor and the aircraft is broken during the tow the operation should be immediately stopped.
When towing on ice or snow the towing speed must be considerably reduced and in particular before entering any turns. Under slippery conditions stopping the towing operation while in a turn should be avoided.
If the aircraft is about to overtake the tractor the flight deck operator should immediately be warned by horn signal or radio/interphone to immediately apply the aircraft brakes gently.
The “brake rider” in the cockpit should wear a seat belt. Any personnel on board a moving aircraft should be seated.
The aircraft should have full hydraulic brake system pressure prior to and for the duration of the towing operation.
When towing on a “down slope” the operation should be at a very low speed to prevent the aircraft overtaking the tractor.
When towing during low visibility/night conditions the aircraft should be adequately illuminated.
If maintenance towing is done, a chock shall be placed behind the maingear before the tug is disconnected.

4.3.5.4.2 Towbarless

The tractor should be suitable for the operation, considering:

- the aircraft type and weight,
- the weather conditions,
- the apron surface conditions.

Chocks should not be removed from the main-gear until the tractor is fully secured to the nosegear and brakes confirmed as set on the tractor.
For aircraft fitted with a Steering By-pass system, ensure that the by-pass pin is correctly installed prior to connecting the tractor to the aircraft and before towing commences and is removed after towing is complete.
For aircraft not fitted with a Steering By-pass system, ensure that either the steering hydraulic system is depressurized or the noseleg steering torque links are disconnected (as applicable).
When towing on ice or snow the towing speed must be considerably reduced and in particular before entering any turns. Under slippery conditions stopping the towing operation while in a turn should be avoided.
If the aircraft is about to overtake the tractor the flight deck operator should immediately be warned by horn signal or radio/interphone to immediately apply the aircraft brakes gently.
When towing on a “down slope” the operation should be at a very low speed to prevent the aircraft overtaking the tractor.
When towing during low visibility/night conditions the aircraft should be adequately illuminated.
When approaching any facilities or congested areas the tractor operator should request the guidance of wingwalkers.

4.3.5.5 Movement in/out of hangars

(to be read in conjunction with Chapters 4.3.5.1 and 4.3.5.4)
Only those personnel trained and qualified in the movement of aircraft in/out of hangars should perform this operation and a crew chief assigned to the operation.
Adequate personnel (wing/tail walkers) should be assigned to the operation to ensure clearances between the aircraft and objects in the hangar.
Method of communication between the personnel involved in the aircraft movement in/out of the hangar should be agreed upon before any movement is started.
The tractor and/or towbar/shear-pin combination should be suitable for the operation, considering:

- the aircraft type and weight,
- the weather condition,
- the apron surface conditions.

Hangar doors should be opened and secured to ensure sufficient wingtip and horizontal/vertical stabilizer clearances under all operational conditions.
Aircraft docking systems and all other equipment must be removed and stowed out of the path of travel of the aircraft.
Consideration should be given to the ability of the tow tractor to maneuver in/out of the tow position inside the hangar. Floor markings and stop signs should be in accordance with aircraft type operating in/out of the hangars.

4.3.6 Ground support equipment

4.3.6.1 General

The following general procedures are to be followed whenever a service vehicle is operated in the aircraft's vicinity:

- Only trained, qualified and authorized personnel are permitted to operate equipment.
- Equipment or vehicles must NOT enter danger areas of the aircraft. Refer to Chapter 4.3.2 for aircraft danger areas.
- When approaching or leaving an aircraft, the equipment must not be driven faster than walking speed.
- During vehicles or equipment operations, personnel shall use hand-held portable electronic devices with "hands-free" capability.
- So as to avoid any possible conflict, standard aircraft marshalling signals, as shown in 4.1.4 Communication with flight crew, shall also be used for guidance of GSE.
- Equipment shall only be used for its intended purpose.
- Equipment should never move across the path of taxiing aircraft or embarking and disembarking passengers.
- Prior to the movement of any ground support equipment a walkaround check must be made.
- Cables, hoses and any other loose part of the ground support equipment must be securely stowed before the unit is moved near, or away from, the aircraft.
- Elevating devices must not be driven in the elevated position except after final positioning of stabilizers.
- Passengers and staff are not to be allowed on the support stairs or jet-bridge until correct positioning and stabilizers are fully deployed and all side rails (or canopy) are extended. Attachment fittings, transfer bridges/steps and platforms must be fully extended.
- Stabilizers must be deployed when equipment is positioned at the aircraft.
- Motorized equipment must have an operator in attendance whenever the engine is running. The engine must be switched off if it is left unattended, even for a few minutes.
- When operator vision is restricted (such as positioning certain pieces of equipment to or backing away from an aircraft) a guide person should be used.
- The guide person must be positioned so that clearances can be accurately judged and be visible/able to communicate the signals to the vehicle operator at all times. If visual contact with the guide person is lost, the driver will stop immediately.
- When electrical/motorized equipment is in operating mode, an operator must be within easy reach of the emergency controls. Vehicles without external emergency controls that have their engines running may not be left unattended in the stand area. The operator must remain in the driving position, in control at all times.

Ground Support Equipment shall not in any circumstance block safe emergency exit of the refueling truck!

4.3.6.2 Equipment Condition

Unsuitable or defective Ground Support Equipment (GSE) is dangerous for the safety of personnel, aircraft and load.
Ground Support Equipment shall be in good mechanical condition. Any non-efficient piece of equipment must be kept away from the aircraft and replaced before start of operation.
Ground Support Equipment is a subject of Preventive Maintenance Program or other approved Maintenance Program of the handling company, which assures that such equipment remains serviceable and in good mechanical conditions.
All the maintenance activities must be recorded and kept on file at least 3 months.
Ground Support Equipment must be examined for good condition regularly on a daily basis prior to be utilized. Unserviceable equipment should be clearly tagged "Out of Service", reported to the relevant controlling office and immediately be sent to the repair/maintenance department.
Do not, under any circumstance, use a vehicle or Ground Support Equipment that is in any way:

- leaking some form of liquid;

- provoking sparks;
- damaged in any way that might compromise safety during operation.

All examinations must be recorded and kept on file for at least 3 months.

4.3.6.3 Equipment Positioning Distance

Protective rubber bumpers on equipment, e.g. passenger steps, loading bridges, conveyor belts, catering trucks must not be compressed against the aircraft fuselage, in order to prevent damage and to allow for aircraft settling during servicing.
A distance of at least 1 cm between the rubber and the fuselage must be respected at all times. Remember that the aircraft will move vertically during loading/unloading of passengers, cargo, and fuel or other.

NOTE: If the rubber bumpers on the equipment are damaged, thus protruding metal or other hard surfaces is exposed, the equipment must be replaced before it approaches the aircraft.

On an open gate area, equipment must be positioned so as to allow the clear movement of the aircraft.

4.3.6.4 Equipment Brakes

Motorized equipment must make a brake check (full stop) before entering the equipment restraint area and again before reaching the aircraft side.
Vehicles and equipment must have parking brakes applied, with gear selector in park or neutral when parked away from or positioned at the aircraft.

4.3.6.5 Cabin Door Equipment Removal

Before removing ground support equipment from any one of the aircraft's cabin access doors, the operator must inform the cabin crew (if available), or the handling company ramp supervisor on duty.
Cabin door ground support equipment must not be removed unless:

- the relevant cabin door is closed; or
- there are no passengers on board and the safety cord has been pulled across the door opening.

NOTE: If passengers are on board the aircraft, it is not acceptable to extend the safety cord whenever the cabin door is left without the correct equipment. The cord is very thin, thus scarcely visible. Children may fall off!

4.3.6.6 Jet-bridge Equipment Positioning

Ramp equipment is to be positioned and aligned behind the equipment restraint line with the parking brakes applied prior to the arrival of the aircraft at the parking position.
The passenger loading bridge is to be in the fully retracted position prior to aircraft arrival or departure.
Before removing a passenger loading bridge from the aircraft, a safety device must be put across the forward opening area of the loading bridge platform.

4.3.6.7 Remote Parking Equipment Positioning

In remote parking positions, all vehicles must be aligned in a line parallel to that of aircraft movement direction and at a safe distance (further away than the wing tips).
When positioning equipment, special care must be exercised to ensure adequate clearance of vehicles, aircraft, other equipment and facilities.

4.3.6.8 Baggage and Cargo Equipment

Baggage/cargo shall not be transported on equipment not specifically designed for that purpose.
Cargo should be stowed evenly, in cargo carts, with heavy pieces on the bottom and the centre to ensure stability. All doors and curtains should be secured to prevent cargo from falling out.
All baggage, cargo, mail to be loaded shall be positioned at the aircraft in due time not only to ensure an on-time departure, but also to reduce, as far as possible, stress of staff which could be detrimental to safety.

An additional care must be taken during the movement of carts/dollies by hand-operated equipment.
Loaded transporters and dollies must have the load secured from movement by the use of locks, stops, rails or straps at ALL times, except when the load is being transferred onto or off the equipment. All locks, stops, rails and straps should be checked every time before use.
Trains of carts/dollies tend to “drift in” or shorten the turning radius on corners. Therefore, drivers should avoid turning prior to, or immediately after, passing an obstacle, especially near the aircraft.

NOTE: Trains of carts/dollies tend to “drift in” or shorten turning corners. Therefore, pedestrians or other vehicles should be alert to keep at a safe distance. Tractor drivers should avoid turning prior to, or immediately after, passing an obstacle.

When loading has been completed remove all loading equipment well clear of the aircraft.

4.3.6.9 Arrival Equipment Positioning

Equipment restraint line must be clearly marked on the apron.
Ground support equipment must be positioned behind the equipment restraint line prior to the arrival of the aircraft at the parking position. Equipment, including passenger loading bridges, must not move towards the aircraft until:

- it has come to a complete stop;
- the parking brakes are on;
- wheel chocks have been positioned at the nose landing gear wheels;
- ground/flight deck contact has been established;
- ground power unit is connected (if required);
- engines are shut down;
- anti-collision lights have been switched off;

Whenever, in exceptional cases, one engine must be kept running (e.g. when no APU/GPU available) ground equipment shall only approach that side of the airplane where the engine has been shutdown.
The Commander and the ground handling staff shall, beforehand, have agreed on the course of action to be followed.

4.3.6.10 Departure Equipment Removal

All equipment, except the tow-truck, is to be positioned behind the equipment restraint line before the aircraft pushback, and/or engine start is commenced.
Ensure that there is adequate clearance between the aircraft fuselage/wing/tail and the facility/equipment during pushback and/or taxiing.

4.3.6.11 Hand Signals for Ground Support Equipment

Guide Person Hand Signals for Ground Support Equipment

To attract operator's attention and take command:  Arms held above head in vertical position with palms, facing forward.	Forward movement:  Arms a little aside and repeatedly moving upwards, backwards.
Backward movement:  Arms by sides, palms facing forward, swept forward and upward repeatedly.	Turn right (from driver's point of view):  Left arm downward, hand extended, right arm repeatedly moved upward backward. Speed of arm movement indicating rate of turn.
Turn left (from driver's point of view):  Right arm downward, hand extended, left arm repeatedly moved upward backward. Speed of arm movement indicating rate of turn.	Lift:  Stretch both arms toward load or equipment, palm up, hand movement in upward direction.

Lower:  Stretch both arms toward load or equipment, palm down, hand movement in downward direction.	Accompanied movement:  Come with Load or equipment. Maintain eye to eye contact with operator or driver. Swing down opposite arm.
Indicate distance:  Distance shown between hands must correspond exactly with existing margin.	Stop:  Arm repeatedly crossed above head (the speed of the arm movement must be related to the urgency of the stop). **Immediate stop:** Hands cross over head with clenched fists.
OK:  Lift stretched right arm, hand closed, thumb raised.	Chocks inserted (stabilizers on):  Arms down, hand closed facing inward, thumbs extended, move arms inwards.

Chocks removed (stabilizers off):



Arms down, hands closed facing outward, thumbs extended, move arms outward.

To interrupt power source (Electricity, Fuel, Air):



Right arm and hand level with shoulder, palm downward horizontally swinging from extended arm to throat.

Stop Engine:



Right arm and hand level with shoulder, palm downward, hand on throat making horizontal move to the right, passing hand across throat.

To Connect or Disconnect:



Raise left arm and hand, with fingers extended horizontally.
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, then clench fist, palm inward.

Aircraft movement hand signals – headset operator to tug driver

Vehicle brakes off:  Raise right hand just above shoulder height with closed fist and ensuring eye contact with tug driver open palm.	Clear to push:  Hold arm straight out at a 90° angle from shoulder and display hand with thumb up. Meaning: Indicates to tug 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 tug 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 tug driver, close into a fist. At the end of the pushback, also indicates to tug driver that aircraft brakes have been set. Tug driver should return signal to the headset operator to confirm vehicle brakes set.

Slow down:	Change of pushback direction:
	
With hand at a 45° angle downward to the side, make a "patting" motion.	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.

Aircraft movement hand signals - wingwalker to headset operator/tug driver, marshaller, flight crew (as applicable)

Clear to move aircraft:	Stop movement of 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.	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 downwards at a 45° angle to the sides. Hold this position until it is clear for the aircraft to move.

4.3.7 Prevention of Foreign Object Damage

4.3.7.1 General

Damage to aircraft/equipment/property/injury to personnel caused by foreign object debris is not only a serious threat to safety but continues to cost airline annually in direct losses resulting from aircraft/equipment out of service and disruption of schedules. Creating a FOD prevention culture requires constant vigilance.
All aircraft movement areas (ramp, taxiways, runways) must be regularly cleaned, as bolts, nails, stones or other objects may cause damage to the aircraft engines and tires.

4.3.7.2 Causes of FOD

FOD may results from:

- Failure to properly clean areas and account for removed objects, nuts, bolts, paper, plastic, drink containers/cups/cans, rags, pavement fragments, baggage components/tags, aircraft waste, catering equipment etc. used during the performance of any risk.
- Inadequate housekeeping
- Clean-up operations after severe weather
- Failure to account for tools and parts
- Failure to maintain ground support equipment, i.e. parts break off or fall off
- Apron works in progress/construction sites.

4.3.7.3 Personnel Responsibilities

Normally this is the responsibility of the airport authority.
The station responsible must make sure that:

- The passenger walkways, the ramp, taxiways and runways are regularly inspected.
- Passenger steps, loading bridges and passenger walkways between the aircraft and bus or terminal are clean and free of ice.
- The airport authority is informed of any unclean areas.
- Corrective action is initiated (via AOC, direct contact, etc.).
- Parking positions are clean.
- Staff is instructed to immediately remove any debris lying around on the ramp.
- No personal belongings of staff can be left near the aircraft.

All personnel involved in aircraft operations/handling, maintenance and associated businesses should receive initial and recurrent training in FOD detection/prevention/removal. This training should form part of the induction and recurrent training programs.
Personnel must take ownership for identifying FOD hazards and advise their manager/supervisor of any condition that may result FOD.

“If you see it (FOD) - remove it”

4.3.7.4 FOD Prevention Checklist for Personnel

A FOD Prevention checklist used for FOD prevention and its control include the following:

- The ground crew conducts a physical FOD inspection of the aircraft exterior and adjacent airside areas as appropriate to each aircraft arrival and departure ground movement operations, to ensure:
  - surface condition of the apron is adequate to conduct aircraft movement operations;
  - the apron is clean of items that might cause aircraft FOD;
  - aircraft servicing doors and panels are closed are closed and secured (before departure);
  - power cables and loading bridge are detached (before departure);
  - equipment and vehicles are positioned clear of the aircraft movement path;
  - adequate clearance exists between the aircraft and facilities or fixed obstacles along the aircraft movement path;
  - chocks are removed from all wheels (before departure).
- Ensuring equipment operators clean out their vehicles prior to and during their shifts

- Ensuring there is adequate provision of FOD receptacles/containers in these areas
- Ensuring adequate FOD promotional material is displayed
- Accountability for tools and parts
- Routine maintenance of ground support equipment is conducted

4.3.8 Reporting ramp accidents and incidents

4.3.8.1 Introduction

Any damage to an aircraft must be immediately reported to the flight crew. The recording of ground incident/accident occurrences in a standard format (Form G/OPS-3015-01 – see Appendix B) will enable to develop preventive action as well as provide the basis for an accident database.
The report should be used for all types of damage events (aircraft, equipment, facility) occurring during ground handling operations.
All aircraft ground damages must be reported to IATA for inclusion in the Ground Damage Database (GDDB). Such reports must be submitted in accordance with the formal IATA ground damage reporting structure.

4.3.8.2 Responsibilities

All HiSky and ground handling companies employees are responsible for reporting any hazards and ground occurrences that they have either been responsible for or have been party to, or have been witnesses to. The person(s) involved in such an occurrence is (are) required to:

- report immediately to commander and to HiSky OCC Department
- submit a Hazard Report Form (SMS_018_R00) before the termination of their duty day.

4.3.8.3 Procedure

The following incidents and accidents are considered to be reportable:

Damages caused on ground:

- fire, by which passengers or personnel are injured or died or which damaged any property or load of HiSky.
- injuries or damage during towing or push-back.
- accidents caused by vehicles on the ramp involving passengers, personnel or load.
- damage to any part of the aircraft.
- damages caused by the aircraft.
- damages caused by FODs

Damages caused during the flight:

- damage caused by jet blast during taxiing or take-off.
- collisions with vehicles, ground equipment, load or other obstructions.

Loading irregularities:

- missing load.
- overcarried or damaged load.
- damage or contamination of aircraft.
- damage or other irregularities in the holds.
- structural overloading of a hold or loading position.

Valuable Cargo:

- is missing
- is damaged or seems to be damaged,
- has a broken or missing seal,

- shows other signs of manipulation or tampering.

Do not give any information to the shipper, the consignee, or third parties.

4.3.8.3.1 Damage/Ground Occurrence to Aircraft

Timely completion of the Ground Occurrence Report will ensure that the facts and circumstances of the occurrence are accurately recorded.
The retention period of records of ground accidents and incidents must be a minimum of two years.
The report should be submitted to all relevant parties as soon as possible after the occurrence.
Further detail on any of the report items not available at the time of the occurrence should be submitted as soon as available, e.g. vehicle inspection report.
A Ground Occurrence Reporting Form (G/OPS-3015-01) will be completed giving precise details of ground found defects and occurrences including diagrams and location of aircraft and equipment. Each report is given a unique reference number, which comprises of the sequence number, followed by the year.(i.e. XX/yyyy). In case of an accident, witness statements and photographs are required to substantiate the evidence and every effort must be afforded to obtaining the same and attaching them to the report. If any of the emergency services are called to the scene of the occurrence, then full details must be provided on the report, including any injuries. The Ground Occurrence Report must be submitted to the HiSky Safety Management System Department (safety@hisky.aero). In cases of occurrences where HiSky is handled by a Handling Agent, their Duty Staff will fax/email a copy to the HiSky Safety Management System Department (safety@hisky.aero), who is responsible for reviewing the contents to ensure its compilation meets requirements. Each Ground Occurrence Report will be registered by Safety Management System Manager using the Occurrence Report database and register.
Where airworthiness of an aircraft is impaired or the person/engineer feels the occurrence should be reported to the regulatory authority, then he will annotate ‘yes’ in the MOR Box at the top of the Ground Occurrence Report Form. If the MOR Box has been annotated, the Ground Occurrence Report will be assessed by Safety Management System Manager, to decide if an Air Safety Report should be raised and made Mandatory in accordance with (Operations Manual, Part A, Chapter 11).
The Ground Occurrence Report is copied together with all supporting reports, diagrams, photographs, and a copy of the MOR (if relevant), and distributed by Safety Management System Manager, within 24 hours of the occurrence, to:

- Accountable Manager
- Technical Director
- Flight Operations Director
- Ground Operations Director
- Flight Safety Advisor
- OCC Director
- The Contracted Maintenance Organization Compliance Monitoring Manager or equivalent (if relevant)

In the case of a Ground Occurrence Report being classified as an MOR the Safety Management System Department will distribute copies to the above addressees within 24hours.
Follow up action is implemented by each of the above. Where further investigation is required the appropriate departmental head will be advised and the investigation pursued to its conclusion.

4.3.8.3.2 Damage/Ground Occurrence to Vehicles or Equipment

A Ground Occurrence Report (G/OPS-3015-01) will be completed by the person involved with the occurrence, giving precise details of the occurrence including diagrams, photographs, and location of vehicles/equipment. Each report is given a unique reference number, which comprises of the letters MOR followed, by the Vehicle registration, or equipment identification number, followed by the date. i.e. GOR/L777XXX/ddmmyy
Witness statements and photographs are required to substantiate evidence and every effort must be made to obtain same and attach them to the report. In addition an Insurance Claim Form is to be completed where a vehicle is involved in an occurrence; this is attached to and becomes part of the total report. If any of the emergency services are called to the scene of the occurrence, then full details must be provided on the report, including any injuries. The Ground Occurrence Report must be submitted to the Safety Management System Department (safety@hisky.aero). In cases of occurrences where HiSky is handled by a Handling

Agent, their Duty Staff will fax/email a copy to the HiSky Safety Management System Department, who is responsible for reviewing the contents to ensure its compilation meets requirements.
The Ground Occurrence Report is copied together with all supporting reports, diagrams, photographs, and submitted within 24 hours of the occurrence to:

- Accountable Manager
- Technical Director
- Flight Operations Director
- Ground Operations Director
- Flight Safety Advisor
- OCC Director
- The Contracted Maintenance Organization Compliance Monitoring Manager or equivalent (if relevant)

Follow up action is implemented by each of the above. Where further investigation is required the appropriate departmental head will be advised and the investigation pursed to its conclusion.

4.3.8.3.3 Occurrences at Outstations

The reporting of occurrences, which occur at line stations, is the responsibility of the HiSky Representative who will ensure that any staff dispatched to the location of the occurrence are familiar with the procedure for reporting occurrences. Reports from outstations will be faxed to the Safety Management System Manager as soon as possible. Safety Management System Manager will be responsible for distribution within HiSky as appropriate.

4.3.8.3.4 Occurrences at the Contracted Maintenance Organizations Facility

The reporting of Occurrences, which occur at a maintenance contractor facility, will be undertaken as described herein by the HiSky maintenance representative accompanying the aircraft at the time. A copy of the completed Ground Occurrence Report will be sent to Safety Management System Manager.

4.3.8.4 Contributory Factors

Utilizing the codes listed below identify the factors contributing to the occurrence.

Use of Contributory Factors
Identify the code from below list which contributed to the incident/accident and use it in contributory factors section in Ground Occurrence Report:

Behavior
B1 Excess speed
B2 Communications failure
B3 Failure to see
B4 Spatial misjudgment (distance, height or width)
B5 Poor judgment
B6 Distraction
B7 Poor discipline
B8 Lack of practice in that task
B9 Incapacitation (ill health, alcohol, other drugs, fatigue, etc. Specify in narrative overleaf)
B10 Vandalism/Malicious Intent

Equipment
E1 Defective maintenance
E2 Incorrect use
E3 Unsuitable for task
E4 Unsafe for task
E5 Design problem

Organizational
O1 Lack of standard procedures
O2 Inadequate time (scheduled to perform task)
O3 Inadequate supervision
O4 Insufficient personnel (assigned to task)
O5 Inadequate training

Physical circumstances
P1 Weather conditions
P2 Surface conditions
P3 Inadequate lighting
P4 Glare/blinding light
P5 Noise
P6 Congestion
P7 Limited space
P8 Walkway/road layout
P9 Ramp layout
P10 Building/facility layout
P11 Signs and markings
P12 Construction/maintenance work
P13 Foreign objects/debris
P14 Jetblast/Propwash
Regulations/procedures not followed
R1 Standard operating procedures
R2 Safety regulations
R3 Traffic regulations
R4 Personal protective equipment
R5 Validity of operator certification

Other
(Specify any other contributory factors)

4.3.8.5 Dangerous Goods Occurrences

Damaged or leaking packages which contain or which are suspected to contain dangerous goods must never be touched until the nature of the hazard is known and – if necessary – protective measures for handling are taken.
The aircraft commander and the organizations responsible for the salvage of dangerous goods (fire brigade, technical and medical institutions etc.) must be informed immediately. If required by the aircraft commander all persons must be evacuated from the aircraft and immediate area.
All occurrences in connection with dangerous goods must be reported according to “Chapter 5.9.2.7 - Reporting of dangerous goods occurrences” of this manual.

4.4 De-Icing / Anti-Icing Program

4.4.1 Scope and Purpose

The HiSky De-/Anti-Icing Program contains detailed description of airline's rules, regulations and standards applicable for the de-/anti-icing of HiSky aircraft on the ground.
This program has been developed to comply with the Clean Aircraft Concept and requirements and is applicable to external service providers that perform de-/anti-icing functions for all HiSky stations.
The De-/Anti-Icing procedures, including those subcontracted by HiSky must be subject to compliance audits and the supervision of De-Icing requirements implementation will be arranged by the Compliance Monitoring Department of the airline.
Scheduled/Unscheduled audits performed by the HiSky Compliance Monitoring Department shall be considered as basic measurement tool applicable for measuring handling agent's activity compliance/non-compliance with the HiSky De-/Anti-Icing Program regulations.

4.4.2 References

Wherever in this document fluid Types I, II, III, or IV are indicated, this always refer to the latest version of the applicable SAE fluid types. (For example: Type I fluid refers SAE Type I per AMS 1424. Type II fluid SAE Type II per AMS 1428, etc.)

SAE documents (latest applicable revision)

AMS 1424	De-Icing/Anti-Icing Fluid, Aircraft SAE Type I
AMS 1424/1	De-Icing/Anti-Icing Fluid, Aircraft SAE Type I Glycol (Conventional and Non-Conventional) Based
AMS 1424/2	De-Icing/Anti-Icing Fluid, Aircraft SAE Type I Non-Glycol Based
AMS 1428	Fluid, Aircraft De-Icing/Anti-Icing, Non-Newtonian, (Pseudoplastic), SAE Types II, III and IV
AMS 1428/1	Fluid, Aircraft De-Icing/Anti-Icing, Non-Newtonian, (Pseudoplastic), SAE Types II, III and IV Glycol (Conventional and Non-Conventional) Based
AMS 1428/2	Fluid, Aircraft De-Icing/Anti-Icing, Non-Newtonian, (Pseudoplastic), SAE Types II, III and IV Non-Glycol Based
AS 6285C	Aircraft Ground Deicing/Anti-Icing Processes
AS 6286A	Training and Qualification Program for Deicing/Anti-Icing of Aircraft on the Ground
AS 6332	Aircraft Ground Deicing/Anti-Icing Quality Management
ARP 6257	Aircraft Ground De/Anti-Icing Communication Phraseology for Flight and Ground Crews
AS 9968	Laboratory Viscosity Measurement of Thickened Aircraft Deicing/Anti-icing Fluids with the Brookfield LV Viscometer
AIR 6284	Forced Air or Forced Air/Fluid Equipment for Removal of Frozen Contaminants
ARP 5660	Deicing Facilities Operational Procedures
ARP 1971	Aircraft Deicing Vehicle – Self-Propelled

See also www.sae.org

ICAO

- ICAO Doc 9640-AN/940

FAA Documents

- Standardized International Aircraft Ground Deice Program (SIAGDP)
- FAA Holdover Time Guidelines for Winter 2024-2025. Original Issue: **August 06, 2024**

4.4.3 Definitions

For the purposes of this chapter, the following definitions apply.

Abbreviations

°C: degrees Celsius
FP: freezing point
LOUT: Lowest Operational Use Temperature
OAT: Outside Air Temperature

Active frost - is a condition when frost is forming. Active frost occurs when aircraft surface temperature is:

- at or below 0 ºC and
- at or below dew point

Anti-icing - Precautionary procedure which provides protection against the formation of frost or ice and accumulation of snow or slush on treated surfaces of the aircraft for a limited period of time (holdover time).

Anti-icing fluid

a) mixture of water and Type I fluid;
b) Premix Type I fluid;
c) Type II fluid, Type III fluid, or Type IV fluid;
d) mixture of water and Type II fluid, Type III fluid, or Type IV fluid.

NOTE: Fluids mentioned in a) and b) must be heated to ensure a temperature of 60°C minimum at the nozzle.

Check - An examination of an item against a relevant standard by a trained and qualified person.

Cold-soak effect - The wings of 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 re-fuelled with very cold fuel. Whenever precipitation falls on a cold-soaked aircraft when on the ground, clear icing may occur. Even in ambient temperatures between -2 C and +15 C, ice or frost can form in the presence of visible moisture or high humidity if the aircraft structure remains at 0 C or below. Clear ice is very difficult to be detected 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 re-fuelled fuel and time since re-Fueling.

Contamination - Contamination in this document is understood as all forms of frozen or semi-frozen moisture such as frost, snow, ice or slush.

Contamination check - Check of aircraft surfaces for contamination to establish the need for de-icing.

In this section - **critical surfaces** - means the wings, control surfaces, rotors, propellers, horizontal stabilizers, vertical stabilizers or any other stabilizing surfaces of an aircraft, as well as any other surfaces identified as critical surfaces in the aircraft flight manual.

De-icing - Procedure by which frost, ice, slush or snow is removed from an aircraft in order to provide clean surfaces.

De-icing/anti-icing - Combination of the procedures 'de-icing' and 'anti-icing'. It may be performed in one or two steps.

De-icing fluid

a) heated water
b) mixture of water and Type I fluid;
c) Premix Type I fluid;
d) Type II, Type III, or Type IV fluid;
e) mixture of water and Type II, Type III, or Type IV fluid.

NOTE: De-icing fluid is normally applied heated in order to assure maximum efficiency.

Freezing drizzle - Fairly uniform precipitation composed exclusively of fine drops (diameter less than 0.5 mm) very close together which freezes upon impact with the ground or other exposed objects.

Freezing fog - A suspension of numerous very small water droplets which freezes upon impact with ground or other exposed objects, generally reducing the horizontal visibility at the earth's surface to less than 1 km.

Frost/hoar frost - Ice crystals that form from ice saturated air at temperatures below 0°C by direct deposition on the ground or other exposed objects.

Hail - Precipitation of small balls or pieces of ice with a diameter ranging from 5 to 50 mm falling either separately or agglomerated.

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, under weather conditions as specified in Chapter 4.4.15.

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

Light freezing rain - 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 or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is up to 2.5 mm/hour or 25 grams/dm2/hour with a maximum of 0.25 mm in 6 minutes.

Lowest operational use temperature (LOUT)
The lowest operational use temperature (LOUT) is the higher (warmer) of
a) 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
b) The freezing point of the fluid plus the freezing point buffer of 10°C for Type I fluid and 7°C for Type II, III or IV fluids.
For applicable values refer to the fluid manufacturer's documentation.

Moderate and heavy freezing rain - 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 or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is more than 2.5 mm/hour or 25 grams/dm2/hour.

Negative buffer - A negative buffer exists when the freezing point of a de-icing fluid is above the OAT.

Radiational cooling - A process by which temperature decreases, due to an excess of emitted radiation over absorbed radiation. On a typical calm clear night aircraft surfaces emit longwave radiation, however, there is no solar radiation (shortwave) coming in at night and this longwave emission will represent a constant net energy loss. Under these conditions the aircraft surface temperatures may be up to 4°C or more below that of the surrounding air.

Rain or high humidity (on cold soaked wing) - 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.

Rain and snow - Precipitation in the form of a mixture of rain and snow.

Rime ice - Small frozen water droplets, spherical opaque/milky granular appearance looking similar to frost in a freezer. Typically rime ice has low adhesion to the surface and its surrounding rime ice particles.

Snow - Precipitation of ice crystals, most of which are branched, star-shaped or mixed with unbranched crystals. At temperatures higher than -5°C, 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 1mm. 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 diameter range from about 2-5 mm. Snow pellets are brittle, easily crushed; they do bounce and may break on hard ground.
NOTE: For holdover time purposes treat snow pellets as snow.

Slush - Snow or ice that has been reduced to a soft watery mixture.

4.4.4 Responsibilities

Responsibility for the delegation, regulation and control of aircraft ground de-icing/anti-icing operations are defined in SGHA and SLA signed between HiSky and handling companies.
The following responsibilities apply in regard to aircraft operating under snow and ice conditions:
Subcontracting handling companies shall be responsible for ensuring that the necessary infrastructure is in place at the Stations under their control, in order to maintain safe operations during ground icing conditions.
The Company responsible for the de-icing/anti-icing operation (further called “de-icing company”) shall maintain vehicles/equipment, fluids, training and procedures, in accordance with the latest edition of the relevant ISO specifications (ISO 11075 through 11078) or SAE documents (ARP 4737, AMS 1424, AMS 1428, ARP 1971).
Personnel carrying out the de-icing/anti-icing operation are responsible for ensuring that the task is performed in accordance with the requirements detailed in ISO 11076 or SAE ARP 4737 and this De-icing/Anti-icing Program.
The person responsible for final release/dispatch of the aircraft is responsible for ensuring that the aircraft has been de-iced/anti-iced in accordance with the requirements detailed in ISO 11076 or SAE ARP 4737 and this De-icing/Anti-icing Program ensuring that relevant surfaces are free of frost, ice, slush and snow at the time of dispatch.
After receiving the Anti-icing Code, the Commander (pilot in command) is responsible for ensuring that the relevant surfaces remain free of frost, ice, slush and snow until takeoff.

Aircraft engineer and service provider
Service provider is responsible for the pre-step process described in Chapter 4.4.9.1 NOTE 2.

Commander
The commander is responsible for the decision to perform **De-Icing / Anti-Icing**.
The commander informs the service provider about the procedures (1-step or 2-step) to be used and about all surfaces to be treated with anti-icing fluid.
The commander decides about the mixture ratio for **anti-icing**.
The commander may only accept the airplane after receiving the anti-icing code including time of the beginning of the treatment from the staff responsible for the inspection after De-icing /Anti-icing.

Service Provider
The provider is responsible for choosing mixing ratio for **de-icing** and informs the commander which surfaces of the airplane have to be de-iced.
Staff responsible for inspection after De-icing / Anti-icing or supervision has to ensure that the De-icing / Anti-icing has been done in accordance with this program, that all relevant surfaces are free of snow, ice, slush and frost at dispatch and has to report the anti-icing code including time of the beginning of the treatment to the commander.

The provider is responsible for **performance and control**.

The provider has to check the equipment and the fluid according to this program. The provider has to support audits performed by HiSky.

Inspection Staff – Supervision
The inspection staff (or supervision) is responsible for the **Post De-icing / Anti-icing Check** and the **Clean Wing Check**.

The Post De-icing / Anti-icing Check has to be performed by the service provider or a licensed staff from the supervision company. The Clean Wing Check has to be performed by special trained ground staff.
This check may also be performed by the commander, if licensed ground staff is not available.

4.4.5 General

The various local rules concerning aircraft cold weather operations are very specific and shall be strictly adhered to.
A commander shall not commence take-off unless the external surfaces are clear of any deposit which might adversely affect the performance and/or controllability of the aircraft except as permitted in the Aircraft Flight Manual. For this reason, a contamination check of the aircraft surfaces shall be performed prior to departure.

4.4.6 Staff training and qualification

De-icing/anti-icing procedures must be carried out exclusively by personnel trained and qualified on this subject. Companies providing de-icing/anti-icing services should have both a Qualification Program and a Compliance Monitoring Program or equivalent to monitor and maintain an acceptable level of competence.

4.4.6.1 Training requirements

Both initial and annual recurrent training for flight crews and ground crews shall be conducted to ensure that all such crews obtain and retain a thorough knowledge of aircraft de-icing/anti-icing policies and procedures, including new procedures and lessons learned.
Training success shall be proven by an examination/assessment which shall cover all training subjects laid down Chapter 4.4.6.2.
The theoretical examination shall be in accordance with EASA Part 66 or any equivalent requirements. The pass mark shall be 75% and only persons passing this examination can be qualified.
For personnel performing the actual de-icing/anti-icing treatment on aircraft for the first time, practical training with the de-icing/anti-icing equipment and an aircraft shall be included.
An aircraft is required in order to familiarize new trainees with the relevant typical aircraft surfaces/components and identification of no spray areas.
Prior to receiving final qualification, personnel performing de-icing/anti-icing operations (driving and/or spraying) shall demonstrate competence in removing frozen contamination under operational conditions, to a qualified trainer or supervisor.
Details of this assessment shall be recorded.
For personnel performing the actual de-icing/anti-icing treatment, practical training with the de-icing/anti-icing equipment shall be included.
All personnel must also be trained in conformity with Chapter 3 of this manual, according to the assigned duties.

4.4.6.2 Training subjects

Training subjects shall include but are not limited to the following (when applicable):
a) Effects of frost, ice, snow, slush and fluids on aircraft performance.
b) Basic characteristics of aircraft de-icing/anti-icing fluids, including causes and consequences of fluid degradation, fluid remaining on surfaces, and dried and/or rehydrated residues.
c) General techniques for removing deposits of frost, ice, slush, and snow from aircraft surfaces and for anti-icing.
d) De-icing/anti-icing procedures in general and specific measures to be performed on different aircraft types.
e) Types of checks required.
f) De-icing/anti-icing equipment and facilities operating procedures including actual operation.
g) Safety precautions.
h) Emergency procedures.
i) Fluid application and limitations of holdover time tables.
j) De-icing/anti-icing codes and communication procedures.
k) Special provisions and procedures for contract de-icing/anti-icing (if applicable).
l) Environmental considerations, e.g. where to de-ice, spill reporting, hazardous waste control.
m) New procedures and development, lessons learned from previous winters.
n) Conditions which can lead to the formation of ice on the aircraft.

4.4.6.3 Records

Records of personnel training and qualifications shall be maintained for proof of qualification and made available during HiSky audits.

4.4.7 Fluid handling

De-icing/anti-icing fluid is a chemical product with environmental impact. During fluid handling, avoid any unnecessary spillage and comply with local environmental and health laws and the manufacturer's safety data sheet. Different products shall not be mixed without additional qualification testing.

4.4.7.1 Storage

Tanks dedicated to the storage of de-icing/anti-icing fluids shall be used.
Storage tanks shall be of a material of construction compatible with the de-icing/anti-icing fluid, as specified by the fluid manufacturer (corrosion resistant steel, plastic, etc). Care should be taken to avoid using dissimilar metals in contact with each other, as galvanic couples may form and degrade thickened fluids.
Tanks shall be conspicuously labeled to avoid contamination.
Tanks shall be inspected annually for corrosion and/or contamination. If corrosion or contamination is evident, tanks shall be maintained to standard or replaced. To prevent corrosion at the liquid/vapor interface and in the vapor space, a high liquid level in the tanks is recommended.

NOTE: If the quality of the fluids is checked in accordance with Chapter 4.4.4, the inspection interval may be longer than one year.

The storage temperature limits shall comply with the manufacturer's guidelines. The stored fluid shall be checked routinely to ensure that no degradation/contamination has occurred.

4.4.7.2 Pumping

De-icing/anti-icing fluids can show degradation caused by excessive mechanical shearing. Therefore only compatible pumps and spraying nozzles shall be used. The design of the pumping systems shall be in accordance with the fluid manufacturer's recommendations.

4.4.7.3 Transfer lines

Dedicated transfer lines shall be conspicuously labeled to prevent contamination and shall be compatible with the de-icing/anti-icing fluids to be transferred.

4.4.7.4 Heating

De-icing/anti-icing fluids shall be heated according to the fluid manufacturer's guidelines.
For **Type I** fluids, water loss may cause undesirable aerodynamic effects.
For **Type II/III/IV** fluids thermal exposure and/or water loss may cause a reduction in fluid viscosity leading to lower holdover times.
The fluids shall be checked periodically in accordance with Chapter 4.4.16 of this manual. Fluid check records are subject to HiSky audits.
CAUTION: Avoid unnecessary heating of fluid in vehicle tanks. Prolonged or repeated heating of fluids (directly or indirectly) may result in loss of water which can lead to performance degradation of the fluid.

Any of the following situations or a combination of them can accelerate the fluid performance degradation:
a) low fluid consumption;
b) trucks being in standby mode with heating system on for extended periods of time;
c) high temperatures in fluid tanks;

d) high temperatures in water tanks which are in direct contact with the fluid tanks (no insulation between tanks).

4.4.7.5 Application

Application equipment shall be cleaned thoroughly before being initially filled with de-icing/anti-icing fluid in order to prevent fluid contamination.
De-icing/anti-icing fluid in trucks shall not be heated in confined or poorly ventilated areas.
The integrity of the fluid at the spray nozzle shall be checked periodically.

4.4.8 Contamination Check

This is a check for the need to de-ice. This check shall include the areas mentioned in Chapter 4.4.10 and any other as recommended by the aircraft manufacturer. It shall be performed from points offering sufficient visibility of these parts (e.g. from the de-icing vehicle itself or any other suitable piece of equipment).
Any contamination found, except frost mentioned in Chapter 4.4.10, shall be removed by a deicing treatment. If anti-icing is also required, this treatment may be performed as a one-step or two-step de-icing/anti-icing of the relevant surfaces.
Where an aircraft has been de-iced 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 de-icing/anti-icing must be submitted in written form and shall specify the parts of the aircraft requiring treatment.
Requests are made using De-/Anti-Icing Work Order form (see appendix B). Local work order forms may also be used for this purpose, only if they contain the same items as HiSky De-/Anti-Icing Work Order form.

4.4.9 De-icing/Anti-icing Procedures

These procedures specify the recommended methods for de-icing and anti-icing of aircraft on the ground to provide an aerodynamically clean aircraft.
When aircraft surfaces are contaminated, they shall be de-iced prior to dispatch. When there is a risk of contamination of the aircraft surfaces at the time of dispatch, these surfaces shall be anti-iced. If both de-icing and anti-icing are required, the procedure may be performed in one or two steps. The selection of a one- or two-step process depends upon weather conditions, available equipment, available fluids and the holdover time to be achieved. If a one-step procedure is used, then both Chapters 4.4.9.1 and 4.4.9.2 apply.

NOTE 1: Slippery conditions can exist on the ground or equipment following the de-icing/anti-icing procedure.

For guidance regarding fluid limitations, refer to Chapter 4.4.9.3.1.

NOTE 2: Where holdover time is critical, a two-step procedure using undiluted Type II, III, or IV fluid for the second step should always be considered.

Prior to De-/Anti-icing the aircraft must be properly configured according to manufacturer’s recommendations. For specific aircraft type refer to Chapter 7 and Chapter 8 of this manual.

4.4.9.1 De-icing

Ice, snow, slush or frost may be removed from aircraft surfaces by heated fluids, mechanical methods, alternate technologies or combinations thereof. The following procedures shall be used for their removal by fluids.

NOTE1: Alternate technology may be used to accomplish the de-icing process, provided that the requirements in Chapter 4.4.10 are accomplished.

NOTE 2: Pre-step process to be done prior to de-icing/anti-icing, in order to remove large amounts of frozen contamination (e.g. snow, slush or ice), may be considered to reduce the quantity of glycol-based de-icing fluid that is needed. This pre-step process may be performed with various means (e.g., brooms, forced air, heat, heated water, heated fluids with negative buffer freezing point). If the pre-step procedure is used, make sure that the subsequent de-icing process removes all frozen contamination including the contamination that may have formed on surfaces and or in cavities due to the pre-step process.

It is the responsibility of the De-icing Operator to ensure that all frozen deposits (with the possible exception of frost which may be allowed as described in Chapter 4.4.10) are removed from the specified surfaces during the de-icing process.

4.4.9.1.1 General Requirements

Ice, snow, slush and frost shall be removed from aircraft surfaces prior to dispatch or prior to anti-icing. For maximum effect, fluids shall be applied close to the surface of the skin to minimize heat loss.

NOTE: The heat in the fluid effectively melts any frost, as well as light deposits of snow, slush and ice. Heavier accumulations require the heat to break the bond between the frozen deposits and the structure; the hydraulic force of the fluid spray is then used to flush off the contamination. The de-icing fluid will prevent re-freezing for a period of time depending on aircraft skin and ambient temperature, the fluid used, the mixture strength and the weather.

4.4.9.1.2 Removal of frost and light ice

General procedure

A nozzle setting giving a solid cone (fan) spray should be used.

NOTE: 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.

Removal of local area contamination

When no precipitation is falling or expected, a “local area” de-icing may be carried out under the below mentioned or similar conditions. In some cases a full or complete de-icing 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 likely to be required, 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. Then spray the same area(s) on the other side of the aircraft.
Both sides of the aircraft must be treated identically (same areas, same amount and type of fluid, same mixture strength), even if the contamination is only present on one side.
It is the responsibility of the De-icing Operator to ensure that the treatment is performed symmetrically and that on completion all frozen deposits have been removed.
After this check has confirmed that the treated areas are clean, the following statement shall be given to the Commander: **“Local Area De-icing only. Holdover times do not apply”**

Underwing de-icing procedures

Treatments must be symmetrical and may include flaps lower surfaces. Spray the affected areas with a heated fluid/water mix suitable for a One-Step Procedure or a Two 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. No holdover times apply to underwing treatments.

It is the responsibility of the De-icing Operator 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 as described in Chapter 4.4.10), have been removed.
When it is confirmed that the treated areas are clean, the following statement shall be given to the Commander: **"Underwing De-icing only, holdover times do not apply".**

CAUTION: Underwing frost and ice are usually caused by very cold fuel in the wing tanks. Use a fluid/water mix with a higher concentration of glycol than is usually required by the oat to prevent re-freezing.

4.4.9.1.3 Removal of snow

A nozzle setting sufficient to flush off deposits and minimize foam production is recommended. Foam could be confused as snow.

NOTE: The procedure 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. 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 unless 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 frozen deposits. However, where snow has bonded to the aircraft skin, the procedures detailed in Chapter 4.4.9.1.4 should be utilized. 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.

4.4.9.1.4 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 stream of hot fluid is directed at close range onto one spot at an angle of less than 90°, 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.
Non-metallic surfaces (e.g. composites) have a lower heat transfer than metallic surfaces. Deicing may take longer and more fluid may be needed.

4.4.9.1.5 General de-icing fluid application strategy

For effective removal of snow and ice, the following techniques shall be adopted. Certain aircraft can require unique procedures to accommodate design differences, see manufacturer's instructions in Chapter 7 & 8.
Ice, snow or frost dilutes the fluid. Apply enough hot de-icing fluid ensure that re-freezing does not occur and all contaminated fluid is driven off.

Wings, horizontal stabilizer, and elevators
Spray from the leading edge to the trailing edge. Do not spray from the rear. Start at the highest point of the surfaces and work to the lowest parts, i.e. on most aircraft start at the wing tip and work towards the wing root.

Vertical surfaces
Start at the top and work down.

Fuselage
Spray along the top centre-line and then outboard. Ensure that it is clear of snow, slush or ice in accordance with manufacturer's instructions (refer to Chapters 7). Hoarfrost may be allowed.

Nose / Radome Area and Flight Deck Windows
Type I / water fluid mixture or manual methods of removal (such as squeegees or brushes) are recommended.
When thickened fluids are used, avoid spraying near flight deck windows, as fluid can cause a severe loss of visibility during flight.
Any thickened fluid remaining on nose areas where it could blow back onto the windscreens should be removed prior to departure, using squeegees or equivalent.
If flight deck windows are contaminated with thickened fluids use water or an approved windshield cleaner (use of a low freezing point windscreen washing fluid is recommended when OAT is at or below 0°C).

CAUTION: Prior to cleaning of flight deck windows ensure that the window heating system is switched off.

Landing gears and wheel bays
The application of de-icing fluid in this area shall be kept to a minimum. De-icing fluid shall not be sprayed directly onto brakes and wheels.

NOTE: Accumulations such as blown snow may be removed by other means than fluid (mechanically, air blast, heat etc). However, where deposits have bonded to surfaces, they can be removed by the application of hot air or by spraying with hot de-icing fluids.

Engines
Deposits of snow shall be removed mechanically from engine intakes prior to departure. Any frozen deposits that have bonded to either the lower surface of the intake, the fan blades including the rear side, or propellers, shall be removed by hot air or other means recommended by the engine manufacturer.

4.4.9.1.6 Hot Air De-Icing

Removal of contamination with hot air fan, especially for wheels, brakes, engine air intakes, static ports (attention has to be taken, not to direct the airflow into the openings, orifice, etc. of the pitot-static system – can cause damage) and fluid sensitive parts. Also used to de-ice an airplane for the minimum taxiing requirements to a central/remote De-icing/Anti-icing position.
Removal of loose (e.g. snow, slush, etc.) and light fixed (e.g. frost, etc.) contamination with regulated and heated air onto the affected surfaces.
Complete hot air de-icing of an airplane is not possible. Special safety precautions have to be taken, especially when using equipment (pressure of airflow up to 7 bar) for de-icing of tail mounted engines/air intake.

CAUTION: Jet fan mounted on truck de-icing equipment is not certified for use on western aircraft types.

4.4.9.1.7 Infrared De-Icing

Refer to SAE APR 4737 section 6 for cautions and minimum requirements to be considered for this method.

4.4.9.2 Anti-Icing

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 following procedures shall be adopted when using anti-icing fluids.

CAUTION: Acetate or Formate based fluids when used for de-icing:
- May shorten significantly the Holdover Times of Type II, III and IV fluids when used in combination with these fluids.
- May cause corrosion on aircraft materials.

4.4.9.2.1 Required usage

Anti-icing fluid shall be applied to the aircraft surfaces when freezing rain, snow or other freezing precipitation may adhere to the aircraft at the time of aircraft dispatch.

4.4.9.2.2 Optional usage

Type II, III, or IV fluid may be applied onto clean aircraft surfaces at the time of arrival (preferably before unloading begins) on short turnarounds during freezing precipitation and on overnight parked aircraft. This will minimize ice accumulation prior to departure and often makes subsequent de-icing easier.

CAUTION: This practice has the potential to build up dried residues. An appropriate inspection and cleaning program shall be established.

On receipt of a frost, snow, freezing drizzle, freezing rain or freezing fog warning from the local meteorological service, Type II, III, or IV fluid may be applied to clean aircraft surfaces prior to the start of freezing precipitation. This will minimize the possibility of snow and ice bonding or reduce the accumulation of frozen precipitation on aircraft surfaces and facilitate subsequent de-icing.

CAUTION: This practice has the potential to build up dried residues. An appropriate inspection and cleaning program shall be established.

Prior to flight the aircraft must be deiced, unless the integrity of the fluid can be ensured. Deice in accordance with Table I, whenever possible, to reduce the potential for dried residue build up.

4.4.9.2.3 Anti-icing fluid application strategy

The process should be continuous and as short as possible. Anti-icing should be carried out as near to the departure time as operationally possible in order to utilize maximum 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 horizontal aircraft surfaces shall be visually checked during application of the fluid.
For Type I fluid a minimum of 1 l/m^2 with at least 60 °C at the nozzle shall be used.
For Type II, III and IV fluids which flow readily over the 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 fluid layer, the minimum quantity required will typically be 1l/ m^2, applied in an even layer across the surface. For further guidance on amount of fluid refer to the fluid manufacturer's documentation.
Spray from the leading edge to the trailing edge. Do not spray from the rear. Start at the highest point of the surfaces and work to the lowest parts, i.e. on most aircraft start at the wing tip and work towards the wing root. On vertical surfaces, start at the top and work down.

The following surfaces shall be treated:
a) wing upper surfaces including leading edges and upper control surfaces;
b) horizontal stabilizer upper surfaces including leading edges and elevator upper surfaces;
c) vertical stabilizer surfaces including the rudder surfaces (both sides);
d) fuselage upper surfaces depending upon the amount and type of precipitation (especially important on centre-line engined aircraft).

CAUTION: Anti-icing fluids may not flow evenly over wing leading edges, horizontal and vertical stabilizers. These surfaces should be checked to ensure that they are properly coated with fluid.

It is the responsibility of the De-icing Operator to ensure that the surfaces mentioned above are free of frost, ice, slush and snow, prior to the start of the anti-icing treatment. Ensure that on completion of the treatment these surfaces are fully covered with an adequate layer of anti-icing fluid.

4.4.9.3 Limits and Precautions

4.4.9.3.1 Fluid related limits

Temperature limits
When performing two-step de-icing/anti-icing, the freezing point of the fluid used for the first step shall be at OAT or below. (Refer also to Chapter 4.4.15 - TABLES 1 and 2)

Type I fluids
The freezing point of the Type I fluid mixture used for either one-step de-icing/anti-icing or as a second step in the two-step operation shall be at least 10°C below the outside air temperature. In no case shall this temperature be lower than the lowest operational use temperature (LOUT).

CAUTION: Type I fluids supplied as concentrates for dilution with water prior to use shall not be used undiluted. For exceptions refer to fluid manufacturer's documentation.

Type II / Type III / Type IV fluids
Type II, III, and IV fluids used as de-icing/anti-icing agents may have a lower temperature application limit of -23°C. The application limit may be lower, provided a 7°C buffer is maintained between the freezing point of the neat fluid and outside air temperature. In no case shall this temperature be lower than the lowest operational use temperature (LOUT).
NOTE: These fluids may not be used below -25°C in active frost conditions (see TABLE 3 of this chapter).

Application limits
Under no circumstances shall an aircraft that has been anti-iced receive a further coating of anti-icing fluid directly on top of the contaminated film.
If an additional treatment is required before flight, a complete de-icing/anti-icing shall be performed (see application TABLES 1 and 2 from Chapter 4.4.15). Ensure that any fluid remaining from previous treatment are flushed off.
Anti-icing only is not permitted.

4.4.9.3.2 Aircraft related limits

The application of de-icing/anti-icing fluid shall be in accordance with manufacturer's instructions (see Chapter 7 and Chapter 8).

4.4.9.3.3 Procedure precautions

One-step de-icing/anti-icing is performed with a heated anti-icing fluid. The fluid used to de-ice the aircraft remains on aircraft surfaces to provide limited anti-ice capability. The correct fluid concentration shall be chosen with regard to desired holdover time and is dictated by outside air temperature and weather conditions (see Chapter 4.4.15 - TABLES 1 and 2).

CAUTION: Wing skin temperatures may be lower than OAT. If this condition is identified, a stronger mix (more glycol) may need to be used to ensure a sufficient freeze point buffer.
CAUTION: The application of type II, III, or IV fluid, especially when used in a one step process, may cause fluid 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.
NOTE 1: If a Type II, III or IV fluid is used in a one step process, then an appropriate inspection and cleaning program shall be established. Whenever suitable, deice and anti-ice with only Type I.
NOTE 2: 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 kind of gel.
NOTE 3: If removal of contamination is required on the lower side of the wings and the horizontal stabilizer and elevator, de-icing/anti-icing fluid shall be applied sparingly to minimize fluid flow into drain holes. Whenever possible, use Type I only.

Two-step de-icing/anti-icing (When the first step is performed with de-icing fluid):
The correct fluid(s) shall be chosen with regard to ambient temperature. After de-icing, a separate over-spray of anti-icing fluid shall be applied to protect the relevant surfaces thus providing maximum possible anti-ice capability.
The second step is performed with anti-icing fluid. The correct fluid concentration shall be chosen with regard to desired holdover time and is dictated by outside air temperature and weather conditions (see Chapter 4.4.15 - TABLES 1 and 2). The second step shall be performed before first step fluid freezes, if necessary area by area. When treating composite surfaces, freezing may happen quickly.

It is the responsibility of the De-icing Operator to ensure that all frozen deposits have been removed from the treated surfaces, before applying the second step fluid.
When applying the second step fluid, use a spraying technique, which completely covers the first step fluid (for example using the method described in Chapter 4.4.9.2.3) and provides a sufficient amount of second step fluid.
Where re-freezing occurs following the initial treatment, both first and second step must be repeated.

CAUTION: Wing skin temperatures may be lower than OAT. If this condition is identified, a stronger mix (more glycol) may need to be used to ensure a sufficient freeze point buffer.

CAUTION: The application of type II, III, or IV fluid, especially when used in a one step process or in the first step of a two step process, may cause fluid 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 mix of type I fluid/water for the first step of a twostep de-icing/anti-icing process will minimize the formation of dried residues.

NOTE 1: If a Type II, III or IV fluid is used in the first step of a two step process, then an appropriate inspection and cleaning program shall be established. Whenever suitable, deice and anti-ice with only Type I.

NOTE 2: 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 kind of gel.

NOTE 3: 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 de-iced, the freezing point of the de-icing fluid must be low enough to prevent refreezing.

With regard to holdover time provided by the applied fluid, the objective is that it be equal to or greater than the estimated time from start of anti-icing to start of takeoff based on existing weather conditions.
De-icing treatments shall be symmetrical, that is, left-hand and right-hand side of the aircraft shall receive the same treatment, even when only one side of the aircraft is contaminated.
Anti-icing treatments shall be also symmetrical and shall always cover the entire wing, the entire vertical stabilizer/rudder and horizontal stabilizer/elevator on both sides of the aircraft.
CAUTION: Aerodynamic problems could result if these requirements are not met.

Prior and during anti-icing and de-icing, the aircraft must be configured as specified in Chapter 7 & 8.
Engines are normally shut down but may remain running at idle during de-icing/anti-icing operations.
Air conditioning and/or APU air shall be selected OFF.
De-icing/anti-icing fluids shall not be sprayed directly on wiring harnesses and electrical components (receptacles, junction boxes, etc.), onto brakes, wheels, exhausts, or thrust reversers.
De-icing/anti-icing fluid shall not be directed into the orifices of pitot heads, static ports or directly onto airstream direction detectors probes/angle of attack airflow sensors.
All reasonable precautions shall be taken to minimize fluid entry into engines, APU, other intakes/outlets and control surface cavities.
De-icing/anti-icing fluid shall not be directed into engine inlets or directly onto engine probes/sensors.
Fluids shall not be directed onto flight deck or cabin windows as this can cause crazing of acrylics or penetration of the window seals.

In general, prior to the application of de-icing/anti-icing fluids all doors and windows should be closed and all service vehicles / personnel should be clear to prevent:
a) galley floor areas being contaminated with slippery de-icing fluids;
b) upholstery becoming soiled;
c) vehicles/personnel becoming contaminated with fluid.

However, when ramp activities have been completed and all doors, except the forward passenger door, are closed, it is permissible to start de-icing/anti-icing surfaces well away from the open door, provided that:
a) the Commander is informed and has agreed to this procedure before spraying;
b) passengers and staff will not be subjected to fluid overspray;
c) fuselage in the vicinity of the open door is not treated;
d) wind conditions are such that fluid or fluid overspray cannot reach the passenger door area.
This procedure is not recommended if passengers are boarding the aircraft via open stairs.

NOTE: Doors shall not be closed until all ice or snow has been removed from the surrounding area.

Any forward area from which fluid can blow back onto windscreens during taxi or subsequent takeoff shall be free of fluid prior to departure.
If Type II, III, or IV fluids are used, all traces of the fluid on flight deck windows should be removed prior to departure, particular attention being paid to windows fitted with wipers.
De-icing/anti-icing fluid may be removed by rinsing with an approved cleaner and a soft cloth.
Landing gear and wheel bays shall be kept free from build-up of slush, ice or accumulations of blown snow.
When removing ice, snow, slush or frost from aircraft surfaces care shall be taken to prevent it entering and accumulating in auxiliary intakes or control surface hinge areas. Remove snow from wings, stabilizer, ailerons and elevators by spraying from the leading edge to the trailing edge. Start at the highest point of the surfaces and work to the lowest parts, i.e. on most aircraft start at the wing tip and work towards the wing root.
Ice can build up on aircraft surfaces when descending through dense clouds or precipitation during an approach. When ground temperatures at the destination are low, it is possible for flaps to be retracted and for accumulations of ice to remain undetected between stationary and moveable surfaces. It is therefore important that these areas are checked prior to departure and any frozen deposits are removed.
Under freezing fog conditions, the rear side of the fan blades shall be checked for ice build-up prior to start-up. Any deposits discovered shall be removed by directing air from a low flow hot air source, such as a cabin heater, onto the affected areas.
A flight control check should be performed after de-icing/anti-icing.
After frequent applications of de-icing/anti-icing fluids it is advisable to inspect aerodynamically quiet areas and cavities for dried residues of thickened de-icing/anti-icing fluid. For these inspections it may be necessary to open access panels.
A de-icing/anti-icing treatment should be continuous and as short as possible. If a treatment is interrupted (for example a truck ran out of fluid), the Aircraft Commander shall be immediately informed stating:

a) reason for interruption;
b) actions to be taken (in consultation with the Commander);
c) expected time of delay.

Before continuing the treatment:

a) inform the Commander;
b) establish in consultation with the Commander, further treatment to be carried out, including any surfaces requiring re-treatment (in relation to Holdover time).

Carry out treatment as agreed.

4.4.9.3.4 Clear ice precautions

Clear ice can form on aircraft surfaces, below a layer of snow or slush. It is therefore important that surfaces are closely examined following each de-icing 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 under-wing. Aircraft are most vulnerable to this type of build-up when:
a) wing temperatures remain well below 0°C during the turnaround/transit;
b) ambient temperatures between -2°C and +15°C are experienced;
c) ambient humidity is high and/or precipitation occurs while the aircraft is on the ground.
This type of ice formation is extremely difficult to detect. However, frost or ice on the lower surface of either wing can indicate the presence of clear ice on the upper wing surfaces. Therefore when the above conditions prevail, or when there is otherwise any doubt whether clear ice has formed, a close examination shall be made immediately prior to departure, in order to ensure that all frozen deposits have in fact been removed.

NOTE 1: Clear ice can form at other temperatures if conditions a) and c) exist.

NOTE 2: Low wing temperatures associated with this type of build-up normally occur when large quantities of cold fuel remain in wing tanks during the turnaround/transit and any subsequent re-Fueling does not cause a sufficient increase in wing temperature.

4.4.10 General aircraft requirements after de-icing/anti-icing

Following the de-icing/anti-icing procedures and prior to takeoff, the critical aircraft surfaces shall be clean of all frost, ice, slush, and snow accumulations in accordance with the following requirements.

Wings, tail and control surfaces
Wings, tail and control surfaces shall be free of ice, snow, slush, and frost.

NOTE: Frost or any other contamination is not acceptable on the lower side of the horizontal stabilizer and elevator.

Pitot heads and static ports
Pitot heads and static ports shall be clear of ice, frost, snow and fluid.

Engines
Engine inlets, exhaust nozzles, cooling intakes, control system probes and ports shall be clear of ice and snow. Engine fan blades or propellers (as appropriate) shall be clear of ice, frost and snow, and shall be free to rotate.

Air conditioning inlets and exits
Air conditioning inlets and exits shall be clear of ice, frost and snow. Outflow valves shall be clear and unobstructed.

Landing gear and landing gear doors
Landing gear and landing gear doors shall be unobstructed and clear of ice, frost and snow.

Fuel tank vents
Fuel tank vents shall be clear of ice, frost and snow.

Fuselage
Fuselage shall be clear of snow, slush or ice.

Nose / Radome Area and Flight Deck Windows
Snow, slush, or ice on the windscreens or on areas forward of the windscreens shall be removed prior to departure. Heated flight deck windows will not normally require de-icing.

4.4.10.1 Flight control check

A functional flight control check using an external observer may be required after de-icing/anti-icing depending upon aircraft type. This is particularly important in the case of an aircraft that has been subjected to an extreme ice or snow covering.

4.4.10.2 Dried fluid residues when the aircraft has not been flown after anti-icing

Dried fluid residue could occur when surfaces have been treated but the aircraft has not subsequently been flown and 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 de-icing/anti-icing fluids and cleaned as necessary.

4.4.10.3 Special maintenance considerations

Proper account should be taken of the possible side-effects of fluid use. Such effects may include, but are not necessarily limited to, dried and/or rehydrated residues, corrosion and the removal of lubricants.

4.4.11 Post De-icing/Anti-icing Check

An aircraft shall not be dispatched after a de-icing/anti-icing operation until the aircraft has received the following visual check by a trained and qualified person.
This check shall cover wings, horizontal stabilizer, vertical stabilizer and fuselage. This check shall also include any other parts of the aircraft on which a de-icing/anti-icing treatment was performed according to the requirements identified during the contamination check.
The check shall be performed from points offering sufficient visibility of all prescribed surfaces (e.g. from the de-icer itself or other equipment suitable for gaining access). Any contamination found, shall be removed by further de-icing/anti-icing treatment and the check repeated.
Before take-off the commander must ensure that he has received confirmation that this Post Deicing/Anti-icing Check has been accomplished.

Where the de-icing provider is carrying out the de-icing/anti-icing process and also the Post De-icing/Anti-icing Check, it may either be performed as a separate check or incorporated into the de-icing operation as defined below.
The de-icing provider shall specify the actual method adopted in his winter procedures:
a) As the de-icing/anti-icing operation progresses the De-icing Operator will closely monitor the surfaces receiving treatment, in order to ensure that all forms of frost, ice, slush or snow (with the possible exception of frost, which may be allowed as described in Chapter 4.4.10) are removed and that, on completion of the treatment, these surfaces are fully covered with an adequate layer of anti-icing fluid.
b) Once the operation has been completed, the De-icing Operator will carry out a close visual check of the surface where treatment commenced, in order to ensure it has remained free of contamination (this procedure not required under ‘frost only’ conditions).
c) Where the request for de-icing/anti-icing did not specify the fuselage, it shall also receive a visual check at this time, in order to confirm that it has remained free of contamination (with the possible exception of frost which may be allowed as described in Chapter 4.4.10).
d) Any evidence of contamination that is outside the defined limits shall be reported to the Commander immediately.

4.4.12 Pre-takeoff Check

The Commander shall continually monitor the weather conditions after the performed de-icing/anti-icing treatment. Prior to takeoff he shall assess whether the applied holdover time is still appropriate and/or if untreated surfaces may have become contaminated. This Check is normally performed from inside the flight deck.
Where, before commencing a take-off from an aerodrome in Canada, a crew member of a HiSky Europe aircraft observes that there is frost, ice or snow adhering to the wings of the aircraft, the crew member shall immediately report that observation to the pilot-in-command, and the pilot-in-command or a flight crew member designated by the pilot-in-command shall inspect the wings of the aircraft before take-off.

4.4.13 Pre-takeoff Contamination Check

A check of the critical surfaces for contamination. This check shall be performed when the condition of the critical surfaces of the aircraft cannot be effectively assessed by a pre-takeoff check or when the applied holdover time has been exceeded. This check is normally performed from outside the aircraft. The alternate means of compliance to a pre-takeoff contamination check is a complete De-icing/anti-icing re-treatment of the aircraft.

4.4.14 Communication Procedures

The person communicating with the flight crew shall have a basic knowledge of the English language in order to communicate properly (Operational level or equivalent).
Communication between the Commander and the de-icing crew will usually be achieved using a combination of printed forms and verbal communication. For treatments carried out after aircraft doors are closed, use of flight interphone (headset) or VHF radio will usually be required. Electronic message boards may also be used in „off stand” situations (refer to Chapter 4.4.14.6 for details). Use of hand signals is not recommended

except for the final „all clear" signal (Chapter 4.4.14.5). For de-icing/anti-icing operations with engines running see also Chapter 4.4.14.6.
If any significant damage on the airplane is identified during the walk-around/contamination check and/or damage identified or caused during the de-/anti-icing process, it must immediately be reported to the flight crew for further investigation and decision for aircraft airworthiness.

4.4.14.1 Communication prior to starting De-icing/Anti-Icing treatment

i) Before de-icing/anti-icing, the Commander shall be requested to confirm the treatment required (areas to be de-iced, anti-icing requirements, special de-icing procedures).
ii) Before fluid application starts, the Commander shall be requested to configure the aircraft for deicing/anti-icing (surfaces, controls and systems, as per aircraft type requirements). The deicing crew shall wait for confirmation that this has been completed before commencing the treatment.
iii) The treatments must not be carried out without the flight crew presence.
iv) Before a HiSky Europe aircraft is de-iced or anti-iced in Canada, the pilot-in-command of the aircraft shall ensure that the crew members and passengers are informed of the decision to do so.

4.4.14.2 Post De-icing/Anti-Icing Communication

An aircraft shall not be dispatched for departure after a de-icing/anti-icing operation until the Commander has been notified of the type of de-icing/anti-icing operation performed (Anti-icing Code).
The Anti-icing Code (Chapter 4.4.14.3) shall be provided by a qualified person at the completion of the treatment, indicating that the checked surfaces (see Chapter 4.4.11) are free of ice, frost, snow, and slush, and in addition includes the necessary information to allow the Commander to estimate the holdover time to be expected under the prevailing weather conditions with reference to Chapter 4.4.15.
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 de-iced and anti-iced again, when the holdover time of the treatment from before the interruption is not sufficient.

4.4.14.3 Anti-Icing Codes

The following information shall be recorded and be communicated to the Commander by referring to the last step of the procedure and in the sequence provided below:
a) the fluid Type; i.e. Type I, II, III, IV
b) the concentration of fluid within the fluid/water mixture, expressed as a percentage by volume;
NOTE 1: no requirement for Type I fluid
c) the local time (hours:minutes), either
- for a one-step de-icing / anti-icing: at the start of the treatment, or
- for a two-step de-icing / anti-icing: at the start of the second step (anti-icing);

d) the date (written: day, month, year);
NOTE 2: required for record keeping, optional for Commander notification.
e) the complete name of the anti-icing fluid (so called "brand name").
NOTE 3: for Type III fluids only, optional for Type II and IV fluids.
f) the statement "Post de-icing/anti-icing check completed"

EXAMPLE
A de-icing/anti-icing procedure whose last step is the use of a mixture of 75% of a Type II fluid and 25% water, commencing at 13:35 local time on 20 February 2007, is reported and recorded as follows:
TYPE II/75 13:35 (20th FEB 2007) ("complete name of anti-icing fluid") "Post de-icing/anti-icing check completed".

4.4.14.4 Post de-icing/anti-icing check and transmission of the Anti-Icing Code to the Commander

Responsible for carrying out the post de-icing/anti-icing check and providing the Commander with the Anti-Icing Code is the company providing this service based on SGHA. In case of SGHA absence - according to local procedures, provided that staff is adequately qualified.

If two different companies are involved in the de-icing/anti-icing treatment and post de-icing/anti-icing check, it must be ensured that the Anti-Icing Code is not given before the post de-icing/anti-icing check is completed.
The company carrying out the de-icing/anti-icing treatment shall be responsible for the treatment and pass all information about the treatment to the company carrying out the post de-icing/anti-icing check.

4.4.14.5 All clear signal

The flight crew shall receive a confirmation from the ground crew that all de-icing/anti-icing operations are complete and that all personnel and equipment are clear before reconfiguring or moving the aircraft.

4.4.14.6 Off-gate de-icing/anti-icing Communications

During off-gate de-icing/anti-icing a two-way communication between flight crew and de-icing/anti-icing operator/supervisor must be established prior to the de-icing/anti-icing treatment. This may be done either by intercom or by VHF radio. In case VHF is used, the register or “tail number” of the aircraft instead of flight number must be used during all communications. An alternate means of communication may be the use of Electronic Message Boards. In the event of conflict, verbal communication shall take precedence.
During treatment all necessary information to cockpit must be given by this means (Beginning of treatment, treatment of sections requiring de-activation of aircraft systems, anti-icing code, etc.). Contact with flight crew may be closed after anti-icing code and readiness for taxi-out has been announced.
During de-icing/anti-icing operations with engines running, both verbal and visual communications are strongly recommended to control aircraft movement.

4.4.15 Holdover time

Holdover time is obtained by anti-icing fluids remaining on the aircraft surfaces. 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 mix.
Type II, III, and IV fluids contain a pseudoplastic 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 mix, with maximum holdover time available from undiluted fluid.
The tables 3, 4, 5 and 6 give an indication as to the time frame of protection that could reasonably be expected under conditions of precipitation. However, 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.
The lower limit of the published time span is used to indicate the estimated time of protection during moderate precipitation and the upper limit indicates the estimated time of protection during light precipitation.

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.

CAUTION: Surface coatings are currently available that may be identified as ice phobic or hydro phobic, enhance the appearance of aircraft external surfaces and/or lead to fuel savings. Since these coatings may affect the fluid wetting capability and the resulting fluid thickness of de-icing/anti-icing fluids they have the potential to affect holdover time and aerodynamics. For more information see SAE AIR 6232 and consult the aircraft manufacturers.

NOTE 1: Certain fluids may be qualified according to fluid specifications but may not have been tested during winter to develop the holdover time guidelines specified in this document. Holdover time guidelines in this document are not applicable to these fluids.

NOTE 2: For use of holdover time guidelines consult Fluid Manufacturer Technical Literature for minimum viscosity limits of fluids as applied to aircraft surfaces.

NOTE 3: A degraded Type II, Type III, or Type IV fluid shall be used with the holdover time guideline for Type I fluids (TABLE 3 or TABLE 4 of this chapter as applicable). A Type II, Type III, or Type IV fluid is considered to be degraded if the viscosity is below the minimum limit as provided by the fluid manufacturer. The Type II fluid holdover time guideline (TABLE 5 of this chapter) may be used with degraded Type IV fluids only after substantiation by holdover time testing.

NOTE 4: Holdover time guidelines can also be obtained for individual fluid products and these ”brand name” holdover times will be found to differ from the tables published here. If these brand name tables are used, please refer to the FAA (Federal Aviation Administration) or TC (Transport Canada) documentation, particularly for the application of the ‘light’ and ‘very light snow’ columns.

NOTE 5: Holdover time determination systems (HOTDS) are available to determine holdover times based on liquid water equivalent (LWE) and OAT. These holdover times may differ from those published in Annex A of this document.

TABLE 1 - Guidelines for the application of Type I fluid/water mixtures (minimum concentrations) as a function of OAT.

<table>
<tr><td rowspan="2">OAT (1)</td><td rowspan="2">One-Step Procedure
De-icing / Anti-icing (2)</td><td colspan="2">Two-Step Procedure</td></tr>
<tr><td>First step: De-icing</td><td>Second step: Anti-icing (3)</td></tr>
<tr><td>0°C
and above</td><td rowspan="2">Fluid/water mixture heated to at least 60°C at the nozzle with a freezing point of at least 10°C below OAT</td><td>Heated water or a heated fluid/water mixture</td><td rowspan="2">Fluid/water mixture heated to at least 60°C at the nozzle with a freezing point of at least 10°C below OAT</td></tr>
<tr><td>below
0°C down
to LOUT</td><td>Heated fluid/water mixture with a freezing point at OAT or below</td></tr>
<tr><td colspan="4">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/m^2 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).</td></tr>
<tr><td colspan="4">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 fluid and aircraft manufacturers’ recommendations.
• To use Type I Holdover Times Guidelines in all conditions including active frost, an additional minimum of 1 liter/m^2 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.
• When conducting aircraft deicing using a Type I fluid and not using the 10 °C buffer, procedures must be developed and approved to ensure refreezing does not occur prior to takeoff.</td></tr>
</table>

TABLE 2 - Guidelines for the application of Type II and Type IV fluid/water mixtures (minimum concentrations) as a function of OAT.

OAT (1)	Concentration of neat fluid/water mixture in vol% / vol%		
	One-Step Procedure	Two-Step Procedure	
	De-icing / Anti-icing	First step: De-icing	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) Fluids used for the anti-icing procedure 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/III fluid when Type II/IV fluid cannot be used due to LOUT limitations. 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; or

b) The actual freezing point of the fluid plus its freezing point buffer of 7 °C.

Although some LOUTs are lower than the temperatures stated in the HOT table, holdover times do not apply when anti icing below the lowest temperature stated in the band.

(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, colder temperatures, or for critical surfaces constructed of composite materials. If necessary, the second step shall be applied area by area (sectionally).

(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.
- 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 buffer, procedures must be developed and approved to ensure refreezing does not occur prior to takeoff.

TABLE 3 - ACTIVE FROST HOLDOVER TIMES FOR SAE TYPE I, TYPE II, TYPE III, AND TYPE IV FLUIDS(1)

Outside Air Temperature (2)(3)(4)	Type I Aluminium	Type I Composite
-1 °C and above	0:45	0:35
below -1 to -3 °C		
below -3 to -10 °C		
below -10 to -14 °C		
below -14 to -21 °C		
below -21 to -25 °C		
below -25 °C		

Outside Air Temperature (3)(4)	Concentration Fluid/Water By % Volume	Type II	Type III (5)	Type IV
-1 °C and above	100/0	8:00	2:00	12:00
	75/25	5:00	1:00	5:00
	50/50	2:00	0:30	3:00
below -1 to -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
below -3 to -10 °C	100/0	8:00	2:00	10:00
	75/25	4:00	1:00	5:00
below -10 to -14 °C	100/0	6:00	2:00	6:00
	75/25	1:00	1:00	1:00
below -14 to -21 °C	100/0	3:00	2:00	6:00
below -21 to -25 °C	100/0	2:00	2:00	4:00
below -25 °C	100/0	No holdover time guidelines exist		

NOTES

(1) To use the HOTs in this table, ensure that the fluid and dilution being used is listed in the List of Qualified Fluids Tested for Anti-Icing Performance and Aerodynamic Acceptance table. Any restrictions on the use of the fluid have to be identified and applied.
(2) Type I Fluid / Water Mixture must be selected so that the freezing point of the mixture is at least 10 °C below outside air temperature.
(3) Ensure that the lowest operational use temperature (LOUT) is respected.
(4) Changes in outside air temperature (OAT) over the course of longer frost events can be significant; the appropriate holdover time to use is the one provided for the coldest OAT that has occurred in the time between the de/anti-icing fluid application and takeoff.
(5) To use the Type III fluid frost holdover times, the fluid brand being used must be known. AllClear AeroClear MAX must be applied unheated.

CAUTIONS

- The responsibility for the application of these data remains with the user.
- Fluids used during ground de/anti-icing do not provide in-flight icing protection.
- This table is for departure planning only and should be used in conjunction with pretakeoff check procedures.

TABLE 4 - HOLDOVER TIMES FOR SAE TYPE I FLUID ON CRITICAL AIRCRAFT SURFACES COMPOSED PREDOMINANTLY OF ALUMINUM

Outside Air Temperature (1)(2)	Freezing Fog, Freezing Mist(3), or Ice Crystals(4)	Snow mixed with Freezing Fog(5)	Very Light Snow, Snow Grains or Snow Pellets(6)(7)(8)	Light Snow, Snow Grains or Snow Pellets(6)(7)(8)	Moderate Snow, Snow Grains or Snow Pellets (6)(8)	Freezing Drizzle(9)	Light Freezing Rain	Rain on Cold Soaked Wing(10)	Other(11)
-3 °C and above	0:11 - 0:17	0:05 - 0:08	0:18 - 0:22	0:11 - 0:18	0:06 - 0:11	0:09 - 0:13	0:02 - 0:05	0:02 - 0:05	
below -3 to -6 °C	0:08 - 0:13	0:04 - 0:06	0:14 - 0:17	0:08 - 0:14	0:05 - 0:08	0:05 - 0:09	0:02 - 0:05	CAUTION: No holdover time guidelines exist	
below -6 to -10 °C	0:06 - 0:10	0:03 - 0:05	0:11 - 0:13	0:06 - 0:11	0:04 - 0:06	0:04 - 0:07	0:02 - 0:05		
below -10 °C	0:05 - 0:09	0:02 - 0:03	0:07 - 0:08	0:04 - 0:07	0:02 - 0:04				

NOTES

(1) Type I fluid / water mixture must be selected so that the freezing point of the mixture is at least 10 °C below outside air temperature.
(2) Ensure that the lowest operational use temperature (LOUT) is respected.
(3) Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0 °C and below.
(4) Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.
(5) These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
(6) To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table is required.
(7) Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table is required to confirm the precipitation intensity is no greater than "light". No holdover times exist if the reported visibility correlates to a "moderate" or "heavy" precipitation intensity.
(8) Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.
(9) Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
(10) No holdover time guidelines exist for this condition for 0°C and below.
(11) Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.

CAUTIONS

- The responsibility for the application of these data remains with the user.
- The time of protection will be shortened in heavy weather conditions. 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 be reduced when aircraft skin temperature is lower than outside air temperature.
- Fluids used during ground de/anti-icing do not provide in-flight icing protection.
- This table is for departure planning only and should be used in conjunction with pretakeoff check procedures.

TABLE 5 - GENERIC HOLDOVER TIMES FOR SAE TYPE II FLUIDS(1)

Outside Air Temperature (2)	Fluid Concentration Fluid/Water By % Volume	Freezing Fog, Freezing Mist (3), or Ice Crystals(4)	Snow mixed with Freezing Fog(5)	Snow, Snow Grains or Snow Pellets(6)(7)(8)	Freezing Drizzle (9)	Light Freezing Rain	Rain on Cold Soaked Wing(10)	Other(11)
-3 °C and above	100/0	0:55 - 1:50	0:20 - 0:40	0:30 - 0:55	0:35 - 1:05	0:20 - 0:35	0:07 - 0:45	
	75/25	0:40 - 1:10	0:15 - 0:25	0:15 - 0:30	0:25 - 0:40	0:15 - 0:25	0:04 - 0:25	
	50/50	0:15 - 0:30	0:05 - 0:10	0:07 - 0:15	0:09 - 0:15	0:06 - 0:09		
below -3 to -8 °C	100/0	0:30 - 0:45	0:15 - 0:30	0:20 - 0:40	0:20 - 0:45	0:15 - 0:20		
	75/25	0:25 - 0:55	0:09 - 0:15	0:10 - 0:25	0:15 - 0:30	0:08 - 0:15		
below -8 to -14 °C	100/0	0:30 - 0:45	0:10 - 0:25	0:15 - 0:30	0:20 - 0:45 (12)	0:15 - 0:20 (12)		
	75/25	0:25 - 0:55	0:07 - 0:15	0:09 - 0:20	0:15 - 0:30 (12)	0:08 - 0:15 (12)		
below -14 to -18 °C	100/0	0:15 - 0:20	0:01 - 0:05	0:02 - 0:07				
below -18 to -25 °C	100/0	0:15 - 0:20	0:00 - 0:02	0:01 - 0:03				
below -25 °C to LOUT(13)	100/0	0:15 - 0:20	0:00 - 0:00	0:00 - 0:01				

CAUTION: No holdover time guidelines exist

NOTES

(1) To use the HOTs in this table, ensure that the fluid and dilution being used is listed in the Type II Fluids Tested for Anti-Icing Performance and Aerodynamic Acceptance table. Any restrictions on the use of the fluid have to be identified and applied.
(2) Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I fluid when Type II fluid cannot be used.
(3) Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0°C and below.
(4) Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.
(5) These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table is required to confirm the precipitation intensity is no greater than “moderate”. No holdover times exist if the reported visibility correlates to a “heavy” precipitation intensity.
(6) To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table is required.
(7) Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table is required to confirm the precipitation intensity is no greater than “light”. No holdover times exist if the reported visibility correlates to a “moderate” or “heavy” precipitation intensity.
(8) Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.
(9) Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
(10) No holdover time guidelines exist for this condition for 0°C and below.
(11) Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.
(12) No holdover time guidelines exist for this condition below -10°C.
(13) If the LOUT is unknown, no holdover time guidelines exist below -25°C.

CAUTIONS

- The responsibility for the application of these data remains with the user.
- The time of protection will be shortened in heavy weather conditions. 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 be reduced when aircraft skin temperature is lower than outside air temperature.
- Fluids used during ground de/anti-icing do not provide in-flight icing protection.
- This table is for departure planning only and should be used in conjunction with pretakeoff check procedures.
- 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.

TABLE 6 - GENERIC HOLDOVER TIMES FOR SAE TYPE IV FLUIDS(1)

Outside Air Temperature (2)	Fluid Concentration Fluid/Water By % Volume	Freezing Fog, Freezing Mist(3), or Ice Crystals(4)	Snow mixed with Freezing Fog(5)	Very Light Snow, Snow Grains or Snow Pellets(6)(7)(8)	Light Snow, Snow Grains or Snow Pellets(6)(7)(8)	Moderate Snow, Snow Grains or Snow Pellets(6)(8)	Freezing Drizzle(9)	Light Freezing Rain	Rain on Cold Soaked Wing (10)	Other(11)
-3 °C and above	100/0	1:15 - 2:15	0:25 - 0:45	1:55 - 2:20	1:00 - 1:55	0:30 - 1:00	0:40 - 1:10	0:20 - 0:35	0:08 - 1:05	
	75/25	1:25 - 2:40	0:30 - 0:55	2:05 - 2:25	1:15 - 2:05	0:40 - 1:15	1:00 - 1:20	0:30 - 0:50	0:09 - 1:20	
	50/50	0:30 - 0:55	0:07 - 0:20	1:00 - 1:10	0:25 - 1:00	0:10 - 0:25	0:15 - 0:40	0:09 - 0:20		
below -3 to -8 °C	100/0	0:15 - 0:35	0:20 - 0:40	1:45 - 2:05	0:55 - 1:45	0:25 - 0:55	0:25 - 1:10	0:20 - 0:25		
	75/25	0:40 - 1:20	0:25 - 0:50	1:50 - 2:10	1:05 - 1:50	0:30 - 1:05	0:20 - 1:05	0:15 - 0:25		
below -8 to -14 °C	100/0	0:15 - 0:35	0:15 - 0:35	1:30 - 1:50	0:45 - 1:30	0:20 - 0:45	0:25 - 1:10(12)	0:20 - 0:25(12)		
	75/25	0:40 - 1:20	0:20 - 0:45	1:40 - 2:00	0:55 - 1:45	0:25 - 0:55	0:20 - 1:05(12)	0:15 - 0:25(12)		
below -14 to -18 °C	100/0	0:15 - 0:30	0:01 - 0:06	0:30 - 0:45	0:09 - 0:30	0:02 - 0:09				
below -18 to -25 °C	100/0	0:15 - 0:30	0:00 - 0:02	0:10 - 0:20	0:03 - 0:10	0:01 - 0:03				
below -25 °C to LOUT(13)	100/0	0:15 - 0:30	0:00 - 0:01	0:07 - 0:10	0:02 - 0:07	0:00 - 0:02				

CAUTION: No holdover time guidelines exist

NOTES

(1) To use the HOTs in this table, ensure that the fluid and dilution being used is listed in the Type IV Fluids Tested for Anti-Icing Performance and Aerodynamic Acceptance table. Any restrictions on the use of the fluid have to be identified and applied.
(2) Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I fluid when Type IV fluid cannot be used.
(3) Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0 °C and below.
(4) Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.
(5) These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table is required to confirm the precipitation intensity is no greater than “moderate”. No holdover times exist if the reported visibility correlates to a “heavy” precipitation intensity.
(6) To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table is required.
(7) Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table is required to confirm the precipitation intensity is no greater than “light”. No holdover times exist if the reported visibility correlates to a “moderate” or “heavy” precipitation intensity.
(8) Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.
(9) Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
(10) No holdover time guidelines exist for this condition for 0 °C and below.
(11) Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.
(12) No holdover time guidelines exist for this condition below -10 °C.
(13) If the LOUT is unknown, no holdover time guidelines exist below -25.5 °C.

CAUTIONS

- The responsibility for the application of these data remains with the user.
- The time of protection will be shortened in heavy weather conditions. 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 be reduced when aircraft skin temperature is lower than outside air temperature.
- Fluids used during ground de/anti-icing do not provide in-flight icing protection.
- This table is for departure planning only and should be used in conjunction with pretakeoff check procedures.
- 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.

4.4.16 Checking Procedure for Aircraft De-icing/Anti-icing Fluids

4.4.16.1 Introduction

This checking procedure for aircraft de-icing/anti-icing fluids is in compliance with station quality assurance program for aircraft de-icing/anti-icing operations. The procedure ensures that the required safety standards concerning the de-icing/anti-icing fluids quality are maintained. When discrepancies are found investigate and rectify, i.e. ensure the fluid is within limits prior to use.

4.4.16.2 Fluid Acceptance at Delivery

4.4.16.2.1 Check of documentation

- Check that the fluid delivered corresponds to the fluid ordered.
- Make sure the brand name and concentration of the product specified in the delivery documents corresponds to the delivered fluid. Each container/road tanker shall be checked.
- Make sure that the brand name and the concentration of the delivered fluid corresponds to the brand name and the concentration of the storage or vehicle tanks.

4.4.16.2.2 Fluid Sample Checks

Before the first use of the delivered fluid for filling a storage tank or vehicle tank, take a sample from the container/road tanker (each separate compartment if applicable) and perform the following checks:

Type I fluid:

- Perform a visual contamination check according to Chapter 4.4.16.6.1
- Perform a refractive index check according to Chapter 4.4.16.6.2
- Perform a pH-value check according to Chapter 4.4.16.6.3 (*)

Type II, Type III, and Type IV fluids:

- Perform a visual contamination check according to Chapter 4.4.16.6.1
- Perform a refractive index check according to Chapter 4.4.16.6.2
- Perform a pH-value check according to Chapter 4.4.16.6.3 (*)
- Perform a field viscosity check according to fluid manufacturer's instruction(s) or Chapter 4.4.16.6.4 or any equivalent method.

(*) Perform this check if it is suitable to identify contaminants in the fluid and/or detect degradation of the fluid used.

4.4.16.3 De-icing/Anti-icing Vehicle Fluid Checks

4.4.16.3.1 Concentration Checks

Fluids or fluid/water mixture samples shall be taken from the de-icing/anti-icing vehicle nozzles on a daily basis when vehicles are in use. Where possible the sample shall be taken immediately before or during the first de-icing/anti-icing operation of the day. To preserve the integrity of the sample, it shall be protected against precipitation. Perform a refractive index check according to Chapter 4.4.16.6.2 and record the results.

NOTE: Trucks without a mixing system
Samples may be taken from the truck tank instead of at the nozzle. Ensure that the fluid is at a uniform mixture.

NOTE: Trucks with proportional mixing systems
Operational setting for flow and pressure shall be used. Allow the selected fluid concentration to stabilize before taking sample.

NOTE: Trucks with automated fluid mixture monitoring system
The interval for refractive index checks has to be determined by the handling company in accordance with the system design.

4.4.16.3.2 Checks on (directly or indirectly) heated Fluids

Fluid or fluid/water mixture samples shall be taken from the de-icing/anti-icing vehicle tanks. As a guideline, the interval should not exceed two weeks, but it may be adjusted in accordance with local experience.
Perform a Refractive Index Check in accordance with Chapter 4.4.16.6.2.

4.4.16.4 Laboratory Checks for Fluids

The laboratory checks shall be performed for the fluids at the start and in the middle of the deicing season and upon request by the airline. Fluid samples shall be taken from all de-icing/anti-icing vehicle spray nozzles of all vehicles and from all storage tanks in use.
Samples shall be taken in all concentrations used for anti-icing.

Perform the laboratory check for fluids as follows:
Type I fluid:
- Perform a visual contamination check according to Chapter 4.4.16.6.1
- Perform a refractive index check according to Chapter 4.4.16.6.2
- Perform a pH-value check according to Chapter 4.4.16.6.3

Type II, Type III, and Type IV fluids:
- Perform a visual contamination check according to Chapter 4.4.16.6.1
- Perform a refractive index check according to Chapter 4.4.16.6.2
- Perform a pH-value check according to Chapter 4.4.16.6.3
- Perform a laboratory viscosity check according to Chapter 4.4.16.6.5 (*)

(*) Not applicable to samples taken from spray nozzle(s) used for de-icing exclusively.

4.4.16.5 Field Check for Fluids

Field check for fluids shall be made always when station inspection is made. The samples shall be taken from the storage tank and from the de-icing/anti-icing equipment nozzle.

Perform the field test for fluids as follows:
Type I fluid:
- Perform a visual contamination check according to Chapter 4.4.16.6.1
- Perform a refractive index check according to Chapter 4.4.16.6.2
- Perform a pH-value check according to Chapter 4.4.16.6.3 (*)

Type II, Type III, and Type IV fluids:
- Perform a visual contamination check according to Chapter 4.4.16.6.1
- Perform a refractive index check according to Chapter 4.4.16.6.2
- Perform a pH-value check according to Chapter 4.4.16.6.3 (*)
- Perform a field viscosity check according to Chapter 4.4.16.6.4

(*) Perform this check if it is suitable to identify contaminants in the fluid and/or detect degradation of the fluid used.

4.4.16.6 Fluid Check Methods

The following checks can be performed by any equivalent method.

4.4.16.6.1 Visual Contamination Check

- Put fluid from the sample into a clean glass bottle or equivalent
- Check for any kind of contamination (e.g. rust particles, metallic debris, rubber parts, etc.)

4.4.16.6.2 Refractive Index Check

- Make sure the refractometer is calibrated and clean
- Put a fluid drop taken from the sample or from the nozzle onto the test screen of the refractometer and close the prism
- Read the value on internal scale and use the correction factor given by the manufacturer of the fluid in case the temperature of the refractometer is not 20ºC
- Compare the value with the refractive index limits provided by the fluid manufacturer, to ensure it is within tolerance.
- Clean the refractometer and return it into the protective cover

Delivery Check (All Fluids)
Ensure the refractive index is within the limits published by the manufacturer for the fluid as delivered.

In-Service Check (Type I Fluid)
Ensure the freezing point of the fluid is either
a) not less than 10ºC below the OAT for a one-step procedure and the second step in a two-step procedure, or
b) at OAT or below for the first step fluid in a two-step procedure, and
c) that in neither case the maximum permitted concentration has been exceeded.

In-Service Check (Type II, III and IV Fluid)
Ensure the refractive index is within the 'in-service' limits published by the manufacturer for fluid at the applicable concentration. For Type II, III and IV fluid/water mixtures (50/50 or 75/25) a tolerance range from the setting of -0% to + 7% may apply, depending on the product.

4.4.16.6.3 pH-Value Check

This check may be performed either with pH indicator paper (litmus paper) or with a calibrated or functionally tested pH measurement instrument.

NOTE: The pH check in the laboratory should be performed with a calibrated or functionally tested pH measurement instrument.

4.4.16.6.4 Field Viscosity Check

This check may be performed with a falling ball method, where the reference liquids represent the minimum and maximum allowed viscosities of the tested product.

- Put the sample into a clean sample tube
- Insert the steel ball into the glass, fill it up completely and close it
- Return the glass into the test tool and turn it vertically and let all steel balls reach the lower end of the test tubes
- After all 3 balls have reached the bottom of the tubes, turn the tool ±180 degrees to a full vertical position
- The balls will move downwards with a different speed
- The speed of the middle steel ball shall be between the speed of the two other balls or be equal to the speed of one of them

4.4.16.6.5 Laboratory Viscosity Check

- Perform the viscosity check in accordance with SAE AIR 9968
- The measurements shall be carried out at rotation speeds of 0.3 rpm
- The temperatures at which the measurements are made and the spindle number shall be reported
- Compare the viscosity values with figures from fluid manufacturer

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5. AIRCRAFT LOADING

5.1 General Principles

Ground handling company must have an assignment of responsibility for correct loading and securing of baggage, mail and cargo, including dangerous goods on board of the aircraft. Such assignment lays on one qualified individual, called ramp-supervisor, ramp-coordinator or flight dispatcher, or other similar, depending on the handling company.
All aircraft handling personnel must make sure that the following loading principles are observed.

Loading procedure

- The regulations for crew baggage, cabin load and special loads including load incompatibilities must be observed.
- The available volume of the compartments must be used to the maximum possible extent.
- Heavy or solidly packed pieces always on or near to the floor must be loaded.
- Heavy or solidly packed pieces must never be loaded on top of lighter or sensitive load.
- The load priority must be observed if offloading shipments because of mass of volume problems.

Place of loading

- Only allowed compartments must be used for loading.
- The distribution of the load must be ensured according loading instruction.
- Toilets or crew compartments must never be loaded with any pieces of load.
- The specially marked positions which must always be accessible for safety reasons, must be free at all times, for example vision lenses or gear extension indicators in the cabin floor, emergency exits.

Careful loading

- The aircraft must be loaded and unloaded carefully to avoid accidents and damages to the aircraft and to the load.
  WARNING: Most compartments have lining panels or blow-out panels in the compartment walls or ceiling which – when being damaged – can turn the compartment or the whole aircraft inoperative.
- Minimum safety distance at any place between compartment ceiling and top of the load must never exceed 5 cm.
- Any damaged lining panel or blow-out panel must be reported to the Commander and – if available – to the Station Manger immediately.
- Proper handling of all loading equipment and material must be ensured.
- Floor must be protected with supporting planks if heavy loading tools and rollers are used.
- Heavy loading tools and rollers must not be used directly at the floor of the cabin or the cargo compartment.

For aircraft type related regulations see Chapter 7 of this manual.

WARNING: Aircraft type related loading limitations must never be exceeded!

Sensitive shipments

- Pieces with special handling instructions (labels or imprints) must be handled accordingly, for example pieces marked ‘This side up!’ or ‘Fragile!’
- Sensitive shipments must be loaded with special care, for example measuring instruments, fragile pieces, flowers, etc.
- Sensitive shipments must be loaded so that they cannot be damaged by other load.

Load to be excluded from transportation

The load must NOT be loaded if:

- it is not properly packed
- it may cause damage to the aircraft or to other load
- it has not been weighed properly

- it may contaminate the compartment or other load: dirty bowls for casings, dirty plastic foil etc.
- it is not packed according to valid packing requirements, for example dangerous goods, human remains, animals
- special handling instruction cannot be observed
- necessary loading accessories are not available
- if shipment has the label “Cargo aircraft only”

Completion of load
Loading is completed after the following tasks have been finished, even if there is no load in the compartment:

- the load must be secured
- door safety nets and compartments separation nets, and if available, the crash net must be installed
- the door must NOT be damaged during loading
- the doors must be closed and locked properly

5.2 Baggage

Baggage can be of the following types:

- **Priority Baggage** - Baggage of special category of passengers (Business-Class baggage, UM baggage, WCH baggage) or marked with the ‘Priority’-label.
- **Non-Priority Baggage** - Regular baggage (not identified with a Priority or other label)
- **Transfer Baggage** - Baggage which must be transferred onto a connecting flight at the next transfer station
- **Local Baggage** - Baggage whose final destination is the next station en route

To speed up delivery on arrival, baggage must be loaded in the following sequence:

- Local Baggage
- Transfer Baggage
- Local Priority Baggage

Due to local requirements at certain airports, Transfer Baggage might have priority over Local Priority Baggage.

5.2.1 Transfer baggage

- Transfer Baggage must always be separated from local baggage.
- Baggage must be loaded into separate net sector or, even better, into separate compartments.
- Loading position of the transfer baggage must be shown in the Loadmessage (LDM) under SI with the load category code ‘TB’.

5.2.2 Priority baggage

The check-in personnel is responsible to mark the priority baggage with the ‘Priority’ tag according to the HiSky regulations. Priority baggage must be separated from other baggage, if it’s not transfer baggage, and loaded into the standard net section.

5.2.3 Local baggage

Local baggage is the baggage that is delivered to the passenger at the next station. There are no special regulations for handling of this baggage.

5.2.4 Delivery At Aircraft baggage (DAA)

The DAA-procedure is applicable for fully collapsible baby strollers and mobility equipment.
DAA units are given to the loading personnel at the aircraft side.
The check-in personnel is responsible to mark the Delivery at Aircraft units with the information tag 'Delivery at Aircraft'.
DAA units must be counted prior to loading and loaded into the door area of the cargo compartment.
The actual number of 'DAA' pieces must be reported to the flight crew and load control personnel. The influence on the loadsheet data resulting from 'DAA' loading is handled by the flight crew.
DAA baggage must be shown in the Loadmessage (LDM) under SI with the load category code 'DAA' to inform the downline station about DAAs so that personnel is properly informed for a quick unloading and delivery.

Example:
SI DAA/1/2 - 2 DAA units loaded in cargo hold 1

Offloading of DAA must be started as soon as possible and be processed while passengers are disembarking. After unloading, DAA units must be given back to the passengers at the aircraft, if not forbidden by local regulations.

EXCEPTION: DAA procedure is not applicable for flights to/ex London (STN). Baby strollers and wheel chairs must be accepted as checked-in baggage, marked with proper baggage tag, and as exception must be given to the loading personnel at the aircraft side to be loaded into the door area of the cargo compartment. Number and position of baby strollers and wheel chairs must be shown in SI field of LDM message.

5.2.5 Crew baggage

HiSky crew members have only hand carry baggage.

5.2.6 Confiscated pieces

Confiscated pieces are loaded only in cargo holds. At destination or transfer stations they are handled like passenger baggage.

5.2.7 Rush baggage

Rush baggage (or expedite baggage) is baggage that was lost or has been misrouted and that is now sent to the owner.
Rush baggage is tagged with red 'RUSH' tag, showing word Rush on it.
The passenger service department (lost and found office) is responsible to tag this baggage and to perform the security check, if necessary.

5.3 ULDs

Applicable only on A330 HiSky aircraft.
All ULD loading recommendations are describer in **Chapter 8 – Airbus A330** of this manual.

5.4 Bulk Load

The following general guidelines apply to bulk load:

- Stowing of baggage, cargo and mail is permitted only in compartments designed for the accommodation of such load.
- The load must be properly protected against rain or snow until it is put on board the aircraft.
- Loads must be treated with care to avoid damage to the aircraft and load.
- Special loads must be handled according to the special handling labels used (e.g. 'Fragile', 'This Side Up', etc.).
- The condition of the load must be inspected prior to loading, in order to detect leaking or damaged shipments.
- Leaking shipments shall not be loaded.
- Any damage noticed or contamination suspected to be caused by Dangerous Goods must be reported to the appropriate departments (e.g. Cargo Department).
- As long as it is not assured that the contamination is caused by a harmless source, the shipment shall not be loaded.
- Any load with missing identification (e.g. missing baggage tag, cargo label) must be identified before loading.
- The available separation nets must be properly secured to prevent shifting of load in flight.
- Loads must be distributed uniformly in assigned cargo compartments.
- Heavy loads must be stowed at the bottom. If necessary, put heavy loads on spreaders in order not to exceed the maximum floor load and running load limitations.
- Special loads must be stowed in accordance with the relevant regulations (see Chapters 5.9. Dangerous Goods, 5.10. Live Animals and 5.11. Other Special Loads).

  Stowing sequence:

  1 Cargo
  2 Mail
  3 Baggage (to be stowed last, so that it can be unloaded first).
- For maximum utilization of the available compartment volume, load must be stowed as tightly as possible.
- When loading is completed, a visual check of the compartment should be done to roughly compare the volumes and masses with those mentioned on the loadsheet.
- Door protection nets must be properly secured before closing the compartment door.

5.4.1 General Securing of Bulk Load

The following general guidelines apply to the securing of bulk load:

- All load must be loaded and secured in such a way that:
  - In flight, it cannot work loose and cause hazardous displacement of the center of gravity of the aircraft, injure passengers and crew, or damage the aircraft.
  - In case of forced landings, moving loads cannot injure passengers and crew.
- Load must be restrained to prevent any movements forward, backward, left, right and upwards (force directions) in the aircraft.

5.4.2 Securing Load

Load in bulk compartments generally is secured by door nets and net sector divider nets.

The following items must be secured:

- Items weighing 150 kg or more (HEA), irrespective whether the compartment or net section is volumetrically full or not.
- Items with an individual mass between 50 kg and 149 kg, if the compartment is not volumetrically full.

- Items with an individual mass of less than 50 kg, but having a density of more than 240 kg/m^3 (high density load, e.g. pieces of machinery, metal bars). Lashing is not required if the compartment or net section is volumetrically full and remains full up to the point of unloading of these items.

NOTE: A compartment or net section is considered volumetrically full if it is filled up to at least 80% of its capacity.

The following methods must be used for securing these items:

- Items described here above must be tied down to the tie-down tracks of the compartment by means of tie-down fittings and ropes or straps.
- Any other individual items which by their nature, shape or density may constitute a hazard, must be restrained by either filling the compartment or net section to its volumetric capacity or by using the previous method.

5.4.3 Lashing

Definition of forces

The load on board of the aircraft must be tied-down properly to withstand the following different forces during take-off, flight and landing.

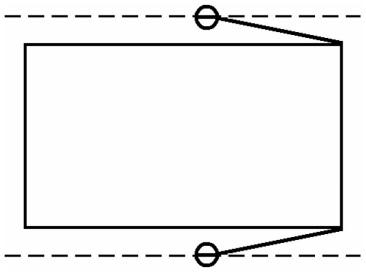
Forward – horizontal forces effective during landing and steep angles of descent
Backward – horizontal forces effective during take-off and steep angles of climb
Sideward – vertical forces effective during rough landing, turbulence and close turns.
Upward – vertical forces effective during landing and heavy turbulence in flight.

Depending on the flight situation, these forces can be stronger than the normal gravity force 1G. All loads must be secured against the different forces according to the gravity factor (G-factor) shown in the table.

Force	Cargo Holds	Passenger Cabin
Forward	1.5 G	Not applicable for HiSky aircraft
Backward	1.5 G	
Sideward	1.5 G	
Upward	3.0 G	

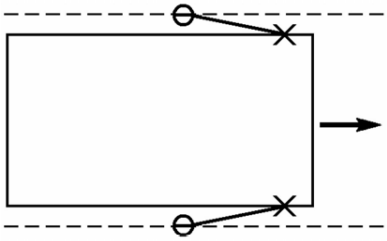
Single rope or strap Lashing

A single rope or strap which is attached to 2 tie-down fittings installed on opposite side of the item, and runs from one fitting to the other so that the item is restrained in one or more force directions, counts as one lashing.



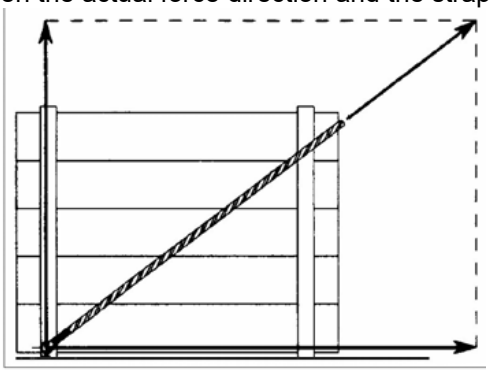
Two ropes or straps Lashing

Two ropes or straps attached to the piece itself and securing the item in the same force direction count as one lashing.



General on restraint capacity of lashing equipment:

- There are straps and tie-down fittings with various restraint capacities.
- The weakest component in a strap and tie-down fitting assembly determines the restraint capacity of the lashing.
- The angle between the actual force direction and the strap must also be taken into account (see drawing).
- The maximum restraint capacity of a strap can only be applied if the angle between the actual force direction and the strap is 0°; the greater the angle, the greater the reduction in restraint capacity; therefore, the angle between the actual force direction and the strap may not be greater than 45°.

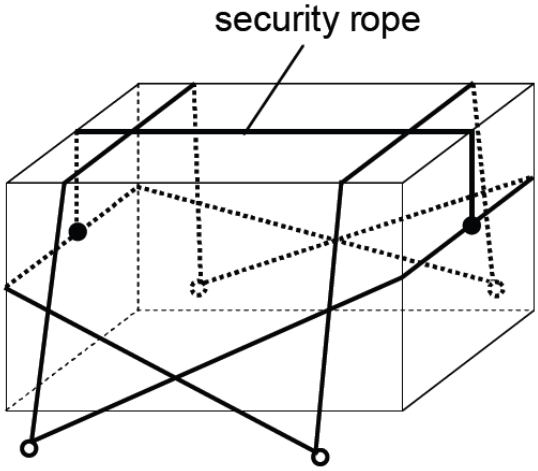


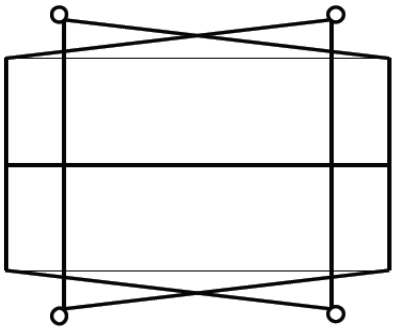
Standard lashing

For standard lashing 4 tie-down rings and 4 tie-down ropes or straps must be used:

- 2 against upward forces
- 1 against forward forces
- 1 against backward forces

A security rope must be used, for preventing a gliding down of the tie-down ropes or tie-down straps used against forward and backward forces.





Tie-down of load with Straps or Steel Cables

Number of Straps or Steel Cables for Lashing

Load to be restrained (Kgs)	No. of Double Stud Fittings	Number of Standard Straps or Steel Cabled hooked on 2 Fittings * (1 on each Side of the Load)				
		1.5 G				3G
		Left*	Right*	Forward	Aft	Upwords
less than 3.000	4	1	1	1	1	2
3.001 – 4.500	6	2	2	2	2	3

* When the strap or cable is hooked on a fitting on one end and to the piece of cargo on the other end, then the number of straps or cables is double the number indicated in the table.

Tie-down of load with Ropes
Number of Ropes for Lashing:

Load to be restrained (Kgs)	No. of Double Stud Fittings	Number of Ropes on 2 Fittings * (1 on each Side of the Load)				
		1.5 G				3G
		Left*	Right*	Forward	Aft	Upwords
less than 300	2	1	1	1	1	1
301 - 600	4	1	1	1	1	2
601 - 900	6	2	2	2	2	3
901 - 1,200	8	2	2	2	2	4
1,201 - 1,500	10	3	3	3	3	5
1,501 - 1,800	12	3	3	3	3	6
1,801 - 2,100	14	4	4	4	4	7
2,101 - 2,400	16	4	4	4	4	8

* When the rope is hooked on a fitting on one end and to the piece of cargo on the other end, then the number of ropes is double the number indicated in the table.

Lashing Regulations
For lashing of bulk load, the following regulations apply:

- Whenever possible, ropes and straps must be put around the item in such a way that the angle between the actual force direction and the rope or strap is not more than 45°.
- Ropes or straps securing an item for different force directions (e.g. upwards and forwards), may be attached to the same tie-down fitting.
- Ropes or straps can be attached in advance to tie-down fittings in those places which may be difficult to reach later on.
- Load may not be tied to attachment points not intended for this purpose (e.g. fire detector guards, compartment door latches, net attachment points in the compartment ceiling, etc.).
- Ropes and straps must be firmly tensioned, but not too tautly to avoid damage to the lashing equipment or to the item.
- The same tension must be applied to all lashings.
- Wet ropes may not be used, as they may loosen up when they dry out.
- Ropes, straps and tie-down fittings of foreign origin may only be used if their restraint capacity is known or clearly indicated on the equipment.

5.5 Cabin Load / SOC

5.5.1 General

Stowing of load in the passenger cabin is limited to Checked Baggage, accepted in accordance with the rules laid down in this manual. Pet animals in care of passengers are hand baggage. They are not recorded in the loadsheet.

5.5.2 Regulations for cabin load

- Free access must be granted all the time to the emergency exits, the cabin doors and the isle.
- Emergency exits, cabin doors and floor panels must not be blocked by cabin load.
- Rows with emergency exist must never be used for cabin load transportation.
- Cabin aisles must be kept free.
- The cabin load must not obscure any passengers' view of the seat belt sign, no smoking sign or required exit sign.
- The seats must be protected with blankets, if necessary.
- Cabin load must be secured on the seats properly with seat belts to prevent the possibility of shifting during ground or in-flight aircraft movement.

- If, due to dimensions of the load, the use of straps or ropes is required, the seat tracks for the installation of tie-down fittings must be used or the straps/ropes must be attached directly to the seat-frame.
- Maximum mass limit per seat occupied by load is 80 kg.
- Cabin load must be properly packed or covered in a manner to avoid possible injury to passengers and cabin crew members.
- Before releasing the cabin for passenger loading, the ramp agent must check that entire cabin load is secured and clean.
- Cockpit Crew must be informed verbally about cabin load.

Prior permission for other cabin load transportation, not described in 5.5.1 is needed from HiSky Ground Operations Departments.

5.5.3 Documentation of Cabin Load

The mass of the Cabin Load must be shown on the loadsheet as load in compartment 0 under the applicable load category! 3-letter code 'SOC' (Seats Occupied by Cargo) must be used in traffic documents and messages to indicate such load.

Balance calculation:

- The total mass of the load on the passenger seat(s) must be converted into an equivalent number of passengers, using the standard adult mass of 84 kg as the divisor. (To be considered as minimum 1 passenger for balance purposes.)
  NOTE: If the local EDP system is capable to calculate the actual mass accommodated on a seat (section / seat-row trim), the general rule as shown above does not apply.
- Add this number to the number of passengers seated in the respective cabin section for balance purposes!

5.6 Load Limitations

Aircraft have a flexible structure. In addition to their natural contortion in flight, the repartition and the quantity of load transported have an influence on the fuselage deformation. Therefore, Aircraft Industry has defined structural loading limitations that the operator must respect. These limitations are certified by airworthiness authorities and can be found in the "Limitations" section of the Weight and Balance Manual. They follow IATA AHM recommendations.

5.6.1 Compartment Load Limitation

The Compartment Load Limitation is the maximum load acceptable in an entire compartment. This limitation applies to the whole load located in a given compartment.
NOTE: The Compartment Load Limitation is called "Cumulative Load" in the Aircraft Mass and Balance Manuals.

5.6.2 Cumulative Load Limitation

The Cumulative Load Limitation is the maximum mass that can be carried forward or aft of a given section. This limitation prevents the mass loaded in the forward and aft fuselage sections to exceed the capability of the frames and skin stringers.

NOTE: The Cumulative Load Limitation is called "Fuselage Shear Load" Limitation in the Aircraft Mass and Balance Manuals.

5.6.3 Area Load Limitation

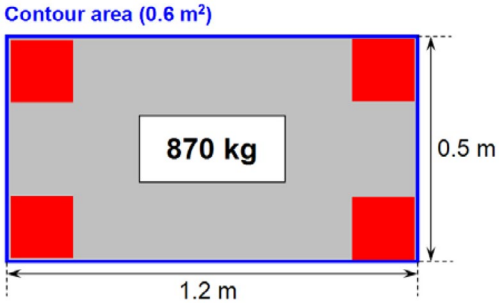
The Area Load Limitation is the maximum load acceptable on any surface unit of an aircraft floor. It prevents the load from exceeding the capability of the aircraft structure (floor beams, floor posts, floor panels and frames).

NOTE: The Area Load Limitation is called **"Uniformly distributed load"** limitation in the Aircraft Weight and Balance Manuals.

$$\text{Area Load} = \frac{\text{Mass of the piece}}{\text{Contour Area}} = \frac{W}{S}$$

The contour area is the external contour of the contact points on the floor.

Example: Let's assume a Maximum Area Load of 2000 kg/m². The following rectangular load is laying onto four pieces in direct contact with the floor. The surface used for the calculation of the area load is represented by the external blue contour.



Area Load = 870 / 0.6 = **1450** kg/m² < **2000** kg/m²
Max mass = 2000 x 0.6 = **1200** kg > **870** kg
Area Load not exceeded!

5.6.4 Contact Load Limitation

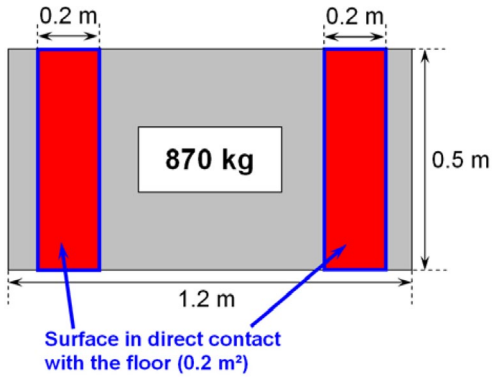
The Contact Load Limitation is the maximum load acceptable in direct contact with the aircraft floor per surface unit. This limitation is used to prevent the load in direct contact with the floor from exceeding the capability of the horizontal floor panels (metal sheet, honey comb sandwich panels).

NOTE: The Contact Load Limitation is called "Local Load" limitation in the Aircraft Weight and Balance Manuals.

$$\text{Contact Load} = \frac{\text{Mass of the piece}}{\text{Contact Area}} = \frac{W}{S}$$

The contact area is the surface in direct contact with the floor.

Example: Let's assume a Maximum Contact Load of 2000 kg/m². The following rectangular load is laying onto two pieces in direct contact with the floor. The area used for the calculation of the contact load is represented by the blue contours.



Contact Load = 870 / 0.2 = **4350** kg/m² > **2000** kg/m²
Max mass = 2000 x 0.2 = **400** kg < **870** kg
Contact Load exceeded!

5.7 Loading Accessories

Loading accessories are equipment items required for securing, stowing and/or protecting the load as well as the aircraft interior.

Loading accessories must be handled at stations according to the following rules:

- Each station is responsible for the allotted equipment and for any surplus material held or received in excess.
- Any missing item must be immediately traced.
- Equipment must be stored in a safe place.
- Loading accessories used on the inbound flight, must be collected from the compartments and cabin, properly cleaned, bundled, marked with a tag and returned to the owner station, unless otherwise instructed. This also applies to tie-down fittings.
- If requested by the regular stowing station, surplus equipment must be immediately returned.
- Damaged or worn equipment may not be used. If repair is locally not possible at a reasonable price, the equipment must be returned to the appropriate handling office at headquarters.

5.8 Equipment In Compartment

5.8.1 Categories

Equipment in Compartment can be categorized as following:

Category	Load Identification Codes	Shipment
Technical equipment	FKT	Non-standard flight kit, for example aircraft spare parts, tools
Catering equipment	CSU	Catering service units for return or onward flights
Stretchers	BED	Stretchers including accessories, packed in transport boxes and transported in hold
Aircraft ballast	BAL	Ballast bags to solve trim problems
Other loading material	EIC	Loading material for station or cargo department supply, for example empty plastic bowls

5.8.2 Ballast Bags

If there is a trim problem, ballast bags can be used to keep the center of gravity within the operational limits. See 6.3.8 Trim Problems for regulations, when ballast bags may be used. A sufficient number of Ballast Bags shall be available at each station where balance problems may be expected. Ballast Bags must be in perfect condition.

Storage and Condition of Ballast Bags

- Preferably to be stored indoors.
- To be placed on planks if stored outdoors and protected against weather by a suitable cover.
- To be periodically checked for mass and condition.
- Only to be loaded if in proper condition.
- Ballast from inbound flights to be stored at the receiving station for later use.

Loading of Ballast Bags

- Ballast bags must be always loaded next to the hold door.
- Ballast bags must not be mixed with other load.
- Ballast bags must be unloaded at every station. In the ballast bags are also needed for the next flight leg, ballast bags must be loaded again at last.
- Ballast bags are not returned to the station of loading, except if the station of loading explicitly requested the return of ballast bags.

5.9 Dangerous Goods

Dangerous Goods are materials that due to their chemical and/or physical characteristics may be hazardous to passengers, crew, aircraft or other load on board. Dangerous Goods are defined and listed in the IATA Dangerous Goods Regulations (DGR).
All HiSky ground handling agents must have the current edition of IATA Dangerous Goods Regulations (DGR) or the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions).

5.9.1 General Regulations for Transport of Dangerous Goods

Responsibility must be set according to Chapter 5.1

5.9.1.1 General Handling and Stowing Instructions

Dangerous Goods must be accepted in accordance with the current edition of the IATA DGR.
Dangerous Goods shall not be carried on the flight deck and in the passenger cabin together with passengers and crew, except items described in this manual (Chapter 2).
Prior to loading, outer packaging must be checked for: Holes, Leakage, Other damage. In case of detection, refer to the 5.9.2. 'Dangerous Goods Irregularities'.

Shipments labeled "Cargo Aircraft Only" must never be loaded on HiSky aircraft.
Dangerous goods must not be distributed in such a way that:

- pieces on top of the dangerous goods can damage the dangerous goods piece by their mass or edges,
- other load under the dangerous goods can be damaged by the dangerous goods (for example dangerous goods in barrels).

If any damage is noticed or suspected, Dangerous Goods must never be loaded!

Special handling instructions (labels such as 'FRAGILE', 'THIS WAY UP', etc.) must be adhered to. Some Dangerous Goods require more than one hazard label. For segregation purposes all hazard labels (label showing the hazard class number) must be observed. Packages must be oriented so that hazard labels are visible.

When unloading dangerous goods from bulk compartments:

- dangerous goods packages must be inspected for damage or leakage,
- compartments must be inspected for contamination.
- if dangerous goods packages are leaking or damaged, they must be immediately unloaded in accordance with safety instructions described in Chapter 5.9.2.6.

5.9.1.2 Lashing

- Individual or groups of packages must be tied down or secured by other load to prevent movement that could change the orientation of the packages on the aircraft.
- Packages must not be damaged by lashing too tightly.
- Lashing in bulk compartments is not required, if the package cannot move in the horizontal and/or vertical direction. The net sector or container must be filled completely with other load (i.e. minimum 80% crushable load).

For details of load securing and lashing refer to Chapters 5.4.2 and 5.4.3

5.9.2 Dangerous Goods Irregularities

Damaged or leaking packages which contain or which are suspected to contain dangerous goods **must never be touched** until the nature of the hazard is known and, if necessary, protective measures for handling are taken.

5.9.2.1 Initial action

All persons around must be informed.
The following persons must be immediately informed:

- Operations supervisor
- Commander of the aircraft
- Cargo handling department
- Station Manger

Further actions must be taken according to the local airport Dangerous Goods Initial emergency Response Chart and Procedure.

5.9.2.2 Health risk: additional action

If a **health risk** for any person exists or must be presumed, especially if damaged or leaking packages contain **infectious substances** (division **6.2 = RIS**):

- All persons involved in loading or cargo handling activities must be additionally informed to keep contact for a possible medical examination.
- All previous and all following stations must be informed by the most suitable means (Telex, Fax, E-mail etc.) and the receipt must be acknowledged.

5.9.2.3 Un-/Mis-declared dangerous goods

If un-/mis-declared dangerous goods are noticed or strongly suspected to be in baggage, cargo or mail packages:

- These bags must NOT be loaded into the aircraft.
- Operations supervisor must be informed.

The discovery of un-/mis-declared dangerous goods in baggage, cargo or mail during aircraft loading must be reported according to “Chapter 5.9.2.7 - Reporting of dangerous goods occurrences” of this manual.

5.9.2.4 Emergency Response Chart

The organizations responsible for the salvage of dangerous goods (fire brigade, technical and medical institutions etc.) must be informed immediately as **locally agreed** between the Responsible Manager of the station, the Cargo Handling Department, handling companies and the authorities.

- The respective telephone numbers must be shown on the poster Dangerous Goods – Initial Emergency Response in Case of Damaged/Leaking DGR
- This poster must be clearly visible in the operations office and in the cargo office and warehouse.

5.9.2.5 Handling of dangerous goods

If damage or leakage of a dangerous goods package is noticed:

- Such package must **NOT** be loaded,
- If already loaded must be immediately unloaded
- Other shipments must be checked for similar defects and must be unloaded if they are contaminated by dangerous goods leaking from a damaged package.
- Transport vehicles/devices must be checked for contamination and if contaminated must be taken out of service for evaluation.

5.9.2.6 Necessary actions in case of compartment contamination

In case of compartment contamination, a proper cleaning must be arranged through the Station Manager or a technical handling agent. The cleaning is performed by the local certified emergency intervention squad. The aircraft must be excluded from operations until complete removal of hazardous contamination. After the cleaning an inspection must be performed according to aircraft manufacturer's instruction in order to put the aircraft back to operations.

Nr. Crt.	Class	Danger in Handling	Necessary Precaution Measures	Immediate Action
1	Explosives	Fire without other significant risks.	Far from the heat sources.	Isolation of the area. Firefighters announced.
2	Flammable Gases	They can burn by releasing heat gases.	They must be kept far away from heat or other gases sources.	The parcel is isolated, the area is ventilated. Firefighters announced.
3	Cryogenic Liquids / Toxic Gases	Cooling in excess. Risk at inhaling. Vapors of liquefied gases can be heavier than the air.	They must be kept far away from heat or other gases sources. Minimum distance for damaged parcels is 25m.	The area must be evacuated. Firefighters announced.
4	Flammable Liquids	The vapors heavier than the air can make explosive mixtures in contact with air. They can affect the environment.	Outside the heat sources.	They can be absorbed with soil, sand or other materials that do not take fire. Firefighters announced.
5	Flammable Solids	They can take fire by rubbing, mixture or chemical reaction. They burn with releasing of heat, vapors or flame.	Rubbing and wet environment must be avoided. Do not touch the material scraps.	Measures against spreading. DO NOT USE WATER! Firefighter announced.
6	Solids That Burn Spontaneous	They burn at the air contact.	Do not touch the material scraps.	Do NOT USE WATER! Firefighter announced.
7	Flammable Solids (When Wet)	They burn hard at the contact with water or wet air, or they can release inflammable toxic gases.	Wet environment must be avoided.	DO NOT USE WATER! Firefighters announced.
8	Oxidizers	They release oxygen that maintains burning.	Contact with other combustible materials will be avoided.	Will be isolated in open space.
9	Organic Peroxides	They can explode from heat, shocks and rubbing, by contamination.	Far from heat sources. Rubbing and wet environment must be avoided. Do not touch the scraps.	DO NOT USE WATER! Firefighters announced.
10	Toxic Substances	Present risk for health in case they are inhaled, swallowed or is in contact skin.	The area must be isolated. The seeping of the substance in the drainage system will be avoided.	DO NOT TOUCH! Qualified assistance from the Ministry of Public Health will be needed.
11	Infectious Substances	They can determine sickness, infections or even death.	They must be isolated against other parcels. The minimum distance is of 25 m. Handling will be avoided or minimized.	The area must be isolated. Qualified assistance needed. Both the person mentioned on the parcel and all the other persons involved in its transport will be notified.

Nr. Crt.	Class	Danger in Handling	Necessary Precaution Measures	Immediate Action
12	Corrosives	They can determine damages to skin, nose and eyes; they can also affect the structure of the transport device.	Keep away from oxidizer and organic peroxides.	The area must be isolated. Spreading is avoided using sand. Skin contact will be avoided.
13	Radioactive Materials: White Yellow	High risk of irradiation and they can affect health.	Do not approach to the storage area unless for handling purpose.	The area must be isolated. Qualified assistance needed. Contact specialized local authority. DO NOT TOUCH! A minimum of 25m is mandatory.
14	Polymers Magnetic materials Carbonic ice (carbon solid dioxide)	Release small quantities of inflammable gases. Affect the navigation systems. Cause low Temperatures/ suffocations. Risks uncovered.	Will be stored separately from general cargo.	Avoid skin contact. Do not need an immediate action.

5.9.2.7 Reporting of dangerous goods occurrences

All occurrences in connection with dangerous goods must be reported, so that an investigation by the relevant authorities can establish the cause and corrective action can be taken.
The ground handling station manager shall ensure reporting of dangerous goods occurrences on the same day to:

- the authorities of the state in which the accident or incident occurred, in accordance with the reporting requirements of those appropriate authorities.
- HiSky Ground Operations Department at ground.ops@hisky.aero and cargo@hisky.aero
- HiSky Safety Department at safety@hisky.aero which ensures the delivery of the report to CAA and to the authorities of the state in which the accident or incident occurred.

“Dangerous Goods Occurrence Report” (G/OPS-3016-01) shall be used for reporting. This form can be found in Appendix B of this manual.

Dangerous goods occurrences include:

- dangerous goods accidents
  A dangerous goods accident is defined as 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
- dangerous goods incidents
  A dangerous goods incident is defined as 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.
- un-/mis-declared dangerous goods
  means any occasion when undeclared or mis-declared dangerous goods are discovered in baggage, cargo or mail.

5.9.3 Classification of Dangerous Goods

Dangerous goods are classified in 9 different **hazard classes**.

Class	Dangerous Good
1	explosives
2	gases
3	flammable liquids
4	flammable solids
5	oxidizing substances
6	toxic or infectious substances
7	radioactive materials
8	corrosives
9	miscellaneous dangerous goods

Some hazard classes also include divisions, shown by a second digit (for example 4.**1**).
Hazard class is further subdivided into different compatibility groups, shown by a letter (for example 1.4 **S**).
On the next pages, the Cargo IMP (Interline Message Procedure) codes of dangerous goods and the corresponding labels are shown in the sequence of the hazard classes.
Labels do not necessarily have to show text, but they must have the same colors, symbols and numbers as shown on the next pages.
For multiple labeling, all labels must show a class number. Packages having label(s) without class number or with class number crossed out are not accepted or loaded. Concerning load incompatibility, all hazard classes labeled on one package must be cross-checked with each hazard class labeled on every other package.

Class 1 – Explosives

Class 1 (Explosives) has 6 divisions: 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6.
There are special labels for these explosives, but these articles are forbidden in aircraft. Explosives in these divisions may only be transported with special permission by the competent authorities and are subject to special arrangements. The shipper must arrange the special permission before offering these dangerous goods for air transport.

Explosives (Divisions 1.1, 1.2 and 1.3) have the Cargo IMP code **REX**, **RCX**, **RGX**, as applicable.



Explosives (Division 1.4) have the Cargo IMP code **RXB**, **RXC**, **RXD**, **RXE**, **RXG**, **RXS**, as applicable.



Explosives (Division 1.5) have the Cargo IMP code **REX**.



Explosives (Division 1.6) have the Cargo IMP code **REX**.



Class 2 – Gases

Flammable Gas
Gases: Flammable (Division 2.1) have the Cargo IMP code **RFG**.



Non-Flammable, Non-Toxic Gas
Gases: Non-Flammable, Non-Toxic (Division 2.2) have the Cargo IMP code **RNG** and **RCL**, if applicable.



Toxic Gas
Gases: Toxic (Division 2.3) have the Cargo IMP code **RPG**.
All RPG articles are allowed in Cargo Aircraft Only (CAO).



Class 3 – Flammable Liquids

Flammable Liquids
Flammable Liquids (Division 3) have the Cargo IMP code **RFL**.



Class 4 – Flammable Solids

Flammable Solid
Flammable Solids (Division 4.1) have the Cargo IMP code **RFS**.



Spontaneously Combustible
Substances liable to Spontaneous Combustion (Division 4.2) have the Cargo IMP code **RSC**.



Dangerous when Wet
Substances which in Contact with Water emit Flammable Gases (Division 4.3) have the Cargo IMP code **RFW**.



Class 5 – Oxidizing Substances

Oxidizer
Oxidizing Substances (Division 5.1) have the Cargo IMP code **ROX**.



Organic Peroxides
Organic Peroxides (Division 5.2) have the Cargo IMP code **ROP**.



Class 6 – Toxic Or Infectious Substances

Toxic
Toxic Substances (Division 6.1) have the Cargo IMP code **RPB**.



Infectious Substances
Infectious Substances (Division 5.2) have the Cargo IMP code **RIS**.



Class 7 – Radioactive Material

Radioactive
Radioactive Materials of Category I – White (Division 7.1) have the Cargo IMP code **RRW**.



Radioactive
Radioactive Materials of Category II – Yellow (Division 7.2) have the Cargo IMP code **RRY**.



Radioactive
Radioactive Materials of Category III – Yellow (Division 7.3) have the Cargo IMP code **RRY**.



WARNING: Transportation of radioactive materials is strictly forbidden on HiSky aircraft.

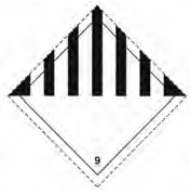
Class 8 – Corrosives

Corrosive
Corrosives (Division 8) have the Cargo IMP code **RCM**.



Class 9 – Miscellaneous Dangerous Goods

Miscellaneous
Miscellaneous Dangerous Goods (Division 9) have the Cargo IMP code **RMD**, **RSB**, **ICE**, as applicable.



Handling labels

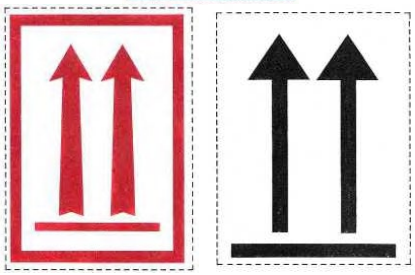
Magnetized Material label
Magnetized materials have Cargo IMP code **MAG**. It needs no hazard label but the handling label shown.



Cryogenic Liquid label
Cryogenic Liquids have Cargo IMP code **RCL**.



Package orientation labels



5.9.4 Load Incompatibility Chart

Dangerous Goods and/or Other Special Loads must be separated from one another in order to:

- Reduce the risk, which might arise from Dangerous Goods being placed too close together.
- Prevent contamination and/or damage to sensitive Special Loads.

Hazard Label	1 excl. 1.4S	1.4S	2	3	4.2	4.3	5.1	5.2	8
1 excluding 1.4S	Note 1	Note 2	×	×	×	×	×	×	×
1.4S	Note 2	-	-	-	-	-	-	-	-
2	×	-	-	-	-	-	-	-	-
3	×	-	-	-	-	-	×	-	-
4.2	×	-	-	-	-	-	×	-	-
4.3	×	-	-	-	-	-	-	-	×
5.1	×	-	-	×	×	-	-	-	-
6.2	×	-	-	-	-	-	-	-	-
8	×	-	-	-	-	×	-	-	-

NOTES:

1. Only explosives in Division 1.4, compatibility group S, are permitted to be transported on passenger aircraft. The extent to which explosives may be stowed together in an aircraft is determined by their “compatibility”. Explosives are considered to be compatible if they can be stowed together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident.
2. Explosives of different compatibility groups may be stowed together, whether or not they belong to same division.
3. An “X” at the intersection of a row and a column indicates that packages containing these classes/divisions of dangerous goods must be segregated. A “ - “ at the intersection of a row and a column indicates that packages containing these classes/division of dangerous goods do not require segregation.
4. Division 4.1 and Classes 6,7 and 9 are not included in afore Segregation Chart as they do not require segregation from other classes of dangerous goods.

	Toxic and Infectious Substances	Miscellaneous dangerous goods
	Class 6	Class 9
Live Animals	×	< | >
Hetching Eggs	-	< | >
Food for human or animal consumption	×	-

× - loads must not be loaded in the same compartment.

< | > - loads must be separated either by placing normal cargo in between the two incompatible loads or by separate tie-down.

Above requirements for separation and segregation of Dangerous Goods must be observed during:

- storage at warehouse
- transportation to/from aircraft
- loading/unloading the aircraft

5.9.5 Notification of Dangerous Goods

HiSky Cargo Division must send a notice 24 hours before carriage of any cargo containing dangerous goods to: safety@hisky.aero and occ@hisky.aero . The notice must contain: date, flight number, proper shipping name, UN number, class, category, packing group, quantity/type of package, airport of destination, AWB number.

The presence of Dangerous Goods on board must be reported to the commander as early as possible prior departure of the aircraft. ‘NOTOC‘ (special load notification to captain - see 6.7.3. ‘Notification To Captain (NOTOC)’) must be used. NOTOC must include the information about Dangerous Goods that have been loaded on the aircraft at the previous station and are to be carried on the subsequent flight. In such cases the

previous station must inform the downline station about the type and position of Dangerous Goods on board by means of LDM message. All other dangerous goods details must be taken from the original NOTOC from flight crew.
Any change in load and/or loading position must be reported to the commander, verbally and in writing by changing the NOTOC and the loadsheet. For dangerous goods permitted in passenger or crew baggage and accepted for carriage, loadsheet must contain an SI (supplementary information) remark with details about the accepted item (e.g. wheelchair with lithium ion battery, oxygen, etc.), seat number and name of passenger and the loading location (for items loaded in the cargo hold).

5.9.6 Radioactive Materials

Radioactive Materials are substances, which emit certain types of radiation. These rays cannot be felt nor seen nor smelt. Radioactive Materials can only to be detected by instruments.

Transportation of Radioactive Materials is strictly FORBIDDEN on HiSky aircraft.

5.9.7 Other Categories of Dangerous Goods

Due to their importance, the following categories of Dangerous Goods are treated separately:

Type of Goods	Code	Class	Handling and Loading
Carbon Dioxide, Solid (Dry Ice)	ICE	9	Holds must be protected by insulating material against direct contact with ICE or its packing. Adequate ventilation must be permitted before entering the compartment. For loading incompatibilities, see Chapter 5.9.4. For maximum allowed quantity of Dry Ice, please refer to Chapter 7 depending on aircraft type.
Polymeric (Polystyrene) Beads, expandable	RSB	9	Maximum allowed quantity of expandable polymeric beads per each inaccessible hold: **100 kg**. For loading incompatibilities, see Chapter 5.9.4.
Corrosives	RCM	8	For loading incompatibilities, see Chapter 5.9.4.
Toxic and Infectious Substances	RPB and RIS	6	For loading incompatibilities, see Chapter 5.9.4.

5.10 Live Animals

Live Animals are only accepted for carriage if properly packed in accordance with the IATA Live Animals Regulations (LAR). Live Animals must not be loaded if apparently in bad condition.

When transported, Live Animals must be:

- Protected against cold, heat, rain, snow, direct sun radiation or strong drafts during ground handling.
- Loaded only in compartments released for the carriage of live animals. (Refer to Chapter 7 for aircraft compartments details).
- Loaded as close as possible to the aircraft departure time. (Reduce stowing on the open tarmac to the absolute minimum!)

Live Animals must not be left on the ramp, as engine noise might cause damage.
Cats and dogs may be given water if necessary. Only water suitable for human consumption may be used (no iced water).
If shipments and weather conditions permit, compartment doors are to be kept open during transit ground stops or in case of delays.

When transporting Live Animals, it must be:

- Indicated on traffic documents and messages with the 3-letter code AVI.
- Reported to the commander by means of the:
  - Special Load Notification to Captain (NOTOC) if carried as cargo.
  - Passenger Information List (PIL) or Captain's Load Information (CLI) if carried as Checked Baggage, or SI-part of the loadsheet.

Stowing of Live Animals, Segregation
For segregation of Live Animals from other loads, see Chapter 5.9.4, 'Load Incompatibility Chart'.
Animals that are natural enemies may be loaded in the same compartment, provided they are not in sight of one another.
Animals may not be loaded in close proximity of Human Remains in coffins (HUM).
Specific stowing regulations must be observed when Live Animals and Dry Ice (ICE) or Cryogenic Liquids have to be loaded in the same compartment.
Female animals in heat must be stowed as far away as possible from male animals.

NOTE: Currently HiSky does not transport live animals in aircraft cargo holds.

5.11 Other Special Loads

5.11.1 Company mail

The following is considered Company Mail:

- All correspondence pertaining to company matters.
- Newspapers, magazines, books, photos, drawings and press cuttings related to aviation.
- Office material, printed forms, timetables, manuals, HiSky advertising material.
- HiSky revenue documents or consumables (baggage tag, boarding passes, tickets, other forms).

In general, heavy and large Company Mail shipments (e.g. office material, printmatters) shall be forwarded as Service Cargo.
Company Mail must be weighed and documented. The mass must be mentioned on the loadsheet.

Company Mail may be sent between:

- HiSky and their general agents, general sales agents, handling agents and related services.
- HiSky and JAA, IATA, ICAO and other aviation authorities.

Stowing
Company Mail must be loaded together with the baggage to the same destination.
The loading position of the Company Mail must be stated on the LDM.
The load identification code 'COM' must be used in traffic documents and messages.
EXAMPLE: COM/1/50 (Company Mail / compartment 1 / 50 kg)

5.11.2 Diplomatic shipments

Diplomatic Consignments are covered by a regular air waybill:

- Are manifested as DIP-Cargo.
- Are to be handled as Cargo.
- The 3-letter code 'DIP' must be used in all traffic documents and messages.

5.11.3 Films, Press Material

Press material must be transported without delay. If the press material is delayed, the material may become useless for the consignee. If press material contains undeveloped films, special load identification code FIL is used. Undeveloped films (FIL) must NOT be loaded next to radioactive materials (RRY). Video/audio tapes must NOT be loaded next to magnetized materials.
Press material are to be stowed in the aircraft document briefcase, if the dimensions allow it. At the arrival station press materials must be handed to the Cargo Handling Department immediately after unloading and separately from other cargo.

5.11.4 Perishable shipments (Sensitive Cargo)

The condition or usefulness of perishable or sensitive cargo may decrease if exposed to extreme changes in temperature or humidity or if delayed in transport. All packages containing perishable cargo must be marked with the IATA label “Perishable”.

Load Identification Codes
Different kinds of perishable or sensitive cargo need different handling. There are the following identification codes:

Perishable Cargo	Code
Food for human or animal consumption	EAT
Living human organs, human blood (fresh, serum, plasma)	LHO
Flowers and plants	PEF
Meat and meat products	PEM
Fruit and vegetables	PEP
Fish and seafood	PES
Pharmaceutical goods at temperatures of 10-30ºC	PPH
Pharmaceutical goods at temperatures of 2-8ºC	PPL
Other sensitive cargo	PER

Temperature-sensitive perishable cargo may be transported as bulk load and cooled by:
- dry ice (ICE). See 3.9.7. Other Categories of Dangerous Goods for regulations relating to the fact that dry ice is a dangerous good.
- the aircraft hold air-conditioning system, where available.

Loading
To avoid damage or contamination to other load or holds, perishable cargo must NOT be accepted if it is not properly packed.
If stacking perishable cargo pieces the mass of the upper layers must not damage the lower layers.

Handling in delay situations
In case of a delay, an action must be immediately taken to prevent perishing of the load, for example:
- the aircraft is air-conditioned
- perishable cargo is taken to a warehouse with suitable facilities (air-conditioning or cold store)
- perishable cargo is unloaded and rebooked or transferred to another flight.

5.11.4.1 Flowers and Plants (PEF), Fruits and Vegetables (PEP)

PEF and PEP shipments shall be loaded in compartments where low temperatures can be maintained and NOT be stowed in the same compartment with:
- Toxic Substances (RPB),
- Infectious Substances (RIS),
- Human Remains in coffins (HUM),
- Live Animals (AVI).

Flowers must NOT be loaded next to fruit or vegetables.
PEF and PEP must be loaded only in ventilated compartments.

There must be enough space for sufficient air circulation between the packages with fruit and vegetables. This is especially important for fresh fruit and vegetables with high moisture (grapes, berries and salad).

5.11.4.2 Living Human Organs (LHO), Vaccines, Pharmaceuticals

General rules for handling of Living Human Organs and Blood Plasma:

- Usually cooled with Dry Ice or Cryogenic Liquids and thus to be handled accordingly.
- Handling instructions given on the air waybill or other attached documents must be strictly observed.
- May be carried in the cabin in the care of the cabin crew, if the size allows proper stowage in the cabin.
- For urgent LHO Shipment, the departure station must notify the receiving station by separate telex and/or remark in the MVT message.
- No special pre-advice required for non-urgent Blood Shipments (serum and plasma).

The following table shows the Minimum Separation Distance between LHO and other Special Loads:

Material	Separation Distance
Radioactive Material Categories II and III (RRY)	2m
Toxic Substances (RPB)	Adequate separation
Infectious Substances (RIS)	Adequate separation
Human Remains in Coffins (HUM)	Adequate separation
Live Animals (AVI)	Adequate separation

5.11.4.3 Meat, Fish and Seafood (EAT)

EAT shipments shall be loaded in compartments where low temperatures can be maintained and NOT be stowed in the same compartment with:

- Toxic Substances (RPB),
- Infectious Substances (RIS),
- Human Remains in coffins (HUM)
- Live Animals (AVI).

5.11.5 Human remains

In principle, non-cremated Human Remains in coffins may be carried in any compartment, provided mass and dimensions do not exceed the maximum limitations. No special rules exist for handling and stowing of funeral urns, provided they are suitably packed.

Handling and Loading of Coffins:

- Coffins must be placed on supporting planks and tied down with ropes or straps, following the normal regulations on loading and securing.
- The Coffin must be kept in a horizontal position during handling and stowing.
- The Coffin must be loaded / unloaded with care and respect.
- Only to be loaded in the cargo compartments.

Segregation

Human Remains are not to be stowed in the same compartment with:

- Foodstuffs (EAT),
- Fruits and Vegetables (PEP),
- Fresh Fish, Salted Fish and Seafood, Frozen Fish and Seafood (PES), and
- Meat and Meat Products (PEM).

Human Remains are not be loaded in close proximity of Live Animals.

5.11.6 Wet cargo

The following shipments are usually identified as 'Wet Cargo':

- Marine and fresh water products which incorporate salt water, ice and fresh water.
- Shellfish.
- Products which contain water or fluids, such as vegetables, frozen or salted casings/seafood.

During air transportation, all loaded items are affected by changes of temperature, humidity, pressure and vibration. Under these conditions, wet cargo may spill or leak, which could lead to corrosion or other damage to the aircraft structure, or damage to other loads. To prevent spillage or leakage, the special requirements for shipments containing wet cargo must be observed. Such shipments must be delivered to the cargo acceptance staff packed absolutely watertight. The special load identification code for this cargo is specified as 'WET'.

General rules for handling of Wet Cargo:

- Leaking, damaged or weakly packed shipments may not be loaded.
- Crushing of packages must be avoided when stacked on top of one another, as damp and liquids considerably reduce the strength of certain packaging.
- If spilled liquid is discovered in the compartment, the procedure described in 5.12 'Unloading' is applied.

Frozen Fish and Frozen Seafood (PES)
Frozen Fish and Frozen Seafood are usually packed with Dry Ice. In this case code 'ICE' must be added on LDM, in addition to code 'PES'. For segregation refer to Chapter 5.11.4.3. 'Meat, Fish and Seafood'

5.11.7 Valuable Cargo

Transportation of Valuable Cargo is not allowed on HiSky aircraft.

5.11.8 Weapons / Munitions of War

Transportation of Weapons / Munitions of War is not allowed on HiSky aircraft.

5.11.9 Magnetized Materials

Magnetized Material (MAG) may be transported on board of an aircraft without limitations.

Responsibility
The Cargo Handling Department is responsible that Magnetized Materials are packed according to the relevant packing note of the IATA Dangerous Goods Regulations (DGR) before accepted for transport.
The Cargo Handling Department is responsible to inform the operations department if other cargo for the same flight is sensitive to Magnetized Material, for example Undeveloped Films (FIL), Press Material, etc.

- This information must be entered in plain text in the loadsheet or in the Load Message (LDM) under Supplementary Information (SI).
- Sensitive to Magnetized Material cargo must not be loaded next to Magnetized Material.

5.11.10 Small Cargo Shipments

Small Cargo Shipments are to be treated as regular Cargo. Small Cargo Shipments are to be loaded with the other shipments to the same point of unloading.

5.11.11 Mail Plis

Mail Plis are envelopes used to pack other mail documents such as

- Manifests for Priority Mail (CN38)
- Surface airlifted manifest (CN41)

5.11.12 Service cargo

Service Cargo is to be treated as regular Cargo. Service Cargo is to be stowed together with other Cargo to the same unloading point.

5.11.13 Wheelchair or other battery powered vehicles

Wheelchairs with non-spillable batteries or dry cell batteries

Wheelchairs or other Battery powered vehicles with non-spillable batteries or dry cell batteries must be loaded according to the following procedure:

- Battery must be disconnected.
- Battery terminals must be insulated to prevent accidental short circuits.
- Battery must be securely attached to the Wheelchair / Vehicle.
- The Wheelchair / Vehicle may be loaded and restrained on any position in the hold.

NOTE: Wheelchairs / Vehicles with gel-type batteries do not require the battery to be disconnected provided the battery terminals are insulated to prevent accidental short circuits. For Wheelchairs / Vehicles with gel-type batteries it is not required to be loaded in an upright position.

Wheelchairs with spillable batteries

Wheelchairs with spillable batteries must be loaded according to the following procedure:

If loaded in an upright position:

- Battery must be disconnected.
- Battery terminals must be insulated to prevent accidental short circuits.
- Battery must be securely attached to the Wheelchair / Vehicle.
- The Wheelchair / Vehicle may be loaded and restrained on any position in the hold.

If NOT loaded in an upright position:

- Battery must be removed and carried in an outer packaging which is:
  - Leak proof and impervious to battery fluid.
  - Marked ‘Battery wet, with Wheelchair’.
  - Labeled with a ‘Corrosive label’.
- Battery must be protected against short circuits.
- Battery must be secured upright in the packaging and surrounded by compatible absorbent material in sufficient quantity to absorb the total liquid contents.
- The packaging must be restrained in the hold, using appropriate means of restraint.
- Packing must be marked ‘Battery, Wet, with Wheelchair’ or ‘Battery, Wet, with Vehicle’ and be labeled with the ‘Corrosive label’ and with the ‘Package Orientation label’ (‘This Side Up label’).

NOTE: The pilot in command must be informed of a Wheelchair / Vehicle with an installed battery or the location of a packed battery by means of either ‘NOTOC’ or Captains Load Information (CLI).

After unloading the wheelchair must be delivered to its owner at his destination as soon as possible.

5.11.14 Pipes and bars

Due to their small cross section, pipes, tubes, bars, beams, planks or similar pieces, loaded as single pieces or bundles, might go through the meshes of the net, crash net or through the forward or aft compartment walls. These pieces must be loaded across to the flight direction (laterally), whenever possible.
If pipes or bars exceptionally must be loaded in flight direction, for example because of their length, these pieces must be secured against forward and aft movements by putting supporting platforms, planks or similar material vertically in front and aft of the pipes or bars. The securing material must be fixed to its position by tie-down straps or tie-down ropes.

5.12 Unloading

All unloaded items must be properly protected against rain and snow.

5.12.1 Baggage

Baggage must be unloaded first and immediately be transferred to the baggage department.

Delivery Priorities
Baggage must arrive on the conveyor belt in the baggage claim area in the following sequence:
1 - Priority Baggage, if applicable
2 - Non-Priority Baggage.
Special attention must be given to Live Animals shipped as Checked Baggage (if applicable).

5.12.2 Damaged Goods

Damaged or missing identification load, must be reported to the appropriate departments.

5.12.3 Ballast

Ballast must always be unloaded, if not required.

5.12.4 Leaking Goods

If the floor of a compartment is found soiled by Leaking Goods, the following actions must be taken:
1. Inform the station manager and flight crew
2. The following info must be transmitted:

NOTE: If the substance cannot be clearly identified, the item must be left where found, for further investigation.
See also Chapter 5.9. Dangerous Goods.

For **Baggage** the following Information must be transmitted:
- Flight number and date
- Baggage tag number
- Passenger's name and address (according to the name label or inquiry at the baggage claim area)
- Type of Baggage (material and description)
- Name and/or description of leaking substance (color, smell, viscosity)

For **Cargo** the following Information must be transmitted:
- Flight number and date
- AWB number

- Technical name and/or description of leaking substance or contents (see AWB)
- Type of packing used (e.g. cardboard box, wooden crate, textile bag, steel drum, etc.)

For **Dangerous Goods**:
- UN number and proper shipping name (see 'NOTOC' or 'shipper's declaration for dangerous goods')
- UN specification code of packaging (see marking on packaging)
- Part of packaging which is damaged (e.g. lid, closure, etc.)

For **Mail** the following Information must be transmitted:
- Flight number and date
- Dispatch number
- Origin/final destination
- Name and/or description of leaking substance (color, smell, viscosity)

NOTE: In case of heavy contamination or damage, photographs must be taken, if permitted.

5.12.5 Loading Accessories

Loading Accessories must be collected from the compartments and returned to the owner station. See also Chapter 5.7. Loading Accessories

5.12.6 Cargo Compartments Visual Checks

After unloading the aircraft, the following checks must be performed:

a) At Terminating Stations
All compartments must be visually checked to ensure **all loads** are completely unloaded from the aircraft.
NOTE: It is strictly forbidden to start loading the aircraft if cargo compartments contain unloaded baggage, cargo or mail from a previous flight.
b) At Transit Stations
All compartments must be visually checked to ensure **all loads till transit destination** are completely unloaded from the aircraft.

5.13 Loading Priorities

All onboard load is subject to priority order on the following sequence:
Top priority
1. Urgent life saving medicines and transplant organs.
2. Technical equipment for aircraft on ground.
3. National diplomatic courier baggage.
4. National diplomatic mail.
5. National diplomatic cargo.
6. Express cargo.

Booked load
7. Special passengers baggage: unaccompanied minors, passengers with reduced mobility, INADs, deportees, personal emergency cases etc.
8. Transit passengers baggage.
9. Transfer passengers baggage.
10. Locally joining passengers baggage.
11. Mishandled baggage of HiSky passengers.
12. Revenue Cargo.
13. Mishandled baggage of non-HiSky passengers.

Unbooked load
14. Revenue passengers (RQ or OPEN ticket) baggage.

15. Revenue Cargo.
16. Free and reduced fare passengers baggage.

Once the shipment was accepted, it may not be sent back to the forwarder, unless a written solicitation is filled in by the forwarder.

5.14 Loading Irregularities

5.14.1 Missing load

If any part of the load is missed during ground time, the HiSky Operational Control Center (OCC) decides about a delay of the flight for searching action. In case of missing cargo or mail the Cargo Handling Department must be informed. For more details please refer to Chapter 5.1.1 and Chapter 5.12.2.1.

5.14.2 Overcarried or damaged load

In case of overcarried or damaged baggage the local passenger service department (lost & found office) must be informed. For more details in case of cargo or mail irregularities please refer to Chapter 5.1.1 and Chapter 5.12.2.1.

5.14.3 Dangerous goods

For irregularities with dangerous goods see Chapter 5.9.2. Dangerous Goods Irregularities.

5.14.4 Damage or contamination of aircraft

If the aircraft is damaged or contaminated the Duty Manager, the Station Manager and the Captain must immediately be informed.
If there are spilled liquids in the compartments Cargo Handling Department must be informed immediately, and aircraft damages must be reported to the HiSky Operational Control Center (OCC).

5.14.5 Damage or other irregularities in holds

All technical defects or other irregularities in the cargo compartments must be reported to the Station Manager and the Cockpit Crew.

5.14.6 Structural overloading of a hold or loading position

Overloading of a hold or loading position may damage the structure of the aircraft. In case of overloading Operations Supervisor must be informed and he is responsible for further reporting according to Chapter 5.14.4.

6. LOAD CONTROL

6.1 General Rules

6.1.1 Policy

The HiSky respective policies, published in the respective Operations Manual – are defined as follows:

- Safety always has first priority.
- Priority sequence of economy, punctuality and passenger comfort depends on situation and impact of possible consequences.
- Correct application of load control rules has priority over other station work, including punctuality.

Load control regulations published in this chapter apply to all stations.

6.1.2 Purpose of Load Control

The load control procedure must ensure:

- Mass and balance conditions of the aircraft are correct and within limits.
- The aircraft is loaded in accordance with HiSky regulations in general and the loading instructions for the flight in particular.
- The dissemination of Dangerous Goods and other special load information applicable for each flight.
- The information on the load and trim sheet corresponds with the actual load on the aircraft, passengers and fuel included. All last minute changes must be reflected on the loadsheet.

At every airport an efficient control system shall be in operation ensuring compatibility of all figures on the load and trim sheet with the corresponding actual loading of the aircraft.

6.1.3 Load Control Responsibilities

Load control duties must be performed by the contracted ground handling agents' staff, unless otherwise agreed in the ground handling contract.
The station responsible must make sure the handling agent knows HiSky specific requirements.
Load control must be monitored by qualified HiSky staff or person authorized by HiSky.
In exceptional cases, if the handling agent is not qualified, load control duties must be partly or fully taken over by HiSky staff or person authorized by HiSky, or by the crew.

6.1.4 Division of Responsibilities

Basic rule
Whenever possible, each of the 3 load control functions (see Chapter 6.2.3) must be assigned to different qualified staff members. This is applicable, irrespective if planning of load distribution and load and trim sheet calculations are done manually or by EDP system.
Load and trim sheet may be issued by flight crew.

EXCEPTIONS: (Only permitted if the basic rule cannot be applied)
Functions 1 and 3:

- May be performed by 1 person, if planning of load distribution and load and trim sheet calculations are done by an EDP system and both documents are printed out.
- Not to be combined with supervision of the loading (function 2).

6.1.5 Additional Requirements

Precalculations of gross masses and balance conditions:

- Is mandatory in case of manual loadsheet.
- Is optional in case of EDP loadsheet calculation.

Precalculated figures must be compared with corresponding loadsheet figures. Significant differences must be clarified before departure. Precalculation must be put in the flight file.

6.1.6 Confirmation of Verbal Information

Any load control figure verbally communicated must be confirmed before departure in writing.

6.2 Mass And Balance Calculation

6.2.1 Definitions

Mass: Although in the OM the term “mass” is used, there are some publications, system or forms which use the term “weight”

Manufacturer’s Empty Mass (MES): The mass of the structure, power plant, furnishings, systems and other items of the equipment that are considered an integral part of the aircraft. It is essentially a “dry” mass, including only those fluids contained in closed systems (e.g. hydraulic fluid).

Operating Empty Mass (OEM): The manufacturer’s empty mass (MES) plus the operator’s items i. e. the flight and cabin crew and their baggage, unusable fuel, engine oil, emergency equipment, seats, documents.

Dry Operating Mass (DOM): Operating empty mass (OEM) plus catering, potable water.

Take-off fuel: The mass of the fuel on board at take-off.

Operating mass: The mass obtained by addition of the operational empty mass and the take-off fuel.

Total traffic load: The mass of the payload including cargo loads, passengers and passengers bags.

Zero Fuel Mass (ZFM): The mass obtained by addition of the total traffic load and the operational empty mass.

Take-off Mass (TOM): The mass at take-off. It is equal to the addition of the zero fuel mass (ZFM) and takeoff fuel.

Trip fuel: The mass of the fuel necessary to cover the normal leg without reserves.

Landing Mass (LAM): The mass at landing. It is equal to take-off mass minus trip fuel.

Adult: A passenger of an age of 12 years or above

Child: A passenger of an age of 2 years and above but who is less than 12 years of age.

Infant: A passenger who is less than 2 years of age.

Aircraft mass and centre of gravity are calculated using a standard (hand filled) Load and Trim sheet form or a Computerized Loadsheet form.

The Loadsheet shall be prepared by Flight Crew or by the station personnel in accordance with company procedures and must be checked, approved and signed by the Commander. All HiSky Commanders and First Officers are qualified and allowed to prepare the Loadsheet.

6.2.2 General Requirements

Mass Calculation is:

- required for every flight
- made either manually or by EDP system
- only to be done by qualified staff.

The purpose is to ensure that:

- structural and operational aircraft mass limits are not exceeded
- the number of passengers accepted does not exceed maximum number specified for the respective cabin configuration or seat limitation.

Balance Calculation is:

- required for every flight for which a loadsheet is issued
- made either manually or by EDP system
- only to be done by qualified staff.

The purpose is to ensure that the aircraft is loaded and the passengers are seated in such a way that balance conditions are within prescribed limits.

Loading Instruction/Report is:

- required for every flight for which a loadsheet is issued
- made either manually or by EDP system
- only to be made by qualified staff.

Aircraft Release:
Load control is completed and the aircraft is released for departure (i.e. released for moving away from the parking position) when the:

- the loadsheet issued for that flight, has been checked and, if necessary, amended in accordance with the instructions in "Last minute changes" (see Chapter 6.3.7 of this manual).
- Flight crew has accepted and approved a copy of the loadsheet issued for that flight and, if necessary, has been informed of any last minute changes.

Training, Technical and Test Flights:
A loadsheet needs not be issued by ground staff, unless requested by the flight crew. If necessary, the flight crew must provide all data, including DOM/DOI. If a loadsheet is issued by flight crew, the flight crew is responsible for correct loading of the aircraft.

6.2.3 Functions and responsibilities

6.2.3.1 Manual Loadsheet

FUNCTION 1

Function designator: **Loadsheet Agent**
Responsibility:

- Assemble all data relating to load (originating and en route stations)
- Plan uplift/discharge load for ready accessibility
- Plan special loads according to restrictions, maximum quantities, separation and segregation requirements
- Consider center of gravity effect on aircraft fuel consumption

Function designator: **Flight crew**
Responsibility:

- Plan load for total flight ensuring that hold maxima are not exceeded
- Make a precalculation of aircraft mass and balance. This is mandatory for flights for which a manual loadsheet is issued.
- Issue off-loading and loading standard information/instruction (Loading Instruction/Report- LIR)
- Correct entry of transit load data from incoming loadmessage/loadsheet entered to LIR

FUNCTION 2

Function designator: **Loading Supervisor**
Responsibility:

- Obtain LIR
- In case of deviations from LIR must obtain confirmation from Flight crew prior loading
- Upon completion of loading, confirmation or advice of deviations from LIR to the Flight crew
- Supervising the loading of the aircraft in accordance with the LIR

FUNCTION 3

Function designator: **Load Controller**
Responsibility:

- Inform all parties aware of planned aircraft position and ETA/time on ramp
- Check Loading Supervisor has LIR and relevant equipment correctly planned/positioned
- Ensure arrival/departure passenger handling personnel/equipment available and briefed
- Confirm passenger loading time with relevant authorities
- Issue Loading Report to the Flight Crew
- Must advise Flight Crew about LMC in accordance with company procedures
- Ensure that passenger figures correspond with figures established at the gate check
- Load distribution figures correspond with the equivalent figures on the Loading Report
- Check that aircraft documents are correct and are boarded
- Release of aircraft
  By signing the Loading Report the Loadcontroller confirms that:
- The compartment totals on Loading Report have been compared with the corresponding figures of the Loading Instruction and precalculation
- Significant differences have been clarified

Function designator: **Flight crew**
Responsibility:

- Correct DOM/DOI are used according to aircraft type, version, number of crew and pantry
- Correct take-off and trip fuel figures used corresponding with those on fuelling order or equivalent
- Correct entry of transit load data used from incoming loadmessage/loadsheet
- Cross checking of the final loadsheet against passenger close-out data and Loading Instruction/Report
- Actual loading positions of special load entered on the NOTOC
- Total traffic load not exceeding allowed traffic load
- Balance calculation performed correctly and conditions of loaded aircraft, including LMC are within prescribed limits
- Must check and if necessary correct the loadsheet in accordance with company LMC procedures
  By signing the Loadsheet the Flight crew confirms that:
- The data have been correctly entered
- The data have been compared with those of the precalculation
- Significant differences have been clarified
- Loadsheet has been corrected in accordance with the company procedures for LMC, if applicable
- Fuel figures correspond with final quantities stated on the fuelling order

Documents required

To carry out the prescribed checks, the Flight crew needs in addition to the Loadsheet:

- The completed and signed Loading Instruction/Report – LIR
- The recalculation
- The fuelling order showing the final amount of fuel uplifted

Data concerned

- Flight number according to flight schedule or special advice from operations control.
- Aircraft registration.
- Aircraft cabin configuration
- Number of crew according to information from crew control or commander.
- DOM/DOI and pantry code according to the data published in airline internal publication.
- Take-off and trip fuel figures according to information from flight crew or flight dispatch.
- Maximum gross masses of the aircraft according to published data or information from flight crew or flight dispatch.
- Transit load data according to LDM.
- Cargo/Mail mass according to cargo manifests.
- Number of passengers and mass of baggage load as reported from check-in.
- Distribution of the load according to loading instruction/report.

Presentation of Loading Instruction/Report (LIR) to the commander

- At the latest 15 minutes before STD or ETD of the flight.
- Last minute changes must not necessarily be entered before it is handed to the flight crew.
- No entries may be made on the copy for the flight crew if further changes are to be expected.
- Even if further changes are expected, loadsheet figures must be checked before the loadsheet is handed over to the commander.

Last Minute Changes (LMC)

In case of LMC, the Load Controller must:

- Return corrected loadsheet copies and the signed loading report to the traffic office for filing.
- Immediately and accurately inform the Loadsheet Agent / Flight crew of any LMC made at the aircraft.

6.2.3.2 Standard EDP Loadsheet

FUNCTION 1

Function designator: **Loadsheet Agent**

Responsibility:

- Assemble all data relating to load (originating and enroute stations)
- Plan uplift/discharge load for ready accessibility
- Plan special loads according to restrictions, maximum quantities, separation and segregation requirements
- Consider center of gravity effect on aircraft fuel consumption
- Plan load for total flight ensuring that hold maxima are not exceeded
- Make a precalculation of aircraft mass and balance. This is mandatory for flights for which a manual loadsheet is issued.
- Precalculation for flights for which a Departure Control System (DCS) is used, should be made whenever aircraft mass and/or balance condition are expected to be close to the operational limits
- Issue off-loading and loading standard information/instruction (Loading Instruction/Report - LIR)
- Correct entry of transit load data from incoming load message/loadsheet entered to LIR

By initiating printout of the loadsheet or by releasing the loadsheet for printout, the Loadsheet agent confirms that the following data are correct:

- Flight number according to flight schedule or special advice from operations control.
- Aircraft registration.
- Aircraft version number according to aircraft type, cabin configuration.
- Number of crew according to information from crew control or commander.

- DOM/DOI and pantry code according to the data published in airline internal publication.
- Take-off and trip fuel figures according to information from flight crew or flight dispatch.
- Maximum gross mass of the aircraft according to published data or information from Flight crew or flight dispatch.
- Transit load data according to LDM.
- Cargo mass according to cargo manifests
- Number of passengers and mass of baggage load as released from check-in.
- Distribution of the load according to loading instruction/report.

Corrections

Corrections of loadsheet data must be carried out by:

- the Loadsheet Agent, or
- Loadcontroller.

If done by the Loadcontroller, he becomes fully responsible for items corrected.

FUNCTION 2

Function designator: **Loading Supervisor**

Responsibility:

- Obtain LIR
- In case of deviations from LIR must obtain confirmation from Loadsheet Agent/Load Planner prior loading
- Upon completion of loading, confirmation or advice of deviations from LIR to the Loadcontroller
- Supervising the loading of the aircraft in accordance with the LIR

FUNCTION 3

Function designator: **Load Controller**

Responsibility:

- Inform all parties aware of planned aircraft position and ETA/time on ramp
- Check Loading Supervisor has LIR and relevant equipment correctly planned/positioned
- Ensure arrival/departure passenger handling personnel/equipment available and briefed
- Confirm passenger loading time with relevant authorities
- Issue Loading Report to the Loadsheet Agent/Loadplanner
- Must advise Loadsheet Agent/Loadplanner and Flight Crew about LMC in accordance with company procedures
- Must check and, if necessary, correct the loadsheet in accordance with the LMC regulations
- Ensure that passenger figures correspond with figures established at the gate check
- Load distribution figures correspond with the equivalent figures on the Loading Report

Fuel figures correspond with the final quantities stated on the fuelling order is responsibility of the Flight Crew only.

- Check that aircraft documents are correct and are boarded
- Release of aircraft

Documents required

To carry out the prescribed checks, the Loadcontroller needs, in addition to the loadsheet:

- The completed and signed Loading Instruction/Report
- The fuelling order showing the final amount of fuel uplifted (Responsibility of Flight Crew)

Deadload cross-check

By signing the loadsheet, the Loadcontroller confirms that the:

- Compartment totals of the Loading report have been compared with the corresponding figures of the loadsheet
- Reasons for significant differences have been clarified in accordance with instructions in LMC procedures

Presentation of loadsheet to the commander:

- At the latest 10 minutes before STD or ETD of the flight.
- Last minute changes must not necessarily be entered before it is handed to the Flight crew.
- No entries may be made on the copy for the flight crew if further changes are to be expected.
- Even if further changes are expected, loadsheet figures must be checked before the loadsheet is handed over to the commander.

Last Minute Changes (LMC):

The Loadcontroller must:

- Return corrected loadsheet copies and the signed loading report to the Traffic Office for filing.
- Immediately and accurately inform the loadsheet agent of any LMC made at the aircraft.

Signature

- An EDP loadsheet must be signed by the Loadcontroller.
- The signature does not cover the area of responsibility of the Loadsheet Agent.
- Loadsheet is subject to final approval by Flight Crew.

6.2.4 General Instructions for Loadsheet verification

The loadsheet is made in **three (3)** copies.
After checking and signing:

- One copy shall be left behind at the departure station.
- One copy to be handed to handling agent at arrival station.
- One copy is for cockpit use to be returned to the company together with other flight documentation.

After verifying the loadsheet the commander shall sign the loadsheet. By signing, the commander also verifies that he has received the NOTOC (in case special cargo is carried on board). If no NOTOC needed for the flight the remark “NOTOC - NIL” must be written in the loadsheet.

6.2.5 EDP Systems

Issue of EDP Loadsheets

When an EDP system is used for mass and balance calculations, an EDP loadsheet may be issued instead of a manually completed loadsheet.

Conditions

Prior approval must be given by HiSky Ground Operations department.
Prior to the introduction of the EDP system, the handling company must provide the above department with the following info:

- Printouts of the database records (with all relevant data from HiSky EDP Semi- Permanent Data for each aircraft type)
- Per aircraft type stored in the system: three test loadsheets showing different loads:
  - 1st - with no passengers and each cargo compartment with different load.
  - 2nd - with half full passenger cabin, each cargo compartment with load.
  - 3rd - with full passenger cabin, each cargo compartment with load.

All test loadsheets must be with different fuel amounts.
For test loadsheets, all the passengers must be either males or females, no children and no infants.

Basic Requirements for EDP Systems

Before a loadsheet is printed, the EDP system must automatically check that:

- Maximum gross masses of the aircraft are not exceeded.
- Mass limit of each compartment is not exceeded.
- Combined load limits are not exceeded.
- Calculated center of gravity of the aircraft is within the prescribed limits.

The system must inhibit printout of the loadsheet if any mass limit is exceeded or if the calculated center of gravity is outside the prescribed limits.
If the balance calculation and the required checks of the center of gravity limits are not or only partly performed by the EDP system, the missing item(s) must be manually determined, using the relevant trim sheet form.
The EDP loadsheet must be amended accordingly.

Database
The department responsible for the basic aircraft data is HiSky Ground Operations.
WARNING: If changes are not approved by the time they become effective, The EDP loadsheet may not be accepted. A manual loadsheet must be issued until approval is given.

Database – Changes to DOM/DOI and Pantry Codes
The department responsible for updating and/or distribution of changes of DOI/DOM and pantry codes to EDP systems is HiSky Ground Operations department.

NOTE: The station responsible representative must hand over the relevant information to the EDP system coordinator and the Local Control department of the handling company.

Responsible for EDP Semi-Permanent Data compiling, updating and distribution is HiSky Ground Operations department.

Distribution
EDP Semi-Permanent Data are sent to all handling agents for the purpose of automatic mass and balance calculation by means of an EDP system. EDP Semi-Permanent Data must be up to date and available as hardcopy.
If the EDP is down, this hardcopy is the basis for the manual loadsheet and trimsheet. Hardcopy of EDP Semi-Permanent Data must be available for all aircraft types operating to this station.

6.3 Mass Control Of Load

Different systems of mass control are applied, depending on:
- Aircraft type
- Destination of the flight
- Local conditions at the departure station

6.3.1 Crew masses

The masses of crew members and crew baggage included in the DOM are standard masses. The following are the crew masses that are to be used for flights operated by HiSky aircraft:

Crew member	Mass*, kg
Cockpit crew (pilots)	85
Cabin crew (attendants)	75

* - The standard mass includes hand carry baggage.

If a crew member takes additional baggage, the actual mass must be used and the baggage shall be loaded in the compartment.

6.3.2 Passenger masses

The masses of passengers are standard masses. Each flight the passengers mass must be calculated upon “Male/Female” masses. The “Adult” masses may be used when issuing the manual load and trim sheet, or if approved by HiSky Ground Operations.

Standard Passenger masses		Mass*, kg	
		Regular flights	Holyday charter
All Adults	More than 12 years	84	76
Males		88	83
Females		70	69
Children	From 2 up to 12 years	35	35
Infants	Less than 2 years	0	0

* - The standard mass includes hand carry baggage.

6.3.3 Baggage, cargo and mail masses

The actual masses shall be used for baggage, cargo and mail. The actual mass is obtained by means of bulk weighing or from the actual mass established at check-in.

Bulk weighing (baggage, cargo, mail):

- Should be applied if weigh bridges with the required capacities are installed.
- Can be applied to baggage, cargo and mail.

Loaded transport carts are weighed before being dispatched to the aircraft.
The actual mass shall be used for load control purposes for:

- baggage
- cargo and mail

Baggage mass as established at check-in (baggage):

- Actual piece mass must be transmitted to the Loadsheet Agent.
- These masses might be different from entries/allowances in the passenger ticket.
- Pieces must be counted when loaded onto carts. Total number put into each compartment must be recorded on the Lading Instruction form.

The cargo has to be weighed and positioned so as to respect maximum floor bearing, as well as total cargo compartment limitations as stated in chapters referring to appropriate type of aircraft in this manual.
In cases when actual mass cannot be established, for the Loadsheet purposes, masses on cargo manifest are used.
The Loading Supervisor has to make sure that the cargo is consistent with the relevant documentation (Loadsheet, LIR, NOTOC etc).
Standard baggage mass can be used for load control purposes if the actual mass cannot be established (e.g. missing scale, unserviceable scale).

The standard baggage mass is **13 kg** per piece.

Pieces must be counted when loaded onto carts. Total number put into each compartment must be recorded on the Loading Instruction Form.

6.3.4 Adjustment to Standard Mass

In cases where significant numbers of passengers, hand-luggage, and/or quantities of checked-in baggage are suspected of exceeding the standard values, passenger and checked baggage mass are to be identified and adjusted.
Check-in, gate and ramp agents as well as cabin crew shall report or take appropriate action when a flight is identified as carrying a significant number of passengers whose total mass (including hand baggage) is expected to exceed the standard passenger mass. (eg. Military personnel or sports team).
Whenever a non-standard method is used, Commander must be advised and the method must be stated in the Loadsheet.

6.3.5 Fuel mass

The fuel mass shall be calculated according to the specific fuel density provided by fuel supplier.

6.3.6 Passenger Seating Policy

In majority of cases in HiSky operations, a seat allocation system is used in connection with the preparation of the loadsheet and trimsheet. By using this system, a CG is calculated on the assumption that passengers are seated as allocated. Computer programs in use for loadsheet and trimsheet calculation allocate seats to passengers on the basis of optimum CG position and passenger comfort (or compromise between these two criteria). Operating personnel preparing the loadsheet and trimsheet manually are trained to use the same criteria.
A free seating concept may be used due to airport, check-in or other operational restrictions. In this case, a loadsheet and trimsheet, are calculated on the assumed (not known) distribution of passengers in the cabin. Therefore, the commander will make sure before the departure, that passengers are seated in compliance with the assumed distribution on the loadsheet and trimsheet (ordering of the re-seating of passengers might be necessary).

6.3.7 Last Minute Changes Procedures

As the Loadsheet must reflect the actual loaded state of the aircraft before departure, it is often necessary to adjust it after completion. This is the aim of Last Minute Changes (LMC). Only changes in the mass or distribution of the payload and crew shall be mentioned in the LMC box.
Corrections to the Loadsheet are to be made either by the personnel originally preparing the Loadsheet or the Commander.
LMC are not necessarily to be entered on the Loadsheet before it is handed over to the crew, but in this case it is mandatory that the LMC are to be conveyed to crew verbally and are entered on the Loadsheet by the Commander.
Before making the entries in the LMC box, make sure the maximum mass of each compartment and, if applicable, the combined maximum mass are not exceeded. Make sure the mass of a positive (+) LMC is not exceeding the current underload figure.
All copies of the Loadsheet (and/or Trimsheet) shall be corrected.
All LMC must be **mandatorily reflected** in EDP system at each station prior to flight messages dispatch.
All related post departure messages **MUST** also include all LMCs.
If post departure messages were sent without last minute changes, the corrected messages must be sent with identifier COR, including actual last minute changes.
Only payload and crew can be stated as Last Minute Change.

NOTE: NO fuel LMCs are allowed!

In case of change of fuel figures, new Loadsheet has to be issued and delivered to the Flight Crew. For specific LMC procedures for each aircraft type please refer to Chapter 7 of this manual.

6.3.8 Trim Problems

Due to passenger convenience, blocking of seats must be avoided because of trim problems as a matter of principle.
In order to solve a trim problem:

- fuel ballast can be used, or
- ballast bags to be loaded

Reseating of passengers
Only if none of the above mentioned methods can be applied:

- an agreement of the Cockpit Crew must be obtained if passengers shall be reseated after check-in for trim reasons.

Ballast bags

- Ballast bags must be on stand-by during loading process.
- Only the quantity which is actually required after check-in closure must be loaded.

For handling and recording of ballast bags see Chapter 5.8.2. Ballast Bags

6.4 Crew And Crew Seats

6.4.1 Passengers on Crew Seats

Revenue passengers may never be accommodated on Crew Seats. The decision to accept a person for travel on a flight deck seat finally lies with the commander, in coordination with the ground staff. The decision to accept a person for travel on a cabin crew seat finally lies with the commander, in coordination with the purser and the ground staff.

Loadsheet

Persons occupying crew seats on the flight deck or in the cabin must be recorded on the loadsheet as passengers:

- On EDP-Loadsheet: if the DCS cannot handle such passengers automatically in the load figures, they must be entered as LMC.
- On manual Loadsheet: Always to be entered as LMC.

The number of passengers accommodated on crew seats is to be included only in the 'total number of passengers'.

Balance Calculation

No correction is required for cabin crew seats.

For flight crew seats, the following actions must be taken:

- The difference between the DOI applicable for the total number of seats occupied by the flight crew and the one applicable for the total number of seats occupied in the flight deck must be calculated.
- The index unit(s) from the LIZFM and LITOM must be deducted.

Loadmessage

Passengers on Crew Seats are not to be included in the passenger figures transmitted in the LDM.

Mark in the SI part of the LDM the destination, number and status of the passenger and the location of the crew seat, and confirm that passenger is not included in the passenger figures of the respective destination.

6.4.2 Deadhead Crew (DHC)

Deadheading crew is the crew traveling by air to/from their duty station to take up or to terminate flight duty. They are not part of the working crew on board. They are to be checked in and considered as passengers for mass and balance purposes. DHC will thus need a ticket coupon. Dead heading crew are to be mentioned in the General Declaration form after the names of the active crew. The code DHC shall to be used.

6.4.3 Flying Technical Engineer

Flying technical engineers are ground engineers who accompany flights to stations where no qualified engineer is available for that specific flight. Technicians will be treated as active crew members.

6.4.4 Crew on Passenger Seats / Extracrew (XCR)

Extracrew (XCR) is used for Crew Members accommodated on Passenger Seats (including Supernumerary Crew, but except Dead Head Crew/DHC members).
Accommodation on Passenger Seats may either be pre-assigned or necessary because the number of crew exceeds the number of available Crew Seats.

NOTE: Supernumerary Crew members pre-assigned as XCR are:

- Cabin Attendants on observer flights
- Additional Crew members solely assigned to specialist duties, such as:
  - Security Officers
  - Flying Station Engineers
  - Loadmasters
  - Loading staff
  - Medical personnel
  - Child escorts

Number of XCR must be included in the active crew figures and the DOM/DOI.
Number of seats occupied by XCR per class must be included in LDM for the respective destination.

6.5 Data Communication

6.5.1 Transmission of Loading Report Data to Loadsheet Agent

If direct comparison of the Loading Report and Loadsheet is not possible:

- Loading Report data can be transmitted to the Loadsheet Agent by radio or telephone
- data can be transmitted by the responsible Loading Supervisor or Load Controller
- all transmissions must be made by the same person.

The person responsible for the transmission of the Loading Report data **must** keep the Loadsheet Agent informed of:

- subsequent changes to data already transmitted
- completion of the loading operations.

This person must confirm, by signing the Loading Report, that all data (including changes) have been transmitted to the Loadsheet Agent.

The Loadsheet Agent must:

- Read back all information received by radio or telephone, to confirm correctness of information.
- Record all transmissions on paper to be able to clarify differences at any time before the final Loadsheet is transmitted.
- Keep this record until departure of the flight.
- The updated and signed Loading Report must be put in the Flight File, where it must remain

6.5.2 Transmission of LMCs to the Flight Crew

All the LMC must be transmitted in writing. The Flight Crew must be agreed upon with the Commander beforehand. Ground staff is responsible for immediate reporting of last minute changes to the Flight crew.
NOTE: Make sure that the LMC mass tolerance, published in the respective aircraft guides, has not been exceeded.
If no changes are to be reported, the Loadcontrol agent must confirm this to the Commander.

Contents of Transmission

- Destination
- LMC category (passengers, baggage, mail or cargo)
- Number of infants (to be given separately)

- Class / compartment (zone), specifying (+) or (-)
- Total mass of LMC, specifying (+) or (-)
- Corrected balance conditions.

If no changes are to be reported, confirm that data on the Loadsheet copy already handed over, remain unchanged.

Change of Fuel Figures
In case of change of fuel figures, new Loadsheet has to be issued and delivered to the Flight Crew.

6.6 Load Planning

6.6.1 General Regulations

The purpose of load planning is to achieve:

- Maximum safety.
- Maximum regularity, taking into account the length of the scheduled ground stops en route.
- The most economical utilization of aircraft capacity with respect to safety aspects.
- Smooth handling of aircraft and load at all stations en route.
- Most accurate EZFW to give to the flight crew with the aim of efficient fuel planning.

6.6.2 Applicability

Load planning applies to all flights. The extent of load planning depends on:

- Aircraft type
- Number of transit stops
- Traffic volume

Responsibilities
Load planning is usually done at the originating station, unless circumstances require load planning at a station en route.
Stations en route must inform the responsible load planning office of:

- Any new development in nature, amount and density of load.
- Possible excess load.
- All payloads originating at their station.

6.6.3 Maximum Capacity Available

The maximum usable capacity over a complete route depends on:

- The maximum payload per sector
- The maximum payload per sector as obtained by the dispatch office responsible for the flight or as a result of operational requirements
- The maximum volume capacity of the aircraft.

6.6.4 Load Conversion Figures

The figures below are guidelines for load planning purpose.
IMPORTANT: If more exact or different conversion factors are available, these must be applied.

6.6.4.1 Baggage

Mass planning must be based on locally established average baggage masses per passenger. Load distribution must be based on standard baggage masses.

6.6.4.2 Cargo

Use actual dimensions for load planning. If actual dimensions are not available, use locally established average density figures.

6.6.4.3 Density Figures

The table below shows the density figures for conversion of mass in to volume:

Type of load	Density (kg/m^3)
Baggage	170
Ballast	1400
Cargo	180
Mail	150

NOTE: The conversion figures given above (density figures) for baggage, ballast and cargo include stowing loss.

6.6.5 Passengers

Load planning must be based on standard passenger masses, by calculation of adults and children separately.

6.6.6 Load Distribution

The following general principles apply for load distribution:

- On all sectors, balance conditions of the aircraft and the total load in the compartments must be within limits.
- Observe special loading regulations and restrictions for ground stability (refer to the respective aircraft guides).
- On arrival, all stations must have direct access to their offload and baggage must be available first.
- If load for different stations is carried in the same compartment, it must be clearly separated to avoid overcarriage.
- Stations should not have to reload large amounts of transit load for balance reasons.
- Stowing regulations for baggage, dangerous goods, live animals and other special loads must be strictly observed.
- Temperature requirements, loading restrictions and maximum quantities per compartment must be strictly followed if live animals and/or perishable goods are involved.

6.6.7 Planning for Fuel Economy

To limit fuel consumption and save fuel costs, the aircraft shall be loaded in such a way that the center of gravity is positioned as close as possible to the aft limit.

6.6.8 Bulk Load

Loading errors can be reduced by stowing each category of load in a different compartment or compartment section.

6.6.9 Pantry

The mass of the catering supplies stowed in the cabin is included in the DOM / DOI. Catering equipment carried in the cargo compartment (EIC) is to be considered as additional load for mass and balance calculations. Such equipment must be returned to the catering office concerned.

6.6.10 Loading Instruction/Report (LIR)

The following general guidelines will be followed:

- For every departing flight a written Loading Instruction/Report must be issued
- Manual or EDP Loading Instruction/Report must be used
- For flights terminating at a station, no off-loading instruction report is required; the incoming LDM can be used instead
- The LIR must be completed in all details and signed by the person responsible for loading and off-loading of the aircraft
- The completed Loading Instruction/Report must be retained, as station file, together with all the other operational documents of the particular flight
- Staff must check the accuracy of the details and calculations before flight departure

Loading Instruction/Report contains:

- Instruction for transit load, off-loads, reload and onload
- Loading report part and space to record deviations from original instructions
- A summery of special loads
- Representation of all loading positions for that specific hold version

Off-loading Instruction/Report contains:

- Instructions for transit load and off-load
- Report part for items in transit or for off-load
- A summary of special loads
- Representation of all loading positions for that specific hold version

Responsibilities

Loadsheet Agent / Loadplanner is responsible for loading instruction to instruct Loading Supervisor about:

- The distribution of the onload.
- Segregation of special loads.
- For transit flights, the mass and location of the off and throughload.

Loading Supervisor is responsible for loading report:

- To confirm that the aircraft has been loaded according to the given instructions.
- Deviation from the instructions is only allowed with the consent of the Loadsheet Agent/Loadplanner (EDP) or Flight Crew (Manually) and must be clearly stated on the Loading Report.

6.7 Documentation

The information on all documents for HiSky flights must be clear, legible and accurately represented.

6.7.1 Aircraft Data / Mass and Balance Information

Mass and balance information for specific aircraft type can be found in chapters referring to appropriate type of aircraft in this manual.
Mass and balance calculation for each aircraft is based on:

- **Aircraft Weighing Report**
- **Weighing Configuration Report** (G/OPS-3018-01)
- Manufacture's **Weight & Balance Manual** for each aircraft.

Aircraft Weighing Report is completed by the technical staff of the company that performs the aircraft weighing.
Weighing Configuration Report (G/OPS-3018-01) is completed by HiSky technical staff during aircraft weighing. It is allowed the use of similar configuration report of the company that performs the aircraft weighing.
Weight & Balance Manual for each aircraft is received from aircraft manufacture and is the primary source for elaborations of aircraft mass and balance documents.

The aircraft manufacturer and HiSky limitations described in above documents by must be taken into account for mass and balance calculation.
Blank manual load and trim sheets for a specific aircraft type and Weighing Configuration Report can be found in Appendix B of this manual.

6.7.2 Loadsheet

The **loadsheet** is a document prepared and signed by the loadsheet agent at the departure airport. This form gives information about the mass of the aircraft as well as the distribution of the load in the different cargo holds. In case of multi-sector flights, the mass that must be unloaded at the different stations is indicated.
The loadsheet allows to check, before each departure, that the mass of the shipment is consistent with the structural limitations of the aircraft. The loadsheet must reflect the actual state of the aircraft before takeoff. It is often necessary to adjust it after completion to take into account 'Last Minutes Changes' (LMC).

The loadsheet must be issued in not more than four-fold, distributed as follows:

- one copy for the aircraft
- one copy for the departure station file
- one or two copies for the carrier, if required

6.7.2.1 Load Identification Codes

Besides load and load distribution information, further information is required in the LDM for efficient ground handling at destination and transit stations. Such additional information shall be given in the form of standardized remarks to keep the LDM as brief as possible. These remarks must be shown for each destination following the PAX and PAD distribution, in the following sequence:

- Passenger and Cabin related remarks: DHC, XCR, BED, SOC.
- Deadload related remarks such as RFL, AVI, BAL, COM, etc.

The table below shows the Load Information Codes:

Code	Description	Examples
AOG	Spare parts for Aircraft On Ground, followed by the loading position.	.AOG/2
AVI	Live Animals, followed by the loading position.	.AVI/2
BAL	Ballast, followed by loading position and mass.	.BAL/1/500
COM	Company Mail (unmanifested in quantities of more than 5 kg), followed by loading position and mass.	.COM/2/45
CSU	Catering Equipment and Food Supply not used on flight (unmanifested). 1-3 alpha numerics to indicate the loading position followed by an oblique and 2-4 numerics to indicate the mass.	.CSU/21R/120
DAA	Delivery at Aircraft, followed by loading position and number of pieces.	.DAA/6/1
DHC	Deadheading Crew, followed by number of seats occupied per class. DHC are included in the PAX distribution.	.DHC/2/4
DIP	Diplomatic Mail and Diplomatic Cargo, followed by loading position and number of pouches.	.DIP/2/2
EIC	Unmanifested Equipment in Compartment (not included in DOM/DOI), such as lashing and supporting materials, etc., followed by loading position and mass.	.EIC/2/521
FIL	Undeveloped Films, followed by loading position.	.FIL/2
FKT	Special Flight Kit (not included in DOMW/DOI), unmanifested, followed by loading position and mass.	.FKT/3/648

Code	Description	Examples
HEA	Heavy Pieces, followed by compartment number and mass. Must be used for items of 150 kg and more. Two or more heavy pieces loaded in the same compartment and to the same destination must be shown individually.	.HEA/1/190
HEG	Hatching Eggs, followed by loading position.	.HEG/1
HUM	Human Remains in Coffins, followed by loading position and mass. **NOTE:** No HUM-remark is needed for funeral urns.	.HUM/3/258
ICE	Dry Ice (Carbon-Dioxide), followed by loading position.	.ICE/3
LHO	Living Human Organs/Blood, followed by loading position.	.LHO/1
NIL	No items loaded or manifested.	.NIL
OBX	Obnoxious dead load that produces strong odor. 1-3 alpha numerics to indicate the loading position.	.OBX/22P
PAD	Passengers not entitled to firm booking, followed by the number of seats occupied per class. PAD are included in the PAX distribution.	.PAD/2/6 .PAD/0/0
PEA	Hunting trophies, skin, hide and all articles made from or containing parts of species listed in the CITES. 1-3 alpha numerics to indicate the loading position.	.PEA/2
PEF	Flowers, followed by loading position.	.PEF/2
PEM	Meat and Meat Products, followed by loading position.	.PEM/2
PEP	Fruits and Vegetables, followed by loading position.	.PEP/2
PER	Perishable Cargo, followed by loading position.	.PER/2
PES	Fresh Fish, Salted Fish and Seafood, or Frozen Fish and Frozen Seafood, followed by loading position.	.PES/2
RCL	Cryogenic Liquids (deeply refrigerated gases), followed by loading position.	.RCL/1
RCM	Corrosive (labeled), followed by loading position.	.RCM/2
RFG	Flammable Gas (labeled), followed by loading position.	.RFG/4
RFL	Flammable Liquid (labeled), followed by loading position.	.RFL/1
RFS	Flammable Solid (labeled), followed by loading position.	.RFS/2
RFW	Dangerous when Wet (labeled), followed by loading position.	.RFW/1
RIS	Infectious Substance, followed by loading position.	.RIS/2
RNG	Non-flammable Gas (labeled), followed by loading position.	.RNG/4
ROP	Organic Peroxide (labeled), followed by loading position.	.ROP/2
ROX	Oxidizer (labeled), followed by loading position.	.ROX/1
RPB	Toxic Substances, followed by loading position.	.RPB/1
RPG	Toxic Gas (forbidden on passenger aircraft)	-
RRY	Radioactive Materials of categories II and III (yellow label), followed by loading position and transport index (TI). The figure expressing the TI must be shown with one decimal. The abbreviation PT (point) must be used to indicate the decimal point.	.RRY/2/5PT4
RSB	Polymeric Beads, followed by loading position and mass.	.RSB/2/45
RSC	Spontaneously Combustible (labeled), followed by loading position.	.RSC/1
RXS	Explosives 1.4S (ammunition for sporting and hunting purposes, labeled), followed by loading position.	.RXS/1
SOC	Seats Occupied by Baggage, Cargo and/or Mail, followed by the number of seats occupied per class.	.SOC/0/3
WEA	Weapons and ammunition. 1-3 numerics to indicate the loading position.	.WEA/5
WET	Shipments of Wet Materials not packed in watertight containers, e.g. Fish packed in Wet Ice. 1-3 numerics to indicate the loading position.	.WET/1
XCR	Crew occupying passenger seats, followed by the number of seats occupied per class. **NOTE:** XCR are NOT included in the PAX distribution.	.XCR/1/1 .XCR/0/2
XPS	Priority Small Package, followed by loading position.	.XPS/1

6.7.2.2 Manual load & trimsheet

For manual load & trim sheet refer to Chapter 7 and Appendix B of this manual.

6.7.2.3 EDP Loadsheet

With computerized Load control systems, cargo, mail and passenger boarding information are interconnected. EDP loadsheets can be issued very quickly at the last minute. That's why it is advisable to adjust passenger and load figures before the final version is printed or sent to the aircraft. This enables to avoid Last Minute Changes on the loadsheet.

6.7.3 Notification To Captain (NOTOC)

The NOTOC is used to inform the Captain about the carriage on board of:

- Dangerous goods – primary hazard
- Miscellaneous dangerous goods
- Other special load (arms, valuables, etc.)

The NOTOC must be issued in three copies:

- The original for the Flight Crew
- A copy for the departure station (to be retained for at least 3 months)
- A copy for the destination station (to be retained for at least 3 months)

NOTOC information on other flight documents:
Loadsheet: The Commander must be informed by a separate remark on the Loadsheet (SI) whenever a NOTOC is required and issued. This will assure the Commander that the correct load planning technique was applied for the special load. SI remark from the Loadsheet shall be transmited with LDM.
LIR: The LIR must contain the special load information (loading position, type of goods, number of packages, mass and destination).

The original form of NOTOC is to be handed over to the Flight Crew together with Loadsheet.

6.7.4 Flight Information

Flight Information form can be found in Appendix B of this manual.

6.7.5 Captain's Load Information (CLI)

Captain's Load Information form can be found in Appendix B of this manual.

6.7.6 Trip File

6.7.6.1 Form Folders

The following documents are carried on board all HiSky aircraft among others in the 'Forms Folder:

- Dangerous Goods occurrences report forms
- General Declarations
- Ground Accident/Incident Report forms
- Fuel Order / Check Sheets

6.7.6.2 Mass and Balance Folder

Every HiSky aircraft is equipped with the following mass and balance forms:

- Dry Operating Mass and Indices table.
- Manual Loading Instruction / Report forms.
- Manual Load and Trim Sheet forms.

- Flight information forms
- List of Dangerous Goods and drill codes.
- Loading restrictions.

Ground Operations Department is responsible for:

- Keeping the contents up to date.
- Making sure a sufficient number of these forms is always available.

6.7.6.3 Aircraft Documents

The following documents must be handed over to the crew:

- Loadsheet prepared for the flight concerned (3 signed copies).
- Passenger Manifest (3 copies)
- Baggage Tags List (if required).
- Loading Instruction / Report.
- Captain's Load Information (CLI).
- Notification To Captain (NOTOC), if dangerous goods are on board.
- Cargo Manifest.
- Air Waybills.
- Other special information (e.g. INAD documents, etc)

6.7.6.4 Handling of documents

Departure
Ground staff is responsible for the contents, completeness and the timely handing of Documents over to the crew.

Arrival
The crew must hand over the Documents to the ground staff meeting the aircraft upon arrival.

The exchange of the in/outbound documents must take place:

- on board (if remote parking position), or
- in the passenger loading bridge (if aircraft is docked at the arrival gate).

6.7.6.5 Station file

Ground handling staff is responsible for keeping file folders for each flight not less than 3 months and which must contain:

- all documents specified in Chapter 6.7.6.3
- all the messages related to the flights.

6.8 Messages

6.8.1 Load Message (LDM)

The Load Message is based on IATA AHM recommendation.

Dispatch

- A Load Message is to be dispatched for every HiSky flight.
- The Load Message for code-share flights must be dispatched under operating carrier flight number.
- The Load Message is to be dispatched not later than **10 minutes** after departure of the flight.
- All last minute changes (passenger and/or deadload) must be included in LDM before dispatching.

Distribution

- Load Message is to be sent to the station of next intended landing.
- See Appendix A for list of address for messages distribution.

6.8.2 Aircraft Movement Messages (MVT)

6.8.2.1 Departure Message

The Aircraft Movement Message is based on IATA AHM recommendation.

Dispatch

- A Departure Message is to be dispatched for every HiSky flight.
- Departure Message for Code-share Flights is to be dispatched as bilaterally agreed.
- Departure Message is to be dispatched **immediately** after take-off.

Distribution

- Departure message is to be sent to the station of next intended landing.
- See Appendix A for list of address for messages distribution.

Corrections to Departure Message

If corrections to an already dispatched Departure Message are necessary:

- Dispatch a complete Departure Message again.
- Use the message identifier COR as a first line.
- The second line shows MVT.
- Dispatch the corrected Departure Message as soon as the correction is made.

6.8.2.2 Arrival Message

Dispatch

- An Arrival Message is to be dispatched for every HiSky flight.
- Arrival Message for Code-Share flights is to be dispatched as bilaterally agreed.
- Arrival Message is to be dispatched **immediately** after landing.

Distribution

- Arrival message is to be sent to the original station of departure.
- See Appendix A for list of address for messages distribution.

Corrections to Arrival Message

If corrections to an already dispatched Arrival message are necessary:

- Dispatch a complete Arrival Message again.
- Use the message identifier COR as a first line.
- The second line shows MVT.
- Dispatch the corrected Arrival Message as soon as the correction is made.

6.8.2.3 Delay Message

Dispatch

- A Delay Message is to be dispatched for every HiSky delayed flight.

Criteria for Dispatch

The Delay Message is to be dispatched according to the following criteria:

- Delay Message is to be dispatched as soon as the delay is known, or can be foreseen, but not later than the originally scheduled departure time.
- If a flight is delayed beyond the estimated departure time specified in a previously dispatched message, a new Delay Message is to be sent as soon as the further delay becomes apparent, but not later than the departure time specified in the previous Delay Message.
- After departure of the flight, a normal Departure Message is to be sent.
- For Delay Codes, see 6.8.2.4 ‘Delay Codes’.

Distribution

- The Delay Message is to be sent to the station of next intended landing.
- See Appendix A for list of address for messages distribution.

6.8.2.4 Delay Codes

Delay Codes are used to express the reason for delay or other handling irregularities in aircraft Movement Messages. They must be applied impartially, as a means to identify corrective action. In case of doubt of interpretation, the 'SI-part' of the Movement Message may be used for supplementary explanation. The Delay codes are based on IATA AHM recommendation.

Others

Numeric	Alphabetic	Cause, Explanation
06	**OA**	No gate/stand availability due to own airline activity

Schedules

Numeric	Alphabetic	Cause, Explanation
09	**SG**	Scheduled ground time less than declared minimum ground time

Passenger and Baggage

Numeric	Alphabetic	Cause, Explanation
11	**PD**	Late check-in, acceptance after deadline
12	**PL**	Late check-in, congestion in check-in area
13	**PE**	Check-in error, passenger and baggage
14	**PO**	Oversales, booking errors
15	**PH**	Boarding, discrepancies and paging, missing checked-in passenger
16	**PS**	Commercial publicity / passenger convenience, VIP, press, ground meals and missing personal items
17	**PC**	Catering order, late or incorrect order given to supplier
18	**PB**	Baggage processing, sorting, etc
19	**PW**	Reduced mobility, Boarding/Deboarding of passengers with reduced mobility

Cargo and Mail

If delays are caused by mail handling can be identified, codes 27-29 must be used, otherwise codes 21-26 must be used

Numeric	Alphabetic	Cause, Explanation
21	**CD**	Documentation, errors, etc.
22	**CP**	Late positioning
23	**CC**	Late acceptance
24	**CI**	Inadequate packing
25	**CO**	Oversales, booking errors
26	**CU**	Late preparation in warehouse

Mail only

Numeric	Alphabetic	Cause, Explanation
27	**CE**	Documentation, packing, etc.
28	**CL**	Late positioning
29	**CA**	Late acceptance

Aircraft and Ramp Handling

Numeric	Alphabetic	Cause, Explanation
31	**GD**	Aircraft documentation late / inaccurate, mass and balance, general declaration, pax manifests etc.
32	**GL**	Loading/unloading, bulky, special load, cabin load, lack of loading staff
33	**GE**	Loading equipment, lack of or breakdown, e.g. container/pallet loader, lack of staff
34	**GS**	Servicing equipment, lack of or breakdown, lack of staff, e.g. steps
35	**GC**	Aircraft cleaning
36	**GF**	Fuelling/defuelling, fuel supplier
37	**GB**	Catering, late delivery or loading
38	**GU**	ULD, lack of or serviceability
39	**GT**	Technical equipment, lack of or breakdown, lack of staff, e.g. push-back

Technical and Aircraft Equipment

Numeric	Alphabetic	Cause, Explanation
41	**TD**	Aircraft defects

42	**TM**	Scheduled maintenance, late release
43	**TN**	Non-scheduled maintenance, special checks and/or additional works beyond normal maintenance schedule
44	**TS**	Spares and maintenance equipment, lack of or breakdown
45	**TA**	AOG spares, to be carried to another station
46	**TC**	Aircraft change, for technical reasons
47	**TL**	Standby aircraft, lack of planned standby aircraft for technical reasons
48	**TV**	Scheduled cabin configuration/version adjustments

Damage to Aircraft

Numeric	Alphabetic	Cause, Explanation
51	**DF**	Damage during flight operations, bird or lightning strike, turbulence, heavy or overweight landing, collision during taxiing
52	**DG**	Damage during ground operations, collision (other than during taxiing), loading/off-loading damage, contamination, towing, extreme weather conditions

EDP/Automated Equipment Failure

Numeric	Alphabetic	Cause, Explanation
55	**ED**	Departure control
56	**EC**	Cargo preparation/documentation
57	**EF**	Flight plans
58	**EO**	Other automated systems format

Flight Operations and Crewing

Numeric	Alphabetic	Cause, Explanation
61	**FP**	Flight plan, late completion or change of, flight documentation
62	**FF**	Operational requirements, fuel, load alteration
63	**FT**	Late crew boarding or departure procedures, other than connection and standby (flight deck or entire crew)
64	**FS**	Flight deck crew shortage, sickness, awaiting standby, flight time limitations, crew meals, valid visa, health documents, etc.
65	**FR**	Flight deck crew special request, not within operational requirements
66	**FL**	Late cabin crew boarding or departure procedures, other than connection and standby
67	**FC**	Cabin crew shortage, sickness, awaiting standby, flight time limitations, crew meals, valid visa, health documents, etc.
68	**FA**	Cabin crew error or special request, not within operational requirements
69	**FB**	Captain request for security check, extraordinary

Weathers

Numeric	Alphabetic	Cause, Explanation
71	**WO**	Departure station
72	**WT**	Destination station
73	**WR**	En-route or alternate
75	**WI**	De-icing of aircraft, removal of ice and/or snow, frost prevention excluding unserviceability of equipment
76	**WS**	Removal of snow, ice, water and sand from airport
77	**WG**	Ground handling impaired by adverse weather conditions

Air Traffic Flow Management (ATFM) Restrictions

Numeric	Alphabetic	Cause, Explanation
81	**AT**	ATFM due to ATC en-route demand/capacity, standard demand/capacity problems
82	**AX**	ATFM due to ATC staff/equipment en-route, reduced capacity caused by industrial action or staff shortage or equipment failure, extraordinary demand due to capacity reduction in neighboring area
83	**AE**	ATFM due to restriction at destination airport, airport and/or runway closed due to obstruction, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights
84	**AW**	ATFM due to weather at destination

Airport and Governmental Authorities

Numeric	Alphabetic	Cause, Explanation
85	**AS**	Mandatory security
86	**AG**	Immigration, customs, health
87	**AF**	Airport facilities, parking stands, ramp congestion, lighting, buildings, gate limitations etc.
88	**AD**	Restrictions at airport of destination, airport and/or runway closed due to obstruction, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights
89	**AM**	Restrictions at airport of departure with or without ATFM restrictions, including air traffic services, startup and pushback, airport and/or runway closed due to obstruction or weather (restriction due to weather in case of AFTM regulation only, else refer to code 71(WO)), industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights

Reactionary

Numeric	Alphabetic	Cause, Explanation
91	**RL**	Load connection, awaiting load from another flight
92	**RT**	Through check-in error, passenger and baggage
93	**RA**	Aircraft rotation, late arrival of aircraft from another flight or previous sector
94	**RS**	Cabin crew rotation, awaiting cabin crew from another flight
95	**RC**	Crew rotation, awaiting crew from another flight (flight deck or entire crew)
96	**RO**	Operations control, rerouting, diversion, consolidation, aircraft change for reasons other than technical

Miscellaneous

Numeric	Alphabetic	Cause, Explanation
97	**MI**	Industrial action within own airline
98	**MO**	Industrial action outside own airline, excluding A.T.S.
99	**MX**	This code shall be used only when it is clear that a reason cannot be matched to a code above (to be explained in SI section)

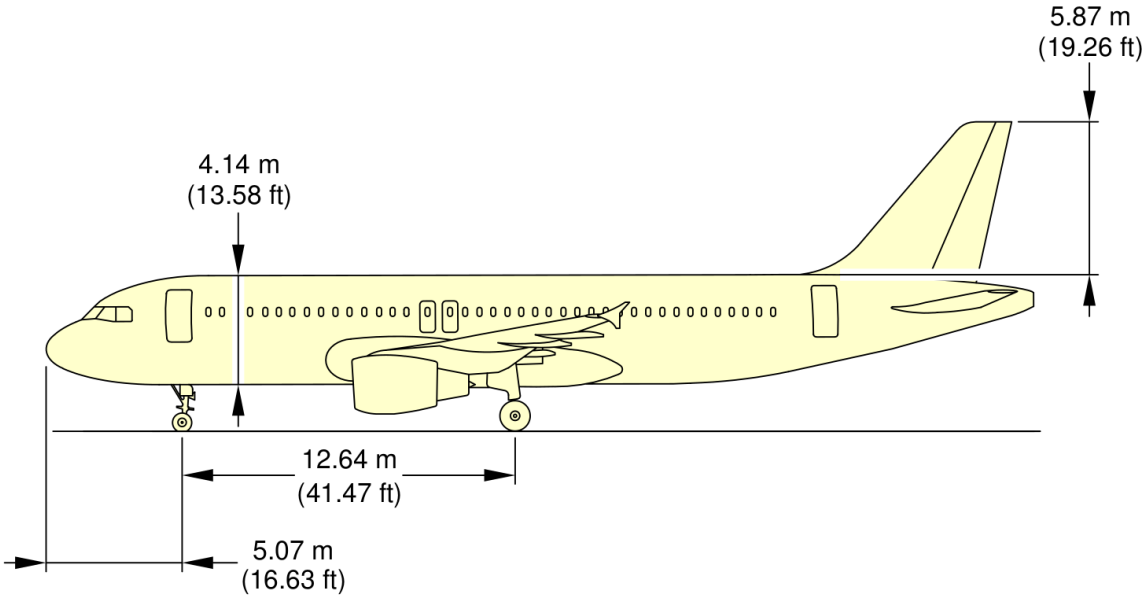
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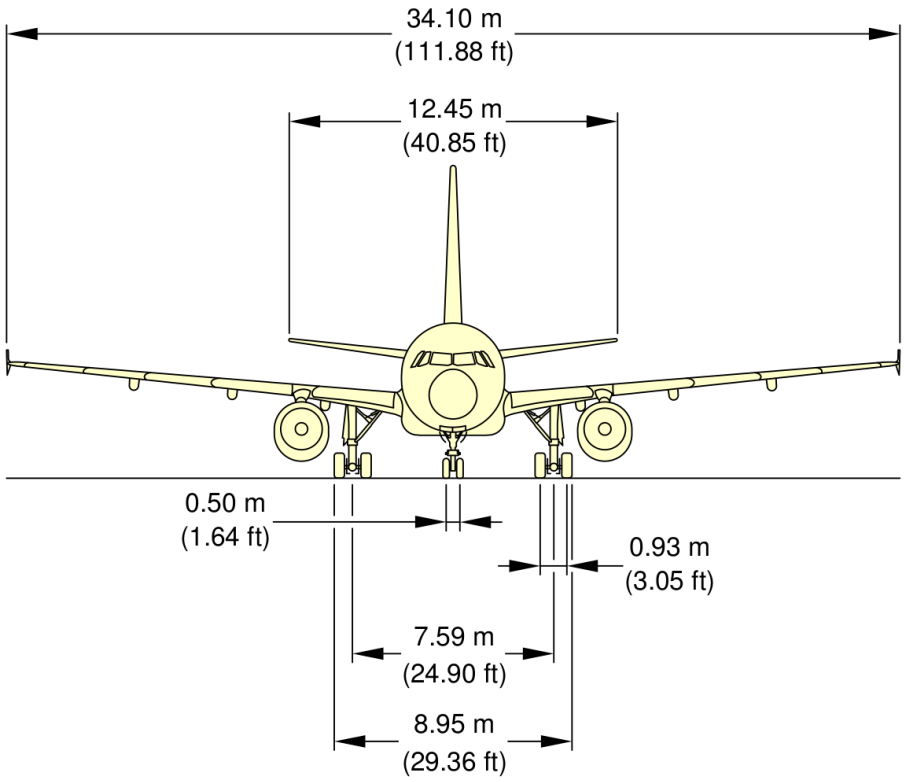
7. AIRBUS A320/A321

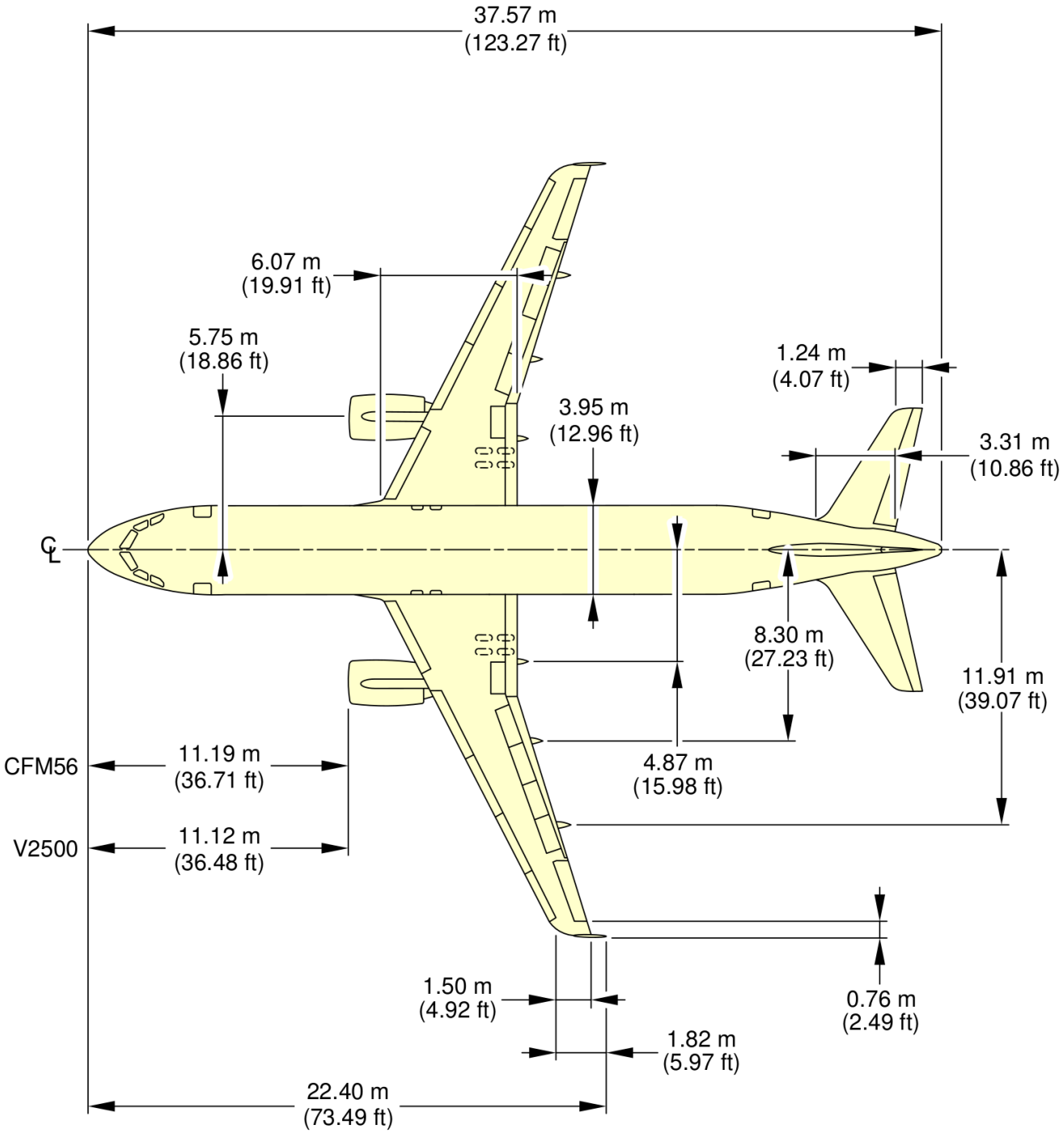
7.1 Specification

7.1.1 Airplane dimensions

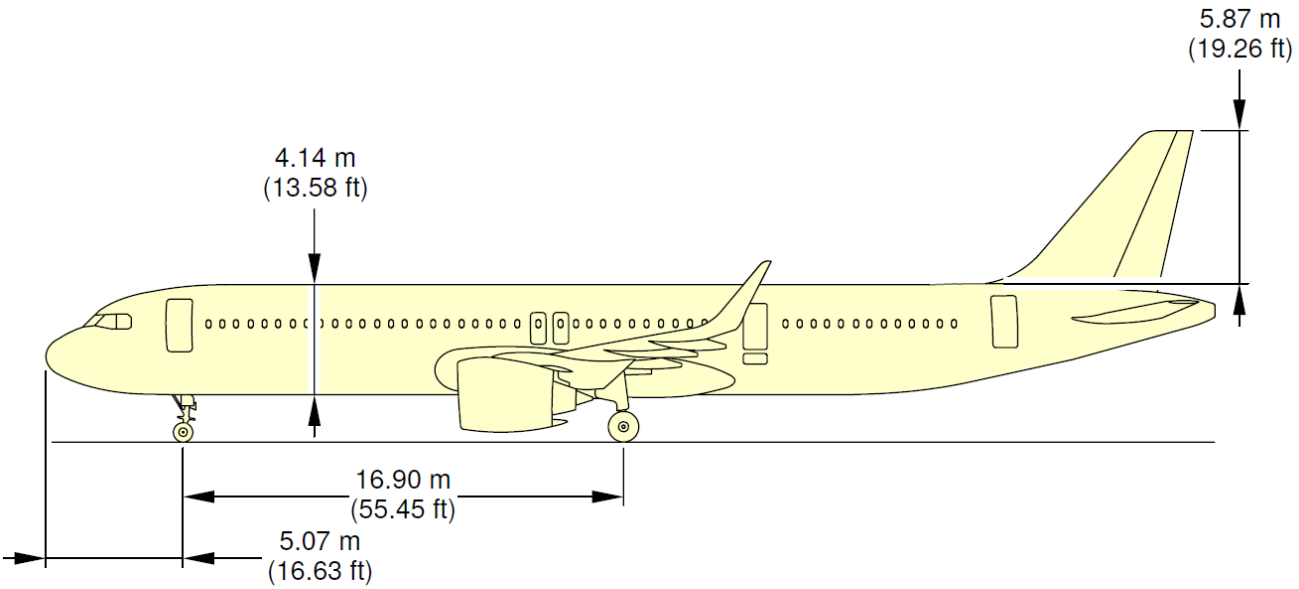
Airbus A320

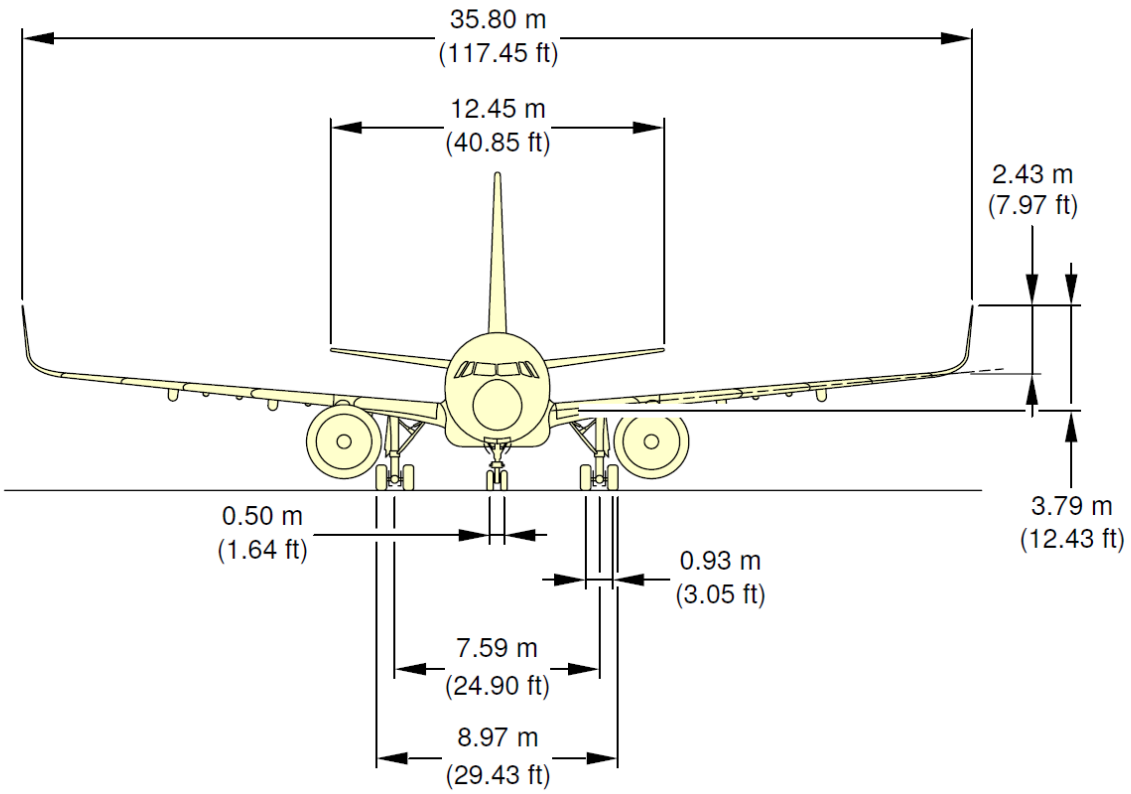


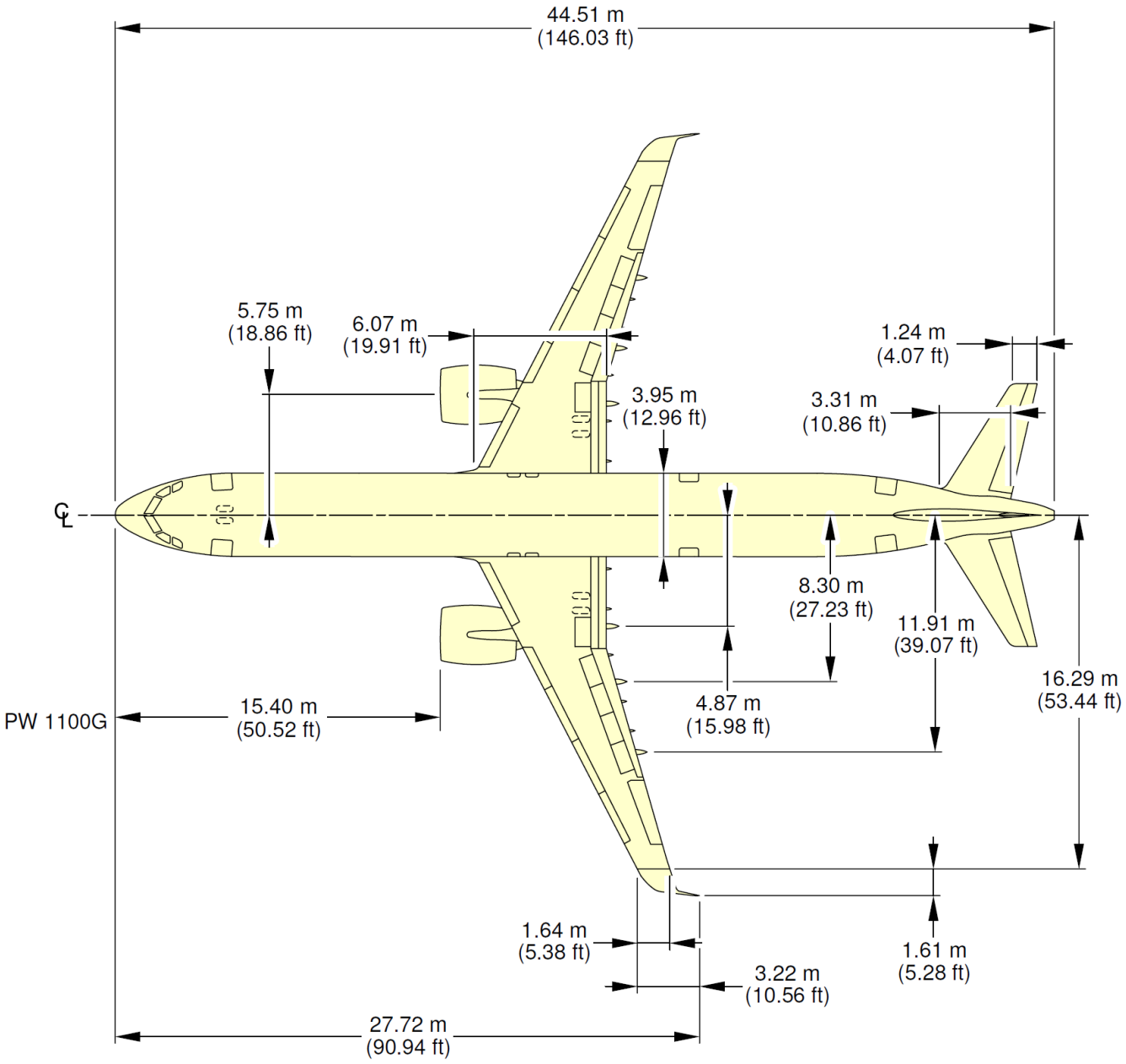



37.57 m
(123.27 ft)
6.07 m
(19.91 ft)
5.75 m
(18.86 ft)
1.24 m
(4.07 ft)
3.95 m
(12.96 ft)
3.31 m
(10.86 ft)
8.30 m
(27.23 ft)
11.91 m
(39.07 ft)
CFM56
11.19 m
(36.71 ft)
4.87 m
(15.98 ft)
V2500
11.12 m
(36.48 ft)
1.50 m
(4.92 ft)
0.76 m
(2.49 ft)
1.82 m
(5.97 ft)
22.40 m
(73.49 ft)

Airbus A321


5.87 m
(19.26 ft)
4.14 m
(13.58 ft)
16.90 m
(55.45 ft)
5.07 m
(16.63 ft)

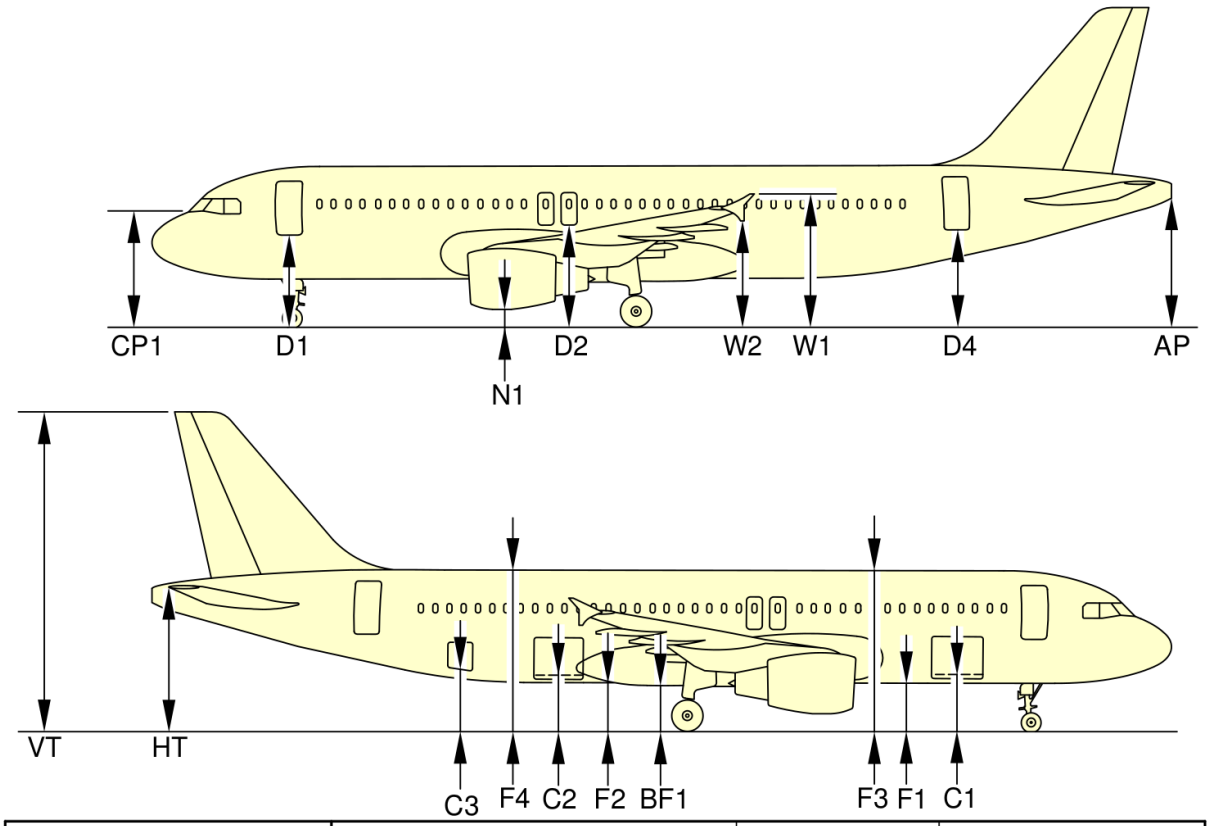

35.80 m
(117.45 ft)
12.45 m
(40.85 ft)
2.43 m
(7.97 ft)
3.79 m
(12.43 ft)
0.50 m
(1.64 ft)
0.93 m
(3.05 ft)
7.59 m
(24.90 ft)
8.97 m
(29.43 ft)


44.51 m
(146.03 ft)
5.75 m
(18.86 ft)
6.07 m
(19.91 ft)
1.24 m
(4.07 ft)
3.95 m
(12.96 ft)
3.31 m
(10.86 ft)
8.30 m
(27.23 ft)
11.91 m
(39.07 ft)
16.29 m
(53.44 ft)
PW 1100G
15.40 m
(50.52 ft)
4.87 m
(15.98 ft)
1.64 m
(5.38 ft)
3.22 m
(10.56 ft)
1.61 m
(5.28 ft)
27.72 m
(90.94 ft)

7.1.2 Additional information

7.1.2.1 Ground clearances

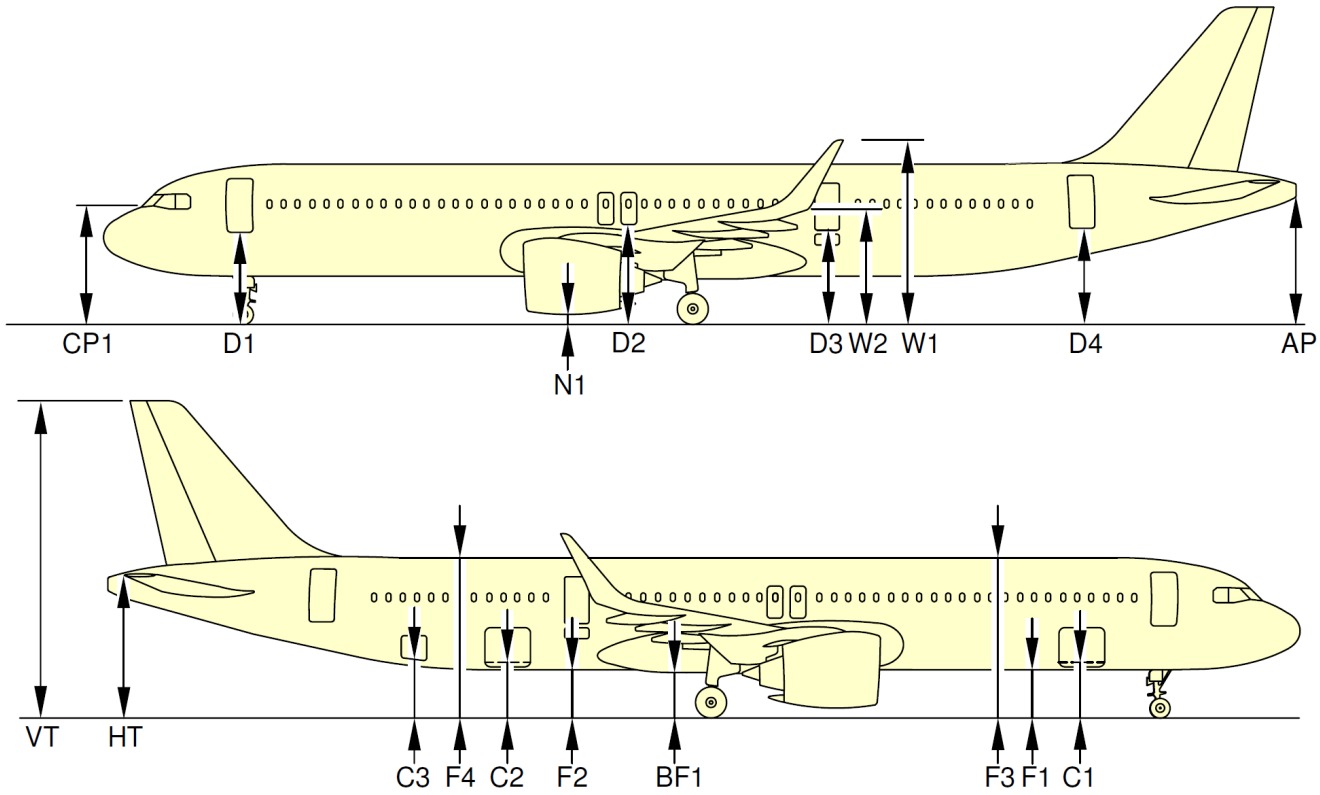
Airbus A320



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

NOTE: Passenger and cargo door ground clearances are measured from the enter of the door sill and from floor level

Airbus A321

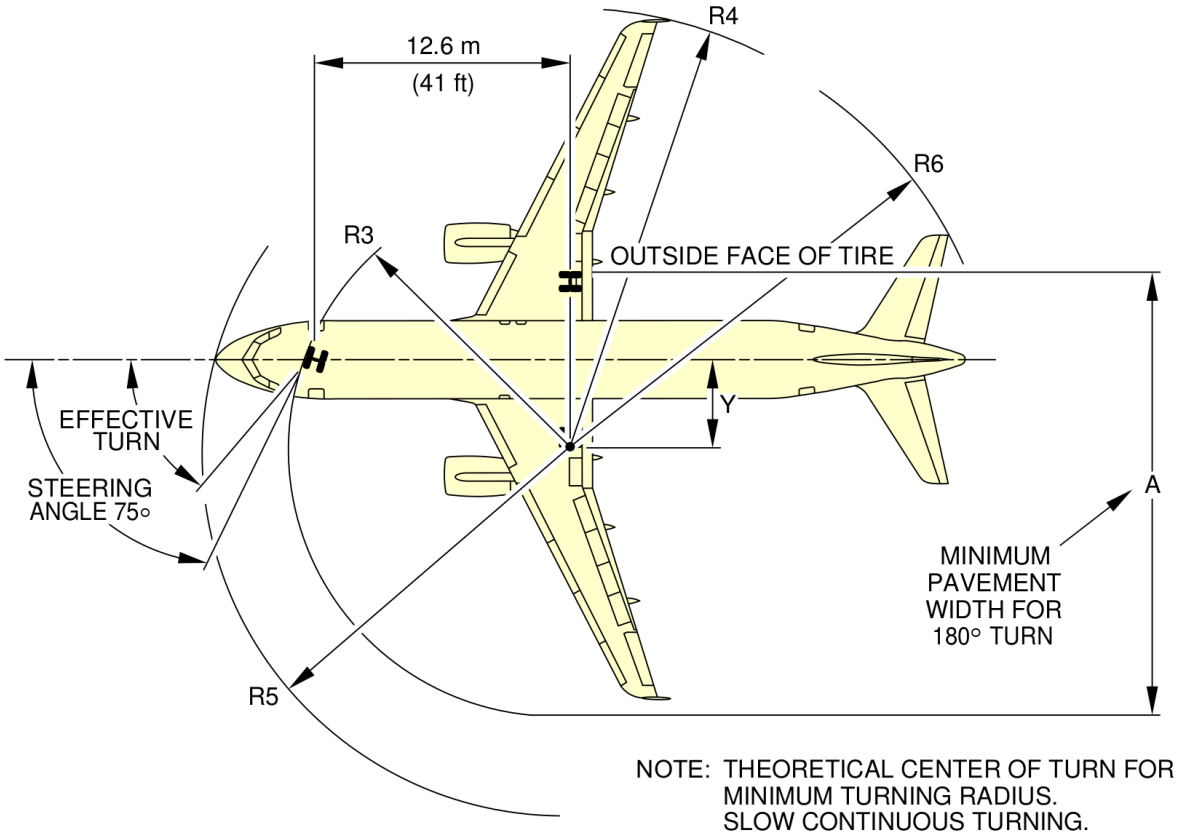


A/C CONFIGURATION		MRW				47 000 kg (103 617 lb)		A/C JACKED FDL = 4.60 m (15.09 ft)	
		FWD CG (19%)		AFT CG (36.9%)		CG (25%)			
		m	ft	m	ft	m	ft	m	ft
DOORS	D1	3.39	11.12	3.47	11.38	3.50	11.48	4.13	13.55
	D2	3.80	12.47	3.83	12.57	3.93	12.89	4.46	14.63
	D3	3.89	12.76	3.90	12.80	4.01	13.16	4.54	14.90
	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 enter of the door sill and from floor level

7.1.2.2 Minimum turning radii

Airbus A320



NOTE: THEORETICAL CENTER OF TURN FOR MINIMUM TURNING RADIUS.
SLOW CONTINUOUS TURNING.
APPROXIMATELY IDLE THRUST ON ALL ENGINES.
NO DIFFERENTIAL BRAKING.
NOSE GEAR RADII TRACK MEASURED FROM OUTSIDE FACE OF TIRE.

DUAL LANDING GEAR

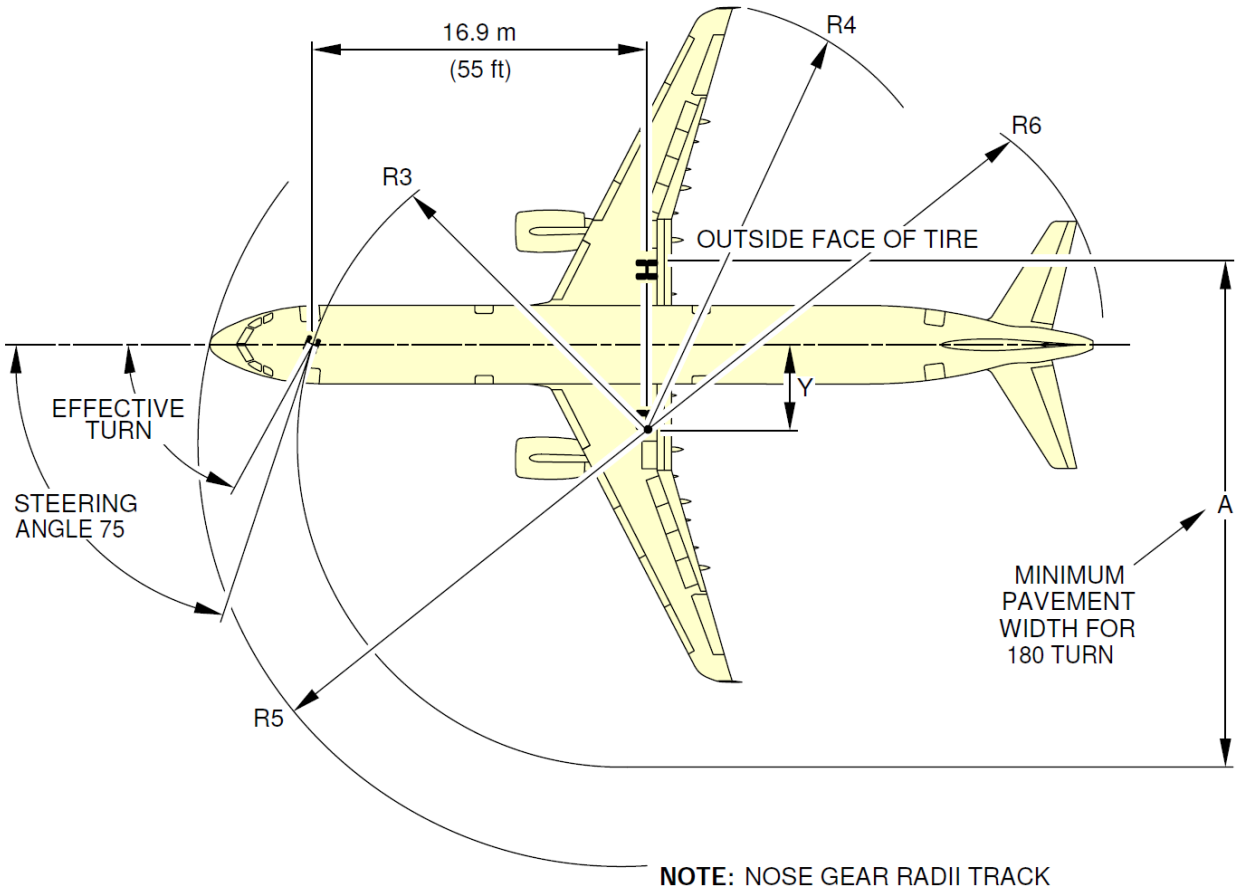
TYPE OF TURN	STEERING ANGLE (DEG)	EFFECTIVE STEERING ANGLE		Y	A	R3 NLG	R4 WING		R5 NOSE	R6 THS
							WING TIP FENCE	SHARKLET		
1	75 (MAX)	71.9°	m	4.1	22.3	13.4	21.6	22.5	18.2	21.6
			ft	14	73	44	71	74	60	71
2	75 (MAX)	70.2°	m	4.5	22.8	13.6	22.0	22.9	18.3	21.8
			ft	15	75	44	72	75	60	72

NOTE: IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

BOGIE LANDING GEAR

STEERING ANGLE (DEG)	EFFECTIVE STEERING ANGLE		Y	A	R3 NLG	R4 WING	R5 NOSE	R6 THS
						WING TIP FENCE		
75 (MAX)	70.0°	m	4.6	22.8	13.8	22.0	18.3	21.9
		ft	15	75	45	72	60	72

Airbus A321



NOTE: NOSE GEAR RADII TRACK
MEASURED FROM OUTSIDE FACE OF TIRE.
THEORETICAL CENTER OF TURN
FOR MINIMUM TURNING RADIUS.
SLOW CONTINUOUS TURNING,
APPROXIMATELY IDLE THRUST
ON ALL ENGINES.
NO DIFFERENTIAL BRAKING.

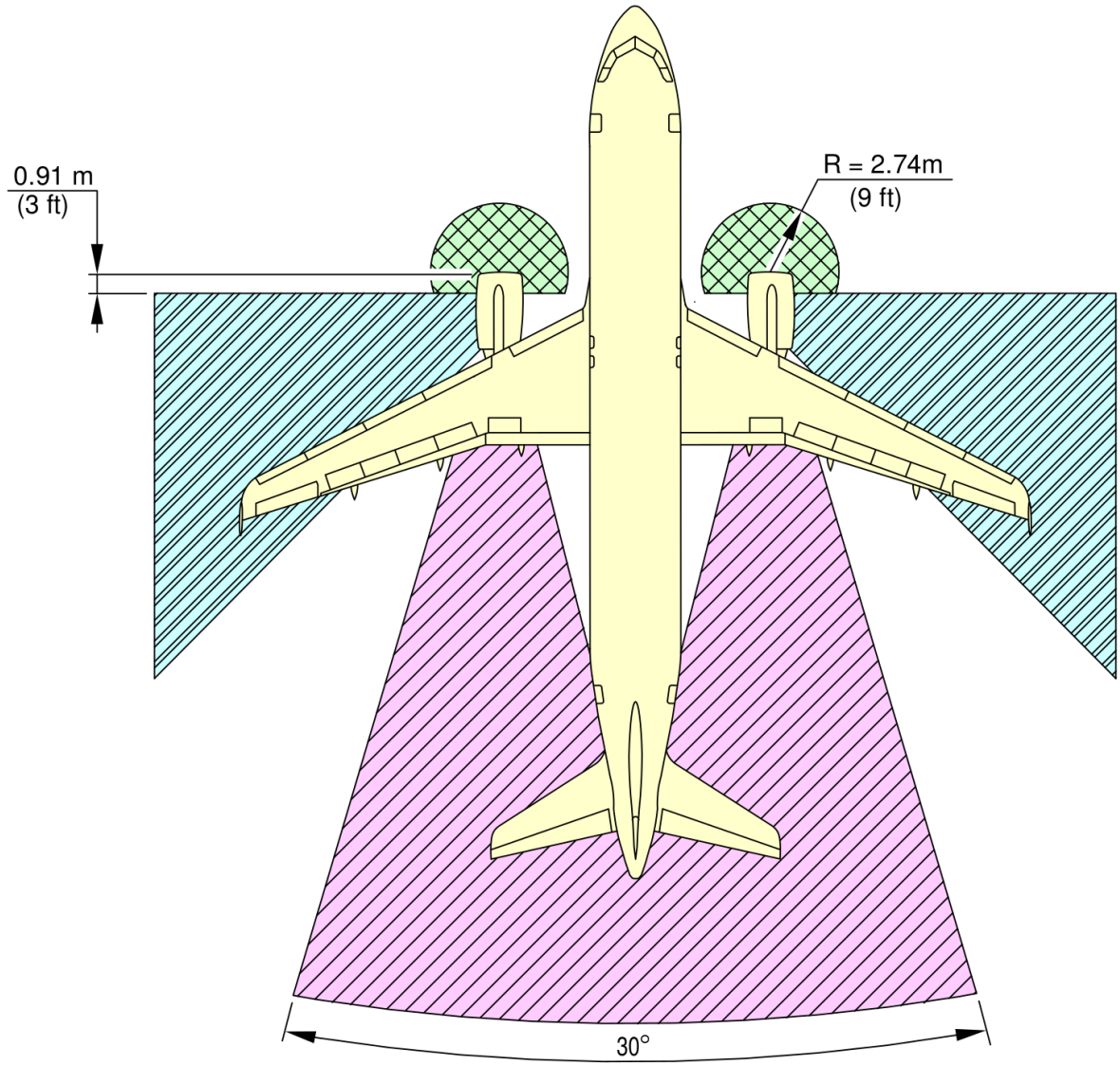
TYPE OF TURN	STEERING ANGLE (DEG)	EFFECTIVE STEERING ANGLE		Y	A	R3 NLG	R4 WING		R5 NOSE	R6 THS
							WING TIP FENCE	SHARKLET		
1	75 (MAX)	73.1	m	5.1	27.7	17.8	22.6	23.4	22.6	24.5
			ft	17	91	58	74	77	74	80
2	75 (MAX)	71.6	m	5.6	28.3	17.9	23.1	23.9	22.7	24.7
			ft	18	93	59	76	78	74	81

NOTE: IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1
BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

7.1.2.3 Danger areas

Airbus A320

Danger areas (Ground Idle) for IAE V2500 Series Engine



TO 55 m (180 ft) AFT OF COMMON NOZZLE ASSEMBLY (CNA) INCLUDES CROSS WIND EFFECT

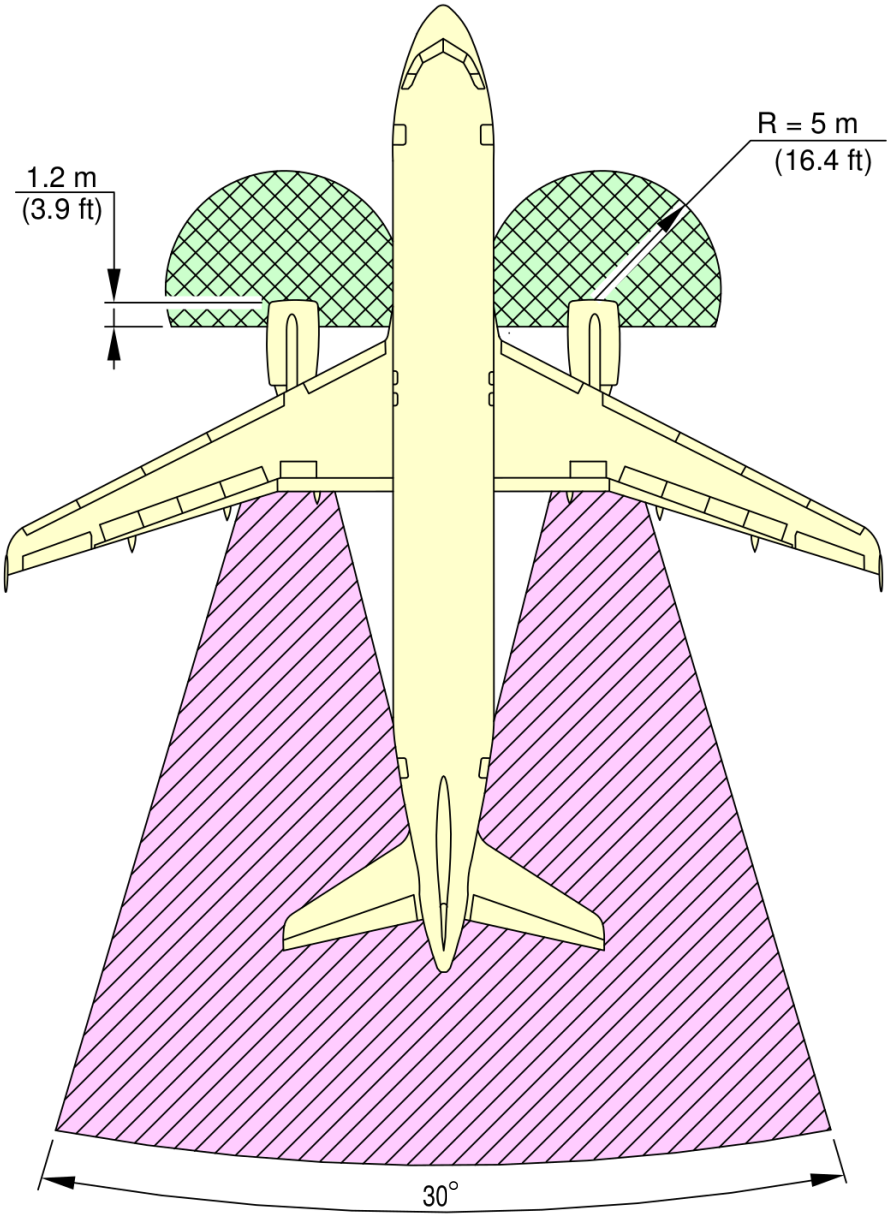
NOTE:

INTAKE SUCTION DANGER AREA MINIMUM IDLE POWER

ENTRY CORRIDOR

EXHAUST DANGER AREA

Danger areas (Breakaway Power) for IAE V2500 Series Engine



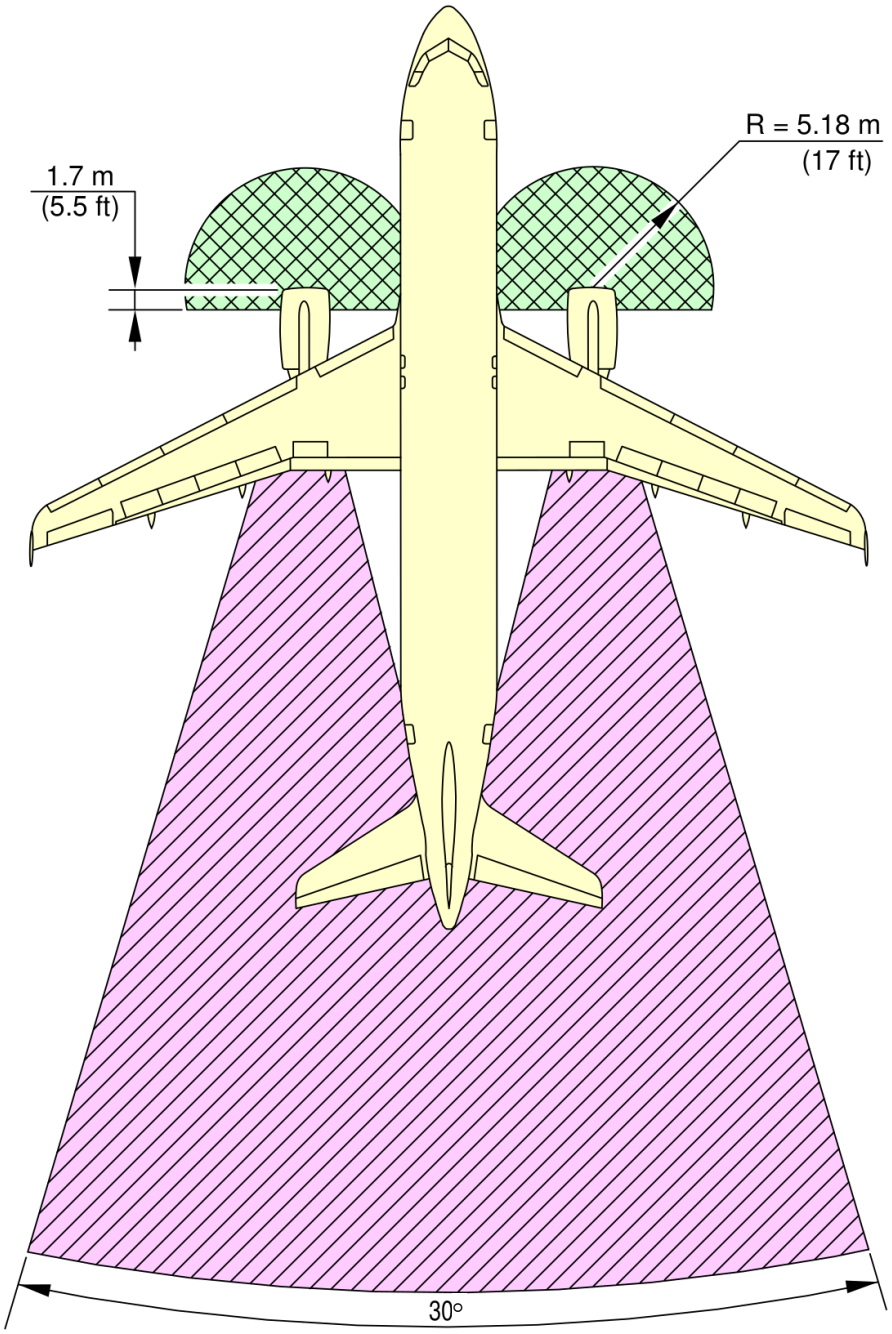
TO 91.4 m (300 ft) AFT OF COMMON NOZZLE ASSEMBLY (CNA) INCLUDES CROSS WIND EFFECT

NOTE:

INTAKE SUCTION DANGER AREA MAX. TAKEOFF POWER

EXHAUST DANGER AREA

Danger areas (Take Off Power) for IAE V2500 Series Engine



TO 348 m (1150 ft) AFT OF COMMON NOZZLE ASSEMBLY (CNA) INCLUDES CROSS WIND EFFECT

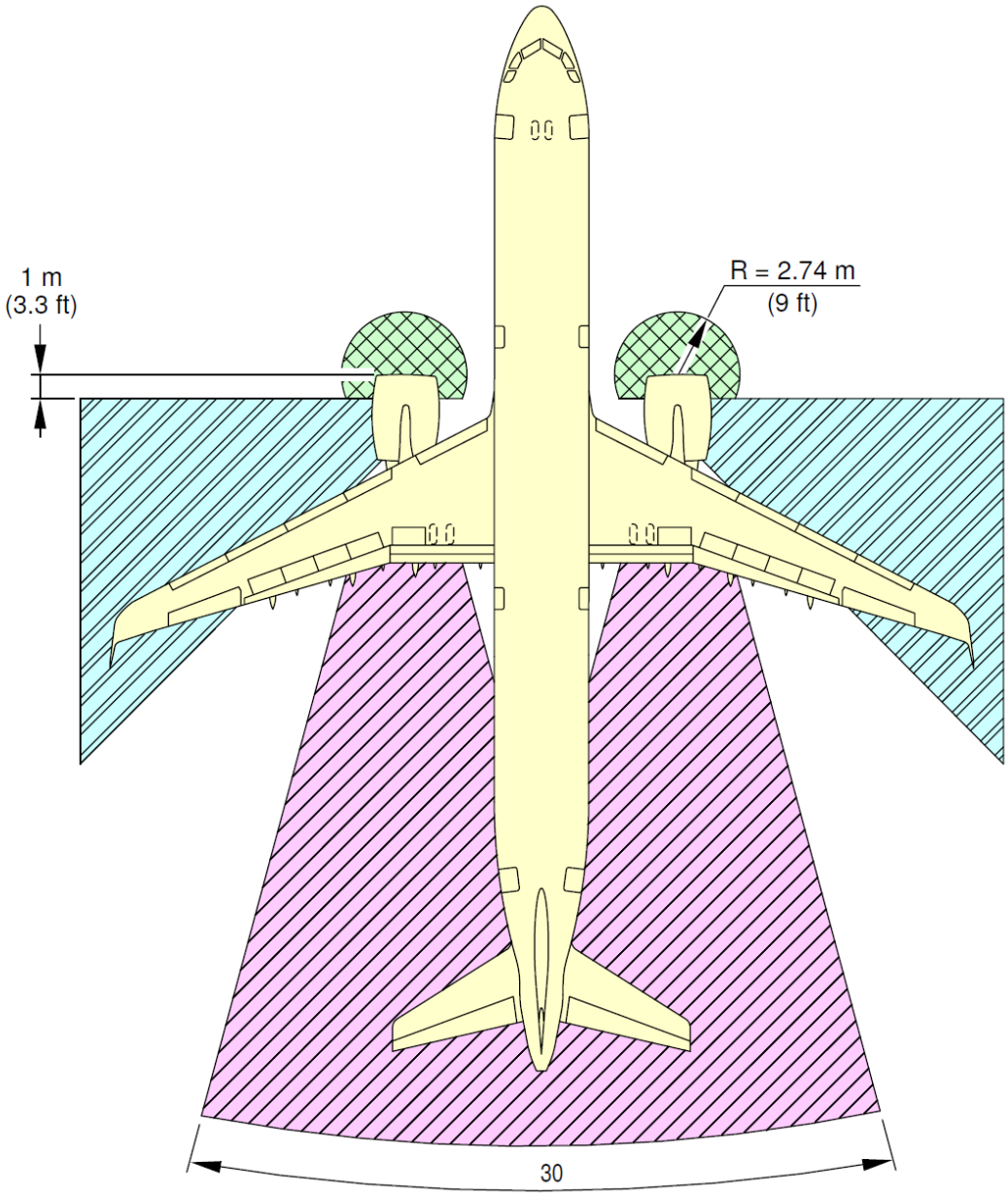
NOTE:

INTAKE SUCTION DANGER AREA MAX. TAKEOFF POWER

EXHAUST DANGER AREA

Airbus A321

Danger areas (Ground Idle) for PW 1100G Engine



TO 40.3 m (132 ft) AFT OF COMMON NOZZLE ASSEMBLY (CNA)
INCLUDES CROSS WIND EFFECT

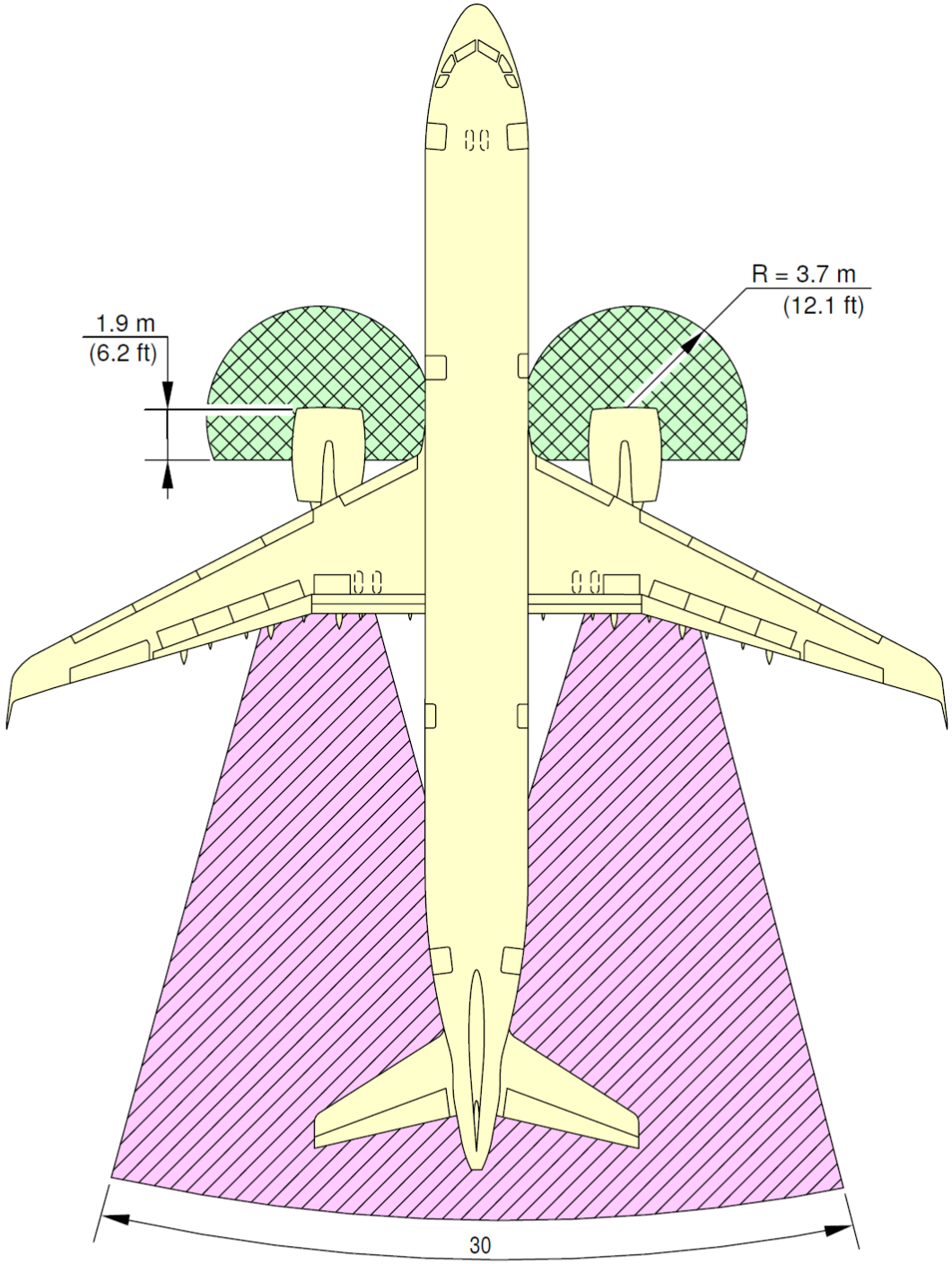
NOTE:

INTAKE SUCTION DANGER AREA MINIMUM IDLE POWER

ENTRY CORRIDOR

EXHAUST DANGER AREA

Danger areas (Breakaway Power) for PW 1100G Engine



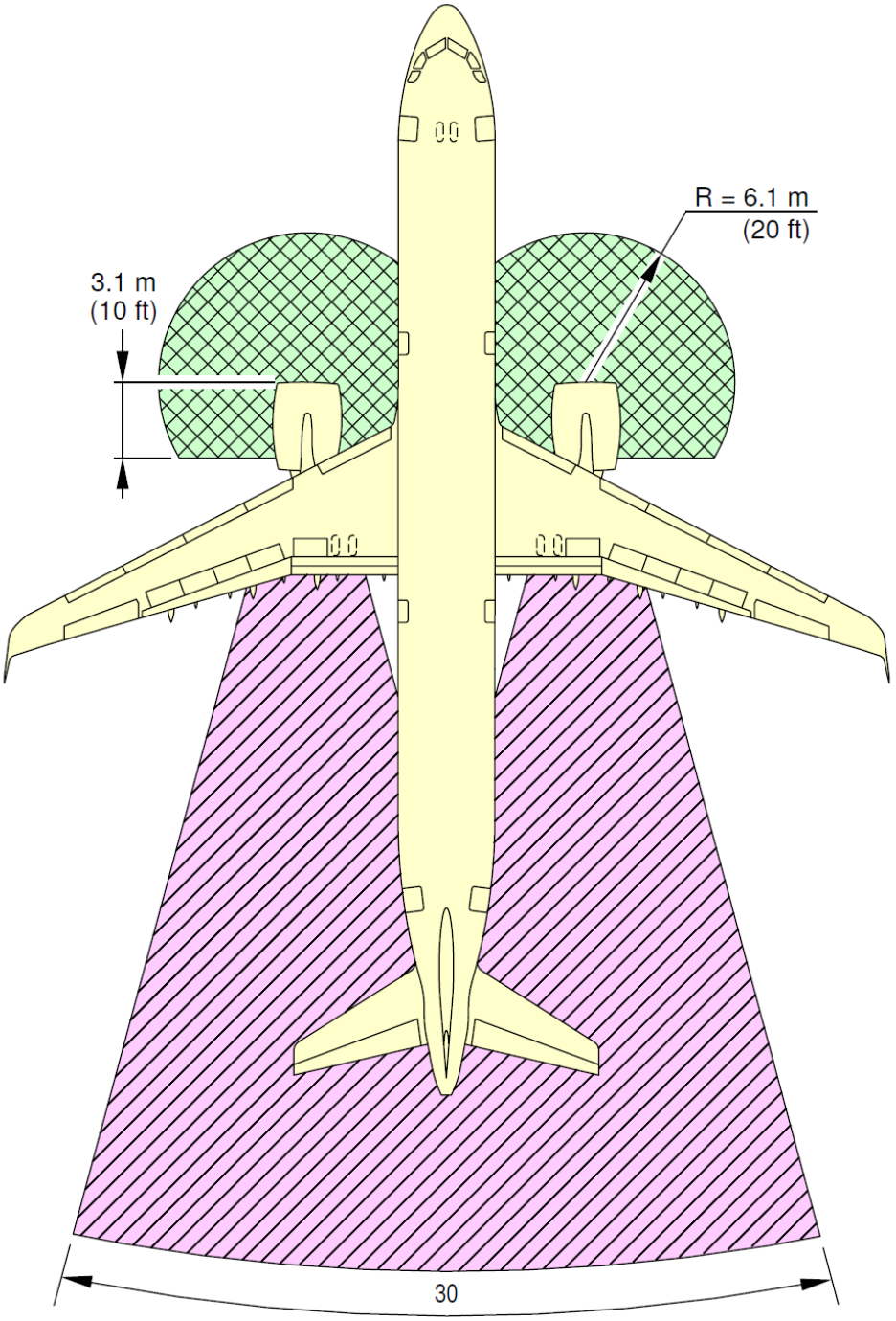
TO 71.6 m (235 ft) AFT OF COMMON NOZZLE ASSEMBLY (CNA)
INCLUDES CROSS WIND EFFECT

NOTE:

INTAKE SUCTION DANGER AREA MAX. TAKEOFF POWER

EXHAUST DANGER AREA

Danger areas (Take Off Power) for PW 1100G Engine



TO 243 m (797.4 ft) AFT OF COMMON NOZZLE ASSEMBLY (CNA) INCLUDES CROSS WIND EFFECT

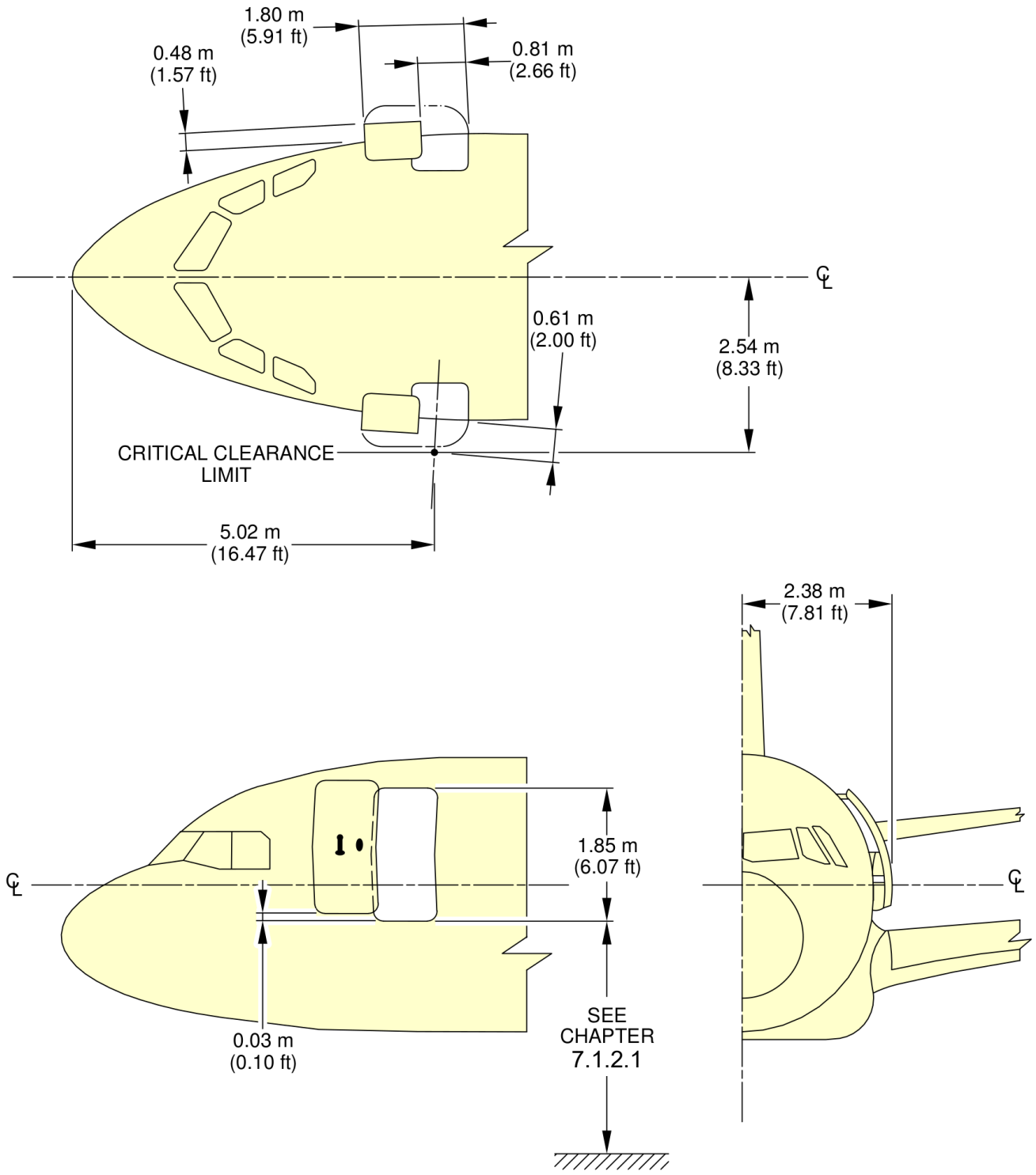
NOTE:

INTAKE SUCTION DANGER AREA MAX. TAKEOFF POWER

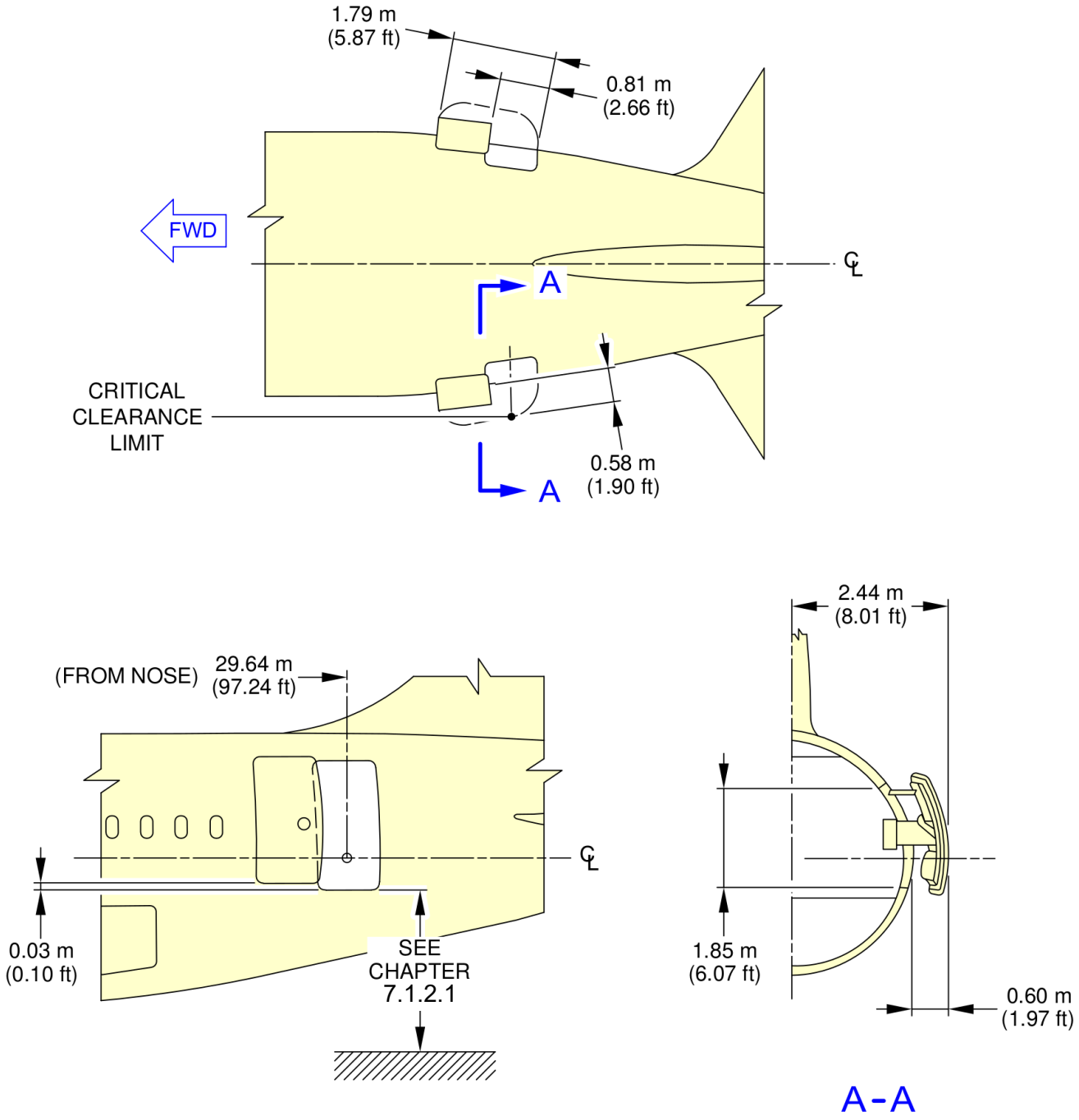
EXHAUST DANGER AREA

7.1.3 Door sizes

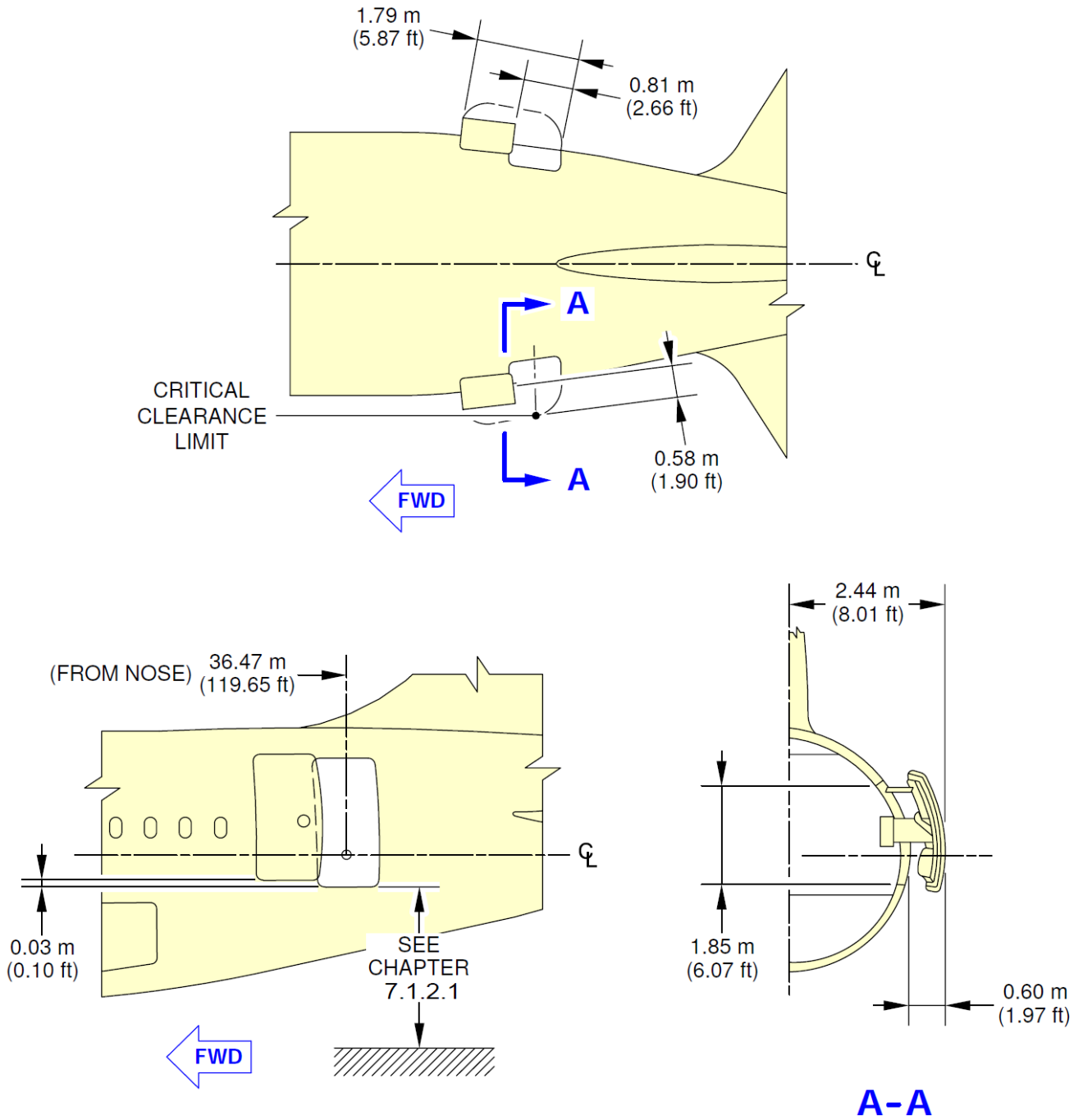
Forward passenger door A320/A321



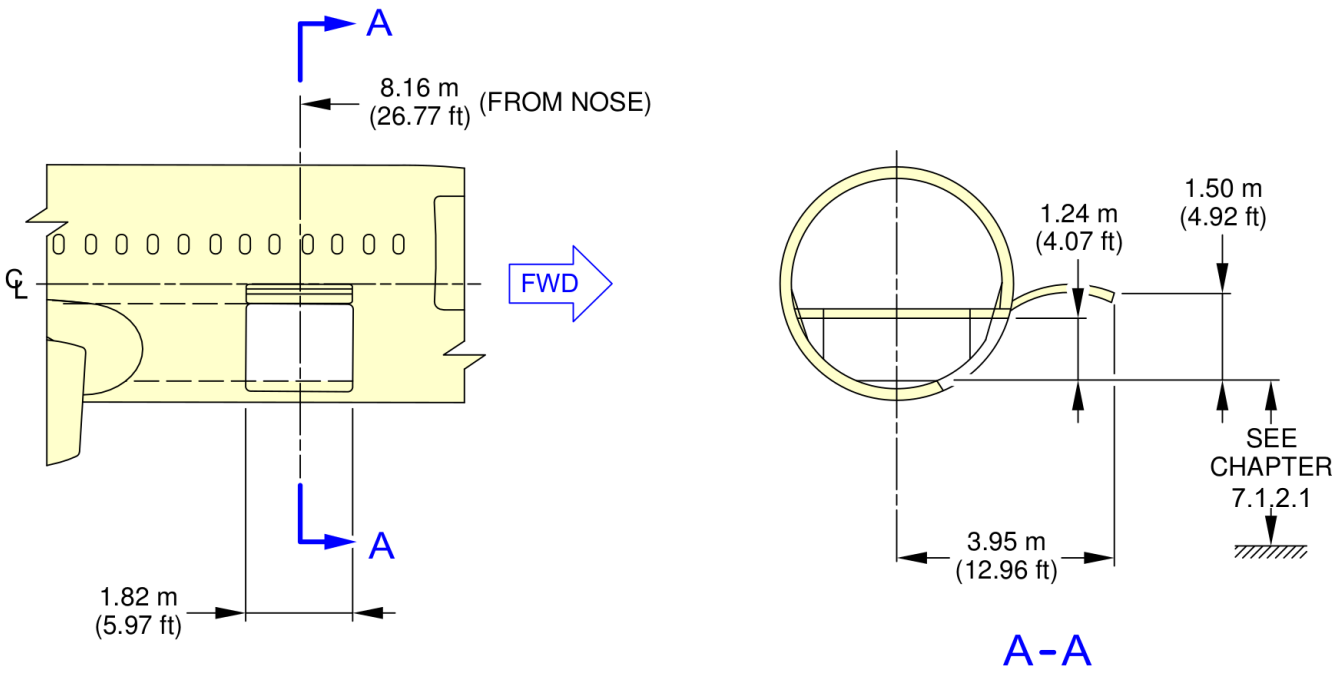
Aft passenger door A320

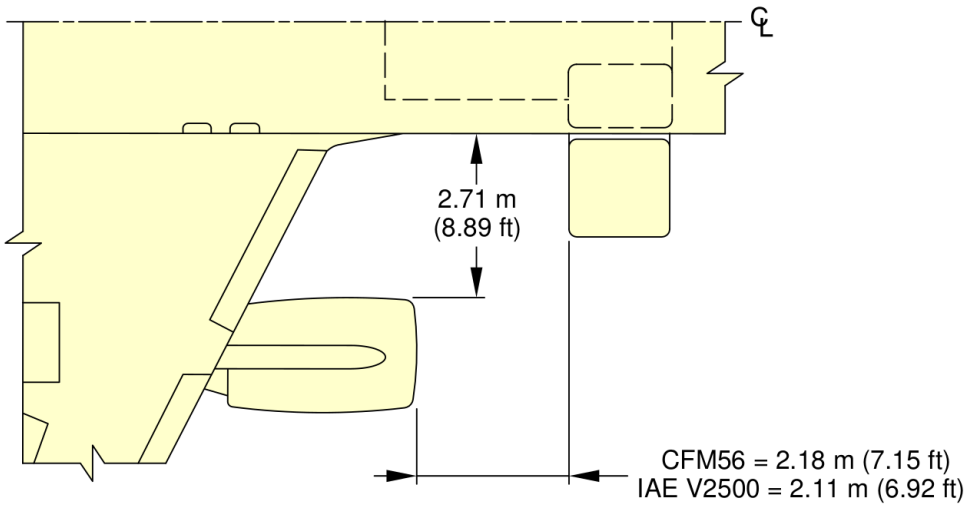


Aft passenger door A321

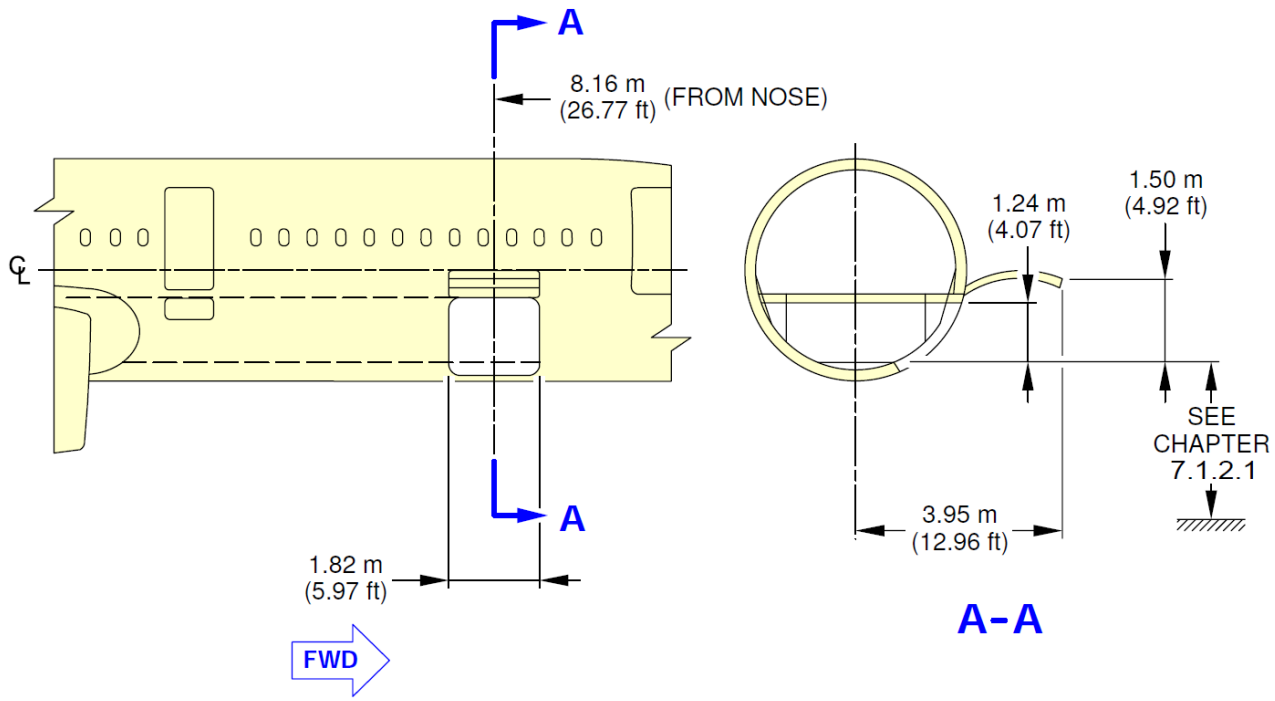


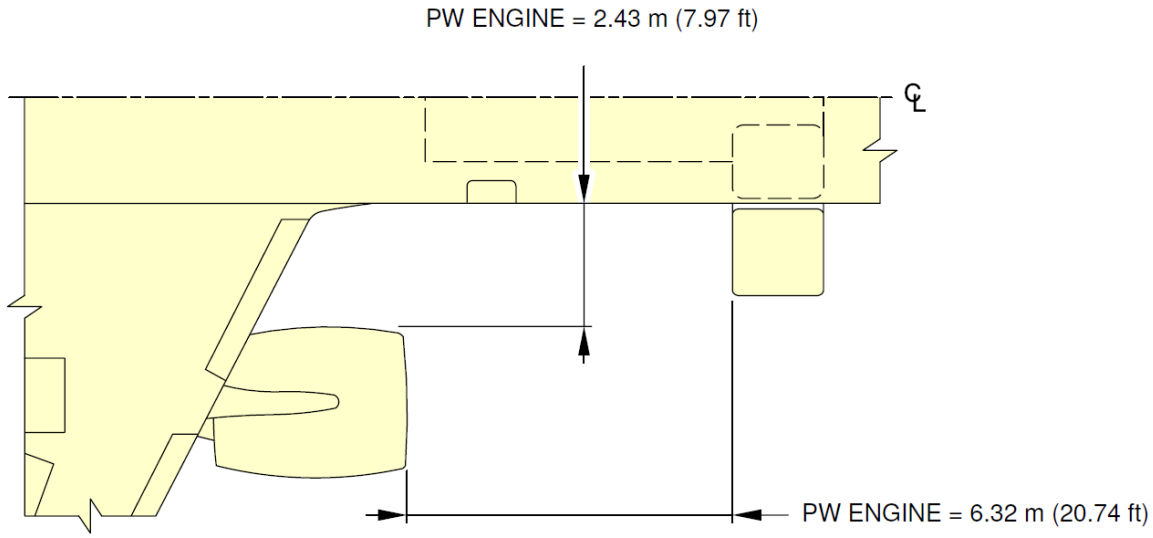
Forward cargo door A320



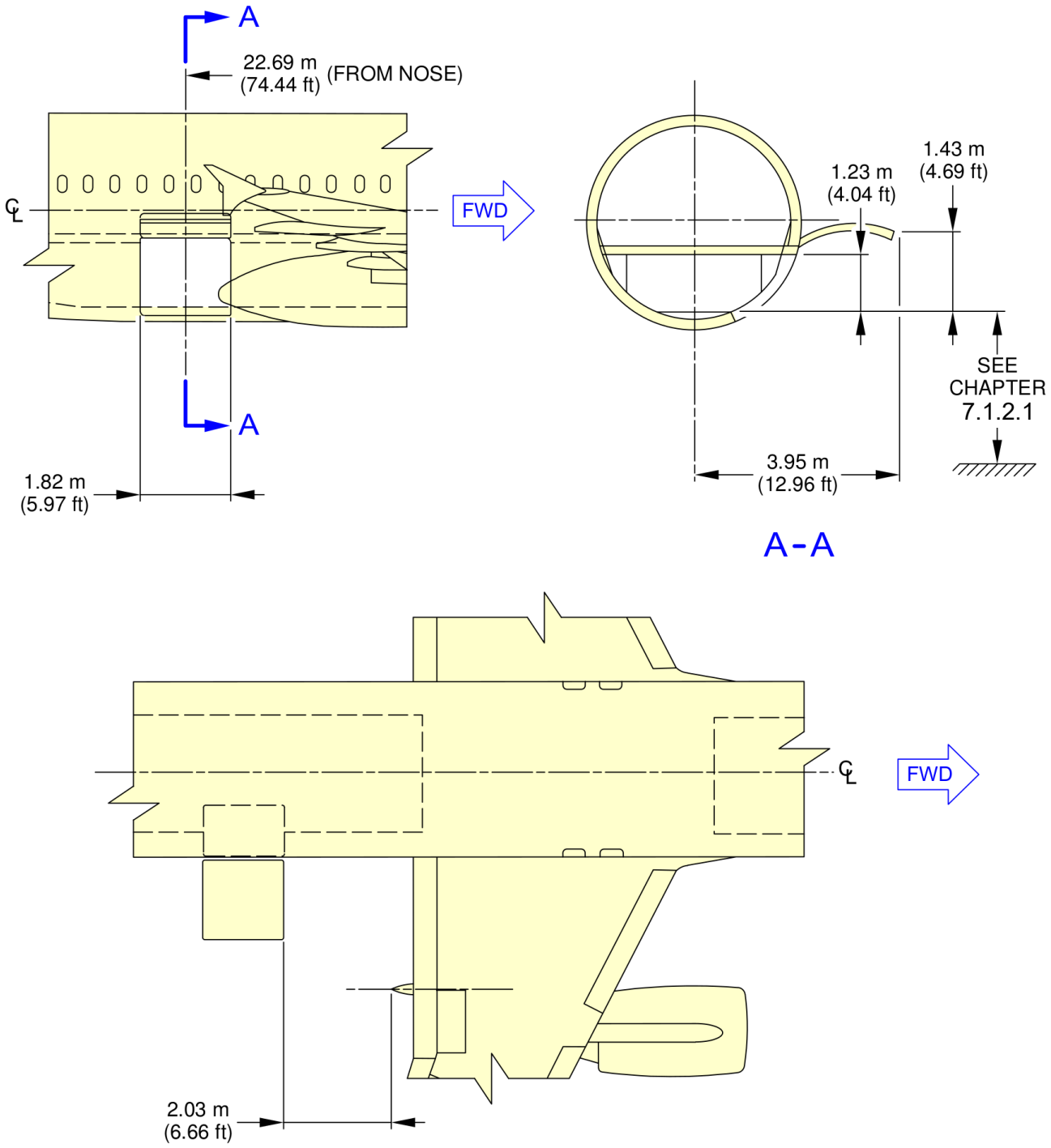


Forward cargo door A321

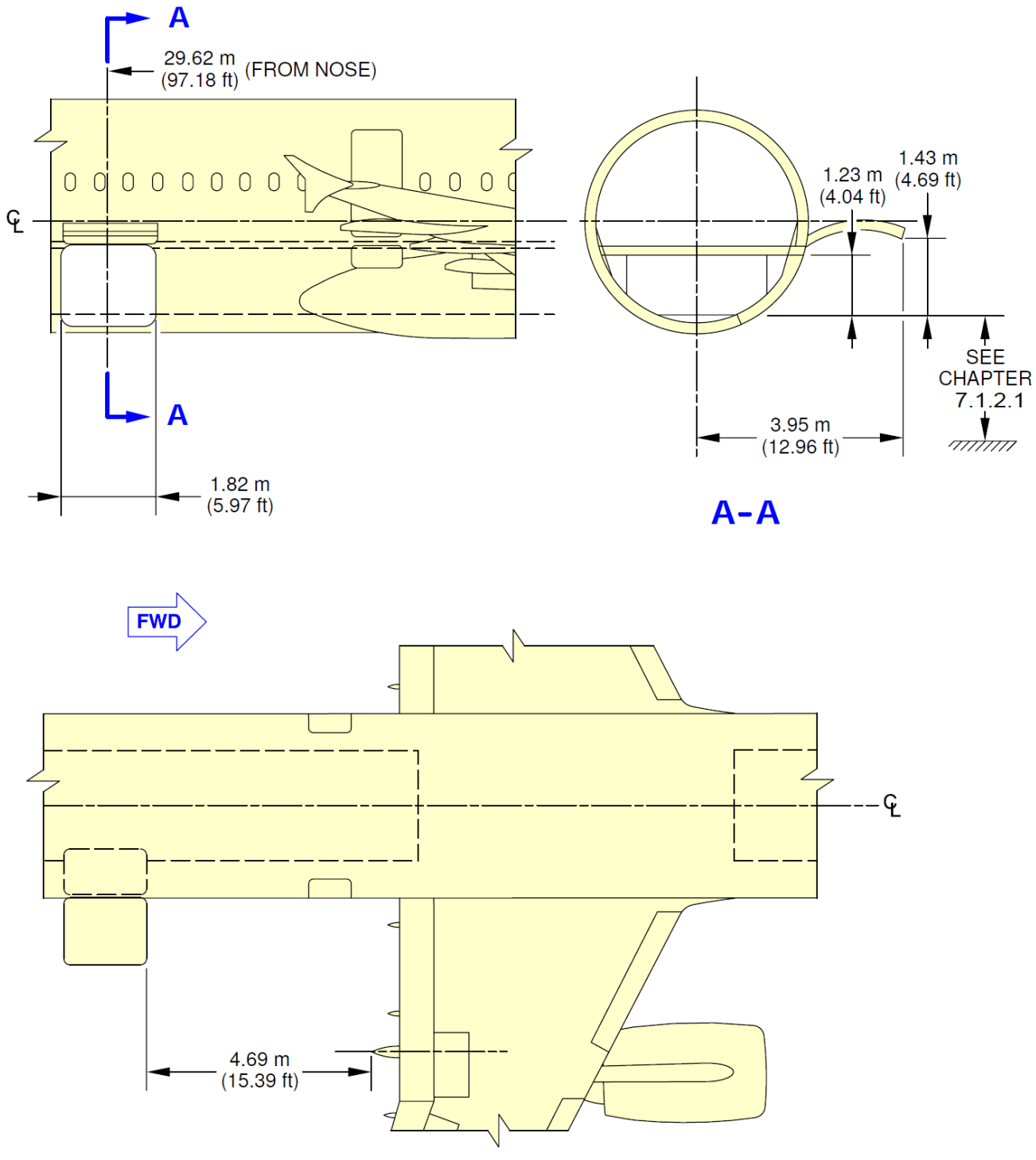




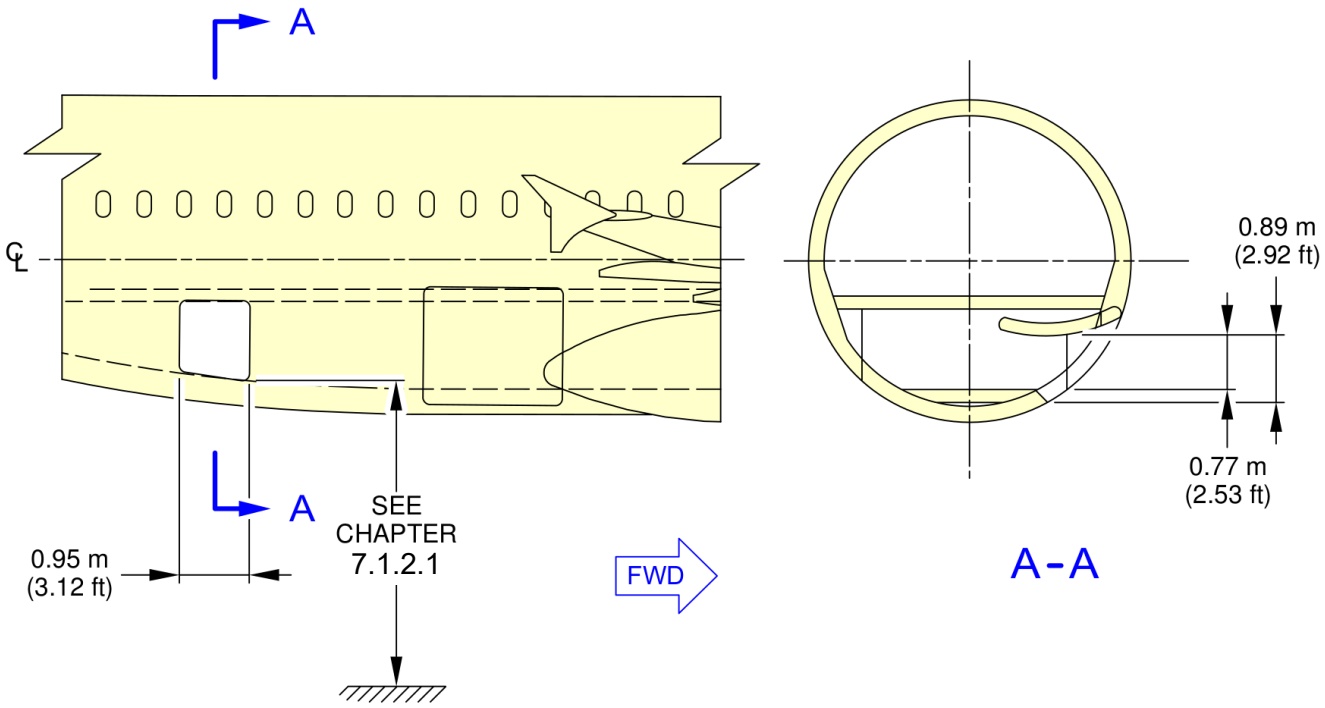
Aft cargo door A320

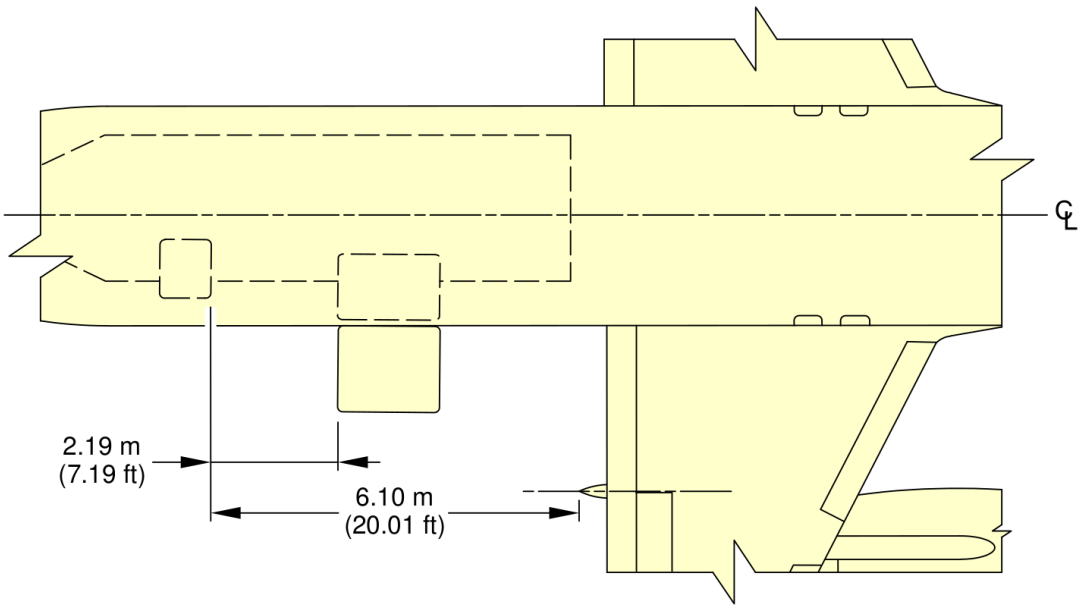


Aft cargo door A321

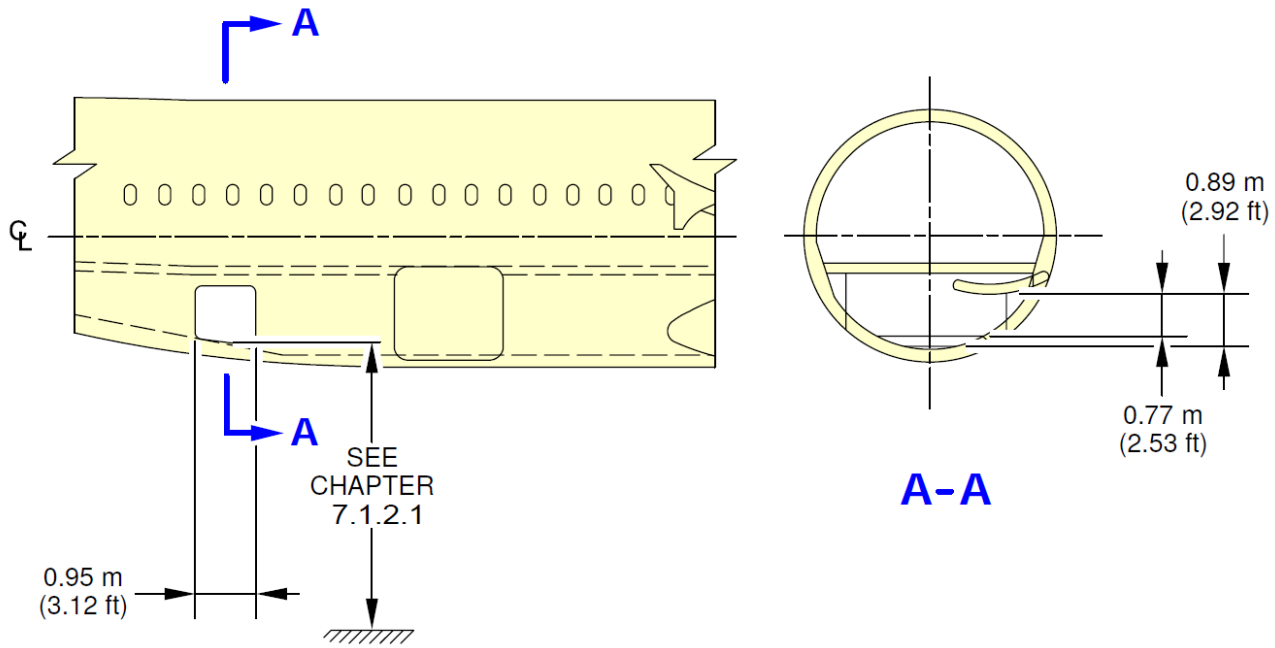


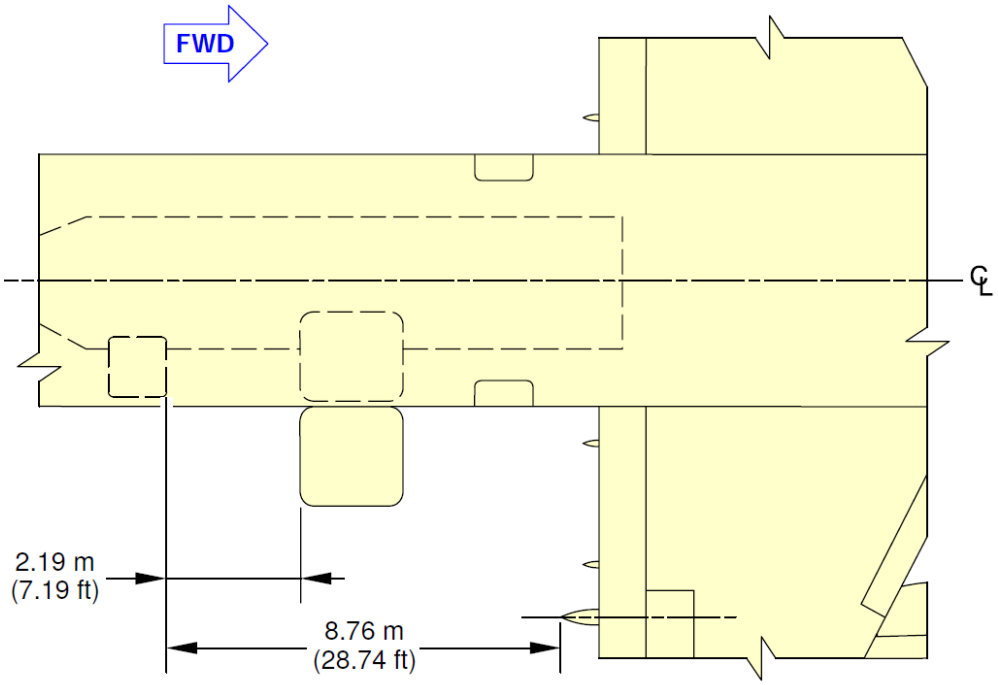
Bulk door A320





Bulk door A321





7.2 Masses and indices

7.2.1 Maximum masses

Aircraft Registry / Mass Limitations	**YR-SKY** A320 (MSN4493)	**YR-BEE** A320 (MSN6223)	**YR-JOY** A320 (MSN6513)	**YR-SUN** A320 (MSN6278)	**YR-WOW** A321 (MSN10928)	**YR-WIN** A321 (MSN10948)
Maximum Ramp Mass (MRM)	77400 kg	77400 kg	77400 kg	77400 kg	97400 kg	97400 kg
Maximum Take-Off Mass (MTOM)*	77000 kg	77000 kg	77000 kg	77000 kg	97000 kg	97000 kg
Maximum Zero Fuel Mass (MZFM)	62500 kg	62500 kg	62500 kg	62500 kg	75600 kg	75600 kg
Maximum Landing Mass (MLM)	66000 kg	66000 kg	66000 kg	66000 kg	79200 kg	79200 kg

* The MTOM can be reduced by crew according to operational restrictions.

7.2.2 Fuel

The table below covers fuel included between the high level sensing system and the unusable level.

A320		
LOCATION	**VOLUME (Liters)**	**MASS (KGs)**
Outer Cell Left	880	691
Inner Cell Left	6925	5436
Center Tank	8250	6476
Inner Cell Right	6925	5436
Outer Cell Right	880	691
Total	**23860**	**18730**

A321		
LOCATION	**VOLUME (Liters)**	**MASS (KGs)**
Wing Tank Left	7690	6036.5
Wing Tank Right	7690	6036.5
Center Tank	8200	6437
ACT AFT1	3121	2450
ACT AFT2	3121	2450
ACT FWD	3121	2450
Total	**32943**	**25860**

NOTE: The fuel mass is based on fuel density 0.785 Kg/L

7.2.3 DOM / DOI

7.2.3.1 General

DOM/DOI includes:
- **Basic Empty** Mass/Index (oil for engines, IDG and APU oil, unpumpable fuel, unusable fuel, hydraulic fluid, emergency equipment)
- **Galley/catering equipment** mass/index
- **Potable water** mass/index
- **Toilet chemicals** mass/index
- **Crew** and **aircraft documents** mass/index
- **Pantry mass/index**.

7.2.3.2 Pantry mass / index

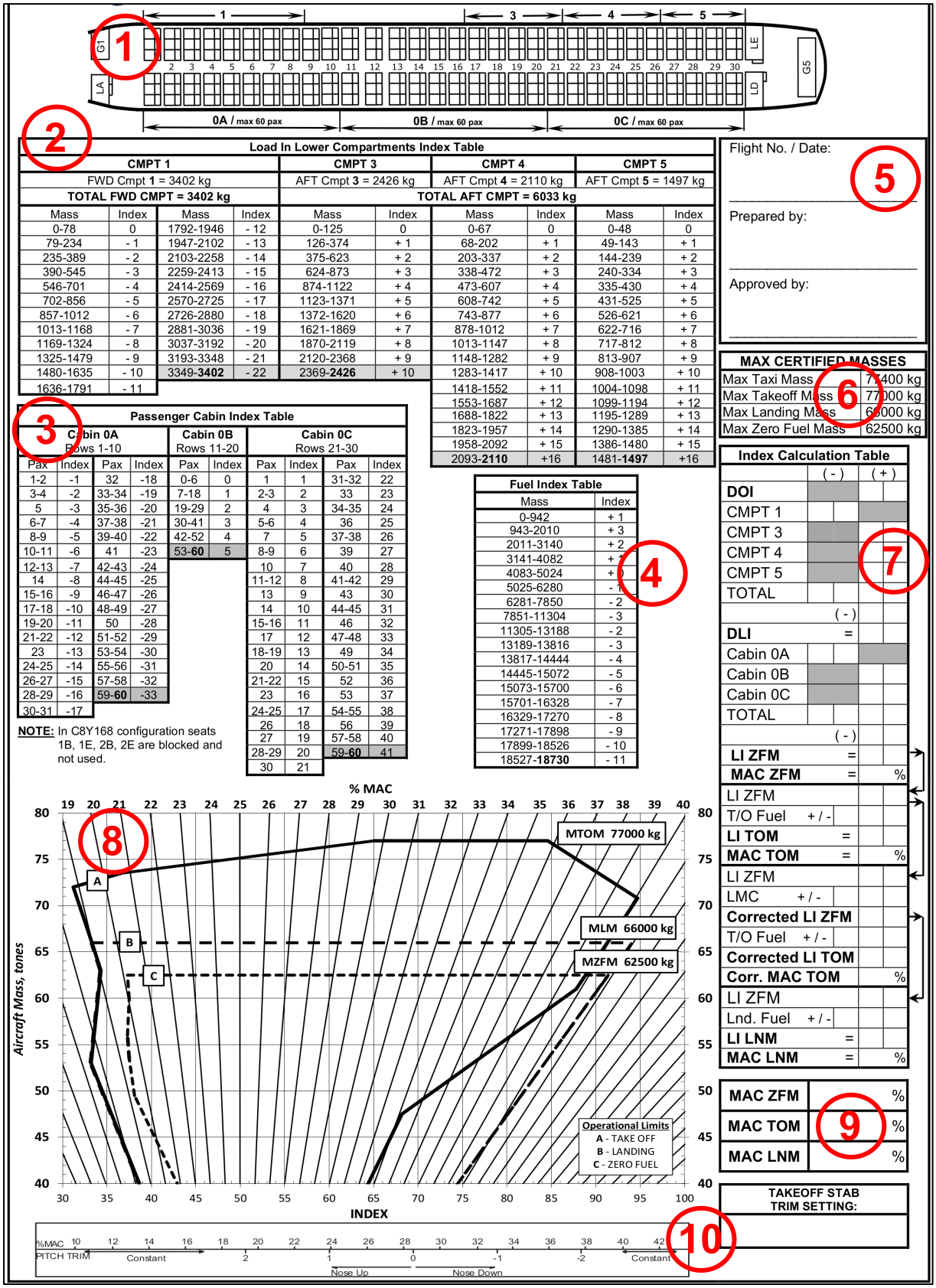
The pantry is included in DOM/DOI.

7.2.3.3 DOM/DOI table

The DOM/DOI table is included in Appendix B of this manual.

7.3 Balance Calculation

7.3.1 Trimsheet



7.3.1.1 Trimsheet description

Trimsheet is designed in one blank (A4 Format). Refer to Appendix B for A319/A320 Trimsheets. Actual ZFM, TOM and LNM should be determined before balance calculation.

Trimsheet consists of:

1. Aircraft Layout (showing passenger cabin sections and numbering of cargo compartments)
2. Index Table for Cargo Compartments
3. Index Table for Passenger Cabin
4. Fuel Index Table
5. Flight details
6. Aircraft maximum mass limitations
7. Index Calculation Table
8. A Balance Diagram with forward and aft operational margins for take-off, landing and zero fuel.
9. Actual flight MACs at ZFM,TOM, LNM
10. Stabilizer Trim Settings

7.3.1.2 Instructions for use

1. Insert rounded DOI (from DOM/DOI table for each specific aircraft registry) in the Index Calculation Table.

Index Calculation Table		
	(-)	(+)
DOI		59

2. Determine the index change for Cargo Compartments load. Insert the index for each cargo compartment in the Index Calculation Table. Determine Deadload Index (DLI).

Load In Lower Compartments Index Table

CMPT 1				CMPT 3		CMPT 4		CMPT 5	
FWD Cmpt **1** = 3402 kg				AFT Cmpt **3** = 2426 kg		AFT Cmpt **4** = 2110 kg		AFT Cmpt **5** = 1497 kg	
TOTAL FWD CMPT = 3402 kg				**TOTAL AFT CMPT = 6033 kg**					
Mass	Index	Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-78	0	1792-1946	- 12	0-125	0	0-67	0	0-48	0
79-234	- 1	1947-2102	- 13	126-374	+ 1	68-202	+ 1	49-143	+ 1
235-389	- 2	2103-2258	- 14	375-623	+ 2	203-337	+ 2	144-239	+ 2
390-545	- 3	2259-2413	- 15	624-873	+ 3	338-472	+ 3	240-334	+ 3
546-701	- 4	2414-2569	- 16	874-1122	+ 4	473-607	+ 4	335-430	+ 4
702-856	- 5	2570-2725	- 17	1123-1371	+ 5	608-742	+ 5	431-525	+ 5
857-1012	- 6	2726-2880	- 18	1372-1620	+ 6	743-877	+ 6	526-621	+ 6
1013-1168	- 7	2881-3036	- 19	1621-1869	+ 7	878-1012	+ 7	622-716	+ 7
1169-1324	- 8	3037-3192	- 20	1870-2119	+ 8	1013-1147	+ 8	717-812	+ 8
1325-1479	- 9	3193-3348	- 21	2120-2368	+ 9	1148-1282	+ 9	813-907	+ 9
1480-1635	- 10	3349-**3402**	- 22	2369-**2426**	+ 10	1283-1417	+ 10	908-1003	+ 10
1636-1791	- 11					1418-1552	+ 11	1004-1098	+ 11
						1553-1687	+ 12	1099-1194	+ 12
						1688-1822	+ 13	1195-1289	+ 13
						1823-1957	+ 14	1290-1385	+ 14
						1958-2092	+ 15	1386-1480	+ 15
						2093-**2110**	+16	1481-**1497**	+16

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index

	(-)	(+)
DOI		59
CMPT 1	13	
CMPT 3		7
CMPT 4		8
CMPT 5		2
TOTAL	13	17
	(-)	13
DLI	=	63

3. Determine the index change for Passenger Cabin load. Insert the index for each Passenger Cabin in the Index Calculation Table.

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
1-2	-1	32	-18	0-6	0	1	1	31-32	22
3-4	-2	33-34	-19	7-18	1	2-3	2	33	23
5	-3	35-36	-20	19-29	2	4	3	34-35	24
6-7	-4	37-38	-21	30-41	3	5-6	4	36	25
8-9	-5	39-40	-22	42-52	4	7	5	37-38	26
10-11	-6	41	-23	53-**60**	5	8-9	6	39	27
12-13	-7	42-43	-24			10	7	40	28
14	-8	44-45	-25			11-12	8	41-42	29
15-16	-9	46-47	-26			13	9	43	30
17-18	-10	48-49	-27			14	10	44-45	31
19-20	-11	50	-28			15-16	11	46	32
21-22	-12	51-52	-29			17	12	47-48	33
23	-13	53-54	-30			18-19	13	49	34
24-25	-14	55-56	-31			20	14	50-51	35
26-27	-15	57-58	-32			21-22	15	52	36
28-29	-16	59-**60**	-33			23	16	53	37
30-31	-17					24-25	17	54-55	38
						26	18	56	39
						27	19	57-58	40
						28-29	20	59-**60**	41
						30	21		

NOTE: In C8Y168 configuration seats 1B, 1E, 2B, 2E are blocked and not used.

DLI	=	63
Cabin 0A	28	
Cabin 0B		4
Cabin 0C		35
TOTAL	28	39
	(-)	28
LI ZFM	=	74
MAC ZFM	=	34.5%

4. Calculate **LI ZFM** in the Index Calculation Table. Draw vertical line on the Balance Diagram according to calculate LI ZFM. Find the “Actual Zero Fuel Mass” on the vertical scale. The intersection of these 2 lines will be the CG (%MAC) at ZFM. Insert MAC ZFM in the Index Calculation Table.

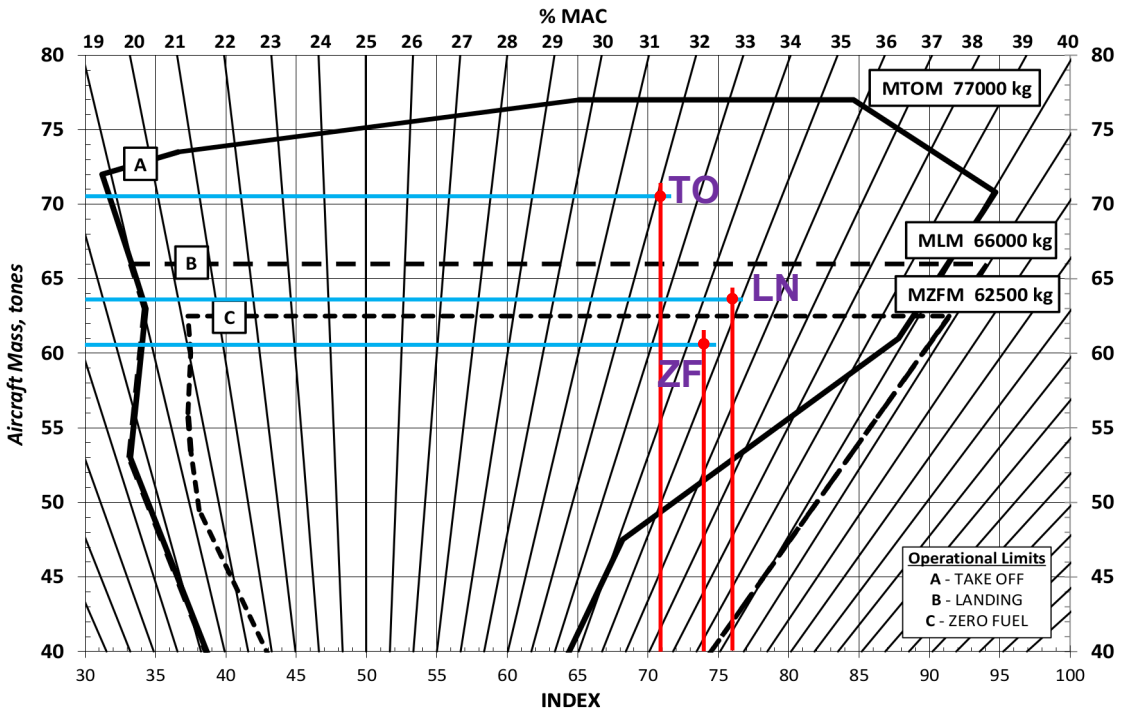
5. Determine the index change due to Fuel Load from Fuel Index Table and insert it in the Index Calculation Table. Calculate **LI TOM** in the Index Calculation Table. Draw vertical line on the Balance Diagram according to calculate LI TOM. Find the “Actual Takeoff Mass” on the vertical scale. The intersection of these 2 lines will be the CG (%MAC) at TOM. Insert MAC TOM in the Index Calculation Table.

Fuel Index Table	
Mass	Index
0-942	+ 1
943-2010	+ 3
2011-3140	+ 2
3141-4082	+ 1
4083-5024	+ 0
5025-6280	- 1
6281-7850	- 2
7851-11304	- 3
11305-13188	- 2
13189-13816	- 3
13817-14444	- 4
14445-15072	- 5
15073-15700	- 6
15701-16328	- 7
16329-17270	- 8
17271-17898	- 9
17899-18526	- 10
18527-**18730**	- 11

LI ZFM		7	4
T/O Fuel	+ (-)		3
LI TOM	=	7	1
MAC TOM	=	32.1	%
LI ZFM			
LMC	+ / -		
Corrected LI ZFM			
T/O Fuel	+ / -		
Corrected LI TOM			
Corr. MAC TOM			%
LI ZFM		7	4
Lnd. Fuel	(+)/ -		2
LI LNM	=	7	6
MAC LNM	=	34.8	%

6. Insert any Index corrections due to Last Minute Changes (LMCs) in the Index Calculation Table.

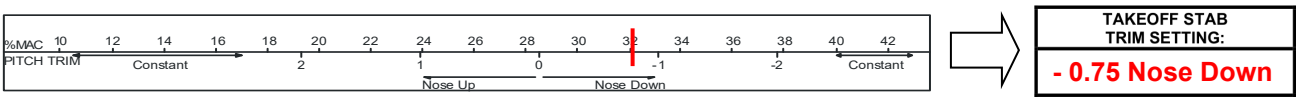
7. Determine the index change due to Fuel Consumption from Fuel Index Table and insert Landing Fuel Index in the Index Calculation Table. Calculate **LI LNM** in the Index Calculation Table. Draw vertical line on the Balance Diagram according to calculate LI LNM. Find the “Actual Landing Mass” on the vertical scale. The intersection of these 2 lines will be the CG (%MAC) at LNM. Insert MAC LNM in the Index Calculation Table.



The intersections should be read in %MAC and are as following:

ZFM = 34.5 %
TOM = 32.1 %
LAM = 34.8 %

8. Takeoff Stabilizer Trim Settings are determined using actual MAC TOM and diagram at the bottom of the Trimsheet (Stabilizer Trim Settings). The obtained value is inserted in the box on the right.



7.3.2 Certified and operational CG limits

The certified center of gravity limits are given by airplane manufacturer. The operational CG limits envelope is tighter than the certified CG limits envelope, due to lack of precision either on item mass or on its location. Also an inaccuracy exists due to fuel consumptions, passengers' in-flight movements and flaps, slats and gears movements during all flight phases.

7.3.3 Last Minute Changes (LMC)

For general procedures applicable for all HiSky airplanes refer to Chapter 6.3.7 Last Minute Changes Procedures of this manual.

7.3.3.1 Mass influence

The maximum allowed combination of mass changes acceptable as a Last Minute Change for **A320** aircraft is **400 kg** or **4 passengers** with their baggage, for **A321** aircraft is **500 kg** or **5 passengers**.
In case of total LMC mass or quantity exceeds these limitations a new Loadsheet shall be issued.

7.3.3.2 Balance influence

Balance influence is considered negligible while the LMC does not exceed the limits described in Chapter 7.3.1.1 Mass Influence.

7.3.3.3 Responsibilities

All the responsibilities are described in Chapter 6.3.7 Last Minute Changes Procedures of this manual.

7.3.4 Standard passenger and crew masses

For passenger and crew masses refer to Chapter 6.3.1 Crew Masses and 6.3.2 Passenger Masses.

7.4 Cabin

7.4.1 General

HiSky A319/A320 aircraft have the following number of seats / configurations:

Type	Reg. Nr.	MSN	Nr. of seats	Basic configuration	Additional configurations
A320	**YR-SKY**	4493	180 seats	**Y180**	C8Y168 (C12Y168) C12Y162 (C18Y162)
A320	**YR-BEE**	6223	180 seats	**Y180**	C8Y168 (C12Y168) C12Y162 (C18Y162)
A320	**YR-JOY**	6513	180 seats	**Y180**	C8Y168 (C12Y168) C12Y162 (C18Y162)
A320	**YR-SUN**	6278	180 seats	**Y180**	C8Y168 (C12Y168) C12Y162 (C18Y162)
A321	**YR-WOW**	10928	220 seats	**Y220**	C8Y208 (C12Y208) C12Y202 (C18Y202)
A321	**YR-WIN**	10948	220 seats	**Y220**	C8Y208 (C12Y208) C12Y202 (C18Y202)

NOTE: In configuration C8Y168 seats 1B, 1E, 2B, 2E are blocked and not used.
In configuration C12Y162 seats 1B, 1E, 2B, 2E, 3B, 3E are blocked and not used.

7.4.2 Interior arrangement

Cabin layout description A320

Rows **12** and **13** are **emergency exit rows**. NOT to be allocated to incapacitated passengers, unaccompanied minors, children, passengers with infants.

Seats for **passengers with infants**: 1-10C, 1-10D, 15-30C, 15-30D.

Rows for **unaccompanied minors**: 1, 2, 3, 4, 5, 6, 7.

Seats for **passengers with reduced mobility (PRM)**: 1-10A, 1-10F.

Cabin layout description A321

Rows **18, 27** and seats **28A**, **28F** are **emergency exit row seats**. NOT to be allocated to incapacitated passengers, unaccompanied minors, children, passengers with infants.

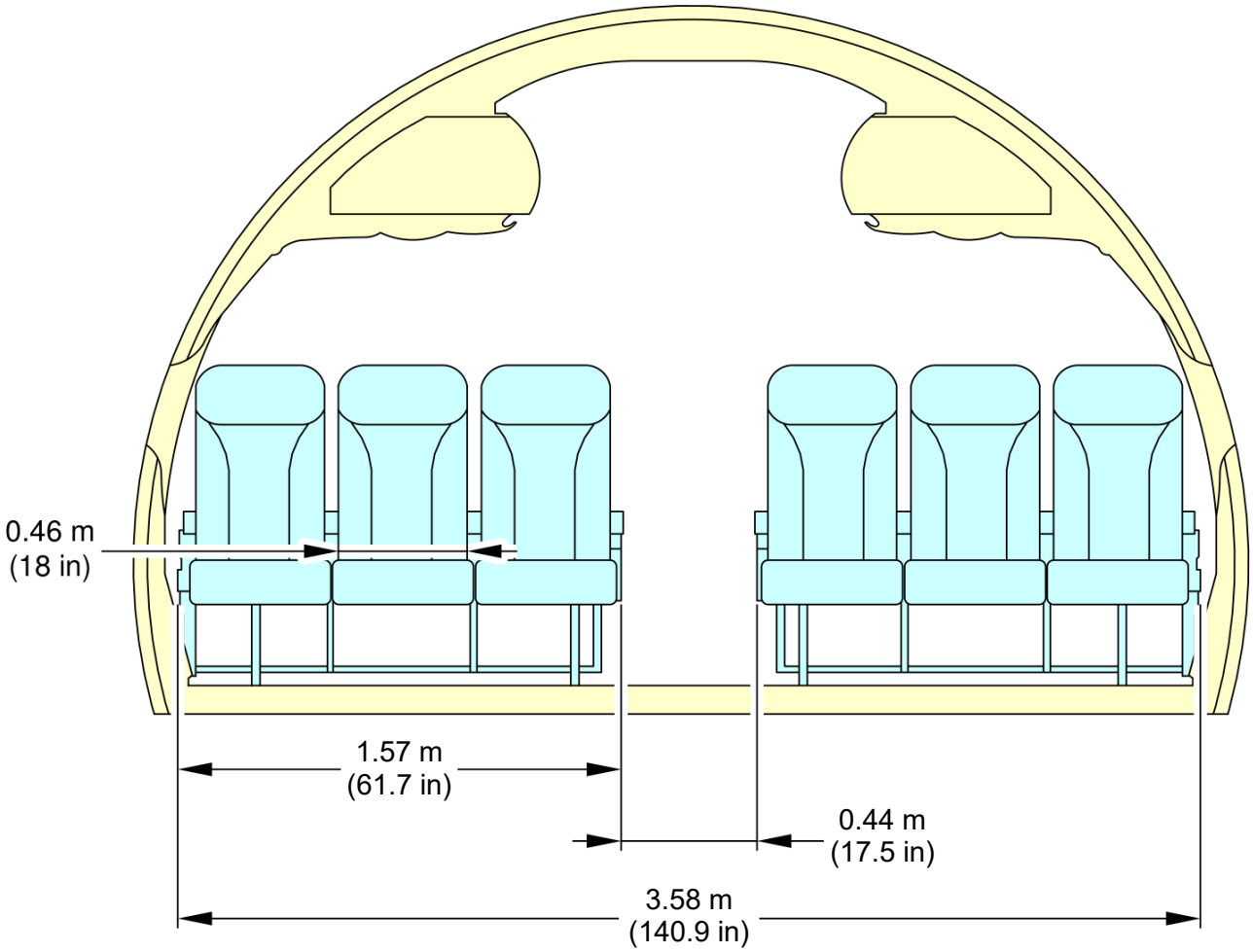
Seats for **passengers with infants**: 1-17A, 1-17F, 20-26A, 20-26F, 29-36A, 29-37F.

Rows for **unaccompanied minors**: 1, 2, 3, 4, 5, 6, 7, 8, 9.

Seats for **passengers with reduced mobility (PRM)**: 1-17A, 1-17F.

Refer to Chapter 1.1.7.1 of this manual for special seating requirements in rows 1-2 in case of full economy configurations on A320/A321.

7.4.3 Cabin cross section



7.4.4 Maximum cabin capacity

Seats, seat belts, oxygen masks and life vests limit the cabin capacity. The maximum cabin capacity is shown in the table below:

Aircraft Registry / Category	**YR-SKY** A320 (MSN4493)	**YR-BEE** A320 (MSN6223)	**YR-JOY** A320 (MSN6513)	**YR-SUN** A320 (MSN6278)	**YR-WOW** A321 (MSN10928)	**YR-WIN** A321 (MSN10948)
	Quantity					
Pilots	3	4	4	4	4	4
Cabin attendants	4	5	5	5	7	7
Adults / Children	180	180	180	180	220	220
Infants	18	18	18	18	22	22

Passengers with infants can be seated only on seats with additional oxygen masks.

7.5 Cargo compartments

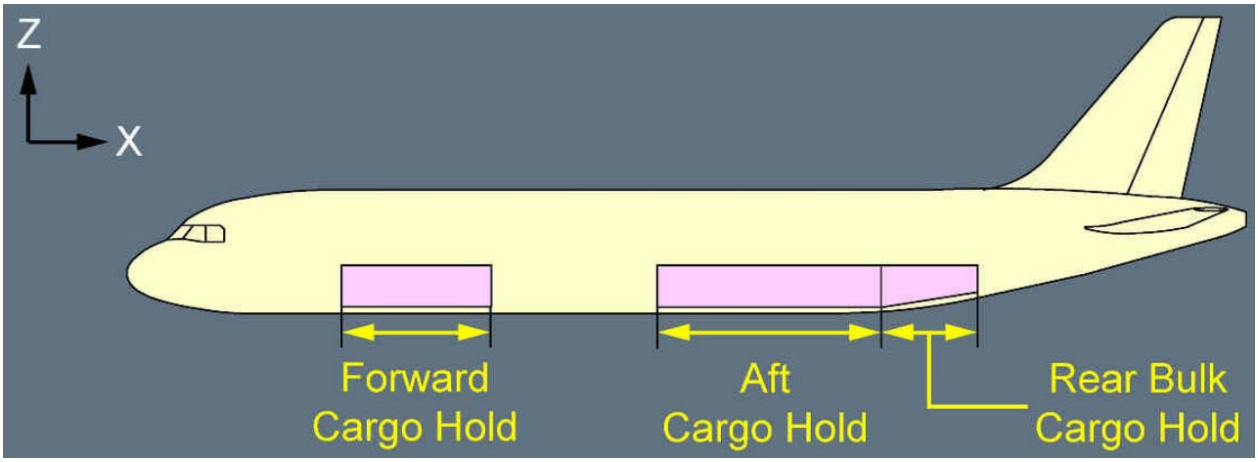
7.5.1 General

Airbus A320

The aircraft is equipped with two holds, which are located below the main deck. One forward and one aft of the centre-section. For load planning the aft hold is divided into three compartments. The numbering is:

FWD Location: Compartment **1**
AFT Location: Compartments **3, 4, 5**

Aircrafts are equipped with three electrically operated doors enabling direct access in compartments.

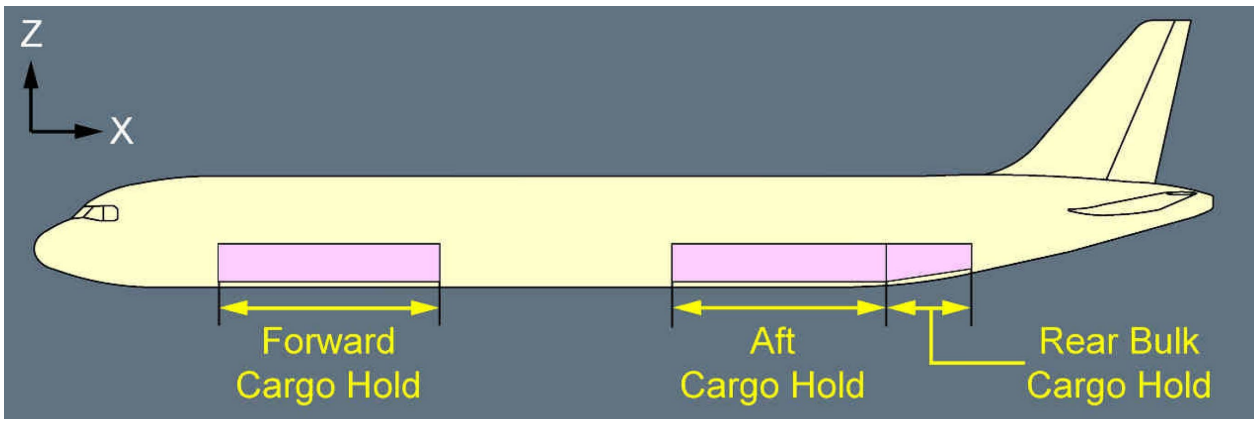


Airbus A321

The aircraft is equipped with two holds, which are located below the main deck. One forward and one aft of the centre-section. For load planning the aft hold is divided into three compartments. The numbering is:

FWD Location: Compartment **1, 2**
AFT Location: Compartments **3, 4, 5**

Aircrafts are equipped with three electrically operated doors enabling direct access in compartments.



HiSky operates A320/A321 aircraft in bulk configuration only (i.e. Not equipped for Containers/Pallets).

7.5.2 Floor loading limits

STRUCTURE
The floor structure can sustain the following load on the flat and sloped floor:

Distributed Load via floor panels	**732** kg/m²

The distributed load limit is the maximum weight acceptable on the area delimited by the external contour of the contact points between the load and the floor.

PANELS
Each floor panel can sustain the following loads:

	Local Load kg/0.093m²	Point Load kg/cm²
On the flat floor	906	6.6
On the sloped floor	906	6.6

The local load limit is the maximum weight acceptable on any floor panel area of 0.093 m² that will not lead to permanent deformations.
The point load limit is the maximum weight acceptable on any unit of surface of the floor panel that will not lead to puncture of the panel.

7.5.3 Cargo compartments characteristics

Airbus A320

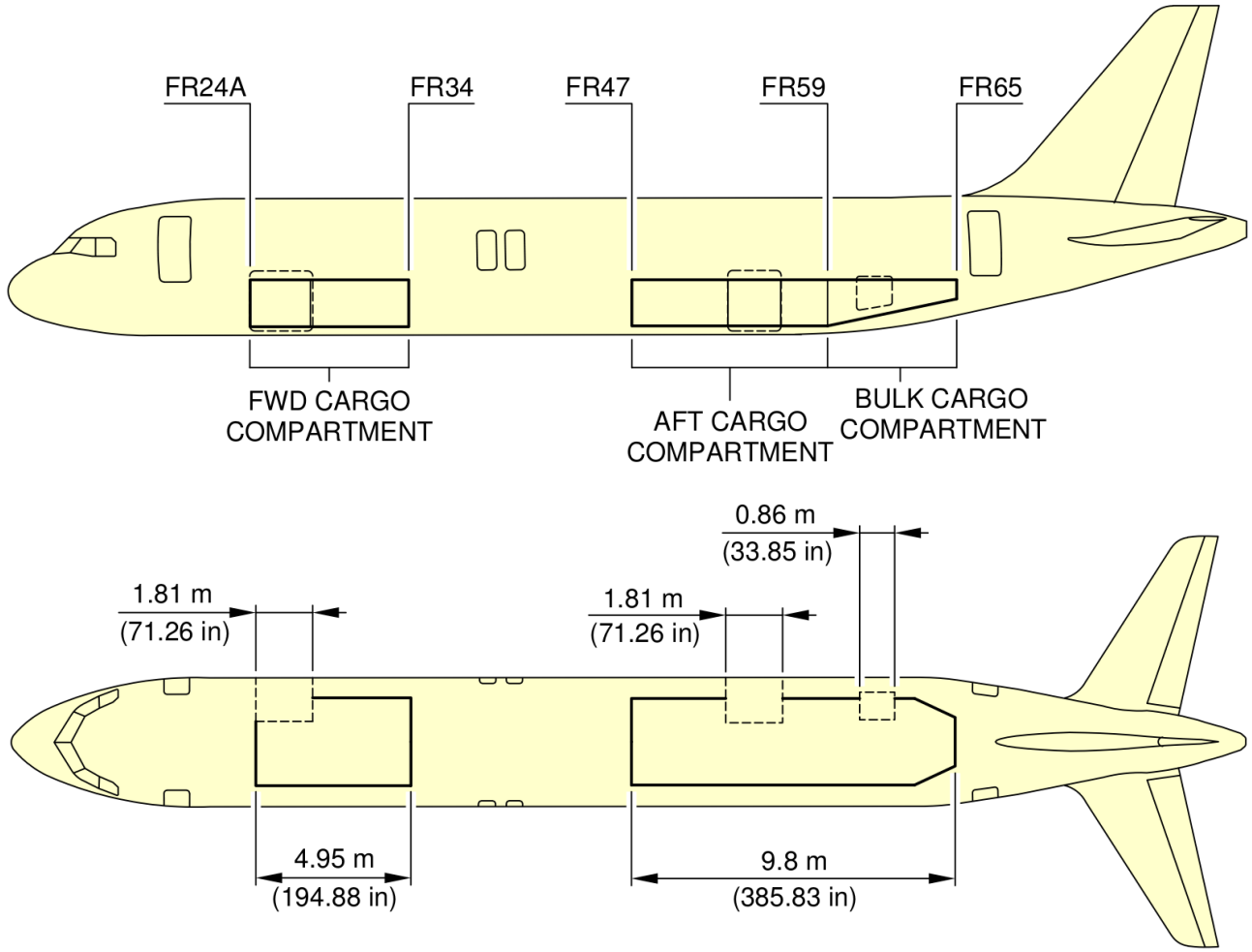
	CMP **1**	CMP **3**	CMP **4**	CMP **5**
Maximum masses (kg)	3402	2426	2110	1497
Maximum masses per section (kg)	11: 1045 12: 1225 13: 1132	31: 1301 32: 1125	41: 928 42: 1182	51: 374 52: 353 53: 770
Volume (m³)	13.30	9.76	8.54	5.92
Restraint capacity of tie-down points (kg)	906			

Airbus A321

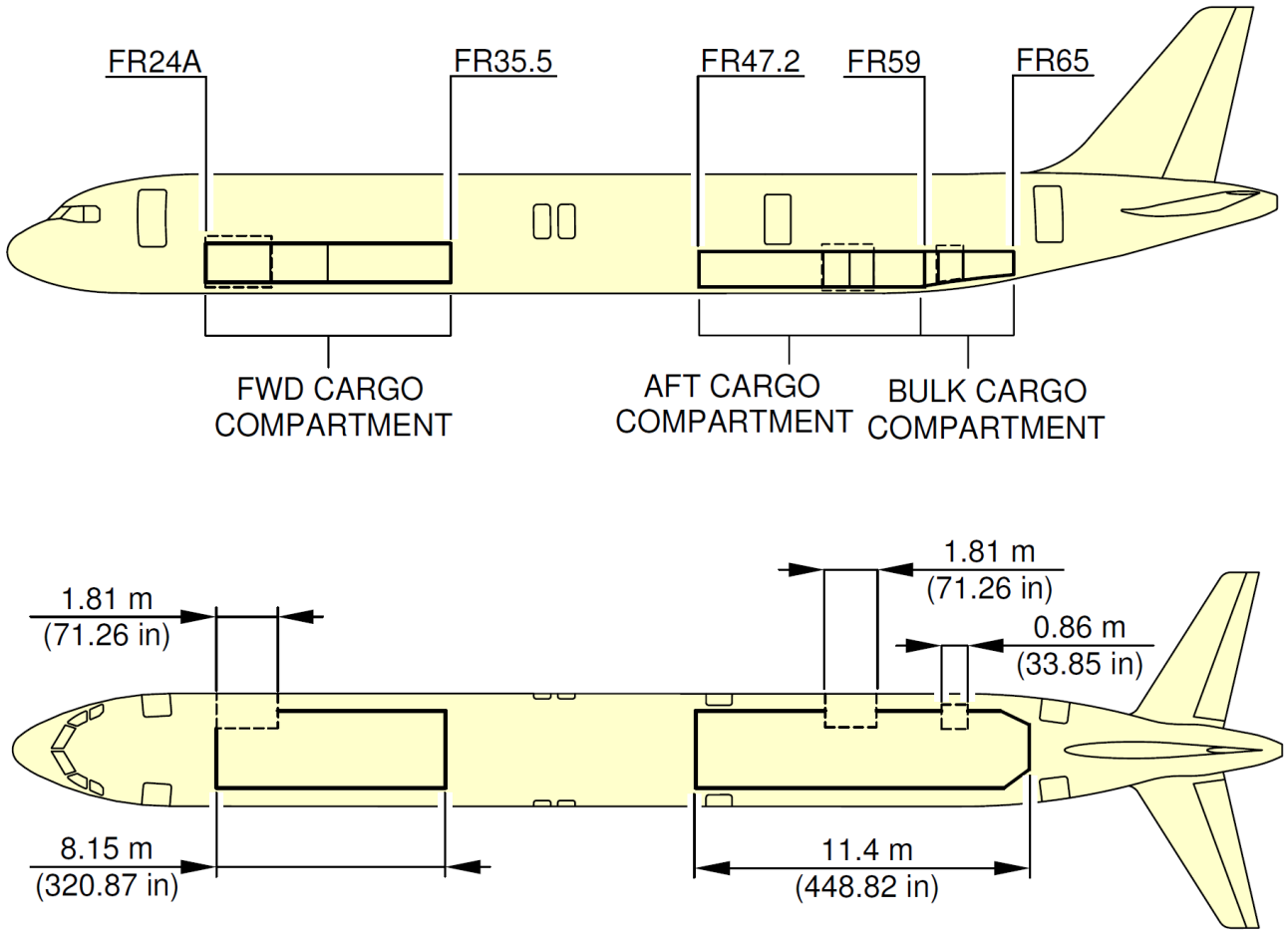
	CMP **1**	CMP **2**	CMP **3**	CMP **4**	CMP **5**
Maximum masses (kg)	2202	1793	1121	2083	972
Maximum masses per section (kg)	11: 1013 12: 1189	21: 1189 22: 604 23: ACT FWD	31: ACT AFT1 32: ACT AFT2 33: 1121	41: 919 42: 1164	51: 374 52: 187 53: 411
Volume (m³)	8.91	7.28	4.76	8.54	5.92
Restraint capacity of tie-down points (kg)	906				

7.5.4 Compartments dimensions / Net attachment and tie down points

Airbus A320



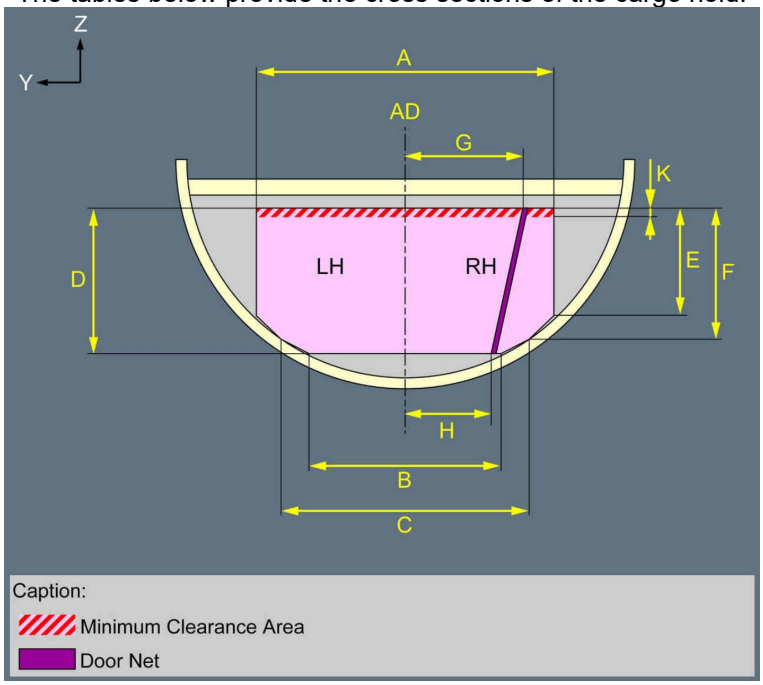
Airbus A321



LOADING COMBINATIONS OF FWD CARGO COMPARTMENT WITH 1 ACT INSTALLED AND AFT CARGO COMPARTMENT WITH 2 ACT INSTALLED

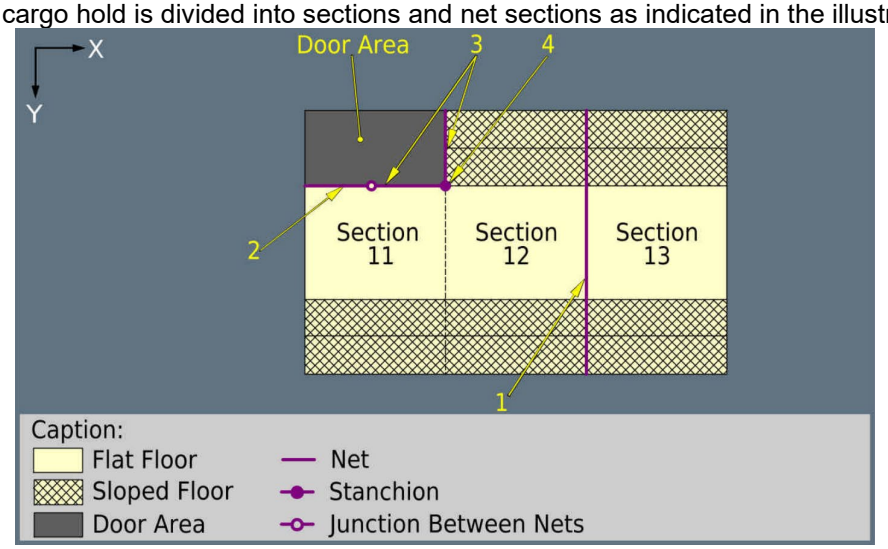
FWD CARGO HOLD / COMPARTMENT 1 / A320

The tables below provide the cross sections of the cargo hold.



H-ARM (m)	Dimensions (m)								
	A	B	C	D	E	F	G	H	K
9.858	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	0.051
11.633	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	0.051
14.708	2.630	1.430	2.098	1.242	0.797	1.065	-	-	0.051

The forward cargo hold is divided into sections and net sections as indicated in the illustration below.

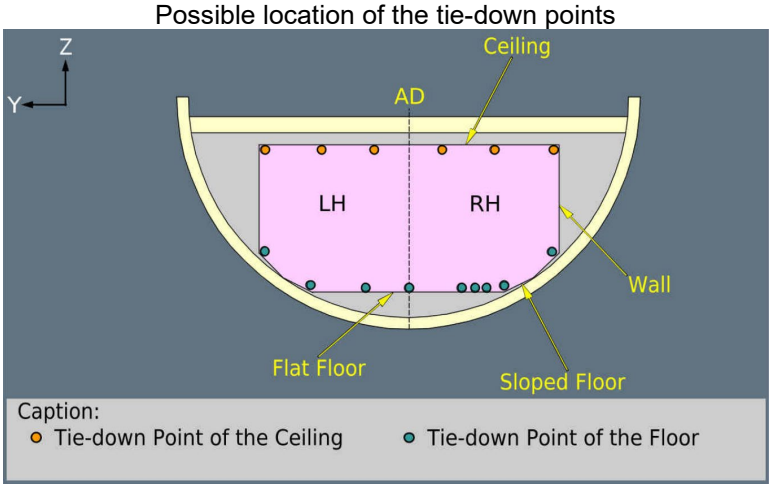


Legend	Related Net Type	Installation Requirement
1	Divider net type A2	Mandatory
2	Door net type C	Mandatory
3	Door net type A	Mandatory
4	Stanchion	Mandatory

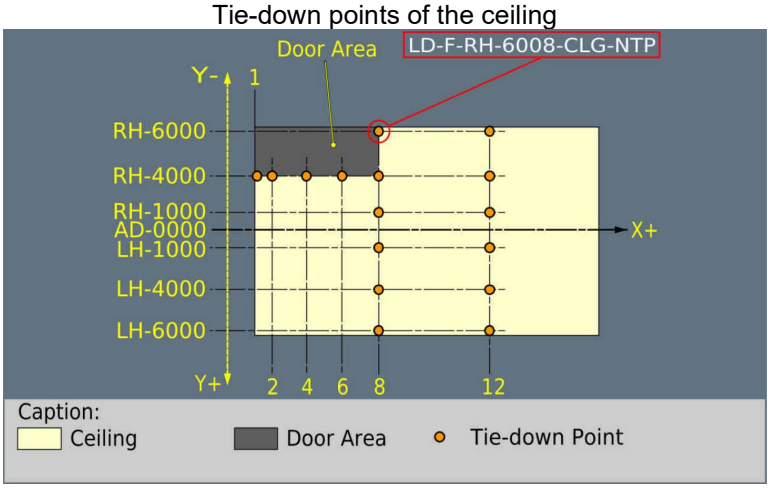
TIE-DOWN POINTS OF THE FORWARD CARGO HOLD / A320

The forward cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. To attach the nets, the operator uses the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. The tie-down points on the ceiling and the sloped floor are only dedicated to the installation of the nets. To restrain bulk items, the operator only uses the tie-down points on the flat floor that are not already used to attach the nets.

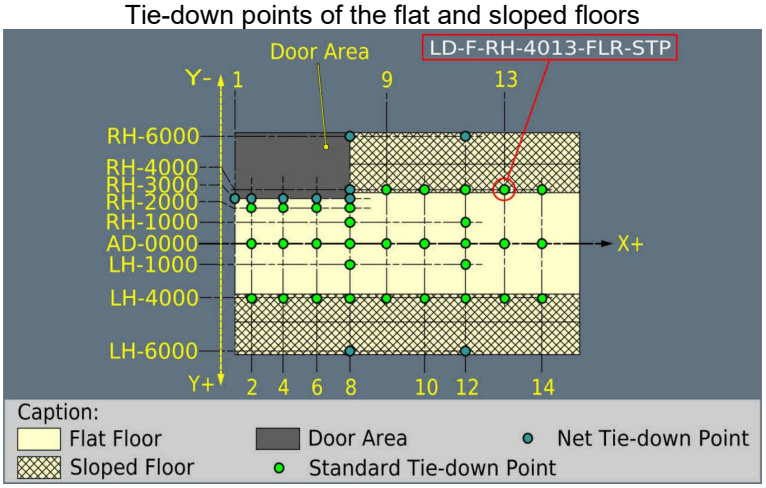
Possible location of the tie-down points



Tie-down points of the ceiling

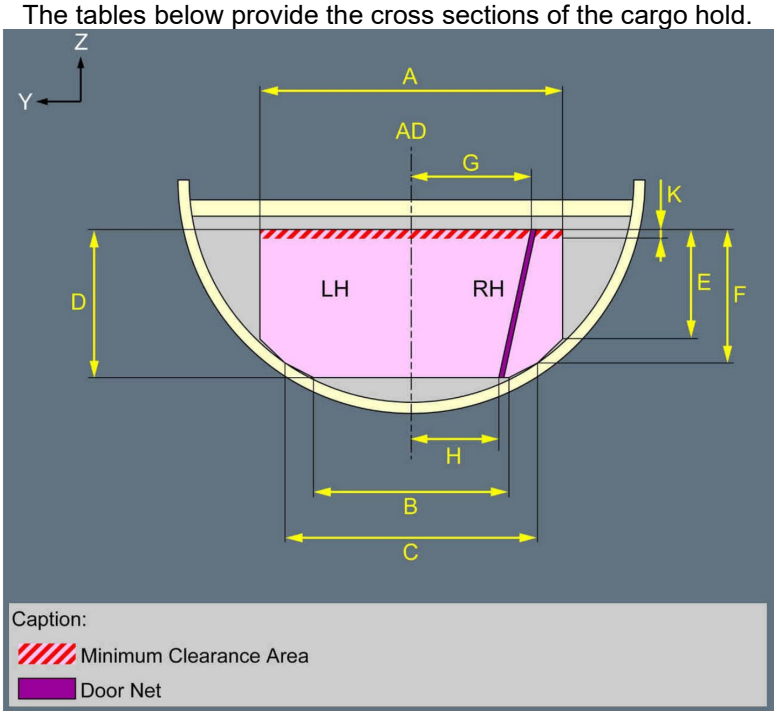


Tie-down points of the flat and sloped floors



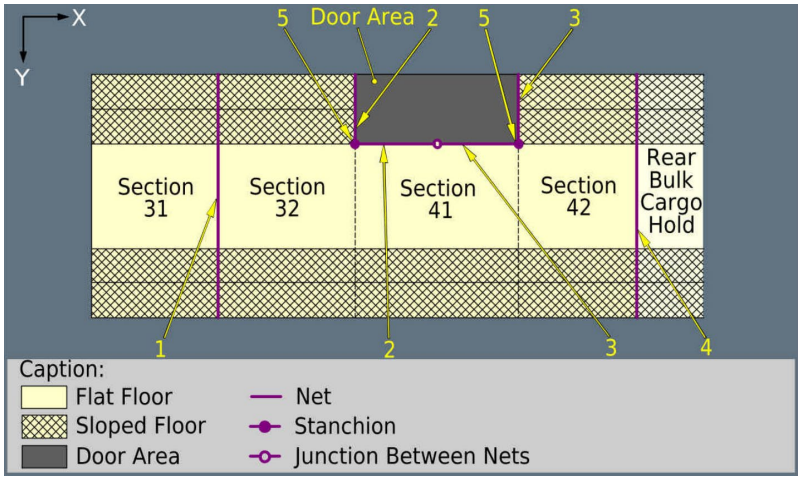
AFT CARGO HOLD / COMPARTMENT 3 AND 4 / A320

The tables below provide the cross sections of the cargo hold.



H-ARM (m)	Dimensions (m)								
	A	B	C	D	E	F	G	H	K
21.208	2.630	1.430	2.098	1.242	0.797	1.065	-	-	0.051
24.295	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	0.051
26.162	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	0.051
27.229	2.630	1.430	2.098	1.242	0.797	1.065	-	-	0.051
27.762	2.630	1.408	2.098	1.208	0.756	1.024	-	-	0.051

The aft cargo hold is divided into sections and net sections as indicated in the illustration below.

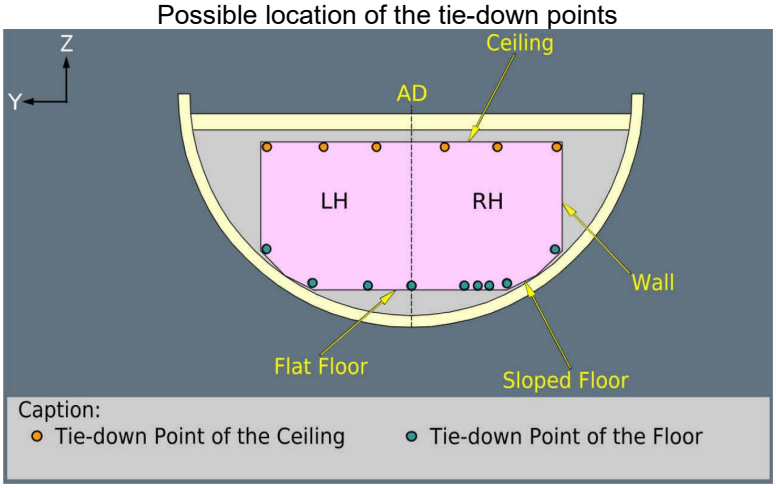


Legend	Related Net Type	Installation Requirement
1	Divider net type A2	Mandatory
2	Door net type B	Mandatory
3	Door net type A	Mandatory
4	Divider net type A1	Mandatory
5	Stanchion	Mandatory

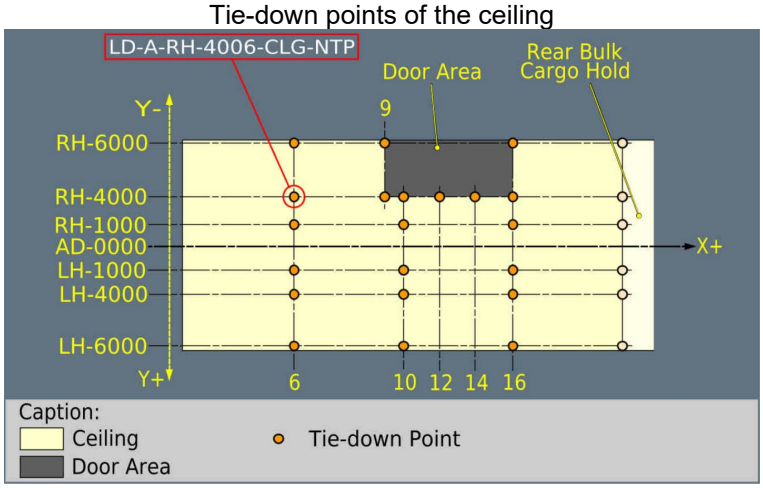
TIE-DOWN POINTS OF THE AFT CARGO HOLD / A320

The aft cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. To attach the nets, the operator uses the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. The tie-down points on the ceiling and the sloped floor are only dedicated to the installation of the nets. To restrain bulk items, the operator only uses the tie-down points on the flat floor that are not already used to attach the nets.

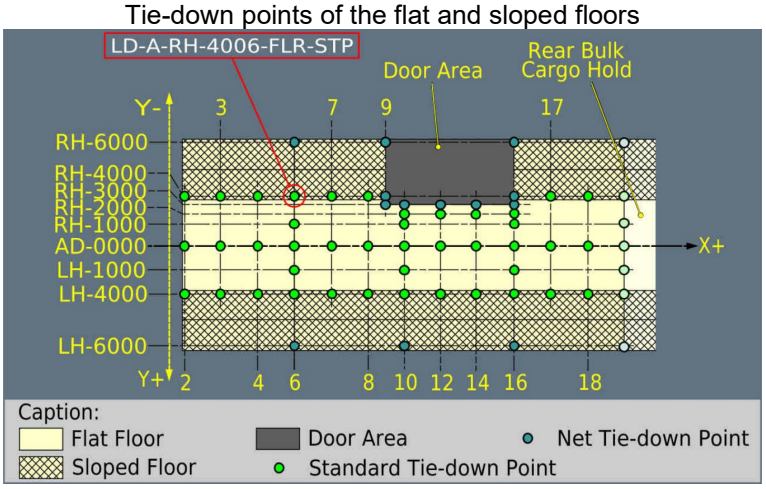
Possible location of the tie-down points



Tie-down points of the ceiling

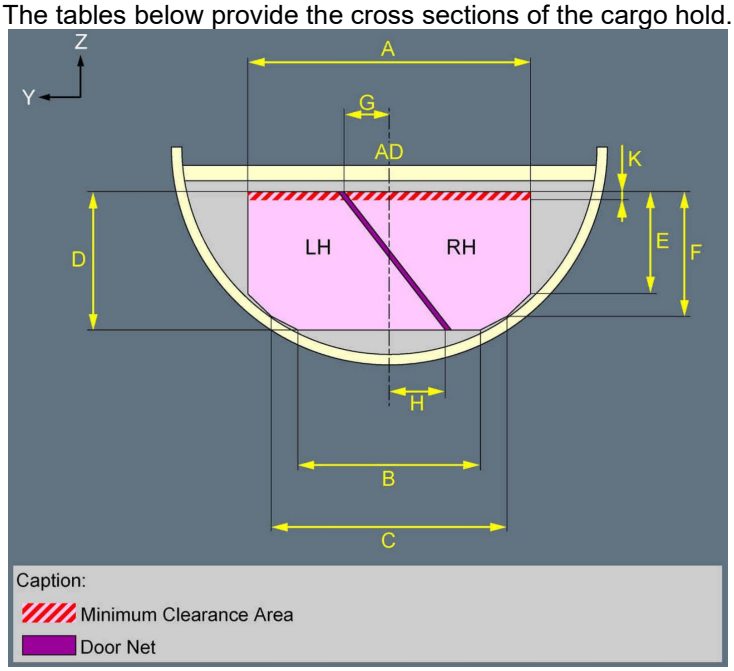


Tie-down points of the flat and sloped floors



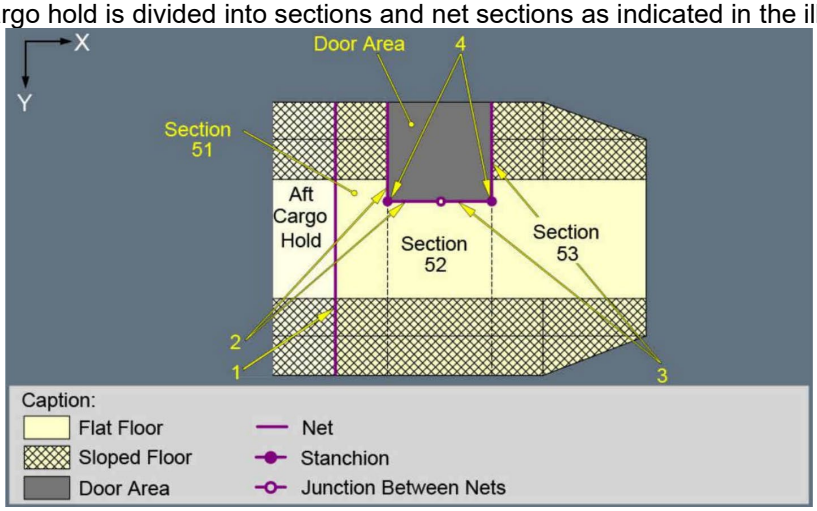
REAR BULK CARGO HOLD / COMPARTMENT 5 / A320

The tables below provide the cross sections of the cargo hold.



H-ARM (m)	Dimensions (m)								
	A	B	C	D	E	F	G	H	K
27.762	2.630	1.408	2.098	1.211	0.756	1.027	-	-	0.051
28.296	2.630	1.368	2.098	1.147	0.682	0.953	0.254	0.421	0.051
28.829	2.630	1.328	2.098	1.084	0.608	0.879	0.254	0.389	0.051
29.362	2.630	1.288	2.098	1.020	0.533	0.805	0.254	0.404	0.051
29.896	2.630	1.248	2.098	0.957	0.459	0.731	-	-	0.051
30.429	2.113	1.113	1.839	0.891	0.558	0.699	-	-	0.051
31.003	1.558	0.968	-	0.820	0.664	-	-	-	0.051

The rear bulk cargo hold is divided into sections and net sections as indicated in the illustration below.

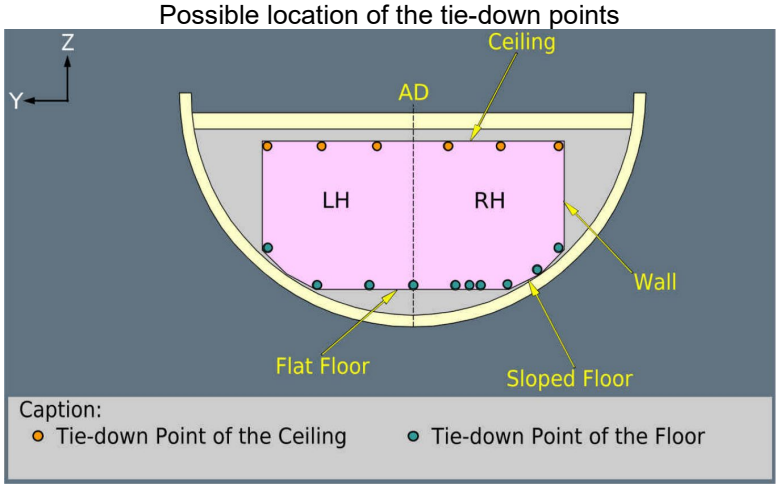


Legend	Related Net Type	Installation Requirement
1	Divider net type A1	Mandatory
2	Door net type E	Mandatory
3	Door net type D	Mandatory
4	Stanchion	Mandatory

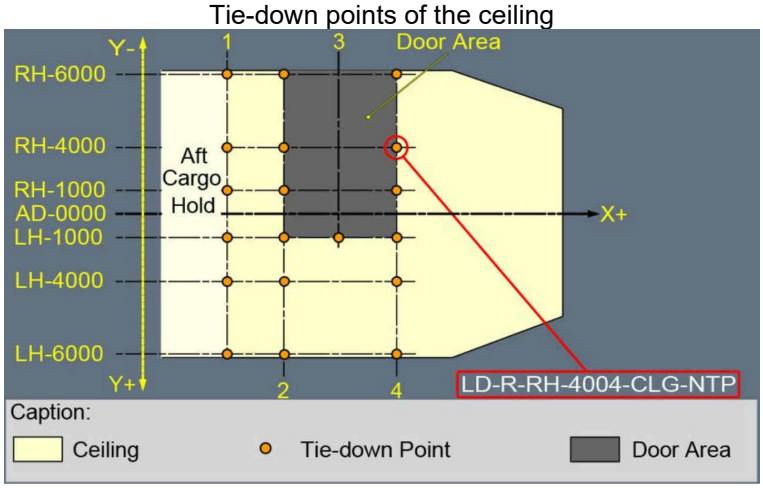
TIE-DOWN POINTS OF THE REAR BULK CARGO HOLD / A320

The rear bulk cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. To attach the nets, the operator uses the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. The tie-down points on the ceiling and the sloped floor are only dedicated to the installation of the nets. To restrain bulk items, the operator only uses the tie-down points on the flat floor that are not already used to attach the nets.

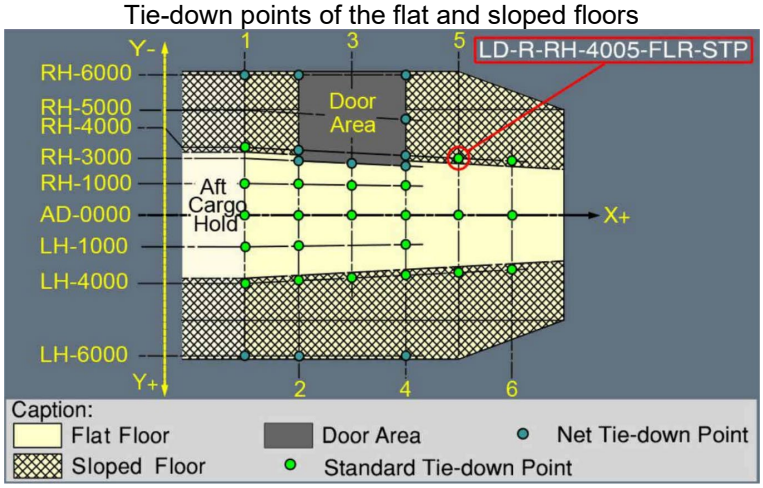
Possible location of the tie-down points



Tie-down points of the ceiling

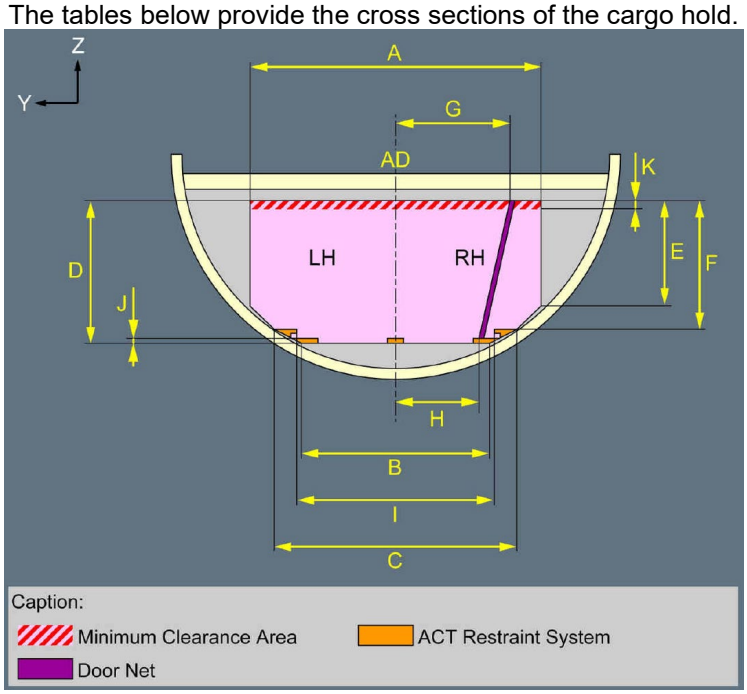


Tie-down points of the flat and sloped floors



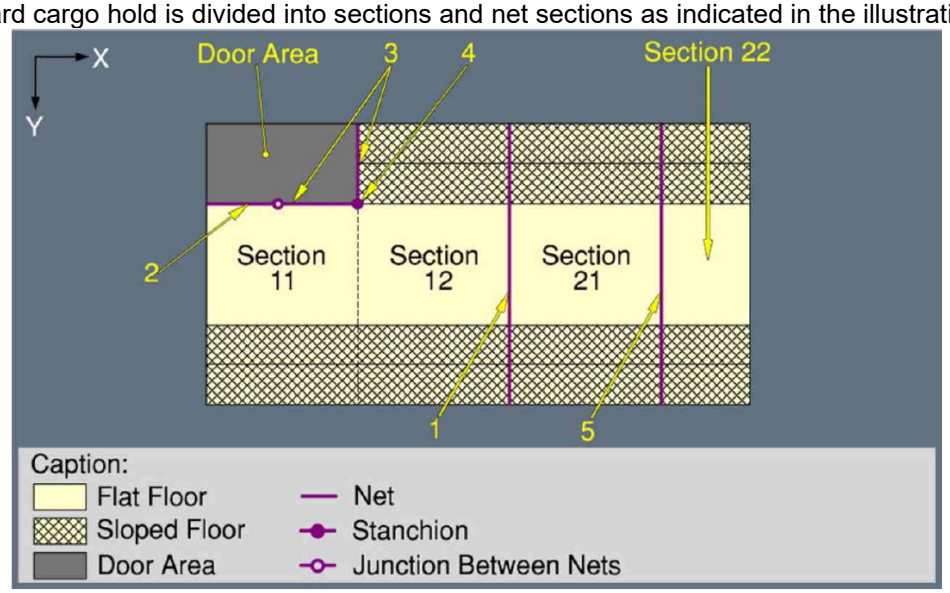
FWD CARGO HOLD / COMPARTMENT 1 AND 2 / A321 (ACT FWD INSTALLED)

The tables below provide the cross sections of the cargo hold.



H-ARM (m)	Dimensions (m)										
	A	B	C	D	E	F	G	H	I	J	K
9.858	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	-	-	0.051
11.633	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	-	-	0.051
15.367	2.630	1.430	2.098	1.242	0.797	1.065	-	-	1.520	0.035	0.051
17.908	2.630	1.430	2.098	1.242	0.797	1.065	-	-	1.520	0.035	0.051

The forward cargo hold is divided into sections and net sections as indicated in the illustration below.

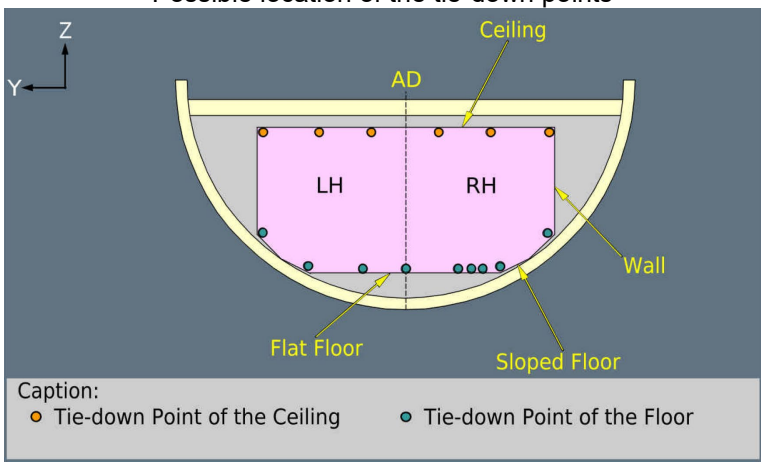


Legend	Related Net Type	Installation Requirement
1	Divider net type A2	Mandatory
2	Door net type C	Mandatory
3	Door net type A	Mandatory
4	Stanchion	Mandatory
5	Divider net type A2	Mandatory

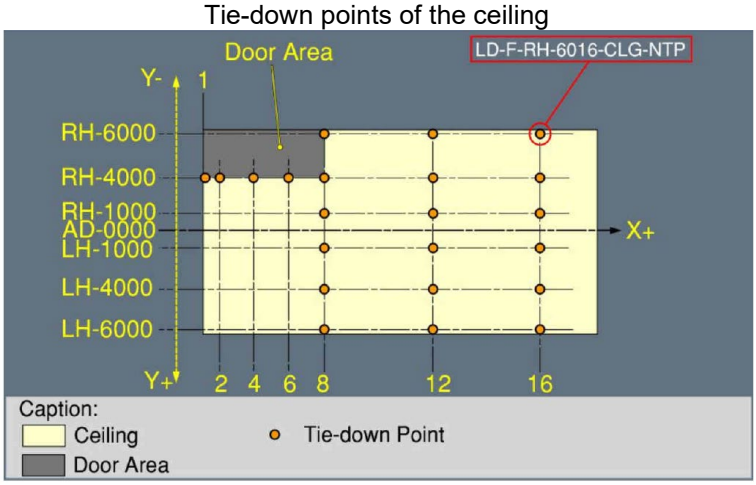
TIE-DOWN POINTS OF THE FORWARD CARGO HOLD / A321

The forward cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. To attach the nets, the operator uses the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. The tie-down points on the ceiling and the sloped floor are only dedicated to the installation of the nets. To restrain bulk items, the operator only uses the tie-down points on the flat floor that are not already used to attach the nets.

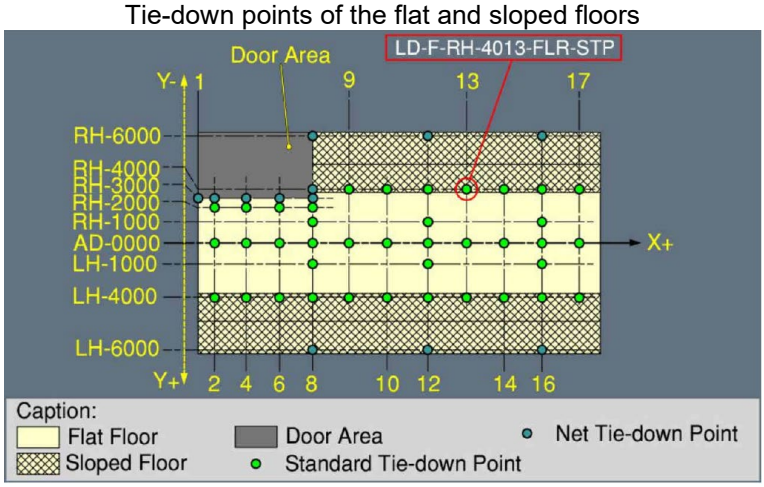
Possible location of the tie-down points



Tie-down points of the ceiling

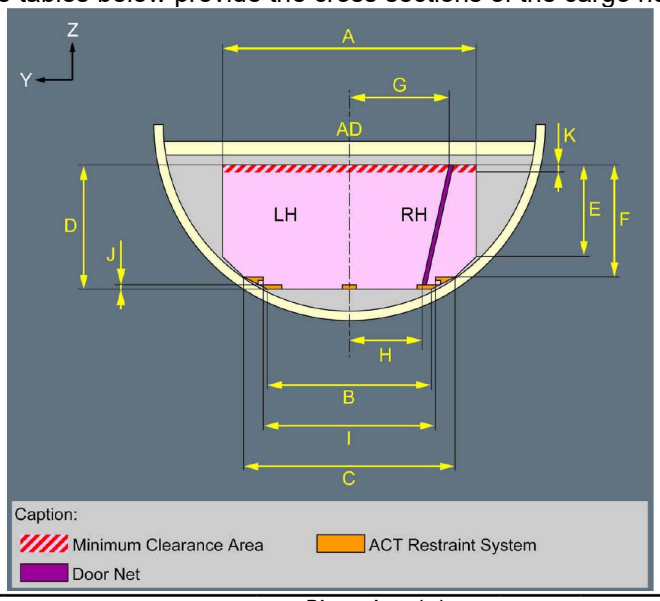


Tie-down points of the flat and sloped floors



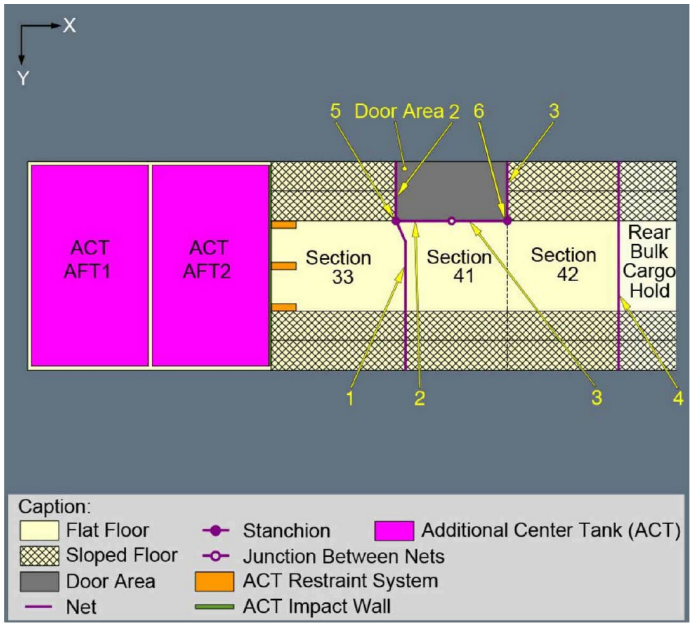
AFT CARGO HOLD / COMPARTMENT 3 AND 4 / A321 (ACT AFT1 AND ACT AFT2 INSTALLED)

The tables below provide the cross sections of the cargo hold.



H-ARM (m)	Dimensions (m)										
	A	B	C	D	E	F	G	H	I	I	K
29.817	2.630	1.430	2.098	1.242	0.797	1.065	-	-	1.520	0.035	0.051
30.488	2.630	1.430	2.098	1.242	0.797	1.065	-	-	1.520	0.035	0.051
31.229	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	-	-	0.051
33.096	2.630	1.430	2.098	1.242	0.797	1.065	0.765	0.577	-	-	0.051
34.163	2.630	1.430	2.098	1.242	0.797	1.065	-	-	-	-	0.051
34.696	2.630	1.408	2.098	1.208	0.756	1.024	-	-	-	-	0.051

The forward cargo hold is divided into sections and net sections as indicated in the illustration below.

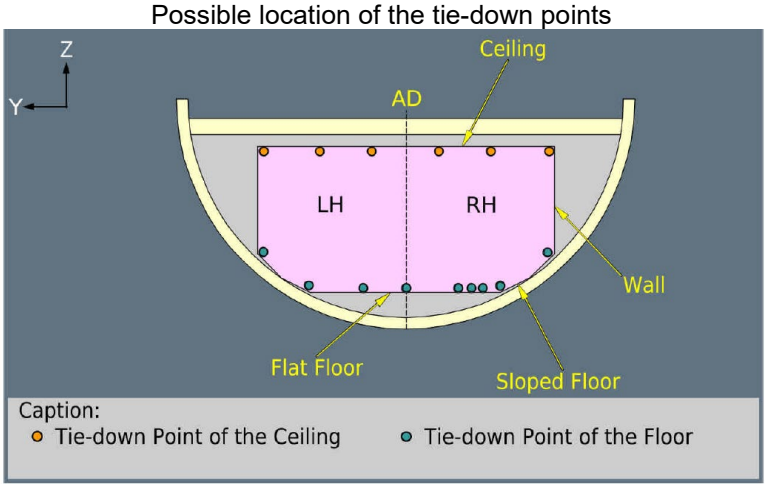


Legend	Related Net Type	Installation Requirement
1	Divider net type C	Mandatory
2	Door net type B	Mandatory
3	Door net type A	Mandatory
4	Divider net type A1	Mandatory
5	Stanchion	Mandatory
6	Stanchion	Mandatory

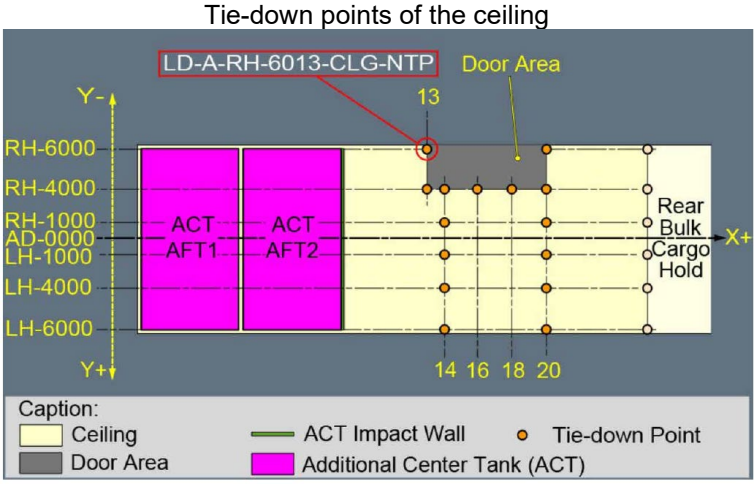
TIE-DOWN POINTS OF THE AFT CARGO HOLD / A321

The forward cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. To attach the nets, the operator uses the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. The tie-down points on the ceiling and the sloped floor are only dedicated to the installation of the nets. To restrain bulk items, the operator only uses the tie-down points on the flat floor that are not already used to attach the nets.

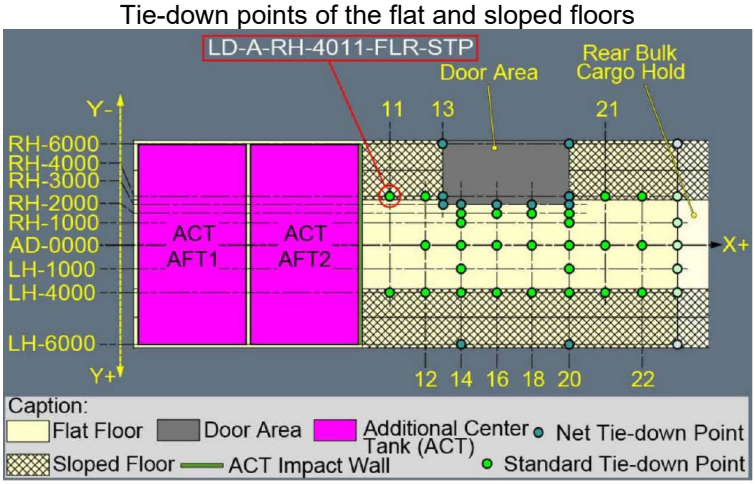
Possible location of the tie-down points



Tie-down points of the ceiling

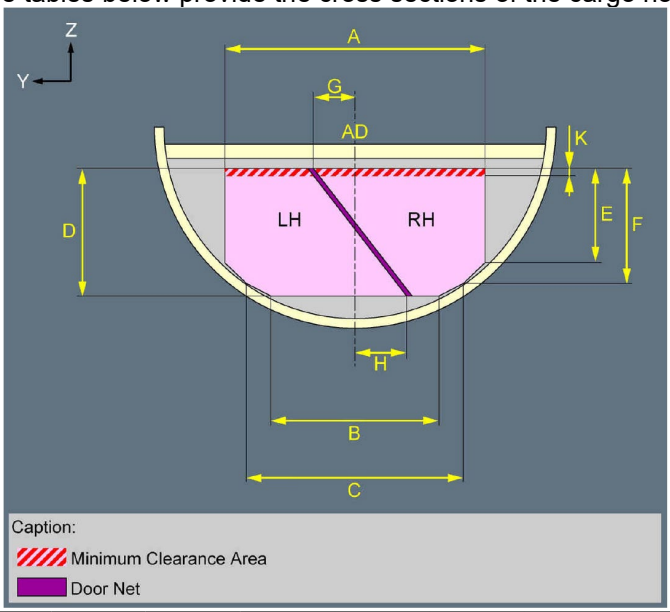


Tie-down points of the flat and sloped floors



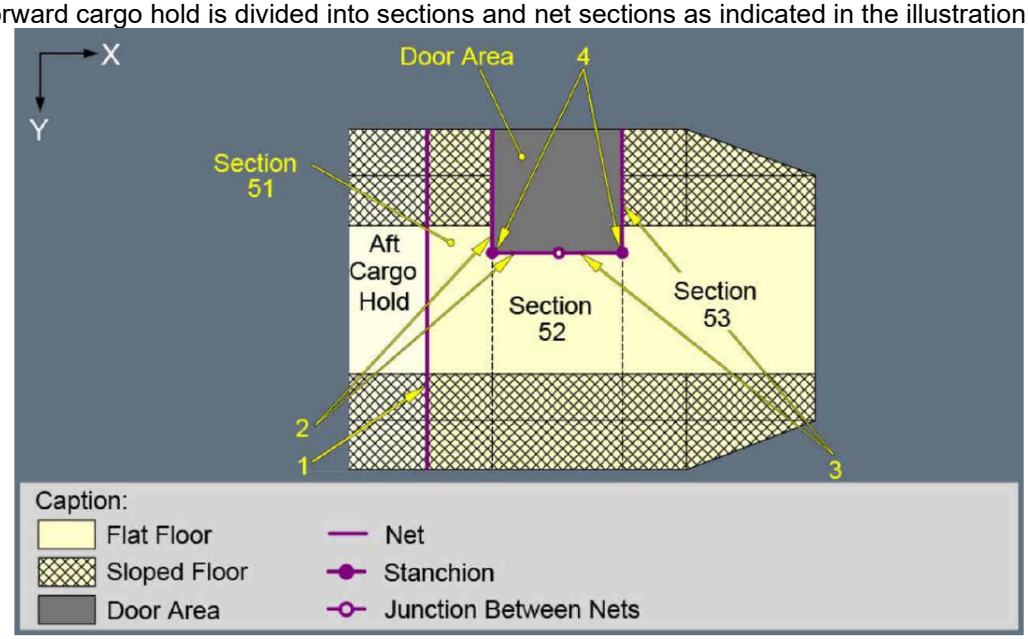
REAR BULK CARGO HOLD / COMPARTMENT 5 / A321 (ACT AFT1 AND ACT AFT2 INSTALLED)

The tables below provide the cross sections of the cargo hold.



H-ARM (m)	Dimensions (m)								
	A	B	C	D	E	F	G	H	K
34.696	2.630	1.408	2.098	1.211	0.756	1.027	-	-	0.051
35.230	2.630	1.368	2.098	1.147	0.682	0.953	0.254	0.421	0.051
35.763	2.630	1.328	2.098	1.084	0.608	0.879	0.254	0.389	0.051
36.297	2.630	1.288	2.098	1.020	0.533	0.805	0.254	0.404	0.051
36.830	2.630	1.248	2.098	0.957	0.459	0.731	-	-	0.051
37.363	2.113	1.113	1.839	0.891	0.558	0.699	-	-	0.051
37.938	1.558	0.968	-	0.820	0.664	-	-	-	0.051

The forward cargo hold is divided into sections and net sections as indicated in the illustration below.

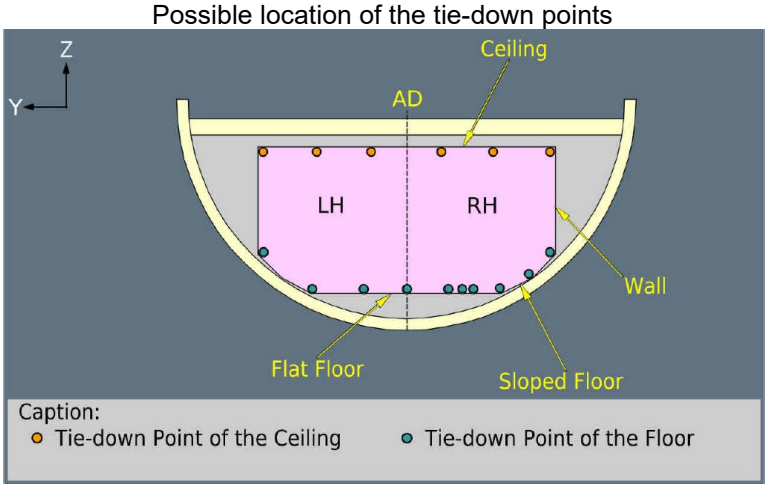


Legend	Related Net Type	Installation Requirement
1	Divider net type A1	Mandatory
2	Door net type E	Mandatory
3	Door net type D	Mandatory
4	Stanchion	Mandatory

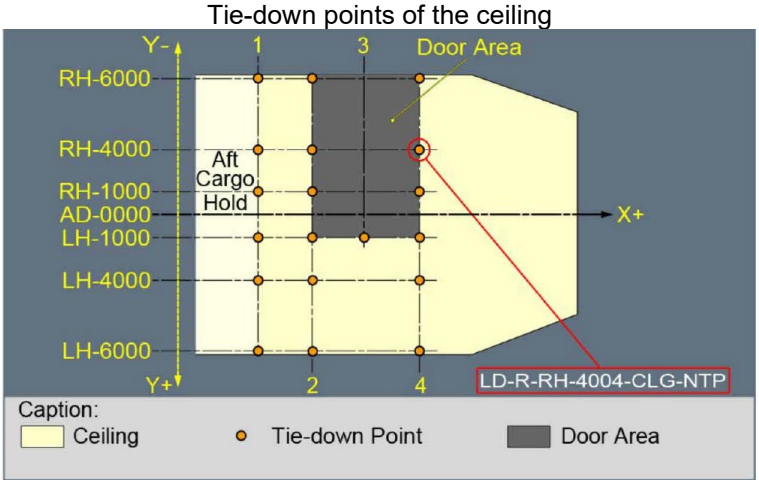
TIE-DOWN POINTS OF THE REAR BULK CARGO HOLD / A321

The forward cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. To attach the nets, the operator uses the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold. The tie-down points on the ceiling and the sloped floor are only dedicated to the installation of the nets. To restrain bulk items, the operator only uses the tie-down points on the flat floor that are not already used to attach the nets.

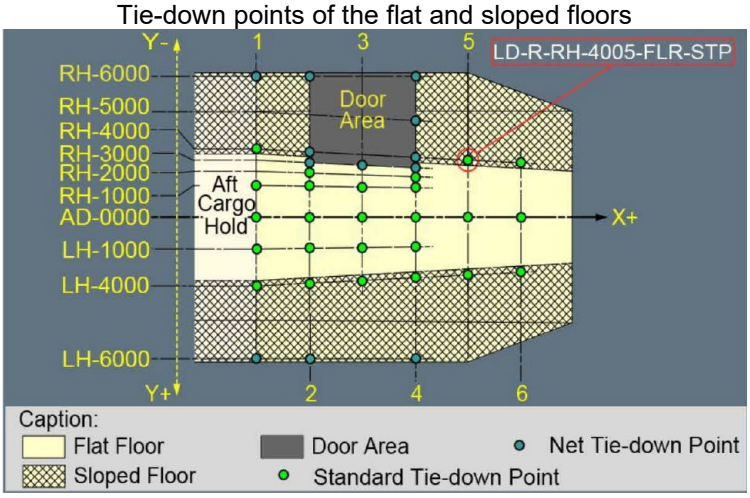
Possible location of the tie-down points



Tie-down points of the ceiling



Tie-down points of the flat and sloped floors



7.6 Loading

7.6.1 Bulk load (baggage and cargo)

Baggage (or cargo) can be loaded in any compartment but comply with the mass and balance conditions. The cargo holds are designed for the carriage of bulk loads with a maximum load density of 240 kg/m^3. Lateral and longitudinal door nets are installed around the door to keep the cargo door area free of cargo. All nets can be removed for loading and unloading procedures. During loading and unloading sufficient clearance shall be kept to the cargo doorframe to prevent damage. For more details refer to Chapter 5.4. “Bulk Load” of this manual.

7.6.2 Restraint conditions

When the certified net restrained system is used, additional tie down is normally not required except as shown in the following.
All individual items of load, which by their nature, shape or density may constitute a hazard, shall be restrained. Restraint can be achieved by filling the cargo hold or net section volumetrically, or by tie down. When filled up to three quarters of height the cargo hold or net section is considered to be volumetrically full.

CAUTION: No loading is allowed higher than special marked line on the cargo hold walls.

Packages weighing more than 150 kg shall be restrained or individually tie down. Single packages should be tied down.

7.6.3 Tie down requirements

Tie down of loads to aircraft structure is achieved via tie down straps and nets connected to the tie down points located on the cargo hold floor. Each tie down point is designed to an ultimate load of 906 kg, in any direction.

7.6.4 Hold heating and ventilation

Airbus A320
Cargo holds of HiSky A320 are **NOT equipped** with ventilation and temperature control systems for livestock transportation.

Airbus A321
The forward cargo hold of HiSky A321 is **NOT equipped** with ventilation and temperature control systems.
The aft and rear bulk cargo holds of HiSky A321 **are equipped** with ventilation control systems.
The aft and rear bulk cargo holds of HiSky A321 **are NOT equipped** with temperature control systems.
Special cargo may require the use of the ventilation and(or) temperature control systems.
To transport special cargo, the following should be considered:

- The WBM requirements
- The requirements or regulations of any specific documentation applicable to special cargo.

7.6.5 Special load

Live animals
Prior approval from HiSky Ground Operations must be received for live animals transportation on HiSky A321.
For more details about Live Animals transportation refer to Chapter 5.10. “Live Animals” of this manual.

Dangerous goods / Dry Ice
The following maximum quantities apply:

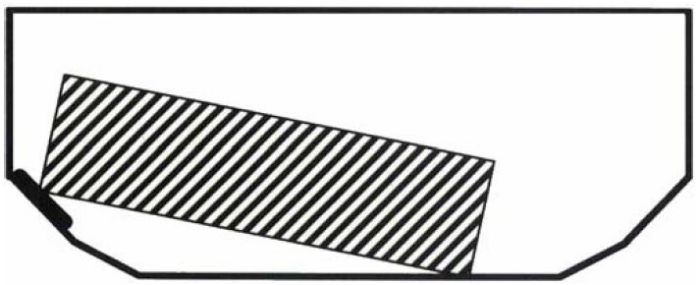
FWD Compartment	50 kg
AFT Compartment	50 kg

For regulations of Dangerous Goods transportation refer to Chapter 5.9 Dangerous Goods of this manual.

7.6.6 Maximum package sizes

The packages that can be loaded depend on all of the following:
- The dimensions of the cargo door
- The cross sections of the cargo hold
- The restraint system of the cargo hold
- The dimensions of the net sections of the cargo hold.

The dimensions in the tables below are approximate and refer to rectangular package sizes.
Maximum dimensions can be reached if the packages are lifted and put on the sloping part of the floor (possible in a diagonal position). To avoid high local loads, it is recommended to use load spreaders on the sloping part of the floor.



FORWARD CARGO HOLD / Compartment 1 (Sections 11/12/13) / A320

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NET INSTALLED

The following tables provide the maximum dimensions of the packages that can be loaded in the largest net section (net section 11/12) with the mandatory divider net installed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	3.760	3.622	3.482
0.100	3.675	3.546	3.421
0.200	3.593	3.475	3.365
0.300	3.514	3.408	3.316
0.400	3.439	3.346	3.189
0.500	3.369	3.291	2.986
0.600	3.303	3.243	2.783
0.700	3.244	3.123	2.579
0.800	3.193	2.923	2.374
0.900	3.142	2.723	2.167
1.000	2.942	2.523	1.957
1.100	2.741	2.322	1.740
1.200	2.540	2.122	-
1.300	2.338	1.921	-
1.400	2.136	1.720	-
1.500	1.933	1.648	-
1.600	1.850	-	-

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NET REMOVED

The following tables provide the maximum dimensions of the packages that can be loaded with the mandatory divider net removed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	5.332	5.150	4.201
0.100	5.252	5.080	4.000
0.200	5.174	5.013	3.799
0.300	5.099	4.545	3.599
0.400	5.026	4.344	3.398
0.500	4.717	4.144	3.197
0.600	4.514	3.943	2.996
0.700	4.310	3.742	2.794
0.800	4.106	3.541	2.592
0.900	3.901	3.339	2.390
1.000	3.696	3.138	2.186
1.100	3.489	2.936	1.981
1.200	3.280	2.733	1.773
1.300	3.069	2.530	1.648
1.400	2.855	2.325	-
1.500	2.634	2.117	-
1.600	2.427	1.996	-

AFT CARGO HOLD / Compartment 3 & 4 (Sections 31/32/41/42) / A320

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NETS INSTALLED

The following tables provide the maximum dimensions of the packages that can be loaded in the largest net section (net section 32/41/42) with the mandatory divider nets installed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	4.189	3.891	3.594
0.100	4.093	3.804	3.528
0.200	3.998	3.719	3.467
0.300	3.903	3.636	3.412
0.400	3.810	3.557	3.363
0.500	3.717	3.381	3.287
0.600	3.626	3.410	3.085
0.700	3.537	3.344	2.883
0.800	3.451	3.284	2.680
0.900	3.367	3.232	2.477
1.000	3.287	3.189	2.272
1.100	3.212	3.037	2.066
1.200	3.143	2.836	1.855
1.300	3.083	2.634	1.715
1.400	3.033	2.431	1.715
1.500	2.880	2.227	-
1.600	2.655	2.021	-
1.700	2.528	1.996	-

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NETS NOT INSTALLED

The following tables provide the maximum dimensions of the packages that can be loaded with the mandatory divider nets removed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	5.965	5.224	4.292
0.100	5.763	5.154	4.091
0.200	5.561	4.843	3.890
0.300	5.359	4.643	3.689
0.400	5.156	4.443	3.488
0.500	4.954	4.242	3.287
0.600	4.751	4.042	3.085
0.700	4.547	3.841	2.883
0.800	4.343	3.640	2.680
0.900	4.139	3.440	2.477
1.000	3.933	3.239	2.272
1.100	3.727	3.037	2.066
1.200	3.519	2.836	1.855
1.300	3.310	2.634	1.715
1.400	3.097	2.431	1.715
1.500	2.880	2.227	-
1.600	2.655	2.021	-
1.700	2.528	1.996	-

REAR BULK CARGO HOLD / Compartment 5 (Sections 51/52/53) / A320

LOADING THROUGH THE REAR BULK CARGO DOOR

Package Width (m)	Package Height	
	0.400 m	0.600 m
	Maximum Package Length (m)	
0.000	2.155	1.989
0.100	2.100	1.815
0.200	2.053	1.613
0.300	1.957	1.409
0.400	1.757	1.203
0.500	1.556	0.991
0.600	1.355	-
0.700	1.154	-
0.800	0.959	-

LOADING THROUGH THE AFT CARGO DOOR

Package Width (m)	Package Height				
	0.400 m	0.600 m	0.750 m	0.900 m	1.000 m
	Maximum Package Length (m)				
0.000	2.664	2.601	2.585	2.050	1.031
0.100	2.618	2.574	2.497	2.031	0.975
0.200	2.580	2.557	2.384	2.017	0.965
0.300	2.552	2.381	2.269	1.715	0.965
0.400	2.533	2.219	2.149	1.715	-
0.500	2.443	1.965	1.907	1.715	-
0.600	2.313	-	-	-	-
0.700	2.177	-	-	-	-
0.800	2.031	-	-	-	-
0.900	1.809	-	-	-	-

FORWARD CARGO HOLD / Compartment 1 and 2 (Sections 11/12/21) / A321 (ACT FWD INSTALLED)

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NET INSTALLED

The following tables provide the maximum dimensions of the packages that can be loaded in the largest net section (net section 11/12) with the mandatory divider net installed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	3.760	3.622	3.482
0.100	3.675	3.546	3.421
0.200	3.593	3.475	3.365
0.300	3.514	3.408	3.316
0.400	3.439	3.346	3.189
0.500	3.369	3.291	2.986
0.600	3.303	3.243	2.783
0.700	3.244	3.123	2.579
0.800	3.193	2.923	2.374
0.900	3.142	2.723	2.167
1.000	2.942	2.523	1.957
1.100	2.741	2.322	1.740
1.200	2.540	2.122	-
1.300	2.338	1.921	-
1.400	2.136	1.720	-
1.500	1.933	1.648	-
1.600	1.850	-	-

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NETS REMOVED

The following tables provide the maximum dimensions of the packages that can be loaded with the mandatory divider net removed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	5.728	5.146	4.201
0.100	5.526	4.946	4.000
0.200	5.324	4.745	3.799
0.300	5.122	4.545	3.599
0.400	4.920	4.344	3.398
0.500	4.717	4.144	3.197
0.600	4.514	3.943	2.996
0.700	4.310	3.742	2.794
0.800	4.106	3.541	2.592
0.900	3.901	3.339	2.390
1.000	3.696	3.138	2.186
1.100	3.489	2.936	1.981
1.200	3.280	2.733	1.773
1.300	3.069	2.530	1.648
1.400	2.855	2.325	-
1.500	2.634	2.117	-
1.600	2.427	1.996	-

AFT CARGO HOLD / Compartment 3 & 4 (Sections 33/41/42) / A321 (ACT AFT1 AND ACT AFT2 INSTALLED)

MAXIMUM PACKAGE DIMENSIONS WITH THE MANDATORY DIVIDER NETS INSTALLED

The following tables provide the maximum dimensions of the packages that can be loaded in the largest net section (net section 41/42) with the mandatory divider nets installed.

Package Width (m)	Package Height (H)		
	H ≤ 0.746 m	0.746 m < H ≤ 1.014 m	H > 1.014 m
	Maximum Package Length (m)		
0.000	3.099	3.099	3.099
0.100	3.099	3.099	3.099
0.200	3.099	3.099	3.099
0.300	3.099	3.099	3.099
0.400	3.099	3.099	3.099
0.500	3.099	3.099	3.079
0.600	3.099	3.099	3.044
0.700	3.099	3.099	2.881
0.800	3.099	3.041	2.678
0.900	3.099	2.984	2.475
1.000	3.057	2.935	2.270
1.100	2.973	2.896	2.063
1.200	2.895	2.834	1.853
1.300	2.825	2.632	1.798
1.400	2.764	2.429	-
1.500	2.711	2.225	-
1.600	2.653	2.019	-
1.700	2.528	-	-

REAR BULK CARGO HOLD / Compartment 5 (Sections 51/52/53) / A321
(ACT AFT1 AND ACT AFT2 INSTALLED)

LOADING THROUGH THE REAR BULK CARGO DOOR

Package Width (m)	Package Height	
	0.400 m	0.600 m
	Maximum Package Length (m)	
0.000	2.155	1.989
0.100	2.100	1.815
0.200	2.053	1.613
0.300	1.957	1.409
0.400	1.757	1.203
0.500	1.556	0.991
0.600	1.355	-
0.700	1.154	-
0.800	0.959	-

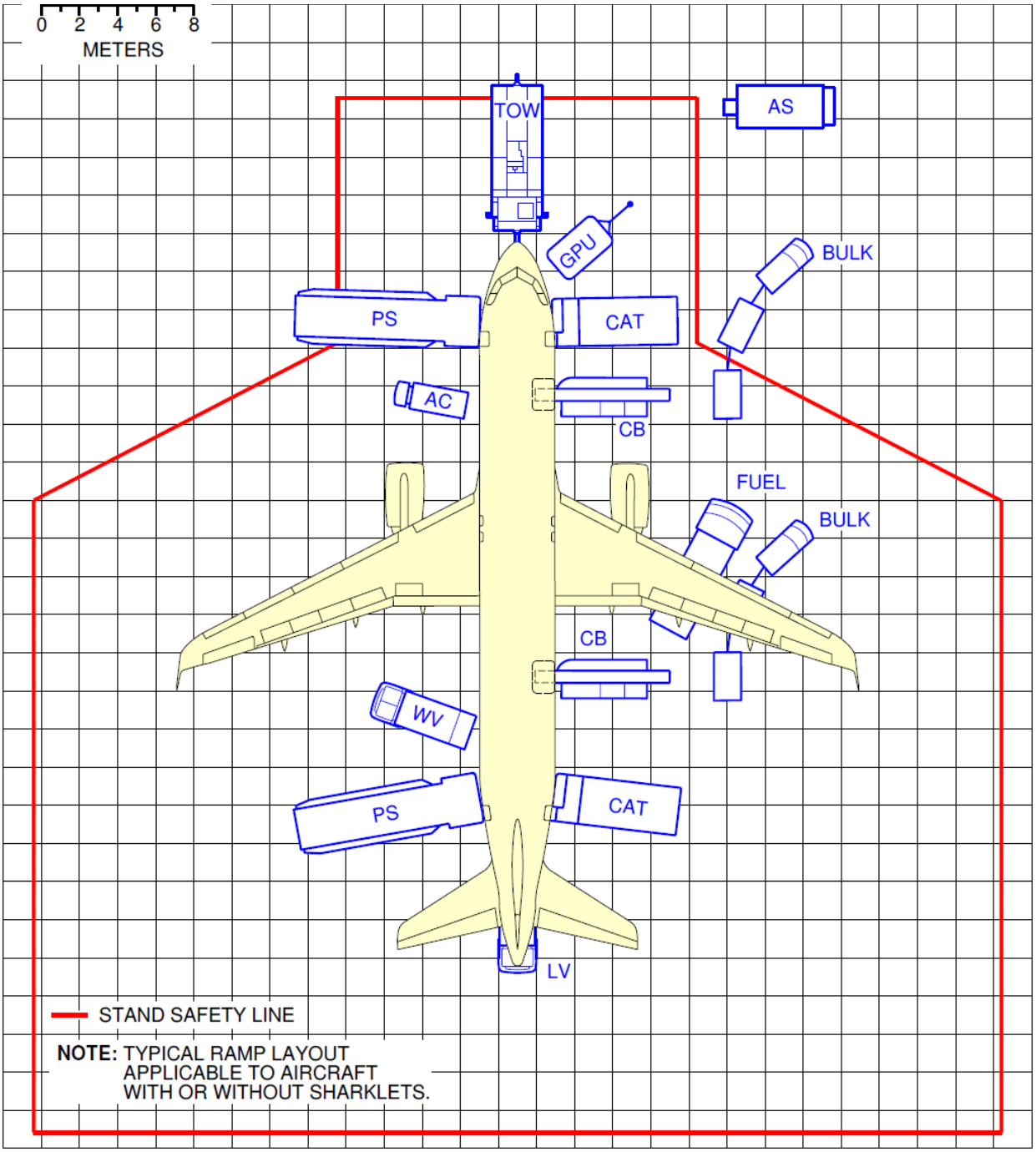
LOADING THROUGH THE AFT CARGO DOOR

Package Width (m)	Package Height				
	0.400 m	0.600 m	0.750 m	0.900 m	1.000 m
	Maximum Package Length (m)				
0.000	2.664	2.601	2.585	2.050	1.031
0.100	2.618	2.574	2.497	2.031	0.975
0.200	2.580	2.557	2.384	2.017	0.965
0.300	2.552	2.381	2.269	1.715	0.965
0.400	2.533	2.219	2.149	1.715	-
0.500	2.443	1.965	1.907	1.715	-
0.600	2.313	-	-	-	-
0.700	2.177	-	-	-	-
0.800	2.031	-	-	-	-
0.900	1.809	-	-	-	-

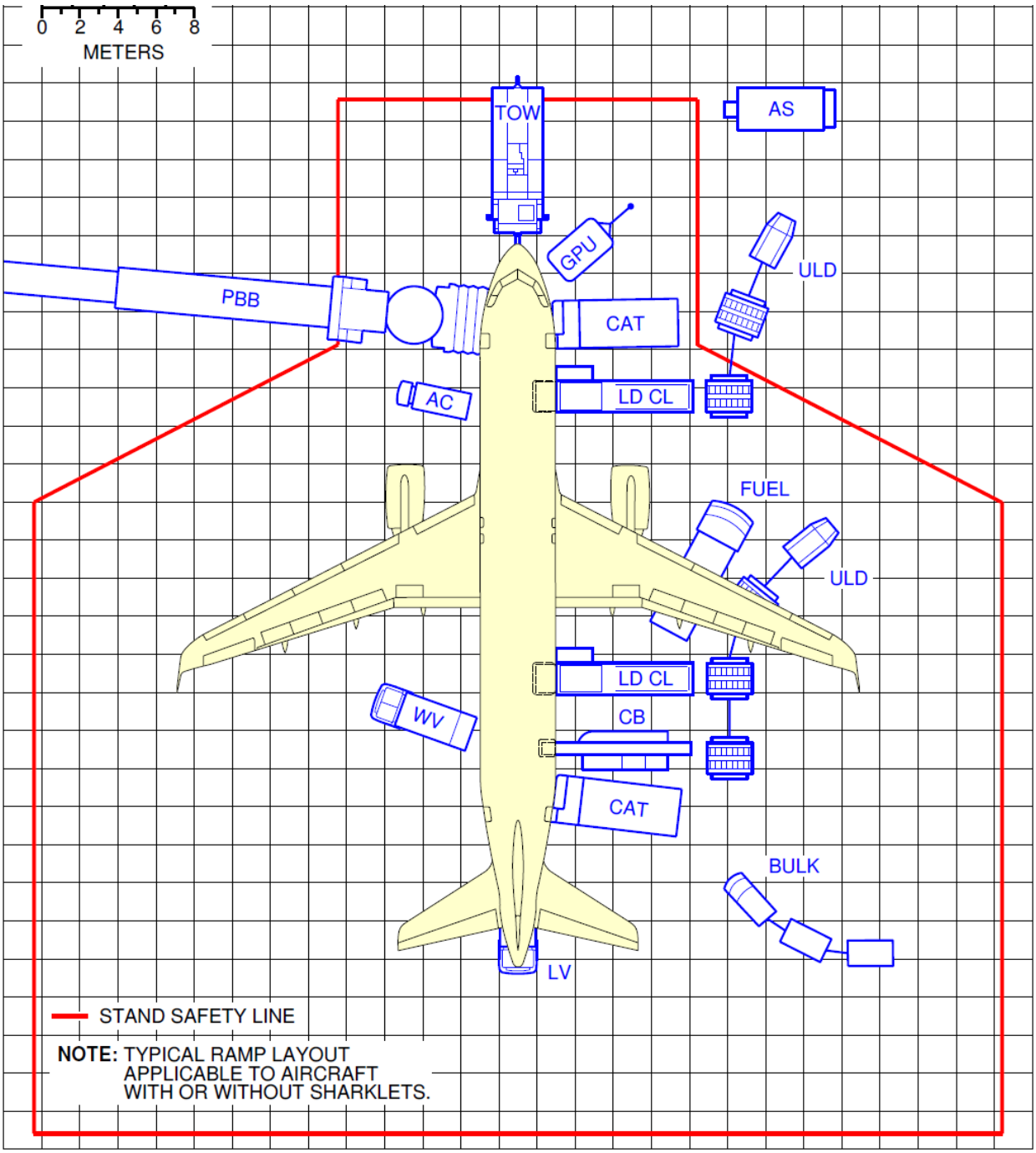
7.7 Aircraft servicing

7.7.1 Airplane servicing arrangements

Airbus A320 at remote parking stand



Airbus A320 at loading bridge stand

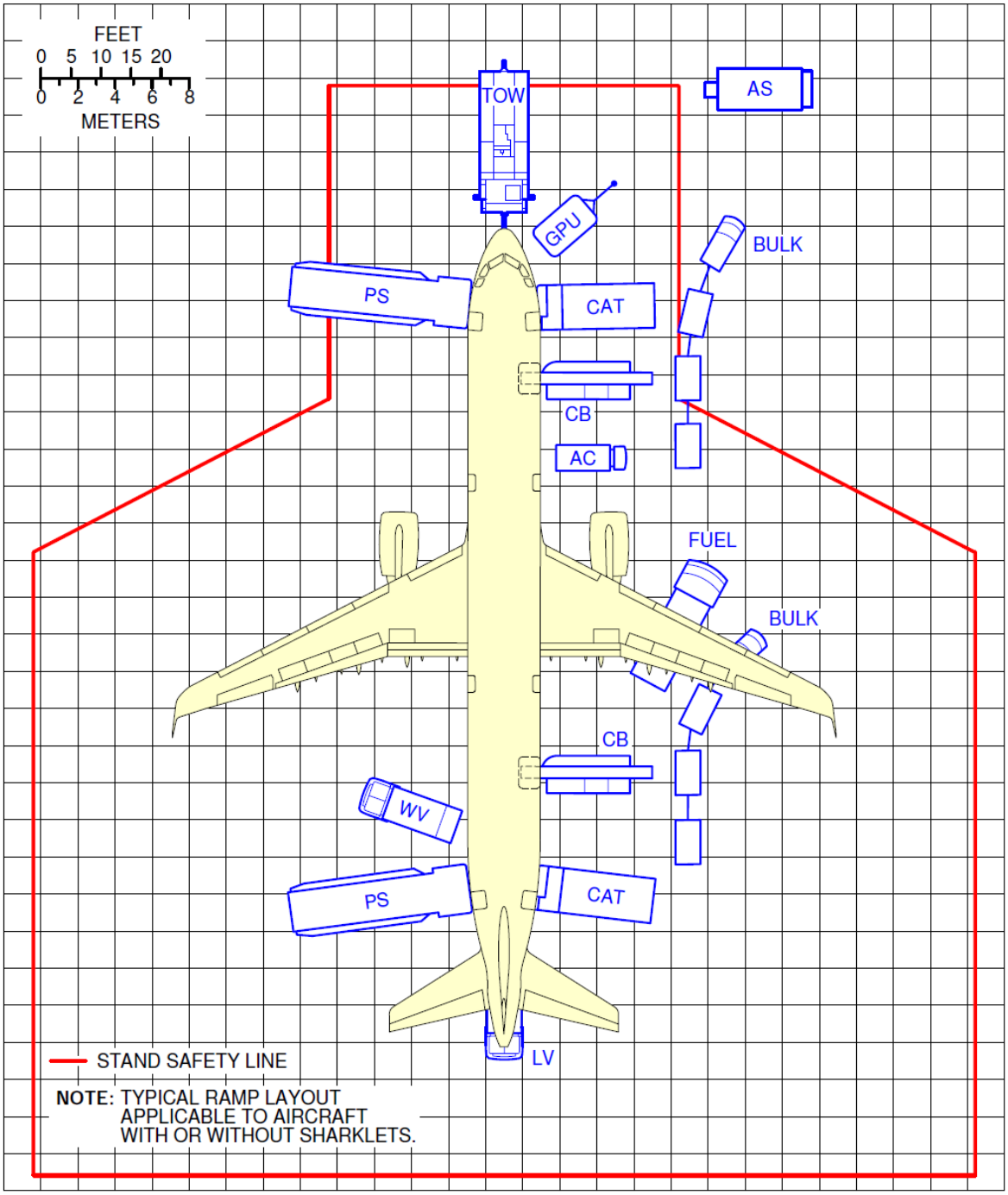


Ground support equipment

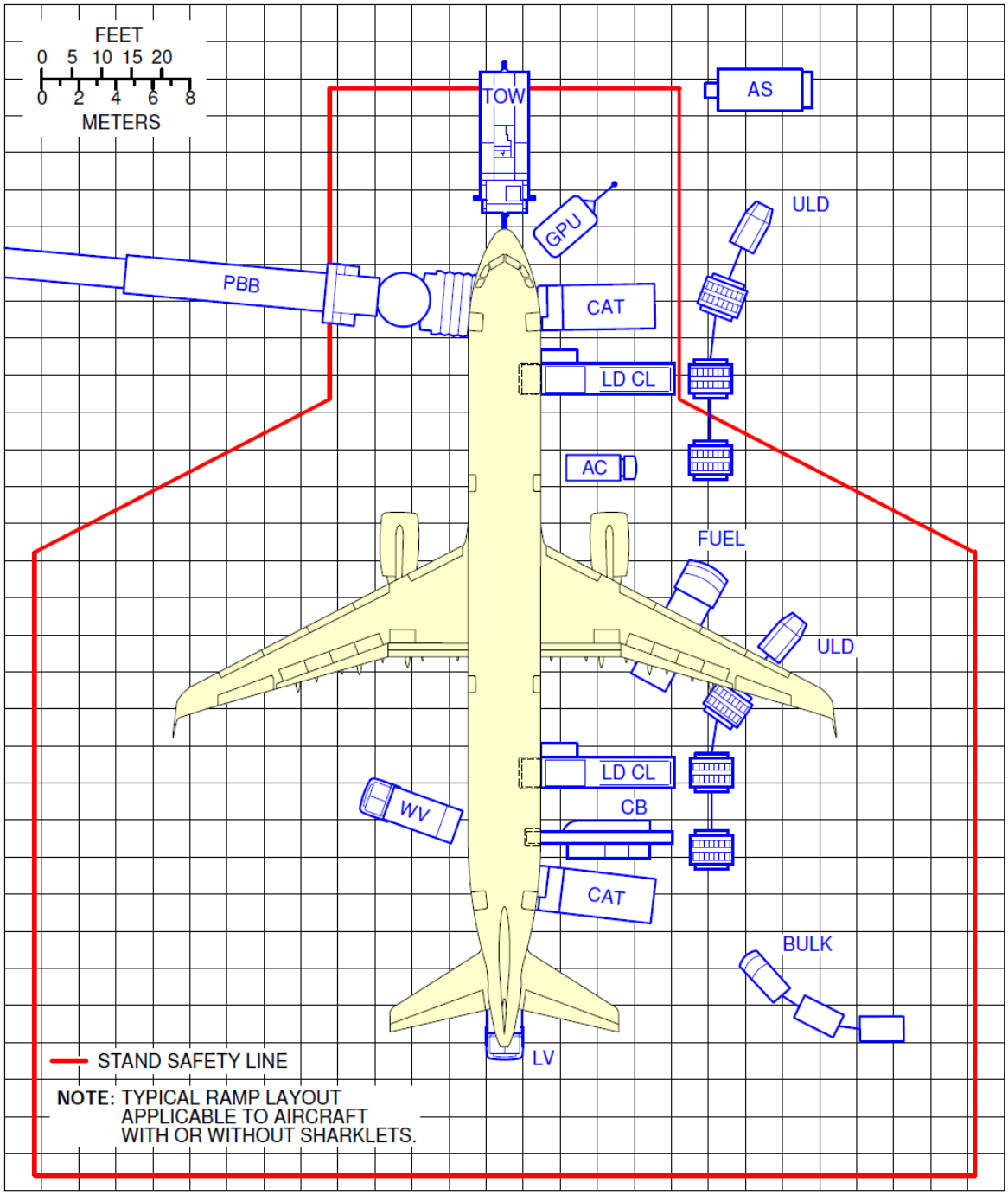
AC	air conditioning unit	LDCL	lower deck cargo loader
AS	air start unit	LV	lavatory service
BULK	bulk train	PBB	passenger boarding bridge
CAT	catering truck	PS	passenger stairs
CB	conveyor belt	TOW	tow tractor
FUEL	fuel hydrant dispenser or tanker	ULD	ULD train
GPU	ground power unit	WV	potable water vehicle

NOTE: Standard turnaround time for servicing A320 from “on blocks” until “off blocks” is 60 minutes. When aircraft is running off schedule, best endeavors must be made to achieve the minimum turnaround time for servicing A320 in 45 minutes.

Airbus A321 at remote parking stand



Airbus A321 at loading bridge stand



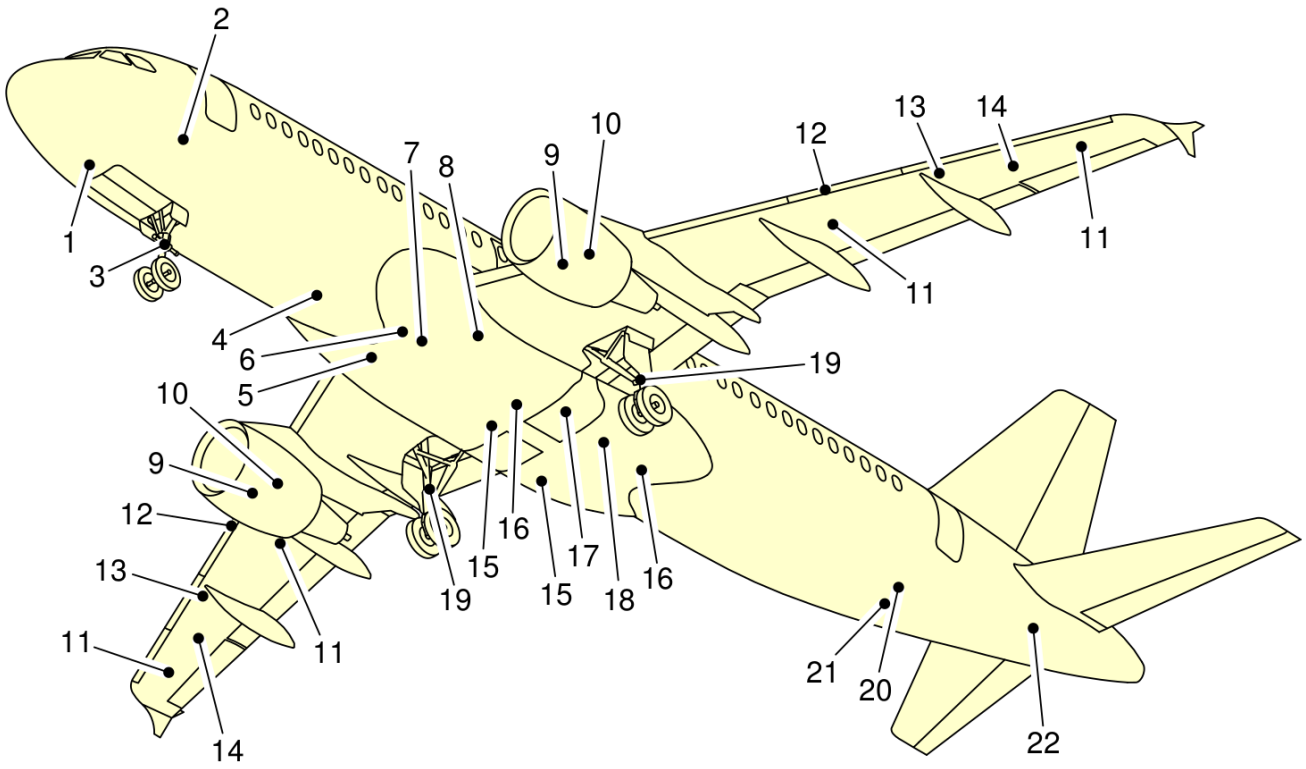
Ground support equipment

AC	air conditioning unit	LDCL	lower deck cargo loader
AS	air start unit	LV	lavatory service
BULK	bulk train	PBB	passenger boarding bridge
CAT	catering truck	PS	passenger stairs
CB	conveyor belt	TOW	tow tractor
FUEL	fuel hydrant dispenser or tanker	ULD	ULD train
GPU	ground power unit	WV	potable water vehicle

NOTE: Standard turnaround time for servicing A321 from “on blocks” until “off blocks” is 60 minutes. When aircraft is running off schedule, best endeavors must be made to achieve the minimum turnaround time for servicing A321 in 45 minutes.

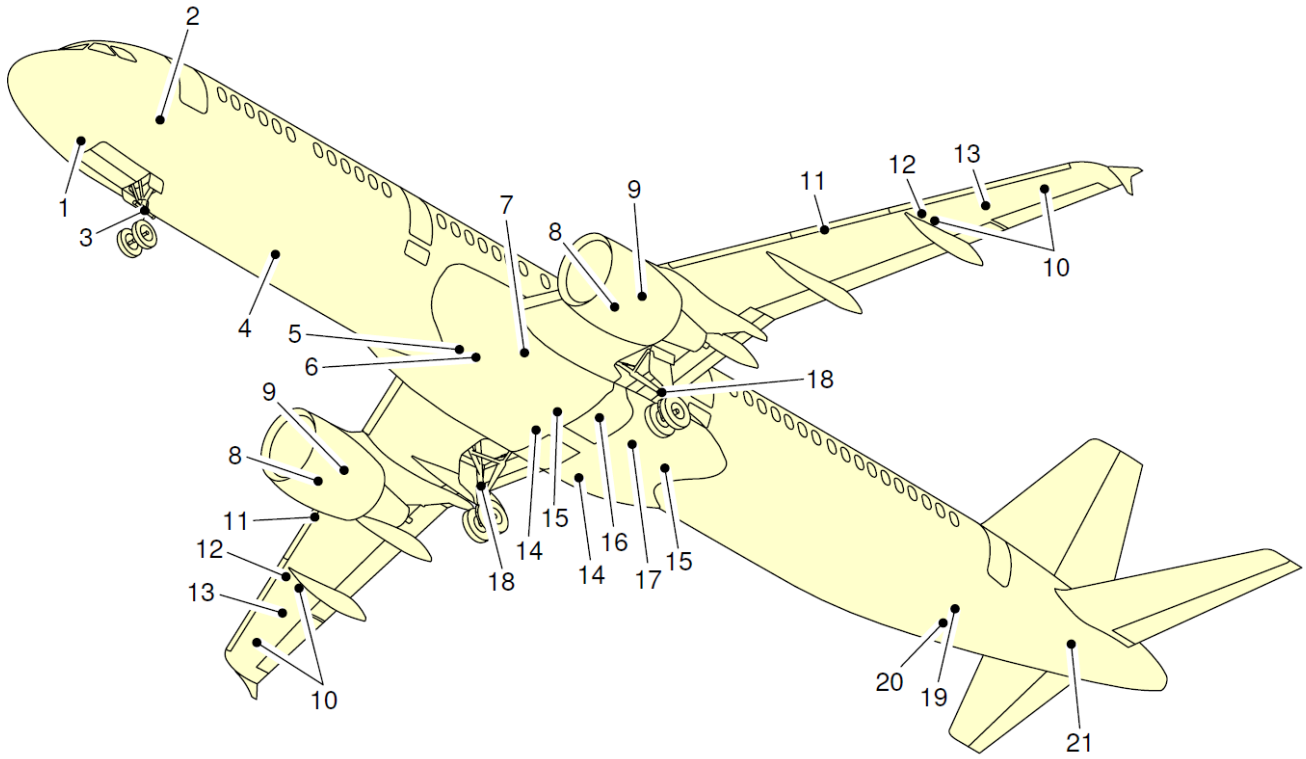
7.7.2 Ground service connections

Airbus A320



1 – GROUND ELECTRICAL POWER CONNECTOR
2 – OXYGEN SYSTEM
3 – NLG GROUNDING (EARTHING) POINT
4 – POTABLE WATER DRAIN PANEL (OPTIONAL)
5 – POTABLE WATER DRAIN PANEL
6 – LOW PRESSURE AIR PRE–CONDITIONING
7 – HIGH PRESSURE AIR PRE–CONDITIONING
8 – REFUEL/DEFUEL INTEGRATED PANEL
9 – IDG/STARTER OIL SERVICING
10 – ENGINE OIL SERVICING
11 – OVERPRESSURE PROTECTOR
12 – REFUEL/DEFUEL COUPLINGS (OPTIONAL–LH WING)
13 – OVERWING REFUEL (IF INSTALLED)
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

Airbus A321



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
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18 – MLG GROUNDING (EARTHING) POINT
19 – WASTE WATER SERVICE PANEL
20 – POTABLE WATER SERVICE PANEL
21 – APU OIL SERVICING

7.7.2.1 Grounding (Earthing) points

The **grounding** (earthing) operation is for the electrical continuity between the aircraft and the earth. The **bonding** operation is for the electrical continuity between the aircraft and a ground equipment or between an equipment and the aircraft structure.

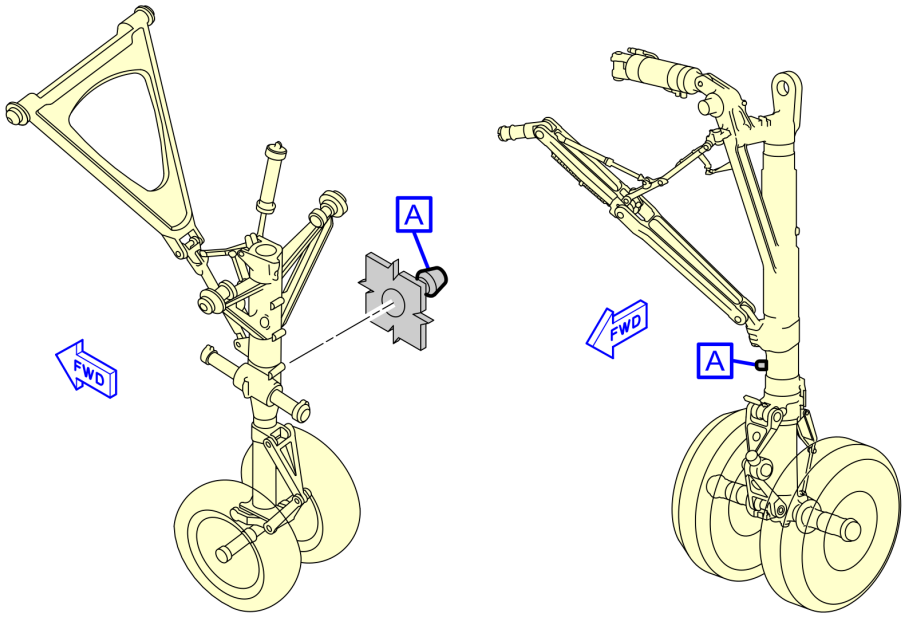
The grounding (earthing) stud on each landing gear leg is designed for use with a clip-on connector (such as Appleton TGR). The grounding (earthing) studs are used to connect the aircraft to an approved ground (earth) connection on the ramp or in the hangar for:

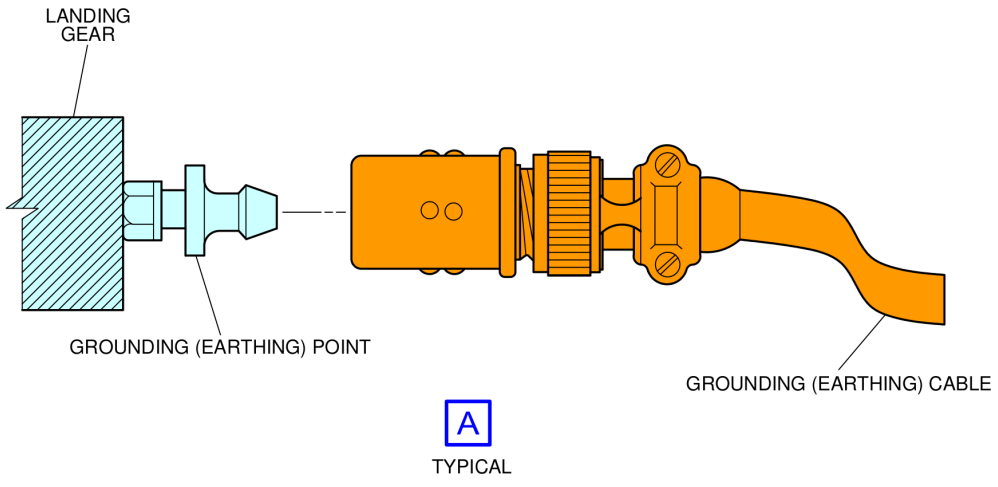
- Refuel/defuel operations,
- Maintenance operations,
- Bad weather conditions.

Static electricity from the flight or the environmental conditions on ground (wind with dust, sand, etc.) is discharged through the tires.

NOTE: Tire contact with the ground is sufficient for electrostatic discharge but not for electrical safety (grounding/earthing).

Grounding (Earthing) Points - Landing Gear:





7.7.2.1.1 Aircraft Bonding and Grounding (Earthing) for the Refuel/Defuel Operations

WARNING: Do not wear a headset or touch cables/lines connected to the aircraft, during bad weather conditions. Lightning is dangerous.

Aircraft Bonding and Grounding (Earthing) is required to electrostatically balance the aircraft and the fuel tanker (during the refuel/defuel operations).
It is mandatory to do the bonding between the aircraft and the fuel tanker before the refuel/defuel operations.

Safety Precautions

(1) The local regulations for the grounding (earthing) must be obeyed.
If you ground (earth) the aircraft, make sure that:
(a) The parking or the hangar CABLE - GROUNDING (EARTHING) is correctly grounded (earthed).
(b) The fuel tanker is correctly grounded (earthed).
(2) During the storm conditions or the electrical atmospheric conditions:
- Stop the refuel/defuel operations.
- Make sure that the aircraft is grounded (earthed).
- Stop any other ground servicing operations external to the aircraft.
- Disconnect all other external connections (external power supply, etc.).
- Remove or disconnect the headsets.
- Not touch metal parts, equipment or connections to the aircraft.
- Make sure that there is no personnel around the aircraft.

Connection of the Bonding and Grounding (Earthing) Cables

WARNING: Always connect the grounding (earthing) cable to the parking ground (earth) point before you connect it to the aircraft. Do not attach the cable to the aircraft first (there is a risk of electric shock).

CAUTION: Attach the grounding (earthing) cable only to the specified grounding (earthing) points on the aircraft.

(1) Grounding (Earthing) Cable

(a) Airbus recommends that you get a CABLE - GROUNDING (EARTHING) that has a section of 22 mm^2 or more.
(b) Connect the parking or the hangar CABLE - GROUNDING (EARTHING) to the aircraft grounding (earthing) point on:
- One of the MLG legs, or
- The NLG leg.

The aircraft wheels must be on the ground.
(c) Make sure that the total electrical resistance of the CABLE - GROUNDING (EARTHING) is not more than 500 milliohms between:
- The parking grounding (earthing) point and the grounding (earthing) point of the landing gear.

(d) Make sure that the electrical resistance is not more than 10 milliohms between:
- The end connector of the CABLE - GROUNDING (EARTHING) and the nearest adjacent metal part of the landing gear.

(2) Bonding Cable

WARNING: Make sure that you bond the fuel tanker to the aircraft. If you do not, an electrical discharge can occur which can cause an explosion or fire.

(a) Airbus recommends that you get a CABLE-BONDING that has a section of 20 mm^2 or more.
(b) Make sure that the CABLE-BONDING is in the correct condition and obey your local regulations.

(c) Connect the CABLE-BONDING between the fuel tanker and a grounding (earthing) point on:
- One of the MLG legs, or
- The NLG leg, or

(d) Make sure that the electrical resistance of the CABLE-BONDING between the aircraft and the fuel tanker or the oxygen ground-filling equipment is not more than 10 ohms.

Disconnect the Bonding and Grounding (Earthing) Cables

(1) After the refuel/defuel or oxygen servicing operations, disconnect all the CABLE - GROUNDING (EARTHING).

7.7.2.2 Electrical System

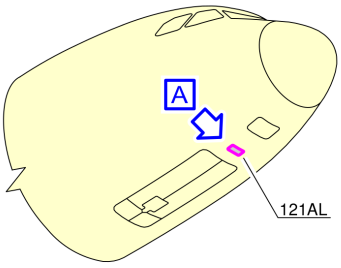
A. External Power Receptacle:
- One receptacle according to MS 90362-3 (without shield MS 17845-1) -- 90 kVA.

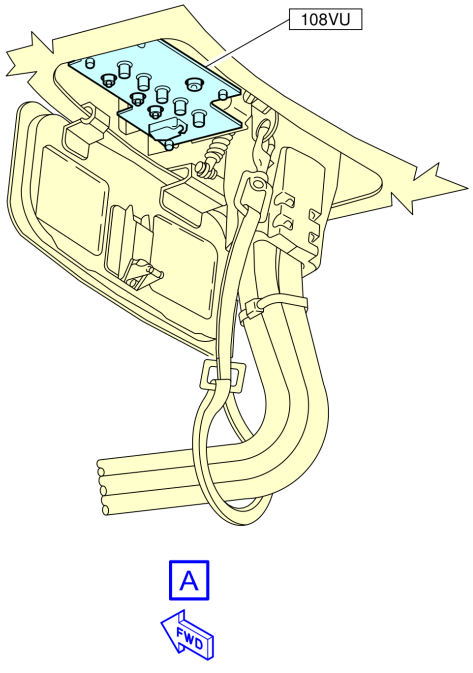
NOTE: Make sure that for connectors featuring micro switches, the connector is chamfered to properly engage in the receptacle.

B. Power Supply:
- Three-phase, 115/200V, 400 Hz.

C. Electrical Connectors for Servicing:
- AC outlets: HUBBELL 5258
- DC outlets: HUBBELL 7472.

External Power Receptacles:





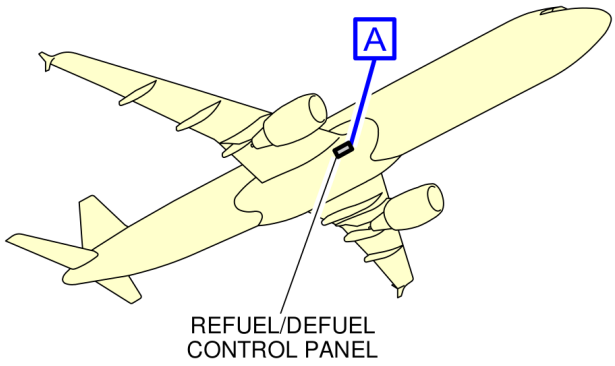
7.7.2.3 Fuel System

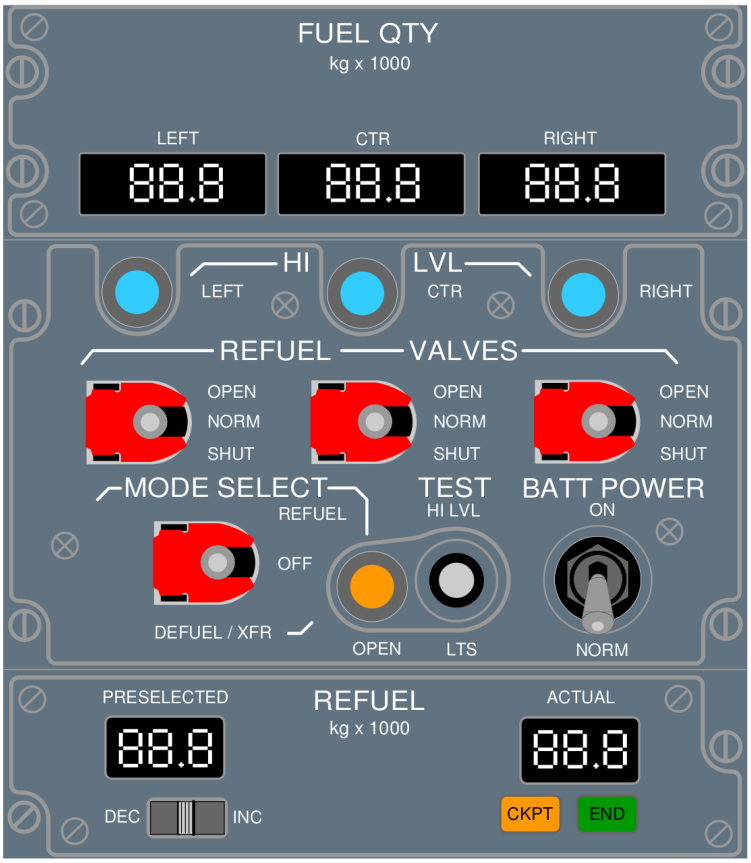
A. Refuel/Defuel Couplings:
- Right wing: one standard ISO 45, 2.5 in.
- Left wing: one optional standard ISO 45, 2.5 in.

B. Refuel Pressure:
- Maximum pressure: 3.45 bar (50 psi).

C. Average Flow Rate:
- 1250 l/min (330 US gal/min).

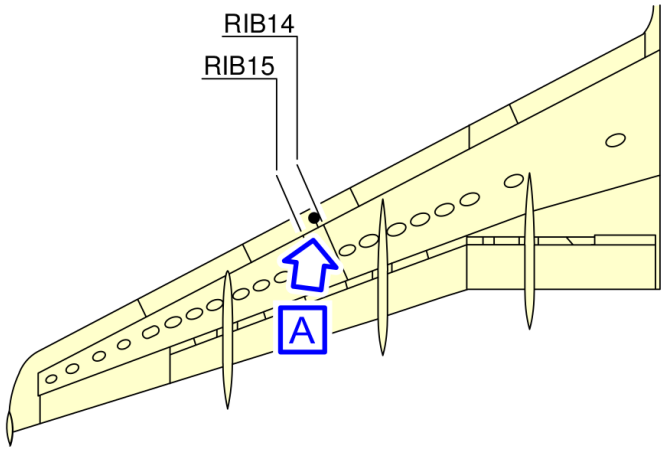
Standard configuration of refuel/defuel panel:

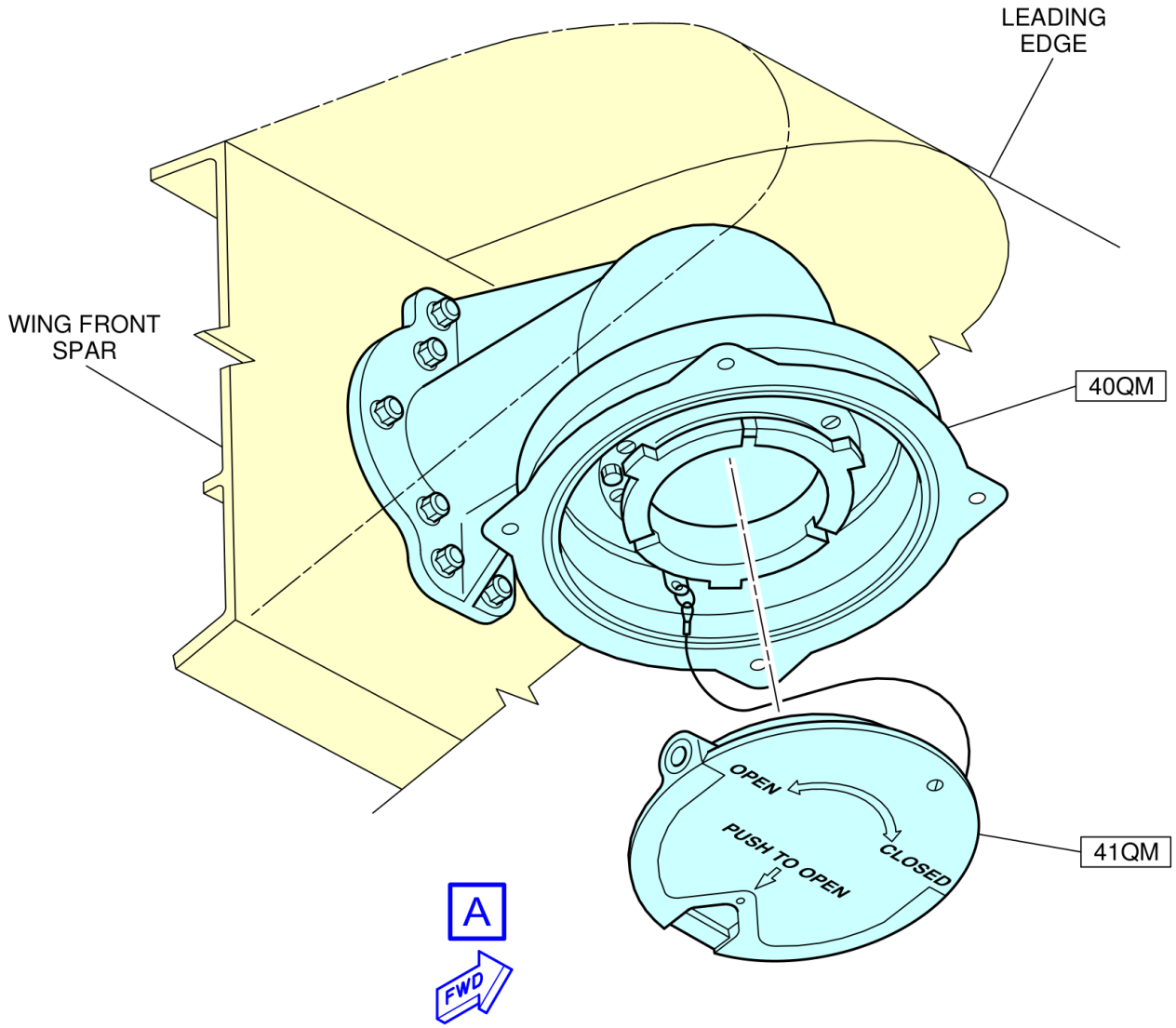




A

Refuel/Defuel Couplings:





7.7.2.4 Potable Water System

A. Connectors:

(1) On the potable-water service panel (Access Door 171AL)

- Fill/Drain Nipple 3/4 in. (ISO 17775).
- One ground air-pressure connector.

(2) On the potable-water drain panel (Access Door 133AL)

- Drain Nipple 3/4 in. (ISO 17775).

B. Usable capacity:

- Standard configuration - one tank: 200 l (53 US gal).

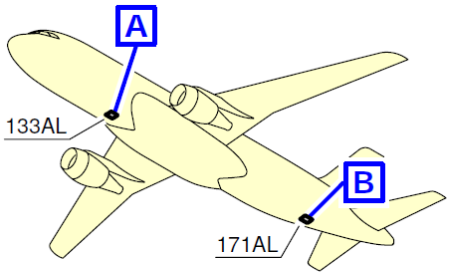
C. Filling pressure:

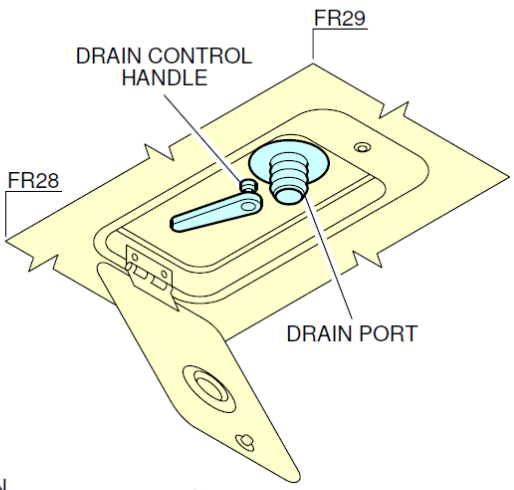
- 3.45 bar (50 psi).

D. Typical flow rate:

- 50 l/min (13 US gal/min).

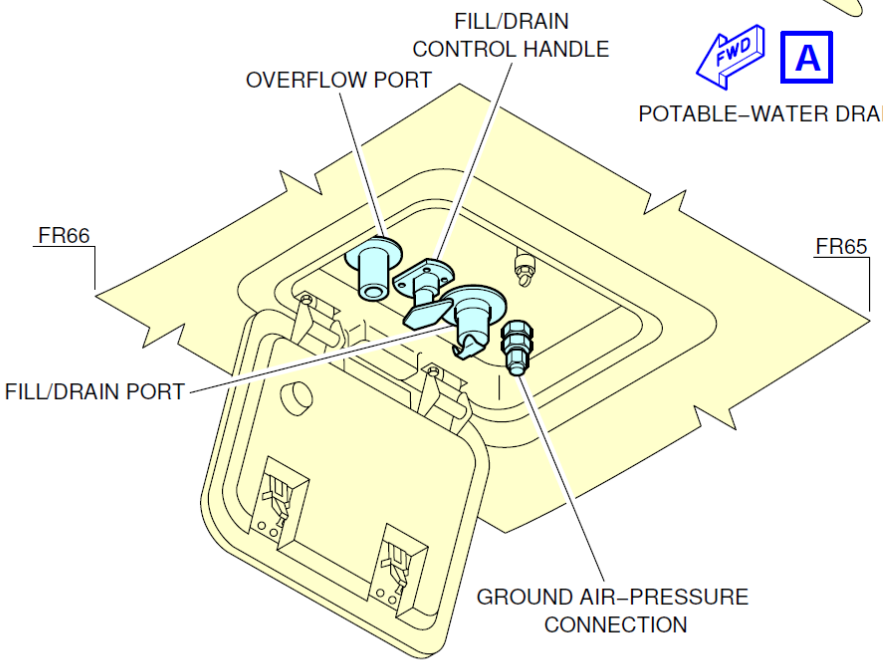
Potable Water Ground Service Panels:





FWD A

POTABLE–WATER DRAIN PANEL



FWD B

7.7.2.4.1 Fill the Potable Water Tank System (Aircraft Electrical Power Available)

WARNING: Do not do work on the toilet waste system and the potable water system at the same time. this will prevent contamination of the potable water system. Such contamination can be dangerous to health.

WARNING: Before you do work on the potable water system, clean your hands with soap and water. This will prevent infection. (Contamination from toilet waste is dangerous to health).

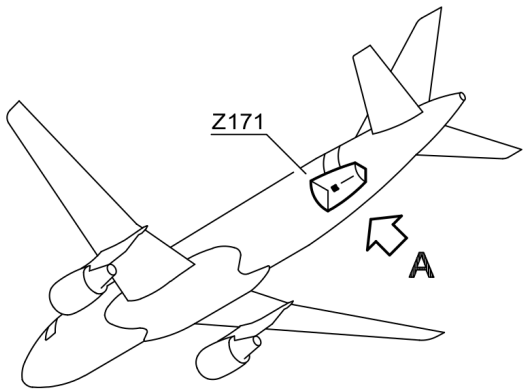
WARNING: Be careful when you use consumable materials. Obey the material manufacturer's instructions and your local regulations.

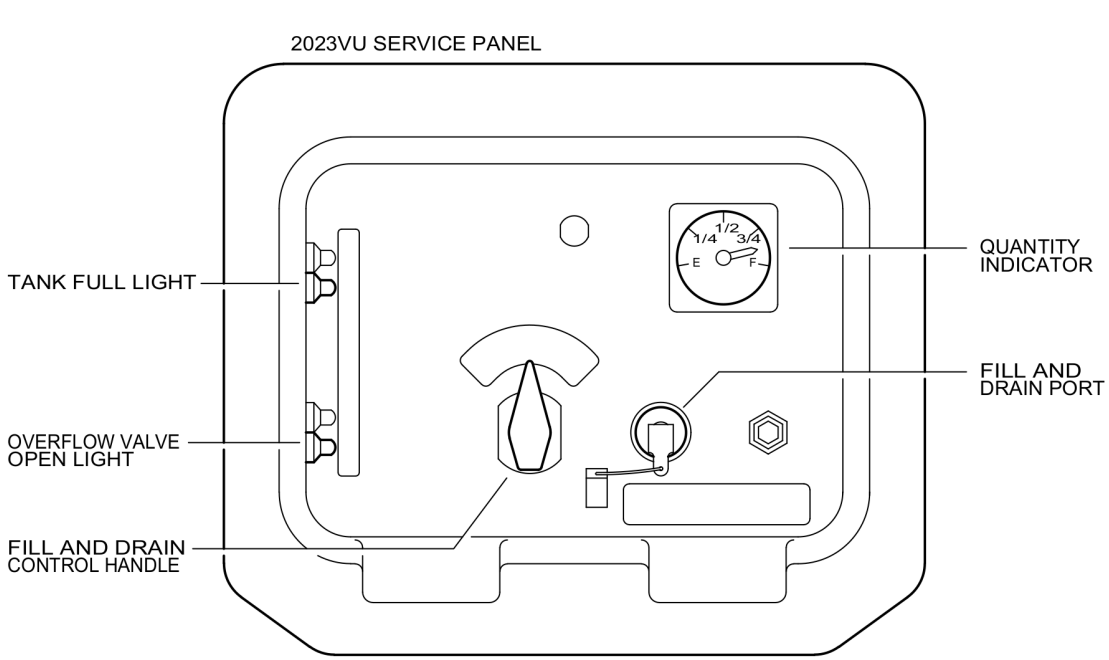
CAUTION: Make sure that the water pressure is not more than 3.45 bars (50.0 psi). If the water pressure is more than 3.45 bars (50.0 psi), damage to equipment can occur.

CAUTION: Make sure that the drain valves stay in the drain position after you drain the potable water system if:

- the bleed air system is off, and
- the outside air temperature is below 0 deg.c.

This will prevent damage to the potable water system.





A. Energize the ground service network
B. Make sure that these circuit breakers are closed:

PANEL	DESIGNATION	FIN	LOCATION
2000VU	WATER SYSTEM-QANT-IND	1MA	B01
2001VU	WATER SYS-DRAIN	1MP	B05

C. Preparation to Fill the Potable Water System
(1) If the temperature in the aircraft is below 4 DEG.C do the pre-conditioning procedure.
D. Get Access
(1) Put the ACCESS PLATFORM 2M in position.
(2) Open access panel 171AL:
(a) Install the SUPPORT WS PANEL DOOR (98D38108003000) to the access panel.
(3) Open the POTABLE WATER FILL AND DRAIN port on service panel 2023VU.

Add Chlorine to the Potable Water
(1) During the potable water servicing, you can also add chlorine to the potable water.
(2) You can use an in-line water filter cartridge to filter the potable water supplied to the A/C.

Fill the Potable Water system

CAUTION: Before you do the servicing of the potable-water tank, make sure that the quantity indication system is energized and operates correctly. If it is not, you must set the control handle (326mm) to open the overflow valve (8mp). If this valve is not open, water can flow into the passenger compartment.

(1) If the indication system does not operate satisfactorily, do the servicing without electrical power.
NOTE: The "Overflow valve open" light 6MP on the service panel 2023VU must be on when the overflow valve 8MP is opened.
NOTE: If the indication system does not operate and electrical power is necessary on aircraft, you can open the CB 1MA (water system quantity indicator).
(2) Clean the potable water fill and drain port:
(a) Soak the Textile-Lint free Cotton with Disinfectant-Aircraft General.
(b) Clean the potable water fill and drain port with a soaked Textile-Lint free Cotton.
NOTE: It is not recommended to do the spray and clean procedure for potable water fill and drain port.
(c) Dry the wet area with a Textile-Lint free Cotton - (Material No. 14SBA1).
(3) Connect the fill hose to the potable water fill and drain port:
CAUTION: Make sure that the water pressure is not more than 3.45 bars (50.0 psi). If the water pressure is more than 3.45 bars (50.0 psi), damage to equipment can occur.
(a) Connect the fill hose of the CART - SERVICING, WATER, POTABLE or WATER SOURCE - GROUND to the POTABLE WATER FILL AND DRAIN port.
(4) On the service panel:
- Turn the FILL/DRAIN handle to the PULL TO FILL position
- Then pull it out to the mechanical stop.

NOTE: The OVERFLOW VALVE OPEN light 6MP comes on.
(5) If the OVERFLOW VALVE OPEN light 6MP does not come on:
- Examine the position of the overflow valve 8MP.

CAUTION: Make sure that the water pressure is not more than 3.45 bars (50.0 psi). If the water pressure is more than 3.45 bars (50.0 psi), damage to equipment can occur.
(6) Fill the potable water system:
NOTE: The "Overflow valve open" light 6MP on the service panel 2023VU must be off when the overflow valve 8MP is closed.
(a) Operate the water service vehicle.
NOTE: If the filling level is to be less than full, push in the Fill/DRAIN handle and turn it to the NORMAL position. The Quantity Indicator shows the filling level.
NOTE: The FILL/DRAIN handle will automatically move back to the NORMAL position when the TANK FULL light comes on. The OVERFLOW VALVE OPEN light 6MP goes off.
NOTE: If there is too much water in the tank, water will flow from the TANK OVERFLOW port.

1 If the OVERFLOW VALVE OPEN light 6MP does not go off:
- Examine the overflow valve 8MP.

NOTE: If the tank is overfilled, water will flow from the "TANK OVERFLOW" port.

2 Stop the water service vehicle.

3 Disconnect the hose from the POTABLE WATER FILL AND DRAIN port.

4 Clean and dry the service panel and the adjacent area.

5 Visually examine the connections for leaks. Leaks are not permitted.

6 Put the cap on the POTABLE WATER FILL AND DRAIN port.

NOTE: If you do the servicing in cold weather conditions, the POTABLE WATER FILL AND DRAIN port must stay open as long as possible to drain the residual water from the fill and drain line.

Close-up

A. Close Access

(1) Make sure that the work area is clean and clear of tools and other items.

(2) Close access panel 171AL:

(a) Remove the SUPPORT WS PANEL DOOR (98D38108003000) from the access panel.

NOTE: Make sure that the latches are correctly locked and that the door makes a continuous surface with the skin of the aircraft.

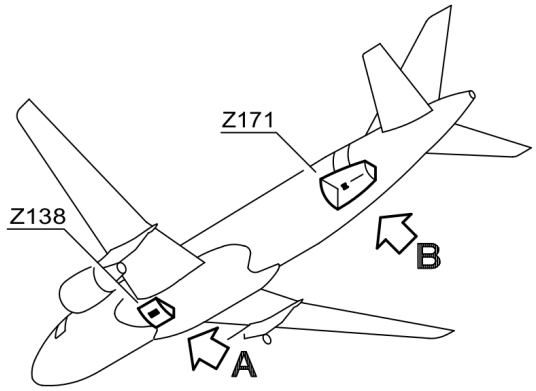
(3) Remove the access platform(s).

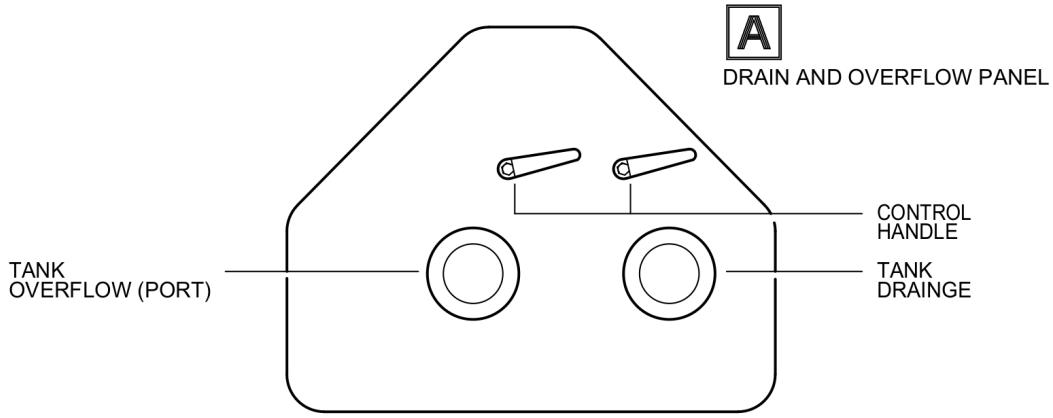
(4) Remove the ground support and maintenance equipment, the special and standard tools and all other items.

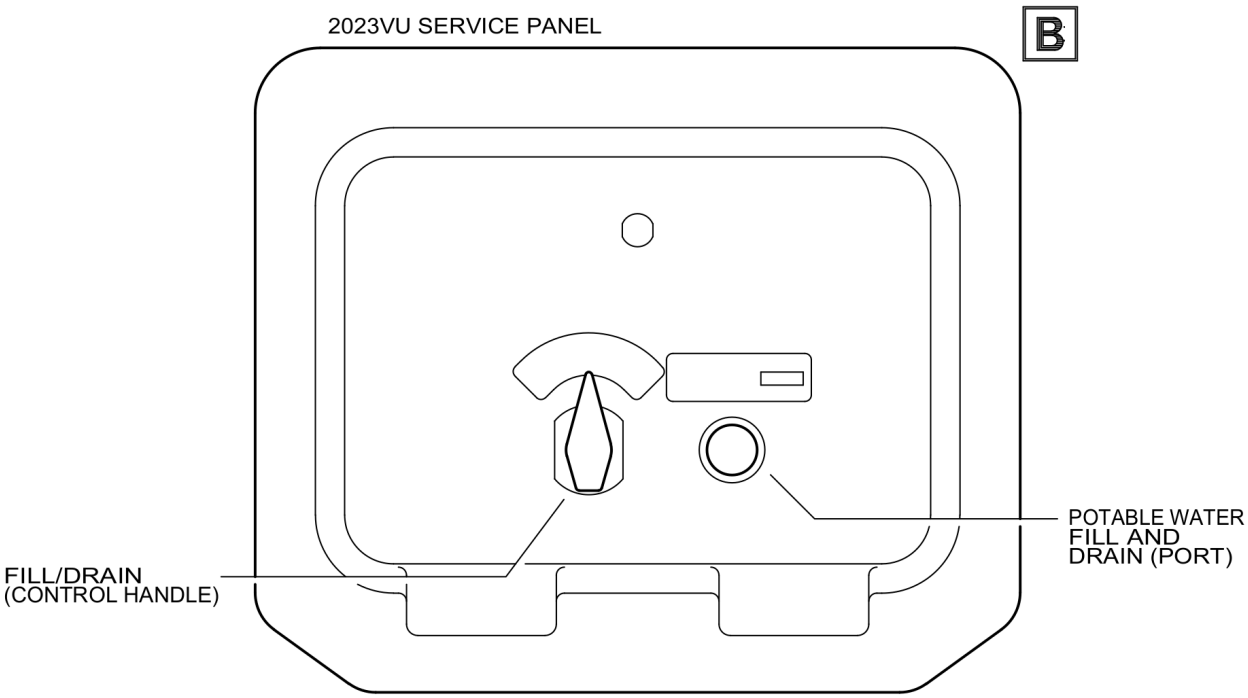
B. De-energize the ground service network.

7.7.2.4.2 Fill the Potable Water Tank System (Aircraft Electrical Power not Available)

CAUTION: Make sure that the water pressure is not more than 3.45 bars (50.0 psi). If the water pressure is more than 3.45 bars (50.0 psi), damage to equipment can occur.







A. Preparation to Fill the Potable Water System
(1) If the temperature in the aircraft is below 4 DEG.C do the pre-conditioning procedure.
B. Open for Access
(1) Put the ACCESS PLATFORM 2M (6 FT) in position.
(2) Open access panel 171AL:
(a) Install the SUPPORT WS PANEL DOOR (98D38108003000) to the access panel.
(3) Open the POTABLE WATER FILL AND DRAIN port on service panel 2023VU.
(4) Open access panel 192NB:
(a) Install the SUPPORT WS PANEL DOOR (98D38108003000) to the access panel.

Add Chlorine to the Potable Water
(1) During the potable water servicing, you can also add chlorine to the potable water.
(2) You can use an in-line water filter cartridge to filter the potable water supplied to the A/C.

Fill the Potable Water System

CAUTION: Make sure that the water pressure is not more than 3.45 bars (50.0 psi). If the water pressure is more than 3.45 bars (50.0 psi), damage to equipment can occur.
(1) Connect the fill hose of the CART - SERVICING, WATER, POTABLE or WATER SOURCE - GROUND to the POTABLE WATER FILL AND DRAIN port.
(2) On the service panel 192NB:
- Turn the TANK OVERFLOW handle to the OPEN position.

(3) On the service panel 2023VU:
- Turn the FILL/DRAIN handle to the PULL TO FILL position,
- Then pull it out to the mechanical stop.

(4) Operate the water service vehicle and fill the potable water tank until water comes from the TANK OVERFLOW port.
(5) Stop the water service vehicle.
(6) Push in and then turn the FILL AND DRAIN handle to the NORMAL position.
(7) Disconnect the hose of the water service vehicle from the fill and drain port.
(8) Turn the TANK OVERFLOW handle to the CLOSE position.
(9) Clean and dry the overflow port and the adjacent area.
(10) Visually examine the connections for leaks. Leaks are not permitted.
(11) Close the fill and drain port on the service panel.
NOTE: If you do the servicing in cold weather conditions, the FILL AND DRAIN port must stay open as long as possible to drain the residual water from the fill and drain line.

Close-Up
A. Close Access
(1) Make sure that the work area is clean and clear of tools and other items.
(2) Close access panel 171AL:
(a) Remove the SUPPORT WS PANEL DOOR (98D38108003000) from the access panel.
NOTE: Make sure that the latches are correctly locked and that the door makes a continuous surface with the skin of the aircraft.
(3) Close access panel 192NB:
(a) Remove the SUPPORT WS PANEL DOOR (98D38108003000) from the access panel.
NOTE: Make sure that the latches are correctly locked and that the door makes a continuous surface with the skin of the aircraft.
(4) Remove the access platform(s).
(5) Remove the ground support and maintenance equipment, the special and standard tools and all other items.

7.7.2.5 Waste Water System

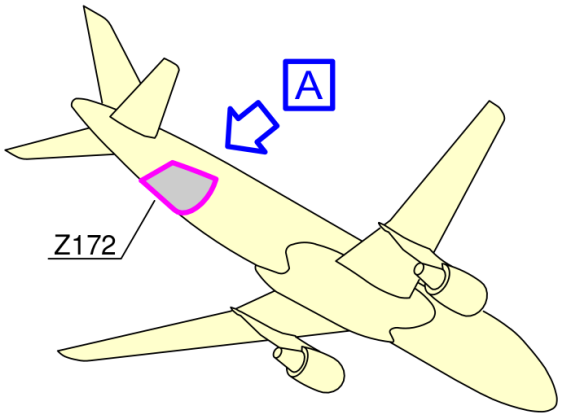
A. Connectors:
- Draining: 4 in. (ISO 17775).
- Flushing and filling: 1 in. (ISO 17775).

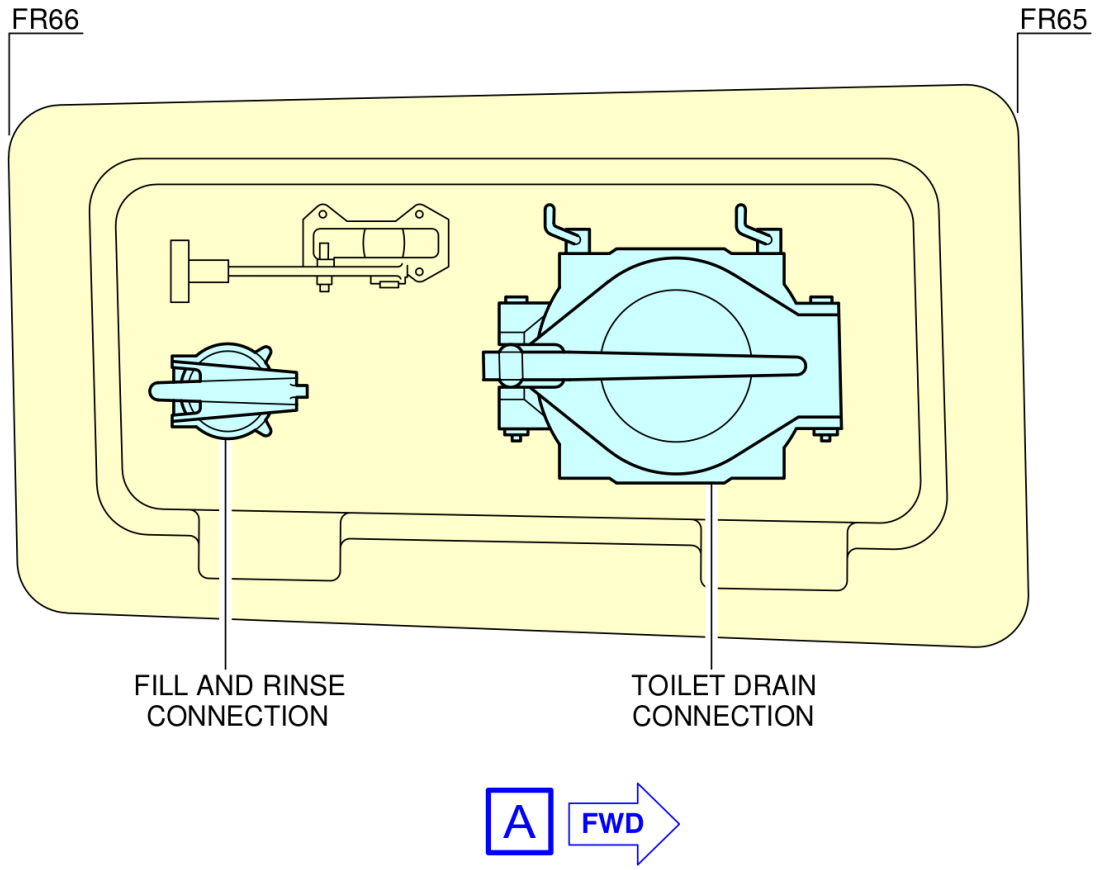
B. Usable waste tank capacity:
- Standard configuration - one tank: 177 l (47 US gal).

C. Waste tank - Rinsing:
- Operating pressure: 3.45 bar (50 psi).

D. Waste tank - Precharge:
- 10 l (3 US gal).

Waste Water Ground Service Panel:





7.7.2.5.1 Servicing of the Toilet System

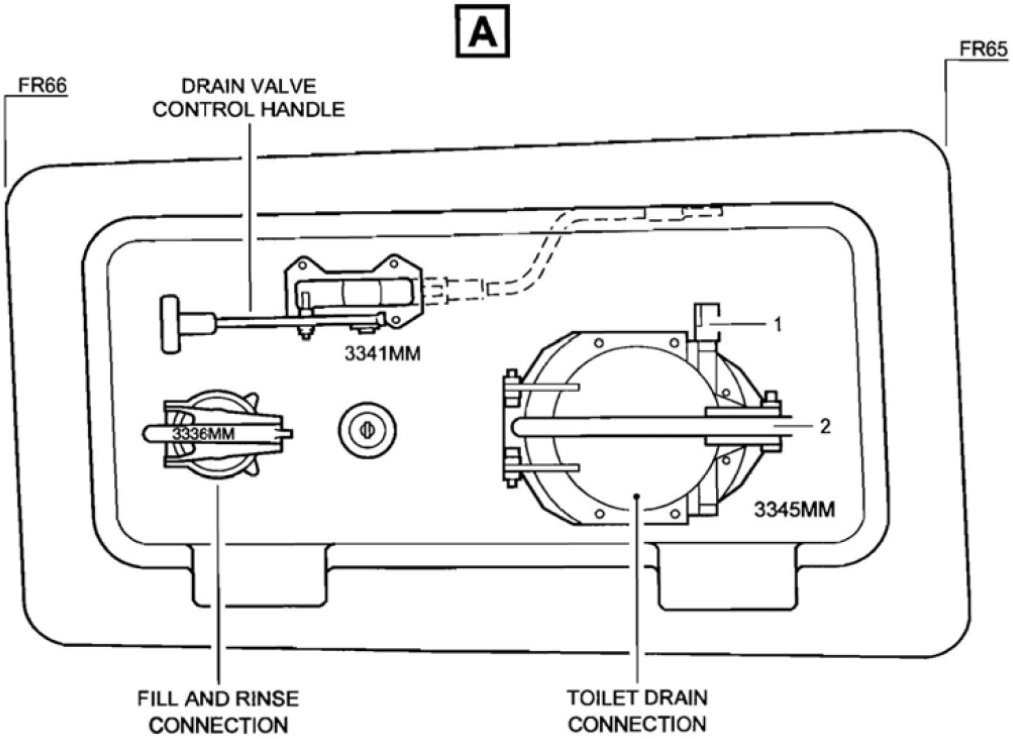
WARNING: Always use rubber gloves when you do work:

- On the toilet waste system, or
- On parts that have contamination from the waste system.

When you complete the work procedure, clean your hands with soap and water. This will prevent infection (toilet waste is dangerous for health).

WARNING: After you do work on the toilet waste system, do not do servicing of the potable water system. This will prevent contamination of the potable water system. Such contamination can be dangerous to health.

A319 is equipped with one toilet service point Z172 located in the AFT.



Set up

A. Energize the ground service network

B. Drain the toilet waste tanks when the outside air temperature is as shown in below table.

Outside air temperature in deg.C	**Air conditioning**	**Cabin temperature** in deg.C	**Exposure time to weather conditions** in hours:min	**Waste system draining required**
Between **0** and **-15**	ON	Above 10	No time limit	NO
Below **-15**	ON	Above 10	1:15	YES
Between **0** and **-7**	OFF	-	1:30	YES
Between **-7** and **-15**	OFF	-	0:30	YES
Below **-15**	OFF	-	None	YES

NOTE: The exposure time to weather conditions is approximate.

C. Get Access

(1) Put the ACCESS PLATFORM 2M in position.

(2) Put the CART - SERVICING, TOILET in position.

(3) Open access door 172AR.

Draining of the System

CAUTION: Make sure that the vacuum pressure is not more than 6 psi (0,4 bar) maximum, if you use a vacuum operated toilet service vehicle. A higher vacuum pressure can cause damage to the vacuum toilet system.

(1) Open the cap of the toilet drain connection and the fill and rinse connection.
(2) Connect the toilet service-vehicle hose-adapter and the 4-inch diameter drain hose to the toilet drain connection.
(3) Push the PUSH TO OPEN lever (1).
(4) Move the drain valve control-handle 3344MM from the CLOSE to the OPEN position.

NOTE: The waste will drain.

Flushing of the Toilet System

(1) Connect the flush/fill hose (1-inch diameter) of the toilet service vehicle to the fill and rinse connection.
(2) Operate the toilet service vehicle.
(3) Flush the waste tank with a maximum of 57 l of water with a maximum pressure of 3.45 bar (50.0380 psi).
NOTE: The time necessary for this flushing will be approximately 90 seconds.
NOTE: The drain valve must be in the OPEN position.
(4) Touch the drain hose and make sure that the fluid is fully drained.
(5) Stop the operation of the toilet service vehicle.
(6) Push the drain valve control-handle 3341M to the CLOSE position.

Disinfection of the Waste Holding Tanks

(1) Switch off the toilet service vehicle.
WARNING: After you do work on the toilet waste system, do not do servicing of the potable water system. This will prevent contamination of the potable water system. Such contamination can be dangerous to health.
(2) Disconnect the drain hose and the hose adapter.
(3) Make sure there are no leaks from the drain connection(s).
(4) Close the drain cap (2).
NOTE: The inner flap (1) will close and lock automatically when you close the drain cap (2).
(5) Disconnect the fill and rinse hose and let the connection(s) drain completely.
(6) Close the cap of the fill and rinse connection.
(7) Clean all the parts of the service panel and the adjacent area with clear water to remove any contamination that can cause corrosion.
(8) Dry the service panel and the adjacent area with the Textile-Lint free Cotton.

Close-Up

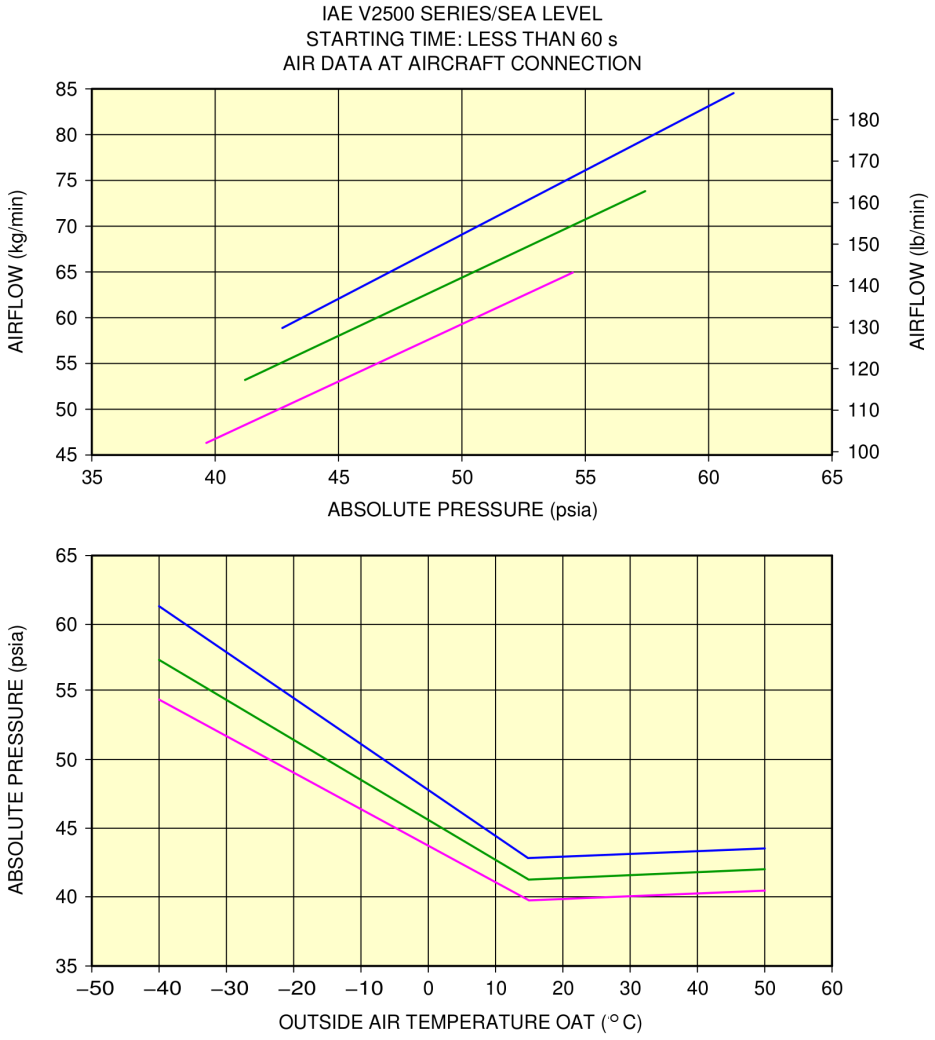
A. Close Access
(1) Make sure that the work area is clean and clear of tools and other items.
(2) Close access door 172AR.
B. De-energize the ground service network
C. Removal of the Ground Support Equipment
(1) Remove the access platform(s).
(2) Remove the ground support and maintenance equipment, the special and standard tools and all other items.

7.7.2.6 Engine Starting Pneumatic Requirements

The purpose of this section is to provide the minimum air data requirements at the aircraft connection, needed to start the engine within no more than 60 seconds, at sea level (0 feet), for a set of Outside Air Temperatures (OAT).

A. Air data (discharge temperature, absolute discharge pressure) are given at the High Pressure Ground Connection (HPGC).
B. For a given OAT the following charts are used to determine an acceptable combination for air discharge temperature, absolute discharge pressure and mass flow rate.
C. This section addresses requirements for the Air Start Unit (ASU) only, and is not representative of the start performance of the aircraft using the APU or engine cross bleed procedure.
D. To protect the aircraft (A/C), the charts feature, if necessary:
   - The maximum discharge pressure at the HPGC
   - The maximum discharge temperature at the HPGC.

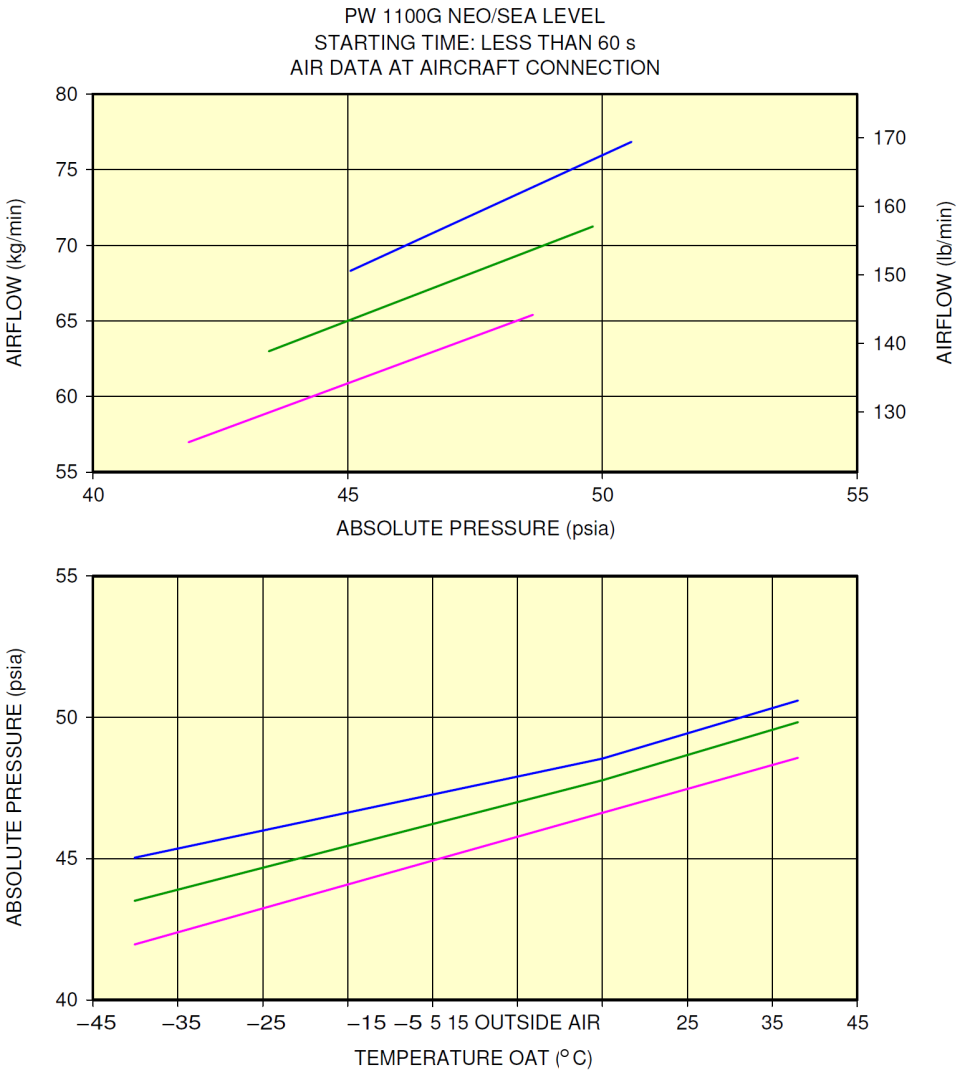
Airbus A320



ASU DISCHARGE TEMPERATURE:
- 100 °C
- 150 °C
- 220 °C MAX

NOTE: In case the actual discharge temperature of the ASU differs substantially from the ones given in the charts, a simple interpolation (linear) is sufficient to determine the required air data.

Airbus A321



ASU DISCHARGE TEMPERATURE:

- 100 °C
- 150 °C
- 220 °C MAX

NOTE: In case the actual discharge temperature of the ASU differs substantially from the ones given in the charts, a simple interpolation (linear) is sufficient to determine the required air data.

7.8 Aircraft doors

7.8.1 Operating Passenger/Crew doors

The door access platform must be put in position in front of the applicable passenger/crew door 831 or 841 or 832 or 842.

7.8.1.1 Opening of the Passenger/Crew door from the outside

WARNING: Stop the opening procedure if the red warning light flashes. Residual pressure could cause the door to open with a sudden force and injure persons and/or damage the aircraft.

WARNING: Do not open or go near pressure-sealed doors when the aircraft is pressurized.
A pressure-sealed door that opens when the aircraft is pressurized.

- Will cause explosive decompression.
- Can kill or cause injury to persons and/or cause damage to the aircraft/equipment.

WARNING: Do not open the passenger/crew door if the wind speed is more than 65 knots.

WARNING: Before you start work on the door, make sure that:

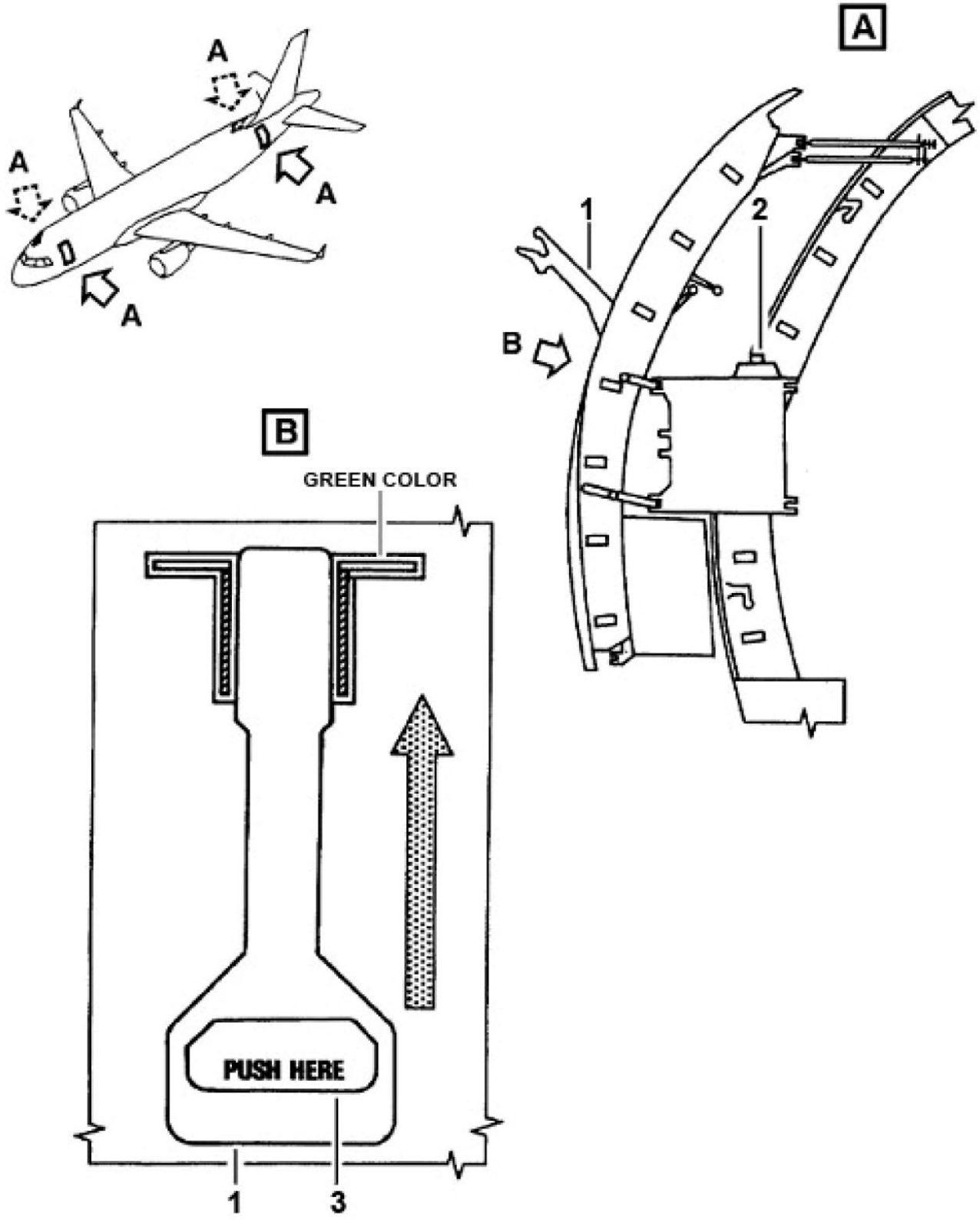
- The emergency control handle is in the disarmed position with the safety pin installed.
- The percussion lever of the door-damper and emergency-operation cylinder is in the disarmed position with the safety pin installed.

CAUTION: Do not use the inner control handle to push/pull the door. Use the inner control handle only to lock/unlock the door. If you use this handle to push/pull the door, you can cause damage to the interlock mechanism hook.

NOTE: The CABIN PRESSURE warning light panel is installed in the door window.

(a) Push the flap (3) so that you can hold the handle (1).
NOTE: When the door is open, the control system of the emergency escape slide release mechanism is disarmed automatically.
(b) Fully lift the outer control handle (1) until it is at level of the green line (the door moves up).
(c) Pull the passenger/crew door out and move it forward.
(d) Make sure that the door stay mechanism locks the door in the open position.

Outer control handle of the Passenger/Crew door



7.8.1.2 Closing of the Passenger/Crew door from the outside

CAUTION: Do not use the inner control handle to push/pull the door. Use the inner control handle only to lock/unlock the door. If you use this handle to push/pull the door, you can cause damage to the interlock mechanism hook.

Removal of the safety barrier(s)

If there is a safety barrier in position in the door frame, remove it.
(a) Push the pushbutton switch (2) of the door stay mechanism with one hand to release the door from the fuselage.
(b) Push the door aft wards and into the door frame.

Fully lower the outer control handle (1), (the door moves down). Make sure that:

- the door is fully closed and flush with the fuselage,
- the outer control handle (1) is in the correct position in its housing and flush with the door.
- the flap (3) is flush with the door.

7.8.2 Operating Cargo doors

7.8.2.1 General

There are three cargo compartment doors on the right side of the lower fuselage on **A320/A321**. They are referred to as FWD, AFT and BULK cargo-compartment doors and give access to the related cargo compartment.
The FWD and AFT cargo compartment doors on **A320/A321** have a manual locking mechanism and open hydraulically away from the aircraft. It is only possible to open or close the FWD and AFT cargo compartment doors from the outer side.
The BULK cargo-compartment door on **A320/A321** also has a manual locking mechanism. It opens manually into the BULK cargo compartment and up. It is possible to open or close it from both inner and outer sides.
The FWD cargo-compartment door (zone 825) is installed on the lower right side of the fuselage between FR24A and FR28. It opens hydraulically out from the fuselage and gives access to the FWD cargo compartment. It is permitted to operate the cargo door with the subsequent wind speed limits:

- Usual operation of the cargo door: 40 knots maximum
- Operation of the cargo door with the nose of the A/C into wind: 50 knots maximum
- The cargo door can stay in the fully open position: 65 knots maximum.

The cargo door has a manually operated locking and safety mechanism which keeps it in the closed position and locks it. The cargo door weighs 108.0 kg and has dimensions of 1855 x 2025 mm.

7.8.2.2 Release Mode

To release the cargo door mechanism, pull the locking handle away from the cargo door. To get access to the locking handle, the operator pushes the handle flap automatically inboard. This operation releases the hook of the flap mechanism and the locking handle is movable. When the locking handle is pulled until the limit lever stops this movement, the subsequent occurs:

- the lever mechanism operates the link rod which moves the link lever. The safety shaft turns so that the safety cams move away from the recess of the locking hooks,
- the drift pin levers move up and operate the teleflex controls. The ends of these controls extend and move the bellcranks which operate the connection links. The drift pins retract from the pockets of the fuselage frames,
- the vent door lever operates the connection rod which turns the drive shaft of the gear box. The output shaft of the gear box turns also and moves the drawbar which opens the vent door. The drive shaft operates the link assy at the same time so that the target lever moves away from the door sill. The related target does not operate the proximity switch 30WV.

To disengage the locking hooks from their fuselage fittings, turn the locking handle down into its UNLOCKED position. During this movement, the subsequent occurs:

- the link rod operates the deflection unit which turns the locking shaft in the release direction. The locking shaft transmits this movement to the shaft levers, the control lever and the interlock cam,
- the shaft levers operate the spring units to release the overcenter position of the locking units. Then the bellcranks move the bellcrank levers and the locking hooks disengage from the eccentric bolts of the fuselage fittings,
- the control lever moves the target to the proximity sensor 5MJ which sends a signal to the door control circuit,
- the interlock cam moves up so that the released interlock mechanism can be serviceable.

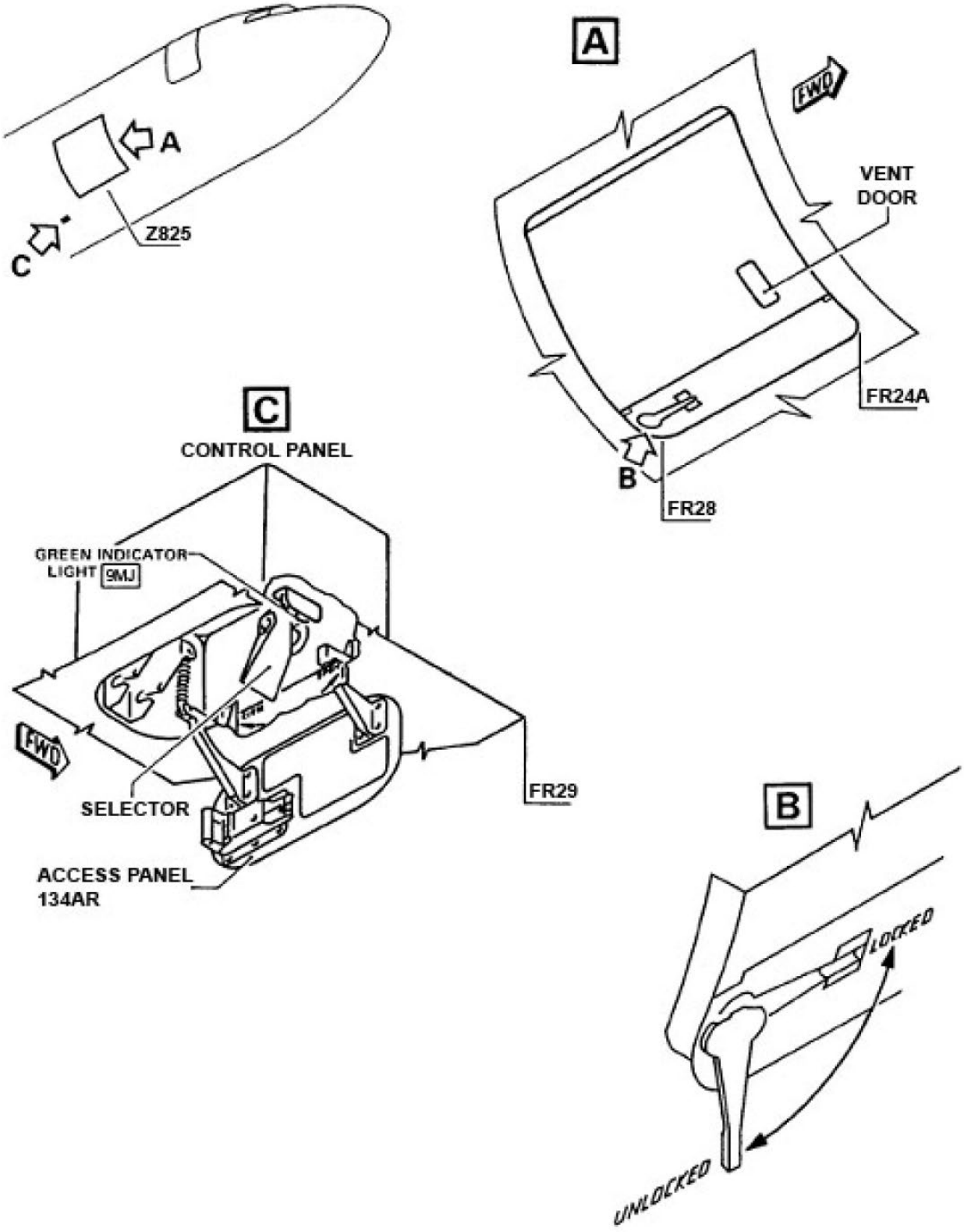
When the cargo door opens, the roller lever of the interlock mechanism moves away from the interlock fitting of the door sill. The spring unit extends and moves the interlock lever so that its stop bolt touches the interlock cam. This causes the interlock mechanism to block the operation of the locking handle which is in the UNLOCKED position.

7.8.2.3 Opening of the FWD or AFT cargo-compartment door with the yellow electric pump

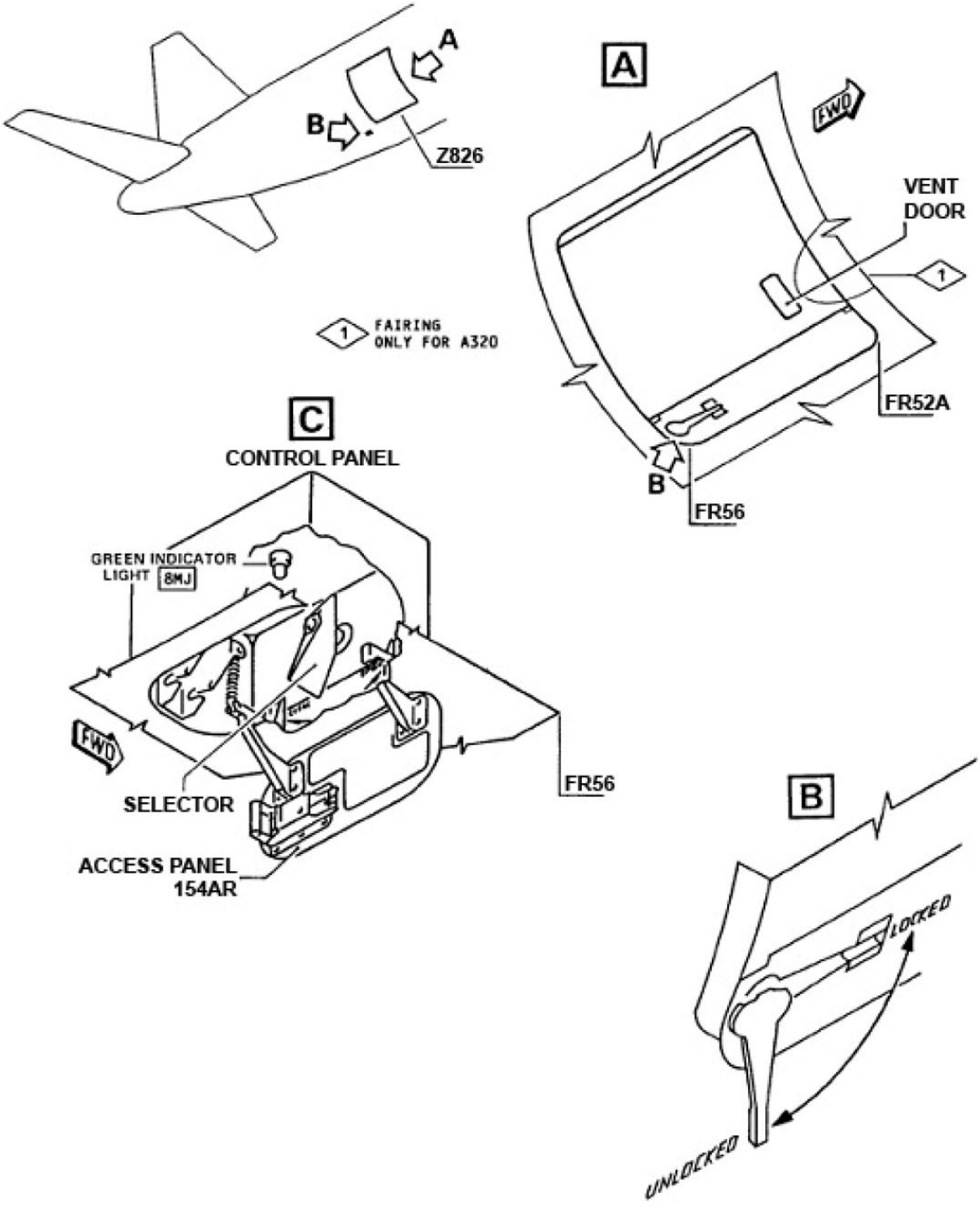
CAUTION: You must close the cargo compartment doors before the wind speed is more the 65 knots to prevent damage to the door or to the aircraft structure.
CAUTION: Do not open the cargo compartment doors if the wind speed is more than 40 knots to prevent damage to the door or to the aircraft structure.
CAUTION: When you open and close the cargo doors, make sure that the access platform is at the correct height. If it is too high, it will prevent free movement of the doors.
CAUTION: When you open and close the cargo doors, make sure that the access platform is at the correct height. If it is too high, it will prevent free movement of the doors.
WARNING: Make sure that the travel range of the cargo door is clear before you unlock it. Stay aft of (left of) the door when you unlock it because it can open suddenly and cause injury.
NOTE: The maximum wind speed can be 50 knots, if the aircraft nose is put into the wind.

(1) Push the handle flap in and pull the locking handle away from the cargo door.
(2) Turn the locking handle down to the UNLOCKED position.
NOTE: The unlocked cargo door opens to the vertical position because of the force of gravity.
WARNING: Make sure that the travel ranges of the flight control surfaces are clear before you pressurize/depressurize a hydraulic system.
(3) Operation on the control panel: Move the selector on the control panel to the OPEN position and hold it until the green indicator light comes on.
NOTE: The green indicator light shows that the cargo door is in its fully open position. The door actuators are in their extended positions and internally locked.
(4) If the cargo door does not open, do these steps:
NOTE: It is not possible to open the cargo door immediately after it is closed. The unlocked cargo door cannot move to the vertical position because of the remaining internal pressure in the door actuators.
(a) Make sure that no person operates the other cargo door during this procedure.
(b) Turn the locking handle to the LOCKED position and push it into the recess of the handle flap.
(c) After 30 seconds (minimum), continue with the subsequent steps.
NOTE: This causes the E-pump 3075GX to stop and the selector valve 2500MJ is in its closed position.
(d) Move the selector of the control panel to the CLOSE position and hold it for approximately 5 seconds.
(e) Move the selector of the control panel to the OPEN position and hold it there for approximately 5 seconds to release the internal pressure.
(f) Turn the locking handle to the UNLOCKED position until the related cargo door opens to its vertical position.
(g) If the cargo door does not move to its vertical position, do the steps (a) thru (f) again.
(h) Move the selector of the control panel to the OPEN position and hold it until the green indicator light comes on.
(5) Release the selector when the green indicator light is on.
NOTE: The selector must go back automatically to the NEUTRAL position. If not, put it manually in the NEUTRAL position to prevent a permanent operation of the yellow hydraulic pump.
(6) Install the applicable safety support equipment to safety the opened cargo door.

Normal operation – FWD cargo compartment door



Normal operation – AFT cargo compartment door



7.8.2.4 Closing of the FWD or AFT cargo-compartment door with the yellow electric pump

WARNING: Before you close the cargo door, bleed the door hydraulic system if:

- The door was open for maintenance work on the yellow hydraulic system, and/or
- The door was open for more than 12 hours.

If you do not bleed the door hydraulic system, the cargo door can close suddenly (when you put the operation lever in the closed position) and thus cause injury and/or damage.

CAUTION: You must close the cargo compartment doors before the wind speed is more the 65 knots to prevent damage to the door or to the aircraft structure.

CAUTION: When you open and close the cargo doors, make sure that the access platform is at the correct height. if it is too high, it will prevent free movement of the doors.

WARNING: Make sure that the travel ranges of the flight control surfaces are clear before you pressurize/depressurize a hydraulic system.

(1) Move the selector of the control panel to the CLOSE position and hold it until the cargo door is closed.
NOTE: The green indicator light goes off when the cargo door starts to close.
(2) Release the selector when the cargo door is fully closed.
NOTE: The selector must go back automatically to the NEUTRAL position. If not, put it manually to the NEUTRAL position to prevent a permanent operation of the yellow electric pump.
(3) Turn the locking handle up to the LOCKED position and push it into the recess of the handle flap.
NOTE: Manually lock the hydraulically closed cargo door within 3 sec. maximum. This prevents that the unlocked cargo door moves in the open direction due to the own gravity.

7.8.2.5 Opening of the FWD or AFT cargo-compartment door with the hand pump

CAUTION: Do not open the cargo compartment doors if the wind speed is more than 40 knots to prevent damage to the door or to the aircraft structure.

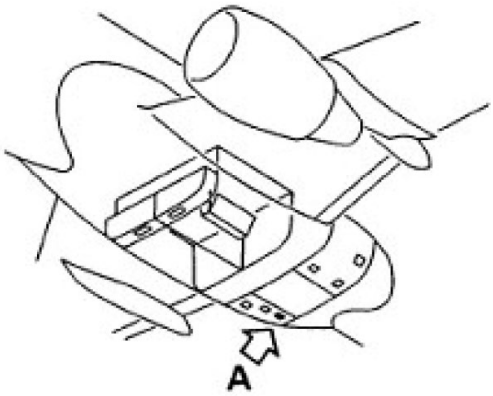
CAUTION: You must close the cargo compartment doors before the wind speed is more the 65 knots to prevent damage to the door or to the aircraft structure.

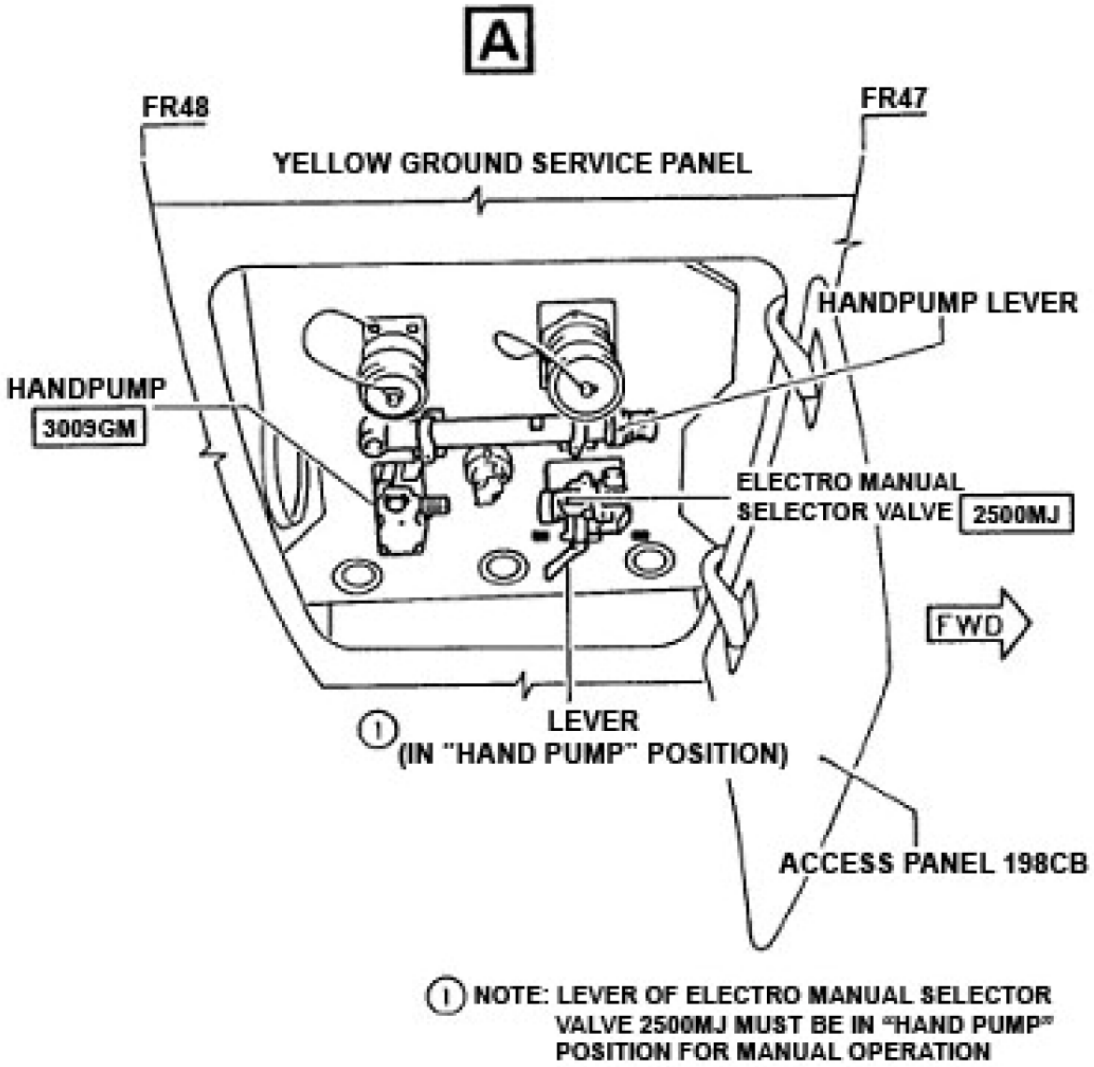
NOTE: If you put the aircraft nose into the wind, the maximum speed can be 50 knots.

NOTE: Two persons are necessary for this procedure.

(1) Push the handle flap in and pull the locking handle away from the cargo door.
(2) Turn the locking handle down to the UNLOCKED position.
NOTE: The unlocked cargo door opens to the vertical position because of the force of gravity.
(3) Move the selector of the control panel to the OPEN position and hold it during the operation of the hand pump.
(4) Set the lever of the electro-manual selector valve 2500MJ to the HAND PUMP position.
(5) Put the hand pump lever on the hand pump 3009GM and operate it until the cargo door is fully opened.
NOTE: When the cargo door is fully opened you will feel a large increase in resistance to the hand pump lever.
(6) Install the applicable safety support equipment to safety the opened cargo door. Remove the access platform(s).
(7) Set the lever of the electro-manual selector valve 2500MJ back to the E-PUMP position.

Yellow ground service panel





7.8.2.6 Closing of the FWD or AFT cargo-compartment door with the hand pump

WARNING: Before you close the cargo door, bleed the door hydraulic system if:

- The door was open for maintenance work on the yellow hydraulic system, and/or
- The door was open for more than 12 hours.

If you do not bleed the door hydraulic system, the cargo door can close suddenly (when you put the operation lever in the closed position) and thus cause injury and/or damage.

CAUTION: You must close the cargo compartment doors before the wind speed is more the 65 knots to prevent damage to the door or to the aircraft structure.

NOTE: Two persons are necessary for this procedure.

(1) Move the selector of the control panel to the CLOSE position and hold it during the operation of the hand pump.
(2) Set the lever of the electro-manual selector valve 2500MJ to the HAND PUMP position.
(3) Put the hand pump lever on the hand pump 3009GM and operate it until the cargo door is fully closed.
(4) Turn the locking handle up to the LOCKED position and push it into the recess of the handle flap.
NOTE: Manually lock the hydraulically closed cargo door within 3 sec. maximum. This prevents that the unlocked cargo door moves in the open direction due to the own gravity.
(5) Set the lever of the electro-manual selector valve 2500MJ back to the E-PUMP position.

7.8.2.7 Opening of the BULK cargo-compartment door

CAUTION: Make sure that the door handle is flush with the door recess before you move it inboard. This prevents damage to the door skin.

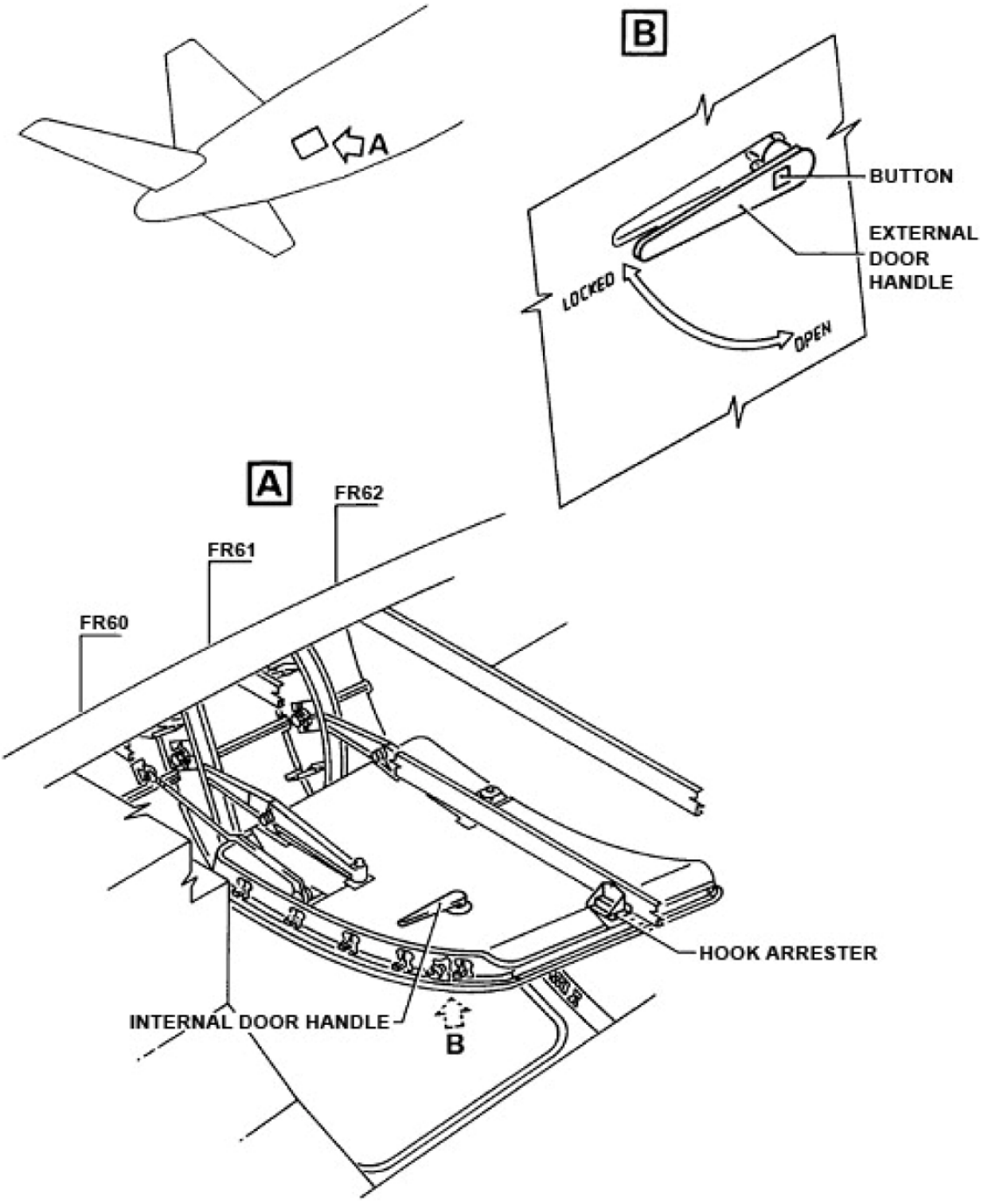
(1) To open the bulk cargo door from the outer side, push the button of the external door handle.
NOTE: This causes the external door handle to release from its recess.
(2) Move the internal or external door handle to the OPEN position.
(3) Push the bulk door inboard and put the door handle to the LOCKED position.
NOTE: If you used the external door handle, push it back into its recess.
(4) Move the bulk door manually inboard until the hook engages with the hook arrester of the fuselage crossbeam.

7.8.2.8 Closing of the BULK cargo-compartment door

CAUTION: Make sure that the door handle is flush with the door recess before you move it inboard. This prevents damage to the door skin.

(1) Push the button of the external door handle to release the external door handle from its recess.
(2) Move the external door handle to the OPEN position and hold the bulk door to make sure that it does not fall.
(3) To close the bulk door from the inner side, continue as follows:
(a) Move the bulk door slowly down until the hook is free from the hook arrester.
(b) Move the external door handle to the LOCKED position and push it into its recess.
(c) Make sure that the internal door handle is in the UNLOCKED position.
(4) Move the bulk door down into the door opening and put the applicable door handle into the LOCKED position.
(5) To close the bulk door from the outer side, push the external door handle into its recess.

Bulk door operations A320/A321



7.9 Towing

7.9.1 General

WARNING: Make sure that when the aircraft moves with its power on the ground
- No persons go where the aircraft can cause them injury or can kill them
- No objects stay where the engines can blow them away or can pull them into the engines by suction.

WARNING: Obey these safety precautions during towing pushback or movement of the aircraft.
Make sure that the path of the aircraft is clear.
Make sure that no persons sit or stand on the tow bar or use the tractor as transport this is to prevent the risk of injury.

WARNING: During towing/taxiing operations (low-speed operations included), each person in the aircraft must be in a seat and the seat belt must be fastened. If the seat belt is not fastened, there is a risk of injury if the aircraft stops suddenly.

CAUTION: Do not tow or move the aircraft on the ground if the engine cowls are open. Movement of the aircraft with the cowls open can cause damage to the cowls and the nacelle structure.

CAUTION: Do not tow or move the aircraft on the ground if the engine cowls and/or thrust reversers are installed but the engine is removed.

NOTE: You can use this towing procedure to disengage the aircraft from the gate area. No other operational towing is permitted.

NOTE: For aircraft with cabin and/or cargo-compartment(s) floor panels removed, smooth and low-speed towing is recommended.

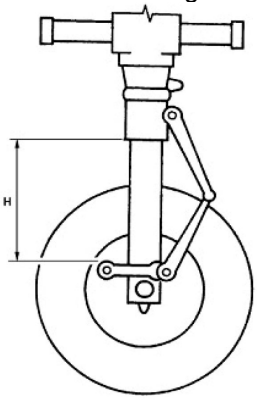
7.9.2 Towing procedures

NOTE: According to manufacturer's recommendation a towbar that has a damping system shall be used.

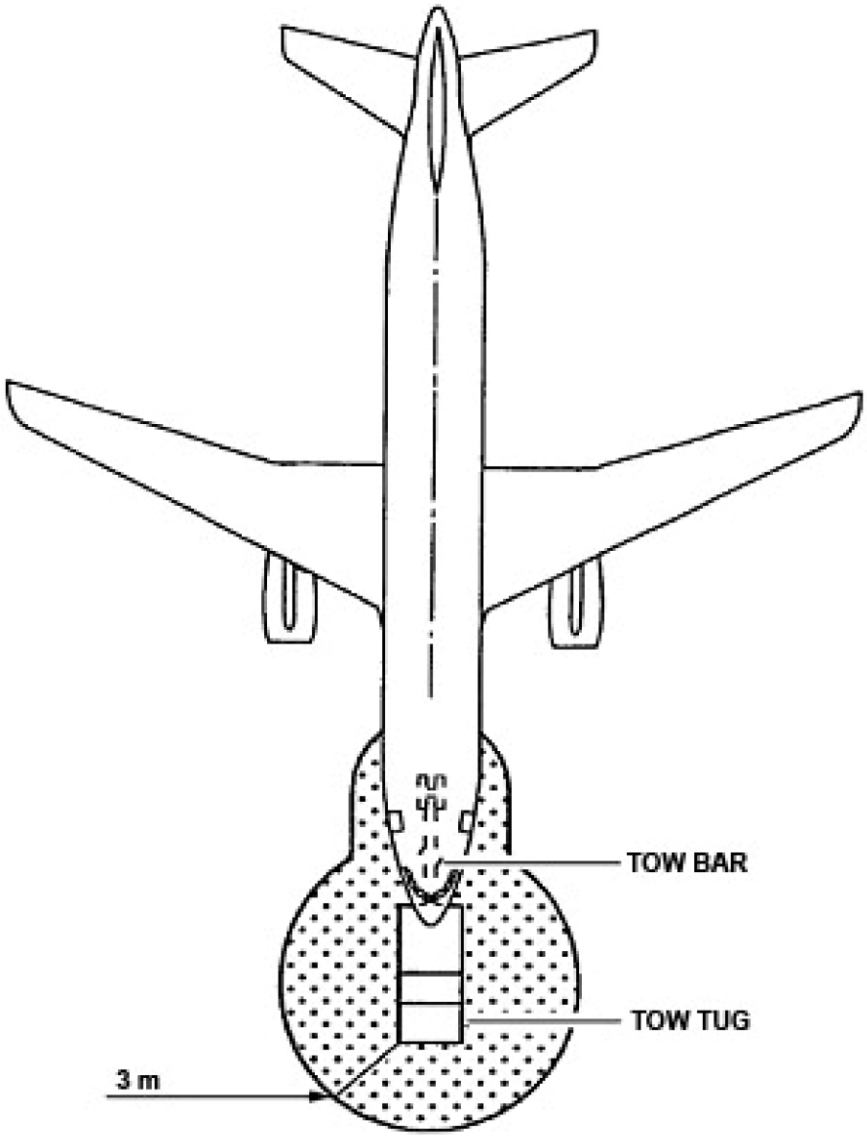
(a) You can use the NLG towbar fitting to tow or push the aircraft:
- with maximum mass,
- with the engines between zero and idle.

(b) You can use the MLG attachments to tow the aircraft:
- with the engines stopped,
- when it is bogged.

(c) Do not tow the aircraft if the dimension H is more than 300 mm. If you do, you can cause damage to the cams that make the nose gear wheels go back to the center position.
Maximum extension of the Nose-Gear shock absorber during towing:



(d) Keep a minimum of 3 m separation from the nose wheels, towbar and tractor while the aircraft moves.



NOTE: Maintain a minimum of 3 meters separation from the nose wheels, towbar and tug while aircraft is moving.

7.9.3 Speed Limits

(a) Door closed and locked or removed:
1. For a tractor with a towbar, a maximum speed of 25 km/h (15.5 mph) is permitted.
2. For a tractor without towbar, a maximum speed of 32 km/h (19.8 mph) is permitted.

(b) Passenger/crew doors fully open and locked and/or cargo doors open in vertical position:
1. The maximum speed permitted is 10 km/h (6.21 mph).

(c) In wind conditions, calculate the permitted towing speed before towing:
1. Measure the wind speed.
2. Do a check of aircraft stability.
3. Subtract measured wind speed from wind speed limit shown on the stability curve. This gives the maximum permitted towing speed.

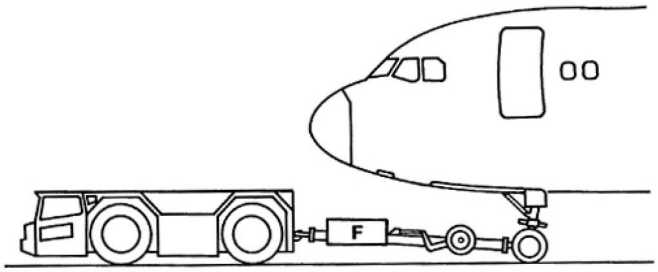
7.9.4 Approximate Towing Loads

NOTE: In all the formulas, MTM = Maximum Taxi Mass.
(a) When you push the aircraft rearward with the engines at idle, you must add the engine thrust resistance to the towing loads.
NOTE: The engine thrust resistance at ground idle is 525 daN (for each engine in operation).
(b) Use these coefficients for the friction between the tires of the tow tractor and the ground to calculate the minimum tractor mass:

- Dry concrete or asphalt: 0.80
- Wet asphalt: 0.75
- Wet concrete: 0.57
- Hard snow: 0.20
- Ice: 0.05

$$\text{Minimum tractor mass} = \frac{6\%\ \text{MTM}}{\text{friction coefficient}}$$

Towing forces	
Breakaway	6% MTM
Rolling	3% MTM
Breakaway on Slope	6% MTM + 1% MTM per 1% Slope
Rolling on Slope	3% MTM + 1% MTM per 1% Slope



7.9.5 Limit Loads and Angles

(a) In all the towing configurations, the safety pin locks the control lever on the interphone box in the disengaged position.
(b) The maximum permitted steering-angle on each side of the aircraft centerline is:

- +/- 95 degrees with towbar,
- +/- 85 degrees without towbar.

(c) During towing, the towing angle must not be more than the angle shown on the FWD NLG doors.
NOTE: Step (c) is applicable for aircraft that have the wheel steering-angle marking on the FWD NLG doors.
(d) Tow the aircraft (slowly and smoothly) with the main landing gear:

- The maximum towing angle in the vertical plane is 11 degrees.
- The nose landing gear gives the limits for the maximum towing angle in the horizontal plane.

(e) Use a towbar with:

- The towing shear pins, calibration 9120 daN for the protection of the landing gear against too high loads,
- The safety shear pin, calibration 826 m.daN for the protection of the landing gear against too high torsion.

(f) Use:

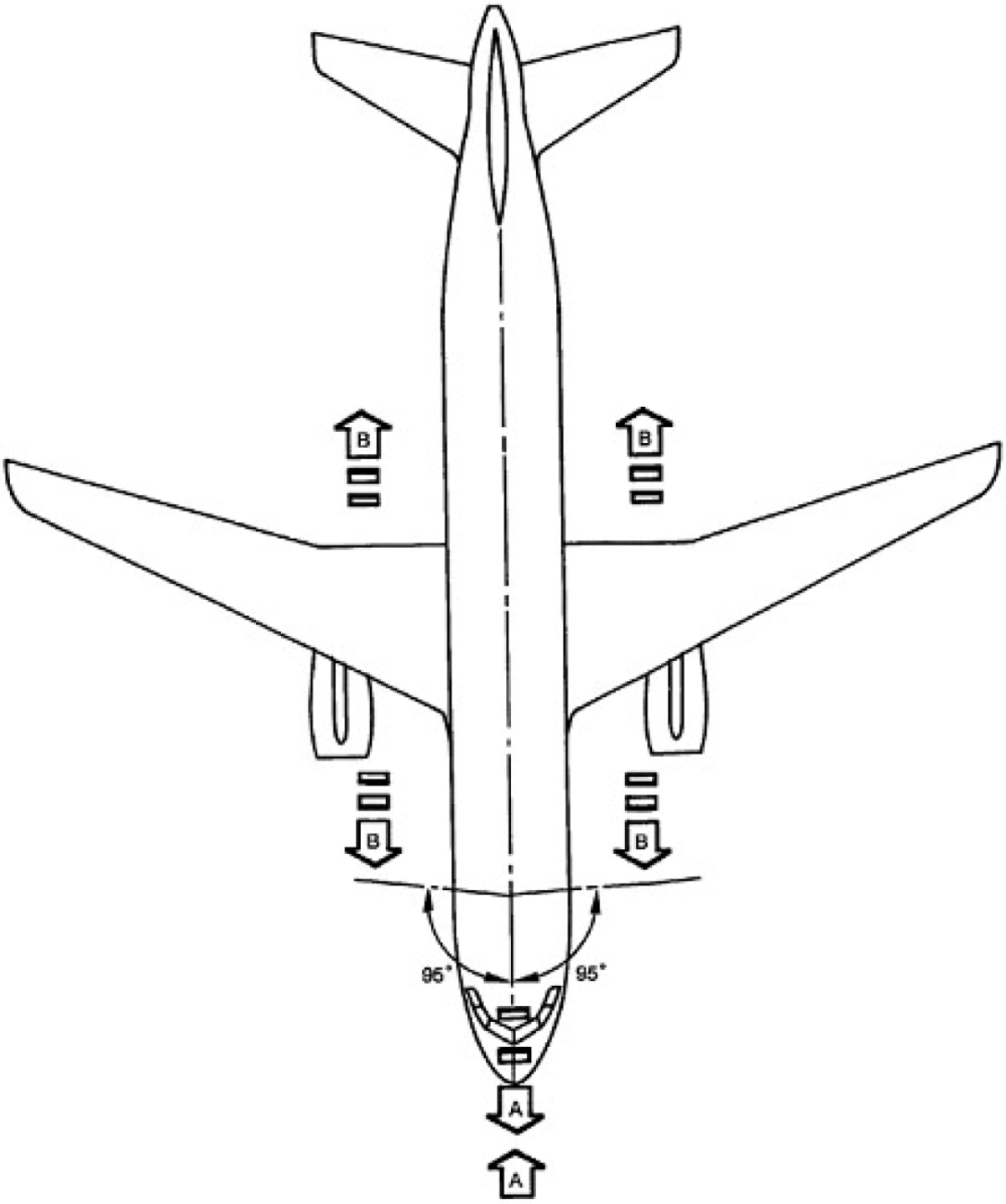
- The two special fork fittings and a cable to tow the main landing gear forward or rearward. Attach these special fork fittings to the lugs at each end of the landing gear.
- The safety shear pin, calibration 29000 daN which comes with the two-fitting/cable set.

NOTE: When the engines are not installed, tow the aircraft smoothly.

NOTE: It is permitted to tow the aircraft with the floor panels of the cabin and/or cargo compartment(s) removed.

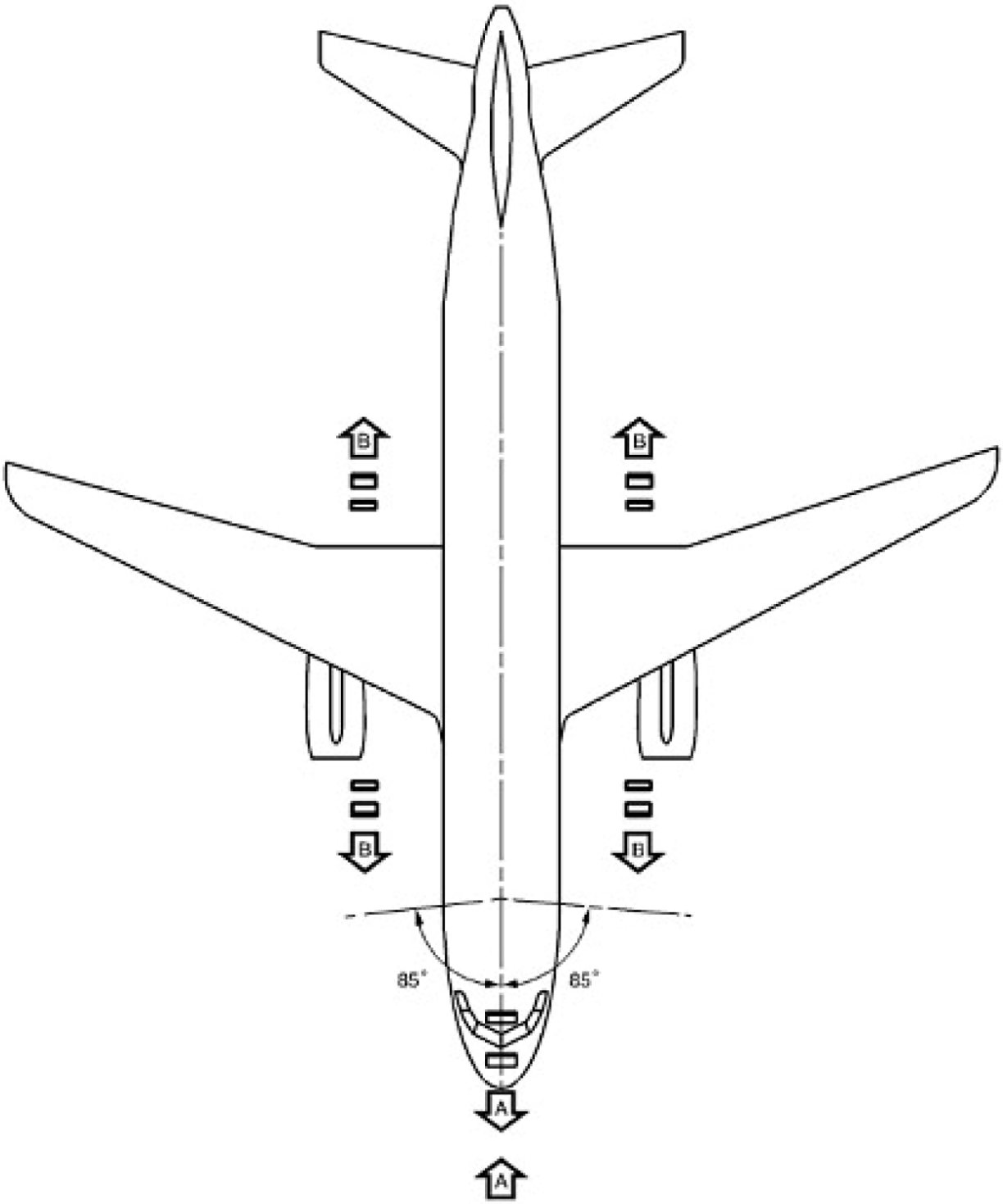
Limit towing Loads and Angles **with towbar**

Maximum gear loads		
	daN	lbf
A	9425	21188
B	29000	65200



Limit towing Loads and Angles **without towbar**

Maximum gear loads		
	daN	lbf
A	9425	21188
B	29000	65200



7.9.6 Towing with the Towbarless Tractor

WARNING: When you tow the aircraft with a towbarless tractor, the parking brake or the brake pedals shall only be used in case of emergency.
If you apply the parking brake or the brake pedals, you can cause:
- Overload to the nose landing gear
- Damage to the towbarless tractor
- Injury to maintenance personnel.

If this occurs, you must refer to airbus.

CAUTION: When you use a towbarless tractor, make sure that you obey fully all the instructions in this procedure. If you do not, the tractor can cause important scraping or other damage to the NLG and to the airframe structure around the NLG.

CAUTION: Put the parking BRK control switch in the off position before you tow or push back the aircraft. This is to prevent high loads which can cause damage to the nose landing gear.

CAUTION: Manufacturer strongly recommends that the operators of towbarless tractors carefully align the clamping device of the tractor with the nose landing gear axis. The gap between the cradle and the torque-link is very small and a misalignment can cause damage to the torque-link pin. a simple alignment device on the tractor (marking, metal indicator, etc. supplied by the manufacturer of the towbarless tractor or manufactured locally) can help the driver.

Installation of the Towbarless Tractor

NOTE: This procedure gives general instructions for installation of the towbarless tractor. For more instructions related to the operation of the tractor (loading / unloading, etc.), refer to the tractor manufacturer's instructions.

NOTE: This procedure is for towing of the aircraft in maintenance configuration only and is not for operational towing. Do not use a towbarless tractor to tow the aircraft to a dispatch area near the runway threshold.

(1) There are special approval procedures for towbarless tractors. Before towing, be sure that the towbarless tractor is approved for towing this aircraft.
(2) Set the aircraft type on the towbarless tractor, if necessary.
(3) Make sure that the parking brake is applied.
(4) Remove the wheel chocks.
(5) Align the clamping device of the tractor with the NLG axis.
(6) Lock on and lift the NLG.
(7) Release the parking brake.
(8) Make sure that the nose landing gear is correctly on the center of the tractor platform and cannot be disengaged from the tractor.

WARNING: When you tow the aircraft with a towbarless tractor, the parking brake or the brake pedals shall only be used in case of emergency.
If you apply the parking brake or the brake pedals, you can cause:
- Overload to the nose landing gear
- Damage to the towbarless tractor
- Injury to maintenance personnel.

If this occurs, you must refer to airbus.

CAUTION: Put the parking brk control switch in the off position before you tow or push back the aircraft. This is to prevent high loads which can cause damage to the nose landing gear.

Towing

NOTE: You can use this towing procedure to disengage the aircraft from the gate area. No other operational towing is permitted.

(1) Tow slowly and smoothly.

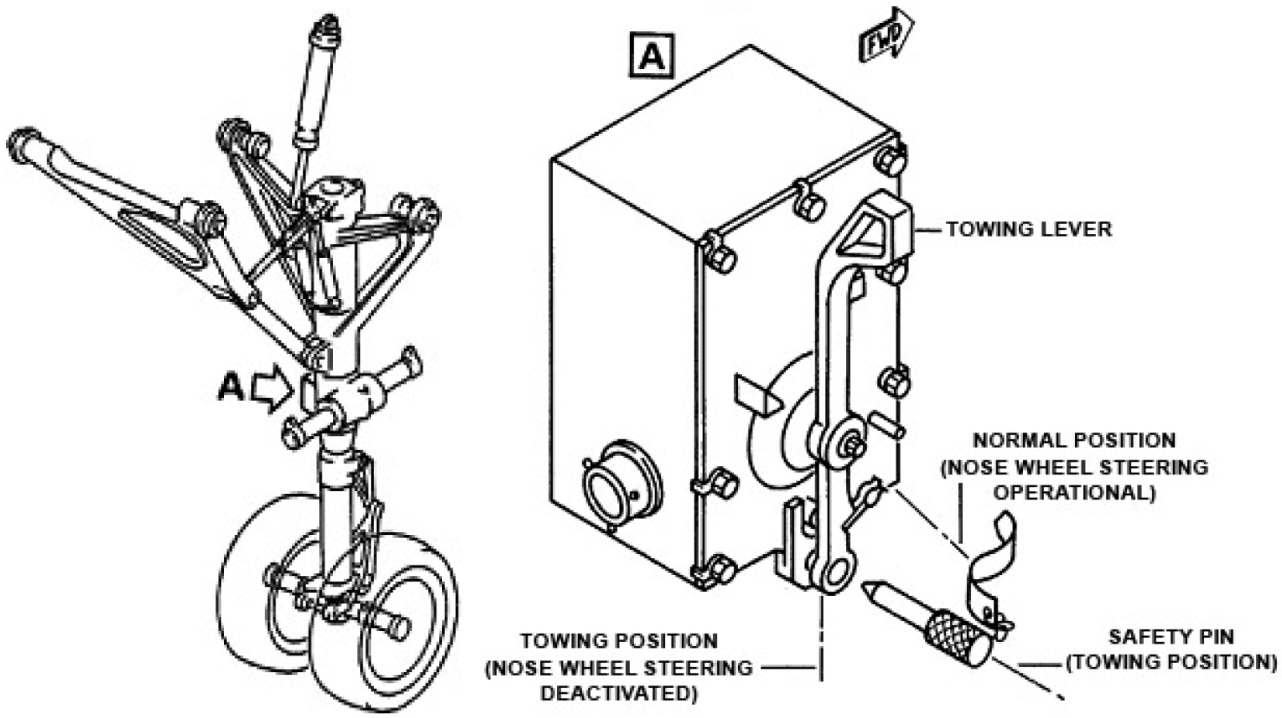
NOTE: During towing operations, put one person in the cockpit to operate the brakes if necessary.

NOTE: You must do a normal towing operation on an applicable ground surface only.

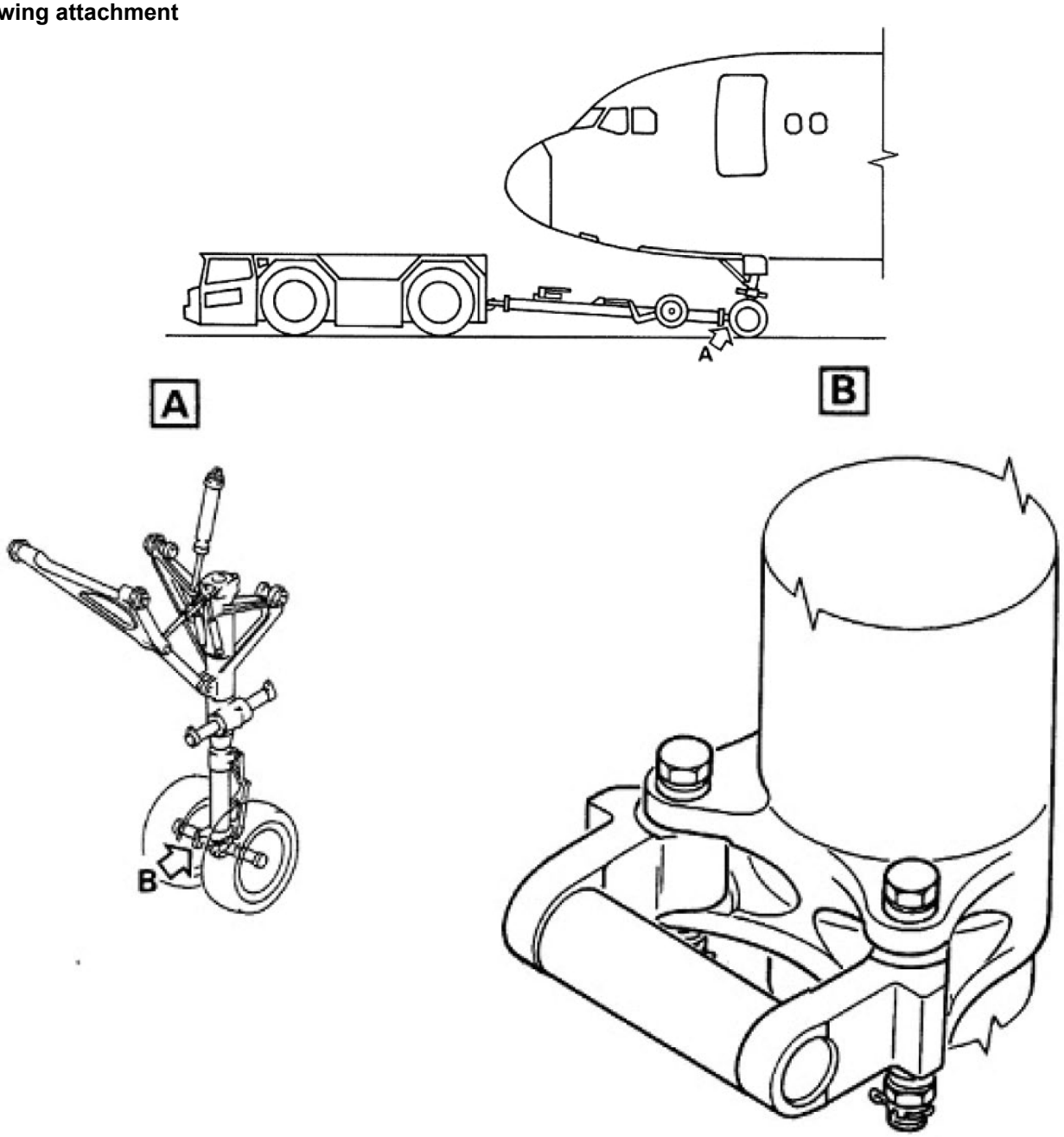
Visual Inspection

(1) After you complete the towing operation, make sure that the nose wheels are aligned with the aircraft centerline.

N/W-Steering deactivation electrical-box



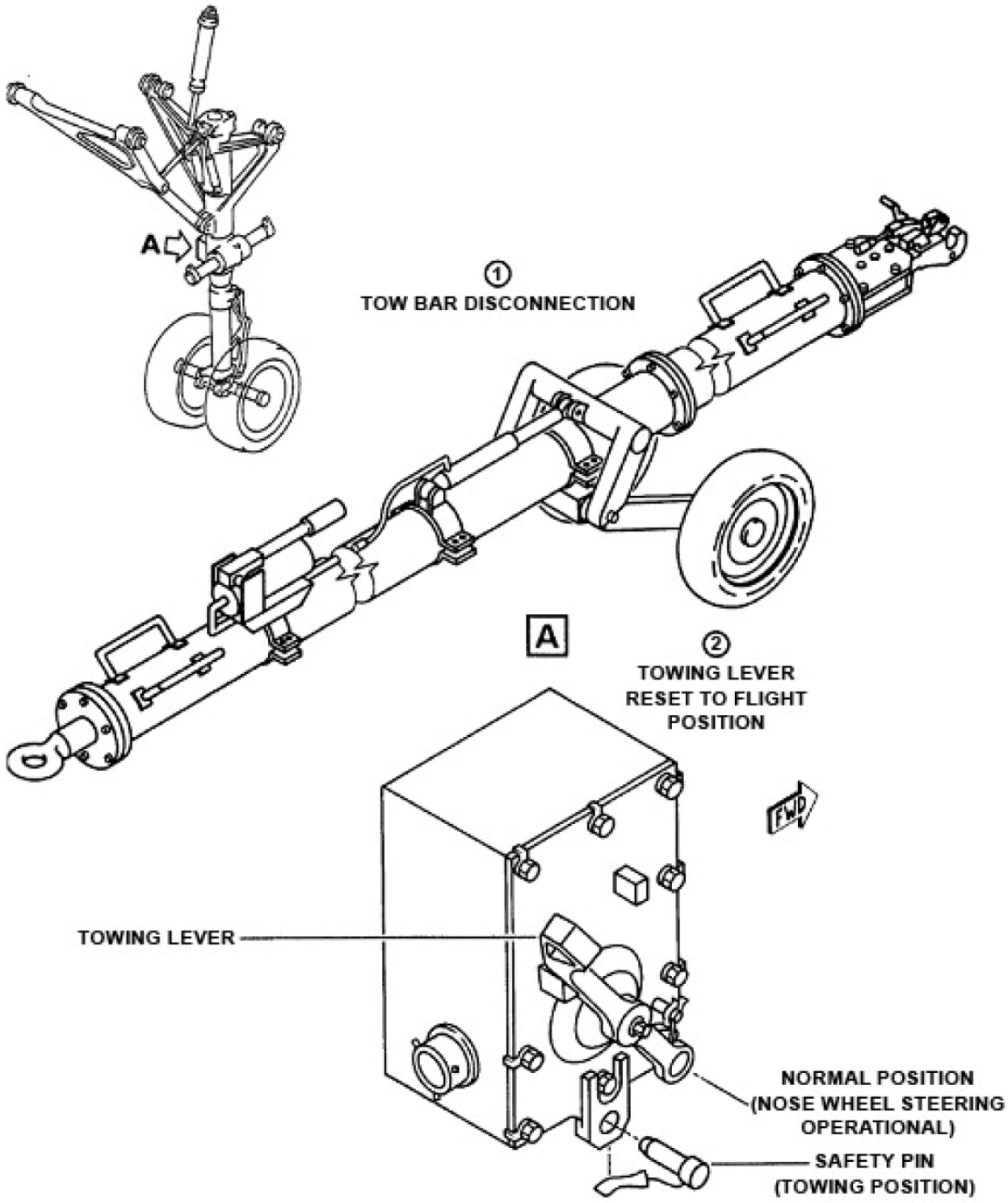
Towing attachment



Removal of the Tractor

(1) Remove the nose landing gear from the towbarless tractor.
(2) Put the CHOCK - WHEEL in position:
    (a) For the NLG:
    - in front of and behing the wheels.
    (b) For the MLG:
    - in front of and behind the wheels.

NOTE: The wheel chocks on the nose landing gear and the brake parking give more safety in bad weather.



Towbar removal

7.9.7 Push Back Towing by the MLG

NOTE: For aircraft with cabin and/or cargo compartment(s) floor panels removed, smooth and low-speed towing is recommended.

Safety Precautions
(1) Make sure that the interphone between the crew and the departure agent operates correctly (it must be possible for the departure agent to speak to the crew at all times).
(2) The departure agent must be forward of the aircraft and out of the engine dangerous areas during the push back operations.

Aircraft Maintenance Configuration
(1) On the N/W steering deactivation electric box 5CG: make sure that the towing lever is in the normal position.
(2) On the panel 110VU: Set the PARKING BRK control switch to OFF.

Positioning of the Tractor
(1) Make sure that the tractor does not hit and cause damage to the MLG structure or other equipment.
(2) Put the tractor in position.
NOTE: If you must do a turn during the aircraft push back operation, you must put the tractor in position at the inner or outer gear. You must do this with an aircraft Nose Wheel Steering limite of +/- 45 deg for 90 deg turns and +/- 30 deg for "S" turns.
(3) When the tractor is in position on the MLG, ALL personnel must go out of the work area.
NOTE: The tractor has a remote control system, use this system for the aircraft push back operation.
WARNING: Make sure that when the aircraft moves with its power on the ground

- No persons go where the aircraft can cause them injury or can kill them
- No objects stay where the engines can blow them away or can pull them into the engines by suction.

Engine Start
(1) Start the engine 2.
NOTE: Start the engine 1 at the end of the push back operation after the departure agent removes the tractor from the MLG with the remote control system.

7.9.8 Aircraft Push-back

(1) The crew controls the aircraft direction during push back, with the steering wheel. They obey the instructions of the departure agent.
(2) During push back towing, emergency stop is possible. Two procedures are possible:

- Stop the tractor.
- Apply aircraft brakes.

(3) During push back towing, obey the guiding instructions of the departure agent.

Safety Precautions
(1) At the end of the pushback operation, make sure that the aircraft is parallel to the taxiway axis.
(2) On the panel 110VU: Set the PARKING BRK control switch to ON.

Disconnection of the Tractor
(1) With the tractor remote control system, disconnect the tractor from the MLG.
(2) Remove the tractor from the work area.

7.10 De-/Anti-Icing Procedures

7.10.1 Aircraft configuration prior to De-/Anti-icing

According to manufacturer's recommendations, the aircraft must be properly configured prior to De-/Anti-icing following the below instructions:
1. Aircraft must be parked on a flat surface. The wheel of the nose landing gear must be on the aircraft axis and the aircraft must be pointed into the wind.
2. Safety devices must be installed on the landing gears.
3. Put the wheel chocks in front of and behind the wheels of the main and nose landing gears.
NOTE: The wheel chocks on the nose landing gear and the parking brake give more safety in bad weather.
4. Aircraft must be grounded.
5. Install protection equipments.
6. Ground service network must be energized.
7. Make sure that the flaps, the slats, the spoilers, the speed brakes and the thrust reversers are retracted.
8. Make sure that the APU bleed and the aircraft engine bleeds are stopped.
9. Make sure that all the doors and the sliding windows are closed.

7.10.2 Manufacturer's De-/Anti-icing Recommendations

Safe operation of aircraft in cold weather conditions raises specific problems. Aircraft downtime and delays in flight schedules caused by cold weather problems can be minimized by a program of preventive cold weather servicing.

CAUTION: Do not apply anti-icing/de-icing fluid in:
- The air intakes and exhaust of the engines or APU
- The air outlet of the outflow valve 10HL
- All other air intakes or outlets.

CAUTION: Before the anti-icing/de-icing procedure, always put protection (sheet material) on the brake units. Anti-icing/de-icing fluid can cause corrosion.

CAUTION: Do not point high-pressure jets:
- At equipment such as gear box seals, steady bearings, rotary actuators and universal joints,
- At electrical components such as harnesses, proximity sensors and connectors. The impact pressure of the jets must not be more than 5 PSI (0.35 BAR). For fairings, the impact pressure of the jets must not be more than 1.5 PSI (0.1 BAR). High pressure jets can push liquids into bearings, joints, brakes, electrical connectors and other sealed components. Liquids that get into these areas can cause corrosion, freeze during aircraft flight, remove necessary lubricants or start incorrect electrical functions.

CAUTION: Do not use jet exhaust to remove snow or ice from the airframe. The high pressure and high temperature of jet exhaust can cause damage to the aircraft.

CAUTION: During the anti-icing/de-icing and washing procedures, make sure that the hot water or hot water/fluid mixtures do not cause the temperature of the aircraft skin to increase to more than +70°C.

1. Aircraft performance certification is based upon that aircraft having an uncontaminated or clean structure.
2. Ice, snow and frost or combinations of them will disturb the airflow, affecting lift and drag. They also increase the aircraft mass.
3. The aircraft, and especially its surfaces that provide lift and stability, must be aerodynamically clean. If they are not, safe operation is not possible.
4. If the fuel temperature is below freezing point and the aircraft is subject to precipitation, clear ice may form on the wings (wing tank area), even if the outside temperature is as high as 15 deg.C.

5. An aircraft that is ready for flight must not have ice, snow, slush or frost adhering to its critical flight surfaces (wings, vertical and horizontal stabilizers and rudder). Thin hoarfrost is permitted on the upper surface of the fuselage.

NOTE: Thin hoarfrost is typically a white crystalline deposit which usually develops uniformly on exposed surfaces on cold and cloudless nights; it is so thin that a person can distinguish surface features (lines or markings) beneath it.

NOTE: A frost layer less than 3 mm on the underside of the wing, in the area of fuel tanks, is permitted without effect on takeoff performance if it is caused by cold fuel (low fuel temperature, OAT above freezing and high humidity).

6. A contamination check of the aircraft must cover all parts of the aircraft. Visual inspection from a position which gives a clear view of all surfaces must be done. Because accumulations of clear ice are sometimes not easily visible, it is mandatory to inspect the upper wing surfaces on all departures when the temperature is between -3 and 10C and all departures when the temperature is between 10 and 14C during precipitation. The only acceptable method to identify the presence of the clear ice on the critical surfaces (wings, vertical and horizontal stabilizers and rudder) is to perform a tactile inspection. This consists of physically scratching the surfaces of the wing with a thumb nail at designated areas of the wing.

7. Weather conditions determine when the aircraft de-/anti-icing must be carried out.

8. During checks on the ground, electrical or mechanical ice-detectors must not replace physical checks.

9. If the aircraft arrives at the gate with the flaps/slats in a position other than fully retracted, these flaps/slats must be inspected, and if necessary de-iced before retraction.

7.10.3 De-/Anti-Icing Protection

7.10.3.1 Application limits

A new layer of anti-icing fluid must not be applied directly on a layer applied before.
If a new anti-icing protection must be applied before the subsequent flight:

- first, the de-icing of the aircraft with a hot fluid solution must be done,
- then, the anti-icing protection on the clean aircraft must be applied.

CAUTION: Do not apply anti-icing/de-icing fluid, on the cockpit or cabin windows. It can cause cracks on the window. The fluid can also go into the window seal. You must close all doors and windows to prevent:

- Contamination of galley floor areas with fluid,
- Contamination of upholstery.

7.10.3.2 Aircraft De-/Anti-Icing

1. Apply the de-/anti-icing fluid to all the external surfaces of the aircraft with the mobile equipment.
Do no apply fluid directly on:

- the APU air intake,
- the ram air inlets,
- the landing gear doors,
- the engine cowls and air intakes,
- the outflow valve air outlet,
- the pitot probes,
- the static probes,
- the AOA sensors.

2. Do not put too much de-/anti-icing fluid in the rudder, elevator and aileron servo-control areas. Use sufficient fluid to remove the ice and snow.

NOTE: In the THS apron area, it is important to point the spray from the front to the rear. If you point the spray in the other direction (rear to front), de-/anti-icing fluid can go into the rear fuselage non-pressurized compartment.

3. To prevent the flow of fluid on the cockpit windows, remove the remaining ANTI-ICING AND DE-ICING MATERIALS from the forward areas. Clean the surface with clear water and a soft cloth.

4. If ANTI-ICING AND DE-ICING MATERIALS are found on the cockpit or cabin windows, clean the window with clear water and a soft cloth.

NOTE: Do not use the wipers to clean the fluid on the windows.

NOTE: If ANTI-ICING AND DE-ICING MATERIALS are used, make sure that there is no remaining fluid on the cockpit windows. Be specially careful of windows with wipers.

5. Landing gear

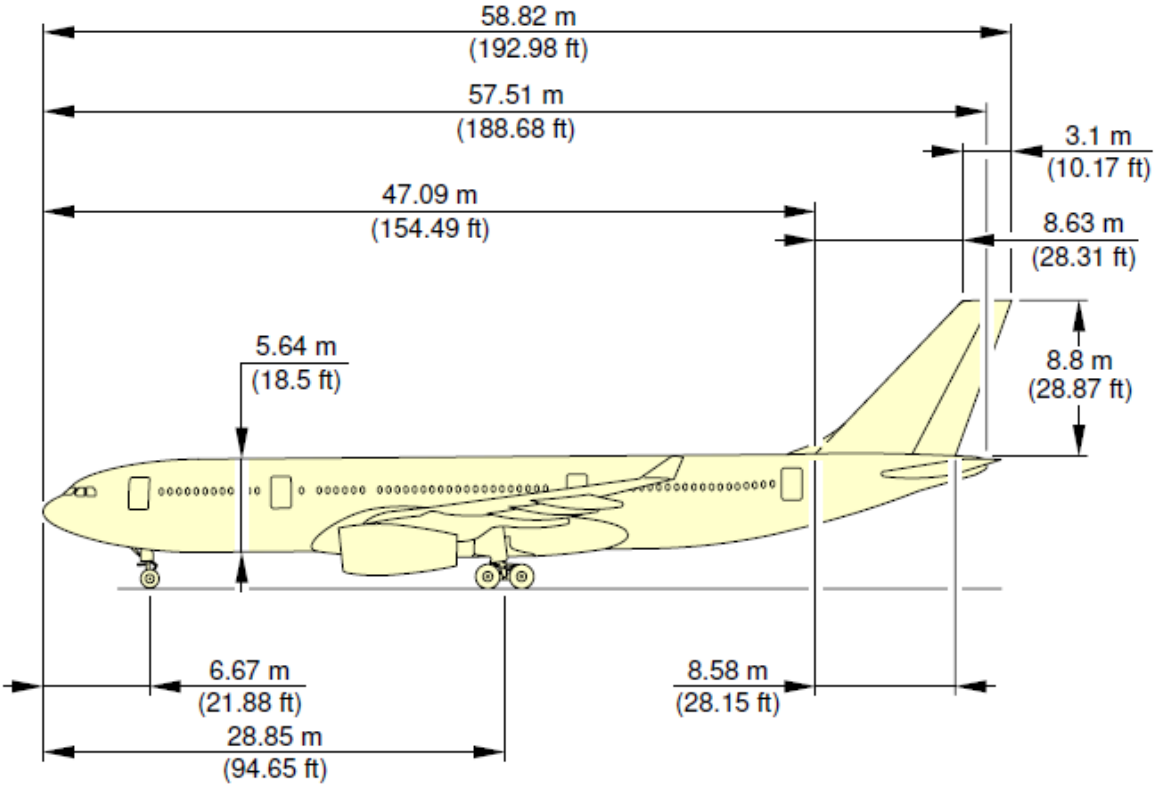
CAUTION: Remove ice and snow to prevent ingress of contaminants into brakes and wheels. Put covers on to prevent further ingress of contaminants. Remove collected ice or snow on the landing gear with a rag or a soft brush.

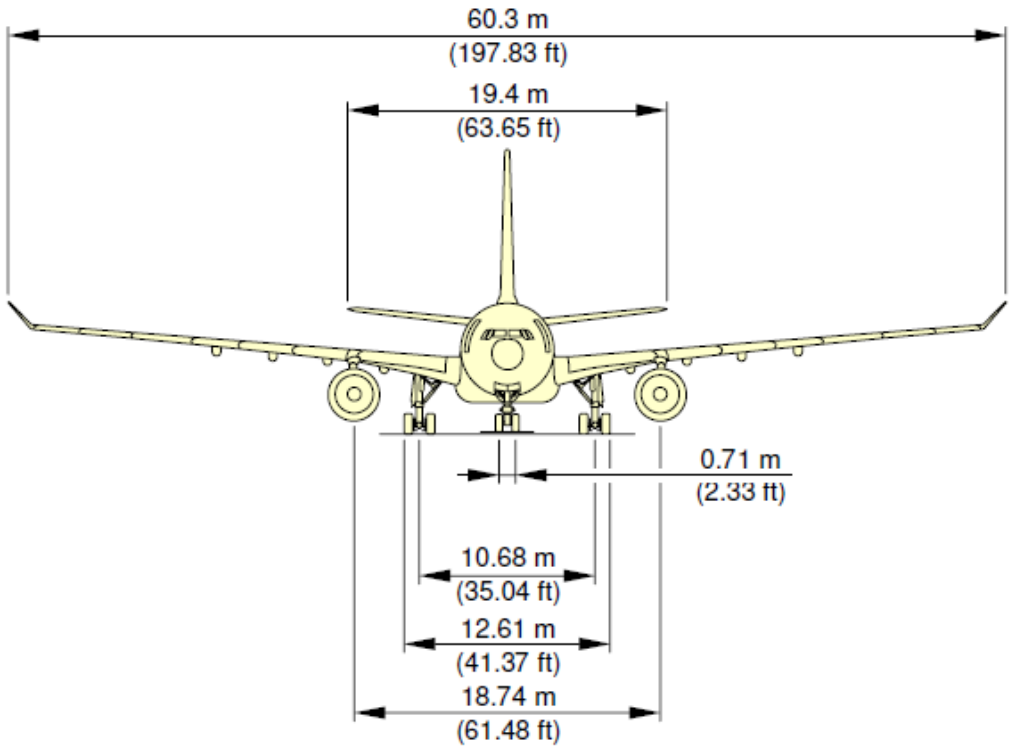
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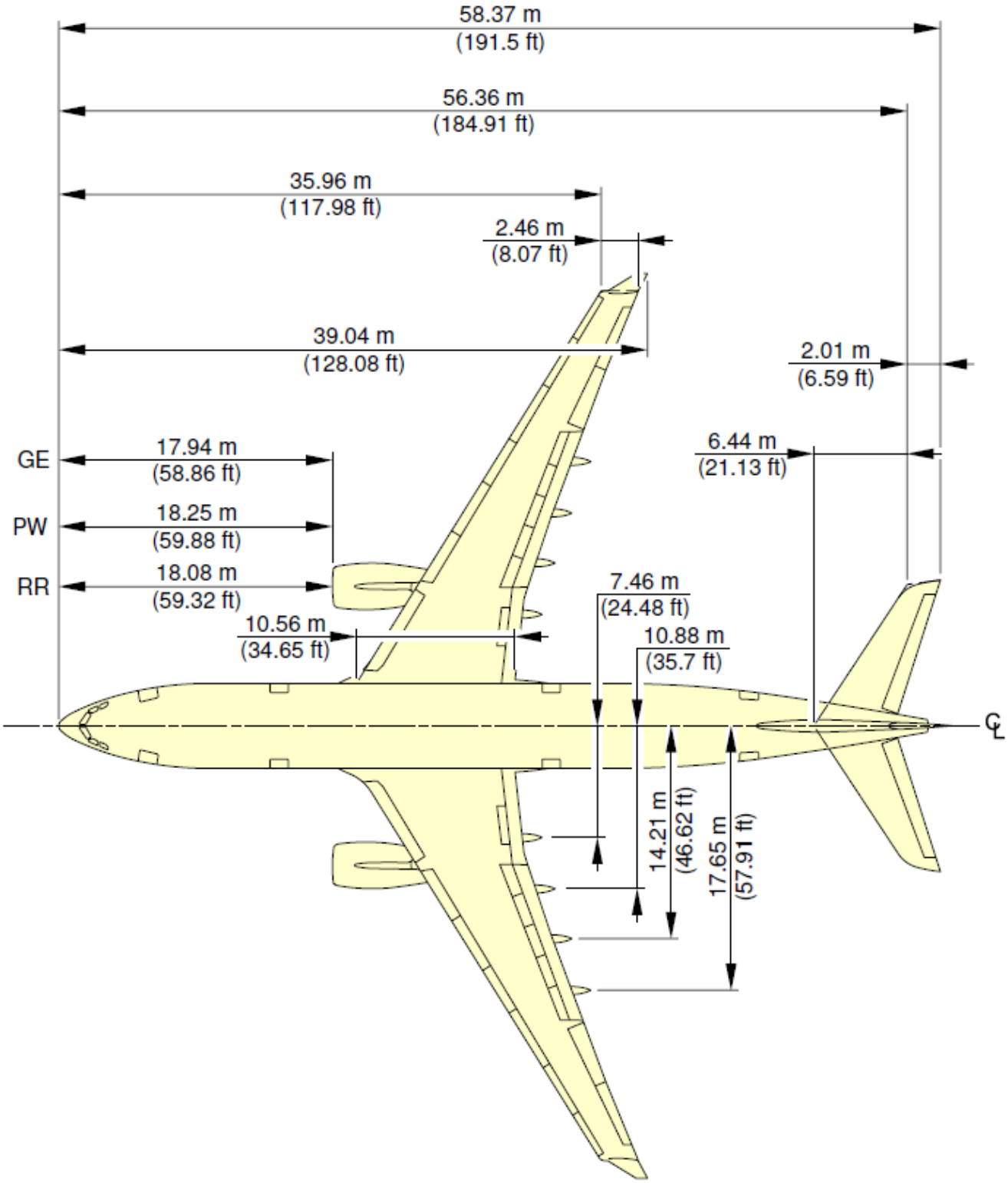
8. AIRBUS A330

8.1 Specification

8.1.1 Airplane dimensions

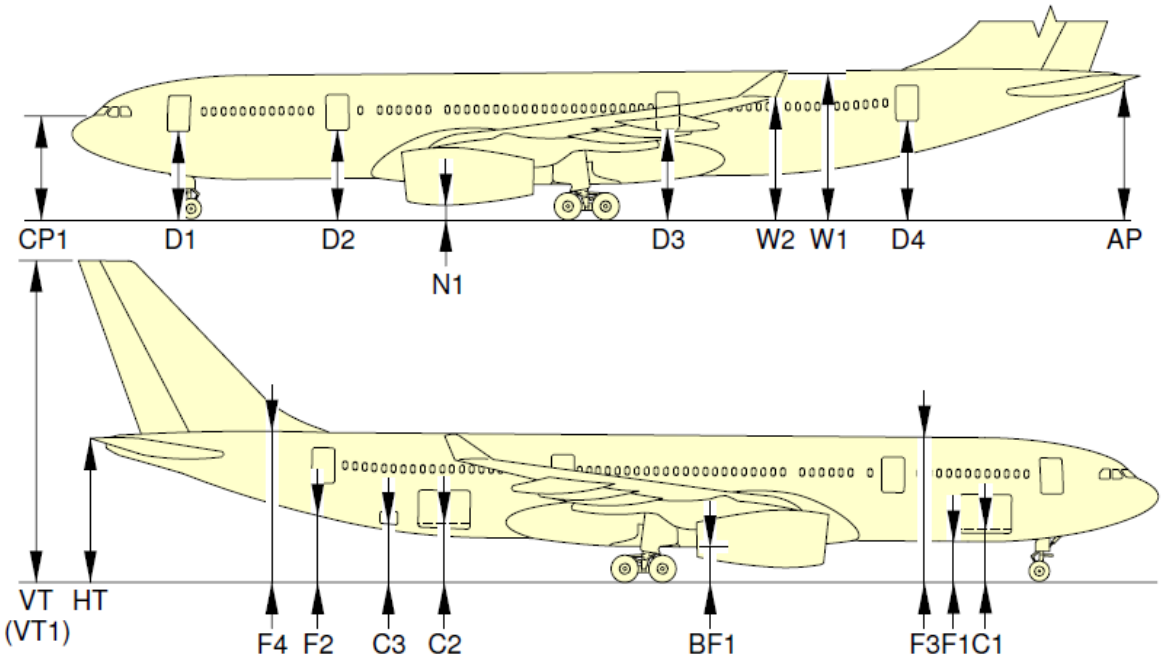





58.37 m
(191.5 ft)
56.36 m
(184.91 ft)
35.96 m
(117.98 ft)
2.46 m
(8.07 ft)
39.04 m
(128.08 ft)
2.01 m
(6.59 ft)
6.44 m
(21.13 ft)
GE
17.94 m
(58.86 ft)
PW
18.25 m
(59.88 ft)
RR
18.08 m
(59.32 ft)
10.56 m
(34.65 ft)
7.46 m
(24.48 ft)
10.88 m
(35.7 ft)
14.21 m
(46.62 ft)
17.65 m
(57.91 ft)
CL

8.1.2 Additional information

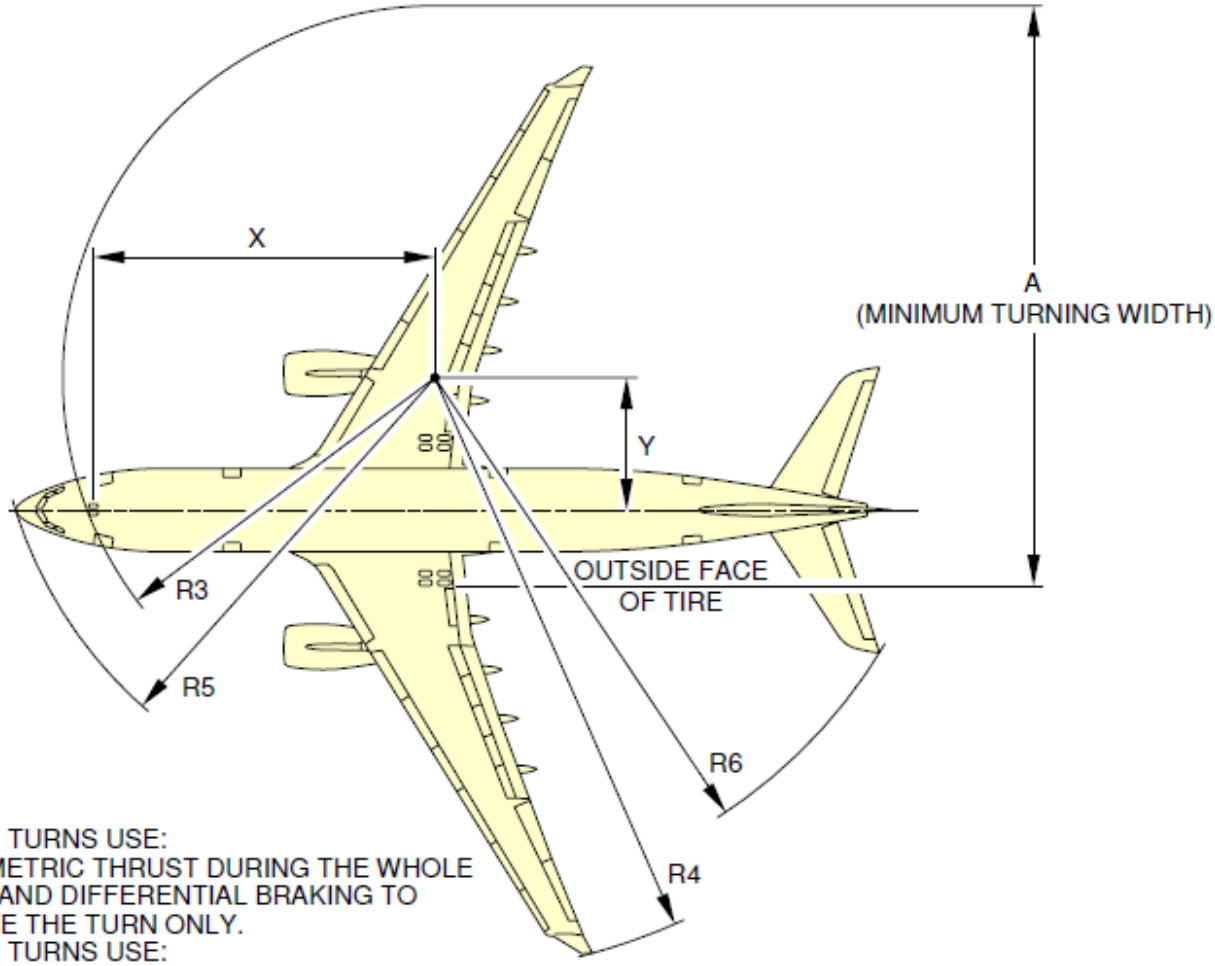
8.1.2.1 Ground clearances



A/C CONFIGURATION		MRW				176 000 kg (388 013 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	4.44	14.56	4.63	15.19	4.63	15.19	6.32	20.73
	D2	4.66	15.30	4.78	15.70	4.86	15.94	6.36	20.87
	D3	5.15	16.90	5.10	16.73	5.36	17.60	6.46	21.20
	D4	5.51	18.07	5.35	17.55	5.74	18.83	6.53	21.42
	C1	2.58	8.46	2.74	8.99	2.78	9.12	4.14	13.58
	C2	3.27	10.73	3.16	10.36	3.50	11.48	4.24	13.91
	C3	3.43	11.25	3.30	10.82	3.66	12.01	4.39	14.40
FUSELAGE	F1	2.03	6.66	2.12	6.95	2.23	7.31	3.68	12.07
	F2	2.48	8.13	2.40	7.87	2.70	8.86	3.68	12.07
	F3	7.56	24.80	7.69	25.23	7.75	25.42	9.32	30.58
	F4	8.31	27.26	8.16	26.77	8.54	28.02	9.32	30.58
	BF1	1.81	5.93	1.83	6.00	2.02	6.63	3.26	10.70
	CP1	5.22	17.12	5.43	17.81	5.41	17.75	7.10	23.30
WINGS	W1	7.71	25.29	7.61	24.96	8.08	26.51	8.96	29.40
	W2	6.14	20.14	6.05	19.85	6.48	21.26	7.55	24.77
TAILPLANE	HT	8.05	26.41	7.77	25.49	8.30	27.23	9.23	30.28
	AP	7.23	23.72	6.97	22.86	7.47	24.51	8.10	26.57
	VT	17.98	58.99	17.71	58.10	18.23	59.81	18.62	61.09
	VT1	17.48	57.35	17.21	56.46	17.73	58.17	18.12	59.45
ENGINE/ NACELLE	N1 (GE)	0.74	2.42	0.79	2.59	0.94	3.08	2.34	7.67
	N1 (PW)	0.70	2.29	0.75	2.46	0.90	2.95	2.29	7.51
	N1 (RR)	0.67	2.19	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

8.1.2.2 Minimum turning radii



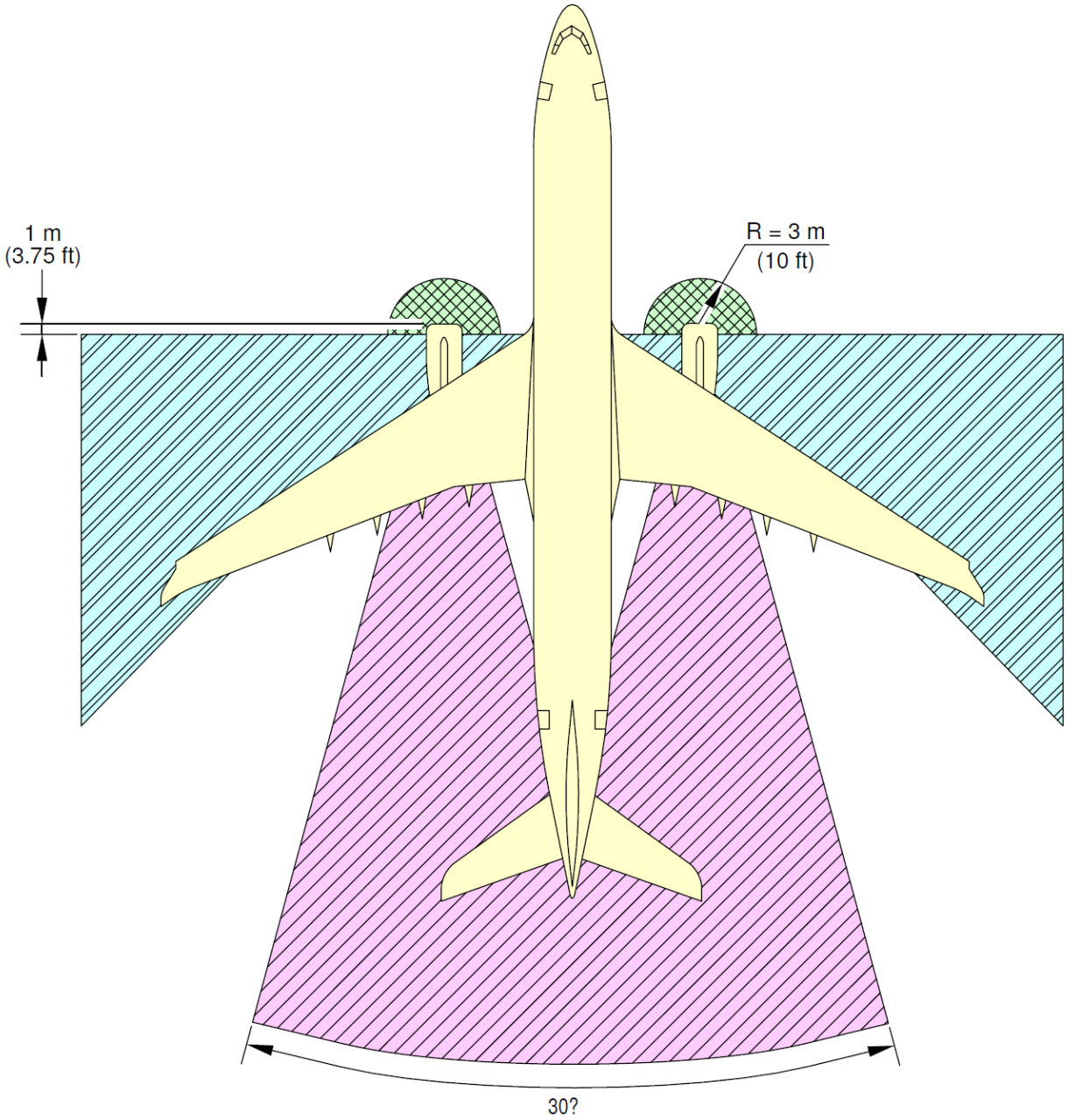
NOTE:
TYPE 1 TURNS USE:
ASYMMETRIC THRUST DURING THE WHOLE TURN; AND DIFFERENTIAL BRAKING TO INITIATE THE TURN ONLY.
TYPE 2 TURNS USE:
SYMMETRIC THRUST DURING THE WHOLE TURN; AND NO DIFFERENTIAL BRAKING AT ALL.

A330–200/–200F MINIMUM TURNING RADII										
TYPE OF TURN	STEERING ANGLE (deg)	EFFECTIVE STEERING ANGLE (deg)		X	Y	A	R3 NLG	R4 WING	R5 NOSE	R6 TAIL
1	72 (MAX)	68.1	m	22.2	8.9	39.7	24.1	40.4	30.2	34.9
			ft	73	29	130	79	133	99	115
2	72 (MAX)	62.0	m	22.2	11.8	43.8	25.4	43.2	31.2	36.5
			ft	73	39	144	83	142	102	120
1	65 (MAX)	62.2	m	22.2	11.7	43.6	25.3	43.1	31.1	36.5
			ft	73	38	143	83	141	102	120
2	65 (MAX)	59.6	m	22.2	13.0	45.6	26.0	44.4	31.6	37.2
			ft	73	43	150	85	146	104	122

NOTE:
IT IS POSSIBLE TO GET LOWER VALUES THAN THOSE FROM TYPE 1 BY APPLYING DIFFERENTIAL BRAKING DURING THE WHOLE TURN.

8.1.2.3 Danger areas

Danger areas (Ground Idle) for RR Trent 700 Series Engine



TO 49.1 m (161 ft) AFT COMMON NOZZLE ASSEMBLY (CNA)

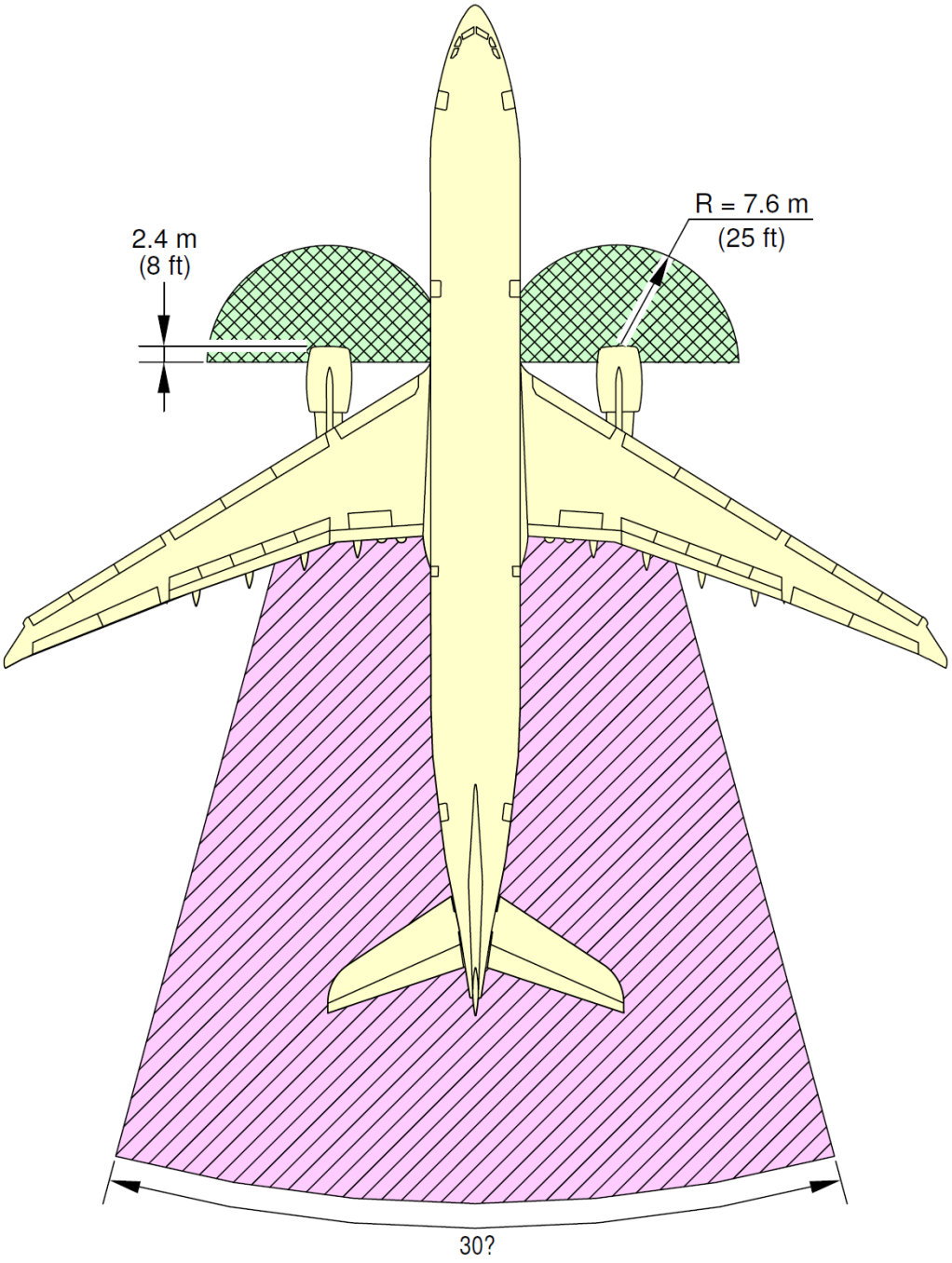
NOTE:

INTAKE SUCTION DANGER AREA MINIMUM POWER

ENTRY CORRIDOR

EXHAUST DANGER AREA

Danger areas (Breakaway Power) for RR Trent 700 Series Engine

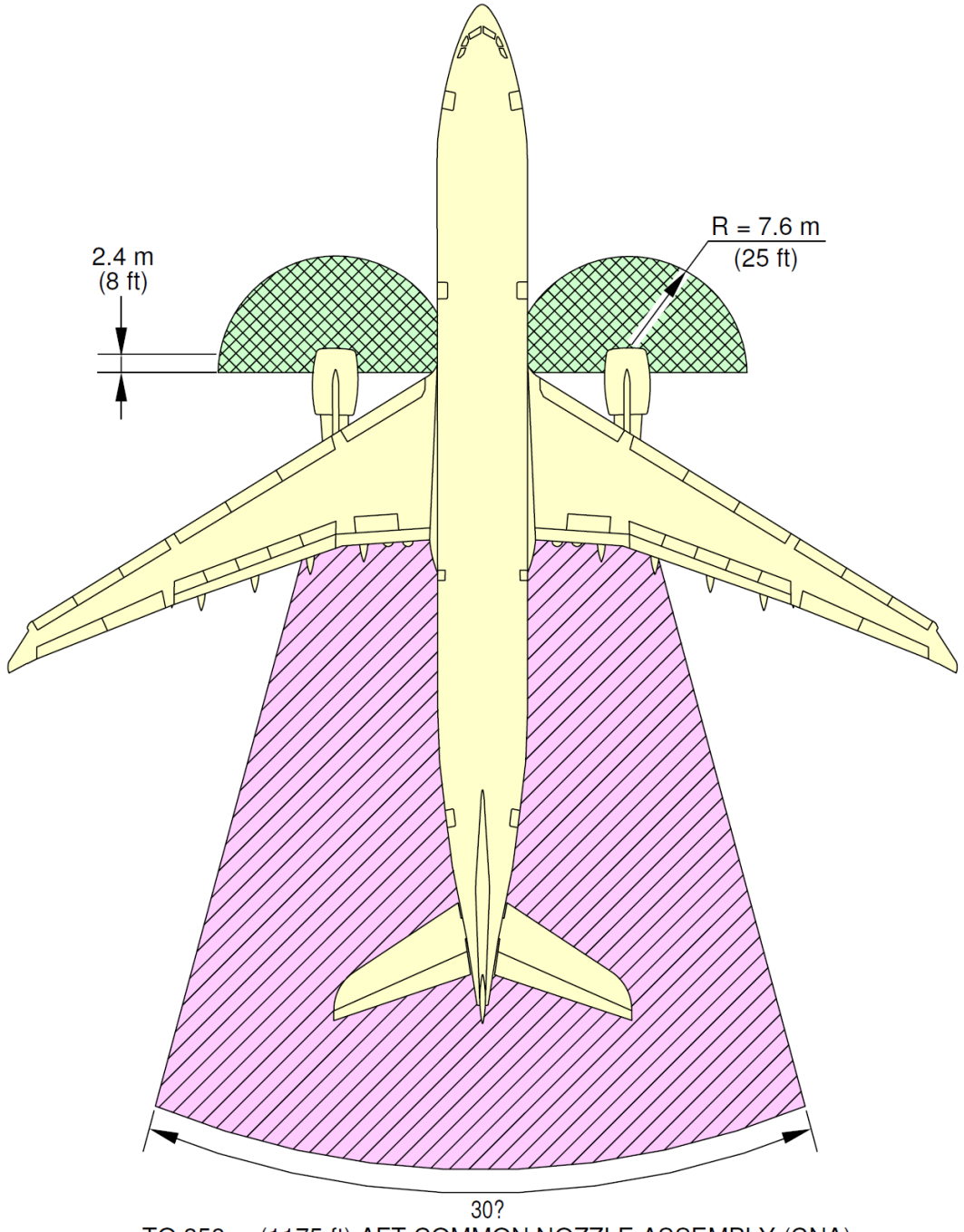


NOTE:

INTAKE SUCTION DANGER AREA BREAKAWAY POWER

EXHAUST DANGER AREA

Danger areas (Take Off Power) for RR Trent 700 Series Engine



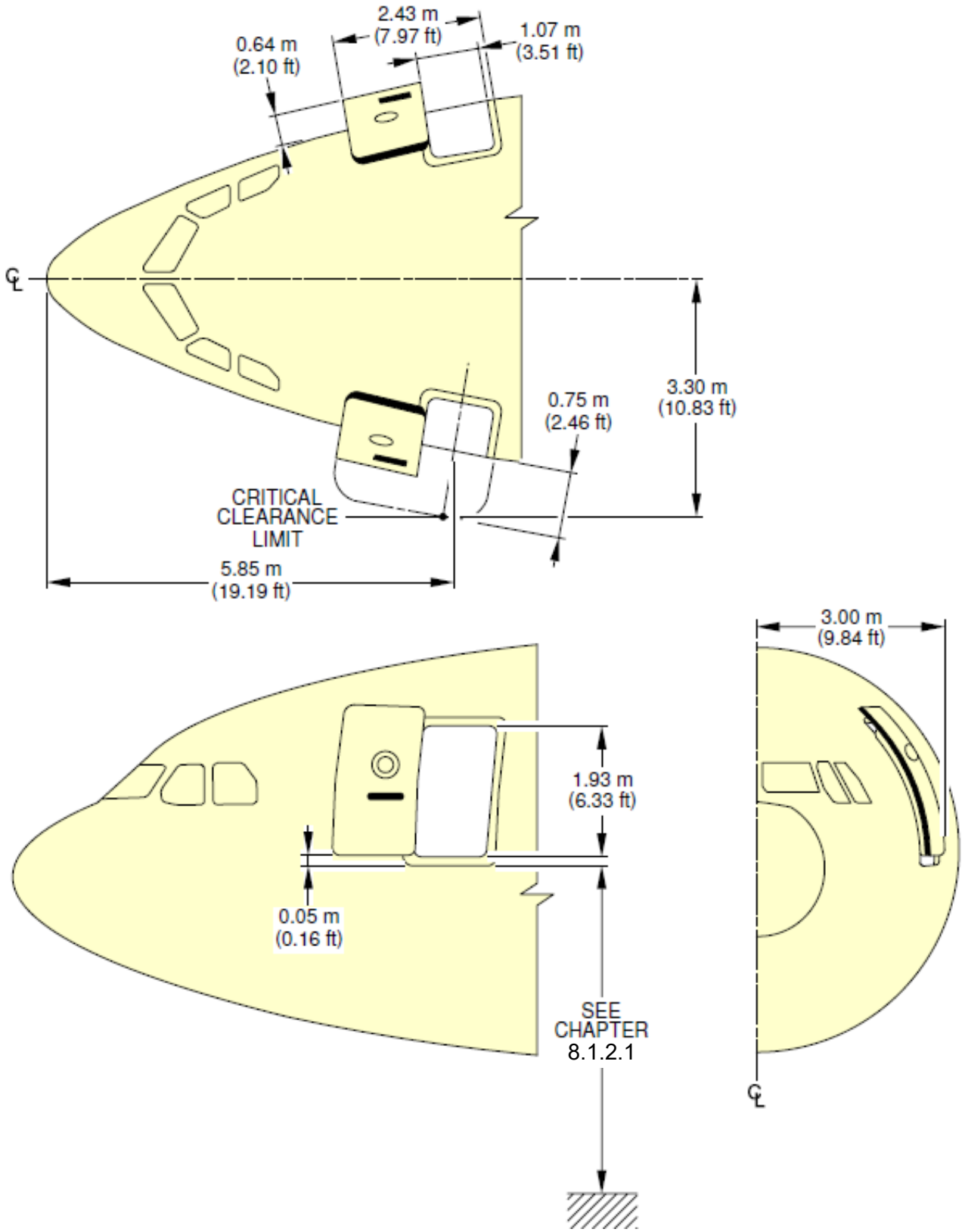
NOTE:

INTAKE SUCTION DANGER AREA TAKE–OFF POWER

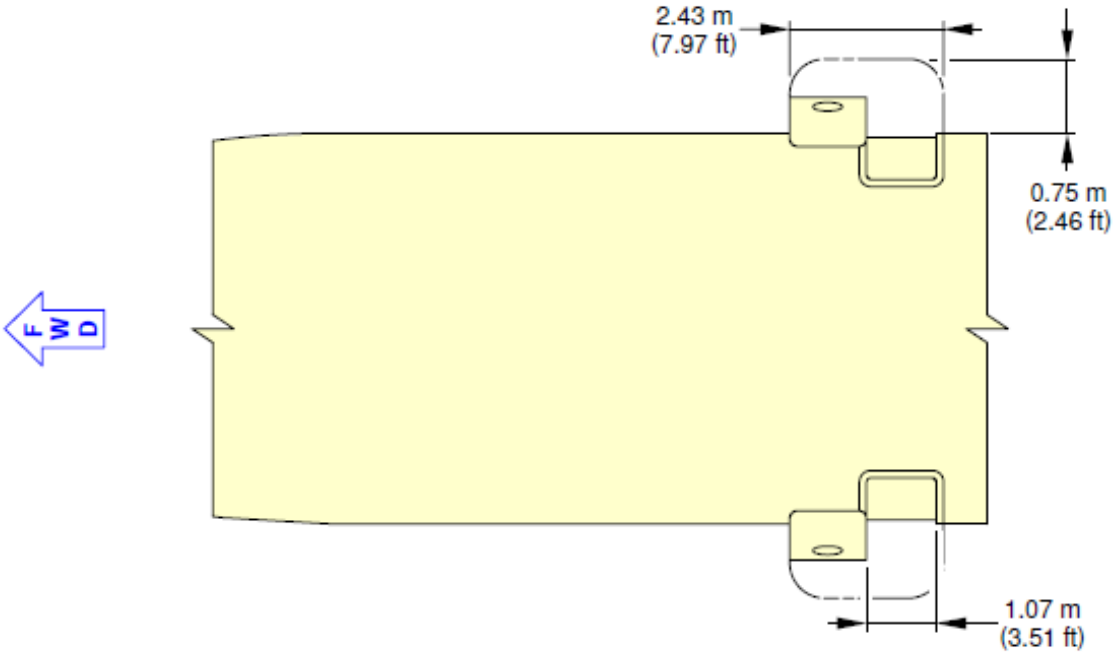
EXHAUST DANGER AREA

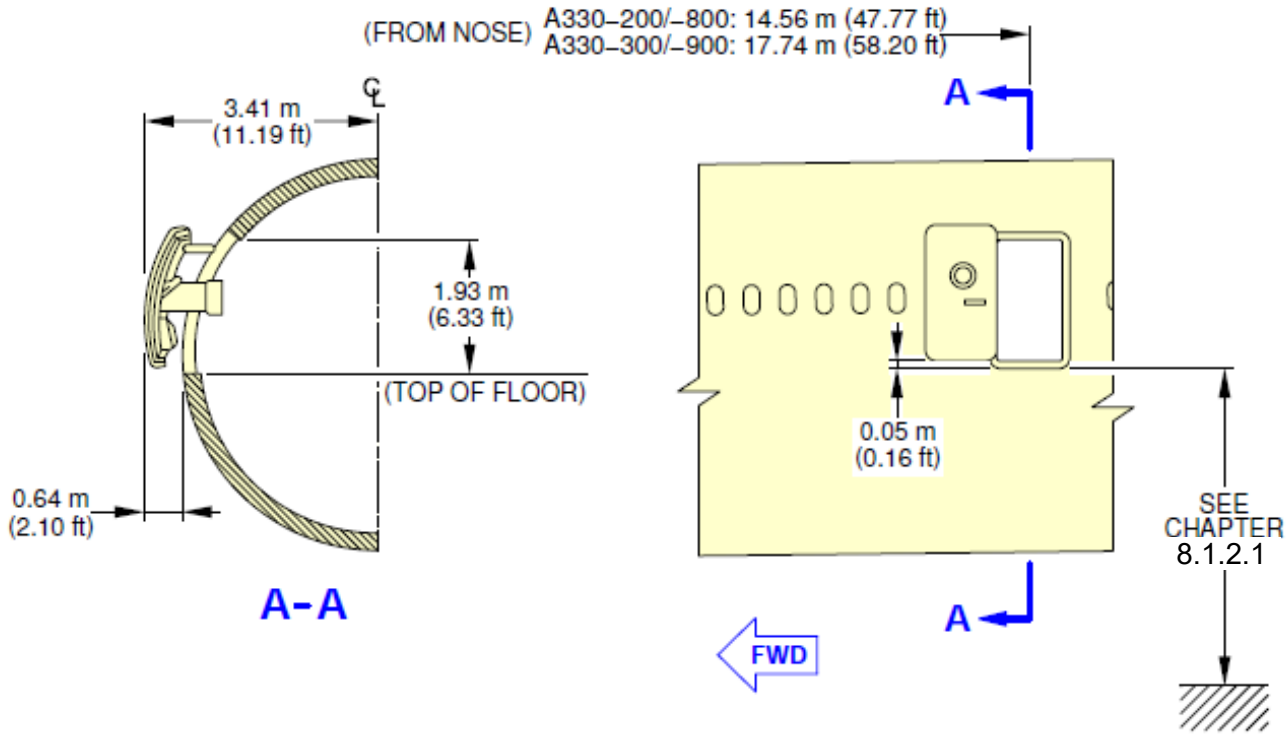
8.1.3 Door sizes

Fwd passenger/crew doors

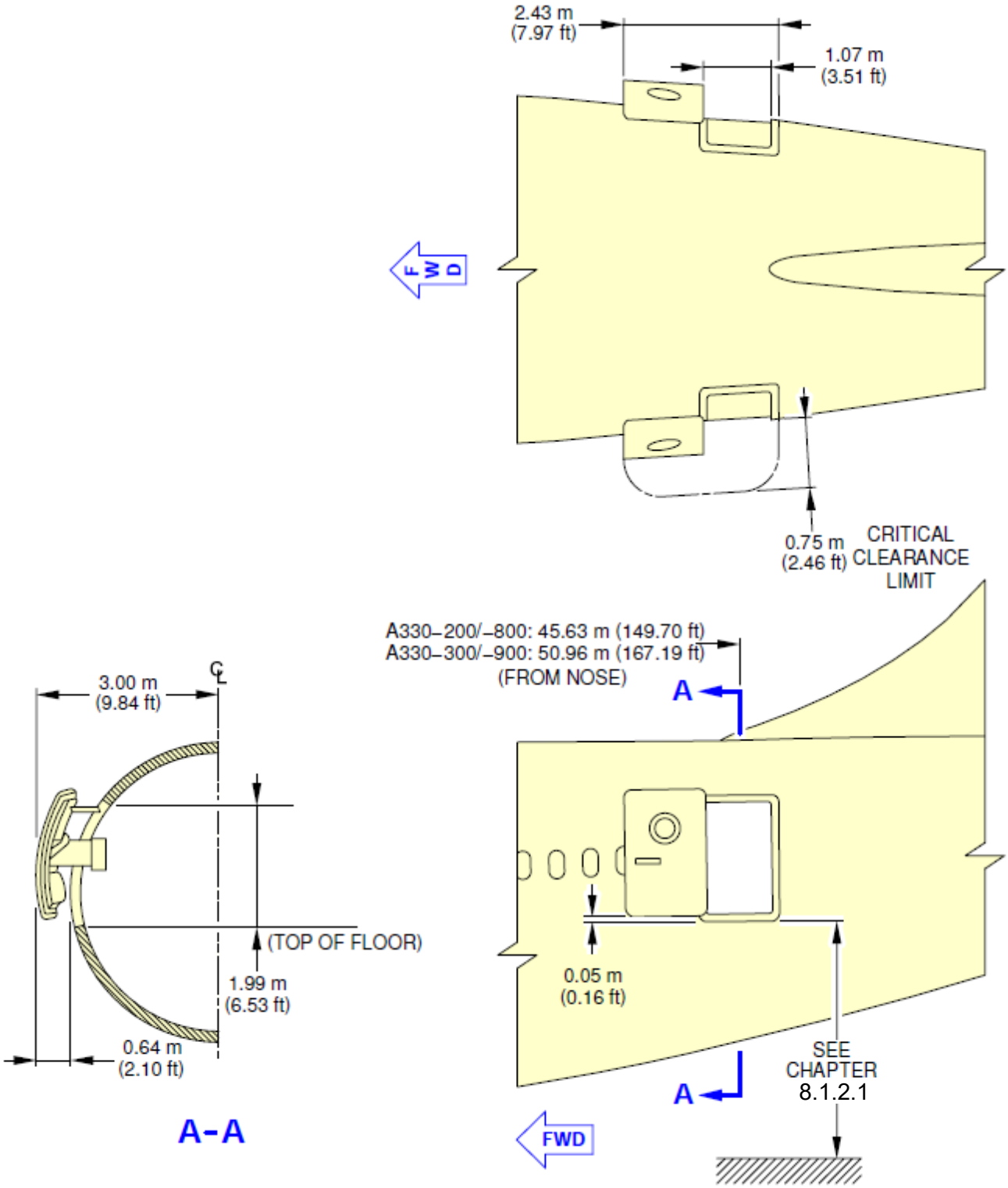


Mid passenger / crew doors

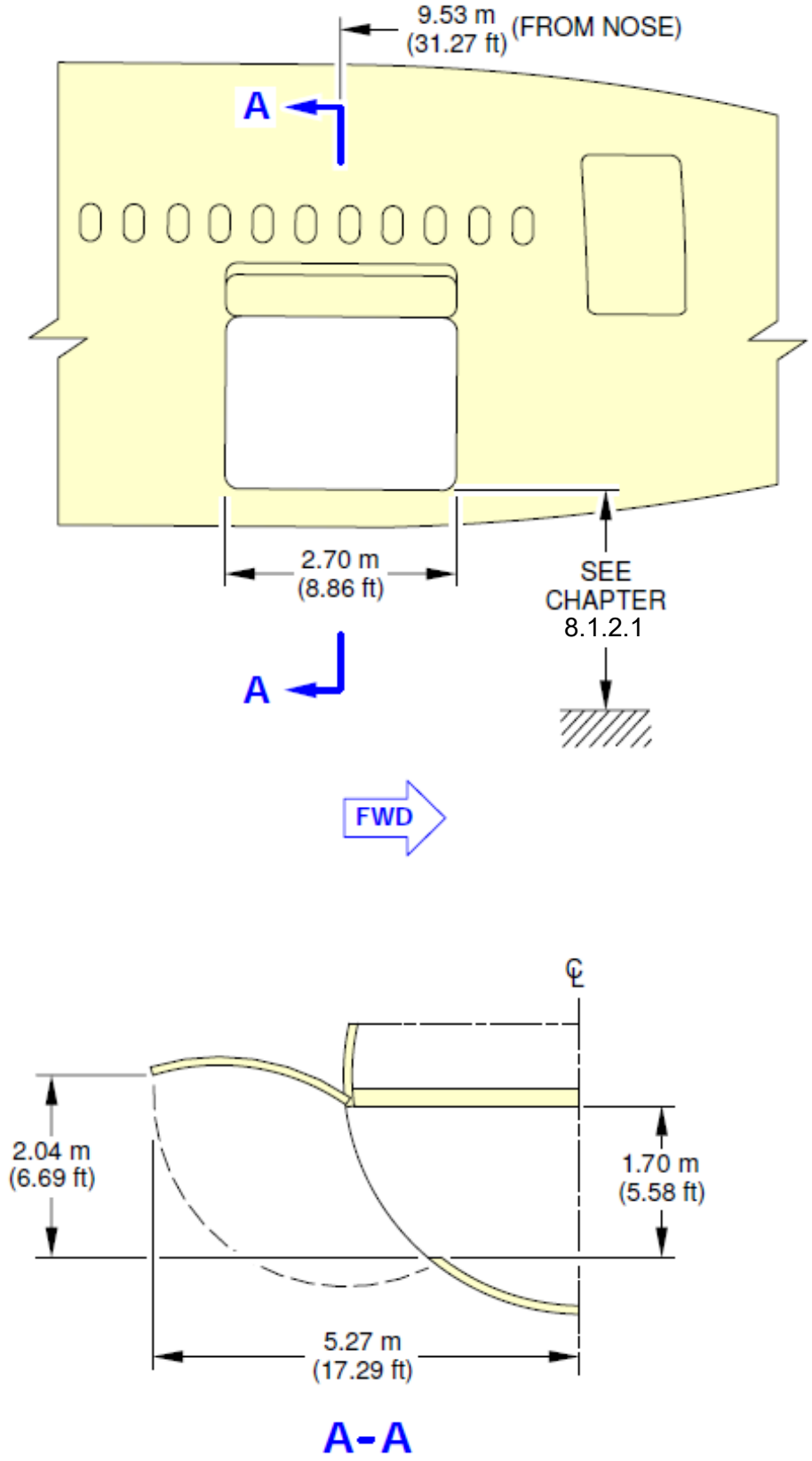




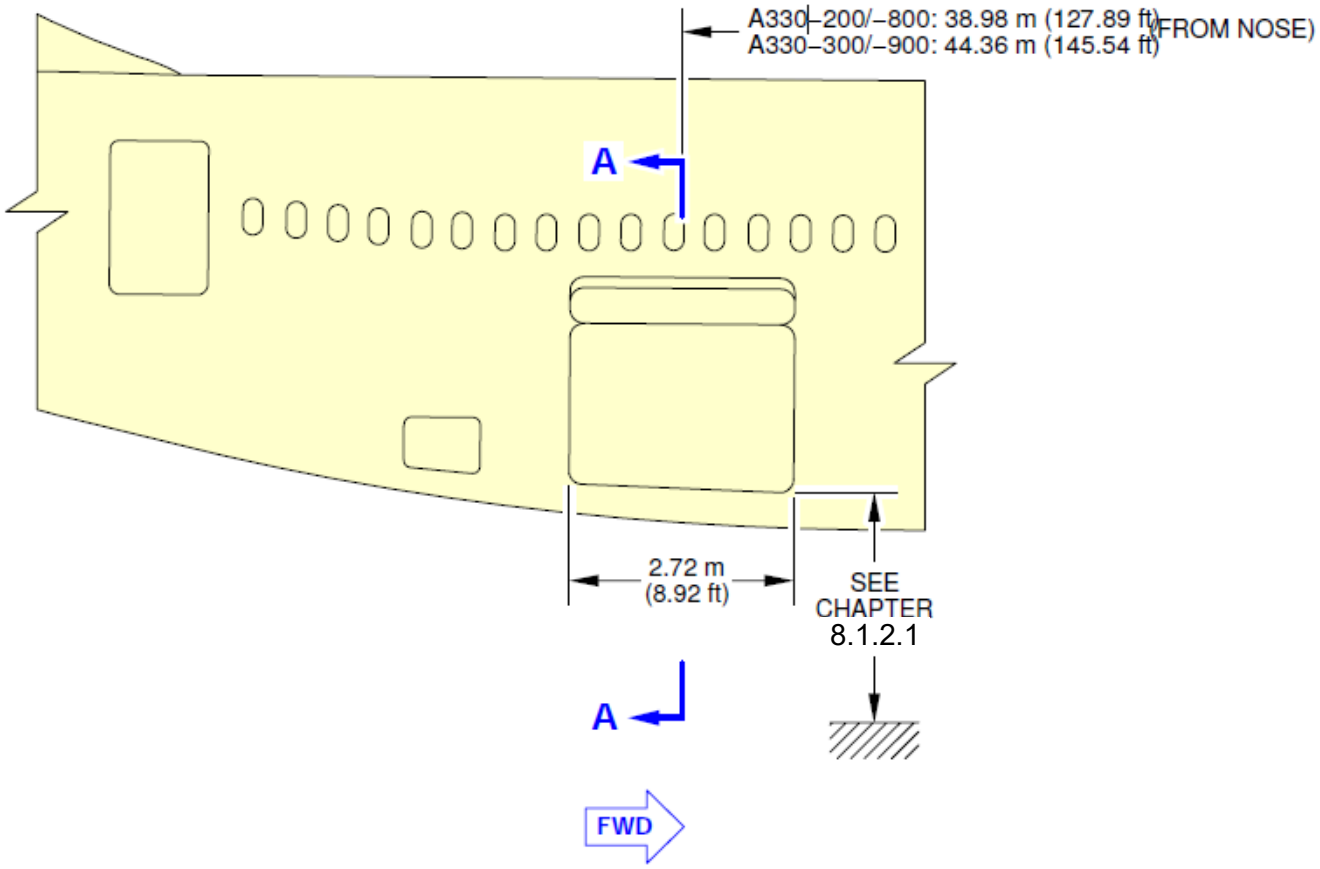
Aft passenger / crew doors

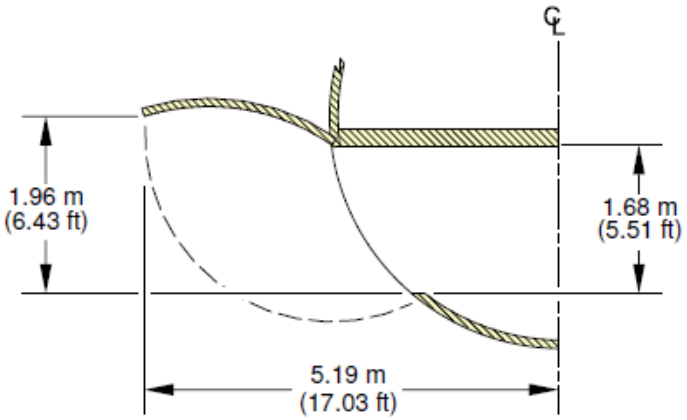


Forward cargo compartment door



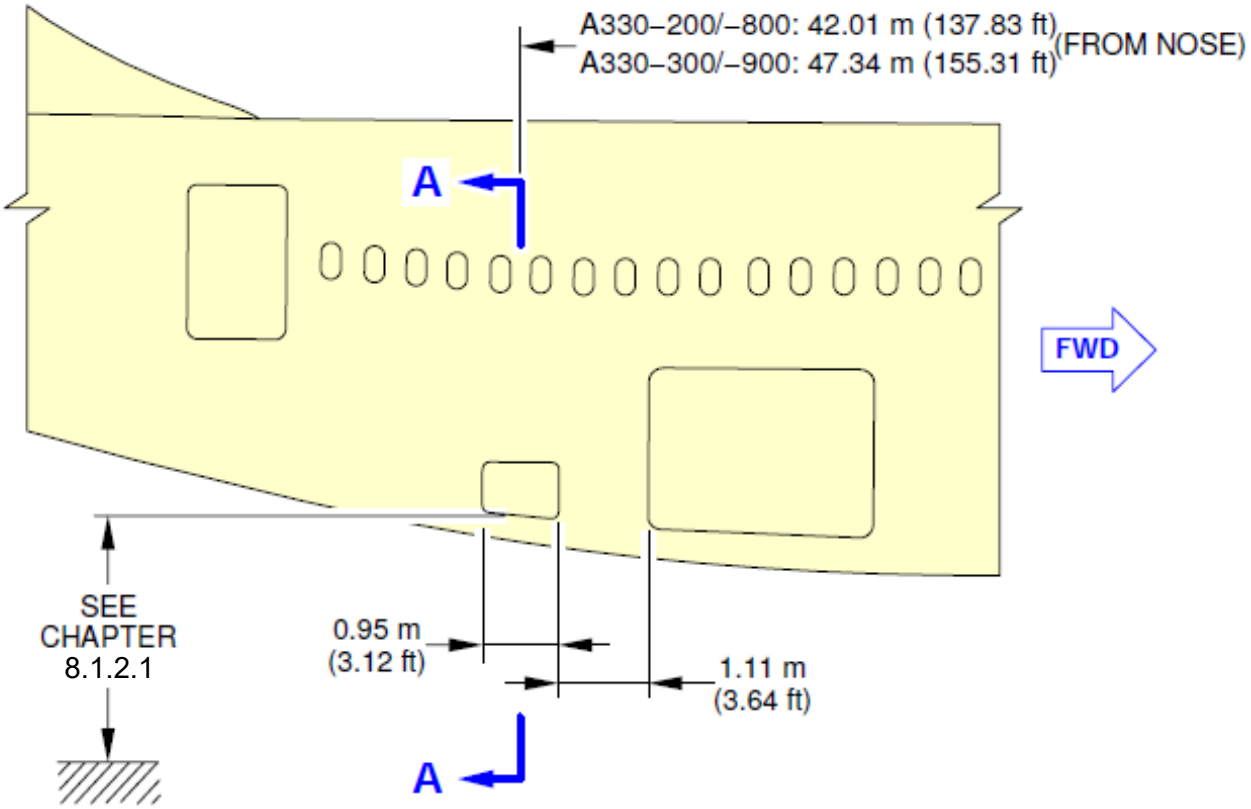
Aft cargo compartment door

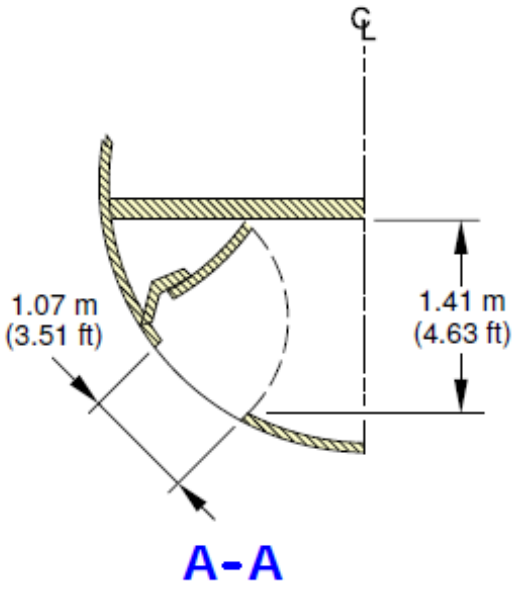




A-A

Bulk cargo compartment door





8.2 Masses and indices

8.2.1 Maximum masses

Aircraft Registry / Mass Limitations	**YR-KID** A330-243 (MSN01138)
Maximum Ramp Mass (MRM)	233 900 kg
Maximum Take-Off Mass (MTOM)*	233 000 kg
Maximum Zero Fuel Mass (MZFM)	170 000 kg
Maximum Landing Mass (MLM)	182 000 kg

* The MTOM can be reduced by crew according to operational restrictions.

8.2.2 Fuel

The table below covers fuel included between the high level sensing system and the unusable level.

LOCATION	VOLUME (Liters)	MASS (KGs)
Outer Tank Left	3650	2865.25
Outer Tank Right	3650	2865.25
Inner Tank Left	42000	32970.00
Inner Tank Right	42000	32970.00
Center Tank	41560	32624.60
Trim tank	6230	4890.55
Total	**139090**	**109185.65**

NOTE: The fuel mass is based on fuel density 0.785 Kg/L

8.2.3 DOM / DOI

8.2.3.1 General

DOM/DOI includes:
- **Basic Empty** Mass/Index (oil for engines, IDG and APU oil, unpumpable fuel, unusable fuel, hydraulic fluid, emergency equipment)
- **Galley/catering equipment** mass/index
- **Potable water** mass/index
- **Toilet chemicals** mass/index
- **Crew** and **aircraft documents** mass/index
- **Pantry mass/index**.

8.2.3.2 Pantry mass / index

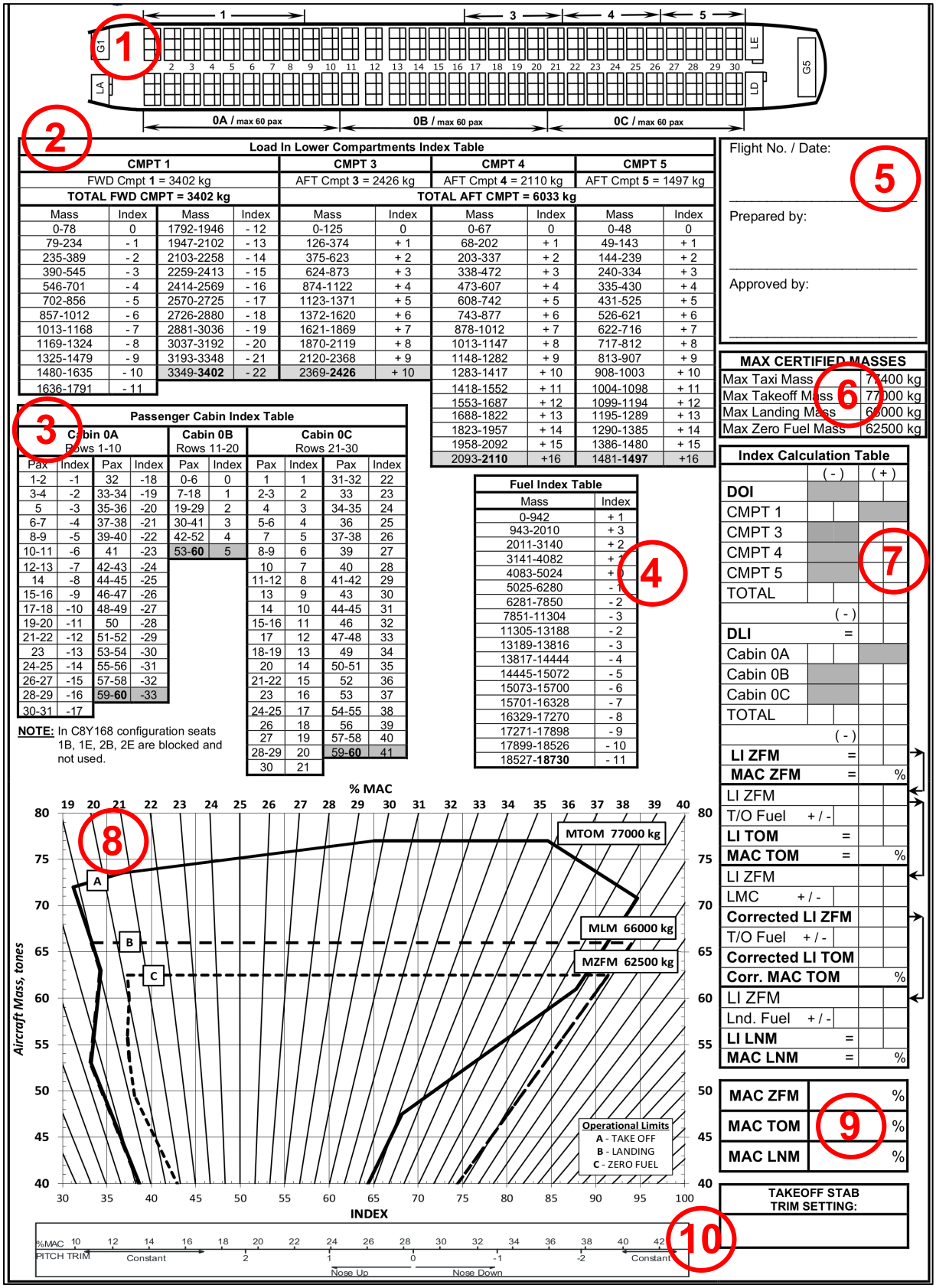
The pantry is included in DOM/DOI.

8.2.3.3 DOM/DOI table

The DOM/DOI table is included in Appendix B of this manual.

8.3 Balance Calculation

8.3.1 Trimsheet



8.3.1.1 Trimsheet description

Trimsheet is designed in one blank (A4 Format). Refer to Appendix B for A330 Trimsheet. Actual ZFM, TOM and LNM should be determined before balance calculation.
The current chapter is based on example for A320 calculation.
Trimsheet consists of:

1. Aircraft Layout (showing passenger cabin sections and numbering of cargo compartments)
2. Index Table for Cargo Compartments
3. Index Table for Passenger Cabin
4. Fuel Index Table
5. Flight details
6. Aircraft maximum mass limitations
7. Index Calculation Table
8. A Balance Diagram with forward and aft operational margins for take-off, landing and zero fuel.
9. Actual flight MACs at ZFM,TOM, LNM
10. Stabilizer Trim Settings

8.3.1.2 Instructions for use

1. Insert rounded DOI (from DOM/DOI table for each specific aircraft registry) in the Index Calculation Table.

Index Calculation Table		
	(-)	(+)
DOI		5 9

2. Determine the index change for Cargo Compartments load. Insert the index for each cargo compartment in the Index Calculation Table. Determine Deadload Index (DLI).

Load In Lower Compartments Index Table

CMPT 1				CMPT 3		CMPT 4		CMPT 5	
FWD Cmpt **1** = 3402 kg				AFT Cmpt **3** = 2426 kg		AFT Cmpt **4** = 2110 kg		AFT Cmpt **5** = 1497 kg	
TOTAL FWD CMPT = 3402 kg				**TOTAL AFT CMPT = 6033 kg**					
Mass	Index	Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-78	0	1792-1946	- 12	0-125	0	0-67	0	0-48	0
79-234	- 1	1947-2102	- 13	126-374	+ 1	68-202	+ 1	49-143	+ 1
235-389	- 2	2103-2258	- 14	375-623	+ 2	203-337	+ 2	144-239	+ 2
390-545	- 3	2259-2413	- 15	624-873	+ 3	338-472	+ 3	240-334	+ 3
546-701	- 4	2414-2569	- 16	874-1122	+ 4	473-607	+ 4	335-430	+ 4
702-856	- 5	2570-2725	- 17	1123-1371	+ 5	608-742	+ 5	431-525	+ 5
857-1012	- 6	2726-2880	- 18	1372-1620	+ 6	743-877	+ 6	526-621	+ 6
1013-1168	- 7	2881-3036	- 19	1621-1869	+ 7	878-1012	+ 7	622-716	+ 7
1169-1324	- 8	3037-3192	- 20	1870-2119	+ 8	1013-1147	+ 8	717-812	+ 8
1325-1479	- 9	3193-3348	- 21	2120-2368	+ 9	1148-1282	+ 9	813-907	+ 9
1480-1635	- 10	3349-**3402**	- 22	2369-**2426**	+ 10	1283-1417	+ 10	908-1003	+ 10
1636-1791	- 11					1418-1552	+ 11	1004-1098	+ 11
						1553-1687	+ 12	1099-1194	+ 12
						1688-1822	+ 13	1195-1289	+ 13
						1823-1957	+ 14	1290-1385	+ 14
						1958-2092	+ 15	1386-1480	+ 15
						2093-**2110**	+16	1481-**1497**	+16

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index

	(-)	(+)
DOI		5 9
CMPT 1	1 3	
CMPT 3		7
CMPT 4		8
CMPT 5		2
TOTAL	1 3	1 7
	(-)	1 3
DLI	=	6 3

3. Determine the index change for Passenger Cabin load. Insert the index for each Passenger Cabin in the Index Calculation Table.

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
1-2	-1	32	-18	0-6	0	1	1	31-32	22
3-4	-2	33-34	-19	7-18	1	2-3	2	33	23
5	-3	35-36	-20	19-29	2	4	3	34-35	24
6-7	-4	37-38	-21	30-41	3	5-6	4	36	25
8-9	-5	39-40	-22	42-52	4	7	5	37-38	26
10-11	-6	41	-23	53-**60**	5	8-9	6	39	27
12-13	-7	42-43	-24			10	7	40	28
14	-8	44-45	-25			11-12	8	41-42	29
15-16	-9	46-47	-26			13	9	43	30
17-18	-10	48-49	-27			14	10	44-45	31
19-20	-11	50	-28			15-16	11	46	32
21-22	-12	51-52	-29			17	12	47-48	33
23	-13	53-54	-30			18-19	13	49	34
24-25	-14	55-56	-31			20	14	50-51	35
26-27	-15	57-58	-32			21-22	15	52	36
28-29	-16	59-**60**	-33			23	16	53	37
30-31	-17					24-25	17	54-55	38
						26	18	56	39
						27	19	57-58	40
						28-29	20	59-**60**	41
						30	21		

NOTE: In C8Y168 configuration seats 1B, 1E, 2B, 2E are blocked and not used.

DLI	=	6 3
Cabin 0A	2 8	
Cabin 0B		4
Cabin 0C		3 5
TOTAL	2 8	3 9
	(-)	2 8
LI ZFM	=	7 4
MAC ZFM	=	34.5%

4. Calculate **LI ZFM** in the Index Calculation Table. Draw vertical line on the Balance Diagram according to calculate LI ZFM. Find the "Actual Zero Fuel Mass" on the vertical scale. The intersection of these 2 lines will be the CG (%MAC) at ZFM. Insert MAC ZFM in the Index Calculation Table.

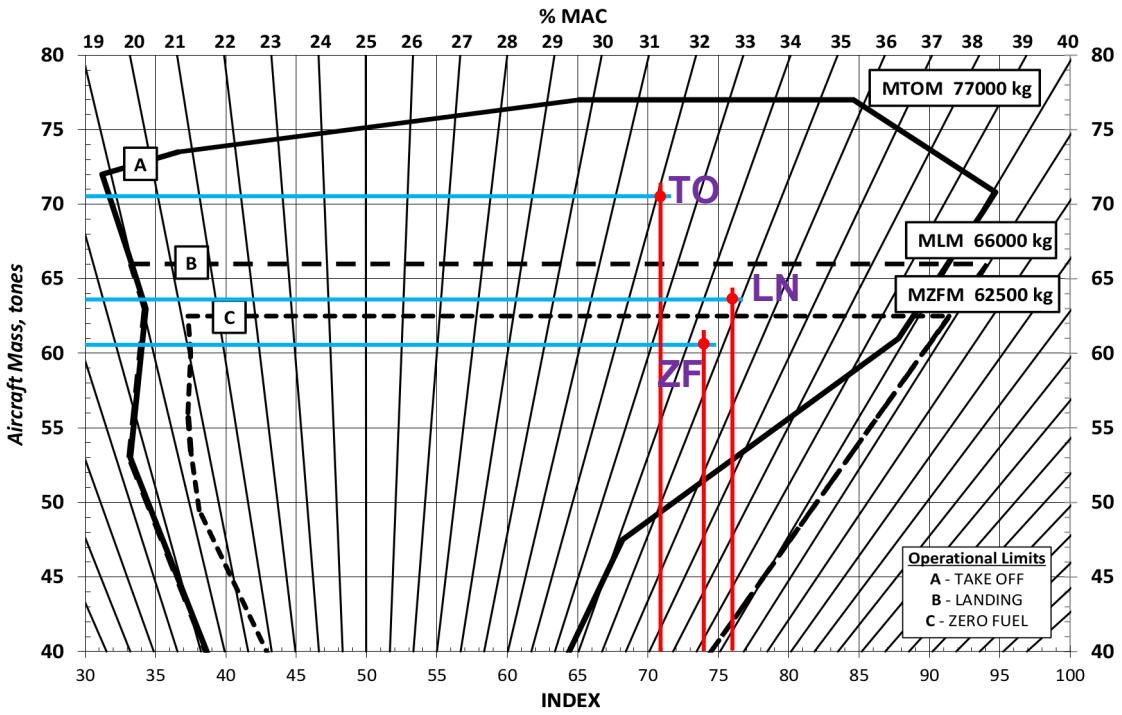
5. Determine the index change due to Fuel Load from Fuel Index Table and insert it in the Index Calculation Table. Calculate **LI TOM** in the Index Calculation Table. Draw vertical line on the Balance Diagram according to calculate LI TOM. Find the "Actual Takeoff Mass" on the vertical scale. The intersection of these 2 lines will be the CG (%MAC) at TOM. Insert MAC TOM in the Index Calculation Table.

Fuel Index Table	
Mass	Index
0-942	+ 1
943-2010	+ 3
2011-3140	+ 2
3141-4082	+ 1
4083-5024	+ 0
5025-6280	- 1
6281-7850	- 2
7851-11304	- 3
11305-13188	- 2
13189-13816	- 3
13817-14444	- 4
14445-15072	- 5
15073-15700	- 6
15701-16328	- 7
16329-17270	- 8
17271-17898	- 9
17899-18526	- 10
18527-**18730**	- 11

LI ZFM		7	4
T/O Fuel	+ (-)		3
LI TOM	=	7	1
MAC TOM	=	32.1	%
LI ZFM			
LMC	+ / -		
Corrected LI ZFM			
T/O Fuel	+ / -		
Corrected LI TOM			
Corr. MAC TOM			%
LI ZFM		7	4
Lnd. Fuel	(+)/ -		2
LI LNM	=	7	6
MAC LNM	=	34.8	%

6. Insert any Index corrections due to Last Minute Changes (LMCs) in the Index Calculation Table.

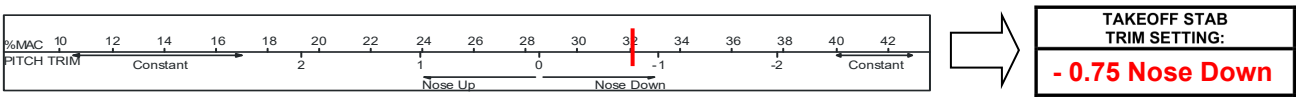
7. Determine the index change due to Fuel Consumption from Fuel Index Table and insert Landing Fuel Index in the Index Calculation Table. Calculate **LI LNM** in the Index Calculation Table. Draw vertical line on the Balance Diagram according to calculate LI LNM. Find the "Actual Landing Mass" on the vertical scale. The intersection of these 2 lines will be the CG (%MAC) at LNM. Insert MAC LNM in the Index Calculation Table.



The intersections should be read in %MAC and are as following:

ZFM = 34.5 %
TOM = 32.1 %
LAM = 34.8 %

8. Takeoff Stabilizer Trim Settings are determined using actual MAC TOM and diagram at the bottom of the Trimsheet (Stabilizer Trim Settings). The obtained value is inserted in the box on the right.



8.3.2 Certified and operational CG limits

The certified center of gravity limits are given by airplane manufacturer. The operational CG limits envelope is tighter than the certified CG limits envelope, due to lack of precision either on item mass or on its location. Also an inaccuracy exists due to fuel consumptions, passengers' in-flight movements and flaps, slats and gears movements during all flight phases.

8.3.3 Last Minute Changes (LMC)

For general procedures applicable for all HiSky airplanes refer to Chapter 6.3.7 Last Minute Changes Procedures of this manual.

8.3.3.1 Mass influence

The maximum allowed combination of mass changes acceptable as a Last Minute Change for **A330** aircraft is **800 kg** or **8 passengers** with their baggage.
In case of total LMC mass or quantity exceeds these limitations a new Loadsheet shall be issued.

8.3.3.2 Balance influence

Balance influence is considered negligible while the LMC does not exceed the limits described in Chapter 8.3.1.1 Mass Influence.

8.3.3.3 Responsibilities

All the responsibilities are described in Chapter 6.3.7 Last Minute Changes Procedures of this manual.

8.3.4 Standard passenger and crew masses

For passenger and crew masses refer to Chapter 6.3.1 Crew Masses and 6.3.2 Passenger Masses.

8.4 Cabin

8.4.1 General

HiSky A330 aircraft have the following number of seats / configurations:

Type	Reg. Nr.	MSN	Nr. of seats	Basic configuration
A330	**YR-KID**	01138	274 seats	**C24Y250**

8.4.2 Interior arrangement

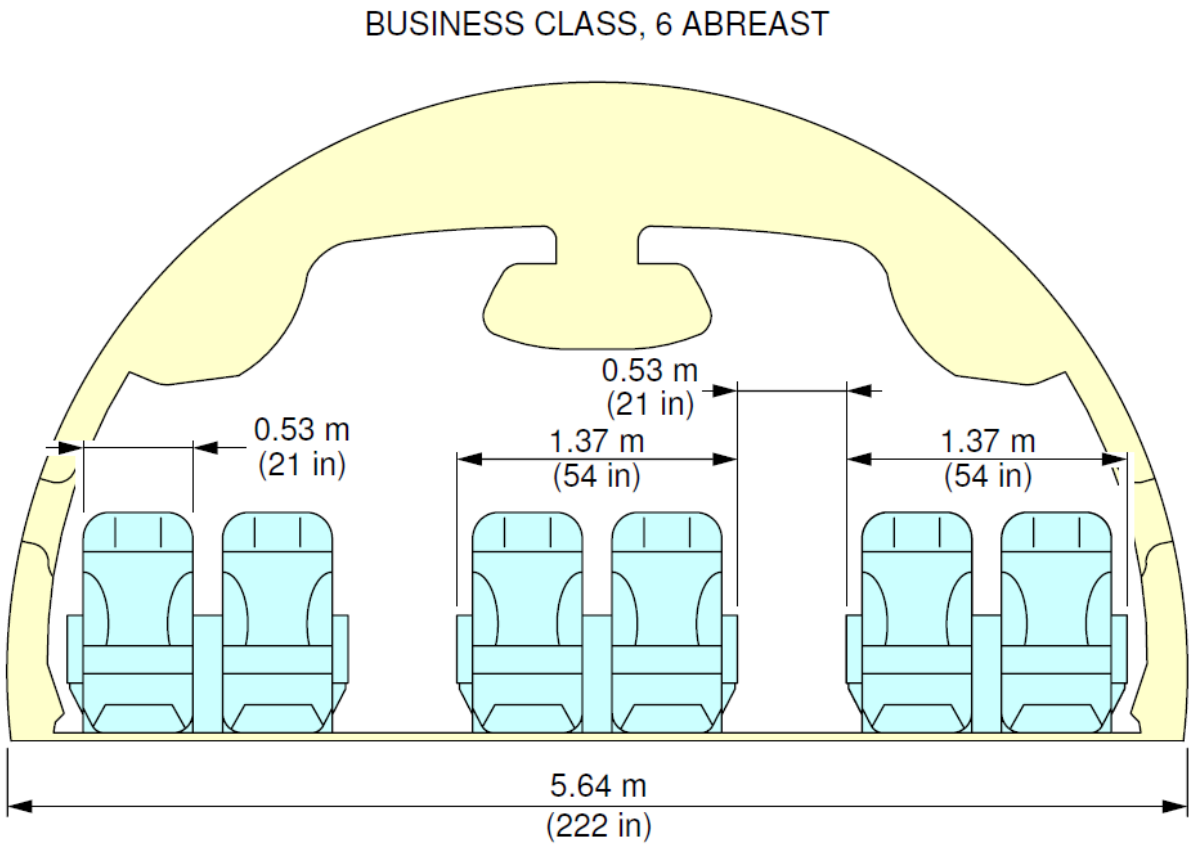
Row **23** is **emergency exit row**. NOT to be allocated to incapacitated passengers, unaccompanied minors, children, passengers with infants.

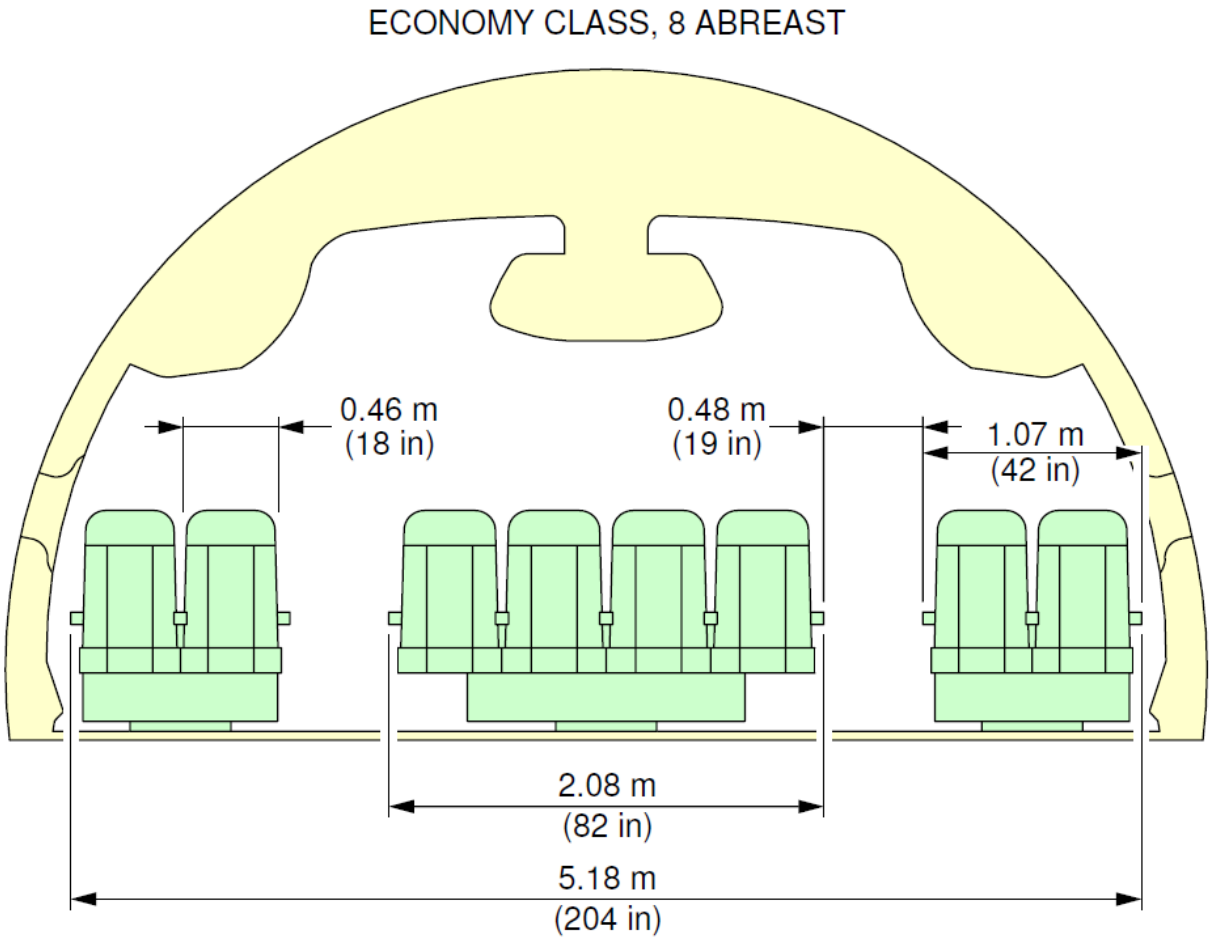
Seats for **passengers with infants**: 1-4A, 1-4H, 5-22A, 5-22H, 24-36A, 24-35H.

Rows for **unaccompanied minors**: 2-4, 5-10.

Seats for **passengers with reduced mobility (PRM)**: 1-4A, 1-4H, 5-21A, 5-21H.

8.4.3 Cabin cross section





8.4.4 Maximum cabin capacity

Seats, seat belts, oxygen masks and life vests limit the cabin capacity. The maximum cabin capacity is shown in the table below:

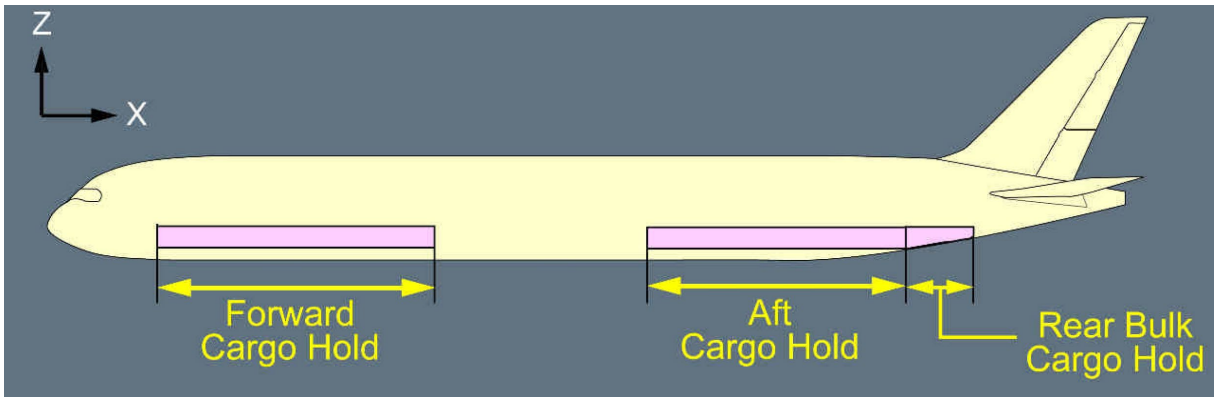
Aircraft Registry / Category	**YR-KID** A320 (01138)
	Quantity
Pilots	4
Cabin attendants	12
Adults / Children	274
Infants	27

Passengers with infants can be seated only on seats with additional oxygen masks.

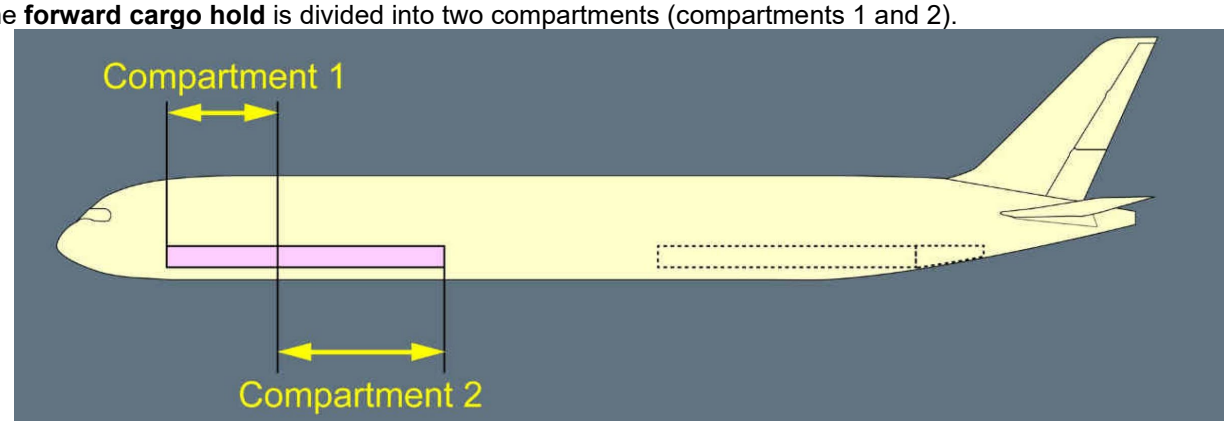
8.5 Cargo compartments

8.5.1 General

Items can be loaded in the lower cargo holds. The lower deck includes the forward, aft, and rear bulk cargo holds. A divider net and a tarpaulin separate the aft and rear bulk cargo holds.



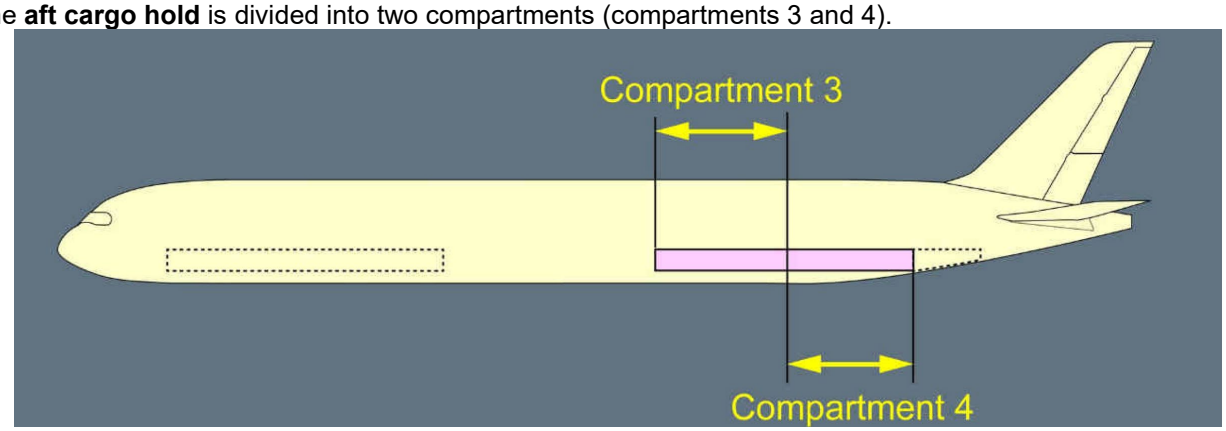
The **forward cargo hold** is divided into two compartments (compartments 1 and 2).



The cargo hold is equipped with a Cargo Loading System (CLS) for the transport of Unit Load Devices (ULDs) and non-unitized loads.
The CLS is the equipment installed on the floor of the cargo hold:
- To load ULDs and non-unitized load
- To restrain ULDs and non-unitized loads against the load factors induced by aircraft accelerations.

A ULD is a container or a pallet, and the equipment of the pallet (nets, igloo, etc.). A ULD enables the operator to assemble and restrain individual items in a standard-sized unit.

The **aft cargo hold** is divided into two compartments (compartments 3 and 4).

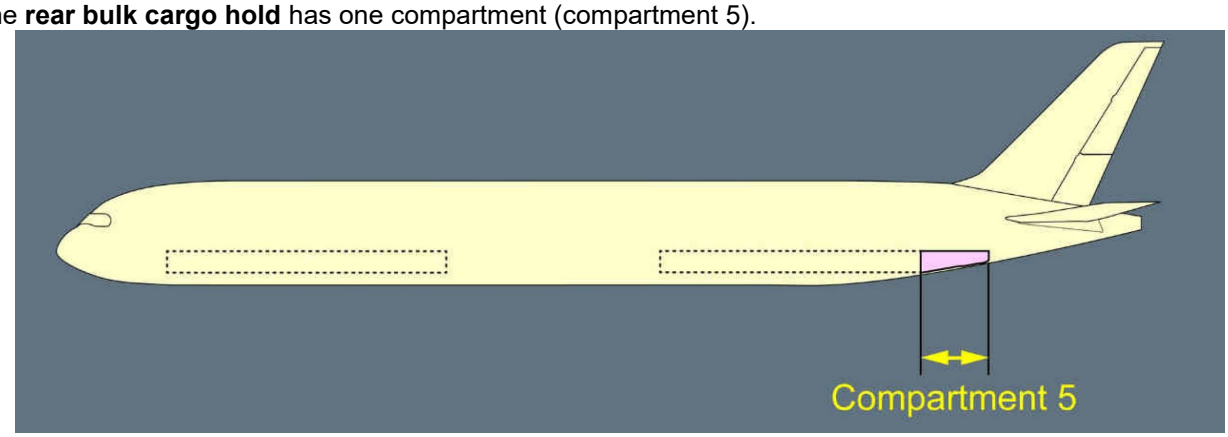


The cargo hold is equipped with:
- A Cargo Loading System (CLS) for the transport of Unit Load Devices (ULDs) and non-unitized loads
- A provision for the installation of a Lower Deck Crew Rest Container (LDCRC).

The CLS is the equipment installed on the floor of the cargo hold:
- To load ULDs and non-unitized load
- To restrain ULDs and non-unitized loads against the load factors induced by aircraft accelerations.

A ULD is a container or a pallet, and the equipment of the pallet (nets, igloo, etc.). A ULD enables the operator to assemble and restrain individual items in a standard-sized unit.

The **rear bulk cargo hold** has one compartment (compartment 5).



The cargo hold is equipped with a net restraint system for the transport of bulk loads.
Bulk loads are defined as loose items, baggage or freight that can be loaded within a net section.
A net section is a section delimited by two successive nets or by a net and a wall.
The net restraint system is an arrangement of nets that is certified to restrain the bulk items against the load factors induced by aircraft accelerations.
All parts of the net restraint system are mandatory.

8.5.2 Floor loading limits

FORWARD AND AFT CARGO HOLDS

STRUCTURE
The floor structure can sustain the following load:

	Distributed Load (kg/m²)	Running Load (kg/m)
Via ball mats or roller	659	2070

The distributed load limit is the maximum mass acceptable on the area delimited by the external contour of the contact points between the ULD and ball mats or roller tracks.
The running load limit is the maximum mass acceptable on the distance, in the flight direction, between the most distant points in direct contact with ball mats or roller tracks.

REAR BULK CARGO HOLD

STRUCTURE
The floor structure can sustain the following load on the flat and sloped floor:

Distributed Load via floor panels	732 kg/m²

The distributed load limit is the maximum mass acceptable on the area delimited by the external contour of the contact points between the load and the floor.

PANELS
Each floor panel can sustain the following loads:

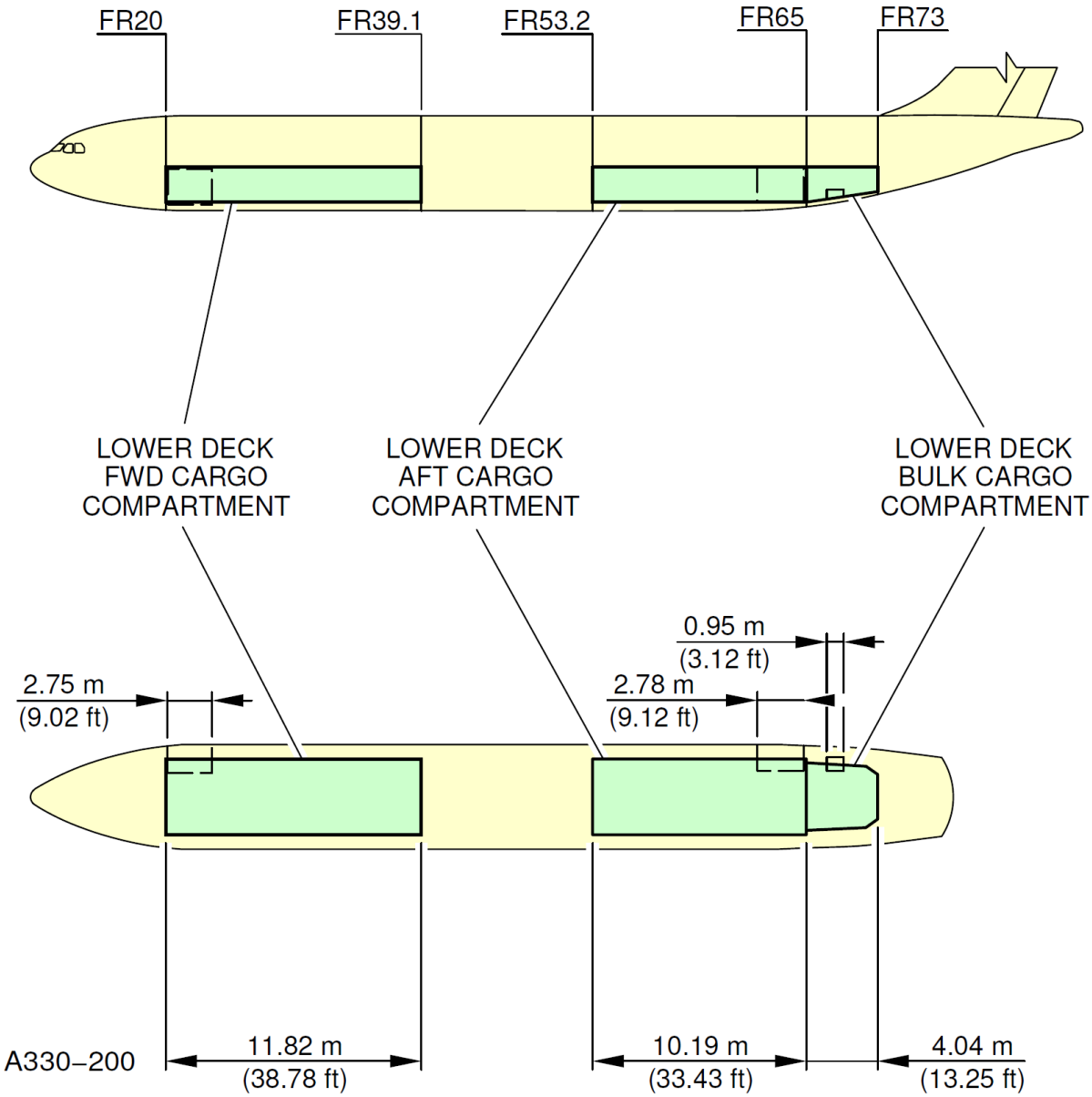
	Local Load (kg/0.093m²)	Point Load (kg/cm²)
On the flat floor	204	102
On the sloped floor	204	102

The local load limit is the maximum mass acceptable on the area in direct contact with the floor panels that will not lead to permanent deformations. The local load must be checked on a delimited area of 0.093 m² only. The local load on the floor panels does not need to be checked if both the following conditions are satisfied:

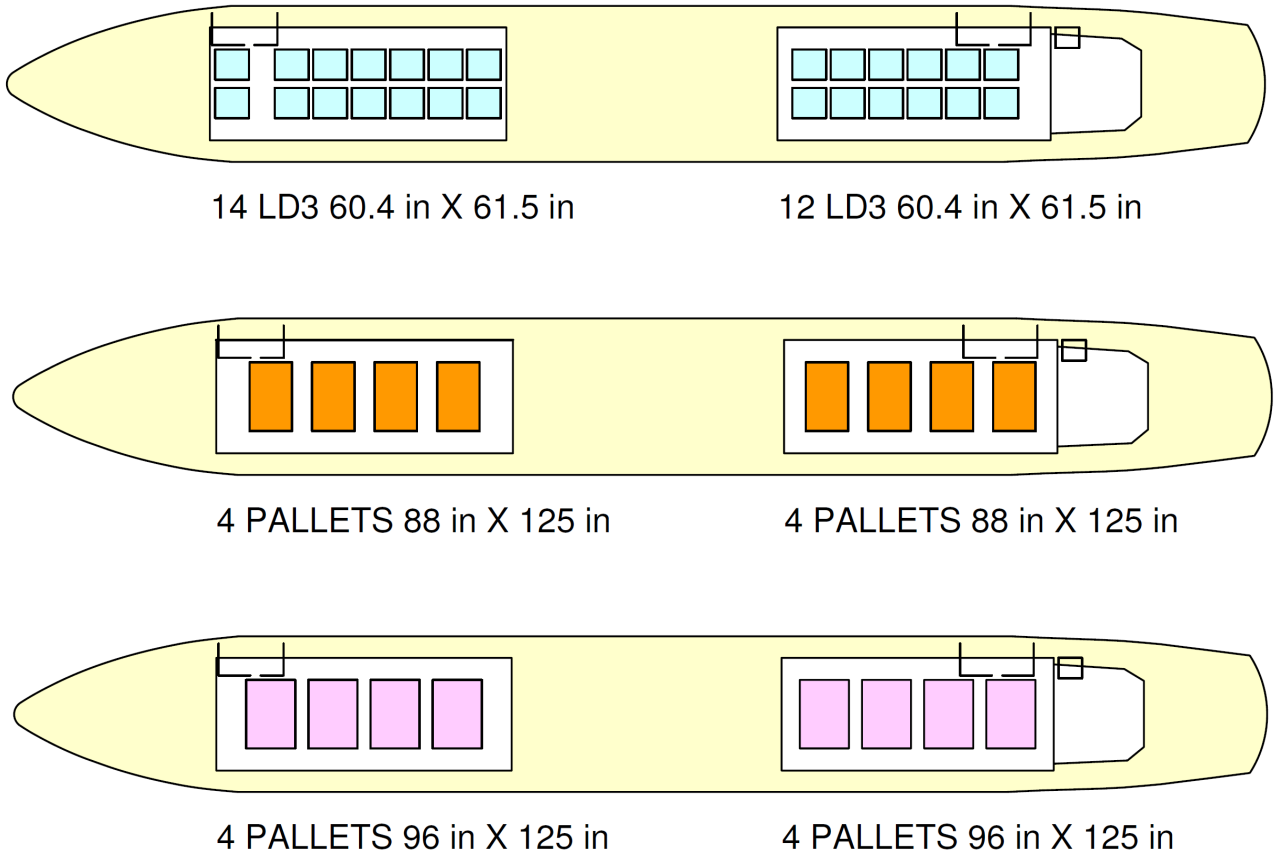
- The bottom surface of the item loaded is identical to the area in direct contact with the floor
- The distributed load that the operator calculates is below the maximum distributed load permitted.

The point load is the maximum mass acceptable on the circular area in direct contact with the floor panels that will not lead to puncture. The point load must be evaluated when a high mass is concentrated on a small bearing area of the floor panels.

8.5.3 Compartments dimensions



Lower Deck Cargo Compartments - Loading Combinations



8.5.4 Cargo Hold Loading

8.5.4.1 Cargo hold capacity for ULDs

CLS must be used to restrain the ULDs. CLS must not be damaged. The loading is subject to restrictions in the case of malfunction of the CLS.

The cargo hold must be loaded with ULDs that comply with:
- The ULD Transport Requirements
- The ULD baseplate dimensions and maximum gross masses that the table below provides.

The gross mass of a container is the sum of:
- The tare mass of the container
- The mass of the load.

The gross mass of a pallet is the sum of:
- The tare mass of the pallet
- The mass of the load
- The mass of the pallet equipment (nets, igloo, etc.).

The capacity of the **FORWARD cargo hold** is **18 869 kg**. The following table provides the maximum gross mass per ULD, depending on the ULD baseplate dimensions.

ULD Baseplate Dimensions (Length x Width) (in)	ULD Baseplate Code	Capacity	MAX Gross Mass per ULD (kg)	ULD Position
60.4 x 61.5	K	14	1 587	11,12,13,14 21, 22, 23
60.4 x 125	L	7	3 174	11,12,13,14 21, 22, 23
88 x 125	A	4	4 626	12P, 13P 21P, 22P
96 x 125	M	4	5 103	12P, 13P 21P, 22P

Any ULD position may remain unoccupied, but all the latches of the cargo hold must be raised to limit inadvertent ULD movement, in the case of latch malfunctions.

The capacity of the **AFT cargo hold** is **15 241 kg**. The following table provides the maximum gross mass per ULD, depending on the ULD baseplate dimensions.

LDCRC NOT INSTALLED

ULD Baseplate Dimensions (Length x Width) (in)	ULD Baseplate Code	Capacity	MAX Gross Mass per ULD (kg)	ULD Position
60.4 x 61.5	K	12	1 587	31, 32, 33 41, 42, 43
60.4 x 125	L	6	3 174	31, 32, 33 41, 42, 43
88 x 125	A	4	4 626	31P, 32P 41P, 42P
96 x 125	M	4	5 103	31P, 32P 41P, 42P

Any ULD position may remain unoccupied, but all the latches of the cargo hold must be raised to limit inadvertent ULD movement, in the case of latch malfunctions.

LDCRC INSTALLED

ULD Baseplate Dimensions (Length x Width) (in)	ULD Baseplate Code	Capacity	MAX Gross Mass per ULD (kg)	ULD Position
60.4 x 61.5	K	8	1 587	33 41, 42, 43
60.4 x 125	L	4	3 174	33 41, 42, 43
88 x 125	A	3	4 626	32P 41P, 42P
96 x 125	M	2	5 103	32P 41P, 42P

Any ULD position may remain unoccupied, but all the latches of the cargo hold must be raised to limit inadvertent ULD movement, in the case of latch malfunctions.

LDCRC Baseplate Dimensions (Length x Width) (in)	ULD Baseplate Code	Capacity	MAX Gross Mass of LDCRC (kg)	ULD Position occupied by LDCRC
96 x 125	M	1	5 103	31P

8.5.4.2 ULD transport requirements

ULD CONTOUR

GENERAL

The dimensions of the containers must remain within the limits of the Standard Contour F defined by the IATA.

When transporting pallets a clearance of 0.051 m must be ensured between the contour of the loaded pallet (pallet, pallet equipment and load items) and:

- The cargo door
- The adjacent ULDs
- The cargo hold sidewalls and ceiling.

The 0.051 m clearance requirement does not apply to the distance between ULD baseplates.

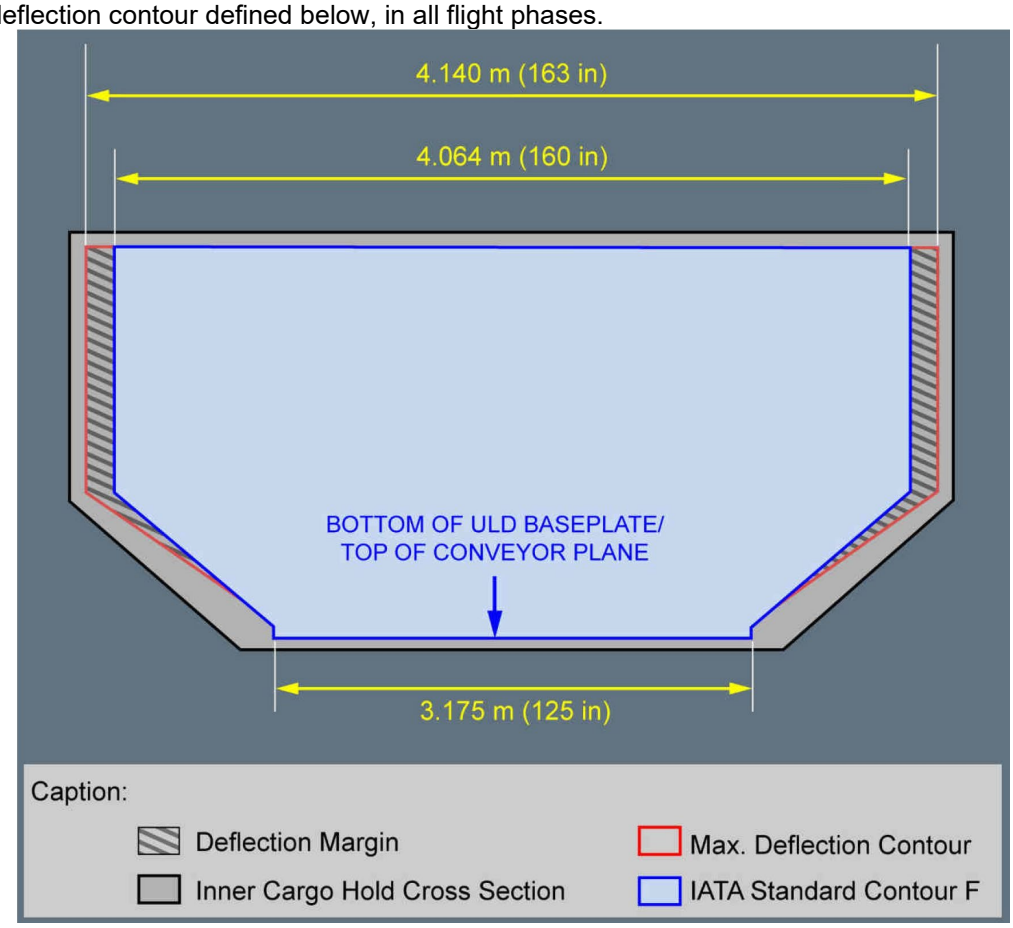
Note: The most recent revision of the IATA ULD Regulation defines all the following:
- The permitted ULD contours, that are described in section 50/0 of the regulation
- The maximum deflection limits for containers, that are described in section 50/4, attachment B, of the regulation
- The general envelope of pallets and the pallet equipment (nets, igloo, etc.), that are described in section 50/2 of the regulation.

REQUIREMENTS FOR "WINGED PALLETS"

The transport of "winged pallets" must be in accordance with section 60/1 of the IATA ULD Regulation, except for two requirements modified by the WBM.

These two requirements are the following:

- The pallet extenders with more than 10.5 % of the maximum gross mass of the pallet must not be loaded
- The contour of the loaded winged pallet (pallet, pallet equipment and load items) must never exceed the maximum deflection contour defined below, in all flight phases.



ULD CERTIFICATION

GENERAL

Each ULD should comply with TSO-C90.
A ULD may not comply with the above-mentioned requirements. In this case, the manner in which the ULD is constructed and loaded must prevent damage to the aircraft in all flight phases.
The ULD must comply with the most recent revision of section 50/0 of the IATA ULD Regulation.

HEAVY OR HAZARDOUS INDIVIDUAL ITEMS

For the loading of individual items in ULDs, a restraint is required in the following cases:
- When an individual item may be hazardous due to its nature, form, or density
- When an individual item has a mass of more than 150 kg.

On a pallet, the restraint of the above-mentioned items is achieved if:
- Nets and straps fastened on the net attachment fittings of the pallet are used, or
- The items are covered with crushable cargo.

In a container, the restraint of the above-mentioned items is achieved if:
- The items to the attachment fittings of the container baseplate are individually fastened, or
- The container is filled with crushable cargo to at least three quarters of its height.

The load factors of the aircraft must be taken into account when any heavy or hazardous individual item is restrained.
To be considered as “crushable cargo”, the cargo must comply with all of the following criteria:
- The cargo does not contain large rigid items
- The cargo contains only deformable items
- If destruction or deformation of the cargo occurs, the cargo does not break into sharp debris
- The small items of the cargo are either fastened together or fastened to larger items
- The cargo density is between 80 kg/m³ and 240 kg/m³.

ITEMS IN DAMAGED CONTAINERS

A damaged container can be used, provided that its baseplate remains intact.
If the container is damaged, the items must be individually fastened to the baseplate of the container.
The load factors of the aircraft must be taken into account when any item in damaged containers are fastened.

ULD CONFIGURATION

The ULD must be lockable in the CLS. The dimensions of the ULD baseplate that include the edge profiles must comply with NAS3610/AS36100 requirements.
In addition, the ULD must comply with the following requirements:
- The baseplate dimensions tolerances must be 0 to -0.00635 m
- The baseplate edge profile must comply with the most recent revision of section 50/1, attachment A, of the IATA ULD Regulation
- The ULD CG limits must comply with:
    - NAS3610/AS36100 requirements
    - The ULD center of gravity limits.

ULD GROSS MASS

The gross mass of a ULD must not exceed the lowest of the following values:
- The maximum gross mass per position
- The maximum ULD gross mass defined by:
    - NAS3610/AS36100 requirements, to which the load factors of the aircraft are applied, or
    - Design specifications associated to the ULD, to which the load factors of the aircraft are applied.

8.5.4.3 Rear bulk cargo hold capacity

Mandatory door nets keep the door area free of load items to ensure a reliable opening of the cargo door.
Mandatory longitudinal and lateral nets separate the cargo hold into three net sections. The generated net sections ensure the restraint of the load in the rear bulk cargo hold.

The capacity of the cargo hold is **3 468 kg**. The following table provides the maximum gross mass per section.

Section	MAX Gross Mass (kg)
51	339
52	1 413
53	1 716

Only the above-mentioned values must be used, if the mandatory nets are installed and used as intended.
The loading of the cargo hold is subject to additional restraint requirements or mass restrictions in the following cases:

- The loading of hazardous, heavy, or long items
- A malfunction of the installed nets or stanchions.

8.5.4.4 Bulk loads transport requirements

Restraint conditions

For bulk loading, if the net restraint system is used, no additional restraints are required, except in the following cases:

- When a bulk item may be hazardous due to its nature, form, or density
- When a bulk item has a mass of more than 150 kg.

The additional restraint of the above-mentioned items is achieved if:

- The operator fills the applicable net section to at least three quarters of its height, or
- The operator fastens the bulk items individually to the tie-down points of the aircraft.

A bulk item may be too large to fit in a net section. In this case, the operator is authorized to remove the mandatory net. Then, all bulk items must be fastened individually in the new net section.
A minimum clearance of 0.051 m must be ensured between the top of the load and the cargo hold ceiling.

Fastening load requirements

Nets and/or straps must be used to fasten the load to the tie-down points of the aircraft floor.
The load applied to a tie-down point must not exceed 906 kg in any direction.
The tie-down points on the ceiling of the cargo hold are only dedicated to the installation of nets.
To restrain bulk items, only the standard tie-down points are used that are not already used to attach the nets.
The load must be arranged and fastened to the cargo hold floor in a way to ensure an even distribution of the load.

8.5.4.5 Non-Unitized Load

INTRODUCTION

A non-unitized load is an item that cannot be netted or containerized into ULDs.

Non-unitized loads may be carried on one of the following types of pallet:
- Latched pallets: standardized pallets, latched within the CLS
- Floating pallets: standardized pallets, fastened to the tie-down points on the fixed YZ-latches of the CLS.

Long lightweight items can be loaded on the sloped floor of the aircraft.

To load on the flat floor of the aircraft, pallets must be used:
- To achieve an even floor
- To avoid damage to the floor panels and the components of the CLS.

The pallet load may overhang the pallet dimensions. The overhang is only permitted if there is no adverse effect on the cargo door, compartment linings, equipment, or on cargo on the adjacent positions.

At least 0.051 m must be ensured between the pallet load and, the load on adjacent pallets and the above-mentioned cargo components.
The limitations due to CLS malfunctions also apply to the loading of non-unitized loads.

TYPES OF NON-UNITIZED LOADS

LATCHED PALLETS
One of the following types of pallet must be used:
- Any pallet specified in part Cargo Hold Capacity for ULDs, or
- Any pallet with similar dimensions and design, that complies with NAS3610 or AS36100 requirements.

Pallets must comply with the ULD transport requirements.
The CG of the loaded pallet (pallet, pallet equipment and load items) must remain within the pallet CG limits.
The pallet must be latched, and the load items must be fastened to the pallet baseplate.

FLOATING PALLETS
If the pallet cannot be latched, due to the mass or geometry of an individual item, one or more floating pallets musted used.
Any pallet with a design that complies with NAS3610/AS36100 requirements and that fits in the cargo hold can be used.

It must be ensured that:
- The CG height for the loaded pallet (pallet, pallet equipment and load items) is less than 0.635 m from the bottom of the pallet baseplate
- The lateral CG deviation from the geometric center of the pallet does not exceed ± 10 % of the width of the pallet
- The longitudinal CG deviation from the geometric center of the pallet does not exceed ± 10 % of the length of the pallet.

Each pallet must be put in the CLS area. At least 3 roller tracks and the side rails of the YZ-latches must sustain the pallet baseplate.
Floating pallets must not be put in the door area, because the door area has no fixed YZ-latches.
The floating pallet must be fastened to the aircraft. The load items must be fastened either:
- Individually, to the baseplate of the floating pallet, or
- All together with the floating pallet, to the aircraft.

LONG LIGHTWEIGHT ITEMS (applicable for FORWARD cargo hold only)

Long lightweight items are items with:
- A maximum length of 6.500 m
- A maximum mass of 50 kg.

Any long lightweight items must be fastened to the aircraft.

RESTRAINT CONDITIONS

It must be ensured that the manner in which the load is fastened satisfies the following criteria:
- The load does not cause damage to the aircraft in all flight phases
- The load is evenly distributed on the pallet rims, CLS, and aircraft structure, taking into account the extension of straps and nets.

RESTRAINT OF LOAD ITEMS TO THE BASEPLATES OF THE LATCHED AND FLOATING PALLETS

Nets and/or straps to fasten all individual items to the net attachment fittings of the pallet baseplate must be used.
The net attachment fittings of the baseplate must be designed to sustain a load of at least 906 kg in any direction.

RESTRAINT OF THE LATCHED PALLETS TO THE AIRCRAFT

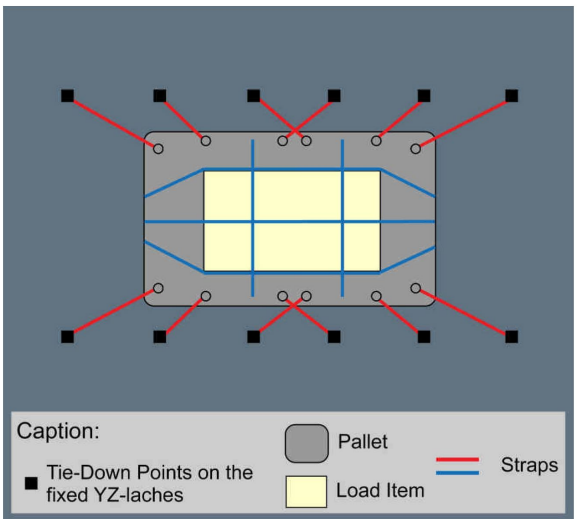
The pallets within the CLS must be latched. All the latches of the ULD position must be used.

RESTRAINT OF THE FLOATING PALLETS TO THE AIRCRAFT

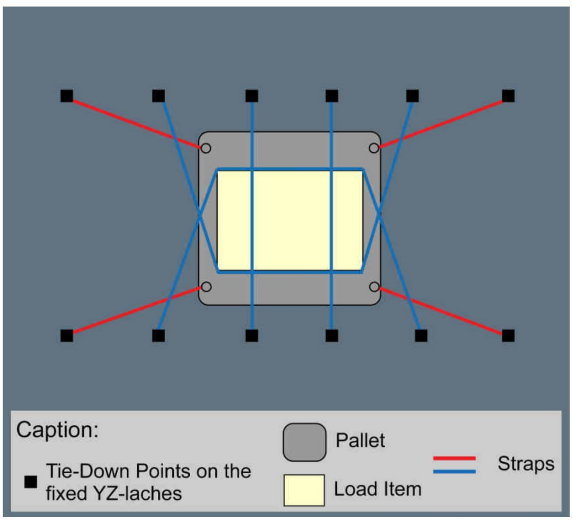
It must be fastened to the aircraft either:
- The floating pallets, provided that the load items are fastened to the pallet baseplate, or
- The loaded pallet (floating pallet, pallet equipment and load items) provided that the load items are fastened to the pallet baseplate.

Straps and/or nets to fasten the load to the tie-down points must be used.
A floating pallet must not be restrained with latches.
The tie-down points are on the fixed YZ-latches of the CLS.
The load applied to a tie-down point must not exceed 906 kg in any direction.
The additional tie-down points on the upper side of the sloped floor must not be used to restrain floating pallets.

Floating Pallet with Load Item Fastened to the Tie-Down Points of the Baseplate



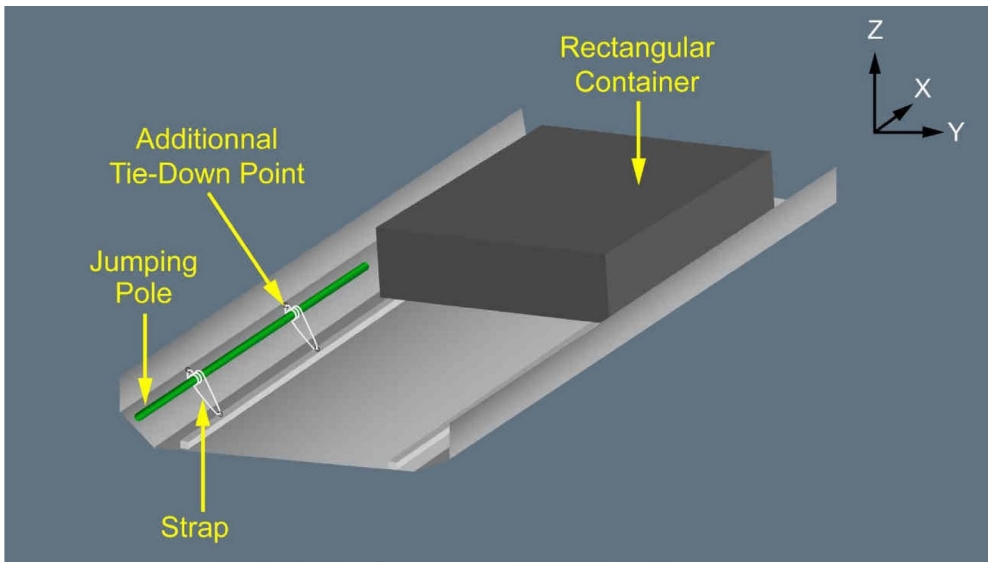
Floating Pallet with Load Item Fastened to the Tie-Down Points of the Aircraft

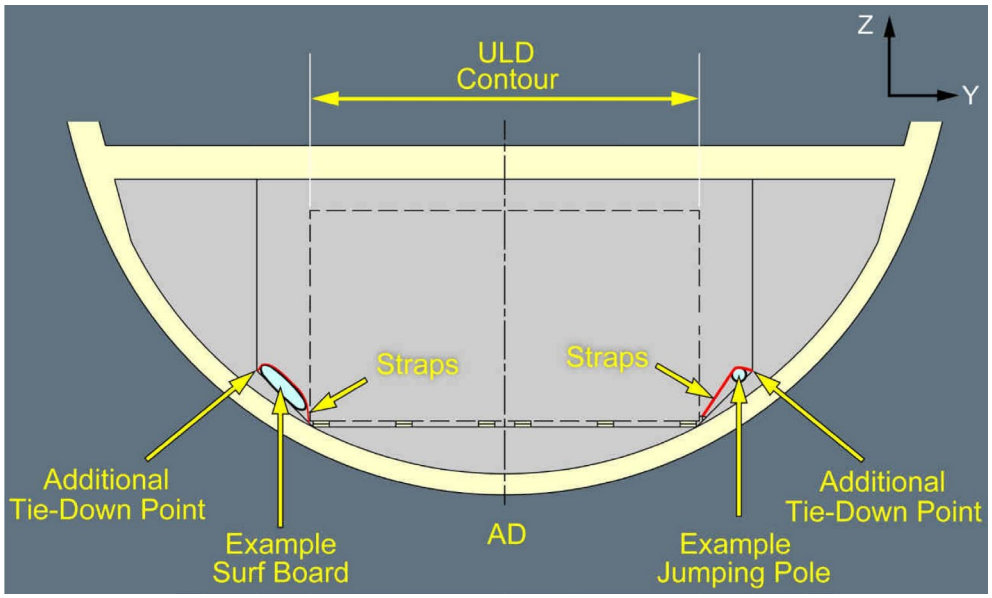


RESTRAINT OF LONG LIGHTWEIGHT ITEMS (applicable for FORWARD cargo hold only)

If the long lightweight items are loaded on the sloped floor, the items must be fastened to all of the following:
- The tie-down points on the YZ-latches of the CLS
- The additional tie-down points of the sloped floor.

The restraint must be achieved at least with two straps connected to the tie-down points.
Adjacent pallets must not present overhangs that may interfere with the long lightweight items.
Adjacent containers must be rectangular.



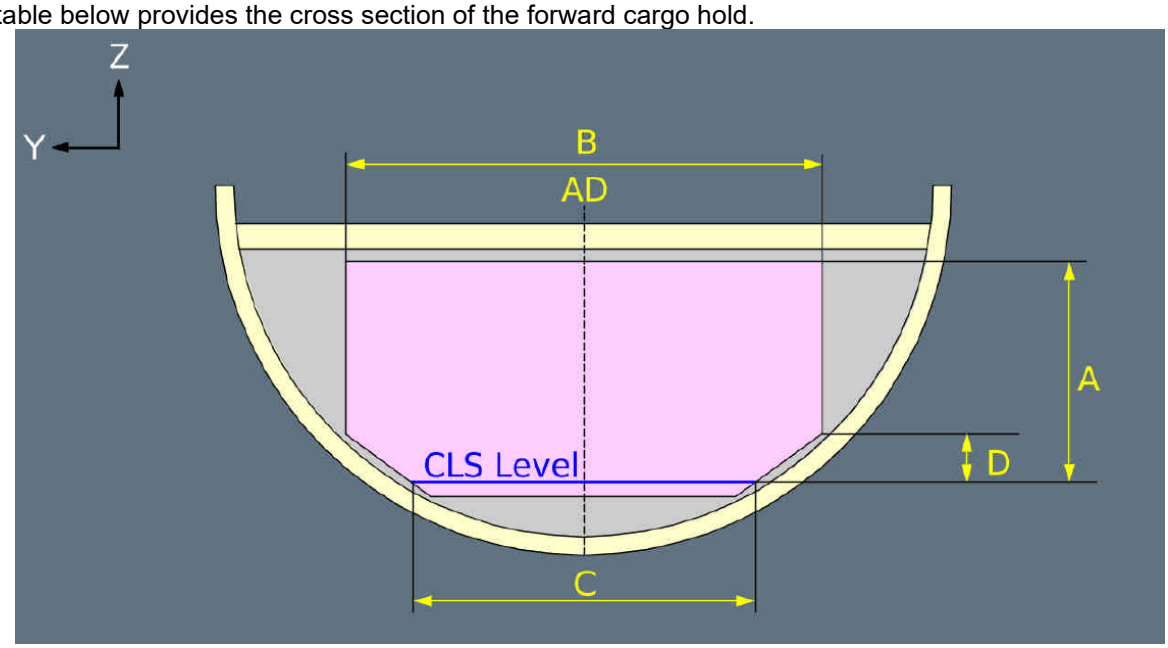


8.5.5 Cargo Arrangement

8.5.5.1 Forward Cargo Hold

CROSS SECTION

The table below provides the cross section of the forward cargo hold.



Legend	Dimensions	
	(m)	(in)
A	1.717	67.60
B	4.156	163.62
C	3.179	125.16
D	0.465	18.31

ULD POSITION ARRANGEMENT

ULDS WITH BASEPLATE 60.4 X 61.5 IN (ULD BASEPLATE CODE K)

ULD Position: 11R, 11L, 12R, 12L, 13R, 13L, 14R, 14L, 21R, 21L, 22R, 22L, 23R, 23L
Depending on the contour of the ULD the operator can either:
- Load both sides of the ULD position, or
- Load only one side of the ULD position.

ULDS WITH BASEPLATE 60.4 X 125 IN (ULD BASEPLATE CODE L)

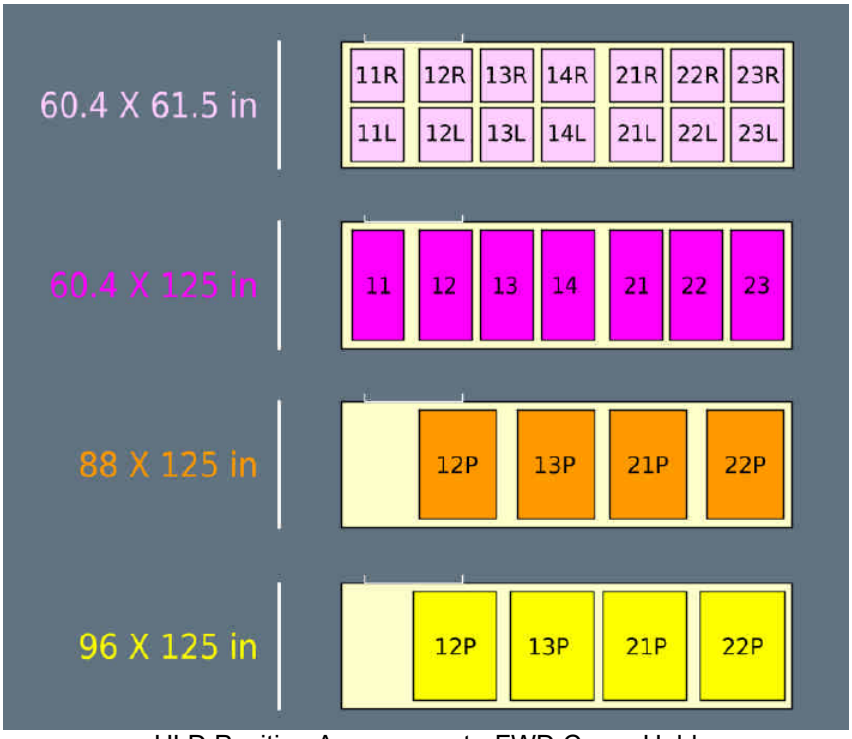
ULD Position: 11, 12, 13, 14, 21, 22, 23

ULDS WITH BASEPLATE 88 X 125 IN (ULD BASEPLATE CODE A)

ULD Position: 12 P, 13 P, 21 P, 22 P

ULDS WITH BASEPLATE 96 X 125 IN (ULD BASEPLATE CODE M)

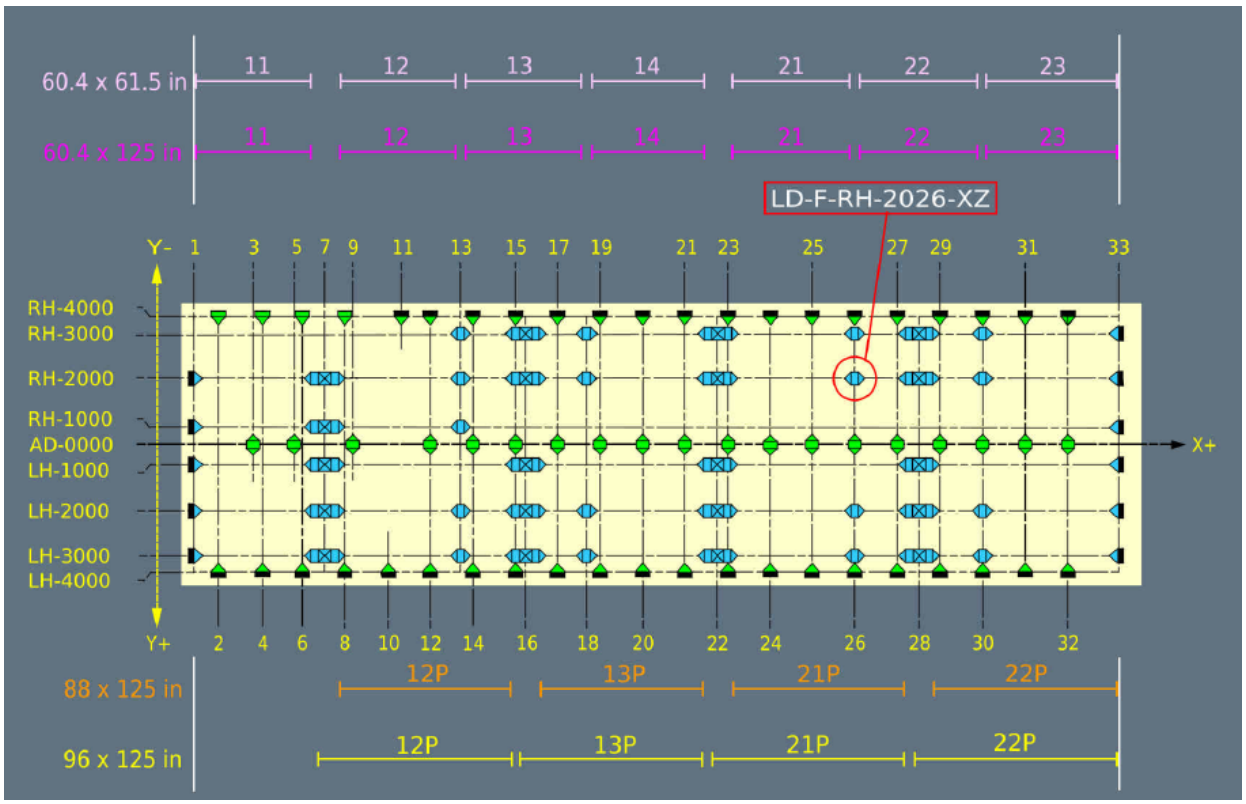
ULD Position: 12 P, 13 P, 21 P, 22 P



ULD Position Arrangement - FWD Cargo Hold

LATCH LOCATION

This part of the manual provides the location of all the latches of the cargo hold. To ease the localization of the latches, a numbering system is used. The numbering system provides a specific code for each latch.



Top View of the Cargo Hold Floor - FWD

DESCRIPTION OF THE NUMBERING SYSTEM

The following part describes the numbering system associated with the cargo hold latches. The latch code provides each latch unit with an individual identification.
The DD-H-SS-RNNN-TT latch code has the following essential elements to describe each latch:

- DD: cargo deck
- H: cargo hold
- SS: cargo hold side
- RNNN: individual identification number
- TT: latch restraint type.

DD - CARGO DECK

Code	Cargo Deck
LD	Lower Deck
MD	Main Deck
UD	Upper Deck

H - CARGO HOLD

Code	Cargo Hold
F	Forward cargo hold
A	Aft cargo hold
R	Rear bulk cargo hold

SS - CARGO HOLD SIDE

Code	Cargo Hold Side
RH	Right-Hand side
AD	Aircraft Datum
LH	Left-Hand side

RNNN - INDIVIDUAL IDENTIFICATION NUMBER
The individual identification number has 4 characters based on a grid of each cargo hold.

Character Position	Description
R	Latch position on the Y axis
NNN	Latch position on the X axis

TT- LATCH RESTRAINT TYPE

Code	Latch Restraint Type
XZ	Restraint in X and Z directions
YZ	Restraint in Y and Z directions

EXAMPLE OF LATCH CODE:
The latch code LD-F-RH-2026-XZ means that the relative latch is:

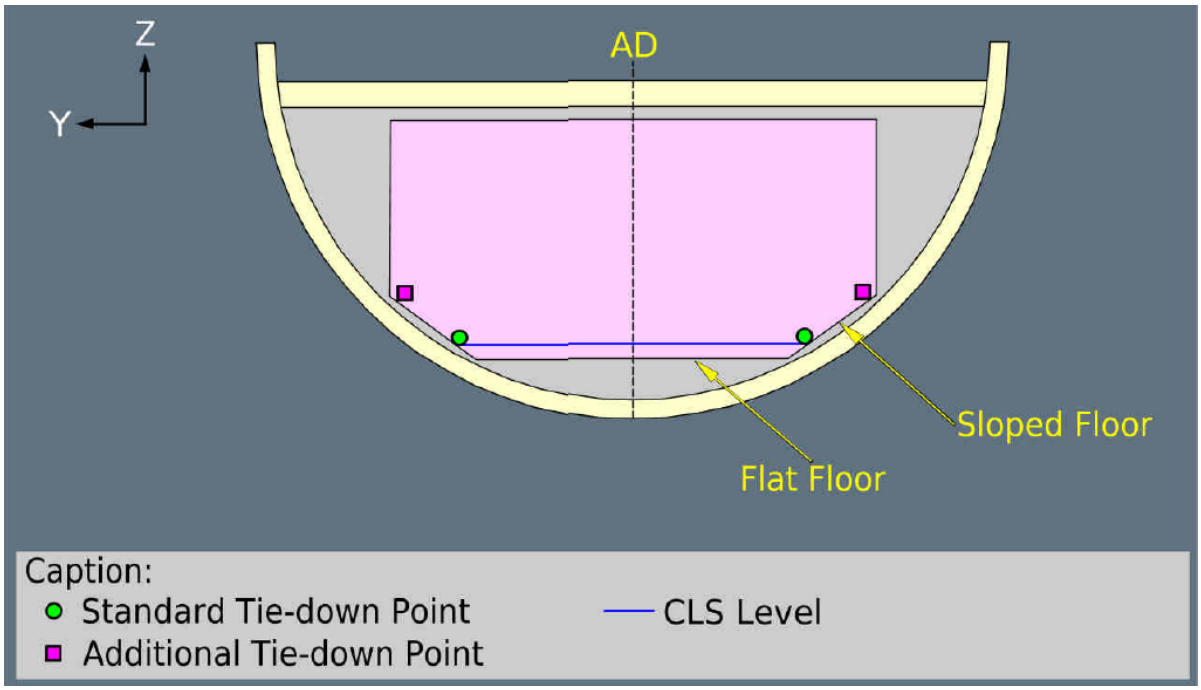
- In the lower deck
- In the forward cargo hold
- On the right-hand side of the cargo hold
- In the 2nd position from the AD on the Y axis and the 026th position from 1 on the X axis
- Able to restrain the ULDs in the X and Z directions.

TIE-DOWN POINT LOCATION

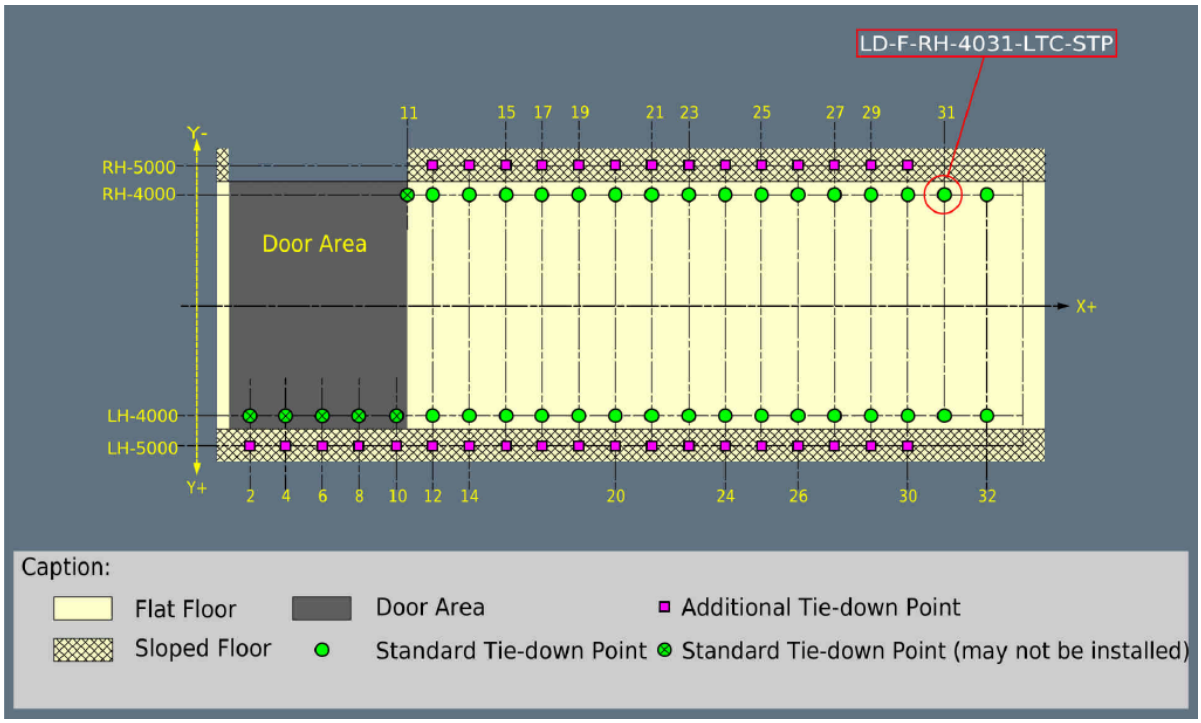
This part provides the location of all the tie-down points in the forward cargo hold. The cargo hold is equipped with tie-down points on the fixed YZ-Latches of the CLS and with additional tie-down points on the sloped floor of the cargo hold. To restrain floating pallets, the operator uses only the tie-down points on the fixed YZ-Latches of the CLS. The additional tie-down points on the sloped floor of the cargo hold are only dedicated to the individual restrain of long lightweight items.

To restrain long lightweight items, it is necessary to:
- Fasten the long lightweight items on floating pallets, or
- Individually fasten the long lightweight items to the additional tie-down points on the sloped floor of the cargo hold.

To ease the localization of the tie-down points, a numbering system is used. The numbering system provides a specific code for each tie-down point.



Front View of the Cargo Hold Cross Section



Top View of the Cargo Hold Floor

DESCRIPTION OF THE NUMBERING SYSTEM

The following part describes the numbering system associated with the tie-down points of the cargo hold. The tie-down point code provides each tie-down point with an individual identification.
The DD-H-SS-RNNN-LLL-TTT tie-down point code has the following essential elements to describe each tie-down point:

- DD: cargo deck
- H: cargo hold
- SS: cargo hold side
- RNNN: individual identification number
- LLL: cargo hold lining
- TTT: type of tie-down point

DD - CARGO DECK

Code	Cargo Deck
LD	Lower Deck
MD	Main Deck
UD	Upper Deck

H - CARGO HOLD

Code	Cargo Hold
F	Forward cargo hold
A	Aft cargo hold
R	Rear bulk cargo hold

SS - CARGO HOLD SIDE

Code	Cargo Hold Side
RH	Right-Hand side
AD	Aircraft Datum
LH	Left-Hand side

RNNN - INDIVIDUAL IDENTIFICATION NUMBER
The individual identification number has 4 characters based on a grid of each cargo hold.

Character Position	Description
R	Tie-down point position on the Y axis
NNN	Tie-down point position on the X axis

LLL - CARGO HOLD LINING

Code	Cargo Hold Lining
CLG	Ceiling
FLR	Floor
LTC	Latch

TTT - TYPE OF TIE-DOWN POINT

Code	Type of Tie-down Point
STP	Standard Tie-down Point
ATP	Additional Tie-down Point
NTP	Net Tie-down Point

EXAMPLE OF TIE-DOWN POINT CODE:
The LD-F-RH-4031-LTC-STP tie-down point code identifies the tie-down point that is:

- In the lower deck
- In the forward cargo hold
- On the right-hand side of the cargo hold
- In the 4th position from the AD on the Y axis and the 031th position on the X axis
- On a fixed YZ-Latch
- A standard tie-down point.

LOADING RECOMMENDATIONS

The FWD cargo hold can be loaded with:
- A maximum of 14 ULDs
- Non-unitized loads.

To load a ULD or a non-unitized load in the cargo hold, all of the following should be considered:
- The dimensions of the permitted ULD baseplate
- The dimensions of the maximum permitted contour
- The dimensions of the package
- The installation of the ventilation and temperature control systems in the cargo hold, if required by the type of item loaded.

ULD BASEPLATE

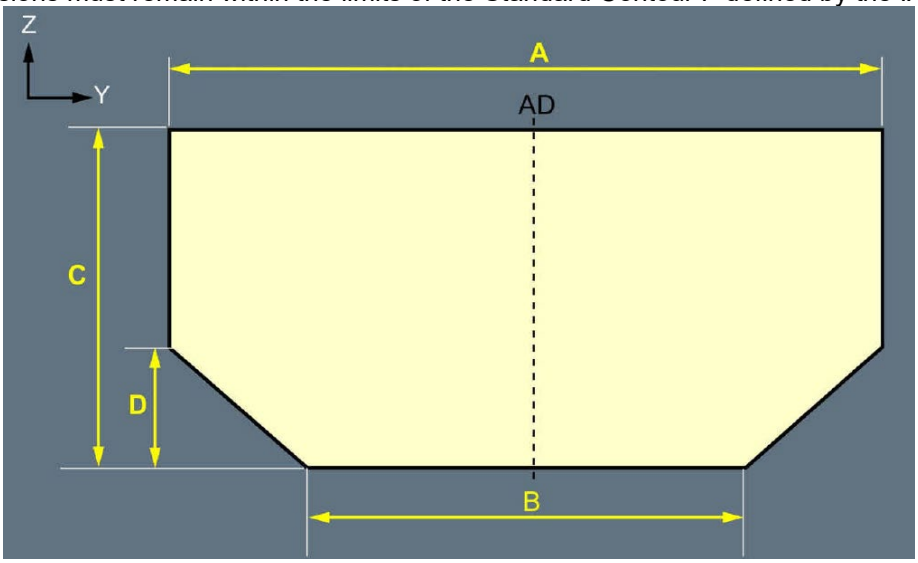
ULDs with the following baseplate dimensions can be loaded:
- 60.4 x 61.5 in
- 60.4 x 125 in
- 88 x 125 in
- 96 x 125 in.

It is possible to:
- Load ULDs that all have the same baseplate dimensions
- Load a combination of ULDs with different baseplate dimensions. The compatibility of loading ULDs with different baseplate dimensions on adjacent positions should be considered.
- Load non-unitized loads
- Load a combination of ULDs and non-unitized loads. The interference that may occur between ULDs and non-unitized loads should be considered.
- Keep one or more ULD positions vacant.

If the ULD baseplate is deteriorated, the baseplate may interfere with the function of the CLS. To ensure smooth loading and restraint of the ULD in the CLS, all of the following should be inspected:
- The baseplate deflection
- The baseplate outer dimensions
- The baseplate edge profile.

ULD CONTOUR

The ULD dimensions must remain within the limits of the Standard Contour F defined by the IATA.



Legend	Dimensions (m)
A	4.064
B	3.175
C	1.626
D	0.498

PACKAGE DIMENSIONS

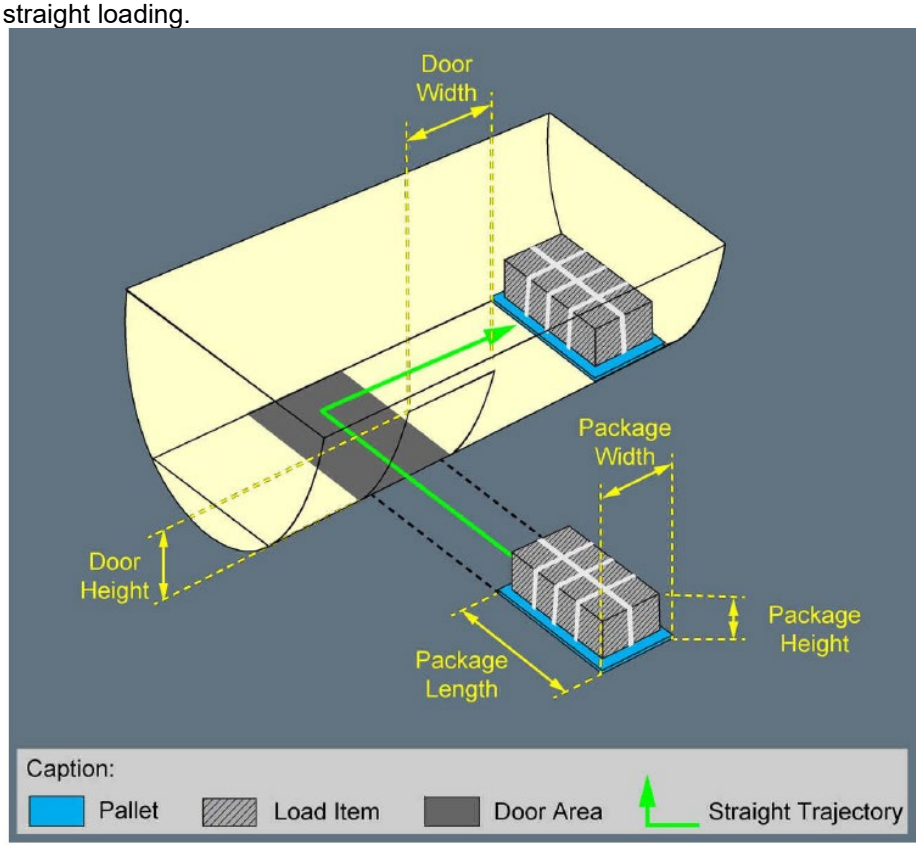
One of the following techniques to load non-unitized loads can be used:
- The straight loading
- The swiveled loading.

The dimensions of the packages that can be loaded depend on all of the following:
- The dimensions of the cargo door
- The cross section of the cargo hold
- The length of the cargo hold
- The restraint system of the cargo hold
- The technique used to load the packages.

For both loading techniques, the package dimensions provided in the tables below are approximate and refer to rectangular packages.

STRAIGHT LOADING

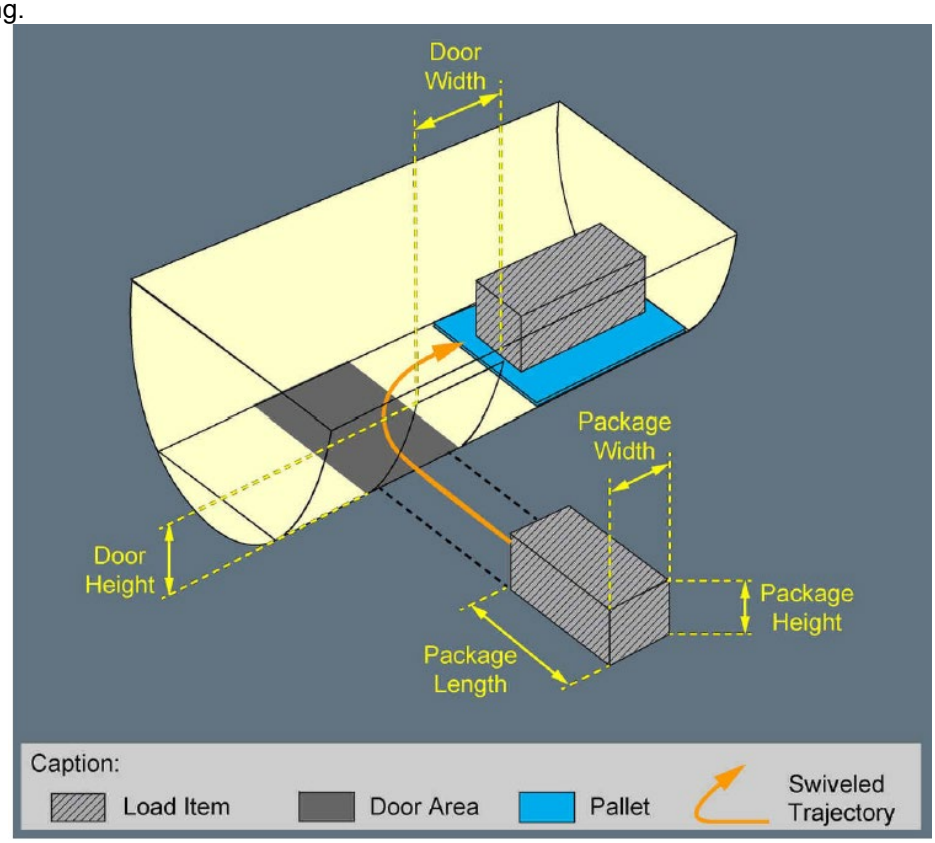
Straight loading means that the packages are maneuvered through the cargo door in an upright position and moved straight ahead in the cargo hold. Large heavy packages should be straight loaded with the assistance of ground support equipment. The table below provides the maximum dimensions of packages that are compatible with straight loading.



MAX Package Width (m)	MAX Package Height (m)	MAX Package Length (m)
2.375	1.626	3.073

SWIVELED LOADING

If the package dimensions exceed the permitted dimensions for the straight loading, the operator may still load the package by swiveling it in the door area. The swiveled loading of packages requires hand maneuvering. The table below provides some examples of package dimensions that are compatible with swiveled loading.



Package Width (m)	Package Height (m)	Package Length (m)
0.254	0.254	11.500
0.508	0.508	9.500
0.762	0.762	7.500

VENTILATION AND TEMPERATURE CONTROL SYSTEMS

The forward cargo hold has cooling, heating, and ventilation systems.

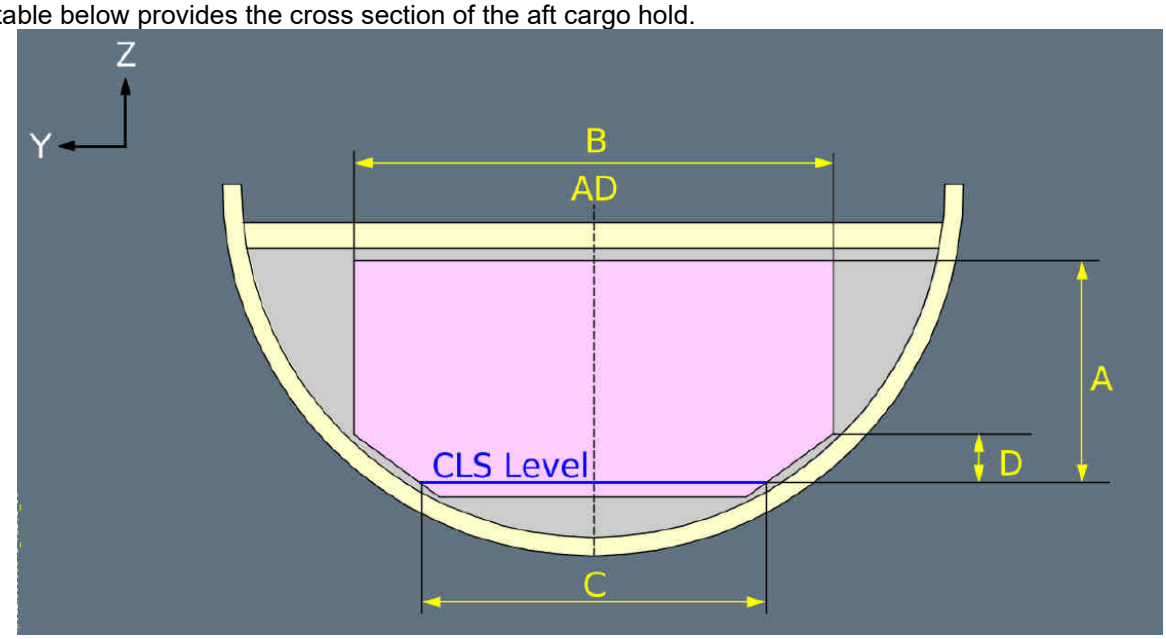
Special cargo can require the use of the ventilation and (or) temperature control systems.

To transport special cargo, both of the following should be considered:
- The WBM requirements
- The requirements or regulations of any specific documentation related to special cargo.

8.5.5.2 Aft Cargo Hold

CROSS SECTION

The table below provides the cross section of the aft cargo hold.



Legend	Dimensions	
	(m)	(in)
A	1.670	65.75
B	4.156	163.62
C	3.179	125.16
D	0.470	18.50

ULD POSITION ARRANGEMENT

ULDS WITH BASEPLATE 60.4 X 61.5 IN (ULD BASEPLATE CODE K)

ULD Position: 31R, 31L, 32R, 32L, 33R, 33L, 41R, 41L, 42R, 42L, 43R, 43L
Depending on the contour of the ULD the operator can either:
- Load both sides of the ULD position, or
- Load only one side of the ULD position.

ULDS WITH BASEPLATE 60.4 X 125 IN (ULD BASEPLATE CODE L)

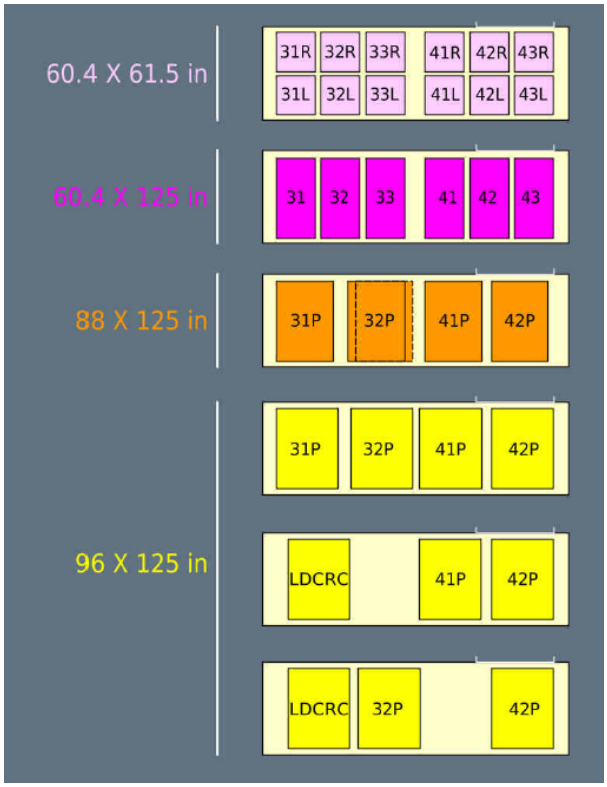
ULD Position: 31, 32, 33, 41, 42, 43

ULDS WITH BASEPLATE 88 X 125 IN (ULD BASEPLATE CODE A)

ULD Position: 31 P, 32 P, 32 P, 41 P, 42 P

ULDS WITH BASEPLATE 96 X 125 IN (ULD BASEPLATE CODE M)

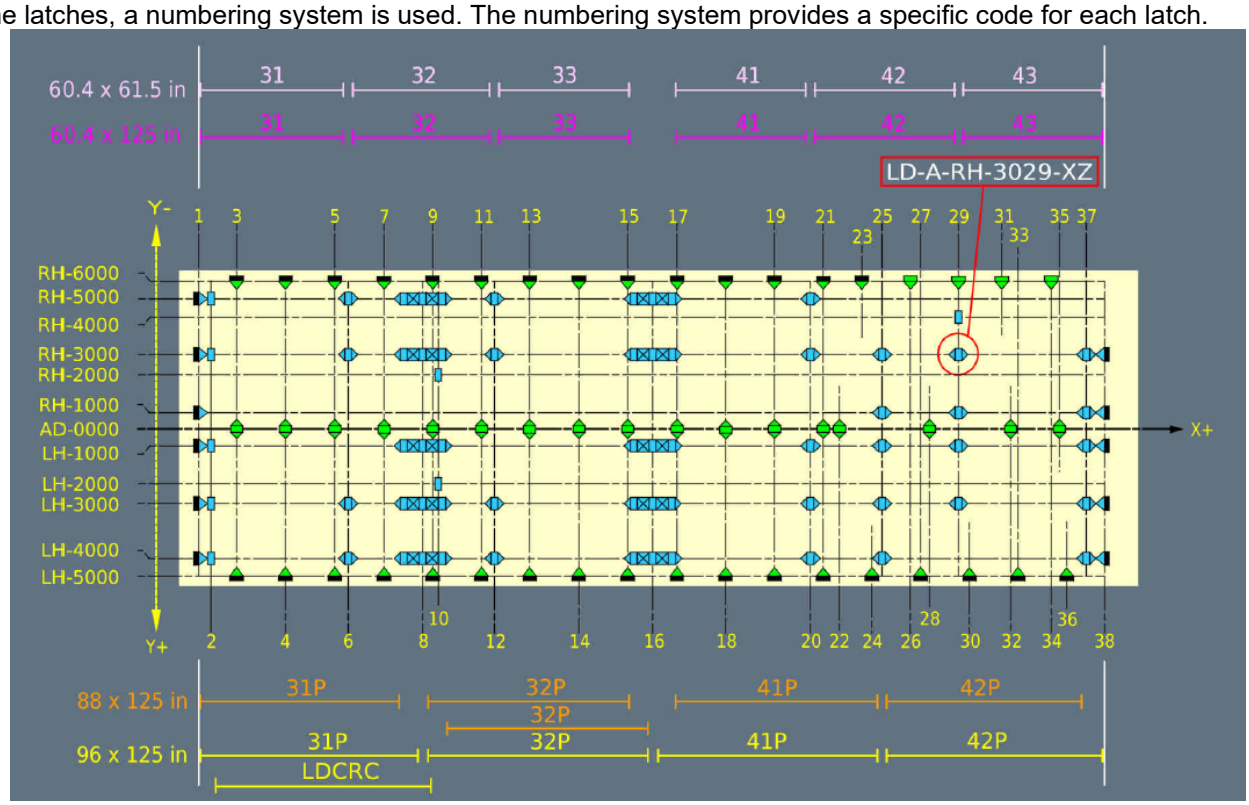
ULD Position: 31 P, LDCRC, 32 P, 32 P, 41 P, 42 P
The latch arrangement prevents the loading of 2 ULDs with baseplate 96 x 125 in on positions 32P and 41P together when the LDCRC is installed.



ULD Position Arrangement - Aft Cargo Hold

LATCH LOCATION

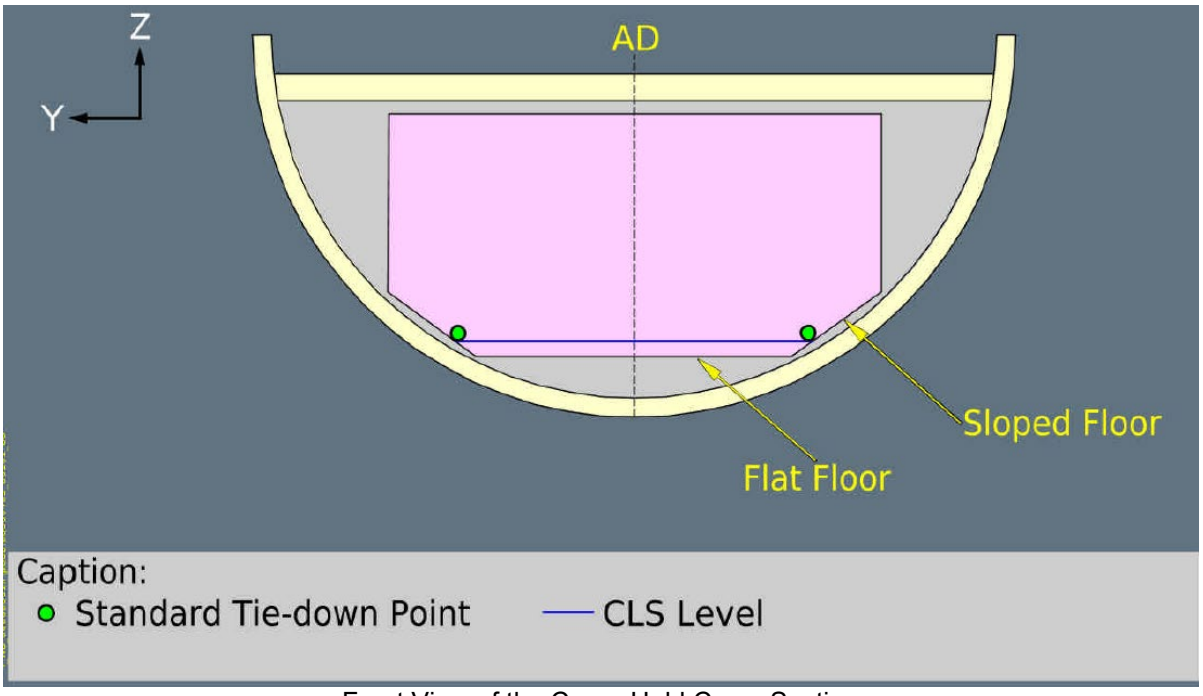
This part of the manual provides the location of all the latches of the cargo hold. To ease the localization of the latches, a numbering system is used. The numbering system provides a specific code for each latch.



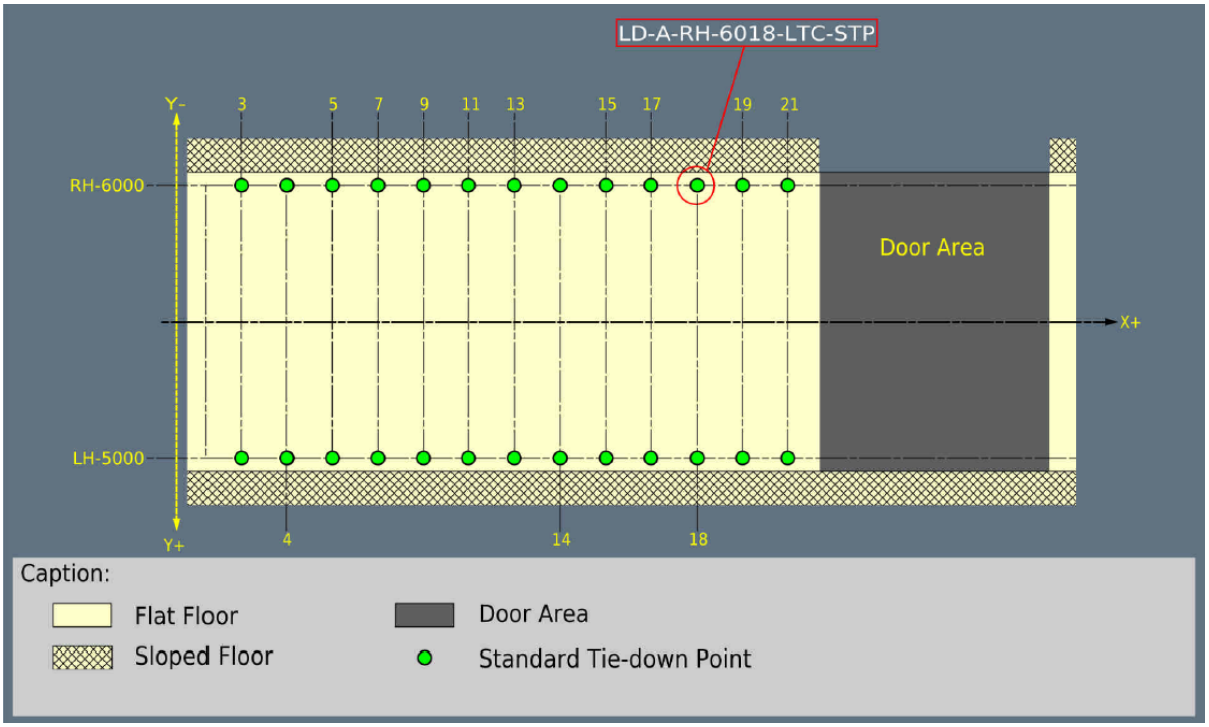
Top View of the Cargo Hold Floor - Aft

TIE-DOWN POINT LOCATION

This part provides the location of all the tie-down points in the aft cargo hold. The cargo hold is equipped with tie-down points on the fixed YZ-Latches of the CLS for the restrain of floating pallets.
To ease the localization of the tie-down points, a numbering system is used. The numbering system provides a specific code for each tie-down point.



Front View of the Cargo Hold Cross Section



Top View of the Cargo Hold Floor

LOADING RECOMMENDATIONS

The AFT cargo hold can be loaded with:
- A maximum of 12 ULDs
- Non-unitized loads.

Loading recommendation for AFT cargo hold are the same as for FWD cargo hold.

STRAIGHT LOADING

Straight loading means that the packages are maneuvered through the cargo door in an upright position and moved straight ahead in the cargo hold. Large heavy packages should be straight loaded with the assistance of ground support equipment. The table below provides the maximum dimensions of packages that are compatible with straight loading.

MAX Package Width (m)	MAX Package Height (m)	MAX Package Length (m)
2.375	1.626	3.073

SWIVELED LOADING

If the package dimensions exceed the permitted dimensions for the straight loading, the operator may still load the package by swiveling it in the door area. The swiveled loading of packages requires hand maneuvering. The table below provides some examples of package dimensions that are compatible with swiveled loading.

Package Width (m)	Package Height (m)	Package Length (m)
0.254	0.254	6.860
0.508	0.508	6.860
0.762	0.762	6.860

VENTILATION AND TEMPERATURE CONTROL SYSTEMS

The aft cargo hold has a ventilation system. The aft cargo hold is not equipped with a temperature control system.

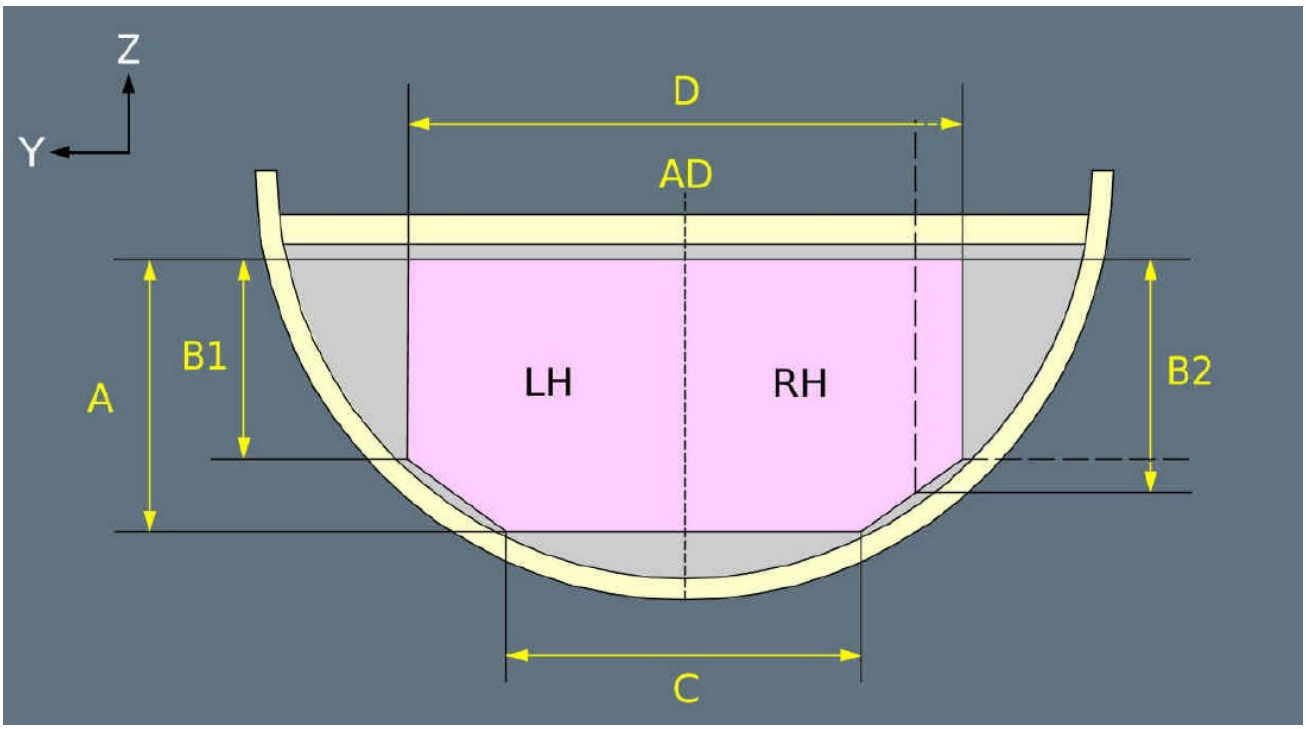
Special cargo can require the use of the ventilation and (or) temperature control systems.

To transport special cargo, both of the following should be considered:
- The WBM requirements
- The requirements or regulations of any specific documentation related to special cargo.

8.5.5.3 Rear Bulk Cargo Hold

CROSS SECTION

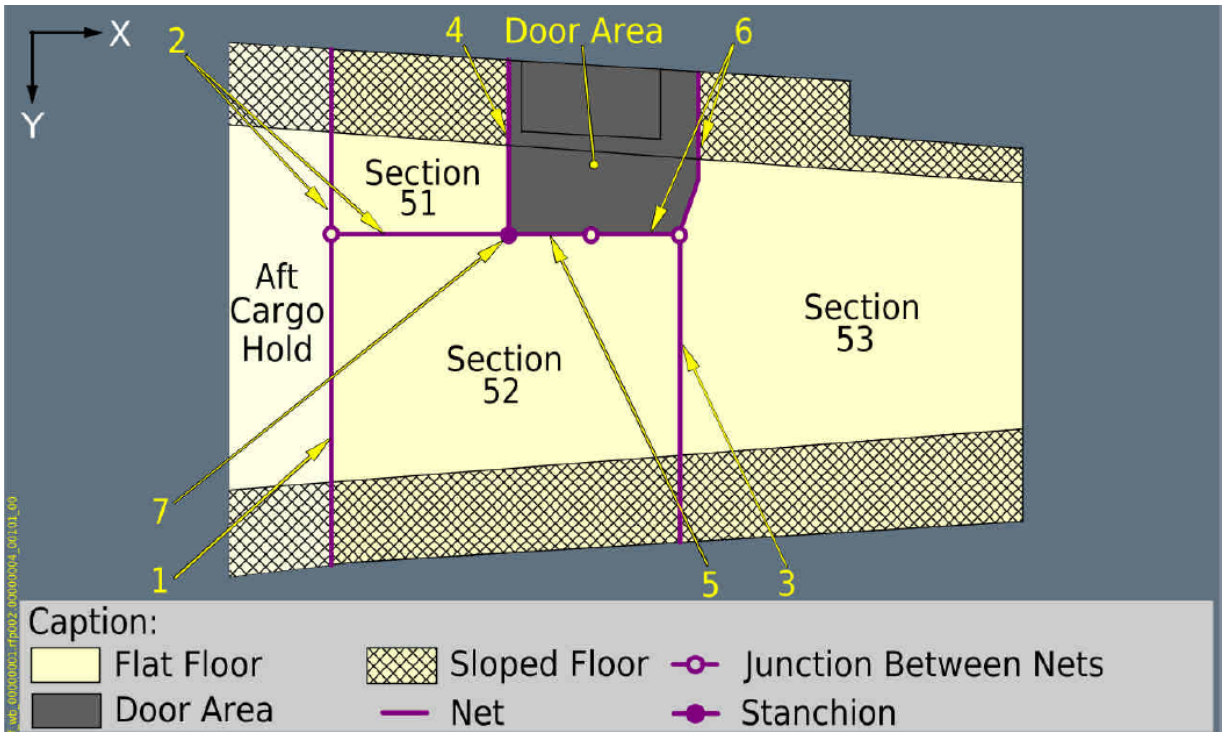
The form of the rear bulk cargo hold is not regular. The left and right sides of the cargo hold are not symmetrical on the total length of the cargo hold.



H-ARM	Dimensions				
	A	B1	B2	C	D
(m)	(m)	(m)	(m)	(m)	(m)
46.987	1.797	1.278	1.278	2.422	3.799
47.337	1.805	1.295	1.295	2.366	3.755
47.867	1.818	1.300	1.300	2.282	3.688
48.397	1.785	1.225	1.225	2.136	3.621
48.927	1.752	1.161	1.161	1.985	3.554
49.457	1.691	1.069	1.069	1.837	3.487
49.987	1.629	0.977	1.265	1.688	3.040
50.517	1.568	1.004	1.147	1.540	2.848
51.026	1.507	1.030	1.030	1.391	2.658

SECTION ARRANGEMENT

The rear bulk cargo hold is divided into sections and net sections as indicated in the illustration below.



Legend	Related Net Type
1	Divider net 1
2	Corner net
3	Divider net 2
4	Door net type A
5	Door net type C
6	Door net type B
7	Stanchion

The maximum theoretical volume of the cargo hold is equal to the total theoretical volume of the cargo hold minus the volume of the cargo door area.

The maximum usable volume of the cargo hold is based on:
- The maximum theoretical volume
- The volume reduction due to the minimum clearance of 0.051 m between the top of the load and the cargo hold ceiling
- The volume reduction due to the installation of protection panels on the cargo hold walls.

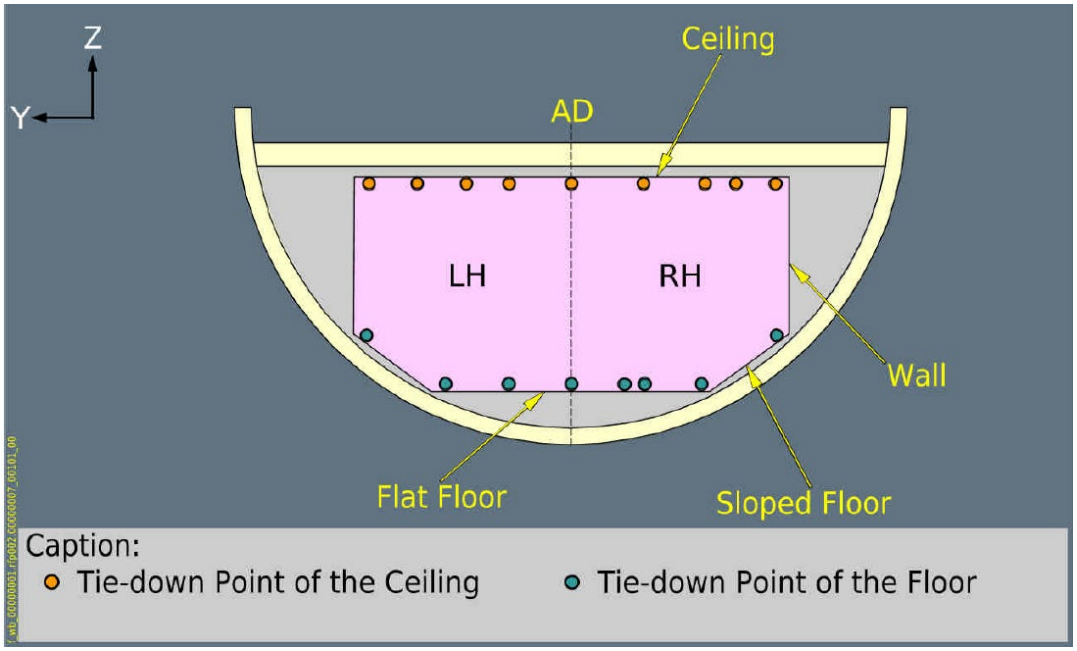
The following table provides the usable volume for each section that is available for the loading of bulk items.

Section	MAX Usable Volume (m^3)
51	1.870
52	7.870
53	9.940

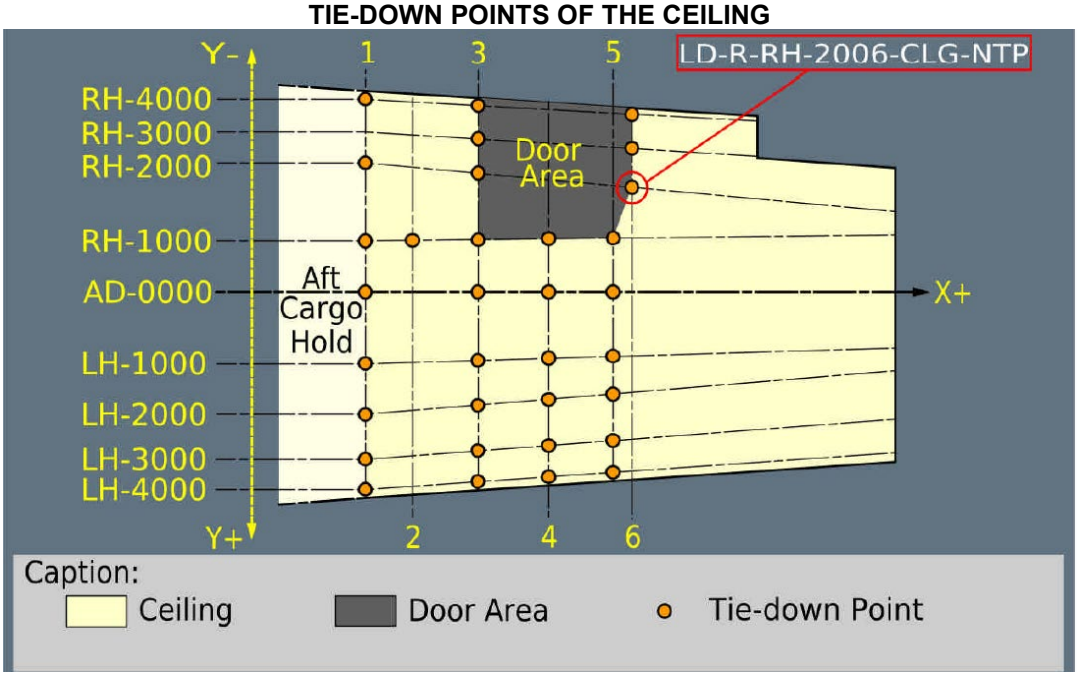
TIE-DOWN POINT LOCATION

This part provides the location of all the tie-down points installed in the rear bulk cargo hold.
The rear bulk cargo hold is equipped with tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold.
To attach the nets, the tie-down points on the ceiling, the sloped floor and the flat floor of the cargo hold are used.
The tie-down points on the ceiling of the cargo hold are only dedicated to the installation of nets.
To restrain bulk items, only the standard tie-down points to be used that are not already used to attach the nets.
To ease the localization of the tie-down points, a numbering system is used. The numbering system provides a specific code for each tie-down point.

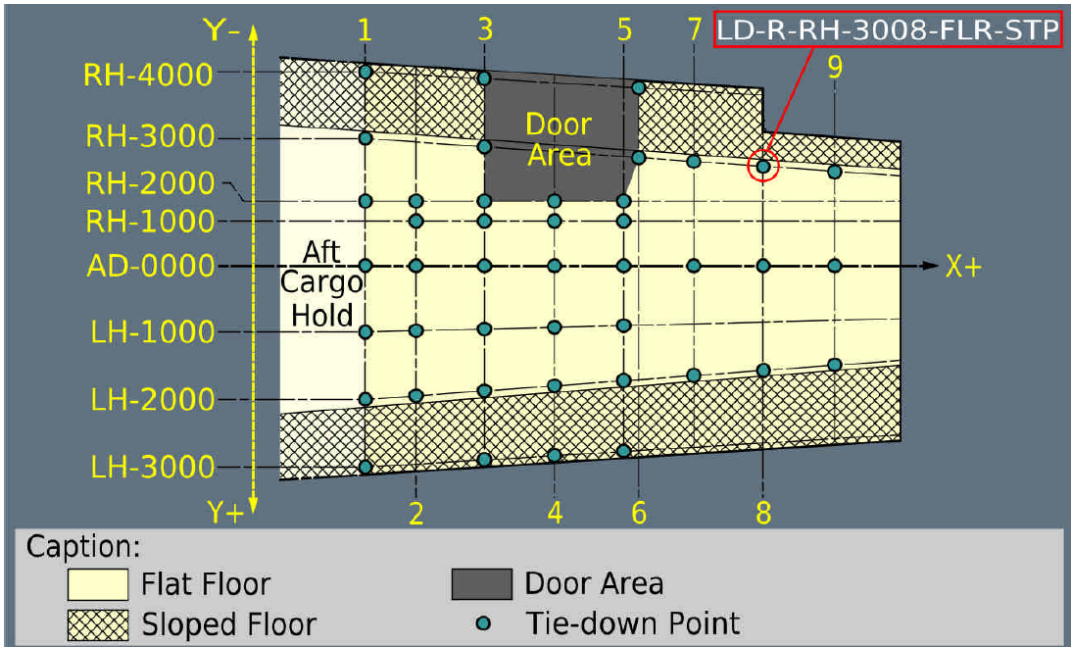
POSSIBLE LOCATION OF THE TIE-DOWN POINTS



TIE-DOWN POINTS OF THE CEILING



TIE-DOWN POINTS OF THE FLAT AND SLOPED FLOORS



LOADING RECOMMENDATIONS

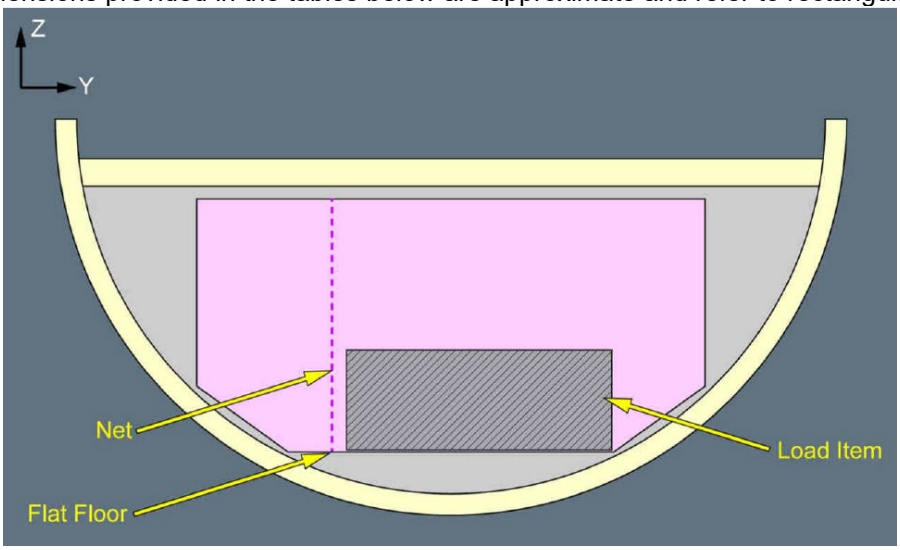
To load an item in the cargo hold, below should be considered:
- The dimensions of the package
- The installation of ventilation and temperature control systems in the cargo hold, if required by the type of item loaded.

PACKAGE DIMENSIONS

LOADING THROUGH THE REAR BULK CARGO DOOR

The dimensions of the packages that can be loaded depend on all of the following:
- The dimensions of the rear bulk cargo door
- The cross sections of the rear bulk cargo hold
- The restraint system of the rear bulk cargo hold
- The dimensions of the net sections of the rear bulk cargo hold.

The package dimensions provided in the tables below are approximate and refer to rectangular packages.



Transport on the Flat Floor

Net Section 51
To transport a package on the flat floor of net section 51, trial loading is recommended.

Net Section 52
The table below provides information on the transport of a package on the flat floor of net section 52 based on the length and width of the package.

In the following table, all of the following apply:
- "Yes" means that loading is possible
- "Trial Loading" means that loading may be possible depending the form of the package.

Metric Units			Package Length (m)					
			≤ 1.800	2.000	2.100	2.250	2.400	≥ 2.400
Package Width	(m)	≤ 0.100	Yes					Trial Loading
		0.250	Yes				Trial Loading	
		0.400	Yes			Trial Loading		
		0.550	Yes		Trial Loading			
		0.850	Yes	Trial Loading				
		≥ 0.850	Trial Loading					
MAX Package Height	(m)	0.560						

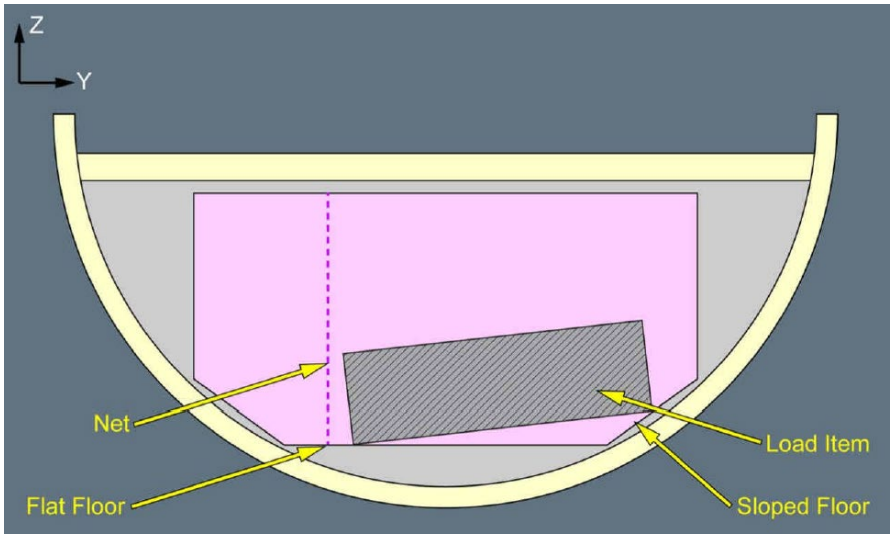
Net Section 53
The table below provides information on the transport of a package on the flat floor of net section 53 based on the length and width of the package.

In the following table, all of the following apply:
- "Yes" means that loading is possible
- "Trial Loading" means that loading may be possible depending the form of the package.

Metric Units			Package Length (m)				
			≤ 2.100	2.250	2.350	2.500	≥ 2.500
Package Width	(m)	≤ 0.100	Yes				Trial Loading
		0.250	Yes			Trial Loading	
		0.400	Yes		Trial Loading		
		0.850	Yes	Trial Loading			
		≥ 0.850	Trial Loading				
MAX Package Height	(m)	0.560					

Transport on both the Flat and Sloped Floors

If the package dimensions exceed the dimensions for the transport on the flat floor, the package may still be transported. The package will touch both the flat and sloped floors, and will be at an angle.
The loading of this type of package requires the manually lifting the package on to the sloped floor.



Net Section 51
To transport a package on both the flat and sloped floors of net section 51, trial loading is recommended.

Net Section 52
The table below provides information on the transport of a package on both the flat and sloped floors of net section 52 based on the length and width of the package.

In the following table, all of the following apply:
- “Yes” means that loading is possible
- “Trial Loading” means that loading may be possible depending the form of the package.

Metric Units			Package Length (m)				
			≤ 2.250	2.500	2.700	2.800	≥ 2.800
Package Width	(m)	≤ 0.100	Yes				Trial Loading
		0.250	Yes			Trial Loading	
		0.550	Yes		Trial Loading		
		0.850	Yes	Trial Loading			
		≥ 0.850	Trial Loading				
MAX Package Height	(m)	0.560					

Net Section 53
The table below provides information on the transport of a package on both the flat and sloped floors of net section 53 based on the length and width of the package.

In the following table, all of the following apply:
- “Yes” means that loading is possible
- “Trial Loading” means that loading may be possible depending the form of the package.

Metric Units			Package Length (m)					
			≤ 2.500	2.600	2.700	2.800	2.900	≥ 2.900
Package Width	(m)	≤ 0.100	Yes					Trial Loading
		0.250	Yes				Trial Loading	
		0.400	Yes			Trial Loading		
		0.550	Yes		Trial Loading			
		0.850	Yes	Trial Loading				
		≥ 0.850	Trial Loading					
MAX Package Height	(m)	0.560						

LOADING THROUGH THE AFT CARGO DOOR

The dimensions of the packages that can be loaded depend on all of the following:
- The dimensions of the aft cargo door
- The cross sections of both the aft cargo hold and the rear bulk cargo hold
- The restraint system of the rear bulk cargo hold
- The technique used to load the packages thought the aft cargo door
- The dimensions of the net sections of the rear bulk cargo hold.

VENTILATION AND TEMPERATURE CONTROL SYSTEMS

The rear bulk cargo hold has heating and ventilation systems.

Special cargo can require the use of the ventilation and(or) temperature control systems.

To transport special cargo, both of the following should be considered:
- The WBM requirements
- The requirements or regulations of any specific documentation related to special cargo.

8.6 ULD loading/unloading procedures

WARNING: MAKE SURE THAT YOU DO NOT CAUSE ACCIDENTAL MOVEMENT OF A ULD DURINGTHE LOAD PROCEDURE:
- USE SUFFICIENT LOADING PERSONNEL TO DO THE PROCEDURE SAFELY. ACCIDENTAL MOVEMENT OF A ULD CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING: DO NOT TOUCH THE POWER DRIVE UNIT:
- UNTIL IT IS SUFFICIENTLY COOL TO PREVENT BURNS WHEN YOU DO THE MAINTENANCE TASK(S)
- DURING OPERATION TO PREVENT INJURY FROM PARTS THAT TURN.

CAUTION: DO NOT TURN CONTAINERS OR PALLETS WHILE THEY ARE IN THE CARGO COMPARTMENT. IF YOU TURN CONTAINERS OR PALLETS IN THE CARGO COMPARTMENT,YOU CAN CAUSE DAMAGE TO LININGS, NETS, CURTAINS OR TO COMPONENTS OFTHE CARGO LOADING SYSTEM.

CAUTION: OBEY THESE PRECAUTIONS DURING LOADING OR UNLOADING OF THE CARGO COMPARTMENT:
- MAKE SURE THAT THE DIMENSIONS OF THE CARGO ARE NOT LARGER THANTHE SIZE OF THE PALLET BASE OR THE HEIGHT OF THE DOOR TO THE CARGO COMPARTMENT
- BE CAREFUL WHEN YOU MOVE PALLETS OR ULD'S WHICH DO NOT HAVE A STANDARD SHAPE.
- MAKE SURE THAT THE CARGO DOES NOT TOUCH COMPONENTS OF THE CARGO COMPARTMENT.
IF YOU DO NOT OBEY THESE PRECAUTIONS, YOU CAN CAUSE DAMAGE TO LININGS, DECOMPRESSION PANELS OR TO OTHER COMPONENTS OF THE COMPARTMENT.

CAUTION: IF THE COMPARTMENT IS NOT FULL AFTER THE CARGO LOADING PROCEDURE, LIFT THE LATCHES AT ALL THE EMPTY ULD POSITIONS. THIS WILL PREVENT ACCIDENTAL MOVEMENT OF A ULD, IF ULD LATCHES BECOME DEFECTIVE DURING FLIGHT. ACCIDENTAL MOVEMENT OF A ULD CAN CAUSE DAMAGE TO EQUIPMENT.

NOTE: When the ULDs move in the load direction, they lower the anti-roll-out devices of the door-sill latches to override them. After that the anti-roll-out devices are automatically lifted to make sure that the ULDs do not move back.

NOTE: When the joystick is released, it moves to the neutral position and the PDUs stop.

8.6.1 Loading Procedure for 60.4-Inch x 61.5-Inch or 60.4-Inch x 125-Inch Unit Load Devices (ULD) in the Lower-Deck Forward Cargo Compartment

NOTE: When you load 60.4-Inch x 61.5-Inch ULD singly, it is necessary to load the left row first. When you load the ULDs in pairs, you must first fill the loading position 11L/R. After this it is necessary to push the joystick on the outside control panel into the splitting position until the ULDs are aligned for aft movement.

Aircraft Maintenance Configuration

(1) Energize the ground service network.

CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.

(2) Put a LOADER - PLATFORM in position at the entrance to the forward cargo compartment.
(3) Open the forward cargo-compartment door.
(4) Lower the manually operated YZ-latches of the door-sill latches.

(5) Open the access door 122DR of the outside control panel of the Cargo Loading System (CLS).
(6) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "ON" position.
(b) Make sure that the "SYSTEM READY" lamp comes on.
(7) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the ON position.

Prepare to move 60.4-Inch x 61.5-Inch ULDs or 60.4-Inch x 125-Inch ULDs into the LowerDeck Forward Cargo-Compartment

(1) Put the manually operated components of the CLS in their correct position for the loading of 60.4-Inch x 61.5-Inch ULDs or 60.4-Inch x 125-Inch ULDs.
(2) Lower all the latches installed on the cargo compartment floor.
(3) Lift the splitters for side-by-side loading only.

Loading Procedure for Half- or Full-Size-ULDs in the Load Positions 13 thru 23

(1) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(2) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rails opposite the door area.
(3) Release the joystick.
(4) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD moves aft and out of the ball mat area.
(5) Release the joystick when the ULD is out of the ball mat area.
(6) Get access to the inside control panel, installed in the ceiling of the cargo compartment.
(7) Push the joystick on the inside control panel to the AFT position. Hold it in this position until the ULD is in its load position.
(8) Release the joystick when the ULD touches the endstops or XZ-latches in its load position.
(9) Lift the pawls of the XZ-latches, installed forward of the ULD in its load position.
(10) Make sure that the ULD is engaged in the XZ-latches.
NOTE: The pawls of the XZ-latches also have the function of endstops.

Loading Procedure for Half- or Full-Size ULDs in the Load Position 12

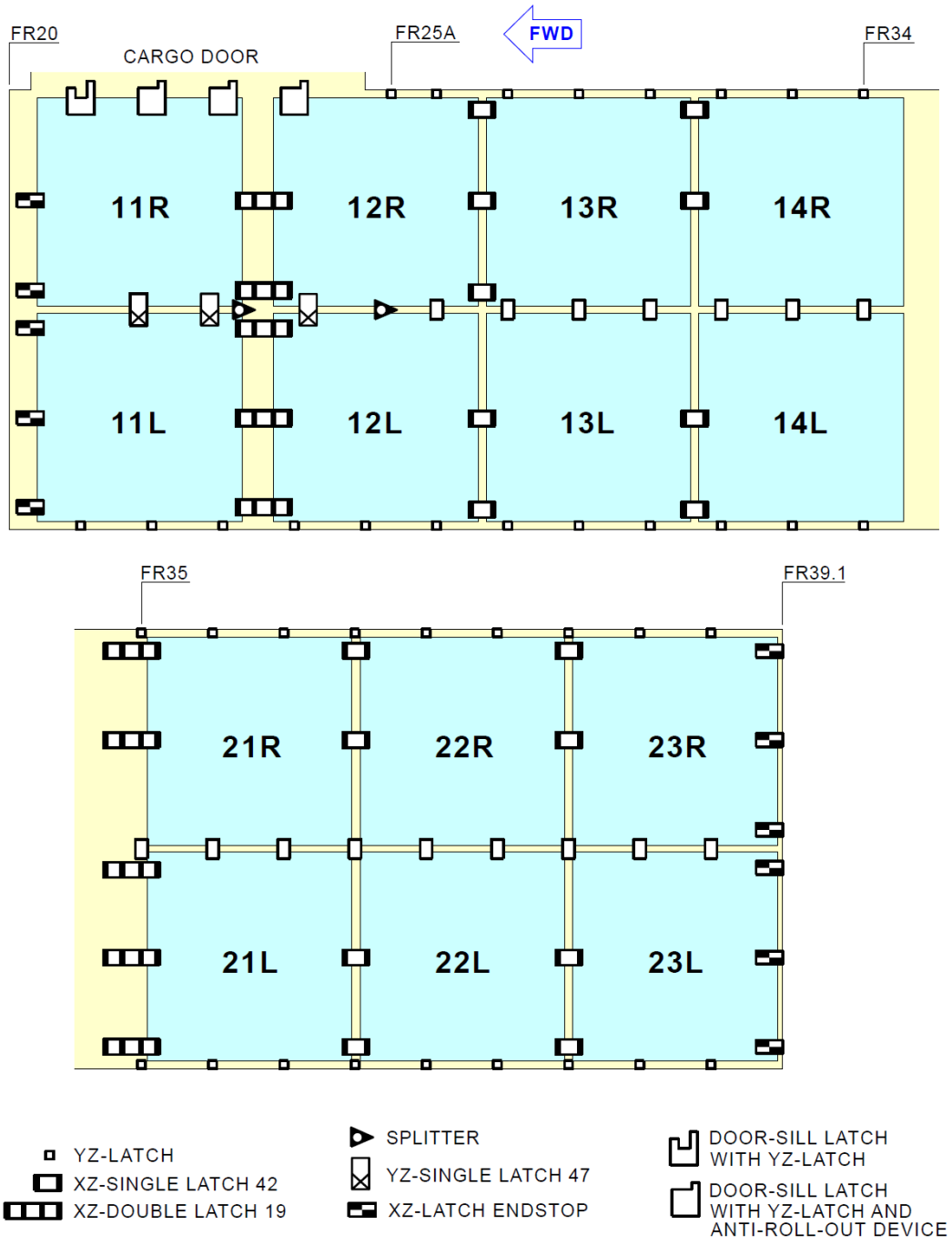
(1) Make sure that all the pawls of the XZ-latches installed forward of the load position 13 are lifted.
(2) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(3) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rails opposite the door area.
(4) Release the joystick.
(5) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD moves aft.
(6) Release the joystick when the ULD touches the endstops in its load position.
(7) To lock the ULD in the load position 12L, lift the pawl of the YZ-latch installed between the load positions 12R and 12L.

Loading Procedure for Half- or Full-Size ULDs in the Load Position 11

(1) Make sure that all pawls of the XZ-latches installed forward of the load position 12 are lifted.
(2) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(3) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rails opposite the door area.
(4) Release the joystick.
(5) To lock the ULD in the load position 11L:
- Lift the pawl of the YZ-latch installed between the load positions 11R and 11L.
(6) Lift the manually operated YZ-latches of the door-sill latches.

Put the aircraft back to its initial configuration

(1) Make sure that the work area is clean and clear of tools and other items.
(2) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the OFF position.
(3) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "OFF" position.
(b) Make sure that the "SYSTEM READY" lamp goes off.
(4) Close the access door 122DR of the outside control panel.
(5) Remove the loader platform.
(6) Close the forward cargo-compartment door
(7) De-energize the ground service network



Forward Cargo Compartment for 60.4-Inch x 61.5-Inch or 60.4-Inch x 125-Inch ULDs

8.6.2 Loading Procedure for 88-Inch x 125-Inch or 96-Inch x 125-Inch Unit Load Devices (ULD) in the Lower-Deck Forward Cargo Compartment

Aircraft Maintenance Configuration

(1) Energize the ground service network.
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put a LOADER - PLATFORM in position at the entrance to the forward cargo compartment.
(3) Open the forward cargo-compartment door.
(4) Lower the manually operated YZ-latches of the door-sill latches.
(5) Open the access door 122DR of the outside control panel of the Cargo Loading System (CLS).
(6) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "ON" position.
(b) Make sure that the "SYSTEM READY" lamp comes on.
(7) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the ON position.

Prepare to move 88-Inch x 125-Inch ULDs or 96-Inch x 125-Inch ULDs into the Lower-DeckForward Cargo-Compartment

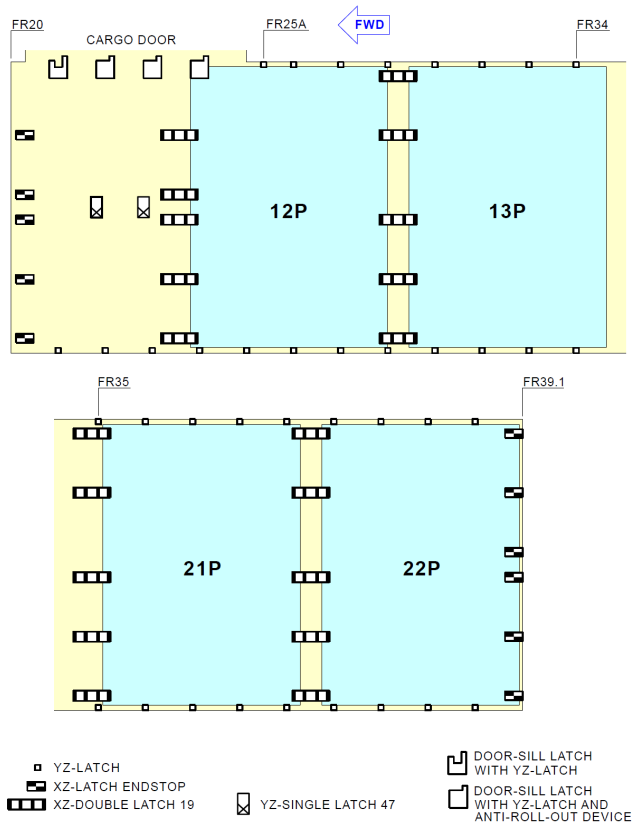
(1) Put the manually operated components of the CLS in their correct positions for the loading of 88-Inch x 125-Inch ULDs or 96-Inch x 125-Inch ULDs.
(2) Lower all the latches and splitters installed on the cargo compartment floor.

Loading Procedure for the Load Positions 12P thru 22P

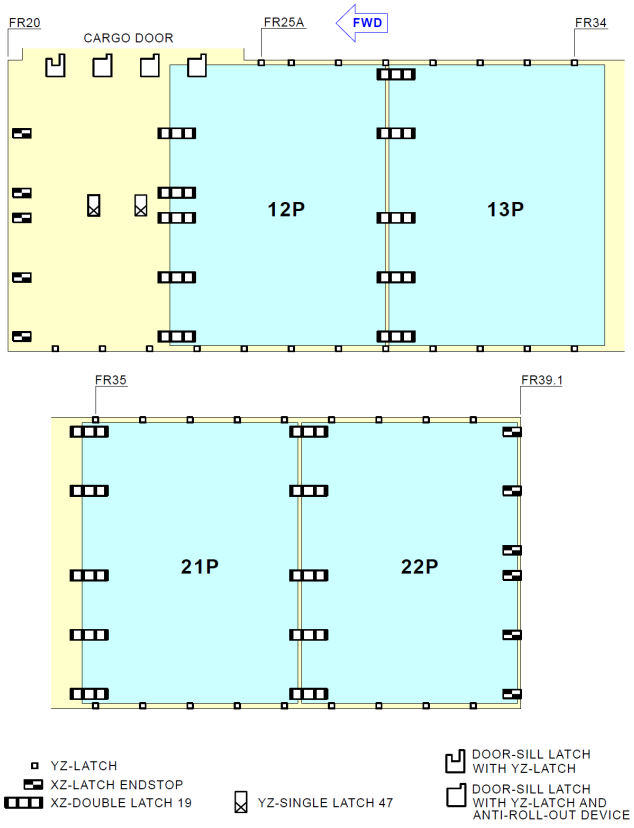
(1) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(2) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rails opposite the door area.
(3) Release the joystick.
(4) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD moves aft and out of the ball mat area.
(5) Release the joystick when the ULD is out of the ball mat area.
(6) Get access to the inside control panel, installed in the ceiling of the cargo compartment.
(7) Push the joystick on the inside control panel to the AFT position. Hold it in this position until the ULD is in its load position.
(8) Release the joystick when the ULD touches the endstops or XZ-latches in its load position.
(9) Lift the pawls of the XZ-latches, installed forward of the ULD in its load position.
(10) Make sure that the ULD is engaged in the XZ-latches.
NOTE: The pawls of the XZ-latches also have the function of endstops.
(11) Lift the pawls of the YZ-latches of the door-sill latches.

Put the aircraft back to its initial configuration

(1) Make sure that the work area is clean and clear of tools and other items.
(2) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the OFF position.
(3) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "OFF" position.
(b) Make sure that the "SYSTEM READY" lamp goes off.
(4) Close the access door 122DR of the outside control panel.
(5) Remove the loader platform.
(6) Close the forward cargo-compartment door.
(7) De-energize the ground service network



Forward Cargo Compartment for 88-Inch x 125-Inch ULDs



Forward Cargo Compartment for 96-Inch x 125-Inch ULDs

8.6.3 Loading Procedure for the 60.4-Inch x 61.5-Inch or the 60.4-Inch x 125-Inch Unit Load Devices (ULD) in the Lower Deck (LD) Aft Cargo-Compartment

NOTE: When you load 60.4-Inch x 61.5-Inch ULD singly, it is necessary to load the left row first. When you load the ULDs in pairs, you must first fill the loading position 43L/R. After this it is necessary to push the joystick on the outside control panel into the splitting position until the ULDs are aligned for aft movement.

Aircraft Maintenance Configuration

(1) Energize the ground service network.
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put the LOADER - PLATFORM in position at the entrance to the aft cargo compartment.
(3) Open the aft cargo-compartment door.
(4) Install the actuator safety locks on the aft cargo-compartment door.
(5) Lower the manually operated YZ-latches of the door sill latches.
(6) Open access door 152MR of the outside control panel of the Cargo Loading System(CLS).
(7) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to ON.
(b) Make sure that the SYSTEM READY lamp comes on.
(8) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the ON position.

Prepare to move 60.4-Inch x 61.5-Inch ULDs or 60.4-Inch x 125-Inch ULDs into the Lower-Deck Aft Cargo-Compartment

(1) Put the manually operated components of the CLS in their correct positions for the loading of 60.4-Inch x 61.5-Inch ULDs or 60.4-Inch x 125-Inch ULDs.
(2) Lower all the latches installed on the cargo compartment floor.
(3) Lift the splitters for side-by-side loading only.

Loading Procedure for Half- and Full-Size ULDs in the Load Positions 31 thru 41

(1) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(2) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rail opposite the door area.
(3) Release the joystick.
(4) Push the joystick on the outside control panel to the FWD position. Hold it in this position until the ULD moves forward and out of the ball mat area.
(5) Release the joystick when the ULD is out of the ball mat area.
(6) Get access to the inside control panel, installed in the ceiling of the cargo compartment.
(7) Push the joystick on the inside control panel to the FWD position. Hold it in this position until the ULD is in its load position.
(8) Release the joystick when the ULD touches the endstops or XZ-latches in its load position.
(9) Lift the pawls of the XZ-latches, installed aft of the ULD in its load position.
(10) Make sure that the ULD is engaged with the XZ-latches.
(11) Make sure that all the pawls of the XZ-latches installed forward of the adjacent load position are lifted.
NOTE: The pawls of the XZ-latches also have the function of endstops.

Loading Procedure for Half- and Full-Size ULDs in the Load Position 42

(1) Make sure that all the pawls of the XZ-latches installed forward of the load position 42 are lifted.
(2) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal PDU.
(3) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rails opposite the door area.
(4) Release the joystick.
(5) Push the joystick on the outside control panel to the FWD position. Hold it in this position until the ULD moves forward.
(6) Release the joystick when the ULD touches the endstops in its load position.
(7) To lock the ULD in the load position 42, lift the pawl of the YZ-latch installed betweenthe load positions 42R and 42L.

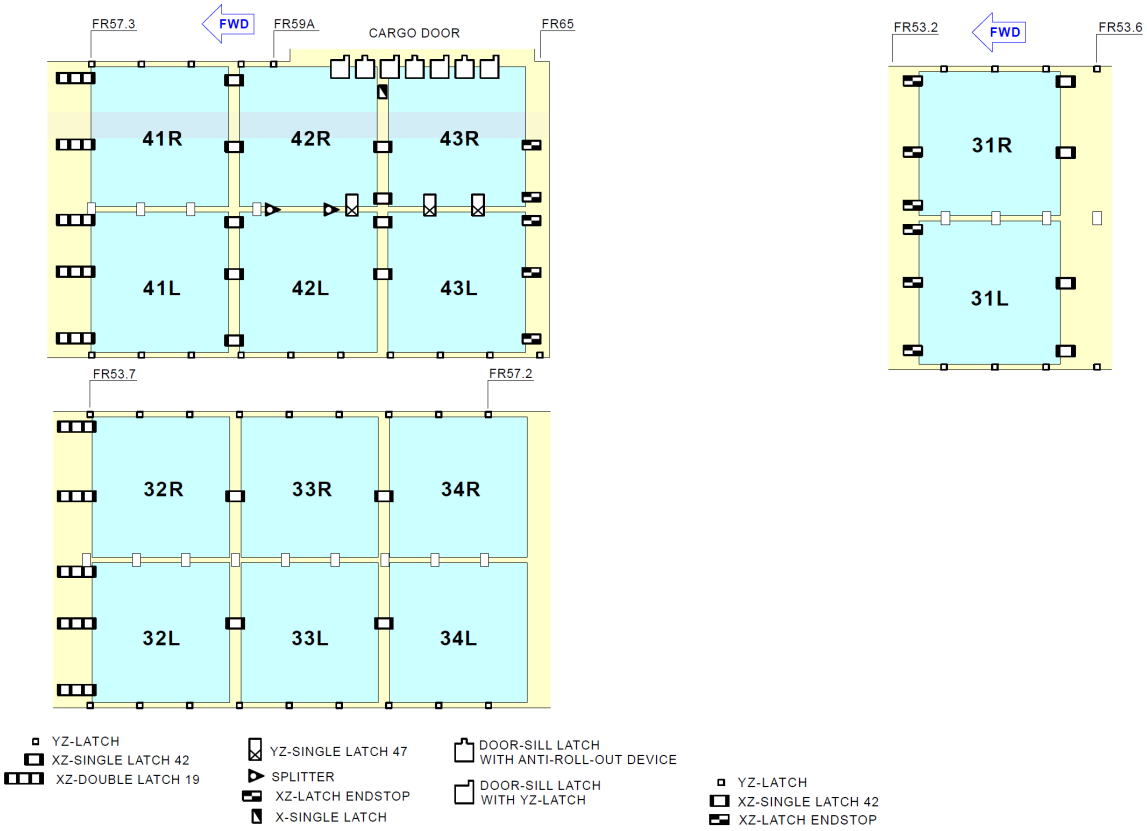
Loading Procedure for Half- or Full-Size ULDs in the Load Positions 43R and 43L

(1) Make sure that:
- All the pawls of the XZ-latches installed aft of the load position 42 are lifted.
(2) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(3) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rails opposite the door area.
(4) Release the joystick.
(5) To lock the ULD in the load position 43, lift the pawls of the YZ-single latches 47 installed between the load positions 43R and 43L.
(6) Lift the pawls of the YZ-latches of the door-sill latches to the up position.

Put the aircraft back to its initial configuration.

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Make sure that the anti-roll out devices of the door sill latches are lifted.
(3) Make sure that the manually operated YZ-latches of the door sill latches are lifted and locked.

(4) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the OFF position.
(5) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to OFF.
(b) Make sure that the SYSTEM READY lamp goes off.
(6) Close access door 152MR of the outside control panel of the CLS.
(7) Remove the actuator safety locks from the aft cargo-compartment door.
(8) Close the aft cargo-compartment door.
(9) Remove all the fixtures, tools, test and support equipment used during this procedure.
(10) De-energize the ground service network.



Aft Cargo Compartment for 60.4-Inch x 61.5-Inch or 60.4-Inch x 125-Inch ULDs

8.6.4 Loading Procedure for the 88-Inch x 125-Inch or the 96-Inch x 125-Inch Unit Load Devices (ULD) in the Lower-Deck (LD) Aft Cargo-Compartment

Aircraft Maintenance Configuration

(1) Energize the ground service network.
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put the LOADER - PLATFORM in position at the entrance to the aft cargo compartment.
(3) Open the aft cargo-compartment door.
(4) Install the actuator safety locks on the aft cargo-compartment door.
(5) Lower the manually operated YZ-latches of the door sill latches.
(6) Open access door 152MR of the outside control panel of the Cargo Loading System(CLS).
(7) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to ON.

(b) Make sure that the SYSTEM READY lamp comes on.
(8) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the ON position.

Prepare to move 88-Inch x 125-Inch ULDs or 96-Inch x 125-Inch ULDs into the Lower-DeckAft Cargo-Compartment

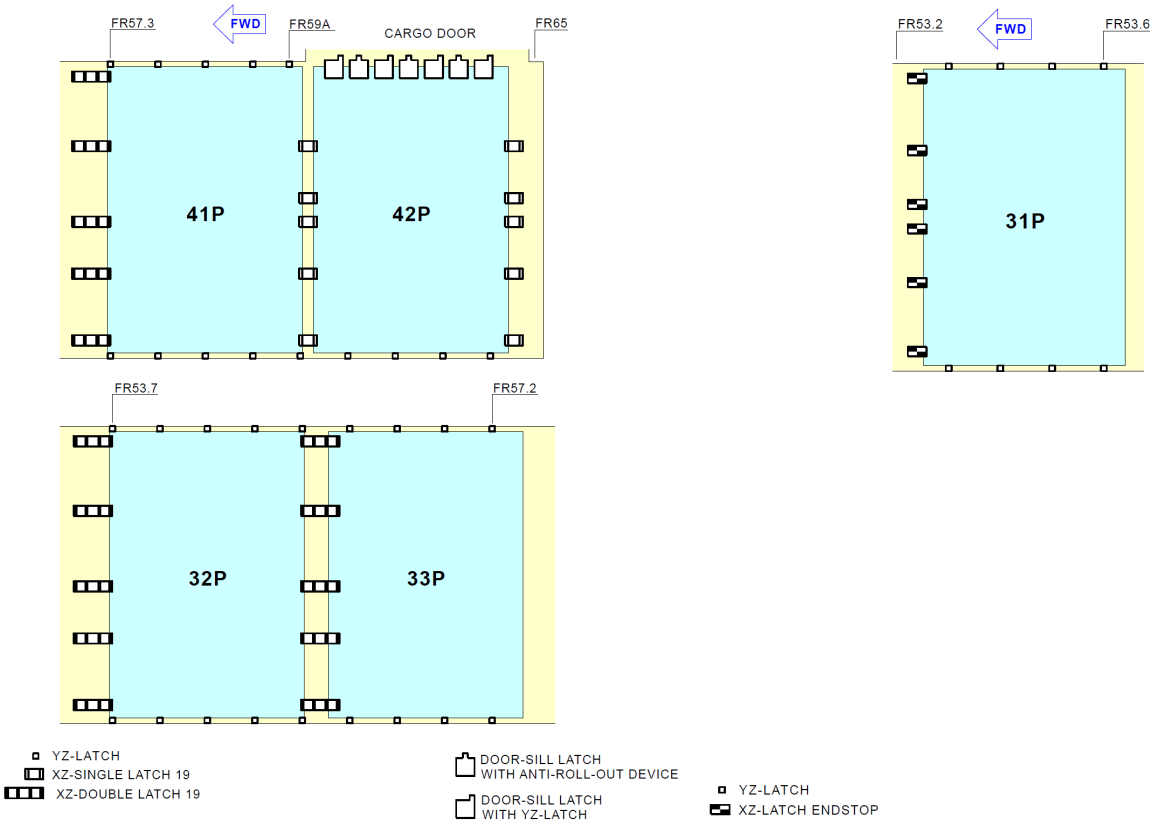
(1) Put the manually operated components of the CLS in their correct positions for the loading of 88-Inch x 125-Inch ULDs or 96-Inch x 125-Inch ULDs.
(2) Lower all the latches installed on the cargo compartment floor.

Loading Procedure for the Load Positions 31P thru 42P

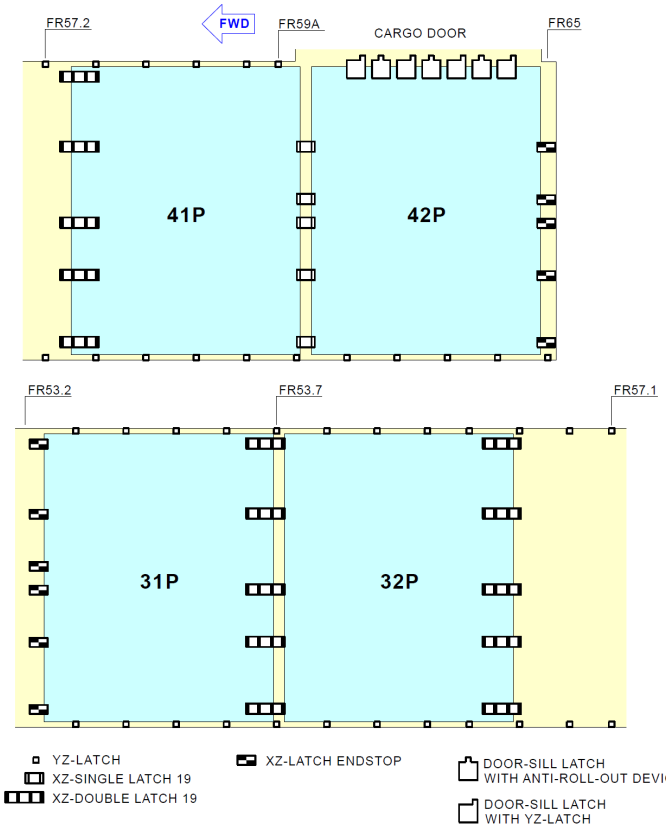
(1) Move the ULD into the ball mat area and stop the ULD at a position above the first transversal Power Drive Unit (PDU).
(2) Push the joystick on the outside control panel to the IN position. Hold it in this position until the ULD touches the YZ-latches on the guide rail opposite the door area.
(3) Release the joystick.
(4) Push the joystick on the outside control panel to the FWD position. Hold it in this position until the ULD is in its load position.
(5) Release the joystick when the ULD is out of the ball mat area.
(6) Release the joystick when the ULD touches the endstops or XZ-latches in its load position.
(7) Lift the pawls of the XZ-latches, installed aft of the ULD in its load position.
(8) Make sure that the ULD is engaged in the XZ-latches.
NOTE: The pawls of the XZ-latches also have the function of endstops.

Put the aircraft back to its initial configuration.

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Make sure that the anti-roll out devices of the door sill latch are lifted.
(3) Lift the manually operated YZ-latches of each door sill latch and lock the manually operated YZ-latches in position.
(4) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the OFF position.
(5) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to OFF.
(b) Make sure that the SYSTEM READY lamp goes off.
(6) Close access door 152MR of the outside control panel of the CLS.
(7) Remove the actuator safety locks from the aft cargo-compartment door.
(8) Close the aft cargo-compartment door.
(9) Remove all the fixtures, tools, test and support equipment used during this procedure.
(10) De-energize the ground service network.



Aft Cargo Compartment for 88-Inch x 125-Inch ULDs



Aft Cargo Compartment for 96-Inch x 125-Inch ULDs

8.6.5 Unloading Procedure for 60.4-Inch x 61.5-Inch or 60.4-Inch x 125-Inch Unit Load Devices (ULD) in the Lower-Deck Forward Cargo Compartment

Aircraft Maintenance Configuration

(1) Energize the ground service network.
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put a LOADER - PLATFORM in position at the entrance to the forward cargo compartment.
(3) Open the forward cargo-compartment door.
(4) Lower the manually operated YZ-latches of the door sill latches.
(5) Open the access door 122DR of the outside control panel of the Cargo Loading System (CLS).
(6) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "ON" position
(b) Make sure that the "SYSTEM READY" lamp comes on.
(7) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the ON position.

Prepare to move 60.4-Inch x 61.5-Inch ULDs or 60.4-Inch x 125-Inch ULDs out of the Lower-Deck Forward Cargo-Compartment

(1) Put manually operated components of the CLS in their correct positions for the unloading of the ULDs.

Unloading Procedure for Half- or Full-Size ULDs from the Load Position 11

(1) Set the SILL LOCK handle to the UNLOCKED position to lower the anti-roll-out devicesof the door-sill latches. Hold it in this position.
(2) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(3) Release the joystick and the SILL LOCK handle.
(4) Move the ULD out of the cargo compartment to its correct position on the loader platform.
(5) To unload the ULD from the load position 11L, lower the YZ-latches installed betweenthe load positions 11R and 11L.

Unloading Procedure for Half- and Full-Size ULDs from the Load Positions 12 thru 14 and 21 thru 23

(1) Lower all the pawls of the XZ-latches, installed forward of the ULD in its load position.
(2) Push the joystick on the outside control panel to the FWD position. Hold it in this position until the ULD touches the endstops.
(3) Release the joystick.
(4) Set the SILL LOCK handle to the UNLOCK position to lower the anti-roll-out devices of the door-sill latches. Hold it in this position.
(5) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(6) Release the joystick and the SILL LOCK handle.
(7) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Put the aircraft back to its initial configuration

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Make sure that the YZ-latches of the door-sill latches are in the up position.
(3) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the OFF position.
(4) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "OFF" position
(b) Make sure that the "SYSTEM READY" lamp goes off.

(5) Close the access door 122DR of the outside control panel.
(6) Remove the loader platform.
(7) Close the forward cargo-compartment door.
(8) De-energize the ground service network.

8.6.6 Unloading Procedure for 88-Inch x 125-Inch or 96-Inch x 125-Inch Unit Load Devices (ULD) in the Lower-Deck Forward Cargo Compartment

Aircraft Maintenance Configuration

(1) Energize the ground service network.
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put a LOADER - PLATFORM in position at the entrance to the forward cargo compartment.
(3) Open the forward cargo-compartment door.
(4) Lower the manually operated YZ-latches of the door sill latches.
(5) Open the access door 122DR of the outside control panel of the Cargo Loading System (CLS).
(6) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "ON" position
(b) Make sure that the "SYSTEM READY" lamp comes on.
(7) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the ON position.

Prepare to move 88-Inch x 125-Inch ULDs or 96-Inch x 125-Inch ULDs out of the Lower-Deck Forward Cargo-Compartment

(1) Put the manually operated components of the CLS in their correct positions for the unloading of the ULDs.

Unloading Procedure for the Load Positions 12P thru 22P

(1) Lower the pawls of the XZ-latches, installed forward of the ULD in its load position.
(2) Push the joystick on the outside control panel to the FWD position. Hold it in this position until the ULD touches the endstops.
(3) Release the joystick.
(4) Set the SILL LOCK handle to the UNLOCK position to lower the anti-roll-out devices of the door-sill latches. Hold it in this position.
(5) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(6) Release the joystick and the SILL LOCK handle.
(7) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Put the aircraft back to its initial configuration

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Make sure that the YZ-latches of the door-sill latches are in the up position.
(3) In the forward cargo compartment, on service panel 5022VE, set the CARGO COMPTLIGHT switch to the OFF position.
(4) On the outside control panel of the CLS:
(a) Set the "SYSTEM" switch to the "OFF" position
(b) Make sure that the "SYSTEM READY" lamp goes off.
(5) Close the access door 122DR of the outside control panel.
(6) Remove the loader platform.
(7) Close the forward cargo-compartment door.
(8) De-energize the ground service network.

8.6.7 Unloading Procedure for the 60.4-Inch x 61.5-Inch or the 60.4-Inch x 125-Inch Unit Load Devices (ULD) in the Lower Deck (LD) Aft Cargo-Compartment

Aircraft Maintenance Configuration

(1) Energize the ground service network
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put the LOADER - PLATFORM in position at the entrance to the aft cargo compartment.
(3) Open the aft cargo-compartment door.
(4) Install the actuator safety locks on the aft cargo-compartment door.
(5) Lower the manually operated YZ-latches of the door sill latches.
(6) Open access door 152MR of the outside control panel of the Cargo Loading System(CLS).
(7) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to ON.
(b) Make sure that the SYSTEM READY lamp comes on.
(8) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the ON position.

Prepare to move 60.4-Inch x 61.5-Inch ULDs or 60.4-Inch x 125-Inch ULDs out of the Lower-Deck Forward Cargo-Compartment

(1) Put the manually operated components of the CLS in their correct positions for the unloading of the ULDs.

Unloading Procedure for Half- or Full-Size ULDs from the Load Position 43

(1) Set the SILL LOCK handle to the UNLOCK position to lower the anti-roll-out devices ofthe door-sill latches. Hold it in this position.
(2) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(3) Release the joystick and the SILL LOCK handle.
(4) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Unloading Procedure for Half- or Full-Size ULDs from the Load Position 42

(1) Lower the pawls of the latches, installed aft of the load position 42.
(2) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD touches the endstops.
(3) Release the joystick.
(4) Set the SILL LOCK handle to the UNLOCK position to lower the ant-roll-out devices ofthe door-sill latches. Hold it in this position.
(5) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(6) Release the joystick and the SILL LOCK handle.
(7) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Unloading Procedure for Half- or Full-Size ULDs from the Load Positions 31 thru 41 Half or Full Size ULDs

(1) Lower the pawls of the latches, installed aft of the ULD in its load position.
(2) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD touches the endstops.
(3) Release the joystick.
(4) Set the SILL LOCK handle to the UNLOCKED position to lower the anti-roll-out devicesof the door-sill latches. Hold it in this position.
(5) Push the joystick on the outside control panel to the OUT position. Hold it in this position.

(6) Release the joystick and the SILL LOCK handle.
(7) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Put the aircraft back to its initial configuration

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Make sure that the anti-roll out devices of the door sill latch are lifted.
(3) Lift the manually operated YZ-latches of each door sill latch and lock the manually operated YZ-latches in position.
(4) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the OFF position.
(5) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to OFF.
(b) Make sure that the SYSTEM READY lamp goes off.
(6) Close access door 152MR of the outside control panel of the CLS.
(7) Remove the actuator safety locks from the aft cargo-compartment door.
(8) Close the aft cargo-compartment door.
(9) Remove all the fixtures, tools, test and support equipment used during this procedure.
(10) De-energize the ground service network.

8.6.8 Unloading Procedure for the 88-Inch x 125-Inch or the 96-Inch x 125-Inch Unit Load Devices (ULD) in the Lower Deck (LD) Aft Cargo-Compartment

Aircraft Maintenance Configuration

(1) Energize the ground service network
CAUTION: MAKE SURE THAT THE LOADER PLATFORM AND THE AIRCRAFT DOOR SILL ARE CORRECTLY ALIGNED BEFORE YOU LOAD/UNLOAD A ULD. THIS PREVENTS DAMAGE TO THE AIRCRAFT DOOR SILL AND/OR THEULD.
(2) Put the LOADER - PLATFORM in position at the entrance to the aft cargo compartment.
(3) Open the aft cargo-compartment door.
(4) Install the actuator safety locks on the aft cargo-compartment door.
(5) Lower the manually operated YZ-latches of the door sill latches.
(6) Open access door 152MR of the outside control panel of the Cargo Loading System(CLS).
(7) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to ON.
(b) Make sure that the SYSTEM READY lamp comes on.
(8) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the ON position.

Prepare to move 88-Inch x 125-Inch ULDs or 96-Inch x 125-Inch ULDs out of the Lower-Deck Forward Cargo-Compartment

(1) Put the manually operated components of the CLS in their correct positions for the unloading of the ULDs.

Unloading Procedure for the Load Position 42P

(1) Set the SILL LOCK handle to the UNLOCK position to lower the anti-roll-out devices ofthe door-sill latches. Hold it in this position.
(2) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(3) Release the joystick and the SILL LOCK handle.
(4) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Unloading Procedure for the Load Position 41P

(1) Lower the pawls of the latches, installed aft of the load position 41P.
(2) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD touches the endstops.
(3) Release the joystick.
(4) Set the SILL LOCK handle to the UNLOCK position to lower the ant-roll-out devices ofthe door-sill latches. Hold it in this position.
(5) Push the joystick on the outside control panel to the OUT position. Hold it in this position until the ULD stops.
(6) Release the joystick and the SILL LOCK handle.
(7) Move the ULD out of the cargo compartment to its correct position on the loader platform.

Unloading Procedure for the Load Positions 32P and 31P

(1) Lower the pawls of the latches, installed aft of the ULD in its load position.
(2) Push the joystick on the outside control panel to the AFT position. Hold it in this position until the ULD touches the endstops.
(3) Release the joystick.
(4) Set the SILL LOCK handle to the UNLOCKED position to lower the anti-roll-out devicesof the door-sill latches. Hold it in this position.
(5) Push the joystick on the outside control panel to the OUT position. Hold it in this position.
(6) Release the joystick and the SILL LOCK handle.
(7) Move the ULD out of the cargo compartment to its correct position on the loader platform.

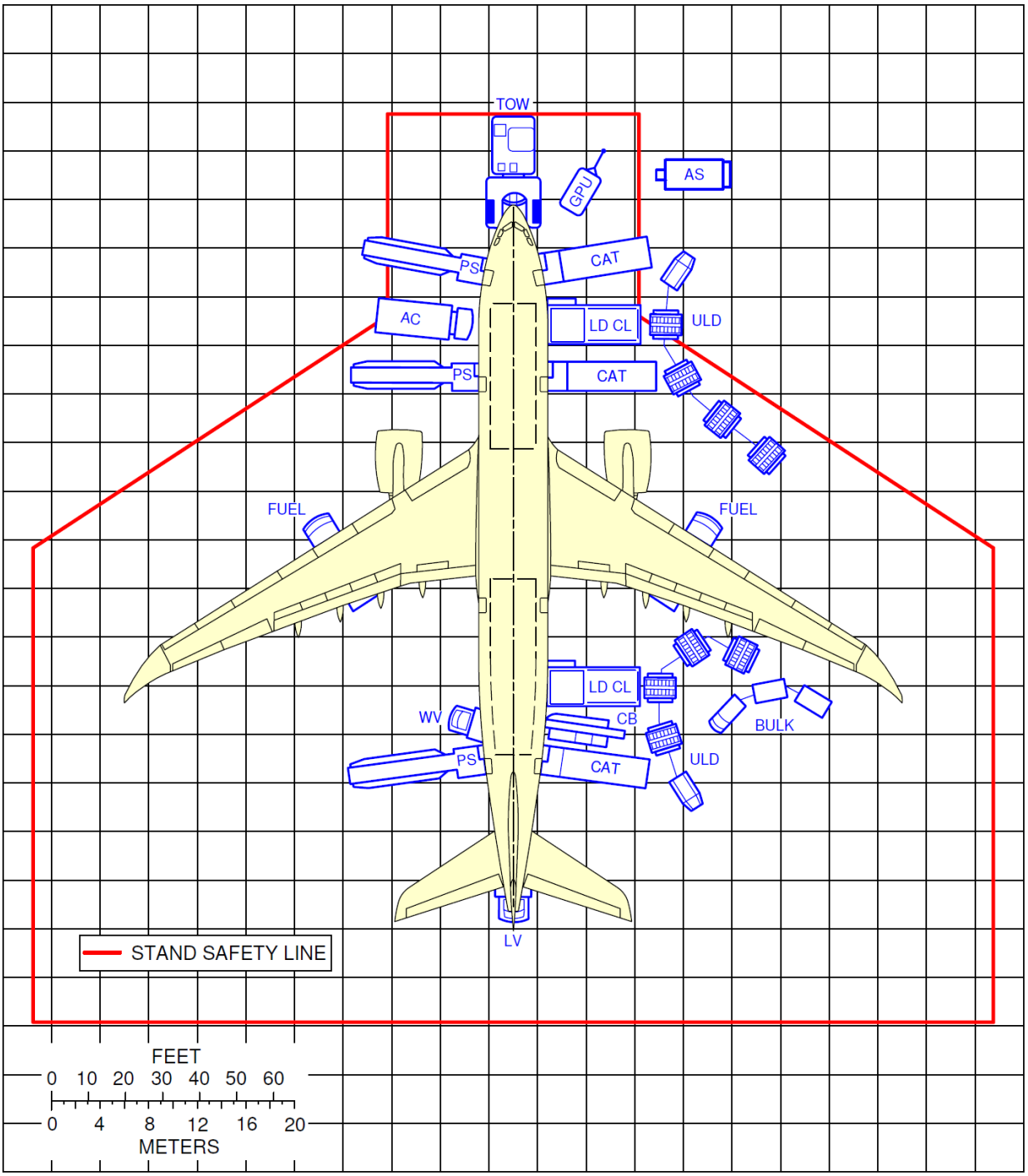
Put the aircraft back to its initial configuration.

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Make sure that the anti-roll out devices of the door sill latches are lifted.
(3) Lift the manually operated YZ-latches of the door sill latches and lock the manually operated YZ-latches in position.
(4) In the aft cargo compartment, on service panel 5024VE, set the CARGO COMPT LIGHT switch to the OFF position.
(5) On the outside control panel of the CLS, do these steps:
(a) Set the SYSTEM switch to OFF.
(b) Make sure that the SYSTEM READY lamp goes off.
(6) Close access door 152MR of the outside control panel of the CLS.
(7) Remove the actuator safety locks from the aft cargo-compartment door.
(8) Close the aft cargo-compartment door.
(9) Remove all the fixtures, tools, test and support equipment used during this procedure.
(10) De-energize the ground service network.

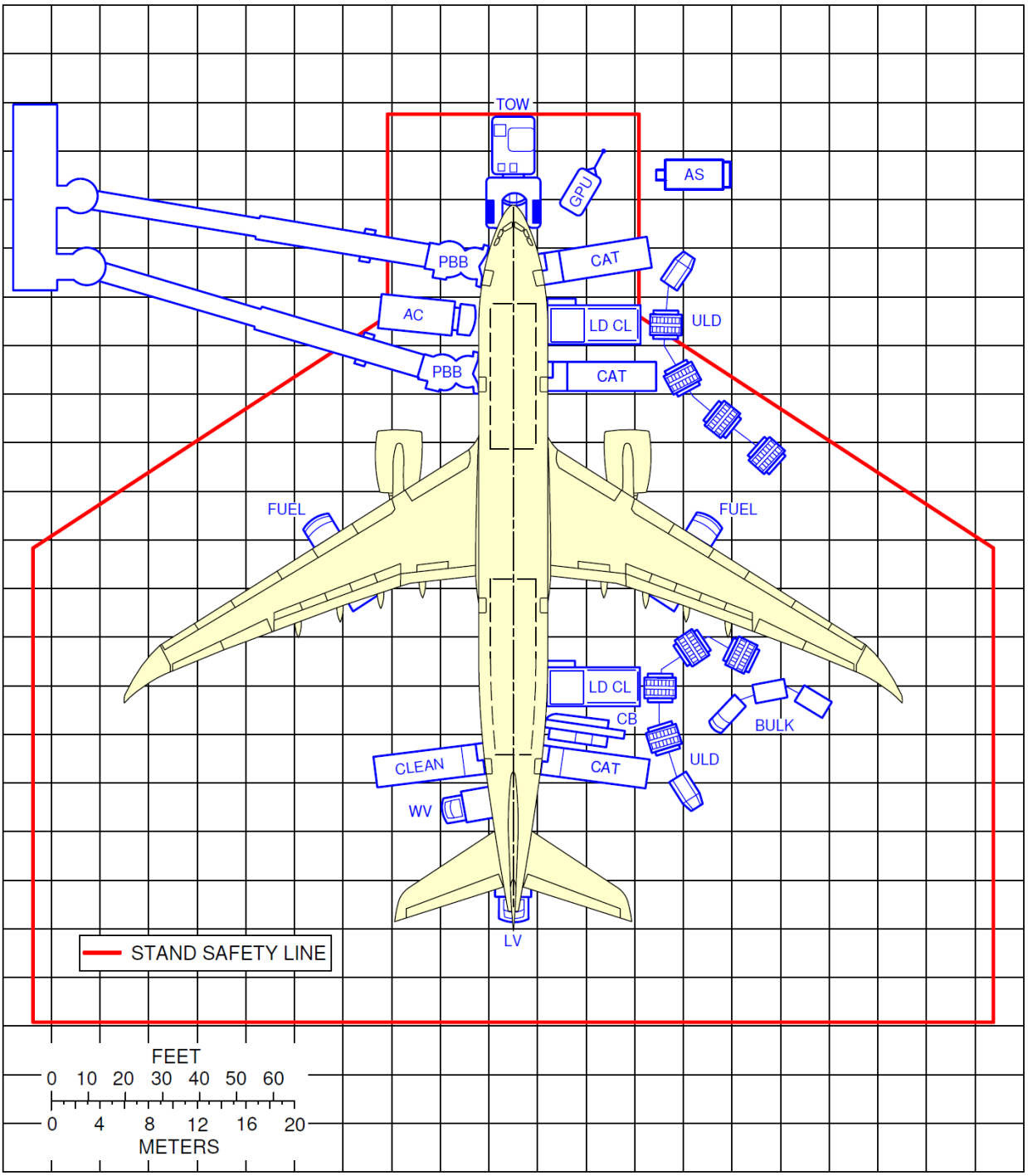
8.7 Aircraft servicing

8.7.1 Airplane servicing arrangements

Remote parking stand



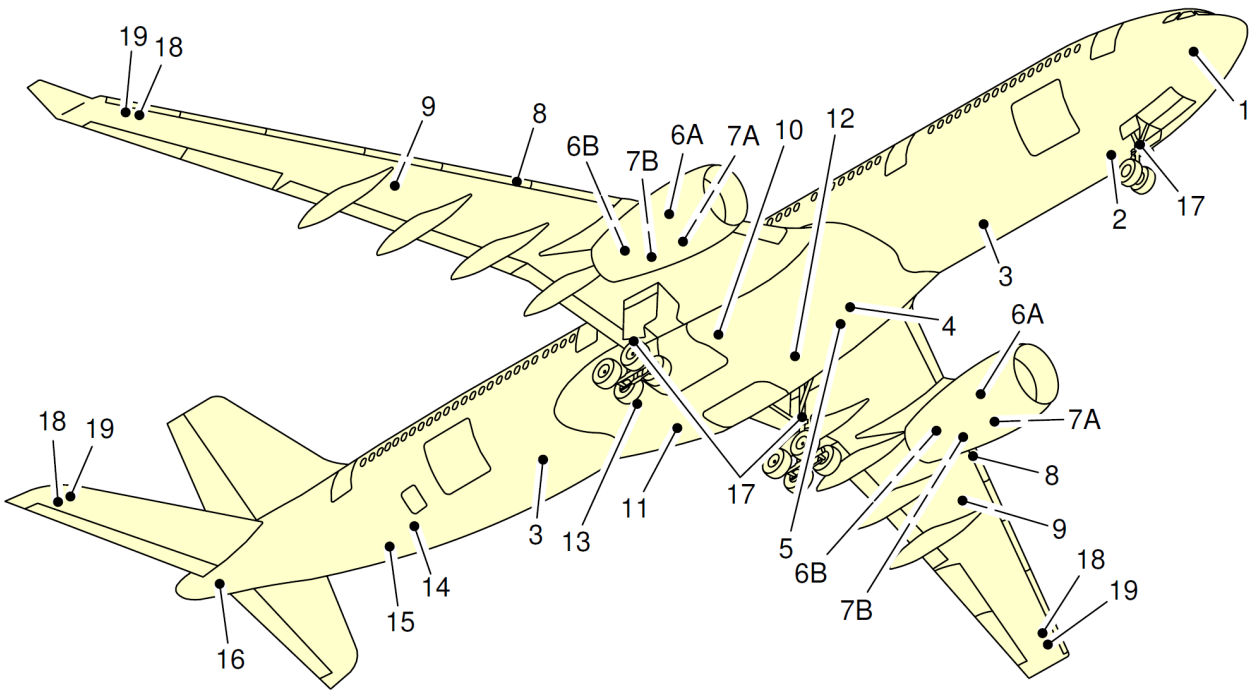
Loading bridge stand



Ground support equipment

AC	air conditioning unit
AS	air start unit
BULK	bulk train
CAT	catering truck
CB	conveyor belt
CLEAN	cleaing truck
FUEL	fuel hydrant dispenser or tanker
GPU	ground power unit
LD CL	lower deck cargo loader
LV	lavatory service
PBB	passenger boarding bridge
PS	passenger stairs
TOW	tow tractor
ULD	ULD train
WV	potable water vehicle

8.7.2 Ground service connections



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

8.7.2.1 Grounding (Earthing) points

The **grounding** (earthing) operation is for the electrical continuity between the aircraft and the earth. The **bonding** operation is for the electrical continuity between the aircraft and a ground equipment or between an equipment and the aircraft structure.

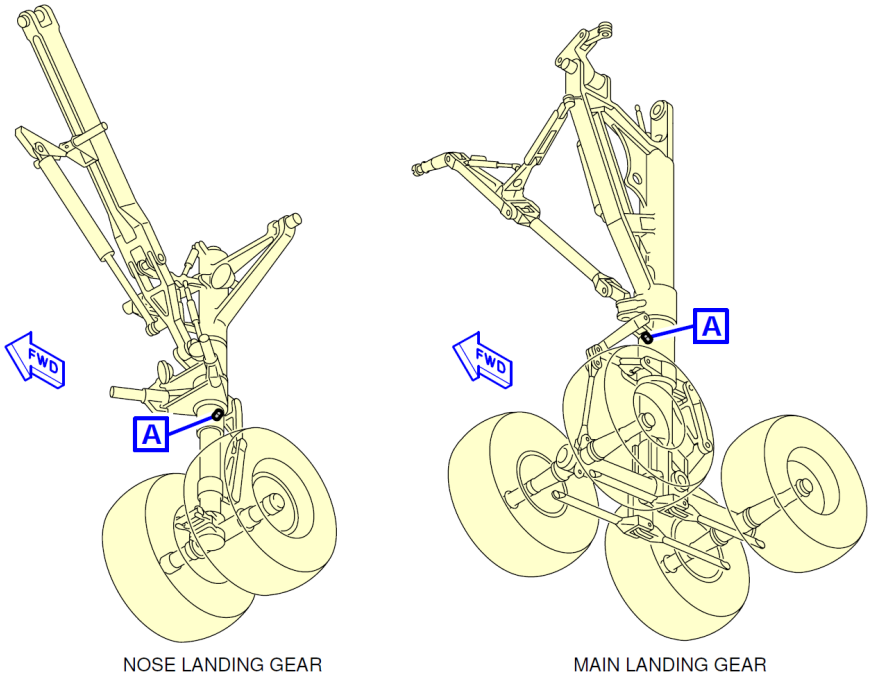
The grounding (earthing) stud on each landing gear leg is designed for use with a clip-on connector (such as Appleton TGR). The grounding (earthing) studs are used to connect the aircraft to an approved ground (earth) connection on the ramp or in the hangar for:

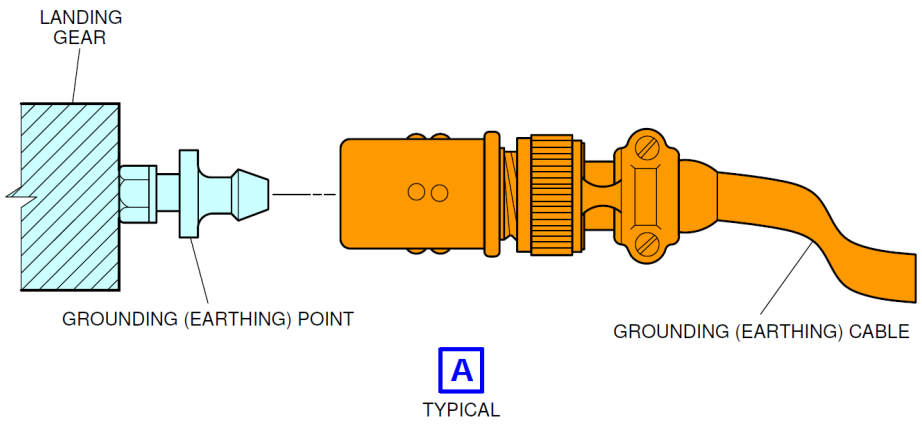
- Refuel/defuel operations,
- Maintenance operations,
- Bad weather conditions.

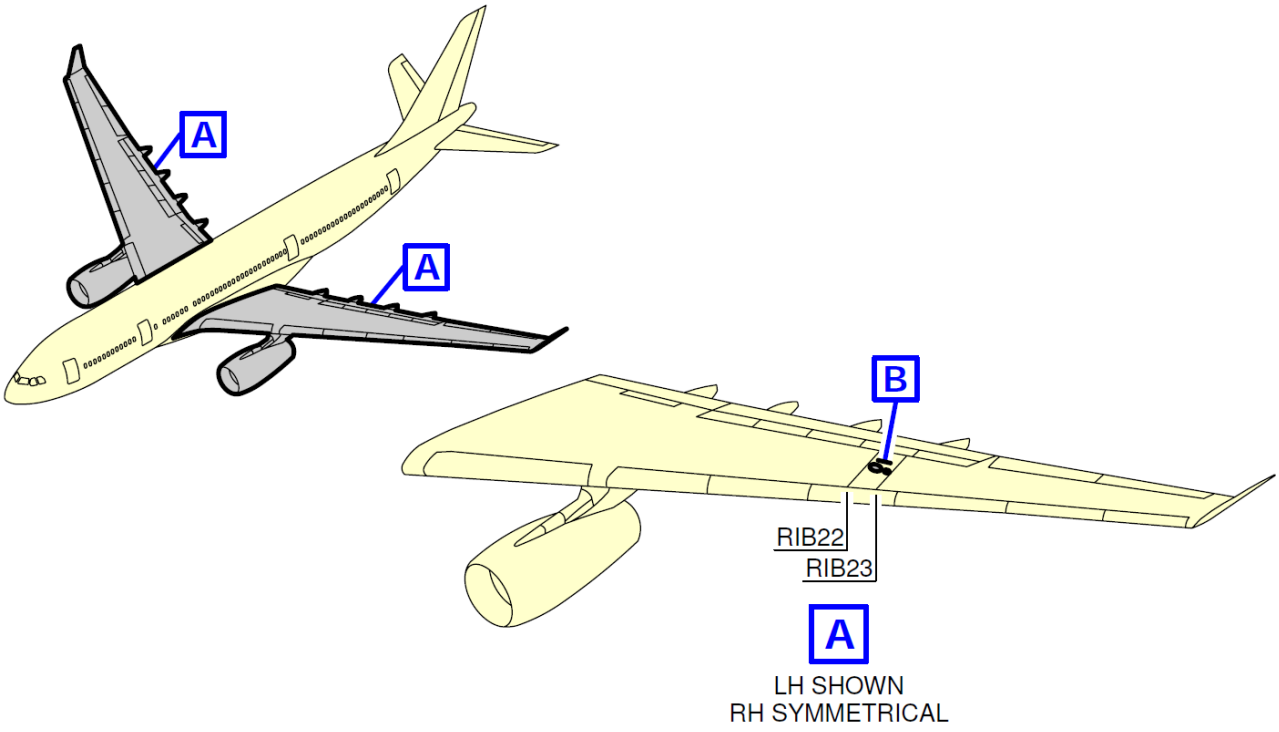
Static electricity from the flight or the environmental conditions on ground (wind with dust, sand, etc.) is discharged through the tires.

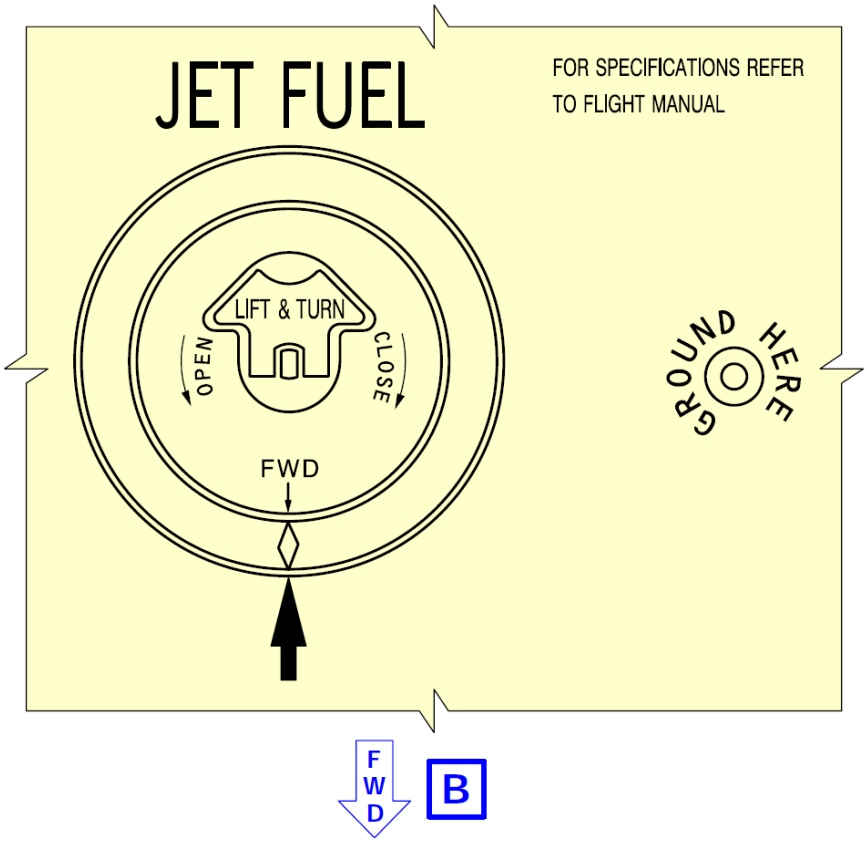
NOTE: Tire contact with the ground is sufficient for electrostatic discharge but not for electrical safety (grounding/earthing).

Grounding (Earthing) Points - Landing Gear:






A
A
B
RIB22
RIB23
A
LH SHOWN
RH SYMMETRICAL

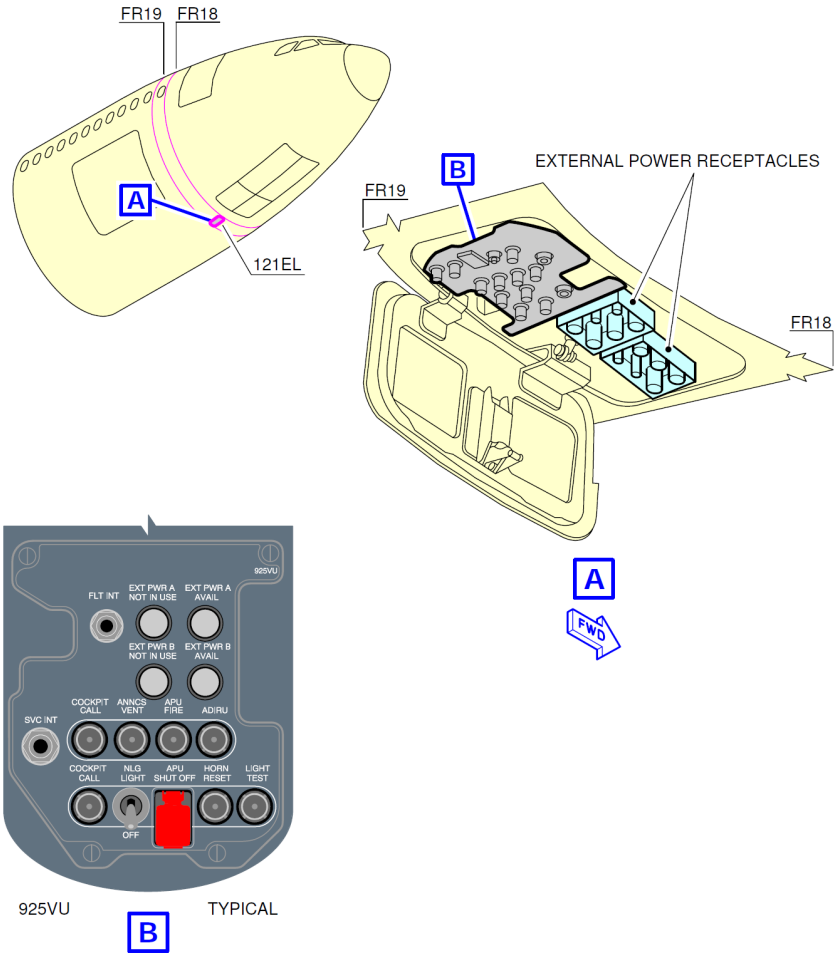

JET FUEL
FOR SPECIFICATIONS REFER
TO FLIGHT MANUAL
LIFT & TURN
OPEN
CLOSE
FWD
GROUND HERE
F
W
D
B

8.7.2.2 Electrical System

1. A/C External Power
   A/C External Power: Access Door 121EL
2. Technical Specifications
   A. External Power Receptacles:
      - Two receptacles according to MS 90362-3 - 90 kVA.
   B. Power Supply:
      - Three-phase, 115 V, 400 Hz.
   C. Electrical Connectors for Servicing:
      - AC outlets: HUBBELL 5258
      - DC outlets: HUBBELL 7472.
3. Tow Truck Power
   NLG Service Panel: 5GC
   NLG Service Panel: 8GH
4. Technical Specifications
   A. Power Supply:
      - Two-phase, 115 V, 400 Hz
      - 28V DC.
   B. Electrical Connector for Servicing:
      - Bernier, 22-11-10-13 Connector.

NOTE: The power cable should be extendable in order to guarantee fit and non-interference with nose gear nor tow vehicle during the pick-up and the towing process. The connector shall be secured against pull-out by means of straps against the nose gear.

Electrical Service Connections:



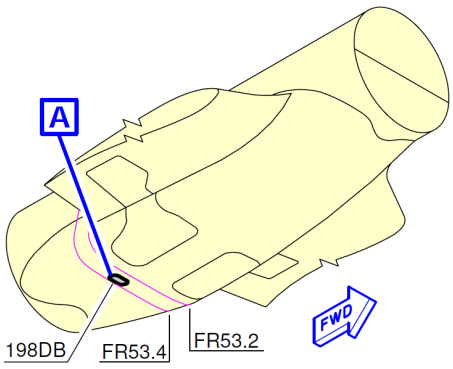
8.7.2.3 Fuel System

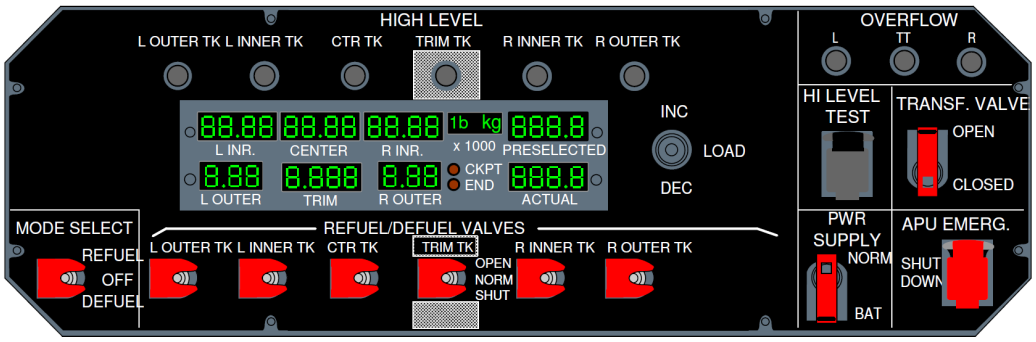
1. Refuel/Defuel Control Panel
   ACCESS: Refuel/Defuel Control Panel: Access Door 198DB
   A. Flow rate: 1580 l/min (417 US gal/min) per connection.
   B. Maximum pressure: 50 psi (3.45 bar).

2. Refuel/Defuel Connectors
   ACCESS: Refuel/Defuel Control Panel: Access Door 522HB
   Refuel/Defuel Coupling, Right: Access Door 622HB
   Overwing Gravity Refuel Cap
   A. Four standard 2.5 in. ISO 45 connections.
   B. Two service connections (gravity refuel).

3. Overpressure Protector and NACA Flame Arrestor
   ACCESS: Overpressure Protector (Wing) Access Panel 550EB (650EB)
   NACA Flame Arrestor (Wing) Access Panel 550DB (650DB)
   Overpressure Protector (Trim Tank) Access Panel 346AB
   NACA Flame Arrestor (Trim Tank) Access Panel 346AB

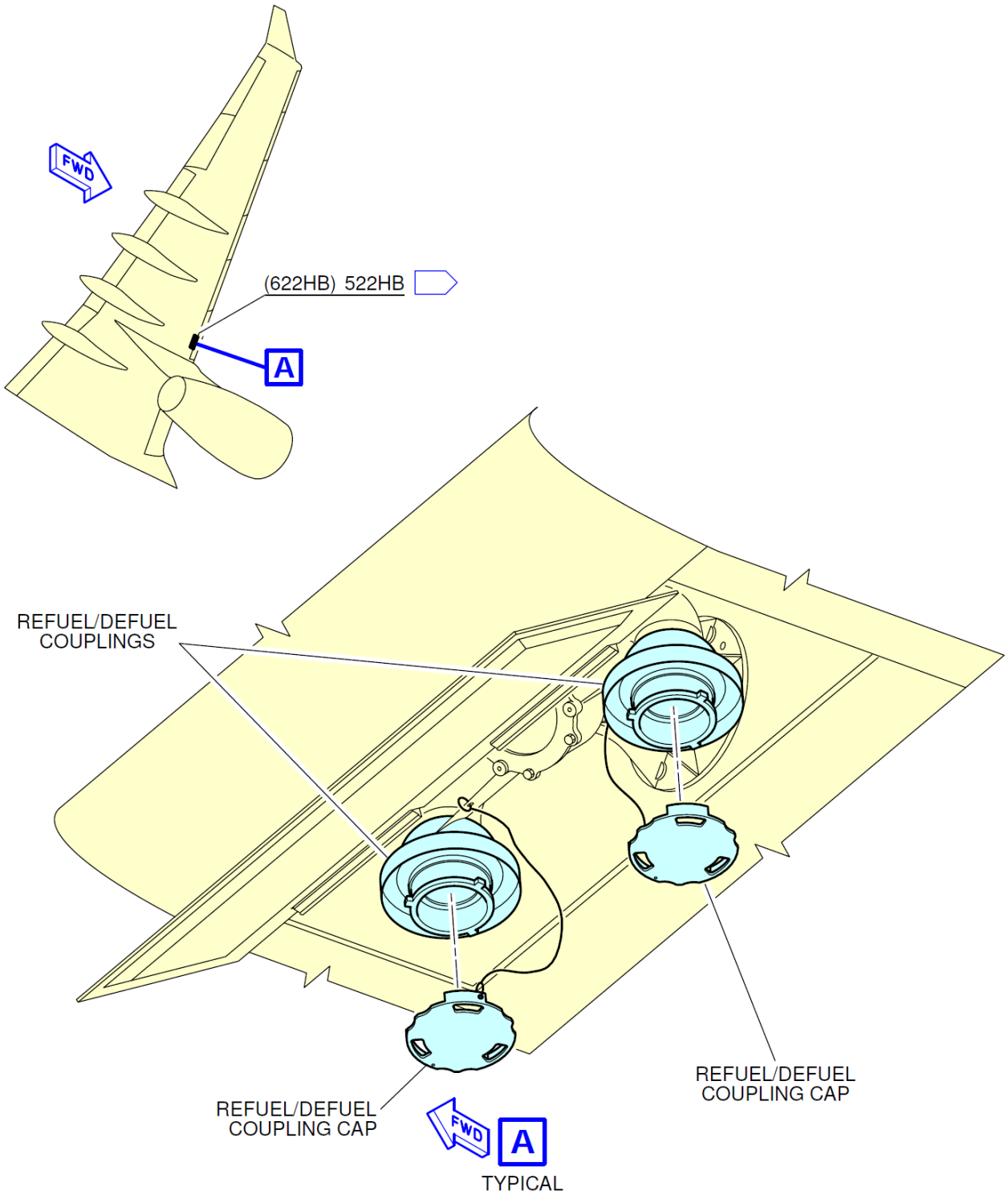
Refuel/defuel control panel:



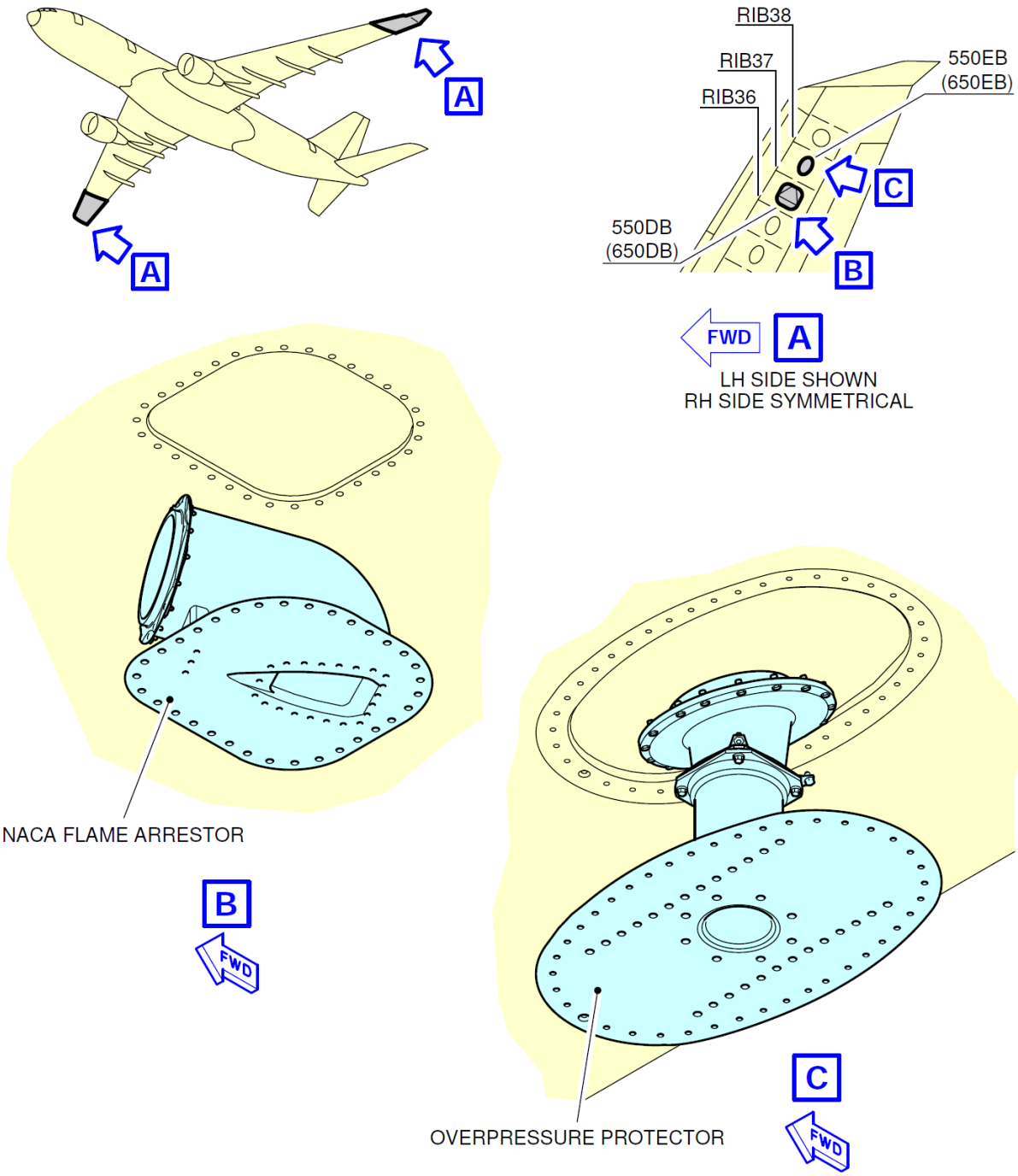


A

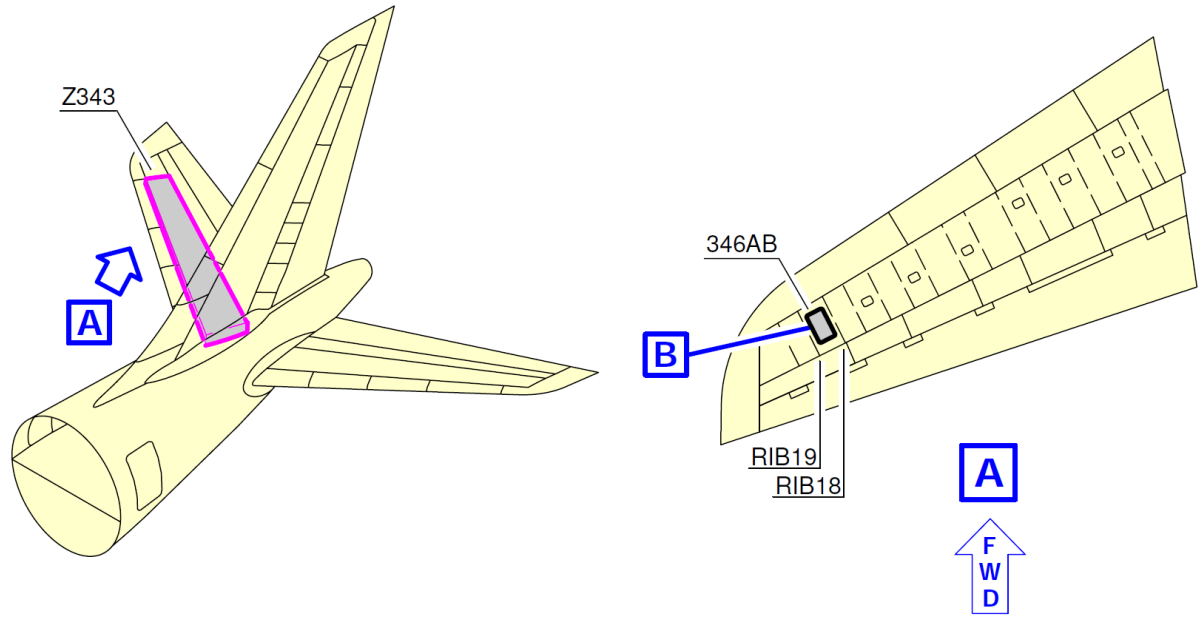
Refuel/Defuel Coupling:

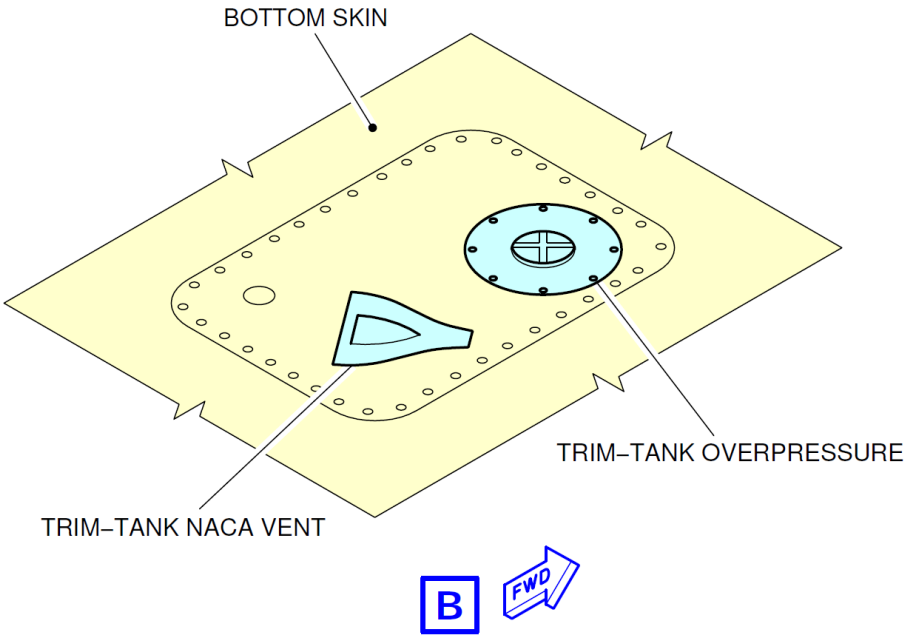


Overpressure Protector and NACA Flame Arrestor – Wing:



Overpressure Protector and NACA Flame Arrestor - Trim Tank:

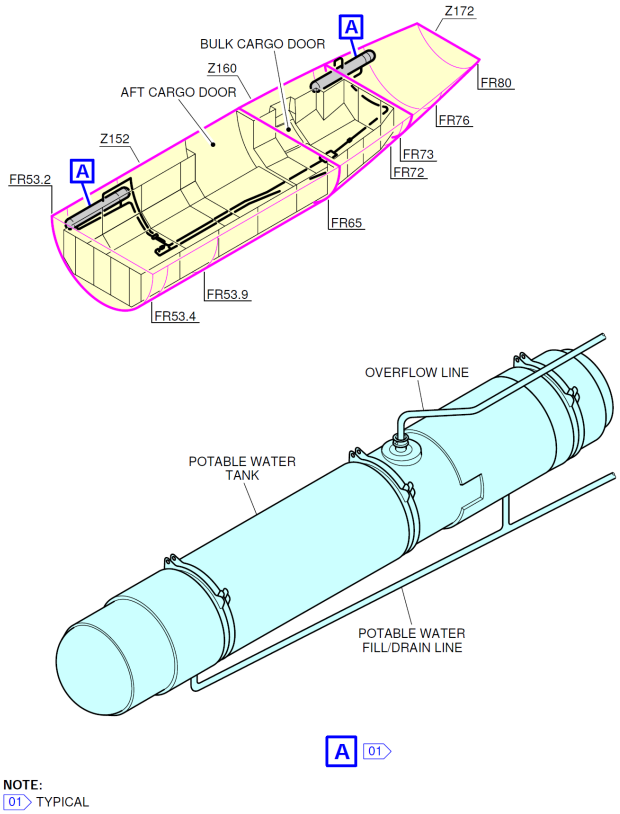




8.7.2.4 Potable Water System

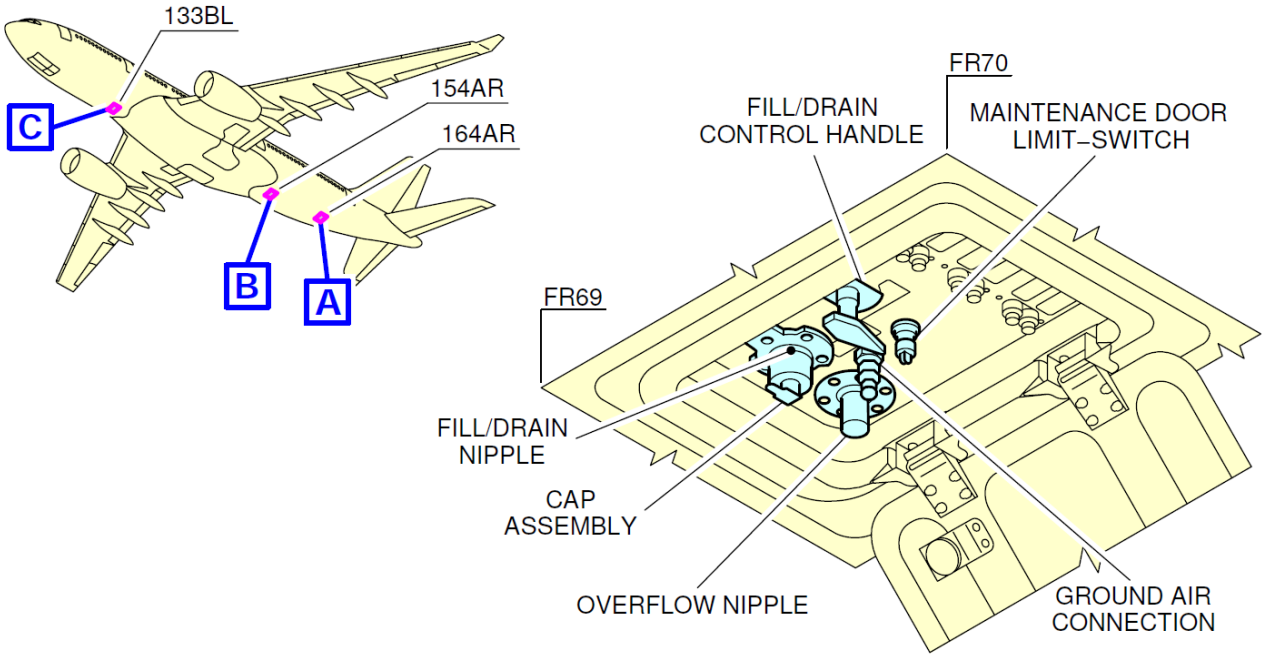
1. Potable Water Servicing
   ACCESS: Potable-Water Service Panel: Access Door 164AR
   FWD Drain Panel: Access Door 133BL
   AFT Drain Panel: Access Door 154AR
2. Technical Specifications
   A. Connections
      (1) On the potable-water service panel (access door 164AR):
         - One heated 3/4 in. (ISO 17775) quick release filling connection
         - One heated 3/4 in. (ISO 17775) overflow and discharge connection
         - One ground pressurization connection.
      (2) On the FWD drain panel (access door 133BL):
         - One standard 3/4 in. (ISO 17775) drain connection with back-up mechanical control.
      (3) On the AFT drain panel (access door 154AR):
         - One standard 3/4 in. (ISO 17775) drain connection with back-up mechanical control
         - One standard 3/4 in. (ISO 17775) overflow and discharge connection with back-up mechanical control.
   B. Capacity
      - 700 l (184.92 US gal) standard
      - 1 050 l (277.38 US gal) standard option.
   C. Filling Pressure and Flow Rate
      FWD tank:
         - Maximum filling pressure: 3.45/8.62 bar (50/125 psi)
         - Flow rate: 45/73 l/min (11.89/19.28 US gal/min).
      AFT tank:
         - Maximum filling pressure: 3.45/8.62 bar (50/125 psi)
         - Flow rate: 56/85 l/min (14.79/22.45 US gal/min).

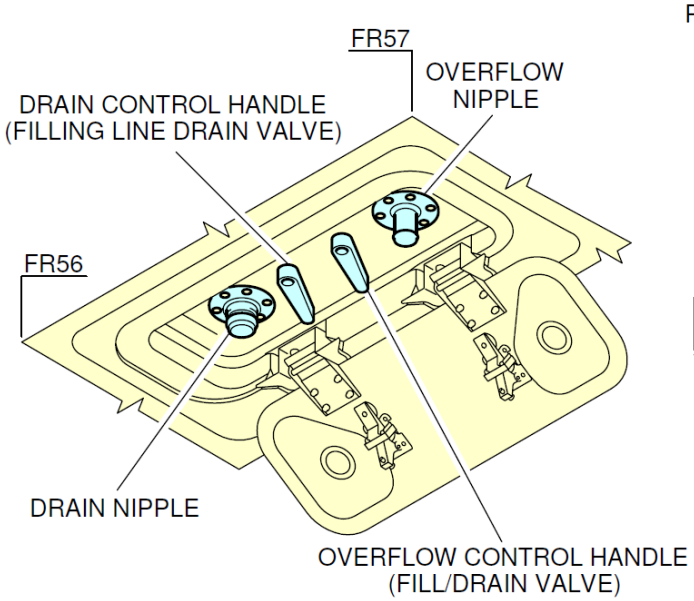
Potable-Water Tanks Location:

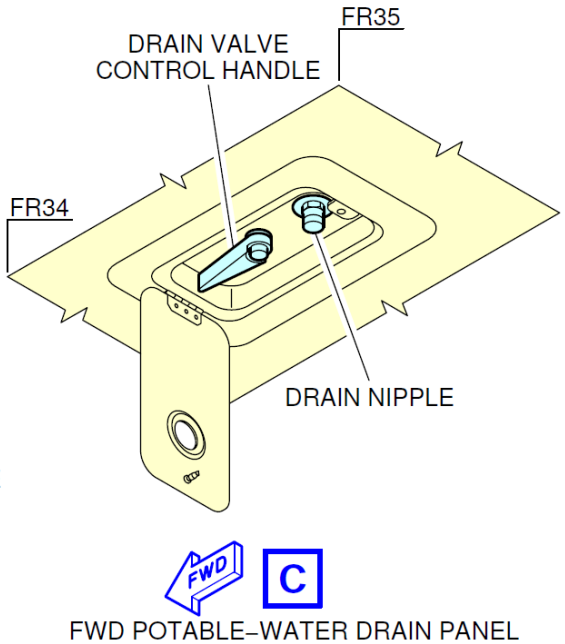


NOTE:
01 TYPICAL

Potable Water Ground Service Panels:







8.7.2.5 Waste Water System

1. Waste Water Servicing

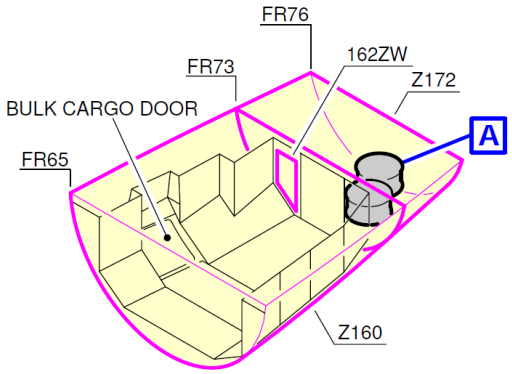
ACCESS: Waste Water Ground Service Panel: Access Door 171AL

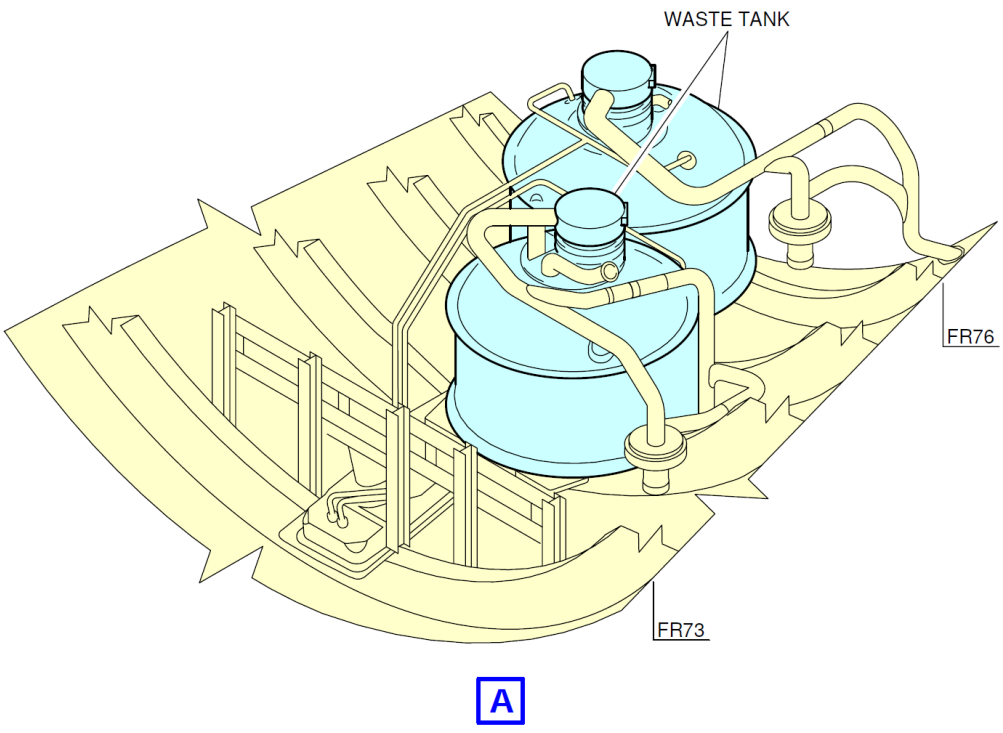
A. Waste water ground service panel comprising:
- Standard: One standard 4 in. (ISO 17775) drain connection and two 1 in. (ISO 17775) flushing connections
- Standard option: One standard 4 in. (ISO 17775) drain connection and three 1 in. (ISO 17775) flushing connections.

B. Capacity waste tanks:
- Standard: 700 l (184.92 US gal)
- Standard option: 1050 l (277.38 US gal).

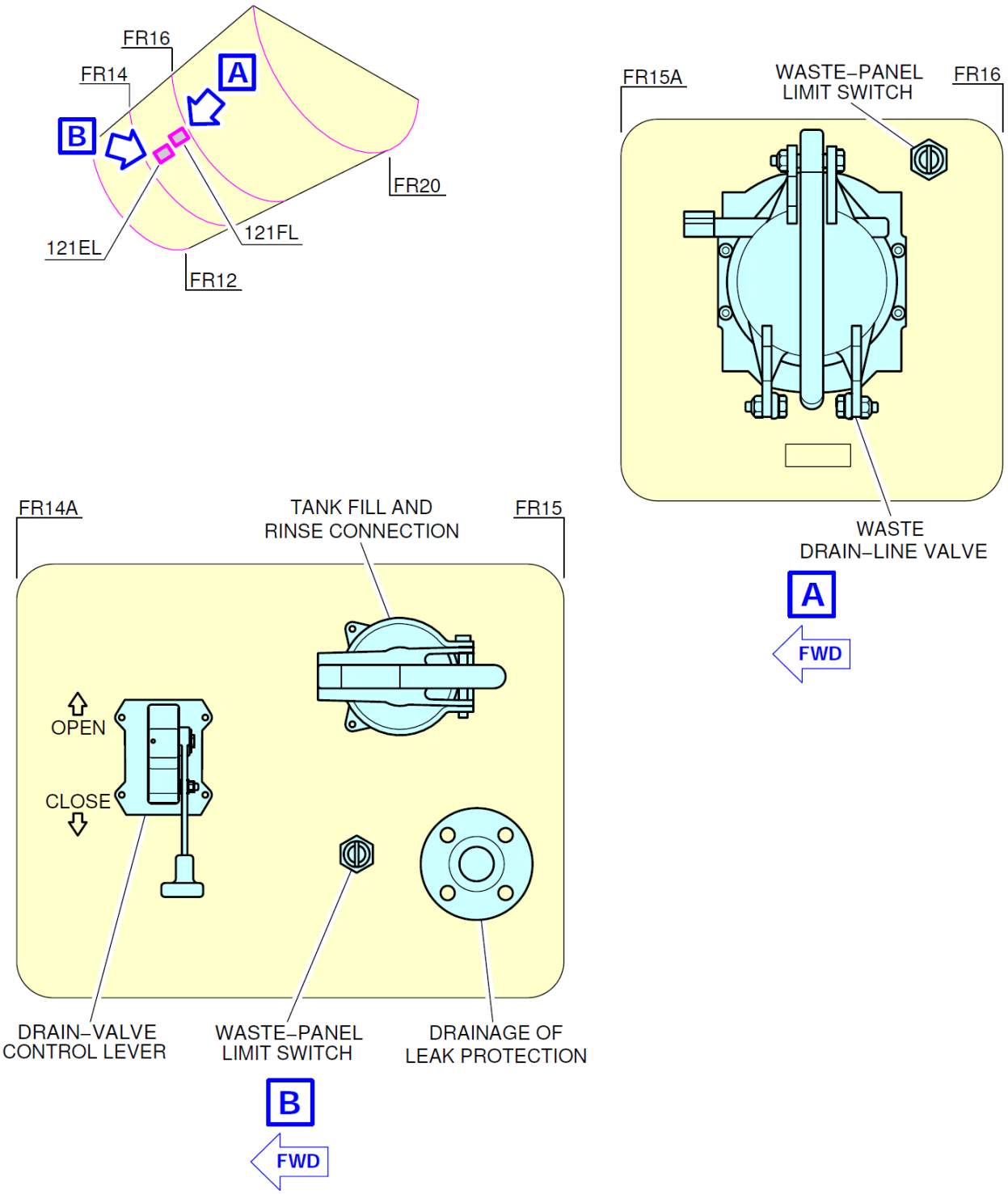
C. Chemical fluid:
- Standard: 36 l (9.51 US gal)
- Standard option: 54 l (14.27 US gal).

Waste Tanks Location:





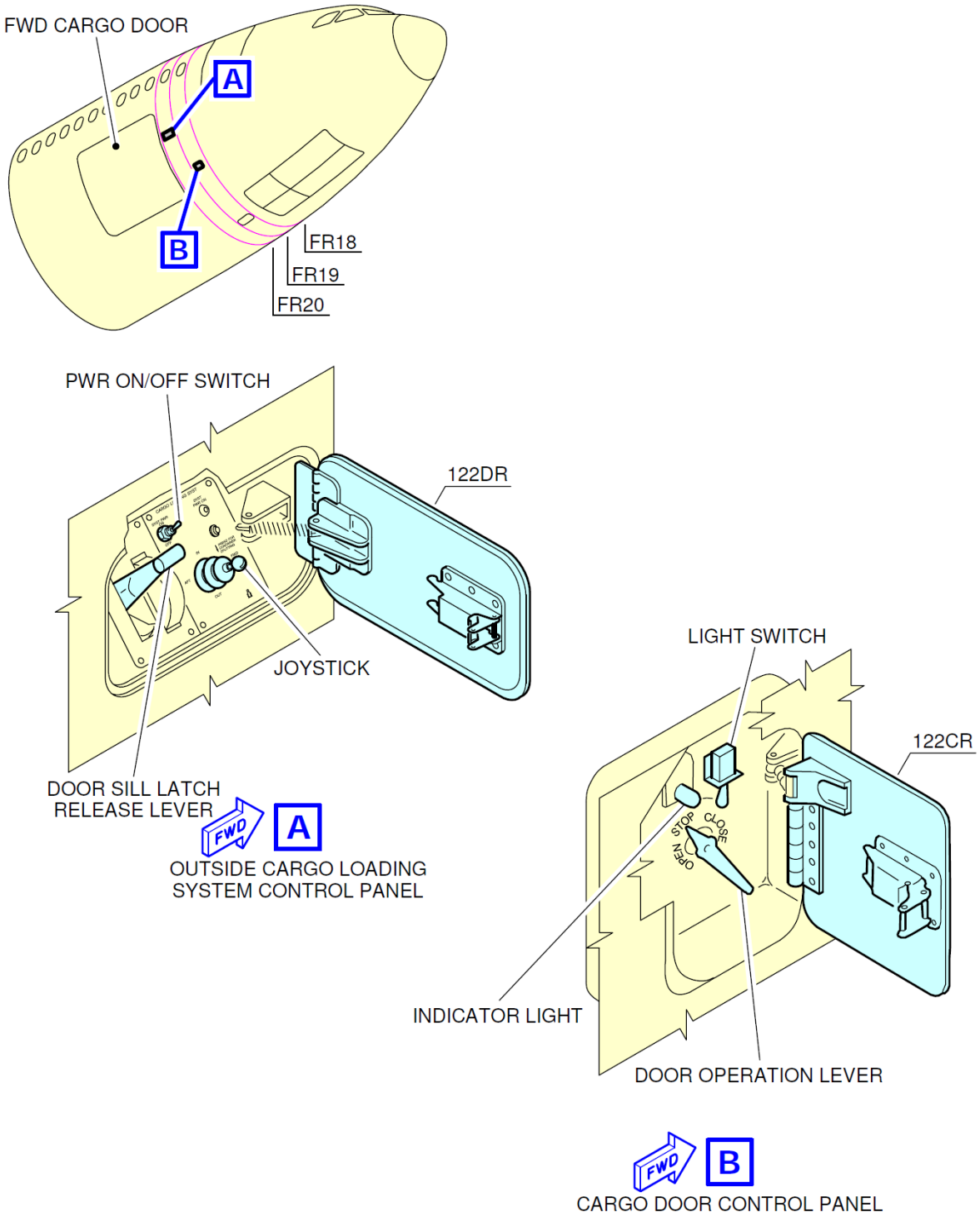
Waste Water Ground Service Panel:



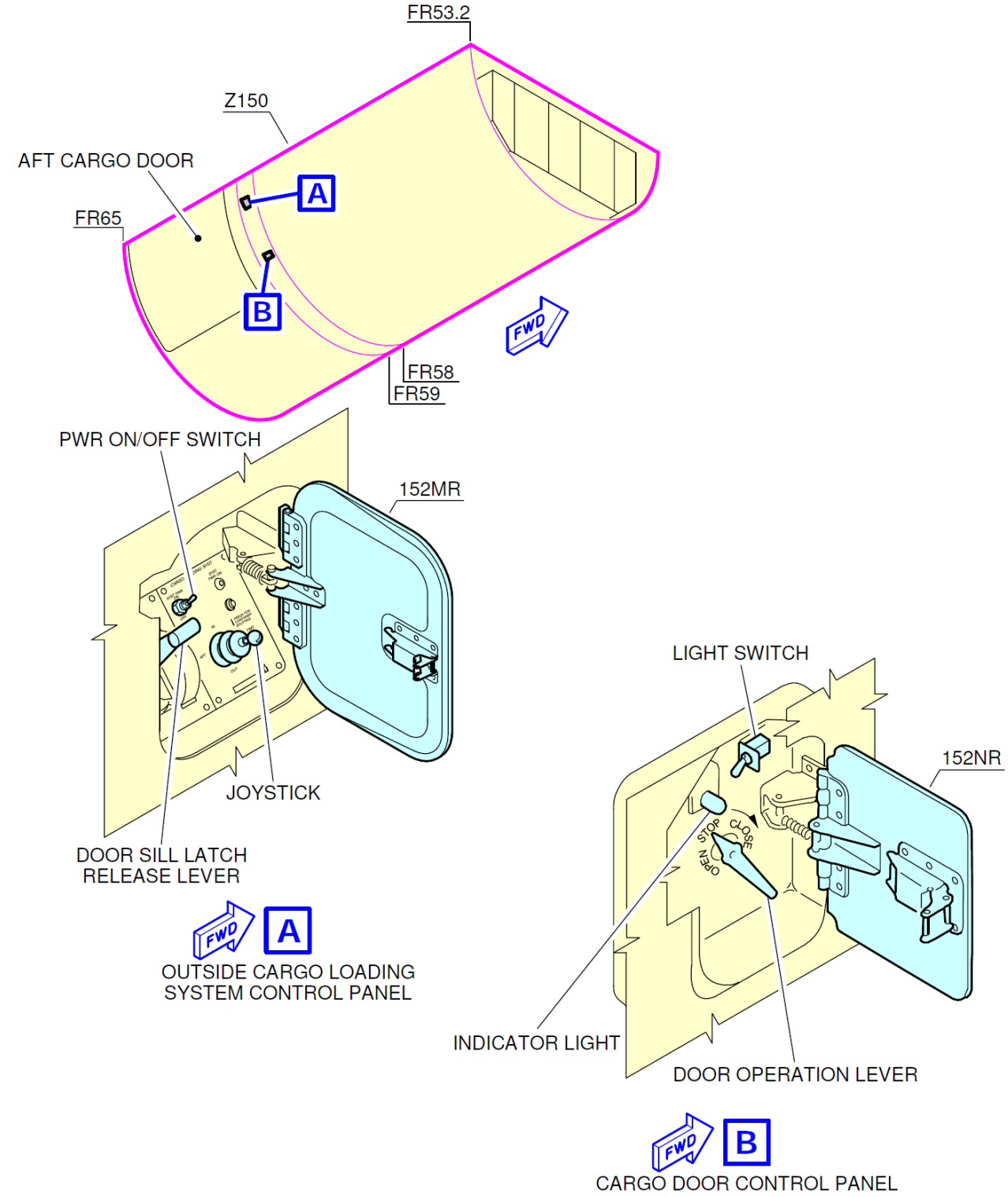
8.7.2.6 Cargo Control Panels

ACCESS FWD CLS* Panel: Access Door 122DR
FWD Cargo Door Panel: Access Door 122CR
AFT CLS* Panel: Access Door 152MR
AFT Cargo Door Panel: Access Door 152NR
* CLS - CARGO LOADING SYSTEMS

Forward cargo control panels:



Aft cargo control panels:



8.8 Aircraft doors

8.8.1 Operating Passenger/Crew doors

8.8.1.1 Opening of the Passenger/Crew door from the outside

CAUTION: DO NOT OPEN THE DOOR IF THE WIND SPEED IS MORE THAN 40 KNOTS TO PREVENT DAMAGE TO THE DOOR OR TO THE AIRCRAFT STRUCTURE. IF THE AIRCRAFT IS PUT INTO THE WIND THE MAXIMUM WIND SPEED CAN BE 50 KNOTS.

CAUTION: YOU MUST CLOSE THE DOOR BEFORE THE WIND SPEED IS MORE THAN 60 KNOTS TO PREVENT DAMAGE TO THE DOOR OR TO THE AIRCRAFT STRUCTURE.

NOTE: If you put the aircraft nose into the wind, the maximum wind speed can be 50 knots.

WARNING: DO NOT OPEN THE PASSENGER/CREW DOORS WHILE THE RED WARNING LIGHT FLASHES, IF THE RED WARNING LIGHT FLASHES, REMAINING PRESSURE COULD CAUSE DOOR TO OPEN SUDDENLY AND COULD:
- KILL OR CAUSE SERIOUS INJURY TO PERSONS
- CAUSE DAMAGE TO THE AIRCRAFT.

NOTE: The red warning light is installed in the door window.

(a) Push the flap (3) which lets you hold the external control handle (1).

NOTE: When you open the door, the control handle of the emergency escape-slide release-mechanism is automatically put in the 'DISARMED' position.

(b) Fully lift the external control handle (1) until it is level with the horizontal green line (the door moves up).

NOTE: The external control handle (1) must be moved in less than 10 seconds to fully lift the door.

(c) Pull the door out and move it forward.

(d) Make sure that the door stay mechanism locks the door in the open position.

8.8.1.2 Closing of the Passenger/Crew door from the outside

(a) Push the pushbutton (2) of the door stay mechanism to release the door from the fuselage.

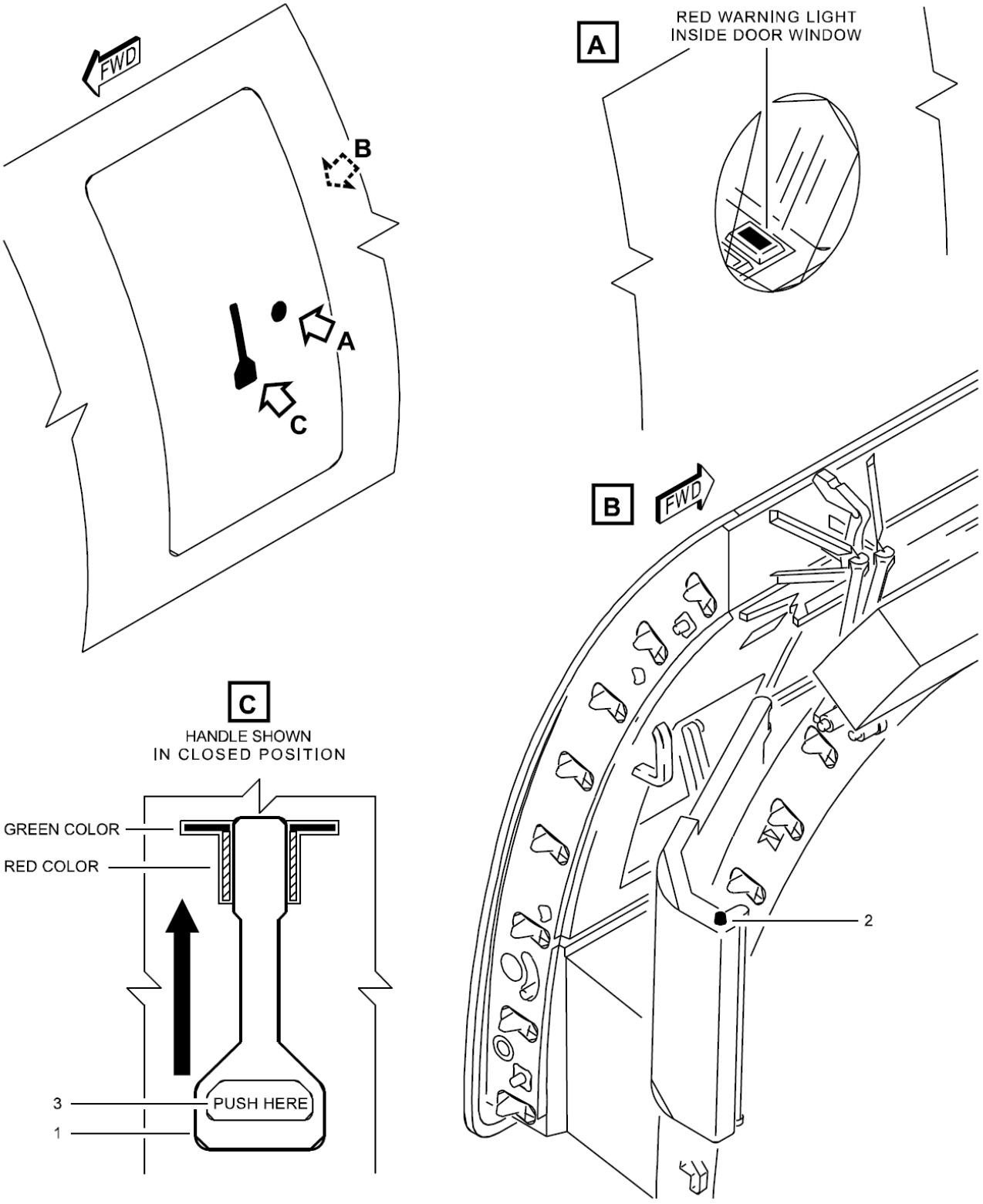
(b) Push the door aft and into the door frame.

(c) Fully lower the external control handle (1) (the door moves down).

NOTE: The external control handle (1) must be moved in less than 10 seconds to fully close the door.

(d) Make sure that:
- The door is fully closed and level with the fuselage contour
- The external control handle (1) is in the correct position in its housing and level with the contour of the door
- The flap (3) is level with the contour of the door.

External control of the Passenger/Crew door



8.8.2 Operating Cargo doors

8.8.2.1 Opening of the FWD and AFT cargo-compartment door with the yellow electric pump

WARNING: MAKE SURE THAT THE TRAVEL RANGES OF THE FLIGHT CONTROL SURFACES ARE CLEAR BEFORE YOU PRESSURIZE/DEPRESSURIZE A HYDRAULIC SYSTEM. MOVEMENT OF THE FLIGHT CONTROL SURFACES CAN BE DANGEROUS AND/OR CAUSE DAMAGE.

CAUTION: IMMEDIATELY AFTER YOU OPEN THE CARGO COMPARTMENT DOOR, RECORD ON THE WORK CARD ON THE DOOR, THE DATE AND TIME WHEN YOU OPENED IT. IF THE CARGO COMPARTMENT DOOR STAYS OPEN FOR 12 HOURS OR MORE, YOU MUST BLEED THE HYDRAULIC SYSTEM RELATED TO IT. IF YOU DO NOT OBEY THESE PRECAUTIONS, THE DOOR CAN CLOSE SUDDENLY WHEN YOU SET THE DOOR TO "CLOSE". THIS CAN CAUSE DAMAGE TO THE DOOR AND TO THE AIRCRAFT STRUCTURE.

CAUTION: DO NOT OPEN THE DOOR IF THE WIND SPEED IS MORE THAN 40 KNOTS TO PREVENT DAMAGE TO THE DOOR OR TO THE AIRCRAFT STRUCTURE. IF THE AIRCRAFT IS PUT INTO THE WIND THE MAXIMUM WIND SPEED CAN BE 50 KNOTS.

CAUTION: YOU MUST CLOSE THE DOOR BEFORE THE WIND SPEED IS MORE THAN 60 KNOTS TO PREVENT DAMAGE TO THE DOOR OR TO THE AIRCRAFT STRUCTURE.

CAUTION: WHEN YOU OPEN AND CLOSE THE CARGO DOORS, MAKE SURE THAT THE ACCESS PLATFORM IS AT THE CORRECT HEIGHT. IF IT IS TOO HIGH, IT WILL PREVENT FREE MOVEMENT OF THE DOORS.

Get Access

CAUTION: WHEN YOU OPEN AND CLOSE THE CARGO DOORS, MAKE SURE THAT THE ACCESS PLATFORM IS AT THE CORRECT HEIGHT. IF IT IS TOO HIGH, IT WILL PREVENT FREE MOVEMENT OF THE DOORS.

(1) Put the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE in position at the FWD or AFT cargo-compartment door (referred to as cargo door).
(2) Open the subsequent access doors:
- 122CR for the FWD cargo door.
- 152NR for the AFT cargo door.

Procedure

WARNING: STOP THE OPENING PROCEDURE IF THE RED WARNING LIGHT FLASHES. RESIDUAL PRESSURE COULD CAUSE THE DOOR TO OPEN WITH A SUDDEN FORCE AND INJURE PERSONS AND/OR DAMAGE THE AIRCRAFT.

WARNING: DO NOT OPERATE THE FWD CARGO COMPARTMENT DOOR AND THE P/B SW THAT CONTROLS THE YELLOW LEAK MEASUREMENT VALVE AT THE SAME TIME.
IF YOU OPERATE THEM AT THE SAME TIME :
- YOU CAN CAUSE UNWANTED MOVEMENT OF THE FLIGHT CONTROL SURFACES WHICH CAN CAUSE INJURY.
- YOU WILL GET A "WTB MANUAL RELEASE FAULT" INDICATION.

(1) Push the handle flap in and pull the locking handle to the UNLOCKED position.
(2) Make sure that all the indicator flags are out.
(3) Push the pushbutton on the top of the latching handle and pull the latching handle from the recess to the UNLATCHED position.

(4) Make sure that the cargo door freely opens.
(5) Move the door operation lever (on the door operation panel) to the OPEN position and hold it in this position until the green indicator light comes on:
(a) To fully lift the door, make sure that you move the door operation lever in less than 10 seconds.
NOTE: The green indicator light shows that:
- The cargo door is in its fully open position.
- The door actuator is in its extended position and internally locked.
(6) When the green indicator light comes on, release the door operation lever:
(a) The door operation lever automatically goes back to the STOP position:
1 If the door operation lever does not go back to the STOP position, manually set it to the STOP position.
NOTE: This is to prevent the permanent operation of the Yellow hydraulie pump.
(7) Install the applicable safety support equipment

Close Access

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Close the subsequent access doors as necessary:
(a) 122CR for the FWD cargo door.
(b) 152NR for the Aft cargo door.
(c) Remove the access platform(s).

8.8.2.2 Closing of the FWD and AFT cargo-compartment door with the yellow electric pump

WARNING: BLEED THE DOOR HYDRAULIC SYSTEM BEFORE YOU CLOSE THE CARGO DOOR IF:
- THE DOOR WAS OPEN DURING MAINTENANCE ON THE YELLOW HYDRAULICSYSTEM, AND/OR
- THE DOOR IS OPEN FOR MORE THAN 12 HOURS.
IF YOU DO NOT BLEED THE DOOR HYDRAULIC SYSTEM, THE CARGO DOOR CAN FALL SUDDENLY (WHEN YOU PUT THE OPERATION LEVER IN THE CLOSED POSITION) AND CAUSE INJURY AND/OR DAMAGE.

WARNING: MAKE SURE THAT THE TRAVEL RANGES OF THE FLIGHT CONTROL SURFACES ARECLEAR BEFORE YOU PRESSURIZE/DEPRESSURIZE A HYDRAULIC SYSTEM. MOVEMENT OF THE FLIGHT CONTROL SURFACES CAN BE DANGEROUS AND/OR CAUSE DAMAGE.

CAUTION: YOU MUST CLOSE THE DOOR BEFORE THE WIND SPEED IS MORE THAN 60 KNOTSTO PREVENT DAMAGE TO THE DOOR OR TO THE AIRCRAFT STRUCTURE.

Get Access

(1) Make sure that the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE is in position at theFWD or AFT cargo-compartment door (referred to as cargo door).
(2) Open the subsequent access doors as necessary:
- 122CR for the FWD cargo door
- 152NR for the Aft cargo door.

Procedure

WARNING: DO NOT OPERATE THE FWD CARGO COMPARTMENT DOOR AND THE P/B SW THAT CONTROLS THE YELLOW LEAK MEASUREMENT VALVE AT THE SAME TIME.
IF YOU OPERATE THEM AT THE SAME TIME :
- YOU CAN CAUSE UNWANTED MOVEMENT OF THE FLIGHT CONTROL SURFACES WHICH CAN CAUSE INJURY.
- YOU WILL GET A "WTB MANUAL RELEASE FAULT" INDICATION.

WARNING: MAKE SURE THAT THE TRAVEL RANGES OF THE FLIGHT CONTROL SURFACES ARE CLEAR BEFORE YOU PRESSURIZE/DEPRESSURIZE A HYDRAULIC SYSTEM. MOVEMENT OF THE FLIGHT CONTROL SURFACES CAN BE DANGEROUS AND/OR CAUSE DAMAGE.

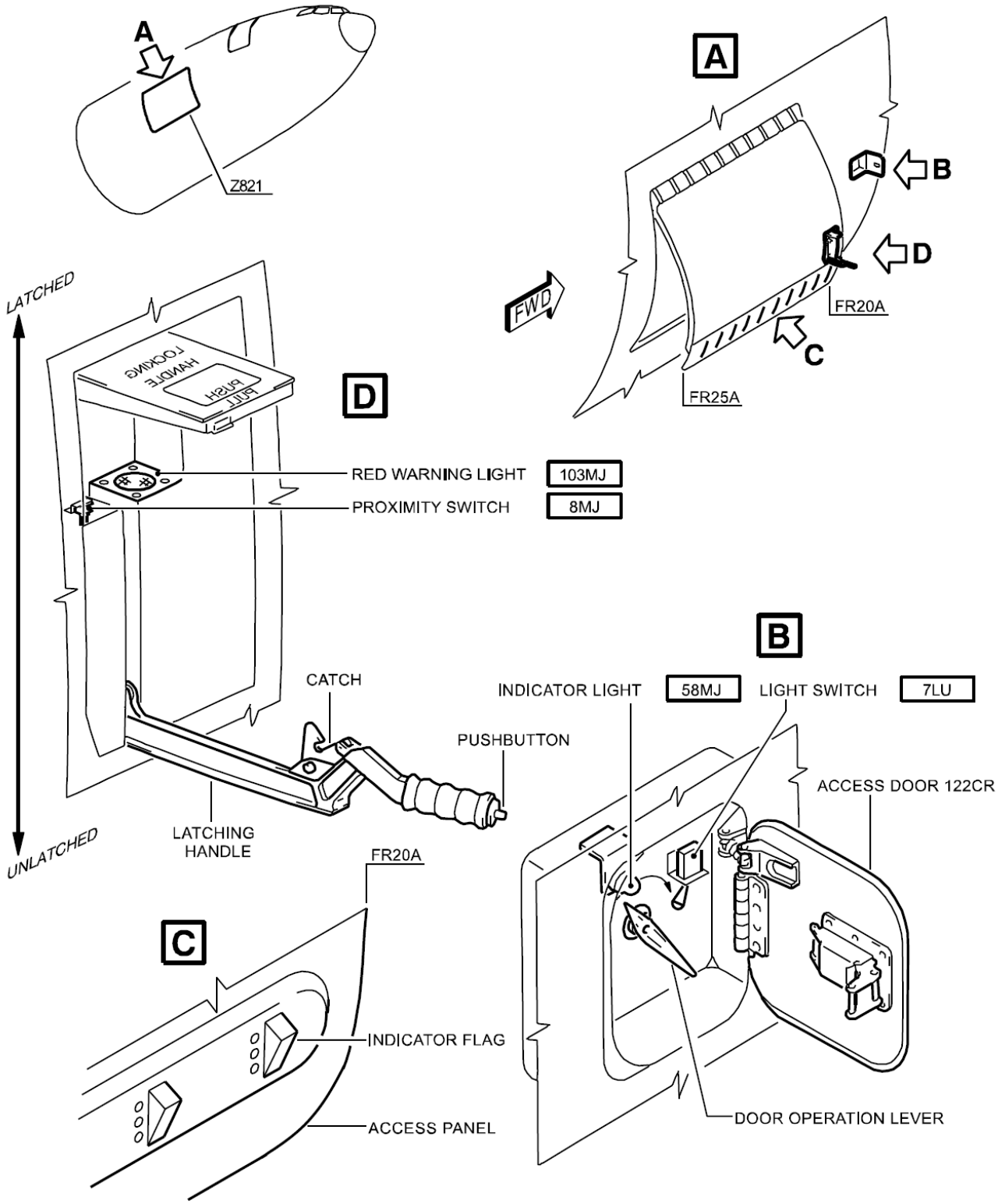
CAUTION: YOU MUST CLOSE THE DOOR BEFORE THE WIND SPEED IS MORE THAN60 KNOTS TO PREVENT DAMAGE TO THE DOOR OR TO THE AIRCRAFT STRUCTURE.

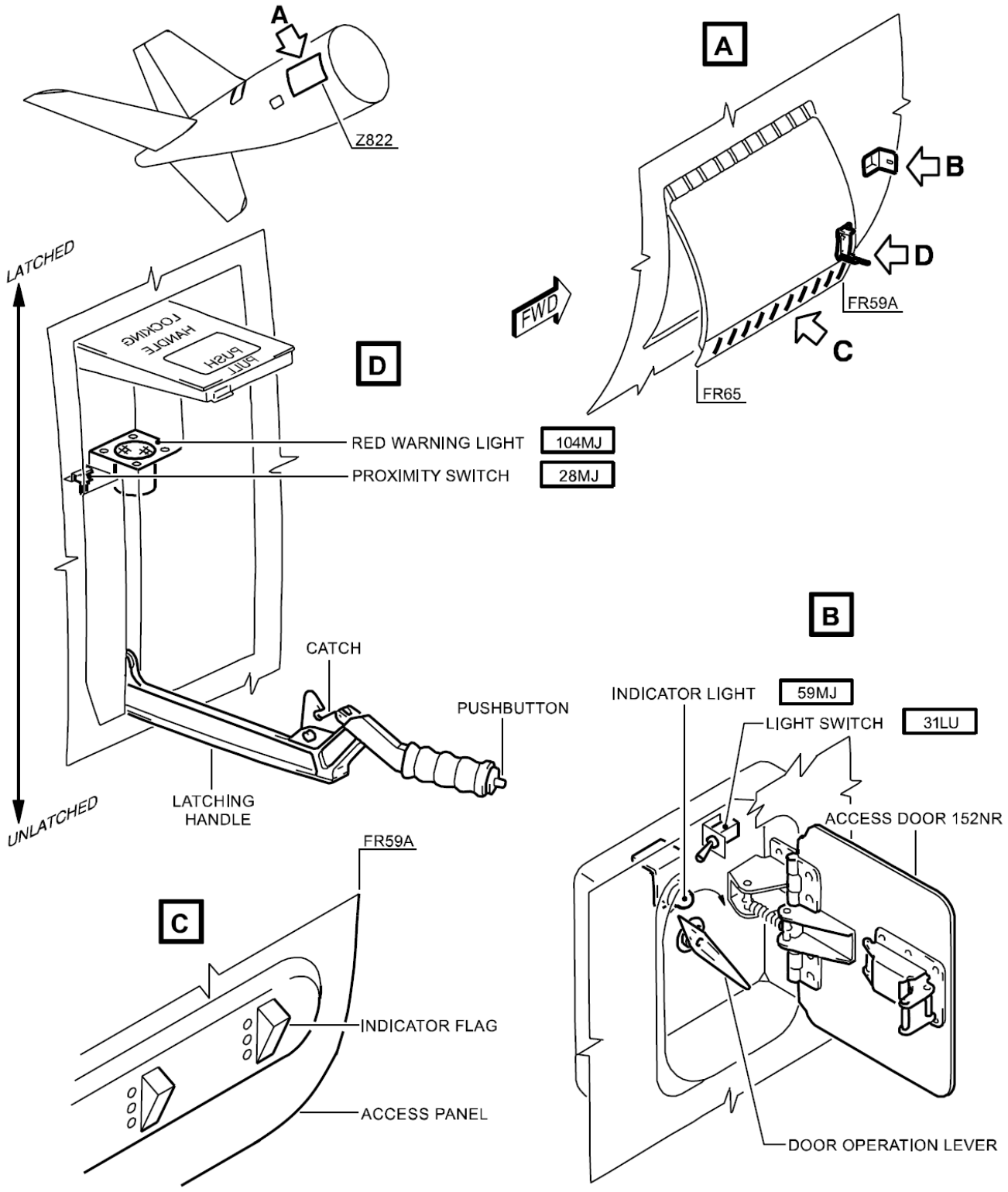
CAUTION: MAKE SURE THAT THE AUTOMATIC ANTI-ROLL-OUT LATCHES ARE IN THE FULLY UP POSITION BEFORE YOU CLOSE THE CARGO DOOR(S). IFTHEY ARE NOT, DAMAGE TO THE DOOR(S) CAN OCCUR.

(1) Make sure that the manually operated YZ-latches of the door sill latches are in their lifted positions.
(2) Make sure that the cargo door freely closes.
(3) Move the door operation lever (on the door operation panel) to the CLOSE position and hold it in this position until the cargo door is fully closed:
    (a) To fully close the door, make sure that you move the door operation lever in less than 10 seconds.
(4) Release the door operation lever when the cargo door is fully closed:
    (a) The door operation lever automatically goes back to the STOP position:
        1 If the door operation lever does not go back to the STOP position, manually set it to the STOP position.
        NOTE: This is to prevent the permanent operation of the Yellow hydraulic pump.
(5) Push the latching handle to the LATCHED position:
    (a) Manually latch the hydraulically-closed cargo door in not more than 3 seconds.
    NOTE: This is to prevent the movement of the unlatched cargo door in the open direction because of its mass.
(6) Push the pushbutton on the top of the latching handle and push the handle fully into its recess.
(7) Push the handle flap in and pull the locking handle down to the LOCKED position.
(8) Make sure that the indicator flags align with the surfaces of the access panels.

Close Access

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Close the subsequent access doors as necessary:
- 122CR for the FWD cargo door
- 152NR for the Aft cargo door.
(3) Remove the access platform(s).


A
Z821
A
B
D
FWD
FR20A
C
FR25A
LATCHED
UNLATCHED
D
RED WARNING LIGHT
103MJ
PROXIMITY SWITCH
8MJ
CATCH
PUSHBUTTON
LATCHING HANDLE
B
INDICATOR LIGHT
58MJ
LIGHT SWITCH
7LU
ACCESS DOOR 122CR
FR20A
C
INDICATOR FLAG
ACCESS PANEL
DOOR OPERATION LEVER


A
Z822
A
B
D
FR59A
C
FR65
FWD
LATCHED
UNLATCHED
D
RED WARNING LIGHT
104MJ
PROXIMITY SWITCH
28MJ
CATCH
PUSHBUTTON
LATCHING HANDLE
B
INDICATOR LIGHT
59MJ
LIGHT SWITCH
31LU
ACCESS DOOR 152NR
DOOR OPERATION LEVER
FR59A
C
INDICATOR FLAG
ACCESS PANEL

8.8.2.3 Opening of the FWD and Aft Cargo-Compartment Doors with the Hand Pump

Get Access

(1) Open the access door 197CB.
(2) Open the access door 196BB.
(3) Put the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE in position at the FWD or AFT cargo compartment door (referred to as (cargo door).
(4) Open the subsequent access doors as required:
- 122CR for the FWD cargo door.
- 152NR for the AFT cargo door.
(5) Get access to the circuit breaker panel 5002 VE as follows:
NOTE: This procedure is only necessary during the maintenance to prepare a malfunction of the serviceable electrical door control system.
(a) Put the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE in position at the avionics compartment door 811.
(b) Open the avionics compartment door 811 and set the light switch 5LS on the avionics rack 802VU to ON.
(c) Open the avionics compartment door 132AZ to get access to the circuit breaker panel 5002VE.
(d) On the panel 5022VE set the light switch CARGO COMPT LIGHT to the ON position.
(e) Open the access panel 132UC of the circuit breaker panel 5002VE to get access to the circuit breaker 1MJ .
NOTE: The circuit breaker "1MJ" must only be open to simulate a malfunction of the serviceable electrical door control system. This prevents that the Yellow electric pump (1JJ) will operate during the manual mode.

Opening of the FWD or AFT Cargo Door

WARNING: STOP THE OPENING PROCEDURE IF THE RED WARNING LIGHT FLASHES. RESIDUAL PRESSURE COULD CAUSE THE DOOR TO OPEN WITH A SUDDEN FORCE AND INJURE PERSONS AND/OR DAMAGE THE AIRCRAFT.

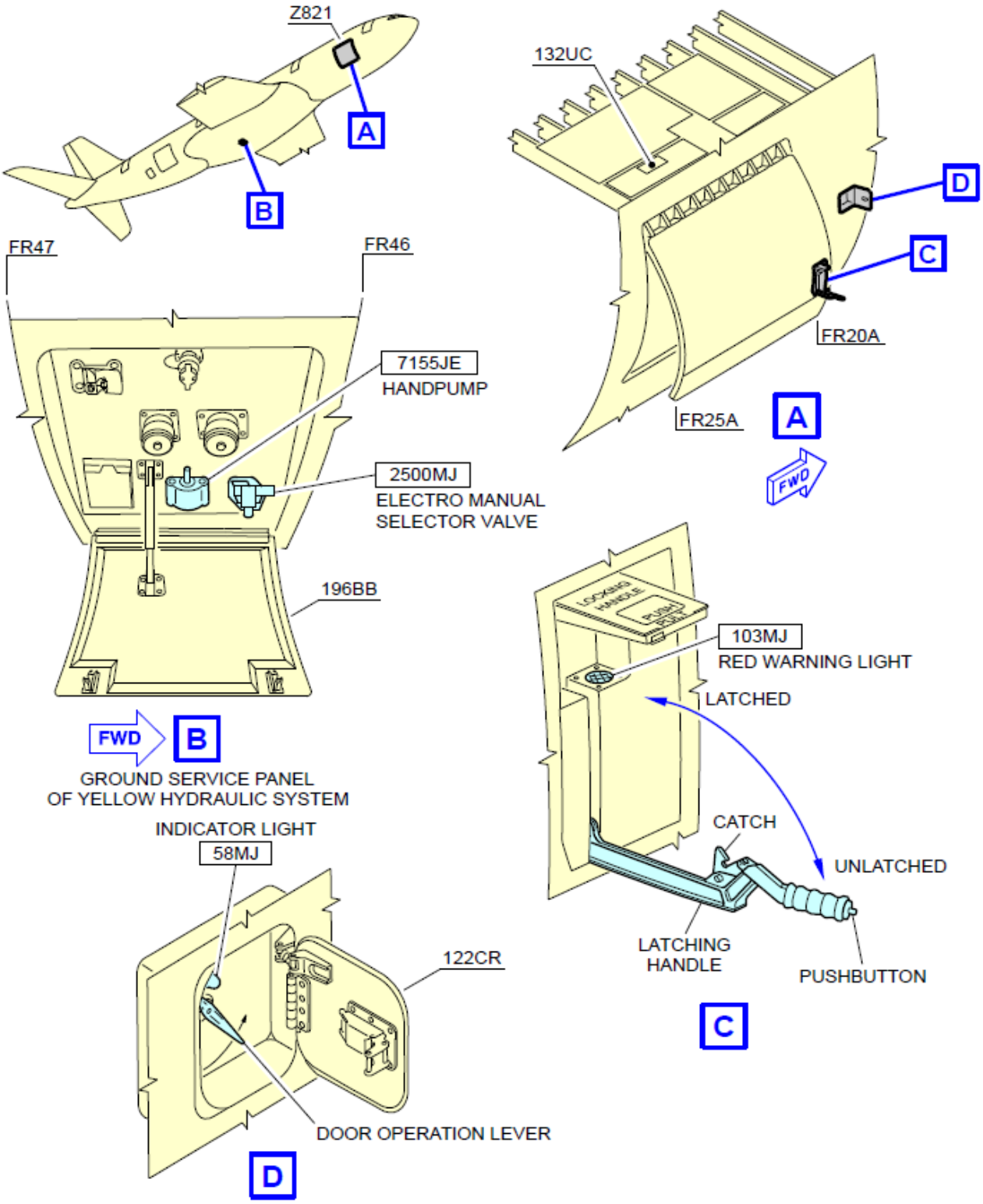
NOTE: Two persons are necessary for this procedure.

(1) Push the handle flap in and pull the locking handle to the UNLOCKED position.
(2) Make sure that all indicator flags are out.
(3) Press the pushbutton on the top of the latching handle and pull it to the UNLATCHED position.
(4) Move the door operation lever (on the door operation panel) to the OPEN position and hold it there during the operation of the hand pump.
NOTE: The door operation lever must go back automatically to the STOP position when you release it. If not, put it manually to the STOP position.
(5) Remove the hand pump lever 5205JM from the ground service panel of the Green hydraulic system.
(6) Make sure that the applicable cargo door can open freely.
(7) Install the hand pump lever on the hand pump 7155JE (part of the Yellow ground service panel) and operate it until the cargo door is fully opened.
NOTE: When the cargo door is fully open, you can feel a large increase in force on the hand pump lever.
(8) Put the hand pump lever back to its storage position and close the access door 197CB.
(9) If necessary, install the applicable safety equipment.

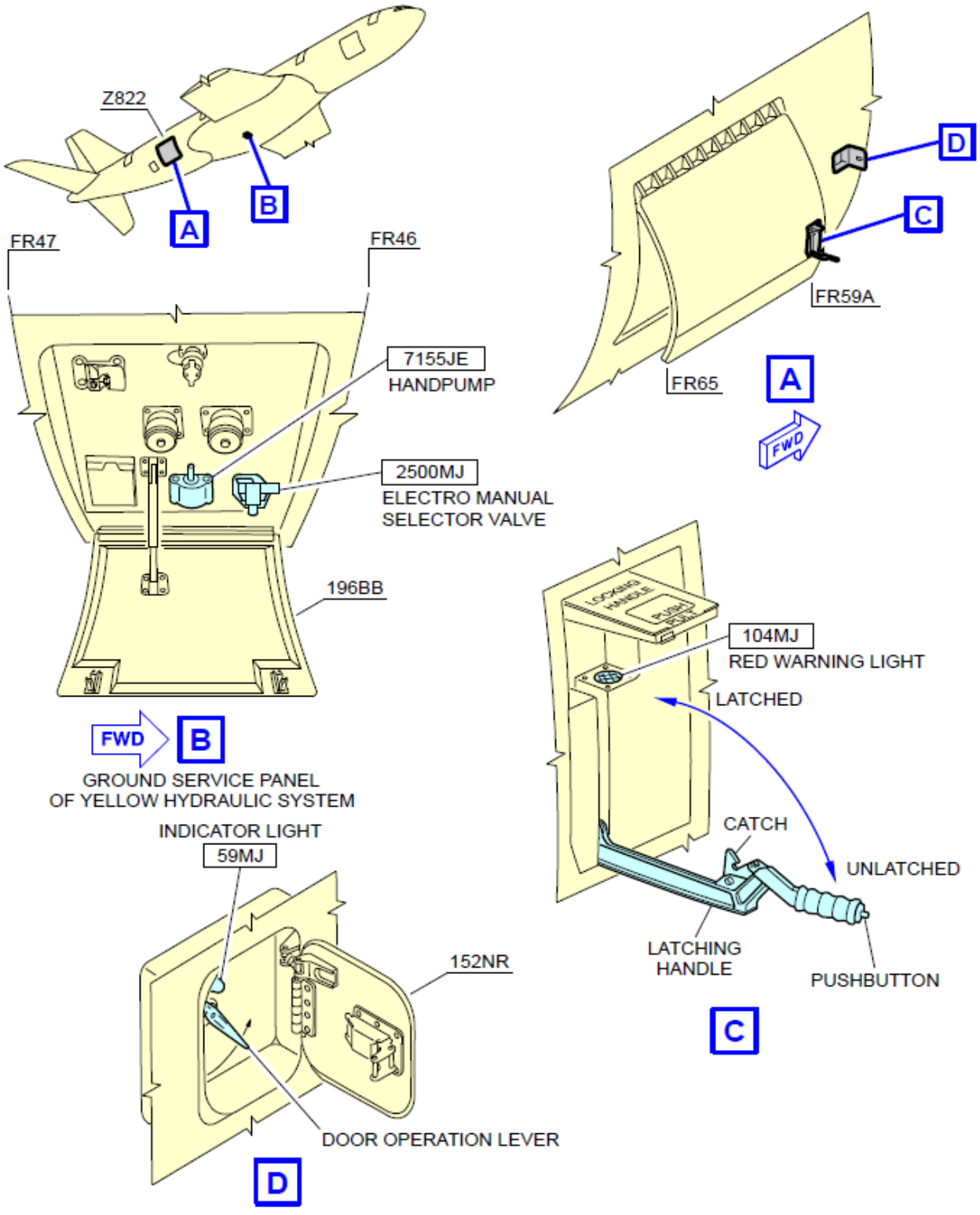
Close Access

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Close the access door 196BB.
(3) Close the subsequent access doors:
- 122CR for the FWD cargo door.
- 152NR for the AFT cargo door.
(4) Make sure that the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE is in position below the avionics compartment door 811.
(5) Close the access panel 132UC of the circuit breaker panel 5002VE.

(6) On the panel 5022VE set the light switch CARGO COMPT LIGHT to the OFF position.
(7) Close the avionics compartment door 132AZ.
(8) Set the light switch 5LS on the avionics rack 802VU to OFF and close the avionics compartment door 811.
(9) Remove the access platform(s).



Manual Operation of the FWD Cargo-Compartment Door



Manual Operation of the Aft Cargo-Compartment Door

8.8.2.4 Closing of the FWD or AFT cargo-compartment door with the hand pump

Get Access

(1) Open the access door 197CB.
(2) Open the access door 196BB.
(3) Put the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE in position at the FWD or Aft cargo compartment door (referred to as cargo door).
(4) Open the subsequent access doors as necessary:
- 122CR for the FWD cargo door
- 152NR for the Aft cargo door.
(5) Get access to the circuit breaker panel 5002 VE as follows:
NOTE: This procedure is only necessary during the maintenance to prepare a malfunction of the serviceable electrical control system.
(a) Put the ACCESS PLATFORM 3M (10 FT)- ADJUSTABLE in position at the avionics compartment door 811.
(b) Open the avionics compartment door 811 and set the light switch 5LS on the avionics rack 802VU to ON.
(c) Open the avionics compartment door 132AZ to get access to the circuit breaker panel 5002VE.
(d) On the panel 5022VE set the light switch CARGO COMPT LIGHT to the ON position.
(e) Open the access panel 132UC of the circuit breaker panel 5002VE.
NOTE: The circuit breaker "1MJ" must only be open to simulate a malfunction of the serviceable electrical door control system. This prevents operation of the Yellow electric pump (1JJ) during the manual mode.

Closing of the FWD or Aft Cargo Door

NOTE: Two persons are necessary for this procedure.

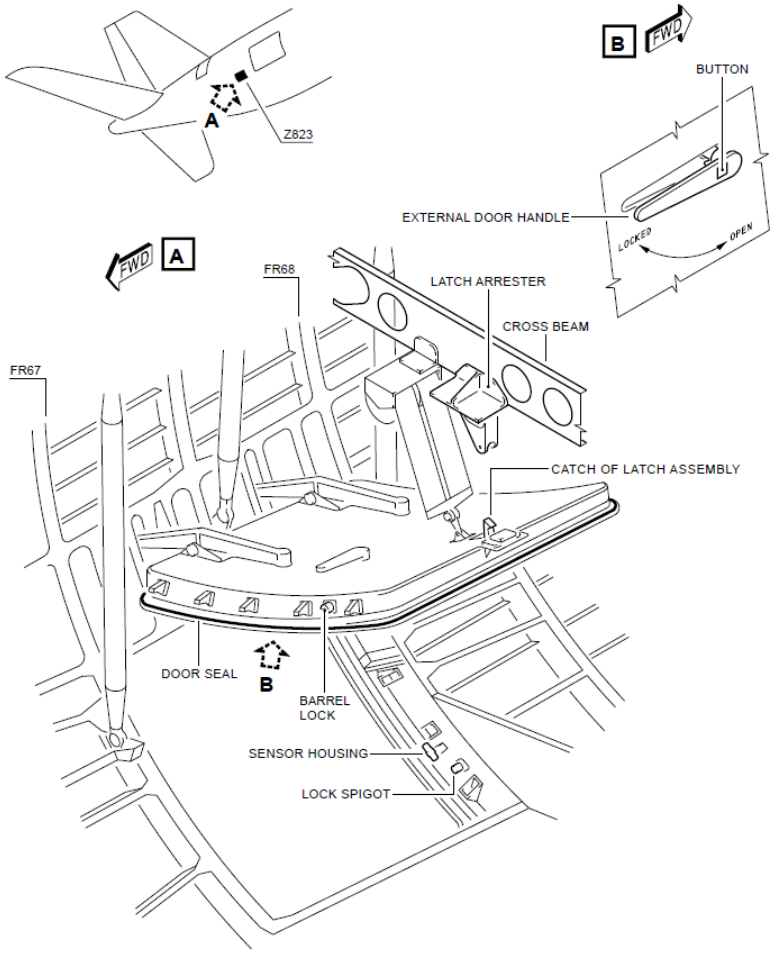
(1) Make sure that the manually operated YZ-latches of the door sill latches are in their lifted position.
(2) Move the door operation lever (on the door operation panel) to the CLOSE position and hold it there during the operation of the hand pump.
NOTE: The door operation lever must go back automatically to the STOP position when you release it. If not, move it manually to the STOP position.
(3) Make sure that the cargo door can close freely.
(4) Install the hand pump lever on the hand pump 7155JE (part of the ground service panel of the Yellow hydraulic system) and operate it until the cargo door is fully closed.
(5) Push the latching handle to the LATCHED position.
NOTE: Manually latch the hydraulically closed cargo door in 3 seconds maximum. This prevents movement of the unlatched cargo door in the open direction because of gravity.
(6) Press the pushbutton on the top of the latching handle and push it fully into its recess.
(7) Push the handle flap in and pull the locking handle down to the LOCKED position.
(8) Make sure that the indicator flags are aligned with the surface of the access panels.
(9) Put the hand pump lever back to its storage position and close the access door 197CB.

Close Access

(1) Make sure that the work area is clean and clear of tools and other items.
(2) Close the access door 196BB.
(3) Close the subsequent access doors:
- 122CR for the FWD cargo door.
- 152NR for the AFT cargo door.
(4) Close the access panel 132UC of the circuit breaker panel 5002VE.
(5) On the panel 5022VE set the light switch CARGO COMPT LIGHT to the OFF position.
(6) Close the avionics compartment door 132AZ.
(7) Set the light switch 5LS on the avionics rack 802VU to OFF and close the avionics compartment door 811.
(8) Remove the access platform(s).

8.8.2.5 Opening of the Bulk Cargo-Compartment Door

Opening of the Bulk Cargo-Compartment Door
(1) Push the button of the external door handle to release the handle from its recess.
(2) Move the external door handle to the OPEN position:
(a) To fully lift the door, make sure that you move the external door handle in lessthan 10 seconds.
(3) Push the bulk cargo-compartment door inboard until its barrel locks disengage from the related lock spigots of the fuselage.
NOTE: When the bulk cargo-compartment door moves up, the door seal can lightlytouch the sensor housing.
(4) Put the external door handle in the LOCKED position and push it into its recess.
CAUTION: DO NOT USE EXCESSIVE FORCE.
(5) Open the bulk cargo-compartment door slowly and carefully until the catch of the latch assembly engages with the latch arrester of the crossbeam.



8.8.2.6 Closing of the BULK cargo-compartment door

Closing of the Bulk Cargo-Compartment Door
(1) Push the button of the external door handle to release the handle from its recess.
(2) Move the external door handle to the OPEN position to disengage the catch of the latch assembly from the latch arrester:
(a) To fully close the door, make sure that you move the external door handle in less than 10 seconds.
(3) Manually move the bulk cargo-compartment door down until its barrel locks align with the related lock spigots of the fuselage.
NOTE: When the bulk cargo-compartment door moves down, the door seal can lightly touch the sensor housing.
(4) Put the external door handle into the LOCKED position and push it into its recess.

8.9 Towing

WARNING: OBEY THESE SAFETY PRECAUTIONS DURING MOVEMENT OF THE AIRCRAFT (TOWING, PUSHBACK OR TAXIING). MAKE SURE THAT:
- THE PATH OF THE AIRCRAFT IS CLEAR OF PERSONS, EQUIPMENT AND OTHER OBSTACLES.
- NO PERSONS GO NEAR THE TOW TRACTOR, TOWBAR, LANDING GEARS, ENGINENACELLES OR BELOW THE AIRCRAFT FUSELAGE.
- ONLY QUALIFIED PERSONS ARE ON THE TRACTOR AND NO PERSONS SIT OR STAND ON THE TOWBAR.
- NO PERSONS GO NEAR THE AIRCRAFT BEFORE IT IS FULLY STOPPED.
THERE IS A RISK OF INJURY OR DEATH IF YOU DO NOT OBEY THESE INSTRUCTIONS.

WARNING: DURING TOWING/TAXIING OPERATIONS (LOW-SPEED OPERATIONS INCLUDED), MAKE SURE THAT EACH PERSON IN THE AIRCRAFT IS IN A SEAT AND THAT THE SEAT BELTIS FASTENED. IF THE SEAT BELT IS NOT FASTENED, THERE IS A RISK OF INJURY IF THE AIRCRAFT STOPS SUDDENLY.

CAUTION: DO NOT TOW OR MOVE THE AIRCRAFT ON THE GROUND IF THE ENGINE COWLS ARE OPEN. MOVEMENT OF THE AIRCRAFT WITH THE COWLS OPEN CAN CAUSE DAMAGE TO THE COWLS AND THE NACELLE STRUCTURE.

CAUTION: DO THIS PROCEDURE ONLY WHEN THE AIRCRAFT WHEELS ARE ON THE TAXIWAY. IF YOU DO NOT OBEY TO THIS INSTRUCTION, DAMAGE TO THE AIRCRAFT CAN OCCUR.

Towing Limitations and Conditions

Towing Type	Payload	Fuel Quantity	Maximum Total Aircraft Mass	Other Towing Characteristics
Pushback towing to disengage the aircraft from the gate area for aircraft departure	Yes	Fuel On Board (FOB)	Maximum Ramp Mass (MRW)	- A pushback with one or more turn(s) or stop(s)-and-start(s) and - A forward tow without turns or more than one stop or start.
Remote parking or transfer to gate	No	Maximum 21000kg	Operational Empty Mass (OEW)+ 21000 kg	No other towing characteristics
Towing for maintenance	No	Maximum 10500kg	OEW + 10500 kg	No other towing characteristics
Moving the aircraft from the runway after a technical failure on applicable towing surface	Yes	FOB	MRW	Towing of the failed aircraft to the nearest available gate or parking area.

8.9.1 Towing by the Nose Landing Gear from the Front with a Towbar

Installation of the Towbar

CAUTION: MAKE SURE THAT THE TOWBAR HAS:
- A DAMPING SYSTEM
- A ROTATING TOWEYE
- APPLICABLE AND CALIBRATED SHEAR PIN(S).
THIS IS TO PREVENT HIGH LOADS WHICH CAN CAUSE DAMAGE TO THE LANDING GEAR.

(1) Use a TOWBAR that agrees with the SAE ARP 1915 or the ISO 9667 standards.
(2) Put the TRACTOR (TOWBAR TYPE) and the TOWBAR in position in front of the NLG, aligned with the aircraft centerline.
(3) Install the TOWBAR on the tow fitting.
(4) Connect the TOWBAR to the TRACTOR (TOWBAR TYPE).
(5) Apply the TRACTOR (TOWBAR TYPE) parking brake.
(6) Remove the CHOCK - WHEEL(S) from the main and nose landing-gear wheels.
(7) On panel 117VU, set the PARK BRK selector-switch to OFF.
(a) On panel 312VU, on the brake-pressure triple indicator, make sure that the left and right brake pressures are released.

Towing

CAUTION: PUT THE PARK BRK SELECTOR SWITCH IN THE OFF POSITION BEFORE YOUTOW OR PUSH BACK THE AIRCRAFT. THIS IS TO PREVENT HIGH LOADS WHICH CAN CAUSE DAMAGE TO THE NOSE LANDING GEAR.

(1) During the towing operations:
- One person must be in the cockpit to operate the brake pedals if necessary
- Each person in the cockpit or cabin must be on their seats and attach the seat belts
- Two persons must monitor the wing tips if necessary.

(2) During the towing operations:
(a) On panel 312VU, on the brake-pressure triple indicator, make sure that the top gauge (ACCU PRESS) indication is correct: 3000 psi (207 bar). The pointer must be in the green range.
(b) If necessary, pressurize the Blue hydraulic system:
- With the ground power supply or
- With the electric pump.

(3) All persons must be at a minimum distance of 3 m (10 ft.) from the wheels and the TRACTOR (TOWBAR TYPE) while the aircraft moves. The shock absorber reaction can cause the aircraft to move forward and rearward when you stop the wheels. Because of this, it is necessary to make sure that there is sufficient space around the aircraft when you tow it with the nose gear.
(4) Tow the aircraft smoothly and slowly:
(a) Tow the aircraft smoothly and slowly when you turn with the NLG. Sudden and fast turns can cause the shear pin in the TOWBAR to break.
(b) Tow the aircraft smoothly and at low speed when the cabin and/or cargo-compartment floor panels are removed.
(c) Speed limits:
1 If the passenger/crew and cargo doors are closed and locked or removed:
- For the TRACTOR (TOWBAR TYPE), a maximum speed of 25 km/h (15.5mph) is permitted.
2 If the passenger/crew doors are fully open and locked and/or the cargo doors are open in the vertical position:
- The maximum permitted speed is 10 km/h (6.2 mph).
3 In wind conditions, calculate the permitted towing speed before towing:
- Measure the wind speed.
- Subtract the measured wind speed from the wind speed limit shown on the stability curve. This gives the maximum permitted towing speed.

Approximate Towing Loads

(1) Approximate towing forces:

TOWING CONDITIONS	TOWING FORCES
BREAKAWAY	4% MRW
ROLLING	3% MRW
BREAKAWAY ON SLOPE	4% MRW +1% MRW PER 1% SLOPE
ROLLING ON SLOPE	3% MRW +1% MRW PER 1% SLOPE

NOTE: MRW = Maximum Ramp Mass.

(2) Use these coefficients for the friction between the tires of the tow tractor and the ground to calculate the tow tractor mass:

Dry concrete or asphalt : 0.80
Wet asphalt : 0.75
Wet concrete : 0.57
Hard snow : 0.20
Ice : 0.05

Steering Angle (Alpha)

(1) During towing, do not turn the NLG more than the towing angle marking-limits.

NOTE: The towing angle limits are shown by painted marks on:
- The NLG aft doors and/or
- The bottom of the main fitting and the sliding rod of the NLG.

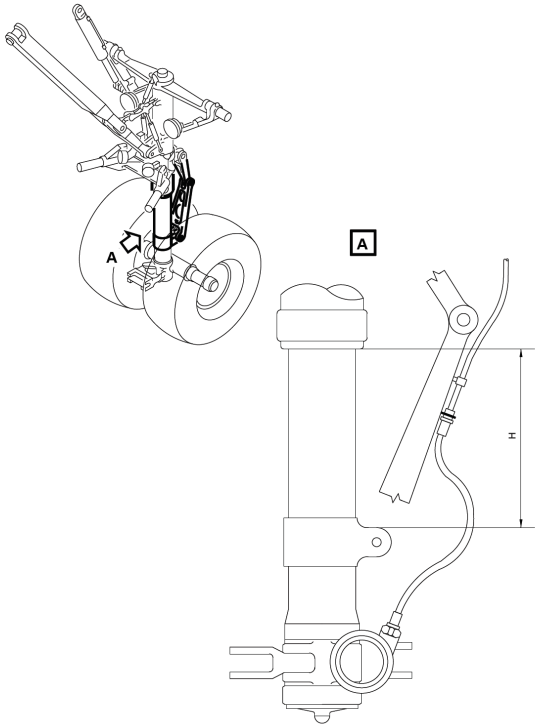
Visual Inspection

(1) After you complete the towing operation, make sure that the nose wheels are aligned withthe aircraft centerline.

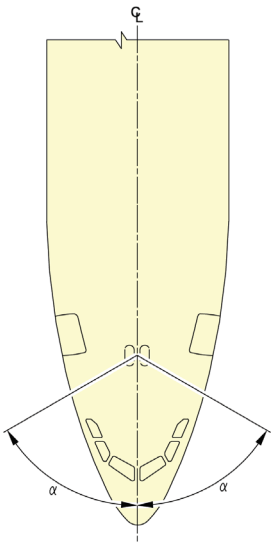
Removal of the Towbar

(1) Apply and hold the TRACTOR (TOWBAR TYPE) service brake.
(2) On panel 117VU, set the PARK BRK selector-switch to ON.
(a) On panel 312VU, on the brake-pressure triple indicator, make sure that the left and right brake pressures are around 2500 psi (172 bar).
(3) Put the CHOCK - WHEEL(S) in position on the Main Landing Gear (MLG)
(4) Release the TRACTOR (TOWBAR TYPE) service brake.
(5) Remove the TOWBAR from the TRACTOR (TOWBAR TYPE).
(6) Remove the TOWBAR from the nose gear fitting.
(7) Do the activation of the nose wheel steering
(8) Put CHOCK - WHEEL(S) in position in front of and behind the NLG wheels if necessary.

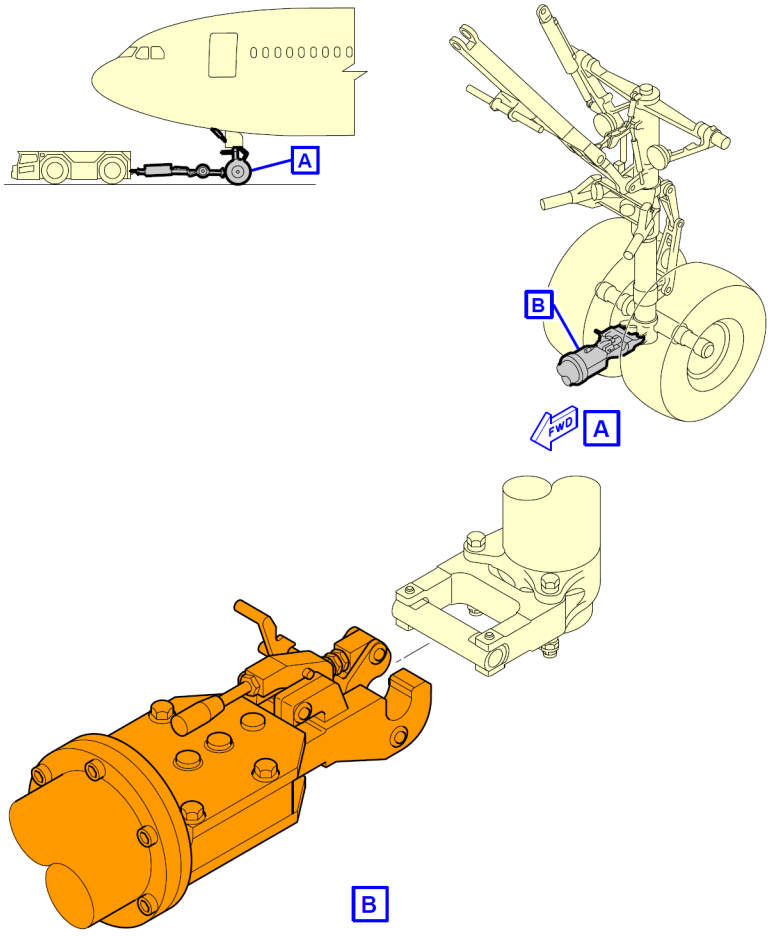
Maximum Extension of the NLG Shock Absorber during Towing



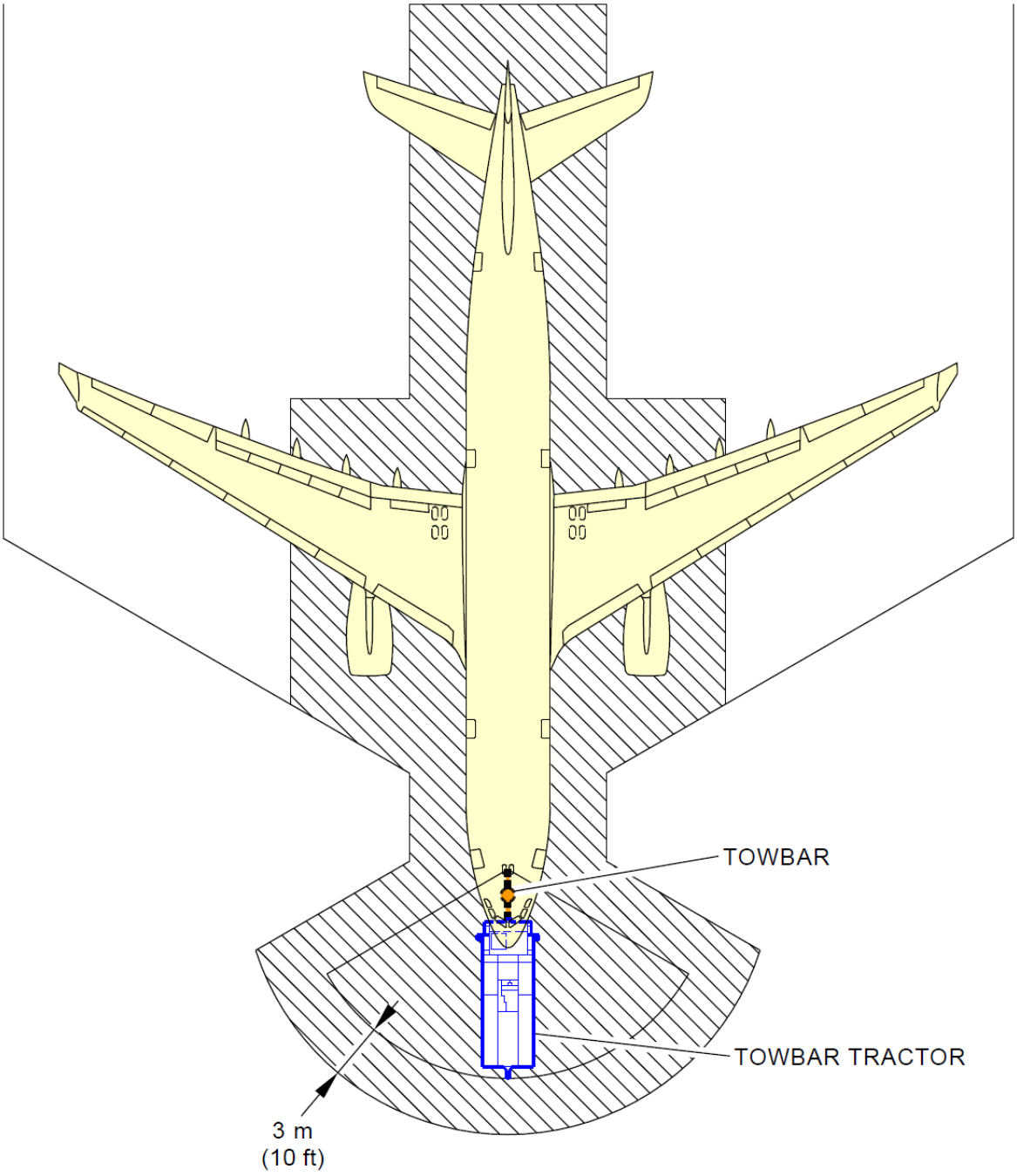
Maximum Towing Angle



Installation of Towbar from the Front



Towing - Hazard Area - Towbar Tractor



NOTE:

HAZARD AREA: NO PERSONS DURING AIRCRAFT AND TOWBAR TRACTOR MOVEMENT.

CAUTION AREA: NO OBSTACLES DURING AIRCRAFT MOVEMENT.

8.9.2 Towing with a Towbarless Tractor

Installation of the Towbarless Tractor

CAUTION: WHEN YOU USE A TOWBARLESS TRACTOR, MAKE SURE THAT YOU OBEY FULLY ALL THE INSTRUCTIONS IN THIS PROCEDURE. IF YOU DO NOT, THE TRACTOR CAN CAUSE IMPORTANT SCRAPING OR OTHER DAMAGE TO THE NLGAND TO THE AIRFRAME STRUCTURE AROUND THE NLG.

(1) There are special approval procedures for the TRACTOR TOWBARLESS. Before you tow, make sure that the TRACTOR TOWBARLESS is approved for the towing of the aircraft.
(2) Set the aircraft type on the TRACTOR TOWBARLESS.
(3) Remove the CHOCK - WHEEL(S) from the nose-landing-gear wheels.
(4) Put the TRACTOR TOWBARLESS in position in front of the NLG, aligned with the aircraft centerline.
(5) Align the clamping device of the TRACTOR TOWBARLESS with the NLG axis.
(6) Put the clamping device in contact with the NLG tires.
(7) Make sure that the NLG is correctly engaged in the clamping device.
(8) Lock on and lift the NLG.
(9) Make sure that the nose landing gear is correctly in position on the center of the TRACTORTOWBARLESS cradle and cannot disengage from the TRACTOR TOWBARLESS.
(10) Apply the TRACTOR TOWBARLESS parking brake.
(11) Remove the CHOCK - WHEEL(S) from the main-landing-gear wheels.
(12) On panel 117VU, set the PARK BRK selector-switch to OFF.
    (a) On panel 312VU, on the brake-pressure triple indicator, make sure that the left and right brake pressures are released.

Towing

WARNING: WHEN YOU TOW THE AIRCRAFT WITH A TOWBARLESS TRACTOR, ONLY USE THE AIRCRAFT PARKING BRAKE OR THE BRAKE PEDALS WHEN THERE ISAN EMERGENCY. IF YOU APPLY THE AIRCRAFT PARKING BRAKE OR THE BRAKE PEDALS, YOU CAN CAUSE:
- OVERLOAD TO THE NOSE LANDING GEAR
- DAMAGE TO THE TOWBARLESS TRACTOR
- INJURY TO MAINTENANCE PERSONNEL.

CAUTION: PUT THE PARK BRK SELECTOR SWITCH IN THE OFF POSITION BEFORE YOUTOW OR PUSH BACK THE AIRCRAFT. THIS IS TO PREVENT HIGH LOADS WHICH CAN CAUSE DAMAGE TO THE NOSE LANDING GEAR.

CAUTION: BEFORE YOU TOW THE AIRCRAFT WITH A TOWBARLESS TRACTOR, MAKE SURE THAT THE AIRCRAFT OR THE TRACTOR HAS AN OVERSTEERING WARNING SYSTEM IN OPERATION.

(1) During the towing operations:
- One person must be in the cockpit to operate the brake pedals if necessary
- Each person in the cockpit or cabin must be on their seats and attach the seat belts
- Two persons must monitor the wing tips if necessary.

(2) During the towing operations:
    (a) On panel 312VU, on the brake-pressure triple indicator, make sure that the top gauge (ACCU PRESS) indication is correct: 3000 psi (207 bar). The pointer must be in the green range.
    (b) If necessary, pressurize the Blue hydraulic system:
        - With the ground power supply or
        - With the electric pump.

(3) All persons must be at a minimum distance of 3 m (10 ft.) from the wheels and the TRACTOR TOWBARLESS while the aircraft moves. The shock absorber reaction can cause the aircraft to move forward and rearward when you stop the wheels. Because of this, it is necessary to make sure that there is sufficient space around the aircraft when you tow it with the nose gear.

(4) Tow the aircraft smoothly and slowly:

(a) Tow the aircraft smoothly and at low speed when the cabin and/or cargo-compartment floor panels are removed.

(b) Speed limits

1 If the passenger/crew doors and cargo doors are closed and locked or removed:
- For the TRACTOR TOWBARLESS, a maximum speed of 32 km/h (20 mph) is permitted.

2 If the passenger/crew doors are fully open and locked and/or the cargo doorsare open in the vertical position:
- The maximum permitted speed is 10 km/h (6.2 mph).

3 In wind conditions, calculate the permitted towing speed before you tow:
- Measure the wind speed.
- Subtract the measured wind speed from the wind speed limit shown onthe stability curve. This gives the maximum permitted towing speed.

Approximate Towing Loads

(1) Approximate towing forces:

TOWING CONDITIONS	TOWING FORCES
BREAKAWAY	4% MRW
ROLLING	3% MRW
BREAKAWAY ON SLOPE	4% MRW +1% MRW PER 1% SLOPE
ROLLING ON SLOPE	3% MRW +1% MRW PER 1% SLOPE

NOTE: MRW = Maximum Ramp Mass.

(2) Use these coefficients for the friction between the tires of the TRACTOR TOWBARLESS andthe ground to calculate the TRACTOR TOWBARLESS mass:

Dry concrete or asphalt : 0.80
Wet asphalt : 0.75
Wet concrete : 0.57
Hard snow : 0.20
Ice : 0.05

Steering Angle (Alpha)

(1) During towing, do not turn the NLG more than the towing angle marking-limits.

NOTE: The towing angle limits are shown by painted marks on:
- The NLG aft doors and/or
- The bottom of the main fitting and the sliding rod of the NLG.

Visual Inspection

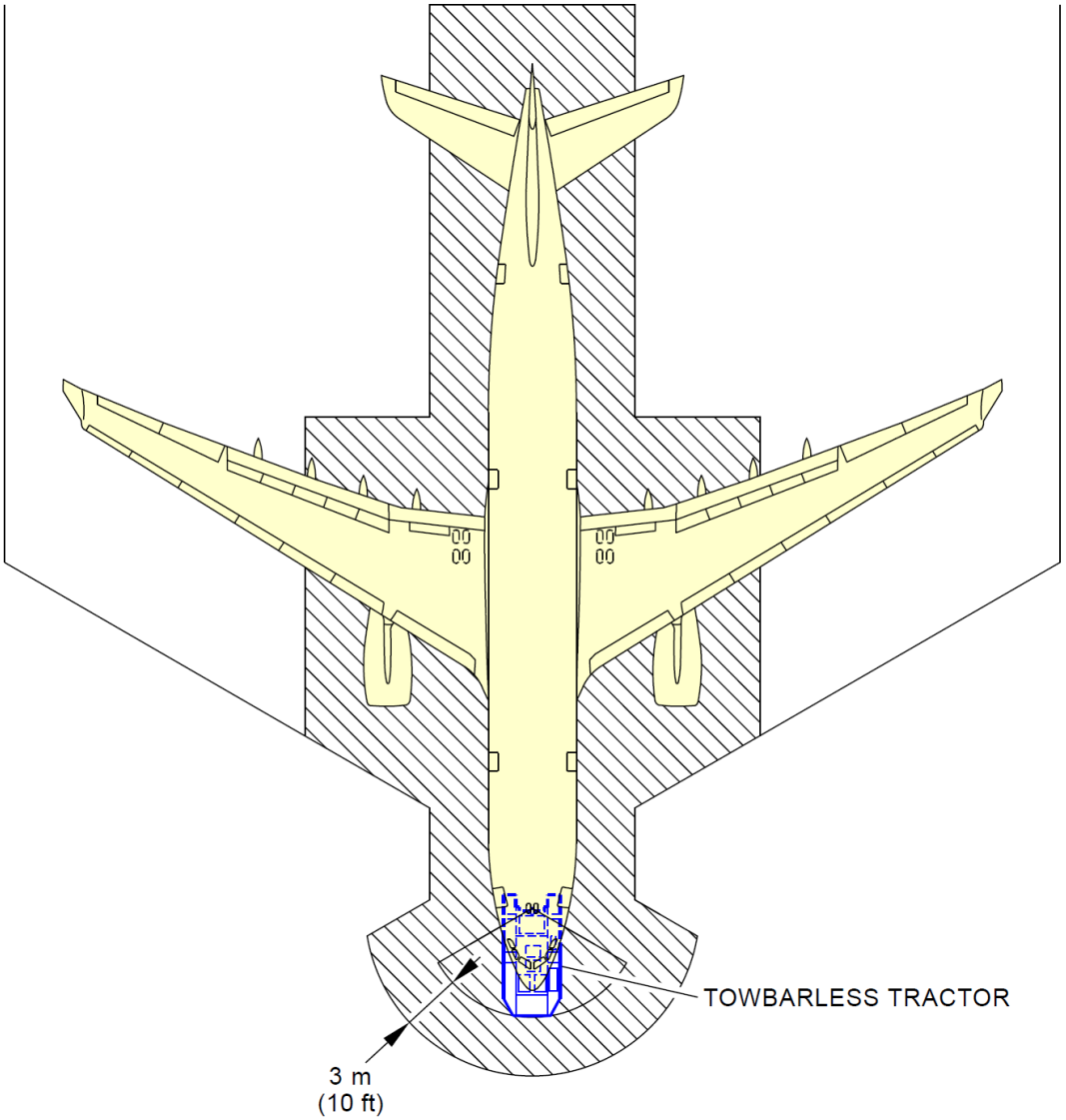
(1) After you complete the towing operation, make sure that the nose wheels are aligned withthe aircraft centerline.

Removal of the Towbarless Tractor

(1) Apply and hold the TRACTOR TOWBARLESS service brake.
(2) On panel 117VU, set the PARK BRK selector-switch to ON.
(a) On panel 312VU, on the brake-pressure triple indicator, make sure that the left and right brake pressures are around 2500 psi (172 bar).
(3) Put the CHOCK - WHEEL(S) in position on the MLG.
(4) Release the TRACTOR TOWBARLESS service brake.
(5) Lower and open the pick-up system.

(6) Disengage the TRACTOR TOWBARLESS from the NLG.
(7) Do the activation of the nose wheel steering.
(8) Put the CHOCK - WHEEL(S) in position in front of and behind the NLG wheels if necessary.

Towing - Hazard Area - Towbarless Tractor



NOTE:

HAZARD AREA: NO PERSONS DURING AIRCRAFT AND TOWBARLESS TRACTOR MOVEMENT.

CAUTION AREA: NO OBSTACLES DURING AIRCRAFT MOVEMENT.

8.9.3 Aircraft Push-back

(1) The crew controls the aircraft direction during push back, with the steering wheel. They obey the instructions of the departure agent.
(2) During push back towing, emergency stop is possible. Two procedures are possible:

- Stop the tractor.
- Apply aircraft brakes.

(3) During push back towing, obey the guiding instructions of the departure agent.

Safety Precautions
(1) At the end of the pushback operation, make sure that the aircraft is parallel to the taxiway axis.
(2) Set the PARKING BRK control switch to ON.

Disconnection of the Tractor
(1) With the tractor remote control system, disconnect the tractor.
(2) Remove the tractor from the work area.

8.10 De-/Anti-Icing Procedures

8.10.1 Aircraft configuration prior to De-/Anti-icing

According to manufacturer's recommendations, the aircraft must be properly configured prior to De-/Anti-icing following the below instructions:
1. Aircraft must be parked on a flat surface. The wheel of the nose landing gear must be on the aircraft axis and the aircraft must be pointed into the wind.
2. Safety devices must be installed on the landing gears.
3. Put the wheel chocks in front of and behind the wheels of the main and nose landing gears.
NOTE: The wheel chocks on the nose landing gear and the parking brake give more safety in bad weather.
4. Aircraft must be grounded.
5. Install protection equipments.
6. Ground service network must be energized.
7. Make sure that the flaps, the slats, the spoilers, the speed brakes and the thrust reversers are retracted.
8. Make sure that the APU bleed and the aircraft engine bleeds are stopped.
9. Make sure that all the doors and the sliding windows are closed.

8.10.2 Manufacturer's De-/Anti-icing Recommendations

Safe operation of aircraft in cold weather conditions raises specific problems. Aircraft downtime and delays in flight schedules caused by cold weather problems can be minimized by a program of preventive cold weather servicing.

CAUTION: Do not apply anti-icing/de-icing fluid in:
- The air intakes and exhaust of the engines or APU
- The air outlet of the outflow valve 10HL
- All other air intakes or outlets.

CAUTION: Before the anti-icing/de-icing procedure, always put protection (sheet material) on the brake units. Anti-icing/de-icing fluid can cause corrosion.

CAUTION: Do not point high-pressure jets:
- At equipment such as gear box seals, steady bearings, rotary actuators and universal joints,
- At electrical components such as harnesses, proximity sensors and connectors. The impact pressure of the jets must not be more than 5 PSI (0.35 BAR). For fairings, the impact pressure of the jets must not be more than 1.5 PSI (0.1 BAR). High pressure jets can push liquids into bearings, joints, brakes, electrical connectors and other sealed components. Liquids that get into these areas can cause corrosion, freeze during aircraft flight, remove necessary lubricants or start incorrect electrical functions.

CAUTION: Do not use jet exhaust to remove snow or ice from the airframe. The high pressure and high temperature of jet exhaust can cause damage to the aircraft.

CAUTION: During the anti-icing/de-icing and washing procedures, make sure that the hot water or hot water/fluid mixtures do not cause the temperature of the aircraft skin to increase to more than +70°C.

1. Aircraft performance certification is based upon that aircraft having an uncontaminated or clean structure.
2. Ice, snow and frost or combinations of them will disturb the airflow, affecting lift and drag. They also increase the aircraft mass.
3. The aircraft, and especially its surfaces that provide lift and stability, must be aerodynamically clean. If they are not, safe operation is not possible.
4. If the fuel temperature is below freezing point and the aircraft is subject to precipitation, clear ice may form on the wings (wing tank area), even if the outside temperature is as high as 15 deg.C.

5. An aircraft that is ready for flight must not have ice, snow, slush or frost adhering to its critical flight surfaces (wings, vertical and horizontal stabilizers and rudder). Thin hoarfrost is permitted on the upper surface of the fuselage.

NOTE: Thin hoarfrost is typically a white crystalline deposit which usually develops uniformly on exposed surfaces on cold and cloudless nights; it is so thin that a person can distinguish surface features (lines or markings) beneath it.

NOTE: A frost layer less than 3 mm on the underside of the wing, in the area of fuel tanks, is permitted without effect on takeoff performance if it is caused by cold fuel (low fuel temperature, OAT above freezing and high humidity).

6. A contamination check of the aircraft must cover all parts of the aircraft. Visual inspection from a position which gives a clear view of all surfaces must be done. Because accumulations of clear ice are sometimes not easily visible, it is mandatory to inspect the upper wing surfaces on all departures when the temperature is between -3 and 10C and all departures when the temperature is between 10 and 14C during precipitation. The only acceptable method to identify the presence of the clear ice on the critical surfaces (wings, vertical and horizontal stabilizers and rudder) is to perform a tactile inspection. This consists of physically scratching the surfaces of the wing with a thumb nail at designated areas of the wing.

7. Weather conditions determine when the aircraft de-/anti-icing must be carried out.

8. During checks on the ground, electrical or mechanical ice-detectors must not replace physical checks.

9. If the aircraft arrives at the gate with the flaps/slats in a position other than fully retracted, these flaps/slats must be inspected, and if necessary de-iced before retraction.

8.10.3 De-/Anti-Icing Protection

8.10.3.1 Application limits

A new layer of anti-icing fluid must not be applied directly on a layer applied before.
If a new anti-icing protection must be applied before the subsequent flight:

- first, the de-icing of the aircraft with a hot fluid solution must be done,
- then, the anti-icing protection on the clean aircraft must be applied.

CAUTION: Do not apply anti-icing/de-icing fluid, on the cockpit or cabin windows. It can cause cracks on the window. The fluid can also go into the window seal. You must close all doors and windows to prevent:

- Contamination of galley floor areas with fluid,
- Contamination of upholstery.

8.10.3.2 Aircraft De-/Anti-Icing

1. Apply the de-/anti-icing fluid to all the external surfaces of the aircraft with the mobile equipment.
Do no apply fluid directly on:

- the APU air intake,
- the ram air inlets,
- the landing gear doors,
- the engine cowls and air intakes,
- the outflow valve air outlet,
- the pitot probes,
- the static probes,
- the AOA sensors.

2. Do not put too much de-/anti-icing fluid in the rudder, elevator and aileron servo-control areas. Use sufficient fluid to remove the ice and snow.

NOTE: In the THS apron area, it is important to point the spray from the front to the rear. If you point the spray in the other direction (rear to front), de-/anti-icing fluid can go into the rear fuselage non-pressurized compartment.

3. To prevent the flow of fluid on the cockpit windows, remove the remaining ANTI-ICING AND DE-ICING MATERIALS from the forward areas. Clean the surface with clear water and a soft cloth.

4. If ANTI-ICING AND DE-ICING MATERIALS are found on the cockpit or cabin windows, clean the window with clear water and a soft cloth.

NOTE: Do not use the wipers to clean the fluid on the windows.

NOTE: If ANTI-ICING AND DE-ICING MATERIALS are used, make sure that there is no remaining fluid on the cockpit windows. Be specially careful of windows with wipers.

5. Landing gear

CAUTION: Remove ice and snow to prevent ingress of contaminants into brakes and wheels. Put covers on to prevent further ingress of contaminants. Remove collected ice or snow on the landing gear with a rag or a soft brush.

APPENDIX A – ADDRESSES

Operational messages must be sent to the following addresses depending on the flight origin/destination:

Chisinau / RMO	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / ops@handling.md / sbordisp@airport.md / seniordisp@airport.md / KIVZXXH
PSM/PTM	ground.ops@hisky.aero / iport@hisky.aero / ops@handling.md / checkin@handling.md
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
BTM	checkin@handling.md
ETL	LHRKMU1 / iport@hisky.aero

Bucharest / OTP	
Messages	Message addresses
MVT	occ@hisky.aero / ops@upliftaviation.ro / OTPAPXH
LDM	occ@hisky.aero / ops@upliftaviation.ro / OTPAPXH / OTPHDXH
PTM/PSM	ground.ops@hisky.aero / iport@hisky.aero / ops@upliftaviation.ro / ckin@upliftaviation.ro / OTPAPXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / ops@upliftaviation.ro / ckin@upliftaviation.ro
BTM	ops@upliftaviation.ro
ETL	LHRKMU1 / iport@hisky.aero

Bacau / BCM	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / dispatch@bacauairport.ro / handling@bacauairport.ro / handlingbcm@bacauairport.ro
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / dispatch@bacauairport.ro / handling@bacauairport.ro / handlingbcm@bacauairport.ro

Baia Mare / BAY	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / pax@aimm.eu / ground@aimm.eu
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / pax@aimm.eu / ground@aimm.eu
ETL	LHRKMU1 / iport@hisky.aero

Brasov / GHV	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / operations@kronaero.com
PSM/TPM/PIL	ground.ops@hisky.aero / operations@kronaero.com

Cluj / CLJ	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / clj.operations@menziesaviation.com / CLJKOXH / CLJAPXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / clj.operations@menziesaviation.com / CLJKOXH
ETL	LHRKMU1 / iport@hisky.aero

Constanta / CND	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / dispatch@hisky.aero / CNDAPXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / dispatch@hisky.aero / CNDAPXH

Craiova / CRA	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / craiova@handling.ro / CRAAPXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / craiova@handling.ro

Iasi / IAS	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / ias.operations@menziesaviation.com / IASKOXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / ias.operations@menziesaviation.com / IASKOXH
ETL	LHRKMU1 / iport@hisky.aero

Oradea / OMR	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / oradea@handling.ro / operational@aeroportoradea.ro / OMRAPXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / oradea@handling.ro / operational@aeroportoradea.ro
ETL	LHRKMU1 / iport@hisky.aero

Satu Mare / SUJ	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / satumare@handling.ro / ops@aeroportulsm.ro
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / satumare@handling.ro / ops@aeroportulsm.ro

Sibiu / SBZ	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / sbz.operations@menziesaviation.com / SBZKOXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / sbz.operations@menziesaviation.com / SBZKOXH

Suceava / SCV	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / suceava@handling.ro / briefing@aeroportsuceava.ro
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / suceava@handling.ro

Targu Mures / TGM	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / handling@transylvaniaairport.ro / operations@transylvaniaairport.ro
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / handling@transylvaniaairport.ro

Timisoara / TSR	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / tsr.operations@menziesaviation.com / TSRKOXH / TSRAP8X
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / tsr.operations@menziesaviation.com / TSRKOXH
ETL	LHRKMU1 / iport@hisky.aero

New York / JFK	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / t7flightops@asaksolutions.com / jmpjfkoperations@vantageairportgroup.com
CPM/UCM	t7flightops@asaksolutions.com
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / t7flightops@asaksolutions.com
ETL	LHRKMU1 / iport@hisky.aero

Tel Aviv / TLV	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / dm@lauferghi.com / TLVOOXH / TLVIAXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / dm@lauferghi.com / TLVOOXH
PRL	LONPPXS
ETL	LHRKMU1 / iport@hisky.aero

Dublin / DUB	
Messages	Message addresses
MVT	occ@hisky.aero / Business.Data@daa.ie / DUBRN7X / DUBKKXH
LDM	occ@hisky.aero / Business.Data@daa.ie / DUBRN7X / DUBKKXH / DUBKIXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / DUBCKXH / DUBKIXH / DUBAV7X / DUBRN7X / DUBKKXH
ETL	LHRKMU1 / iport@hisky.aero

Dusseldorf / DUS	
Messages	Message addresses
MVT	occ@hisky.aero / DUSOSXH / DUSPSXH / DUSRSXH / DUSAGXH / DUSOGXH
LDM	occ@hisky.aero / DUSOSXH / DUSRSXH / DUSAGXH / DUSOGXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / DUSOSXH / DUSPSXH / DUSLLXH / DUSKLXH
ETL	LHRKMU1 / iport@hisky.aero

Frankfurt / FRA	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / frasrxh@fraport.mconnect.aero / frakq@ahs-aero.de / frakp@ahs-aero.de / FRAKHXH / FRALTXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / frasrxh@fraport.mconnect.aero / FRAKHXH / FRALTXH
PSM	ground.ops@hisky.aero / iport@hisky.aero / frasrxh@fraport.mconnect.aero / FRAKHXH / FRALTXH / FRACEXH / FRALSXH / frall@ahs-aero.de / frakq@ahs-aero.de / frakp@ahs-aero.de
PRL/PTM	frasrxh@fraport.mconnect.aero / FRAKHXH / FRALTXH
ETL	LHRKMU1 / iport@hisky.aero

Hamburg / HAM	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / hamkp@ahs-aero.de / hamkq@ahs-aero.de / HAMFLXH / HAMHH7X / HAMHG7X / HAMOPXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / hamkp@ahs-aero.de / hamkq@ahs-aero.de / HAMHJ7X / HAMOPXH
ETL	LHRKMU1 / iport@hisky.aero

Brussels / BRU	
Messages	Message addresses
MVT/ LDM	occ@hisky.aero / BRUKAXH@alyzia.com
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / BRUKAXH@alyzia.com
PSM	ground.ops@hisky.aero / iport@hisky.aero / BRUKAXH@alyzia.com / BRUACCR
PRL	BRUKAXH@alyzia.com
ETL	LHRKMU1 / iport@hisky.aero

Paris / BVA	
Messages	Message addresses
MVT/ LDM	occ@hisky.aero / BVAKKXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / BVAKKXH
ETL	LHRKMU1 / iport@hisky.aero

Paris / CDG	
Messages	Message addresses
MVT/ LDM	occ@hisky.aero / CDGGOXH / CDGPTXH / CDGEPXH / CDGFAXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / CDGGOXH / CDGPTXH / CDGEPXH
ETL	LHRKMU1 / iport@hisky.aero

Bordeaux / BOD	
Messages	Message addresses
MVT/ LDM	occ@hisky.aero / BODATXH / BODAPXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / BODAVXH / BODAPXH / BODATXH
ETL	LHRKMU1 / iport@hisky.aero

Bergamo / BGY	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / BGYAGXH / BGYABXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / BGYAGXH / BGYPRXH / BGYABXH
ETL	LHRKMU1 / iport@hisky.aero

Bologna / BLQ	
Messages	Message addresses
MVT	occ@hisky.aero / BLQBBXH / BLQOWXH / BLQAAXH
LDM	occ@hisky.aero / BLQBBXH / BLQCOXH / BLQOWXH / BLQAAXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / BLQBBXH / BLQAAXH / BLQKPXH
ETL	LHRKMU1 / iport@hisky.aero

Rome / FCO	
Messages	Message addresses
MVT	occ@hisky.aero / FCOXXXH / FCODGXH / FCOKUXH
LDM	occ@hisky.aero / FCOXXXH / FCODGXH / mcrfco@as-airport.it
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / FCOXXXH / FCODGXH / FCOSDXH / llfco@as-airport.it / dsct3@as-airport.it / assistenzaprm@adrassistance.it
ETL	LHRKMU1 / iport@hisky.aero

Venice / VCE	
Messages	Message addresses
MVT/ LDM	occ@hisky.aero / ctvvce@as-airport.it / dscvce@as-airport.it / VCEXXXH / VCEKMXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / ctvvce@as-airport.it / dscvce@as-airport.it / VCEXXXH / VCEKMXH
ETL	LHRKMU1 / iport@hisky.aero

Barcelona/ BCN	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / MADWMXH / BCNGFXH / BCNOOYA
PSM	MADWMXH / MADMRYA / BCNOOYA / bcn.dsa.coordinacionutepmr@aena.es / bcnasistencia-pmr@aena.es
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
ETL	LHRKMU1 / iport@hisky.aero

Malaga / AGP	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / AGPGFXH / MADWMXH
PSM	AGPKPCR / MADWMXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
ETL	LHRKMU1 / iport@hisky.aero

Palma De Mallorca / PMI	
Messages	Message addresses
MVT/ LDM	occ@hisky.aero / PMIKRXH / MADWMXH
PSM	PMIKPXH / MADWMXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero

Tenerife Sur / TFS	
Messages	Message addresses
MVT	occ@hisky.aero / TFSPAXH / TFSAOXH / TFSTAXH / TFSOPYA
LDM	occ@hisky.aero / TFSPAXH / TFSAOXH / TFSOPYA
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / TFSPAXH / TFSAOXH

Madeira (Funchal) / FNC	
Messages	Message addresses
MVT	occ@hisky.aero / FNCKOXH / FNCKLXH
LDM	occ@hisky.aero / FNCKOXH / FNCKLXH / FNCKRXH / FAOKLXH / clc@portway.pt
PSM	FNCKOXH / FNCKLXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero

Larnaca / LCA	
Messages	Message addresses
MVT/	occ@hisky.aero / LCA8KXH / HERKQXH / LCAHA7X / lcaops@skyserv.aero
LDM	occ@hisky.aero / LCA8KXH / HERKQXH / LCAAPYA / LCAHA7X / lcaops@skyserv.aero
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / LCA8KXH / HERKQXH / LCAAS7X

Heraklion / HER	
Messages	Message addresses
MVT	occ@hisky.aero / HERKKXH / HERKQXH
LDM	occ@hisky.aero / HER8KXH / HERKQXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / HERKPXH / HERKKXH / HERKQXH / ATHODXH

Chania / CHQ	
Messages	Message addresses
MVT	occ@hisky.aero / CHQKKXH / HERKQXH / CHQFGXH / ATHOOXH
LDM	occ@hisky.aero / CHQ8KXH / HERKQXH / CHQFGXH / ATHOOXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / CHQKKXH / HERKQXH / CHQFGXH / ATHODXH

Corfu / CFU	
Messages	Message addresses
MVT	occ@hisky.aero / CFUKKXH / HERKQXH / CFUFGXH / ATHOOXH
LDM	occ@hisky.aero / CFU8KXH / HERKQXH / CFUFGXH / ATHOOXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / CFUKPXH / CFUKKXH / CFUFGXH / ATHODXH

Zakynthos / ZTH	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / ZTHKKXH / HERKQXH / ZTHFGXH / ATHOOXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / ZTHKKXH / ZTH8KXH / HERKQXH / ZTHFGXH / ATHODXH

Rhodes / RHO	
Messages	Message addresses
MVT	occ@hisky.aero / RHOKSXH / HERKQXH / RHOFGXH / ATHOOXH
LDM	occ@hisky.aero / RHO8KXH / HERKQXH / RHOFGXH / ATHOOXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / RHOKPXH / RHOKSXH / HERKQXH / RHOFGXH / ATHODXH

Hurgada / HRG	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / HRGKXXH / CAIOCXH / HRGOOXH / HRGAA2X / hrg@aseegypt.aero / tcc@aseegypt.aero
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / HRGKXXH / CAIOCXH / HRGOOXH / hrg@aseegypt.aero / tcc@aseegypt.aero

Sharm El Sheikh / SSH	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / SSHKXXH / CAIOCXH / SSHOOXH / ssh@aseegypt.aero / tcc@aseegypt.aero
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / SSHKXXH / CAIOCXH / SSHOOXH / ssh@aseegypt.aero / tcc@aseegypt.aero

Marsa Alam / RMF	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / tcc@aseegypt.aero / CAIOCXH / HRGKXXH / RMFMAXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / tcc@aseegypt.aero / CAIOCXH / HRGKXXH / RMFMAXH

Djerba / DJE	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / TUNAPXH / DJEKRXH / DJEKTXH / DJEXYYF
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / TUNAPXH / DJEKRXH / DJEKTXH / DJEKUXH

Monastir / MIR	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / MIRAPXH / MIRKRXH / MIRKTXH / MIRTTXH
TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / MIRAPXH / MIRKUXH / MIRKRXH

Salalah / SLL	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / SLLKTWY / SLLKKWY / SLLAVXH / MCTAYXH / MCTAVXH
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / SLLKTWY / SLLKKWY

Dubai / DWC	
Messages	Message addresses
MVT	occ@hisky.aero / DXBOOXH / DWCOOXH / DXBAPYF / DXBFUYF / DXBVREK / DXBUCXH / DWCADXH / dnatadwcgroundops@dnata.com / docc@dnata.com / DWCOPS.data@dubaiairports.ae
LDM	occ@hisky.aero / DWCKLXH / DWCKRXH / HDQKMEK / DXBVREK / DXBAPYF / DXBFUYF / DWCADXH / DWCUCXH / DWCOPS.data@dubaiairports.ae
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	DWCUCXH / DWCKPXH / HDQKMEK / DXBVREK / DWCKSXH / DWCADXH / DWCcustomersvcssupervisors@dnata.com / DWCOPS.data@dubaiairports.ae
TPM	DWCKTXH / DXBVREK / DWCUCXH

Antalya / AYT	
Messages	Message addresses
MVT	occ@hisky.aero / AYTOPXH / AYTYHXH / AYTRMXH / AYTLFXH / ISTPCXH / AYTCXXH / ISTCXXH / AYTBTXH / iata.message@antalya-airport.aero
LDM	occ@hisky.aero / AYTOPXH / AYTRMXH / ISTPCXH / AYTCXXH / ISTCXXH / AYTBTXH / iata.message@antalya-airport.aero
PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	ground.ops@hisky.aero / iport@hisky.aero / AYTOPXH / AYTYHXH / AYTCXXH / ISTCXXH
TPM	ground.ops@hisky.aero / iport@hisky.aero / AYTOPXH / AYTYHXH / ISTPCXH / AYTCXXH / ISTCXXH

Bodrum / BJV	
Messages	Message addresses
MVT	occ@hisky.aero / BJVOPXH / BJVYHXH / BJVLFXH / ISTPCXH / ANKGMYF
LDM	occ@hisky.aero / BJVOPXH / BJVRMXH / BJVLFXH / ISTPCXH / ANKGMYF
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / BJVOPXH / BJVYHXH / ISTPCXH

Istanbul / IST	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / ISTYHXH / ISTTOXH / ISTCXXH / istghmocc@tgs.aero / gasomocc@tgs.aero / casioheadocc@casioairservice.com
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / ISTYHXH / ISTTOXH / ISTCXXH / istghmocc@tgs.aero / gasomocc@tgs.aero / casioheadocc@casioairservice.com
PSM	istghmtrn@tgs.aero
ETL	LHRKMU1 / iport@hisky.aero
PFS	pfs@hisky.aero

London / STN	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / STNOAXH / STNPA7X / HDQGHXH / stn.occ@swissport.com / stn.fisops@swissport.com
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / STNOAXH / STNPA7X / STNEOXH / STNPSXH / HDQGHXH / stn.occ@swissport.com / stn.fisops@swissport.com / stn.mainlinelead@swissport.com
ETL	LHRKMU1 / iport@hisky.aero

Zanzibar / ZNZ	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / ZNZKL8X / operations@zanzibar.dnata.com
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / ZNZKL8X / operations@zanzibar.dnata.com

Mombasa / MBA	
Messages	Message addresses
MVT/LDM	occ@hisky.aero / MBAKZXH / ops-mba@kenya-aerotech.com
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero / MBAKZXH / ops-mba@kenya-aerotech.com

Male / MLE	
Messages	Message addresses
MVT	occ@hisky.aero / MLEKJXH / MLEKKXH / MLEKCXH / loadcontrol@macl.aero / dutymagaer@macl.aero / ramp.handling@macl.aero / ramp.tco@macl.aero
LDM	occ@hisky.aero / MLEKKXH / MLEKJXH / MLEKCXH / MLEASXH / MLELLXH / loadcontrol@macl.aero / dutymanager@macl.aero / ramp.handling@macl.aero / ramp.tco@macl.aero / bag.handling@macl.aero
PSM/TPM/PIL	ground.ops@hisky.aero / iport@hisky.aero
PSM	MLEKKXH / MLEKJXH / dutymanager@macl.aero / ramp.handling@macl.aero / ramp.tco@macl.aero
TPM	MLEKJXH / MLEKKXH / pnl.customsmv@outlook.com / manifest@customs.gov.mv / port.intel@police.gov.mv

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APPENDIX B – FORMS

This manual contains References to Forms necessary to perform the handling tasks.
The following forms must be used for HiSky flights:

Document	Document number
Passenger Manifest (manual check-in)	G/OPS-3001-01
Limited Responsibility Declaration for animal transportation	G/OPS-3002-02
PRM transportation request form	G/OPS-3003-01
Medical Information Sheet (MEDIF)	G/OPS-3004-01
Declining Responsibility Declaration for pregnant woman	G/OPS-3005-02
Declining Responsibility Declaration for ill person	G/OPS-3006-02
INAD Passenger Responsibility	G/OPS-3007-02
Disruptive Passenger Ground Incident Report	G/OPS-3008-01
Dangerous Goods Notice	G/OPS-3009-02
Assistance Refusal Note	G/OPS-3010-02
On board arms carriage notice	G/OPS-3011-01
Flight information	G/OPS-3012-01
Captain's Load Information	G/OPS-3013-01
De-/Anti-Icing Work Order	G/OPS-3014-01
Hazard Report	SMS_018_R00
Dangerous Goods Occurrence Report	G/OPS-3016-01
Special Load / Notification To Captain (NOTOC)	G/OPS-3017-01
Weighing Configuration Report	G/OPS-3018-02
Loading instruction/report A320	G/OPS-3019-01
Loadsheet	G/OPS-3020-02
Trimsheet A320 / YR-SKY	G/OPS-3022-02
Business rules / Baggage charges	G/OPS-3025-07
Unaccompanied Minor handling advice	G/OPS-3026-01
Flight Report	G/OPS-3027-01
Aircraft disinfection control sheet	G/OPS-3033-01
Trimsheet A320 / YR-BEE	G/OPS-3035-02
Business rules / Baggage charges applicable to CHARTER flights	G/OPS-3037-06
Trimsheet A320 / YR-JOY	G/OPS-3039-03
Passenger Seating Layout A320 / ALL Regs / Y180	G/OPS-3042-01
Passenger Seating Layout A320 / ALL Regs / C8Y168, C12Y168	G/OPS-3043-01
DOM/DOI Table A320 / ALL Regs	G/OPS-3044-04
Trimsheet A320 / YR-SUN	G/OPS-3045-02
Passenger Seating Layout A320 / ALL Regs / C12Y162, C18Y162	G/OPS-3046-01
Passenger Seating Layout A321 / ALL Regs / Y220	G/OPS-3050-03
Passenger Seating Layout A321 / ALL Regs / C8Y208, C12Y208	G/OPS-3051-03
Passenger Seating Layout A321 / ALL Regs / C12Y202, C18Y202	G/OPS-3052-03
DOM/DOI Table A321 / ALL Regs	G/OPS-3053-06
Standard Load Planning / A321	G/OPS-3055-04
Loading instruction/report A321	G/OPS-3056-01
Trimsheet A321 / YR-WOW, YR-WIN	G/OPS-3057-03
DOM/DOI Table A330 / ALL Regs	G/OPS-3059-02
Trimsheet A330 / YR-KID	G/OPS-3060-01
Loading instruction/report A330	G/OPS-3061-00
Passenger Seating Layout A330 / ALL Regs / C24Y250	G/OPS-3062-00
Passenger Seating Layout A330 / ALL Regs / Y274	G/OPS-3063-00
Business rules / Baggage charges from UK / Stansted STN Airport	G/OPS-3064-00
Business rules / Baggage charges from USA / New Your JFK Airport	G/OPS-3065-00

INTENTIONALLY LEFT BLANK

HiSky	PASSENGER MANIFEST	Flight No:	Date:
		A/C REG:	Route:

No	Passenger name	Gender	Class	Checked baggage				Onward to			Remarks
				PCs	Weight	Excess bag	Tag number	Flight	Dest	Date	

Limited Responsibility Declaration for animal transportation

Declaraţia de exonerare a responsabiltăţii pentru transportarea animalelor

Flight Nr / Cursa Nr _____

Name / Prenumele _____

Surame / Numele _____

Passport nr / Număr paşaport _____

I exonerate the Carrier from any responsibility regarding the transportation of the animal and the refusal of entry into or transit through the country. I agree to indemnify and reimburse the Carrier for the cost and expenses incurred by eventual problem of transportation of the animal.

Prin prezenta exonerez Transportatorul de orice răspundere privind transportarea animalului, pentru toate consecinţele în caz de refuz de intrare in ţară sau trecerea tranzit. Sunt de acord să suport şi să rambursez integral Transportatorului toate cheltuielile pe care le poate produce eventuala problemă în transportarea animalului.

Date / Data _____ Signature / Semnătura _____

G/OPS-3002-02

Limited Responsibility Declaration for animal transportation

Declaraţia de exonerare a responsabiltăţii pentru transportarea animalelor

Flight Nr / Cursa Nr _____

Name / Prenumele _____

Surame / Numele _____

Passport nr / Număr paşaport _____

I exonerate the Carrier from any responsibility regarding the transportation of the animal and the refusal of entry into or transit through the country. I agree to indemnify and reimburse the Carrier for the cost and expenses incurred by eventual problem of transportation of the animal.

Prin prezenta exonerez Transportatorul de orice răspundere privind transportarea animalului, pentru toate consecinţele în caz de refuz de intrare in ţară sau trecerea tranzit. Sunt de acord să suport şi să rambursez integral Transportatorului toate cheltuielile pe care le poate produce eventuala problemă în transportarea animalului.

Date / Data _____ Signature / Semnătura _____

G/OPS-3002-02

PRM TRANSPORTATION REQUEST FORM

INFORMATION SHEET FOR PASSENGERS REQUIRING SPECIAL ASSISTANCE

	Answer ALL questions – put a cross (x) in "YES" or "NO" boxes. Use BLOCK LETTERS or TYPEWRITER when completing this form		To be completed by SALES OFFICE/AGENT
A	NAME/INITIALS/TITLE		
B	PROPOSED ITINERARY (airline(s), flight umber(s), class(es), date(s), segment(s), reservation status of continuous air journey)		Transfer from one flight to another often requires LONGER connecting time.
C	NATURE OF INCAPACITATION:		
D	IS STRETCHER NEEDED ON BOARD? (all stretcher cases MUST be escorted) No ☐ Yes ☐		Request rate if unknown.
E	INTENDED ESCORT (name, sex, age, professional qualification, segments if different from passenger). If untrained, state "TRAVEL COMPANION"		For blind and/or deaf, state if escorted by trained dog.
F	WHEELCHAIR NEEDED? No ☐ Yes ☐ Categories are: WCHR WCHS WCHC Wheelchair category: ☐	Own wheelchair: No ☐ / Yes ☐ Collapsible: No ☐ / Yes ☐ Power driven?: No ☐ / Yes ☐ Battery type (spillable?): No ☐ / Yes ☐	Wheelchairs with spillable batteries are "dangerous goods" and are permitted on passenger aircraft only under certain conditions, which can be obtained from HiSky Ground Operations Dep.
G	AMBULANCE NEEDED? No ☐ Yes ☐	To be arranged by AIRLINE No ☐ Specify ambulance company contact: _____ Yes ☐ Specify destination address: _____	Request rate(s) if unknown
H	OTHER GROUND ARRANGEMENTS NEEDED No ☐ Yes ☐	If yes, SPECIFY below and indicate for each item: (a) the ARRANGING airline or other organization, (b) at whose EXPENSE, and (c) CONTACT addresses/telephone numbers where appropriate, or whenever specific persons are designated to meet/assist the passenger.	
1	Arrangements for delivery at airport of DEPARTURE No ☐	Yes ☐ Specify: _____	
2	Arrangements for assistance at CONNECTING POINTS No ☐	Yes ☐ Specify: _____	
3	Arrangements for meeting at airport of ARRIVAL No ☐	Yes ☐ Specify: _____	
4	Other requirements or relevant information No ☐	Yes ☐ Specify: _____	
K	SPECIAL IN-FLIGHT ARRANGEMENTS NEEDED, such as: special meals, special seating, leg-rest, extra seat(s), special equipment etc. No ☐	Yes ☐ If yes, DESCRIBE and indicate for each item: (a) SEGMENT(s) on which required, (b) airline-ARRANGED or arranging third party, and (c) at whose expense. Provision of SPECIAL EQUIPMENT, such as oxygen, etc always requires completion of the MEDIF.	

MEDICAL INFORMATION SHEET (MEDIF)

This form is intended to provide CONFIDENTIAL information to enable HiSky to assess the fitness of the passenger to travel. If the passenger is acceptable, this information will permit the issuance of the necessary directives designed to provide for the passenger's welfare and comfort. The PHYSICIAN ATTENDING the incapacitated passenger is requested to ANSWER ALL QUESTIONS. Enter a cross "x" in the appropriate "yes" or "no" boxes, and/or give precise concise answers. COMPLETING OF THE FORM IN BLOCK LETTERS OR BY TYPEWRITER WILL BE APPRECIATED.	MUST be completed by ATTENDING PHYSICIAN	This form must be returned to HiSky Ground Operations ground.ops@hisky.aero and Customer Service customer.service@hisky.aero

Ref.Code MEDA 01	**PATIENT'S NAME**, INITIAL(S)		SEX	DATE OF BIRTH		
MEDA 02	ATTENDING **PHYSICIAN**	Telephone Contact Business:		Name of Hospital or clinic & Specialty:		
MEDA 03	MEDICAL DATA: **DIAGNOSIS** and **TREATMENT in details**:					
	Latest vital signs:	Heart rate	Blood Pressure	Respiration rate	Hb	O2 Saturation
	Day/month/year of first symptoms:		Date of operation/ diagnosis:			
MEDA 04	**PROGNOSIS for the flight(s)**: Please consider the potential effects of the itinerary and physiological stresses of flight on the patient's of health and mention if Terminal case. Narratives should be provided for guarded/ poor. **GOOD** ☐ (no problems anticipated) **GUARDED** ☐ (potential problems) **POOR** ☐ (problems likely) **Narrative** ☐ (e.g. late stage disease, unstable)					
MEDA 05	**CONTAGIOUS AND COMMUNICABLE** disease? ☐ No ☐ Yes Specify:					
MEDA 06	Would the physical and/or mental condition of the patient be likely to cause distress or discomfort to other passengers? ☐ No ☐ Yes Specify:					
MEDA 07	Can patient use normal aircraft seat with seatback placed in the **UPRIGHT POSITION** when so required? ☐ Yes ☐ No					
MEDA 08	Can patient take care of his own needs on board **UNASSISTED*** (including meals, visit to toilet, etc.)? ☐ Yes ☐ No If not, type of help needed:					
MEDA 09	If to be **ESCORTED**, is the arrangement satisfactory to you? ☐ Yes ☐ No If not, type of escort proposed by YOU:					
MEDA 10	Does patient need **OXYGEN**** equipment in flight? ☐ No ☐ Yes Specify: 2 ☐ 4 ☐ (L/min) Continuous? ☐ No ☐ Yes (If yes, state rate of flow)					
MEDA 11	Does patient need any **MEDICATION***, other than self-administered, and/or the use of special equipment such as respirator, nebuliser, etc.**?	(a) on the GROUND while at the airport(s):	☐ No ☐ Yes Specify:			
MEDA 12		(b) on board of the AIRCRAFT:	☐ No ☐ Yes Specify:			
MEDA 13	Does patient need **HOSPITALISATION**? (if yes, indicate arrangements made or, if none were made, indicate "**NO ACTION TAKEN**")	(a) during long layover or night stop at CONNECTING POINTS en route:	☐ No ☐ Yes Details:			
MEDA 14		(b) upon arrival at DESTINATION:	☐ No ☐ Yes Details:			
MEDA 15	Other remarks or information in the interest of your patient's smooth and comfortable transportation: None: ☐ Specify if any**:					
MEDA 16	Other arrangements made by the attending physician:					

NOTE(*): Cabin attendants are NOT authorized to give special assistance (e.g. lifting) to particular passengers, to the detriment of their service to other passengers. Additionally, they are trained only in FIRST AID and are NOT PERMITTED to administer any injection, or to give medication.	IMPORTANT: FEES, IF ANY, RELEVANT TO PROVISION OF THE ABOVE INFORMATION AND FOR CARRIERPROVIDED SPECIAL EQUIPMENT(**) ARE TO BE PAID BY THE PASSENGER CONCERNED.

MEDICAL CLEARANCE WILL NOT BE PROCESSED WITHOUT COMPLETION OF ALL DETAILS ABOVE & BELOW.
I confirm that to the best of my knowledge this information is true and complete and not misleading to HiSky.

Date:	**Place:**	**Attending Physician's Stamp and Signature:**

PASSENGER'S DECLARATION
"I HEREBY AUTHORISE _____
(Name of nominated physician)
to provide required information with the purpose of determining my fitness for carriage by air. I agree to reimburse HiSky for any special expenditures or costs in connection with my carriage."

Date:	**Place:**	**Passenger's Signature:**

Processing MEDIF: The MEDIF should be completed based on passenger's (patient's) condition **within 14 days** from the date of commencement of air travel and submitted **at least 48 hours** before travel is due to commence. Must be notified immediately of **any change in the patient's condition** PRIOR to travel.

DECLINING RESPONSIBILITY DECLARATIONS FOR PREGNANT WOMAN

DECLARAŢIE DE EXONERARE A RESPONSABILITĂŢII PENTRU FEMEI INSĂRCINATE

This form must be filled in by the pregnant woman before check-in.
Acest formular trebuie completat de către femeia însărcinată înainte de înregistrarea pe cursă.

Name / Prenumele: _____ **Surname** / Numele: _____

Age / Vârsta: _____ **Citizenship** / Cetăţenia: _____

Passport nr / Nr paşaport: _____

Permanent address / Domiciliu permanent: _____

Departure airport / Aeroportul de plecare: _____

Destination airport / Aeroportul de destinaţie: _____

Flight nr, date / Numărul, data cursei: _____

Stage of pregnancy / Termenul sarcinii: _____

up to 32 weeks inclusively / până la 32 săptămâni inclusiv ☐

more than 32 weeks / mai mult de 32 săptămâni ☐

Medical certificate of the aircraft traveling possibility / Certificatul medical ce permite călătoria cu avionul:

Yes / Da ☐

No / Nu ☐

I undersigned confirm that I have been warned about negative consequences which can appear during the flight to me and future child health conditions.
Subsemnata recunosc că am fost avertizată asupra consecinţelor negative pe care le poate avea pentru mine și viitorul copil călătoria cu avionul.

I exonerate the Carrier for any responsibility regarding consequences which can be generated by the flight to me and my future child health.
Prin prezenta exonerez Transportatorul de orice răspundere privind consecinţele negative pe care călătoria cu avionul poate să le provoace mie şi viitorului meu copil.

I agree to indemnify and to reimburse, the Carrier for the cost and expenses incurred by eventual personal problem.
Sunt de acord să suport şi să rambursez integral Transportatorului toate cheltuielile pe care le poate produce o eventuală problemă personală de sănătate.

Date / Data _____ **Signature** / Semnătura _____

Declaration was received (Signature) / Declaraţia a fost primită (Semnătura):

Handling agent / Agentul de deservire a pasagerilor: _____

Cabin crew member / Însoţitorul de bord: _____

DECLINING RESPONSIBILITY DECLARATIONS FOR ILL PERSONS

DECLARAŢIE DE EXONERARE A RESPONSABILITĂŢII PENTRU PASAGERI BOLNAVI

This form must be filled in by the ill person before check-in.
Acest formular trebuie completat de persoana bolnavă înainte de înregistrarea pe cursă.

Name / Prenumele: _____ **Surname** / Numele: _____

Age / Vârsta: _____ **Citizenship** / Cetăţenia: _____

Passport nr / Nr paşaport: _____

Permanent address / Domiciliu permanent: _____

Departure airport / Aeroportul de plecare: _____

Destination airport / Aeroportul de destinaţie: _____

Flight nr, date / Numărul, data cursei: _____

Medical certificate of the aircraft traveling possibility / Certificatul medical ce permite călătoria cu avionul:

Yes / Da ☐

No / Nu ☐

I undersigned confirm that I have been warned about negative consequences which can appear during the flight to my health conditions.
Subsemnatul(a), recunosc că am fost avertizat(ă) cu privier la consecinţele negative pe care le poate avea pentru mine călătoria cu avionul.

I exonerate the Carrier for any responsibility regarding consequences which can be generated by the flight to my health.
Prin prezenta exonerez Transportatorul de orice răspundere privind consecinţele negative pe care calatoria cu avionul poate să mi le provoace.

I agree to indemnify and to reimburse, the Carrier for the cost and expenses incurred by eventual personal problem.
Sunt de acord să suport şi să rambursez integral Transportatorului toate cheltuielile pe care le poate produce o eventuală problemă personală de sănătate.

Date / Data _____ **Signature** / Semnătura _____

Declaration was received (Signature) / Declaraţia a fost primită (Semnătura):

Handling agent / Agentul de deservire a pasagerilor: _____

Cabin crew member / Însoţitorul de bord: _____

INAD Passenger Responsibility
Responsabilitatea pasagerului INAD

Name / Prenumele _____

Surame / Numele _____

Passport nr / Număr pașaport _____

Citizenship / Cetățenie _____

Flight nr, Date / Cursa nr, Data _____

Route / Ruta _____

I, undersigned, have concluded the passenger transport agreement with "HiSky" regarding the transportation on above flight number and route and I am refused entering into the country by the authorities of this country due to circumstances beyond of "HiSky" control, I declare to pay the ticket cost according to the applicable fare

including all airport taxes and charges in amount of: _____ EUR on route _____ directly upon arrival at Chisinau airport.
The payment will be made based on p. 5.10. of Annex Nr. 9 to Convention on International Civil Aviation.

Eu, subsemnatul am încheiat acordul de transport de pasageri cu „HiSky" cu privire la transportarea pe cursa și rută de mai sus și sunt refuzat să intru în țară de către autoritățile aceastei țări din cauza circumstanțelor care nu țin de „HiSky", declar să achit costul biletului în funcție de tariful aplicabil, inclusiv toate tarifele și taxele de

aeroport în valoare de: _____ EUR pe ruta _____ imediat la sosirea pe aeroportul din Chișinău.
Plata se va face în baza p. 5.10. din Anexa Nr. 9 la Convenția privind Aviația Civilă Internațională.

Date / Data _____

Passenger's Signature / Semnătura Pasagerului _____

Representative of "HiSky" in / Reprezentantul "HiSky" în:

_____ / _____
(country, airport / țara, aeroportul) (Signature / Semnătura)

DISRUPTIVE PASSENGER GROUND INCIDENT REPORT

Flight nr:	Flight routing:	Date (day/month/year):
Time (UTC) of incident:	Location of incident:	
Passenger Name:	**PNR REF:**	
Class of travel: □ Business □ Economy	Originating or in transit: □ Originating □ In transit	
□ Male □ Female	Age (estimated years):	Nationality:

Travelling: □ Alone □ With family □ In group (if more than one passenger involved please give details):

Incident details:

□ Arguing with: _____

□ Verbal abuse against: _____

□ Physical violence towards _____

□ Sexual harassment of: _____

□ Other (please give details and continue on a separate sheet if necessary):

□ Deliberate damage to property
□ Refused boarding by crew
□ Smoking in "No smoking" area
□ Creating a disturbance

Probable contributory factors:	Primary factor(s)	Secondary factor(s)	Probable contributory factors:	Primary factor(s)	Secondary factor(s)
Alcohol	□	□	Prisoner/deportee in transit	□	□
Medical	□	□	Dissatisfaction with service	□	□
Seat allocation	□	□	Conflict with other passengers	□	□
Overbooking	□	□	Mishandled baggage	□	□

Other contributory factors (please give details and continue on a separate sheet if necessary):

ASSESSMENT It is the responsibility of ground staff to ensure that a disruptive, or potentially disruptive, customer is not knowingly accepted for flight. In your view, would the boarding of this customer have created a situation on board where the:

Safety of the aircraft could have been compromised?	Yes □	No □
Safety of the crew or other customers could have been at serious risk?	Yes □	No □
Presence of this customer could have jeopardized good order and discipline on board?	Yes □	No □
Other customers in the aircraft cabin could have been disturbed by this customer's presence?	Yes □	No □
Well-being of this customer could have been adversely affected by flight?	Yes □	No □
Other (specify) _____	Yes □	No □

Immediate action taken: Duty manager called □ Security contractor called □ Police called □

Further action taken (give details): _____

VICTIM

□ Ground staff □ Passenger □ Handling agent

□ Other (please give details and continue on a separate sheet if necessary):

FOLLOW-UP ACTION

Police action: □ Arrest □ Other (please give details and continue on a separate sheet if necessary):

Comments / additional information:

Name of person completing the report form: _____

Position _____ Signature: _____

Police officer (name) _____ Signature: _____

Note: Please, send 1st copy to HiSky Aviation Security Service to e-mail avsec@hisky.aero , 2nd to local Police authorities.

Bunuri periculoase INTERZISE la bord
Dangerous goods FORBIDDEN on board

HiSky



În bagajul de mână
In cabin baggage

- Șurubelniță / Screwdriver
- Foarfece / Scissors
- Topor / Axe
- Lamă / Blade
- Pistol / Pistol
- Seringă / Syringe
- Cuțit / Knife
- Electroșoc / Electroshock
- Clește / Pliers



* O cutie de chibrituri, o brichetă reîncărcabilă și/sau țigaretele electronice sunt permise doar la purtător

* One box of safety matches, one refillable cigarette lighter and/or electronic cigarettes allowed only one's person



În bagajul de cabină/cală
In cabin/checked baggage



- Gaz inflam. / Flam. gas
- Disp. paraliz. / Disb. dev.
- Corozive / Corrosive
- Bat. cu litiu / Lith. batt.
- Otrăvuri / Poisons
- Lichid infl. / Flam. liq.
- Decoloranți / Bleach
- Explozive / Explosives
- Gaz sub pres. / Comp. gas
- Radioctive / Radioactive
- Brichete / Lighters
- Țig. elect. / Elect. cig.

ASSISTANCE REFUSAL NOTE
NOTĂ DE REFUZ DE ASISTENŢA

Passenger Name / Numele pasagerului: _____

Flight number, Date / Nr. Cursei, Data: _____

I undersigned, refuse the assistance offered by the airline:
Subsemnatul(-a), refuz asistenţa oferită de către compania aeriană:

- □ hotel accommodation / cazare hotel
- □ meals / alimentaţie
- □ rerouting or rebooking / redirecţionare sau schimb de data
- □ denied boarding compensation / compensaţie pentru refuz de îmbarcare

Passenger's signature / Semnătura pasagerului _____

Remarks / Comentarii:

Name and position of person issuing the document:
Numele si funcţia persoanei ce emite documentul: _____

Signature / Semnătura: _____

G/OPS-3010-02

ASSISTANCE REFUSAL NOTE
NOTĂ DE REFUZ DE ASISTENŢA

Passenger Name / Numele pasagerului: _____

Flight number, Date / Nr. Cursei, Data: _____

I undersigned, refuse the assistance offered by the airline:
Subsemnatul(-a), refuz asistenţa oferită de către compania aeriană:

- □ hotel accommodation / cazare hotel
- □ meals / alimentaţie
- □ rerouting or rebooking / redirecţionare sau schimb de data
- □ denied boarding compensation / compensaţie pentru refuz de îmbarcare

Passenger's signature / Semnătura pasagerului _____

Remarks / Comentarii:

Name and position of person issuing the document:
Numele si funcţia persoanei ce emite documentul: _____

Signature / Semnătura: _____

G/OPS-3010-02

ON BOARD ARMS CARRIAGE NOTICE

☐ Escort ☐ Communication courier ☐ State Security Guard

Passenger's name: _____ Authorization Number: _____ Date: _____

Flight nr: _____ Seat nr: _____ From: _____To: _____

Authorizing agency: _____ (attach copies if applicable).

PLEASE READ THE FOLLOWING PROCEDURES. THEY OUTLINE WHAT IS EXPECTED OF YOU WHILE ON BOARD AIRCRAFT.

1. If you are authorized to carry a concealed weapon, you are requested to keep it unloaded, free of ammunition, and suitable packed for such carriage, and concealed at all times.

2. Other armed passengers, the flight attendant and the captain will be informed that you are armed.

3. Our flight attendants and pilots have been instructed on how to handle passenger disturbances without assistance from other passengers and do not expect your help. Discharge of a firearm aboard an aircraft could cause a situation far more dangerous than the original disturbance – and this includes hijacking. If the pilots were accidentally disabled, the flight could end in disaster. Also, behind the walls, under the floor, and above the ceiling there are many fuel lines, control cables, electrical wires and hydraulic systems all essential to safe flight and all subject to damage or destruction by a stray bullet or ricochet.

4. A person having a weapon accessible in flight will not be served alcoholic beverages.

5. If you are a guard accompanying a person under arrest, the following procedures apply in addition to items 1 trough 4 above:
    a. you must be equipped with adequate restraining devices. Restraining devices may be used in flight if deemed necessary for adequate control of the person under arrest or for the safety of others; in case of passengers or airline "HiSky"' property damage by the escort or the escorted person, agency responsible for deportation is obliged to repair all the damages;
    b. you will normally be pre-boarded, and you will be assigned to the rear-most available of passenger seats in the cabin. You must sit between the person under arrest and the aisle;
    c. you must accompany the person under arrest if a visit to the lavatory is required;
    d. at your destination you must remain seated until all other deplaning passengers have left the aircraft; and
    e. you and the person under arrest will not be served and may not drink any alcoholic beverages.

BY YOUR SIGNATURE BELOW AND BY PRESENTING PROPER DOCUMENTS YOU ARE IDENTIFYING YOURSELF AS BEING AUTHORIYED TO CARRY SUCH WEAPONS AND/OR AS PERFORMING OFFICIAL DUTIES FOR THE AGENCY NAMED ABOVE.

Passenger's signature _____

STATION IDENTIFICATION CHECK

I HAVE CHECKED WRITTEN AUTHORIZATION TO CARRY FIREARMS AND THAT THE FIREARM IS NOT LOADED.

Police representative: _____ Date: _____

At home (KIV) airport this notice must be transmitted as follows:
HiSKy Station Manager → Pax agent → Security Engineer Inspector →Pilot-in-command

At destination airports this notice must be transmitted as follows:
HiSKy representative → Pilot-in-command

The person responsible for captain's notification discreetly ensures that all passengers carrying weapons and those escorting DEPA are aware of one another's presence and seat location.

FLIGHT INFORMATION

Flight number	
Date	
Flight From / To	/
Aircraft Type	
Aircraft Registration	
Aircraft Cabin Version	
Crew	
Captain's Name	
Dry Operating Mass (DOM), kg	
Dry Operating Index (DOI)	
Block Fuel, kg	
Taxi Fuel, kg	
Take-Off Fuel, kg	
Estimated Trip Fuel, kg	
Maximum Operating Take-Off Mass, kg	
Maximum Zero Fuel Mass, kg	
Maximum Landing Mass, kg	
Pantry Code	
Estimated Enroute Time (EET)	
Remarks (SI)	

Name **Signature**

CAPTAIN'S LOAD INFORMATION

Flight Nr:	Date:	A/C Reg:
From/To:	Prepared by:	

Nr.	Category	Seat	Name

BLND Blind passenger
DEAF Deaf passenger
DEPU Deportee (unaccompanied)
DEPA Deportee (accompanied)
INAD Inadmissible passenger
UMNR Unaccompanied minor
OXYG Pax needing oxygen
PETC Pet in cabin
MEDA Medical case
SPML Special meal
WCHR Wheelchair / Ramp
WCHS Wheelchair / Steps
WCHC Wheelchair / Cabin
EXST Pax with Extra seat

Special conditions:

DE-/ANTI-ICING WORK ORDER

Station	Flight Nr.	A/C Reg.	A/C Type	Date

Contamination Check ☐ **Clear Ice Check** ☐

☐ Tail/Vertical Fin

☐ Wings

☐ Under wing



Stabilizer ☐

…underside ☐

Fuselage ☐

Landing Gear ☐

1-step ☐ 2-step ☐

Complete A/C ☐

Aircraft Fuel Tank Temperature: …… ºC

OAT: …… ºC

H_2O ☐	Type: ……	50/50 ☐	75/25 ☐	100% ☐	…. /…. % ☐

Crew Name	Position	Signature

---------- **REPORT** ----------

Amount of fluid used (subject to verification against automatic results):

Deicing or spot deicing	**Anti-icing**	**Vehicle ID-Nr.(s):**
1st step Liters	2nd step or 1st step Liters	

Post deicing/anti-icing check. ☐

"De-icing only. Aircraft is clean. Holdover times do not apply" ☐

OR

Anti-icing Code

ADF	Mix %	Begin anti-icing (local time)	End (local time)
Type ___	___ / ___	___ : ___	__ : __

…….

Write brand name ADF

Areas anti-iced: **Wings** ☐, **Stabilizer** ☐, **Vertical Fin** ☐, **Fuselage** ☐

Post de-icing/anti-icing check completed.

Name and Signature of person who completed **Post de-icing/anti-icing check** and communication:

Sprayer Name and Signature For services provided	**Customer Name and Signature** (if no voice contact to PIC)
	X **For acceptance of services** **And relay of Anti-icing Code to PIC**

Comment:
(Weather conditions)

HiSky	HAZARD REPORT

Report no:	Date:

Please use this form to only report safety issues and mandatory occurrences.
If not, please manually complete the report, take a photo and send it to safety@hisky.aero or to the **Safety & Compliance Manager CAMO and/or Safety & Compliance Director, depending on the case.**

Flight No / Route / Station:	Airplane type / Registration:	Date / Time (UTC):
Captain:	F/O:	Phase of the flight:

WHAT HAPPENED (Pease describe the event along with contributing factors)

Actions taken by the Compliance Monitoring and Safety Director (is SAG analysis necessary, have similar events happened before...)

Details of the reporting person:

Name ....., Position ....., Tel .....

Signature....., Date....., e-Mail .....

DANGEROUS GOODS OCCURRENCE REPORT

See notes on the next page of this form. *The items in **italics** need to be completed only if applicable.*

Mark type of occurrence: **Accident** ☐ **Incident** ☐ **Other Occurrence** ☐

Operator:	Date of occurrence:	*Local time of occurrence:*
Flight Nr:	*Flight Date:*	*Departure airport:*
Aircraft type:	*Aircraft registration:*	*Destination airport:*

Location of occurrence:	Origin of the goods:

Description of occurrence, including details of injury, damage, etc. (if necessary, continue on the next page):

Proper shipping name *(including technical name)*:	UN/ID nr. (when known):

Class/Division (when known):	*Subsidiary risk(s):*	*Packing group*	*Category (class 7 only):*
Tape of packaging:	*Packaging specification marking:*	*Nr. of packages:*	Quantity (or transport index, if applicable):

Reference nr. of Airwaybill:

Reference nr. courier pouch, baggage tag, or passenger ticket:

Name and address of shipper, agent, passenger, etc.:

Other relevant information (including suspect case, any action taken):

Name and title of person making report:	Telephone Nr:
Company/dep. code, E-mail or InfoMail code.	*Reporters ref.:*
Address:	Date/Signature:

DANGEROUS GOODS OCCURRENCE REPORT

Description of Occurrence:

Notes:

1. Any type of dangerous goods occurrence must be reported, irrespective of whether the dangerous goods are contained in cargo, mail or baggage.
2. **A dangerous goods accident** is an occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage. For this purpose, a serious injury is an injury which is sustained by a person in an accident and which: (a)requires hospitalization for more than 48hours, commencing from the time the injury was received ; (b) results in a fracture of any bones (except small fractures of fingers, toes, or nose); (c) involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; (d) involves injury to any internal organ; (e) involves second or third degree burns; or any burns affecting more than 5% of the body surface; or (f) involves verifies exposure to infectious substances or injurious radiation. A dangerous goods accident may also be an aircraft accident; in which case the normal procedures for dangerous goods accidents must be followed.
3. **A dangerous goods incident** is an occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property 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 the aircraft or its occupants is also deemed to constitute a dangerous goods incident.
4. This form may also be used to report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo when baggage contains dangerous goods which passengers are not permitted to take on board aircraft.
5. An initial report should be dispatched within 72 hours of the occurrence, unless exceptional circumstances prevent this. The initial report may be made by any means but a written report should be sent as soon as possible, even if all the information is not available.
6. Completed reports are normally sent to the competent authority.
7. Copies of all relevant documents should be included with the report.
8. Providing it is safe to do so, all dangerous goods, packagings, documents etc. relating to the occurrence must be retained until an the initial report has been made.
9. Requirements and procedures differ from state to state, it is recommended that the local competent authority be contacted in order to clarify the exact procedures to be followed in the event of dangerous goods incident or accident.

SPECIAL LOAD / NOTIFICATION TO CAPTAIN (NOTOC)

Station of loading	Flight Number	Date	A/C Reg	Prepared by

DANGEROUS GOODS

Station of Unloading	Air Waybill Number	Proper Shipping Name	Class or Division for Class 1 compat. grp.	UN or ID Number	Sub Risk	Number of Packages	Net Quantity or Transp. Ind. per package	Radioactive Mat. Categ.	Packing Group	Code	CAO (X)	Loading Position

OTHER SPECIAL LOAD

Station of Unloading	Air Waybill Number	Contents and Description	Number of Packages	Gross Mass, kg	Supplementary Information	Code	Loading Position

There is no evidence that any damaged or leaking packages containing dangerous goods have been loaded on the aircraft.

Loading Supervisor's Signature	Captain's Signature	Other Information

WEIGHING CONFIGURATION REPORT

Date of completion:

A/C Reg:	MSN:	Place/Location:

ITEM / EQUIPMENT	Installed/ loaded	Removed/ unloaded	Remarks
Crew	☐	☐	
Crew baggage	☐	☐	
Usable fuel in tanks	☐	☐	
Undrainable fuel (This is the fuel that remains in the tanks and in the systems after the aircraft defueling following the defueling procedure)	☐	☐	
Oil for engines	☐	☐	
Oil for IDG	☐	☐	
Oil for APU	☐	☐	
Hydraulic tanks	☐	☐	
Potable water	☐	☐	
Waste tank fluid	☐	☐	
Aircraft documents (flight manuals, etc.)	☐	☐	
Tool kits — Hold Nr:	☐	☐	
All passenger seats	☐	☐	
Passenger life vests	☐	☐	
Emergency equipment (as listed in emergency cabin layout)	☐	☐	
Galley structure	☐	☐	
Galley fixed equipment (ovens, coffee makers, etc.)	☐	☐	
Gally service items/equipment (containers, trolleys, trays, carts, etc.)	☐	☐	

Any deviations (discrepancies) from above mentioned list must be documented here:

Completed by:

(name, position) (signature)

Witnessed by:

(name, position) (signature)

LOADING INSTRUCTION/REPORT AIRBUS A320

Flight:	Date:
A/C Reg	From/To:

Prepared by:

Signature of Load Sheet agent/Load planner:

_____

Special instructions:

MAX MASS (KGS)	1497	2110	2426	3402

ONLOAD INSTRUCTION

Comp. 0 (Cabin)			
Comp. 5	Comp. 4	Comp. 3	Comp. 1

REPORT

Comp. 0 (Cabin)			
Comp. 5	Comp. 4	Comp. 3	Comp. 1

This aircraft has been loaded in accordance with these instructions including the deviations shown on the report. The load has been secured in accordance with company regulations.

Name and signature of loading supervisor or person responsible for loading:

_____ _____

G/OPS-3019-01

LOADING INSTRUCTION/REPORT AIRBUS A320

Flight:	Date:
A/C Reg	From/To:

Prepared by:

Signature of Load Sheet agent/Load planner:

_____

Special instructions:

MAX MASS (KGS)	1497	2110	2426	3402

ONLOAD INSTRUCTION

Comp. 0 (Cabin)			
Comp. 5	Comp. 4	Comp. 3	Comp. 1

REPORT

Comp. 0 (Cabin)			
Comp. 5	Comp. 4	Comp. 3	Comp. 1

This aircraft has been loaded in accordance with these instructions including the deviations shown on the report. The load has been secured in accordance with company regulations.

Name and signature of loading supervisor or person responsible for loading:

_____ _____

G/OPS-3019-01

Priority | Adress(es) | | | Originator | Recharge / Date / Time | L D M | Flight | A / C Reg. | Version | Crew

HiSky

	±	I. U.	Mass
Basic mass			
Crew			
Pantry + Equipment			
DRY OPERATING MASS			
Take-off Fuel			
OPERATING MASS			

MAXIMUM MASSES FOR	ZERO FUEL	TAKE OFF	LANDING
Take-off Fuel +		Trip Fuel +	
MAX ALLOWED TOM (lowest of a, b or c) =	a	b	c
Operating Mass -			
ALLOWED TRAFFIC LOAD =			

Dest.	No. of passengers Adult M	Adult F	Chd	Inf	Cab. Bag.	TOTAL	Distribution Mass 1	2	3	4	5	Remarks PAX C	PAX Y	PAD C	PAD Y
—						Tr									
						B									
						C						PAX/ /		PAD/ /	
						M									
	/	/	/			T	1/	2/	3/	4/	5/				
—						Tr									
						B									
						C						PAX/ /		PAD/ /	
						M									
	/	/	/			T	1/	2/	3/	4/	5/				

Total Passenger Mass	+	Allowed Traffic Load	
TOTAL TRAFFIC LOAD	=		-
Dry Operating Mass	+	UNDERLOAD BEFORE LMC =	
ZERO FUEL MASS Max.	=		
Take-off Fuel	+		
TAKE-OFF MASS Max.	=		
Trip Fuel	-		
LANDING MASS Max.	=		

SI

LAST MINUTE CHANGES

Dest.	Specification	Cmpt.	±	Mass
	LMC Total ±			

Balance and Seating Conditions

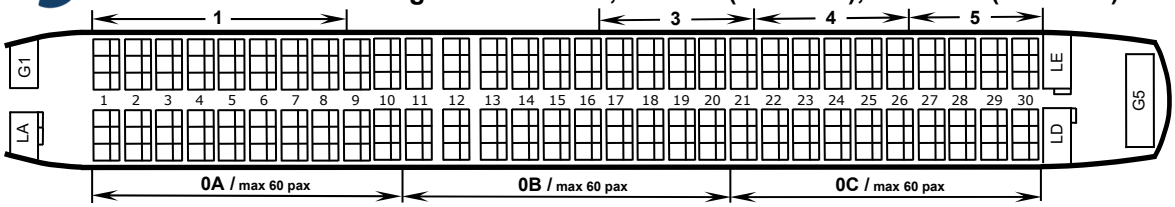
Sect.	Restriction	% MAC
		TOM
		LNM
		ZFM

Total Passengers:

Prepared by: | Approved by:

TRIMSHEET / AIRBUS A320-232 / Reg. YR-SKY (MSN4493) / 180 seats

Configurations: Y180, C8Y168 (C12Y168), C12Y162 (C18Y162)



Load In Lower Compartments Index Table

CMPT 1				CMPT 3		CMPT 4		CMPT 5	
FWD Cmpt **1** = 3402 kg				AFT Cmpt **3** = 2426 kg		AFT Cmpt **4** = 2110 kg		AFT Cmpt **5** = 1497 kg	
TOTAL FWD CMPT = 3402 kg				**TOTAL AFT CMPT = 6033 kg**					
Mass	Index	Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-78	0	1792-1946	- 12	0-125	0	0-67	0	0-48	0
79-234	- 1	1947-2102	- 13	126-374	+ 1	68-202	+ 1	49-143	+ 1
235-389	- 2	2103-2258	- 14	375-623	+ 2	203-337	+ 2	144-239	+ 2
390-545	- 3	2259-2413	- 15	624-873	+ 3	338-472	+ 3	240-334	+ 3
546-701	- 4	2414-2569	- 16	874-1122	+ 4	473-607	+ 4	335-430	+ 4
702-856	- 5	2570-2725	- 17	1123-1371	+ 5	608-742	+ 5	431-525	+ 5
857-1012	- 6	2726-2880	- 18	1372-1620	+ 6	743-877	+ 6	526-621	+ 6
1013-1168	- 7	2881-3036	- 19	1621-1869	+ 7	878-1012	+ 7	622-716	+ 7
1169-1324	- 8	3037-3192	- 20	1870-2119	+ 8	1013-1147	+ 8	717-812	+ 8
1325-1479	- 9	3193-3348	- 21	2120-2368	+ 9	1148-1282	+ 9	813-907	+ 9
1480-1635	- 10	3349-**3402**	- 22	2369-**2426**	+ 10	1283-1417	+ 10	908-1003	+ 10
1636-1791	- 11					1418-1552	+ 11	1004-1098	+ 11
						1553-1687	+ 12	1099-1194	+ 12
						1688-1822	+ 13	1195-1289	+ 13
						1823-1957	+ 14	1290-1385	+ 14
						1958-2092	+ 15	1386-1480	+ 15
						2093-**2110**	+16	1481-**1497**	+16

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
1-2	-1	32	-18	0-6	0	1	1	31-32	22
3-4	-2	33-34	-19	7-18	1	2-3	2	33	23
5	-3	35-36	-20	19-29	2	4	3	34-35	24
6-7	-4	37-38	-21	30-41	3	5-6	4	36	25
8-9	-5	39-40	-22	42-52	4	7	5	37-38	26
10-11	-6	41	-23	53-**60**	5	8-9	6	39	27
12-13	-7	42-43	-24			10	7	40	28
14	-8	44-45	-25			11-12	8	41-42	29
15-16	-9	46-47	-26			13	9	43	30
17-18	-10	48-49	-27			14	10	44-45	31
19-20	-11	50	-28			15-16	11	46	32
21-22	-12	51-52	-29			17	12	47-48	33
23	-13	53-54	-30			18-19	13	49	34
24-25	-14	55-56	-31			20	14	50-51	35
26-27	-15	57-58	-32			21-22	15	52	36
28-29	-16	59-**60**	-33			23	16	53	37
30-31	-17					24-25	17	54-55	38
						26	18	56	39
						27	19	57-58	40
						28-29	20	59-**60**	41
						30	21		

Fuel Index Table

Mass	Index
0-942	+ 1
943-2010	+ 3
2011-3140	+ 2
3141-4082	+ 1
4083-5024	+ 0
5025-6280	- 1
6281-7850	- 2
7851-11304	- 3
11305-13188	- 2
13189-13816	- 3
13817-14444	- 4
14445-15072	- 5
15073-15700	- 6
15701-16328	- 7
16329-17270	- 8
17271-17898	- 9
17899-18526	- 10
18527-**18730**	- 11

Flight No. / Date:

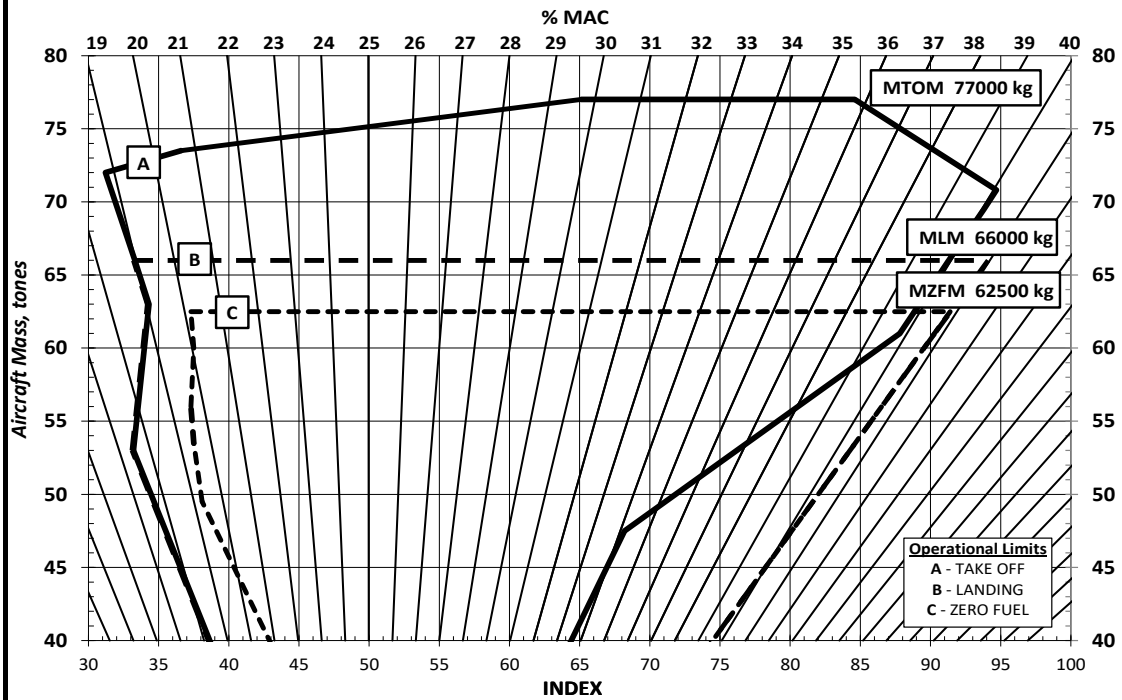
Prepared by:

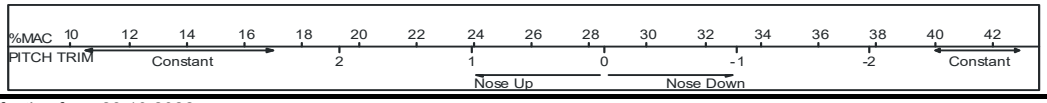
Approved by:

MAX CERTIFIED MASSES	
Max Taxi Mass	77400 kg
Max Takeoff Mass	77000 kg
Max Landing Mass	66000 kg
Max Zero Fuel Mass	62500 kg

Index Calculation Table

	(-)	(+)
DOI		
CMPT 1		
CMPT 3		
CMPT 4		
CMPT 5		
TOTAL		
	(-)	
DLI =		
Cabin 0A		
Cabin 0B		
Cabin 0C		
TOTAL		
	(-)	
LI ZFM =		
MAC ZFM =		%
LI ZFM		
T/O Fuel + / -		
LI TOM =		
MAC TOM =		%
LI ZFM		
LMC + / -		
Corrected LI ZFM		
T/O Fuel + / -		
Corrected LI TOM		
Corr. MAC TOM		%
LI ZFM		
Lnd. Fuel + / -		
LI LNM =		
MAC LNM =		%





MAC ZFM	%
MAC TOM	%
MAC LNM	%

TAKEOFF STAB TRIM SETTING:

Effective from 12 July 2024

SEAT SELECTION

When seats in below rows are available (emergency exit rows vary depending on aircraft type), these seats can be offered to passengers on request at airport check-in desks as per below costs (respecting restrictions). The other seats are offered at check-in desks without any additional charge. Seat selection is free of charge for Premium Plus and Business class passengers during check-in. Seats in business class can not be offered at extra costs to economy class passengers.

A319/320/321				
Rows	**1**	**2**	**3-4**	Emergency exit rows: **11** (on A319) / **12-13** (on A320) / **18,27** (on A321)
Charge	30 €	25 €	20 €	30 €
A330				
Rows	**5**	**6, 7, 8**		**23** (Emergency exit row on A330)
Charge	50 €	30 €		50 €

UPGRADE TO BUSINESS CLASS

Upgrade to BUSINESS class for all fares is **450 €**.
The upgrade involves only the allocation of a seat in BUSINESS class, the other options will only be offered in case of availability. The upgrade fee will be collected during airport check-in.

AIRPORT CHECK-IN FOR ECONOMY BASIC (classes: A, O, G, U, E, X, P)

Airport check-in charge for ECONOMY BASIC is **10 €**.

PETS IN CABIN (PETC)

PETC transportation (domestic and international) charge when paid at airport is **50 €** per flight leg.

UNACCOMPANIED MINORS (UMNR)

Unaccompanied minor transportation charge when paid at airport is **50 €** per flight leg.

NAME CHANGE

In case of more then 3 mistakes in the passenger's name, name change at airport is possible at charge of **70 €**.

CABIN BAGGAGE TRANSPORTATION

Booking Class	**Small Size** only : **1 pc** up to: **8 kg** up to: **40x30x20 cm**	**Large Size** only : **1 pc** up to: **10 kg** up to: **50x40x25 cm**
ECONOMY **BASIC** (A, O, G, U, E, X, P)	Free of charge	**20 € on web / 30 € at airport**
ECONOMY **CLASSIC** (V, T, Q, N, M)		Free of charge
ECONOMY **PREMIUM** (L, K, H, B)		**20 € on web / 30 € at airport**
ECONOMY **PREMIUM PLUS** (Y, S, W, R, F, I, J)		Free of charge
BUSINESS CLASS (C, D)		Free of charge

Effective from 12 July 2024

FREE CHECKED BAGGAGE ALLOWANCE

Economy **BASIC** (A, O, G, U, E, X, P)	**No free of charge** checked baggage permitted
Economy **CLASSIC** (V, T, Q, N, M)	
Economy **PREMIUM** (L, K, H, B)	Permitted **free of charge**: 1 pc / up to **23 kg** / up to 158 cm in 3 dimensions
Economy **PREMIUM PLUS** (Y, S, W, R, F, I, J)	
BUSINESS Class (C, D)	Permitted **free of charge**: 2 pcs / up to **32 kg** each / each up to 203 cm in 3 dimensions
Children up to 2 years of age (INF) (All classes)	Permitted **free of charge**: 1 pc / up to **10 kg** / up to 115 cm in 3 dimensions 1 folding pushchair free of charge

EXCESS BAGGAGE CHARGES

	Economy **BASIC**		Economy **CLASSIC**		Economy **PREMIUM**		Economy **PREMIUM PLUS**		**BUSINESS** Class	
	A, O, G, U, E, X, P		V, T, Q, N, M		L, K, H, B		Y, S, W, R, F, I, J		C, D	
1st piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	30 €	**40 €**	30 €	**40 €**	Free of charge		Free of charge		Free of charge	
up to : **32 kg** up to : **158 cm**	50 €	**70 €**	50 €	**70 €**	50 €	**70 €**	50 €	**70 €**		
up to : **23 kg** up to : **203 cm**	50 €	**70 €**	50 €	**70 €**	50 €	**70 €**	50 €	**70 €**		
up to : **32 kg** up to : **203 cm**	50 €	**70 €**	50 €	**70 €**	50 €	**70 €**	50 €	**70 €**		
2nd piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	80 €	**100 €**	80 €	**100 €**	80 €	**100 €**	80 €	**100 €**	Free of charge	
up to : **32 kg** up to : **158 cm**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**		
up to : **23 kg** up to : **203 cm**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**		
up to : **32 kg** up to : **203 cm**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**		
3rd piece and each next										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	80 €	**100 €**	80 €	**100 €**	80 €	**100 €**	80 €	**100 €**	80 €	**100 €**
up to : **32 kg** up to : **158 cm**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**
up to : **23 kg** up to : **203 cm**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**
up to : **32 kg** up to : **203 cm**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**	100 €	**120 €**

- Large sport equipment and large bags (larger than 203 cm in 3 dimensions) will be charged **100 €** (on web) or **120 €** (at airport), regardless of any other checked baggage.

UNACCOMPANIED MINOR HANDLING ADVICE

FULL NAME OF MINOR _____ Age: _____ Sex: Male ☐ Female ☐

LANGUAGES SPOKEN _____

PERMANENT ADDRESS & TELEPHONE NR OF MINOR _____

_____

Flight details

Flight Nr. _____ Date: _____ From: _____ To: _____

Flight Nr. _____ Date: _____ From: _____ To: _____

Flight Nr. _____ Date: _____ From: _____ To: _____

PERSON SEEING OFF AT DEPARTURE	PERSON MEETING AND SEEING OFF AT STOPOVER POINT	PERSON MEETING AT ARRIVAL
Name: _____	Name: _____	Name: _____
_____	_____	_____
Address: _____	Address: _____	Address: _____
_____	_____	_____
Telephone: _____	Telephone: _____	Telephone: _____
_____	_____	_____
	Signature for release of minor from airline custody: _____	

DECLARATION OF PARENT/GUARDIAN

1. I confirm that I have arranged for the below mentioned minor to be accompanied to the airport on departure and to be met at stop over point and on arrival by the persons named below. These persons will remain at the airport until the flight had departed and/or be available at the airport at the scheduled time of arrival of the flight.
2. Should the minor not be met at stopover point or destination, I authorize the carrier to take whatever action it considers necessary to ensure the minor's safe custody including return of minor to the airport of departure, and I agree to indemnify and reimburse the carrier for the necessary and reasonable costs and expenses incurred by it in taking such action.
3. I certify that the minor is in possession of all travel documents (passport, visa, health certificate, etc.) required by applicable laws.
4. I the undersigned parent or guardian of the below mentioned minor agree to and request the unaccompanied carriage of the minor named below and certify that the information provided is accurate.

Name, address and telephone nr. of the parent/guardian:

_____ Signature: _____

_____ Date: _____

AIRLINE STAFF IN CHARGE OF MINOR WHILST IN THEIR CUSTODY

ESCORT AT THE DEPARTURE AIRPORT Name _____ Department/Airline code _____	ESCORT AT TRANSFER POINT NR 1 Name _____ Department/Airline code _____
ESCORT IN FLIGHT Name _____ From/To _____ Department/Airline code _____	ESCORT IN FLIGHT Name _____ From/To _____ Department/Airline code _____
ESCORT AT ARRIVAL AIRPORT Name _____ Department/Airline code _____	ESCORT AT TRANSFER POINT NR 1 Name _____ Department/Airline code _____
SPECIAL INSTRUCTIONS, IF ANY (to be completed by issuing office) _____ _____ _____ _____ _____ _____ _____ _____	ESCORT IN FLIGHT Name _____ From/To _____ Department/Airline code _____
	ESCORT AT STOPOVER POINT TO PERSON MEETING Name _____ Department/Airline code _____
	ESCORT AT STOPOVER POINT ON DEPARTURE Name _____ Department/Airline code _____

Nr. of copies to print: Flight with no connection: 3 copies | Flight with one connection: 5 copies | Flight with more than one connection: 7 copies
For station of origin: 1 copy | For final station: 1 copy | For each transfer station: 1 copy

FLIGHT REPORT

Flight:	Date:	A/C Type: -----	A/C Reg: -----	A/C stand:	Gate:
STA:	A/C landed at:	Chocks on:	STD:	Chocks off:	A/C takeoff at:
Delay code:	Details:				
Total Pax (AD/CHD/INF): / /	Total Pax by class (C/Y): /	Number of No-Show Pax:			
Transfer pax Outbound via KIV (Nr/Destination): / , / , / , / , /					
Transfer pax Inbound via KIV (Nr/Destination): / , / , / , / , /					
Check-in counters:	Lounge vouchers:	UMNR:	PRM:	INAD:	DEPU:	DEPA:
Comments:					

OVERBOOK

Total passengers in overbook:	Denied Boarding Compensation (Nr pax / Amount EUR): /	
HOTAC provided to passengers	Meals provided to passengers	Number of rerouted passengers:
Comments:		

PROVISION OF SERVICES (local time to be used)

Service:	Started at:	Ended at:	Service:	Started at:	Ended at:
Check-in			Boarding		
Pax disembarkation			Pax embarkation		
Baggage offloading			Baggage loading		
Cargo/Mail offloading			Cargo/Mail loading		
Fueling			Cleaning		
Water service			Toilet service		
Loadsheet delivered			Doors closed		
De-/Anti-icing					

IRREGULARITIES

Type of irregularity: NIL	Announced: NIL		
Meal vouchers			
Refreshments vouchers:	Hot drinks vouchers:	Snack vouchers:	Meal vouchers:
Hotel accommodation			
Passengers accommodated (Nr/Hotel): / , /			
Hours:	Nights:	Single rooms:	Double rooms:	Nr of Pax Transferred to/from hotel:
Meals included:	Breakfast:	Lunch:	Dinner:	
Crew accommodated (Nr/Hotel) : / , /				
Hours:	Nights:	Single rooms:	Double rooms:	Nr of Pax Transferred to/from hotel:
Meals included:	Breakfast:	Lunch:	Dinner:	
Comments:				

AIRCRAFT DISINFECTION CONTROL SHEET

Airport	Flight Nr.	Date	A/C Reg.	A/C Type	Time of disinfection (UTC)

AIRCRAFT TREATED AREAS

- ☐ Cockpit
- ☐ Forward lavatory
- ☐ Forward galley / cabin crew area
- ☐ Passenger cabin
- ☐ Aft lavatories
- ☐ Aft galleys / cabin crew area
- ☐ Cargo compartments
- ☐ Other _____

REASON FOR DISINFECTION

- ☐ Preventive
- ☐ Turnaround
- ☐ Post event
- ☐ Infections symptoms passenger(s)
- ☐ Other _____

Disinfectant material/name/brand: _____

☐ Manual disinfection used ☐ Special disinfection devices used

The disinfection procedure and disinfectant brand and its concentration has been performed in accordance with IATA Guidance for Ground Handling during Covid19 and EASA Interim Guidance on Aircraft Cleaning and Desinfection recommendations and with air career regulations.

Remarks:

Disinfection operator

Company _____

Operator (name/signature):

_____

HiSky Flight/Cabin Crew

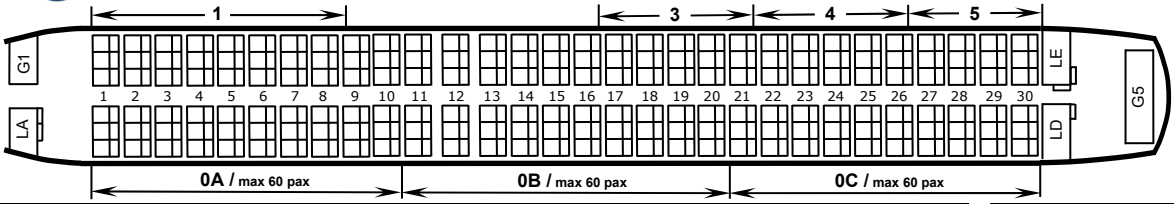
Name: _____

Title: _____

Signature _____

TRIMSHEET / AIRBUS A320-232 / Reg. YR-BEE (MSN6223) / 180 seats

Configurations: Y180, C8Y168 (C12Y168), C12Y162 (C18Y162)



Load In Lower Compartments Index Table

CMPT 1				CMPT 3		CMPT 4		CMPT 5	
FWD Cmpt **1** = 3402 kg				AFT Cmpt **3** = 2426 kg		AFT Cmpt **4** = 2110 kg		AFT Cmpt **5** = 1497 kg	
TOTAL FWD CMPT = 3402 kg				**TOTAL AFT CMPT = 6033 kg**					
Mass	Index	Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-78	0	1792-1946	- 12	0-125	0	0-67	0	0-48	0
79-234	- 1	1947-2102	- 13	126-374	+ 1	68-202	+ 1	49-143	+ 1
235-389	- 2	2103-2258	- 14	375-623	+ 2	203-337	+ 2	144-239	+ 2
390-545	- 3	2259-2413	- 15	624-873	+ 3	338-472	+ 3	240-334	+ 3
546-701	- 4	2414-2569	- 16	874-1122	+ 4	473-607	+ 4	335-430	+ 4
702-856	- 5	2570-2725	- 17	1123-1371	+ 5	608-742	+ 5	431-525	+ 5
857-1012	- 6	2726-2880	- 18	1372-1620	+ 6	743-877	+ 6	526-621	+ 6
1013-1168	- 7	2881-3036	- 19	1621-1869	+ 7	878-1012	+ 7	622-716	+ 7
1169-1324	- 8	3037-3192	- 20	1870-2119	+ 8	1013-1147	+ 8	717-812	+ 8
1325-1479	- 9	3193-3348	- 21	2120-2368	+ 9	1148-1282	+ 9	813-907	+ 9
1480-1635	- 10	3349-**3402**	- 22	2369-**2426**	+ 10	1283-1417	+ 10	908-1003	+ 10
1636-1791	- 11					1418-1552	+ 11	1004-1098	+ 11
						1553-1687	+ 12	1099-1194	+ 12
						1688-1822	+ 13	1195-1289	+ 13
						1823-1957	+ 14	1290-1385	+ 14
						1958-2092	+ 15	1386-1480	+ 15
						2093-**2110**	+16	1481-**1497**	+16

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
1-2	-1	32-33	-18	0-6	0	1	1	31-32	22
3-4	-2	34-35	-19	7-17	1	2-3	2	33	23
5	-3	36	-20	18-29	2	4	3	34-35	24
6-7	-4	37-38	-21	30-40	3	5-6	4	36	25
8-9	-5	39-40	-22	41-52	4	7	5	37-38	26
10-11	-6	41-42	-23	53-**60**	5	8-9	6	39	27
12-13	-7	43-44	-24			10	7	40	28
14-15	-8	45	-25			11-12	8	41-42	29
16	-9	46-47	-26			13	9	43	30
17-18	-10	48-49	-27			14	10	44-45	31
19-20	-11	50-51	-28			15-16	11	46	32
21-22	-12	52-53	-29			17	12	47-48	33
23-24	-13	54-55	-30			18-19	13	49	34
25	-14	56	-31			20	14	50-51	35
26-27	-15	57-58	-32			21-22	15	52	36
28-29	-16	59-**60**	-33			23	16	53-54	37
30-31	-17					24-25	17	55	38
						26	18	56	39
						27	19	57-58	40
						28-29	20	59-**60**	41
						30	21		

Fuel Index Table

Mass	Index
0-942	+ 1
943-2010	+ 3
2011-3140	+ 2
3141-4082	+ 1
4083-5024	+ 0
5025-6280	- 1
6281-7850	- 2
7851-11304	- 3
11305-13188	- 2
13189-13816	- 3
13817-14444	- 4
14445-15072	- 5
15073-15700	- 6
15701-16328	- 7
16329-17270	- 8
17271-17898	- 9
17899-18526	- 10
18527-**18730**	- 11

Flight No. / Date:

Prepared by:

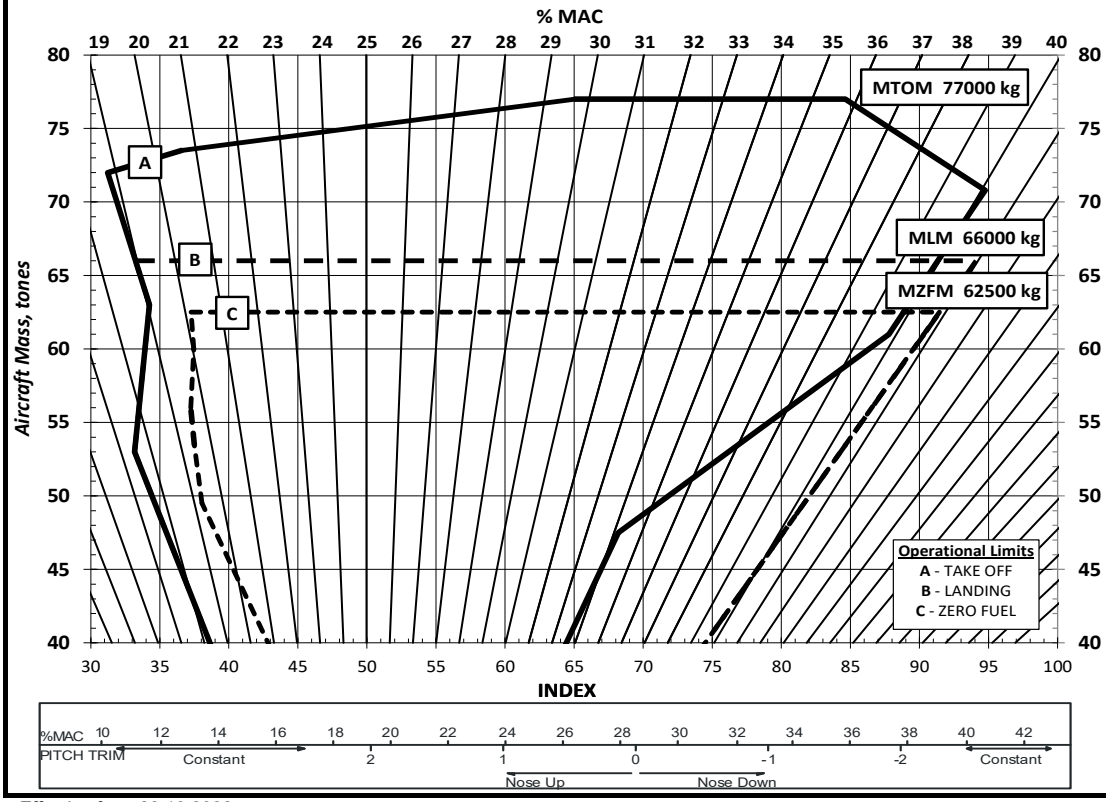
Approved by:

MAX CERTIFIED MASSES

Max Taxi Mass	77400 kg
Max Takeoff Mass	77000 kg
Max Landing Mass	66000 kg
Max Zero Fuel Mass	62500 kg

Index Calculation Table

	(-)	(+)
DOI		
CMPT 1		
CMPT 3		
CMPT 4		
CMPT 5		
TOTAL		
	(-)	
DLI	=	
Cabin 0A		
Cabin 0B		
Cabin 0C		
TOTAL		
	(-)	
LI ZFM	=	
MAC ZFM	=	%
LI ZFM		
T/O Fuel	+ / -	
LI TOM	=	
MAC TOM	=	%
LI ZFM		
LMC	+ / -	
Corrected LI ZFM		
T/O Fuel	+ / -	
Corrected LI TOM		
Corr. MAC TOM		%
LI ZFM		
Lnd. Fuel	+ / -	
LI LNM	=	
MAC LNM	=	%



MAC ZFM	%
MAC TOM	%
MAC LNM	%

TAKEOFF STAB TRIM SETTING:

BUSINESS RULES / BAGGAGE CHARGES applicable to CHARTER flights

Effective from 01 June 2024

CABIN BAGGAGE TRANSPORTATION ON CHARTER FLIGHTS
TRANSPORTAREA BAGAJULUI DE CABINĂ LA ZBORURILE CHARTER

Cabin baggage / Bagajul de cabină	Charge / Taxa
only **1 pc** / doar **1 unitate** up to / până la : **8 kg** up to / până la : **50x40x25 cm**	Free of charge / Gratuit

EXCESS BAGGAGE CHARGES ON CHARTER FLIGHTS
(applicable per flight leg)
TARIFELE PENTRU EXCESUL DE BAGAJ LA ZBORURILE CHARTER
(applicabil per tronson de zbor)

Checked baggage weight/size up to: Greutatea/dimensiunile bagajului de cală până la:	1st piece 1a unitate	2nd piece and each next 2a unitate și fiecare următoare
23kg / **158cm** in 3 dimensions	FREE	100 EUR
32kg / **158cm** in 3 dimensions	70 EUR	120 EUR
23kg / **203cm** in 3 dimensions	70 EUR	120 EUR
32kg / **203cm** in 3 dimensions	70 EUR	120 EUR
Large sport equipment and large bags (larger than 203 cm in 3 dimensions) Echipamentele sportive mari și bagajele mari (mai mari de 203 cm în 3 dimensiuni)	120 EUR	120 EUR

INFANT Checked Baggage
- Children up to 2 years of age (INF): permitted **free of charge** 1 pc / up to **10 kg** / up to 115 cm
- Copii până la 2 ani (INF): se permite **gratuit** 1 unitate / până la **10 kg** / până la 115 cm

INFANT Stroller/Pushchair
- Infants are permitted to transport 1 folding pushchair free of charge. In exceptional cases 1 (one) fully collapsible stroller/pushchair can be accepted free of charge for children aged up to 4 years if the child's comfort depends on it.
- Copiii până la 2 ani (INF) pot transporta 1 cărucior pliabil gratuit. În cazuri excepționale, 1 (un) cărucior pliabil poate fi acceptat gratuit pentru copiii cu vârsta de până la 4 ani, dacă confortul copilului depinde de acesta.

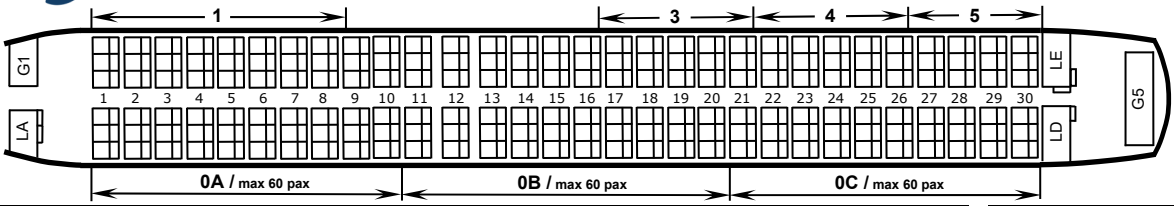
UNACCOMPANIED MINORS / MINORI NEÎNSOȚIȚI
- Unaccompanied minor transportation charge is **50 EUR** per flight leg.
- Taxa de transportare a copilului neînsoțit este de **50 EUR** pe tronson de zbor.

PETC (Pets in Cabin)
- PETC transportation charge is **50 EUR** per flight leg.
- Taxa pentru transportarea PETC este de **50 EUR** pe tronson de zbor.

AVIH (Live animals in cargo hold)
- Not accepted.
- Nu se acceptă.

TRIMSHEET / AIRBUS A320-232 / Reg. YR-JOY (MSN6513) / 180 seats

Configurations: Y180, C8Y168 (C12Y168), C12Y162 (C18Y162)



Load In Lower Compartments Index Table

CMPT 1				CMPT 3		CMPT 4		CMPT 5	
FWD Cmpt **1** = 3402 kg				AFT Cmpt **3** = 2426 kg		AFT Cmpt **4** = 2110 kg		AFT Cmpt **5** = 1497 kg	
TOTAL FWD CMPT = 3402 kg				**TOTAL AFT CMPT = 6033 kg**					
Mass	Index	Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-78	0	1792-1946	- 12	0-125	0	0-67	0	0-48	0
79-234	- 1	1947-2102	- 13	126-374	+ 1	68-202	+ 1	49-143	+ 1
235-389	- 2	2103-2258	- 14	375-623	+ 2	203-337	+ 2	144-239	+ 2
390-545	- 3	2259-2413	- 15	624-873	+ 3	338-472	+ 3	240-334	+ 3
546-701	- 4	2414-2569	- 16	874-1122	+ 4	473-607	+ 4	335-430	+ 4
702-856	- 5	2570-2725	- 17	1123-1371	+ 5	608-742	+ 5	431-525	+ 5
857-1012	- 6	2726-2880	- 18	1372-1620	+ 6	743-877	+ 6	526-621	+ 6
1013-1168	- 7	2881-3036	- 19	1621-1869	+ 7	878-1012	+ 7	622-716	+ 7
1169-1324	- 8	3037-3192	- 20	1870-2119	+ 8	1013-1147	+ 8	717-812	+ 8
1325-1479	- 9	3193-3348	- 21	2120-2368	+ 9	1148-1282	+ 9	813-907	+ 9
1480-1635	- 10	3349-**3402**	- 22	2369-**2426**	+ 10	1283-1417	+ 10	908-1003	+ 10
1636-1791	- 11					1418-1552	+ 11	1004-1098	+ 11
						1553-1687	+ 12	1099-1194	+ 12
						1688-1822	+ 13	1195-1289	+ 13
						1823-1957	+ 14	1290-1385	+ 14
						1958-2092	+ 15	1386-1480	+ 15
						2093-**2110**	+16	1481-**1497**	+16

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
1-2	-1	32-33	-18	0-6	0	1	1	31	22
3-4	-2	34-35	-19	7-18	1	2-3	2	32-33	23
5	-3	36	-20	19-30	2	4	3	34	24
6-7	-4	37-38	-21	31-42	3	5-6	4	35	25
8-9	-5	39-40	-22	43-54	4	7	5	36-37	26
10-11	-6	41-42	-23	55-**60**	5	8-9	6	38	27
12-13	-7	43-44	-24			10	7	39-40	28
14-15	-8	45	-25			11	8	41	29
16	-9	46-47	-26			12-13	9	42-43	30
17-18	-10	48-49	-27			14	10	44	31
19-20	-11	50-51	-28			15-16	11	45	32
21-22	-12	52-53	-29			17	12	46-47	33
23-24	-13	54-55	-30			18	13	48	34
25	-14	56	-31			19-20	14	49-50	35
26-27	-15	57-58	-32			21	15	51	36
28-29	-16	59-**60**	-33			22-23	16	52-53	37
30-31	-17					24	17	54	38
						25-26	18	55	39
						27	19	56-57	40
						28	20	58	41
						29-30	21	59-**60**	42

Fuel Index Table

Mass	Index
0-942	+ 1
943-2010	+ 3
2011-3140	+ 2
3141-4082	+ 1
4083-5024	+ 0
5025-6280	- 1
6281-7850	- 2
7851-11304	- 3
11305-13188	- 2
13189-13816	- 3
13817-14444	- 4
14445-15072	- 5
15073-15700	- 6
15701-16328	- 7
16329-17270	- 8
17271-17898	- 9
17899-18526	- 10
18527-**18730**	- 11

Flight No. / Date:

Prepared by:

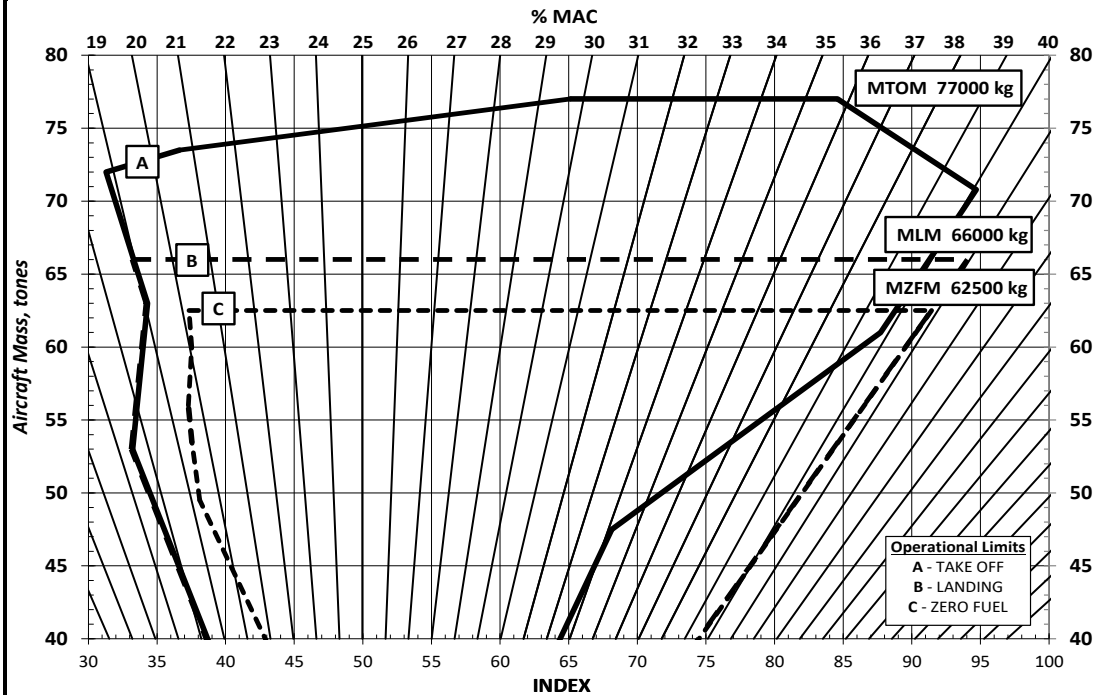
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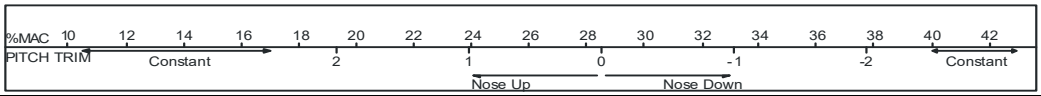
MAX CERTIFIED MASSES

Max Taxi Mass	77400 kg
Max Takeoff Mass	77000 kg
Max Landing Mass	66000 kg
Max Zero Fuel Mass	62500 kg

Index Calculation Table

	(-)	(+)
DOI		
CMPT 1		
CMPT 3		
CMPT 4		
CMPT 5		
TOTAL		
	(-)	
DLI =		
Cabin 0A		
Cabin 0B		
Cabin 0C		
TOTAL		
	(-)	
LI ZFM =		
MAC ZFM =		%
LI ZFM		
T/O Fuel + / -		
LI TOM =		
MAC TOM =		%
LI ZFM		
LMC + / -		
Corrected LI ZFM		
T/O Fuel + / -		
Corrected LI TOM		
Corr. MAC TOM		%
LI ZFM		
Lnd. Fuel + / -		
LI LNM =		
MAC LNM =		%





MAC ZFM	%
MAC TOM	%
MAC LNM	%

TAKEOFF STAB TRIM SETTING:

Passenger Seating Layout | A320 | Y180

Applicable to all A320 registrations

0A	Economy Class						
	1A	1B	1C		1D	1E	1F
	2A	2B	2C		2D	2E	2F
	3A	3B	3C		3D	3E	3F
	4A	4B	4C		4D	4E	4F
	5A	5B	5C		5D	5E	5F
	6A	6B	6C		6D	6E	6F
	7A	7B	7C		7D	7E	7F
	8A	8B	8C		8D	8E	8F
	9A	9B	9C		9D	9E	9F
	10A	10B	10C		10D	10E	10F
0B	11A	11B	11C		11D	11E	11F
	Emergency Exit Row						
	12A	12B	12C		12D	12E	12F
	Emergency Exit Row						
	13A	13B	13C		13D	13E	13F
	14A	14B	14C		14D	14E	14F
	15A	15B	15C		15D	15E	15F
	16A	16B	16C		16D	16E	16F
	17A	17B	17C		17D	17E	17F
	18A	18B	18C		18D	18E	18F
	19A	19B	19C		19D	19E	19F
	20A	20B	20C		20D	20E	20F
0C	21A	21B	21C		21D	21E	21F
	22A	22B	22C		22D	22E	22F
	23A	23B	23C		23D	23E	23F
	24A	24B	24C		24D	24E	24F
	25A	25B	25C		25D	25E	25F
	26A	26B	26C		26D	26E	26F
	27A	27B	27C		27D	27E	27F
	28A	28B	28C		28D	28E	28F
	29A	29B	29C		29D	29E	29F
	30A	30B	30C		30D	30E	30F

Rows **12** and **13** are **EMERGENCY EXIT** rows.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**: 1-10C, 1-10D, 15-30C, 15-30D.

Rows for **unaccompanied minors**: 1, 2, 3, 4, 5, 6, 7.

Seats for **passengers with reduced mobility** (PRM): 1-10A, 1-10F.

Seats in row **30** to be offered last.

Rows **1-2** to be kept **blocked**. To unblock and offer one by one **only** when there are no more available seats in rows 3-30.

Passenger Seating Layout | A320 | C8Y168 (C12Y168)

Applicable to all A320 registrations

0A	Business Class						
	1A	*	1C		1D	*	1F
	2A	*	2C		2D	*	2F
	Economy Class						
	3A	3B	3C		3D	3E	3F
	4A	4B	4C		4D	4E	4F
	5A	5B	5C		5D	5E	5F
	6A	6B	6C		6D	6E	6F
	7A	7B	7C		7D	7E	7F
	8A	8B	8C		8D	8E	8F
	9A	9B	9C		9D	9E	9F
	10A	10B	10C		10D	10E	10F
0B	11A	11B	11C		11D	11E	11F
	Emergency Exit Row						
	12A	12B	12C		12D	12E	12F
	Emergency Exit Row						
	13A	13B	13C		13D	13E	13F
	14A	14B	14C		14D	14E	14F
	15A	15B	15C		15D	15E	15F
	16A	16B	16C		16D	16E	16F
	17A	17B	17C		17D	17E	17F
	18A	18B	18C		18D	18E	18F
	19A	19B	19C		19D	19E	19F
	20A	20B	20C		20D	20E	20F
0C	21A	21B	21C		21D	21E	21F
	22A	22B	22C		22D	22E	22F
	23A	23B	23C		23D	23E	23F
	24A	24B	24C		24D	24E	24F
	25A	25B	25C		25D	25E	25F
	26A	26B	26C		26D	26E	26F
	27A	27B	27C		27D	27E	27F
	28A	28B	28C		28D	28E	28F
	29A	29B	29C		29D	29E	29F
	30A	30B	30C		30D	30E	30F

Rows **12** and **13** are **EMERGENCY EXIT** rows.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**: 1-10C, 1-10D, 15-30C, 15-30D.

Rows for **unaccompanied minors**: 1, 2, 3, 4, 5, 6, 7.

Seats for **passengers with reduced mobility** (PRM): 1-10A, 1-10F.

Seats in row **30** to be offered last.

Class divider after row #2.

*
For configuration C8Y168 seats 1B, 1E, 2B, 2E are not used.
For configuration C12Y168 all seats are used.

DOM / DOI TABLE
Airbus A320-232

DRY OPERATING MASS/INDEX TABLE
for HiSky Europe Airbus A320-232

Applicable to all configurations | All masses in Kgs

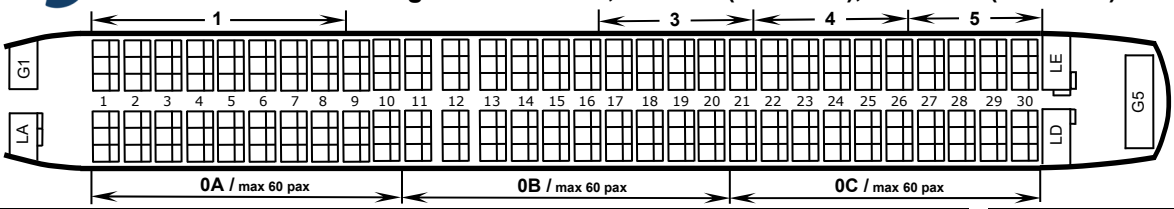
Crew	YR-SKY MSN4493		YR-BEE MSN6223		YR-JOY MSN6513		YR-SUN MSN6278	
	DOM	DOI	DOM	DOI	DOM	DOI	DOM	DOI
2/4	**42834**	**53.2**	**43193**	**55.8**	**43275**	**58.0**	**43173**	**57.1**
2/5	-	-	43268	56.8	43350	59.0	43248	58.1
3/4	42919	52.1	43278	54.7	43360	56.9	43258	56.0
3/5	-	-	43353	55.7	43435	57.9	43333	57.0
4/4	-	-	43363	53.6	43445	55.8	43343	54.9
4/5	-	-	43438	54.6	43520	56.8	43418	55.9
2/0	42534	53.0	42893	55.6	42975	57.8	42873	56.9
3/0	42619	51.9	42978	54.5	43060	56.7	42958	55.8
4/0	-	-	43063	53.4	43145	55.6	43043	54.7

DOM/DOI includes:
- **Basic Empty** mass/index (engines/IDG/APU oil, unpumpable & unusable fuel, hydraulic fluid, emergency equipment)
- **Galley/catering equipment** mass/index
- **Pantry/catering** mass/index
- **Potable water** mass/index
- **Toilet chemicals** mass/index
- **Crew** and **aircraft documents** mass/index

- In case of additional crew, they are seated on passenger seats and are reflected in total crew version on loadsheet and as XCR in LDM. DOM/DOI is corrected automatically on electronically issued loadsheet.

TRIMSHEET / AIRBUS A320-232 / Reg. YR-SUN (MSN6278) / 180 seats

Configurations: Y180, C8Y168 (C12Y168), C12Y162 (C18Y162)



Load In Lower Compartments Index Table

CMPT 1				CMPT 3		CMPT 4		CMPT 5	
FWD Cmpt **1** = 3402 kg				AFT Cmpt **3** = 2426 kg		AFT Cmpt **4** = 2110 kg		AFT Cmpt **5** = 1497 kg	
TOTAL FWD CMPT = 3402 kg				**TOTAL AFT CMPT = 6033 kg**					
Mass	Index	Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-78	0	1792-1946	- 12	0-125	0	0-67	0	0-48	0
79-234	- 1	1947-2102	- 13	126-374	+ 1	68-202	+ 1	49-143	+ 1
235-389	- 2	2103-2258	- 14	375-623	+ 2	203-337	+ 2	144-239	+ 2
390-545	- 3	2259-2413	- 15	624-873	+ 3	338-472	+ 3	240-334	+ 3
546-701	- 4	2414-2569	- 16	874-1122	+ 4	473-607	+ 4	335-430	+ 4
702-856	- 5	2570-2725	- 17	1123-1371	+ 5	608-742	+ 5	431-525	+ 5
857-1012	- 6	2726-2880	- 18	1372-1620	+ 6	743-877	+ 6	526-621	+ 6
1013-1168	- 7	2881-3036	- 19	1621-1869	+ 7	878-1012	+ 7	622-716	+ 7
1169-1324	- 8	3037-3192	- 20	1870-2119	+ 8	1013-1147	+ 8	717-812	+ 8
1325-1479	- 9	3193-3348	- 21	2120-2368	+ 9	1148-1282	+ 9	813-907	+ 9
1480-1635	- 10	3349-**3402**	- 22	2369-**2426**	+ 10	1283-1417	+ 10	908-1003	+ 10
1636-1791	- 11					1418-1552	+ 11	1004-1098	+ 11
						1553-1687	+ 12	1099-1194	+ 12
						1688-1822	+ 13	1195-1289	+ 13
						1823-1957	+ 14	1290-1385	+ 14
						1958-2092	+ 15	1386-1480	+ 15
						2093-**2110**	+16	1481-**1497**	+16

Passenger Cabin Index Table

Cabin 0A Rows 1-10				Cabin 0B Rows 11-20		Cabin 0C Rows 21-30			
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
1-2	-1	32-33	-18	0-6	0	1	1	31	22
3-4	-2	34-35	-19	7-18	1	2-3	2	32-33	23
5	-3	36	-20	19-30	2	4	3	34	24
6-7	-4	37-38	-21	31-42	3	5-6	4	35	25
8-9	-5	39-40	-22	43-54	4	7	5	36-37	26
10-11	-6	41-42	-23	55-**60**	5	8-9	6	38	27
12-13	-7	43-44	-24			10	7	39-40	28
14-15	-8	45	-25			11	8	41	29
16	-9	46-47	-26			12-13	9	42-43	30
17-18	-10	48-49	-27			14	10	44	31
19-20	-11	50-51	-28			15-16	11	45	32
21-22	-12	52-53	-29			17	12	46-47	33
23-24	-13	54-55	-30			18	13	48	34
25	-14	56	-31			19-20	14	49-50	35
26-27	-15	57-58	-32			21	15	51	36
28-29	-16	59-**60**	-33			22-23	16	52-53	37
30-31	-17					24	17	54	38
						25-26	18	55	39
						27	19	56-57	40
						28	20	58	41
						29-30	21	59-**60**	42

Fuel Index Table

Mass	Index
0-942	+ 1
943-2010	+ 3
2011-3140	+ 2
3141-4082	+ 1
4083-5024	+ 0
5025-6280	- 1
6281-7850	- 2
7851-11304	- 3
11305-13188	- 2
13189-13816	- 3
13817-14444	- 4
14445-15072	- 5
15073-15700	- 6
15701-16328	- 7
16329-17270	- 8
17271-17898	- 9
17899-18526	- 10
18527-**18730**	- 11

Flight No. / Date:

Prepared by:

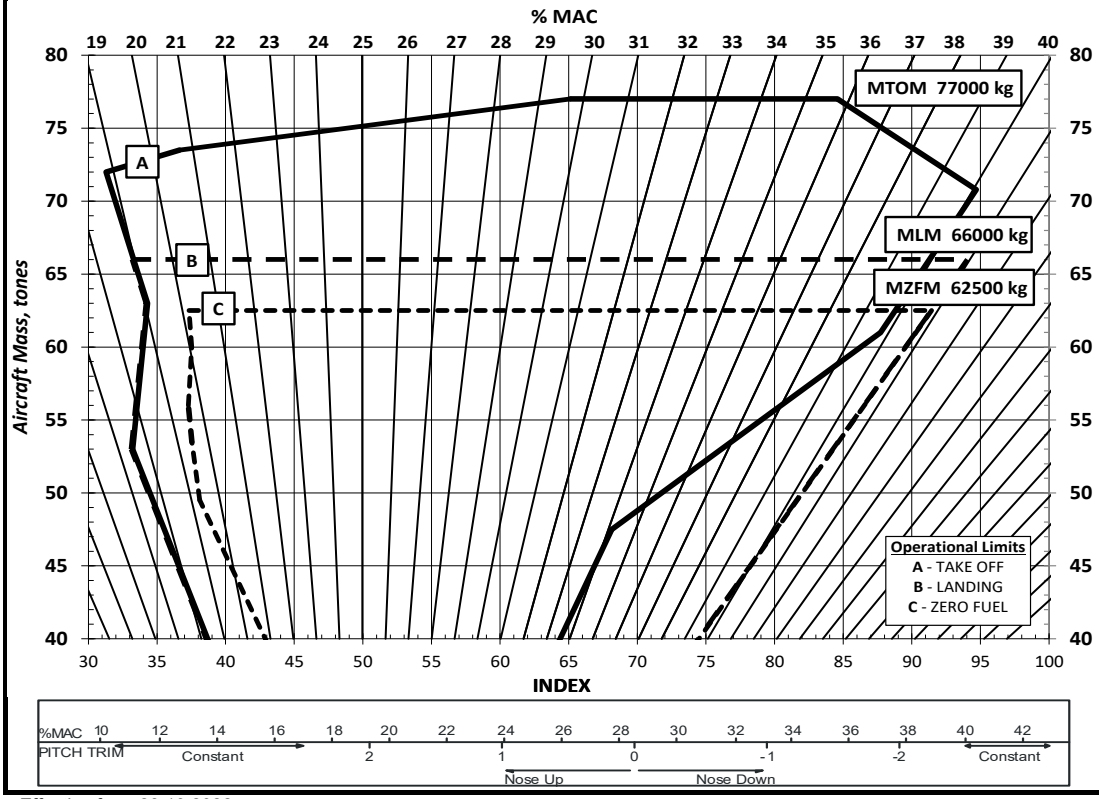
Approved by:

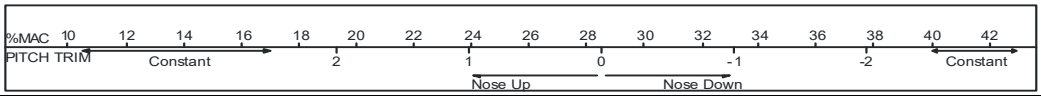
MAX CERTIFIED MASSES

Max Taxi Mass	77400 kg
Max Takeoff Mass	77000 kg
Max Landing Mass	66000 kg
Max Zero Fuel Mass	62500 kg

Index Calculation Table

	(-)	(+)
DOI		
CMPT 1		
CMPT 3		
CMPT 4		
CMPT 5		
TOTAL		
	(-)	
DLI =		
Cabin 0A		
Cabin 0B		
Cabin 0C		
TOTAL		
	(-)	
LI ZFM =		
MAC ZFM =		%
LI ZFM		
T/O Fuel + / -		
LI TOM =		
MAC TOM =		%
LI ZFM		
LMC + / -		
Corrected LI ZFM		
T/O Fuel + / -		
Corrected LI TOM		
Corr. MAC TOM		%
LI ZFM		
Lnd. Fuel + / -		
LI LNM =		
MAC LNM =		%





MAC ZFM	%
MAC TOM	%
MAC LNM	%

TAKEOFF STAB TRIM SETTING:

Passenger Seating Layout | A320 | 12Y162 (C18Y162)

Applicable to all A320 registrations

0A	**Business Class**						
	1A	*	1C		1D	*	1F
	2A	*	2C		2D	*	2F
	3A	*	3C		3D	*	3F
	Economy Class						
	4A	4B	4C		4D	4E	4F
	5A	5B	5C		5D	5E	5F
	6A	6B	6C		6D	6E	6F
	7A	7B	7C		7D	7E	7F
	8A	8B	8C		8D	8E	8F
	9A	9B	9C		9D	9E	9F
	10A	10B	10C		10D	10E	10F
0B	11A	11B	11C		11D	11E	11F
	Emergency Exit Row						
	12A	12B	12C		12D	12E	12F
	Emergency Exit Row						
	13A	13B	13C		13D	13E	13F
	14A	14B	14C		14D	14E	14F
	15A	15B	15C		15D	15E	15F
	16A	16B	16C		16D	16E	16F
	17A	17B	17C		17D	17E	17F
	18A	18B	18C		18D	18E	18F
	19A	19B	19C		19D	19E	19F
	20A	20B	20C		20D	20E	20F
0C	21A	21B	21C		21D	21E	21F
	22A	22B	22C		22D	22E	22F
	23A	23B	23C		23D	23E	23F
	24A	24B	24C		24D	24E	24F
	25A	25B	25C		25D	25E	25F
	26A	26B	26C		26D	26E	26F
	27A	27B	27C		27D	27E	27F
	28A	28B	28C		28D	28E	28F
	29A	29B	29C		29D	29E	29F
	30A	30B	30C		30D	30E	30F

Rows **12** and **13** are **EMERGENCY EXIT** rows.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**: 1-10C, 1-10D, 15-30C, 15-30D.

Rows for **unaccompanied minors**: 1, 2, 3, 4, 5, 6, 7.

Seats for **passengers with reduced mobility** (PRM): 1-10A, 1-10F.

Seats in row **30** to be offered last.

Class divider after row #3.

*
For configuration C12Y162 seats 1B, 1E, 2B, 2E, 3B, 3E are not used.
For configuration C18Y162 all seats are used.

Passenger Seating Layout | A321 | Y220

Applicable to all A321 (YR-WOW and YR-WIN)

	Economy Class					
0A	1A	1B	1C	1D	1E	1F
	2A	2B	2C	2D	2E	2F
	3A	3B	3C	3D	3E	3F
	4A	4B	4C	4D	4E	4F
	5A	5B	5C	5D	5E	5F
	6A	6B	6C	6D	6E	6F
	7A	7B	7C	7D	7E	7F
	8A	8B	8C	8D	8E	8F
	9A	9B	9C	9D	9E	9F
	10A	10B	10C	10D	10E	10F
	11A	11B	11C	11D	11E	11F
	12A	12B	12C	12D	12E	12F
0B	13A	13B	13C	13D	13E	13F
	14A	14B	14C	14D	14E	14F
	15A	15B	15C	15D	15E	15F
	16A	16B	16C	16D	16E	16F
	17A	17B	17C	17D	17E	17F
	Emergency Exit Row					
	18A	18B	18C	18D	18E	18F
	19A	19B	19C	19D	19E	19F
	20A	20B	20C	20D	20E	20F
	21A	21B	21C	21D	21E	21F
	22A	22B	22C	22D	22E	22F
	23A	23B	23C	23D	23E	23F
	24A	24B	24C	24D	24E	24F
	25A	25B	25C	25D	25E	25F
	26A	26B	26C	26D	26E	26F
0C	**Emergency Exit Row**					
		27B	27C	27D	27E	
	28A	28B	28C	28D	28E	28F
	29A	29B	29C	29D	29E	29F
	30A	30B	30C	30D	30E	30F
	31A	31B	31C	31D	31E	31F
	32A	32B	32C	32D	32E	32F
	33A	33B	33C	33D	33E	33F
	34A	34B	34C	34D	34E	34F
	35A	35B	35C	35D	35E	35F
	36A	36B	36C	36D	36E	36F
	37A	37B	37C	37D	37E	37F

Rows 18, 27 and seats 28A, 28F are **EMERGENCY EXIT** row seats.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**: 1-2A, 1-2F, 3-17A, 3-17F, 20-26A, 20-26F, 29-37A, 29-37F.

Rows for **unaccompanied minors**: 1, 2, 3, 4, 5, 6, 7, 8, 9.

Seats for **passengers with reduced mobility** (PRM): 1-17A, 1-17F.

Seats in row **37** to be offered last.

Rows **1-2** to be kept **blocked**. To unblock and offer one by one **only** when there are no more available seats in rows 3-37.

Passenger Seating Layout | A321 | C8Y208 (C12Y208)

Applicable to all A321 (YR-WOW and YR-WIN)

0A	Business Class						
	1A	*	1C		1D	*	1F
	2A	*	2C		2D	*	2F
	Economy Class						
	3A	3B	3C		3D	3E	3F
	4A	4B	4C		4D	4E	4F
	5A	5B	5C		5D	5E	5F
	6A	6B	6C		6D	6E	6F
	7A	7B	7C		7D	7E	7F
	8A	8B	8C		8D	8E	8F
	9A	9B	9C		9D	9E	9F
	10A	10B	10C		10D	10E	10F
	11A	11B	11C		11D	11E	11F
	12A	12B	12C		12D	12E	12F
0B	13A	13B	13C		13D	13E	13F
	14A	14B	14C		14D	14E	14F
	15A	15B	15C		15D	15E	15F
	16A	16B	16C		16D	16E	16F
	17A	17B	17C		17D	17E	17F
	Emergency Exit Row						
	18A	18B	18C		18D	18E	18F
	19A	19B	19C		19D	19E	19F
	20A	20B	20C		20D	20E	20F
	21A	21B	21C		21D	21E	21F
	22A	22B	22C		22D	22E	22F
	23A	23B	23C		23D	23E	23F
	24A	24B	24C		24D	24E	24F
	25A	25B	25C		25D	25E	25F
	26A	26B	26C		26D	26E	26F
0C	Emergency Exit Row						
		27B	27C		27D	27E	
	28A	28B	28C		28D	28E	28F
	29A	29B	29C		29D	29E	29F
	30A	30B	30C		30D	30E	30F
	31A	31B	31C		31D	31E	31F
	32A	32B	32C		32D	32E	32F
	33A	33B	33C		33D	33E	33F
	34A	34B	34C		34D	34E	34F
	35A	35B	35C		35D	35E	35F
	36A	36B	36C		36D	36E	36F
	37A	37B	37C		37D	37E	37F

Rows 18, 27 and seats 28A, 28F are **EMERGENCY EXIT** row seats.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**:
1-2A, 1-2F, 3-17A, 3-17F, 20-26A, 20-26F, 29-37A, 29-37F.

Rows for **unaccompanied minors**:
1, 2, 3, 4, 5, 6, 7, 8, 9.

Seats for **passengers with reduced mobility** (PRM):
1-17A, 1-17F.

Seats in row **37** to be offered last.

*
For configuration C8Y208 seats 1B, 1E, 2B, 2E are not used.
For configuration C12Y208 all seats are used.

Passenger Seating Layout | A321 | C12Y202 (C18Y202)

Applicable to all A321 (YR-WOW and YR-WIN)

0A	**Business Class**						
	1A	*	1C		1D	*	1F
	2A	*	2C		2D	*	2F
	3A	*	3C		3D	*	3F
	Economy Class						
	4A	4B	4C		4D	4E	4F
	5A	5B	5C		5D	5E	5F
	6A	6B	6C		6D	6E	6F
	7A	7B	7C		7D	7E	7F
	8A	8B	8C		8D	8E	8F
	9A	9B	9C		9D	9E	9F
	10A	10B	10C		10D	10E	10F
	11A	11B	11C		11D	11E	11F
	12A	12B	12C		12D	12E	12F
0B	13A	13B	13C		13D	13E	13F
	14A	14B	14C		14D	14E	14F
	15A	15B	15C		15D	15E	15F
	16A	16B	16C		16D	16E	16F
	17A	17B	17C		17D	17E	17F
	Emergency Exit Row						
	18A	18B	18C		18D	18E	18F
	19A	19B	19C		19D	19E	19F
	20A	20B	20C		20D	20E	20F
	21A	21B	21C		21D	21E	21F
	22A	22B	22C		22D	22E	22F
	23A	23B	23C		23D	23E	23F
	24A	24B	24C		24D	24E	24F
	25A	25B	25C		25D	25E	25F
	26A	26B	26C		26D	26E	26F
0C	**Emergency Exit Row**						
		27B	27C		27D	27E	
	28A	28B	28C		28D	28E	28F
	29A	29B	29C		29D	29E	29F
	30A	30B	30C		30D	30E	30F
	31A	31B	31C		31D	31E	31F
	32A	32B	32C		32D	32E	32F
	33A	33B	33C		33D	33E	33F
	34A	34B	34C		34D	34E	34F
	35A	35B	35C		35D	35E	35F
	36A	36B	36C		36D	36E	36F
	37A	37B	37C		37D	37E	37F

Rows 18, 27 and seats 28A, 28F are **EMERGENCY EXIT** row seats.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**:
1-2A, 1-2F, 3-17A, 3-17F, 20-26A, 20-26F, 29-37A, 29-37F.

Rows for **unaccompanied minors**:
1, 2, 3, 4, 5, 6, 7, 8, 9.

Seats for **passengers with reduced mobility** (PRM):
1-17A, 1-17F.

Seats in row **37** to be offered last.

*
For configuration C12Y202 seats 1B, 1E, 2B, 2E, 3B, 3E are not used.
For configuration C18Y202 all seats are used.

DOM / DOI TABLE
Airbus A321-271NX

DRY OPERATING MASS/INDEX TABLE
for HiSky Europe Airbus A321-271NX

Applicable to all configurations | All masses in Kgs

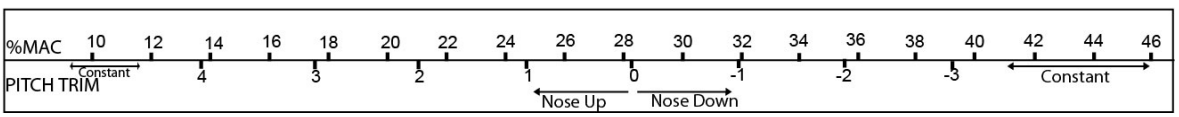
Crew	YR-WOW MSN10928 (220 seats)		YR-WIN MSN10948 (220 seats)	
	DOM	DOI	DOM	DOI
2/5	51247	43.3	51240	43.3
2/6	51322	43.7	51315	43.7
2/7	51397	44.9	51390	44.9
3/5	51332	41.8	51325	41.8
3/6	51407	42.3	51400	42.3
3/7	51482	43.4	51475	43.4
4/5	51417	40.4	51410	40.4
4/6	51492	40.8	51485	40.8
4/7	51567	42.0	51560	42.0
2/0	50872	42.9	50865	42.9
3/0	50957	41.4	50950	41.4
4/0	51042	40.0	51035	40.0

DOM/DOI includes:
- **Basic Empty** mass/index (engines/IDG/APU oil, unpumpable & unusable fuel, hydraulic fluid, emergency equipment)
- **Galley/catering equipment** mass/index
- **Pantry/catering** mass/index
- **Potable water** mass/index
- **Toilet chemicals** mass/index
- **Crew** and **aircraft documents** mass/index

NOTES:

- In case of additional crew, they are seated on passenger seats and are reflected in total crew version on loadsheet and as XCR in LDM. DOM/DOI is corrected automatically on electronically issued loadsheet.

PITCH TRIM SETTING



RECOMMENDED LOAD PLANNING
Airbus A321-271NX

Recommended load planning
for HiSky Europe Airbus A321-271NX

- Free-Seating is NOT allowed without pre confirmation and approval by the Pilot in Command!
- A minimum Take-off Fuel of 12000 kg is recommended for Ferry Flights!

220 seats configurations	**Pax Seating**			**Load Distribution**				
	Cabin Section			**Cargo Compartment**				
Number of pax	**0A** (Rows 1-12)	**0B** (Rows 13-26)	**0C** (Rows 27-37)	**1**	**2**	**3**	**4**	**5**
Up to 30	-	10	1 - 20	-	-	30%	70%	-
31 - 60	-	1 - 35	25	-	30%	30%	40%	-
61 - 80	15	11 - 30	35	-	30%	30%	40%	-
81 - 100	15	21 - 40	45	-	40%	30%	30%	-
101 - 120	25	21 - 40	55	10%	30%	30%	30%	-
121 - 140	35	26 - 45	60	10%	35%	20%	35%	-
141 - 160	45	32 - 51	64	10%	30%	20%	30%	10%
161 - 180	50	47 - 66	64	10%	20%	20%	40%	10%
181 - 200	60	57 - 76	64	10%	20%	20%	40%	10%
201 - 220	72	65 - 84	64	10%	10%	25%	40%	15%
Max capacity	72 pax	84 pax	64 pax	2202 kg	1793 kg	1121 kg	2083 kg	972 kg

LOADING INSTRUCTION/REPORT AIRBUS A321

Flight:	Date:
A/C Reg	From/To:

Prepared by:

Signature of Load Sheet agent/Load planner:

_____

Special instructions:

MAX MASS (KGS)					
	972	**2083**	**1121**	**1793**	**2202**

ONLOAD INSTRUCTION

Comp. 0 (Cabin)				
Comp. 5	Comp. 4	Comp. 3	Comp. 2	Comp. 1

REPORT

Comp. 0 (Cabin)				
Comp. 5	Comp. 4	Comp. 3	Comp. 2	Comp. 1

This aircraft has been loaded in accordance with these instructions including the deviations shown on the report. The load has been secured in accordance with company regulations.

Name and signature of loading supervisor or person responsible for loading:

_____ _____

G/OPS-3056-01

LOADING INSTRUCTION/REPORT AIRBUS A321

Flight:	Date:
A/C Reg	From/To:

Prepared by:

Signature of Load Sheet agent/Load planner:

_____

Special instructions:

MAX MASS (KGS)					
	972	**2083**	**1121**	**1793**	**2202**

ONLOAD INSTRUCTION

Comp. 0 (Cabin)				
Comp. 5	Comp. 4	Comp. 3	Comp. 2	Comp. 1

REPORT

Comp. 0 (Cabin)				
Comp. 5	Comp. 4	Comp. 3	Comp. 2	Comp. 1

This aircraft has been loaded in accordance with these instructions including the deviations shown on the report. The load has been secured in accordance with company regulations.

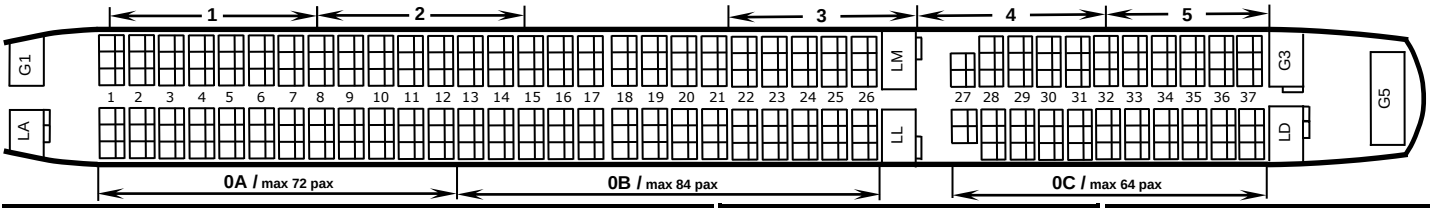
Name and signature of loading supervisor or person responsible for loading:

_____ _____

G/OPS-3056-01

TRIMSHEET / AIRBUS A321-271NX / Regs: YR-WOW, YR-WIN / 220 seats

Configurations: Y220, C8Y208, C12Y202 (3 ACTs installed)



Load In Lower Compartments Index Table

FWD CMPT 1		FWD CMPT 2		AFT CMPT 3		AFT CMPT 4	
Max Load = 2202 kg		Max Load = 1793 kg		Max Load = 1121 kg		Max Load = 2083 kg	
Mass	Index	Mass	Index	Mass	Index	Mass	Index
0-44	0	0-66	0	0-85	0	0-50	0
45-131	-1	67-198	-1	86-255	1	51-149	1
132-219	-2	199-331	-2	256-425	2	150-249	2
220-306	-3	332-463	-3	426-596	3	250-348	3
307-393	-4	464-596	-4	597-766	4	349-447	4
394-480	-5	597-728	-5	767-936	5	448-546	5
481-568	-6	729-861	-6	937-1106	6	547-646	6
569-655	-7	862-993	-7	1107-**1121**	7	647-745	7
656-742	-8	994-1126	-8			746-844	8
743-829	-9	1127-1258	-9	**AFT CMPT 5**		845-943	9
830-917	-10	1259-1391	-10	Max Load = 972 kg		944-1043	10
918-1004	-11	1392-1523	-11	Mass	Index	1044-1142	11
1005-1091	-12	1524-1656	-12	0-39	0	1143-1241	12
1092-1178	-13	1657-1788	-13	40-116	1	1242-1341	13
1179-1266	-14	1789-**1793**	-14	117-194	2	1342-1440	14
1267-1353	-15			195-271	3	1441-1539	15
1354-1440	-16			272-349	4	1540-1638	16
1441-1527	-17			350-426	5	1639-1738	17
1528-1615	-18			427-504	6	1739-1837	18
1616-1702	-19			505-581	7	1838-1936	19
1703-1789	-20			582-659	8	1937-2036	20
1790-1876	-21			660-736	9	2037-**2083**	21
1877-1964	-22			737-814	10		
1965-2051	-23			815-891	11		
2052-2138	-24			892-968	12		
2139-**2202**	-25			969-**972**	13		

Fuel Index Table

Mass	Index	Mass	Index
0-1413	-1	21197-21353	1
1414-2355	-2	21354-21510	2
2356-3297	-3	21511-21667	3
3298-4239	-4	21668-21824	4
4240-5809	-5	21825-21981	5
5810-9891	-6	21982-22138	6
9892-10519	-5	22139-22295	7
10520-11147	-4	22296-22609	8
11148-11775	-3	22610-22766	9
11776-12937	-2	22767-22923	10
12938-13565	-3	22924-23080	11
13566-14193	-4	23081-23237	12
14194-14821	-5	23238-23394	13
14822-15449	-6	23395-23489	14
15450-16077	-7	23490-23646	13
16078-16705	-8	23647-23803	12
16706-17333	-9	23804-23960	11
17334-17961	-10	23961-24117	10
17962-18746	-11	24118-24274	9
18747-18903	-10	24275-24431	8
18904-19217	-9	24432-24588	7
19218-19374	-8	24589-24745	6
19375-19688	-7	24746-24902	5
19689-19845	-6	24903-25059	3
19846-20159	-5	25060-25216	2
20160-20316	-4	25217-25373	1
20317-20630	-3	25374-25530	0
20631-20787	-2	25531-25687	-1
20788-21039	-1	25688-**25860**	-2
21040-21196	0		

Flight No. / Date:

Prepared by:

Approved by:

MAX CERTIFIED MASSES

Max Taxi Mass	97400 kg
Max Takeoff Mass	97000 kg
Max Landing Mass	79200 kg
Max Zero Fuel Mass	75600 kg

Passenger Cabin Index Table

Cabin 0A Rows 1-12

Pax	Index	Pax	Index	Pax	Index	Pax	Index
0-1	-1	19-20	-17	38	-33	56	-49
2	-2	21	-18	39	-34	57	-50
3	-3	22	-19	40	-35	58-59	-51
4-5	-4	23	-20	41	-36	60	-52
6	-5	24	-21	42	-37	61	-53
7	-6	25	-22	43-44	-38	62	-54
8	-7	26	-23	45	-39	63	-55
9	-8	27-28	-24	46	-40	64	-56
10	-9	29	-25	47	-41	65	-57
11	-10	30	-26	48	-42	66-67	-58
12-13	-11	31	-27	49	-43	68	-59
14	-12	32	-28	50-51	-44	69	-60
15	-13	33	-29	52	-45	70	-61
16	-14	34	-30	53	-46	71	-62
17	-15	35-36	-31	54	-47	**72**	-63
18	-16	37	-32	55	-48		

Cabin 0B Rows 13-26

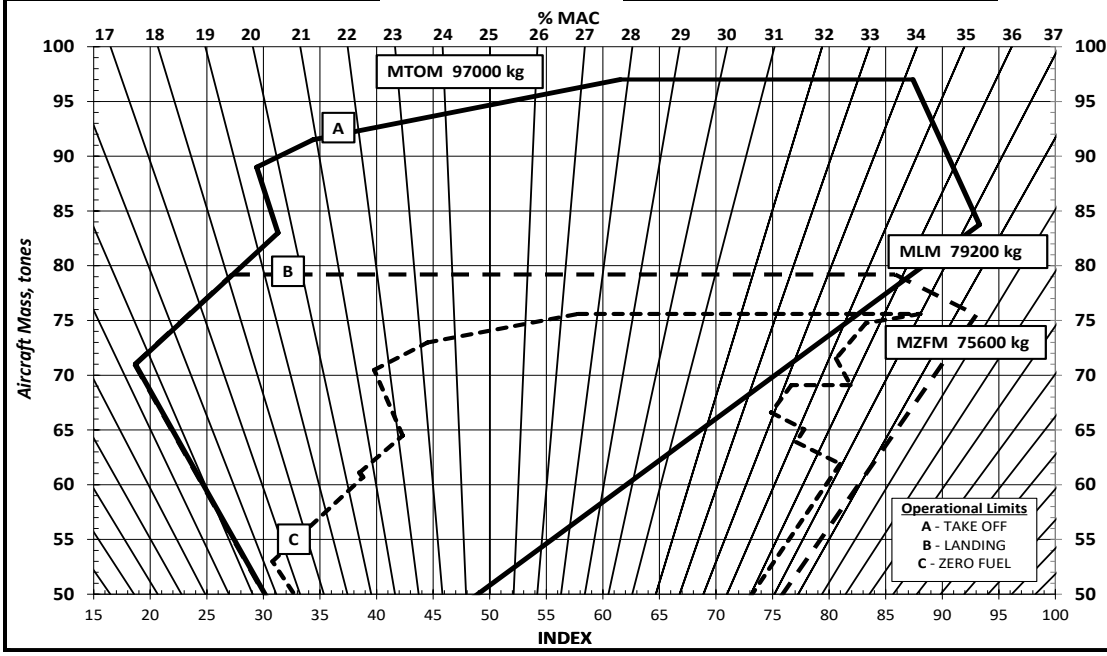
Pax	Index
0-10	0
11-30	-1
31-50	-2
51-70	-3
71-80	-4
81-**84**	-5

Cabin 0C Rows 27-37

Pax	Index	Pax	Index	Pax	Index	Pax	Index
0-1	1	17	15	33	29	50	43
2	2	18	16	34-35	30	51	44
3	3	19-20	17	36	31	52	45
4-5	4	21	18	37	32	53	46
6	5	22	19	38	33	54	47
7	6	23	20	39	34	55	48
8	7	24	21	40	35	56-57	49
9	8	25	22	41-42	36	58	50
10	9	26-27	23	43	37	59	51
11-12	10	28	24	44	38	60	52
13	11	29	25	45	39	61	53
14	12	30	26	46	40	62	54
15	13	31	27	47	41	63-**64**	55
16	14	32	28	48-49	42		

Index Calculation Table

	(-)	(+)
DOI		
CMPT 1		
CMPT 2		
CMPT 3		
CMPT 4		
CMPT 5		
TOTAL		
	(-)	
DLI =		
Cabin 0A		
Cabin 0B		
Cabin 0C		
TOTAL		
	(-)	
LI ZFM =		
MAC ZFM =		%
LI ZFM		
T/O Fuel + / -		
LI TOM =		
MAC TOM =		%
LI ZFM		
LMC + / -		
Corrected LI ZFM		
T/O Fuel + / -		
Corrected LI TOM		
Corr. MAC TOM		%
LI ZFM		
Lnd. Fuel + / -		
LI LNM =		
MAC LNM =		%



MAC ZFM	%
MAC TOM	%
MAC LNM	%

TAKEOFF STAB TRIM SETTING:

DOM / DOI TABLE
Airbus A330-243

DRY OPERATING MASS/INDEX TABLE
for HiSky Europe Airbus A330-243

Applicable to all configurations | All masses in Kgs

YR-KID
MSN01138
(274 seats)

Crew	DOM	DOI	Crew	DOM	DOI	Crew	DOM	DOI
2/0	120763	103.2	3/0	120848	102.4	4/0	120933	101.6
2/5	121138	102.3	3/5	121223	101.5	4/5	121308	100.7
2/6	121213	103.0	3/6	121298	102.2	4/6	121383	101.4
2/7	121288	103.5	3/7	121373	102.7	4/7	121458	101.9
2/8	121363	103.7	3/8	121448	102.9	4/8	121533	102.1
2/9	121438	103.3	3/9	121523	102.5	4/9	121608	101.7
2/10	121513	104.0	3/10	121598	103.2	4/10	121683	102.4
2/11	121588	103.4	3/11	121673	102.6	4/11	121758	101.8
2/12	121663	102.7	3/12	121748	101.9	4/12	121833	101.1

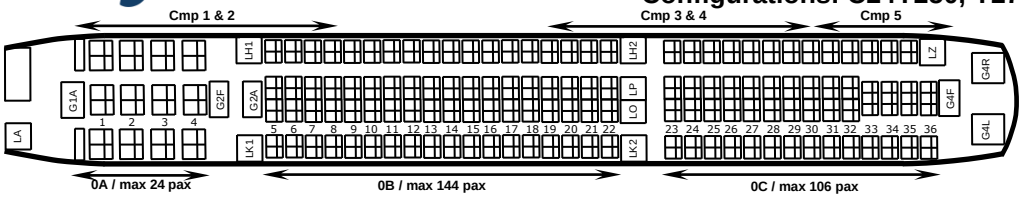
DOM/DOI includes:
- **Basic Empty** mass/index (engines/IDG/APU oil, unpumpable & unusable fuel, hydraulic fluid, emergency equipment)
- **Galley/catering equipment** mass/index
- **Pantry/catering** mass/index
- **Potable water** mass/index
- **Toilet chemicals** mass/index
- **Crew** and **aircraft documents** mass/index

NOTES:

- In case of additional crew, they are seated on passenger seats and are reflected in total crew version on loadsheet and as XCR in LDM. DOM/DOI is corrected automatically on electronically issued loadsheet.

TRIMSHEET / AIRBUS A330-243 / Reg: YR-KID / 274 seats

Configurations: C24Y250, Y274



FLIGHT NO. / DATE:

FROM / TO

PREPARED BY:

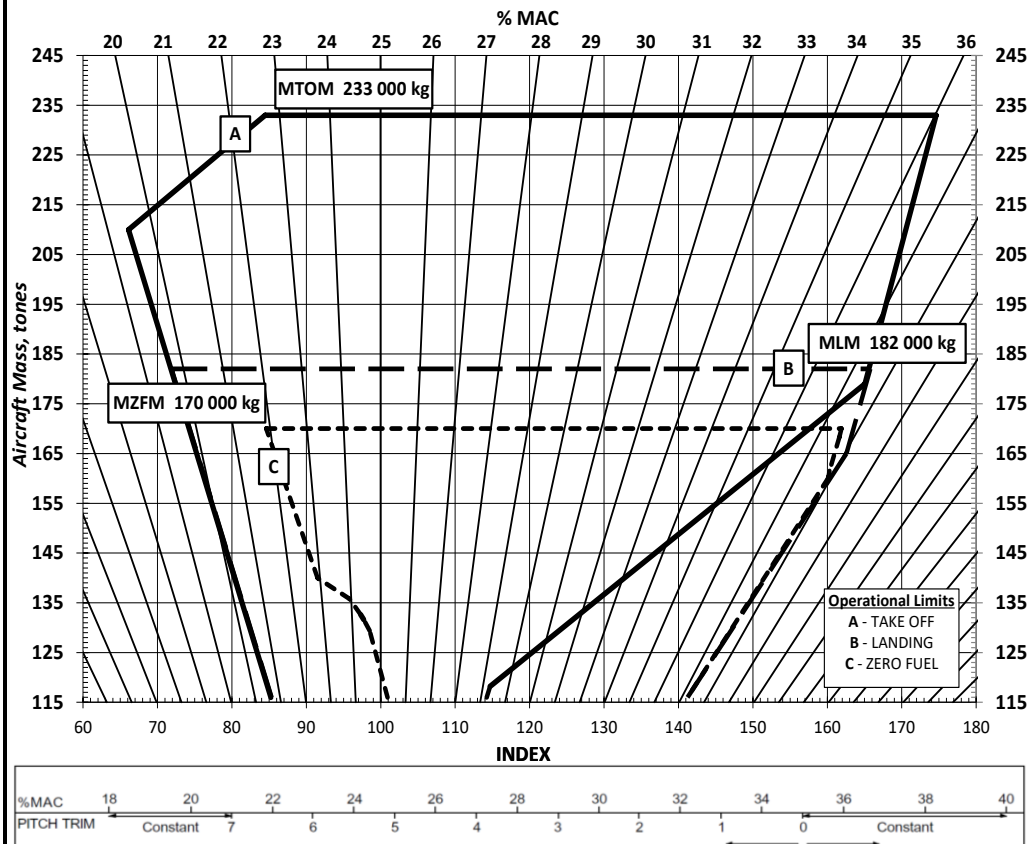
APPROVED BY:

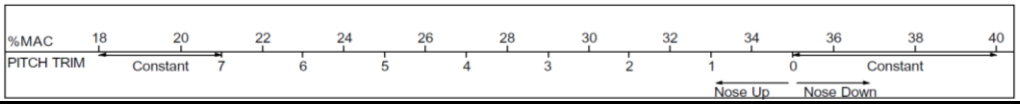
LOAD IN LOWER COMPARTMENTS INDEX TABLE

CMPT 1						CMPT 2				CMPT 3		CMPT 4				CMPT 5	
Mass	Ind	Mass	Ind	Mass	Ind	Mass	Ind	Mass	Ind	Mass	Ind	Mass	Ind	Mass	Ind	Mass	Ind
0-246	-1	4515-4678	-28	8946-9109	-55	0-132	0	6985-7248	-27	0-206	0	0-113	0	5965-6190	27	0-79	0
247-410	-2	4679-4842	-29	9110-9274	-56	133-395	-1	7249-7511	-28	207-618	1	114-338	1	6191-6415	28	80-238	1
411-574	-3	4843-5006	-30	9275-9438	-57	396-659	-2	7512-7775	-29	619-1030	2	339-563	2	6416-6640	29	239-397	2
575-739	-4	5007-5170	-31	9439-9602	-58	660-922	-3	7776-8039	-30	1031-1442	3	564-788	3	6641-6865	30	398-555	3
740-903	-5	5171-5334	-32	9603-9766	-59	923-1186	-4	8040-8302	-31	1443-1854	4	789-1013	4	6866-7090	31	556-714	4
904-1067	-6	5335-5498	-33	9767-9930	-60	1187-1450	-5	8303-8566	-32	1855-2265	5	1014-1238	5	7091-7315	32	715-872	5
1068-1231	-7	5499-5663	-34	9931-10094	-61	1451-1713	-6	8567-8829	-33	2266-2677	6	1239-1463	6	7316-7540	33	873-1031	6
1232-1395	-8	5664-5827	-35	10095-10258	-62	1714-1977	-7	8830-9093	-34	2678-3089	7	1464-1688	7	7541-7765	34	1032-1190	7
1396-1559	-9	5828-5991	-36	10259-10422	-63	1978-2240	-8	9094-9356	-35	3090-3501	8	1689-1913	8	7766-7990	35	1191-1348	8
1560-1723	-10	5992-6155	-37	10423-10587	-64	2241-2504	-9	9357-9620	-36	3502-3913	9	1914-2138	9	7991-8215	36	1349-1507	9
1724-1888	-11	6156-6319	-38	10588-10751	-65	2505-2767	-10	9621-9884	-37	3914-4325	10	2139-2363	10	8216-8440	37	1508-1665	10
1889-2052	-12	6320-6483	-39	10752-10915	-66	2768-3031	-11	9885-10147	-38	4326-4737	11	2364-2588	11	8441-8665	38	1666-1824	11
2053-2216	-13	6484-6647	-40	10916-11079	-67	3032-3295	-12	10148-**10206**	**-39**	4738-5149	12	2589-2813	12	8666-8890	39	1825-1983	12
2217-2380	-14	6648-6812	-41	11080-11243	-68	3296-3558	-13			5150-5561	13	2814-3038	13	8891-9115	40	1984-2141	13
2381-2544	-15	6813-6976	-42	11244-11407	-69	3559-3822	-14			5562-5972	14	3039-3264	14	9116-9341	41	2142-2300	14
2545-2708	-16	6977-7140	-43	11408-11571	-70	3823-4085	-15			5973-6384	15	3265-3489	15	9342-9566	42	2301-2459	15
2709-2872	-17	7141-7304	-44	11572-11736	-71	4086-4349	-16			6385-6796	16	3490-3714	16	9567-9791	43	2460-2617	16
2873-3036	-18	7305-7468	-45	11737-11900	-72	4350-4612	-17			6797-7208	17	3715-3939	17	9792-10016	44	2618-2776	17
3037-3201	-19	7469-7632	-46	11901-12064	-73	4613-4876	-18			7209-7620	18	3940-4164	18	10017-**10206**	**45**	2777-2934	18
3202-3365	-20	7633-7796	-47	12065-12228	-74	4877-5139	-19			7621-8032	19	4165-4389	19			2935-3093	19
3366-3529	-21	7797-7960	-48	12229-12392	-75	5140-5403	-20			8033-8444	20	4390-4614	20			3094-3252	20
3530-3693	-22	7961-8125	-49	12393-12556	-76	5404-5667	-21			8445-8856	21	4615-4839	21			3253-3410	21
3694-3857	-23	8126-8289	-50	12557-12720	-77	5668-5930	-22			8857-9268	22	4840-5064	22			3411-**3468**	**22**
3858-4021	-24	8290-8453	-51	12721-12884	-78	5931-6194	-23			9269-9680	23	5065-5289	23				
4022-4185	-25	8454-8617	-52	12885-13049	-79	6195-6457	-24			9681-10091	24	5290-5514	24				
4186-4350	-26	8618-8781	-53	13050-13213	-80	6458-6721	-25			10092-**10206**	**25**	5515-5739	25				
4351-4514	-27	8782-8945	-54	13214-**13380**	**-81**	6722-6984	-26					5740-5964	26				

PASSENGER CABIN INDEX TABLE

Cabin 0A / Rows 1-4				**Cabin 0B** / Rows 5-22				**Cabin 0C** / Rows 23-36											
Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index	Pax	Index
0-2	-1	14-15	-8	0-7	0	75-84	-8	0-3	1	19-21	8	37-39	15	55-57	22	73-75	29	91-93	36
3-4	-2	16-17	-9	8-15	-1	85-93	-9	4-6	2	22-24	9	40-42	16	58-59	23	76-77	30	94-95	37
5-6	-3	18-19	-10	16-25	-2	94-103	-10	7-8	3	25-26	10	43-44	17	60-62	24	78-80	31	96-98	38
7	-4	20	-11	26-34	-3	104-113	-11	9-11	4	27-29	11	45-47	18	63-65	25	81-83	32	99-100	39
8-9	-5	21-22	-12	35-44	-4	114-123	-12	12-13	5	30-31	12	48-49	19	66-67	26	84-85	33	101-103	40
10-11	-6	23-**24**	**-13**	45-54	-5	124-133	-13	14-16	6	32-34	13	50-52	20	68-70	27	86-88	34	104-**106**	**41**
12-13	-7			55-64	-6	134-143	-14	17-18	7	35-36	14	53-54	21	71-72	28	89-90	35		
				65-74	-7	**144**	**-15**												





MAX CERTIFIED MASSES

Max Taxi Mass	233 900 kg
Max Takeoff Mass	233 000 kg
Max Landing Mass	182 000 kg
Max Zero Fuel Mass	170 000 kg

Index Calculation Table

	(-)	(+)
DOI		
CMPT 1		
CMPT 2		
CMPT 3		
CMPT 4		
CMPT 5		
TOTAL		
	(-)	
DLI =		
Cabin 0A		
Cabin 0B		
Cabin 0C		
TOTAL		
	(-)	
LI ZFM =		
MAC ZFM (%) =		
LI ZFM		
T/O Fuel + / -		
LI TOM =		
MAC TOM (%) =		
LI ZFM		
LMC + / -		
Corrected LI ZFM		
T/O Fuel + / -		
Corrected LI TOM		
Corr. MAC TOM (%)		
LI ZFM		
Landing Fuel + / -		
LI LNM =		
MAC LNM (%) =		

MAC ZFM	%
MAC TOM	%
MAC LNM	%

TAKEOFF STAB TRIM SETTING:

TRIMSHEET / AIRBUS A330-243 / Reg: YR-KID / 245 seats
Configurations: C36Y209, Y245

FUEL INDEX TABLE								
Mass (kg)	Density (kg/l)							
	0.76	0.77	0.78	0.79	0.80	0.81	0.82	0.83
2000	-2	-2	-2	-2	-2	-2	-2	-2
4000	-4	-4	-4	-4	-4	-4	-4	-4
6000	-6	-6	-6	-6	-6	-6	-6	-6
8000	-8	-8	-8	-8	-8	-8	-8	-8
10000	-8	-8	-8	-8	-8	-8	-8	-8
12000	-4	-4	-4	-4	-4	-4	-4	-4
14000	1	1	1	1	1	1	1	1
16000	1	1	2	2	2	2	3	3
18000	-1	-1	0	0	0	0	1	1
20000	-3	-2	-2	-2	-2	-2	-1	-1
22000	-5	-4	-4	-4	-4	-4	-3	-3
24000	-6	-6	-6	-6	-6	-5	-5	-5
26000	-8	-8	-8	-8	-7	-7	-7	-7
28000	-10	-10	-10	-9	-9	-9	-9	-9
30000	-12	-12	-11	-11	-11	-11	-11	-10
32000	-13	-13	-13	-13	-13	-13	-12	-12
34000	-15	-15	-15	-15	-14	-14	-14	-14
36000	-17	-17	-16	-16	-16	-16	-16	-16
36500	-17	-17	-17	-17	-16	-16	-16	-16
37000	-12	-12	-12	-12	-11	-11	-11	-11
37500	-7	-7	-7	-6	-6	-6	-6	-6
38000	-2	-1	-1	-1	-1	-1	-1	-1
38500	4	4	4	4	4	4	5	5
39000	8	8	8	8	8	9	9	9
41500	6	6	6	6	6	7	7	7
44000	4	4	4	4	5	5	5	5
46500	2	2	2	3	3	3	3	3
49000	1	1	1	1	1	1	1	1
51500	0	0	0	0	0	0	0	0
54000	-1	-1	-1	-1	-1	-2	-2	-2
56500	-1	-1	-1	-2	-2	-2	-2	-3
59000	-1	-1	-2	-2	-2	-3	-3	-3
61500	0	-1	-1	-2	-2	-3	-3	-3
64000	1	0	0	-1	-2	-2	-3	-3
66500	3	2	1	0	-1	-1	-2	-3
69000	5	4	3	2	1	0	-1	-2
71000	7	6	5	4	2	1	1	0
73000	8	8	7	6	4	3	2	1
75000	7	7	7	7	7	5	4	3
77000	7	7	7	7	7	7	6	5
79000	6	6	6	6	6	6	6	6
81000	5	5	5	6	6	6	6	6
83000	4	4	4	5	5	5	5	5
85000	3	3	3	4	4	4	5	5
87000	2	2	2	3	3	3	4	4
89000	1	1	1	2	2	2	3	3
91000	0	0	0	1	1	2	2	2
93000	-1	-1	-1	0	0	1	1	1
95000	-2	-1	-1	-1	-1	0	0	0
97000	-2	-2	-2	-2	-2	-1	-1	-1
99000	-3	-3	-3	-3	-2	-2	-2	-1
101000	-5	-4	-4	-4	-3	-3	-3	-2
103000	-6	-5	-5	-5	-4	-4	-3	-3
105000	-8	-7	-6	-6	-5	-5	-4	-4
107000	-	-9	-8	-7	-6	-6	-5	-5
109000	-	-	-	-9	-8	-7	-6	-6
111000	-	-	-	-	-9	-8	-7	-7
113000	-	-	-	-	-	-	-9	-8
115000	-	-	-	-	-	-	-	-9
Full tanks mass (kg)	105708	107099	108490	109881	111272	112663	114054	115445
Full tanks Index (i.u.)	-9	-9	-9	-9	-9	-10	-10	-10

LOADING INSTRUCTION / REPORT AIRBUS A330-243

Flight / Date:

A/C Reg / Station:

Compartment **5** Max: 3468 kgs	Compartment **4** Max: 10206 kgs	Compartment **3** Max: 10206 kgs	Compartment **2** Max: 10206 kgs	Compartment **1** Max: 13380 kgs

LOADING INSTRUCTION

53	52	43L	42L	41L	33L	32L	31L	23L	22L	21L	14L	13L	12L	11L
	51	43R	42R	41R	33R	32R	31R	23R	22R	21R	14R	13R	12R	11R
DOOR		42P	DOOR	41P	32P		31P	22P		21P	13P		12P	11 DOOR

LOADING REPORT

53	52	43L	42L	41L	33L	32L	31L	23L	22L	21L	14L	13L	12L	11L
	51	43R	42R	41R	33R	32R	31R	23R	22R	21R	14R	13R	12R	11R
DOOR		42P	DOOR	41P	32P		31P	22P		21P	13P		12P	11 DOOR

TOTAL Compartment **5**	TOTAL Compartment **4**	TOTAL Compartment **3**	TOTAL Compartment **2**	TOTAL Compartment **1**

Special instructions:

LOADING INSTRUCTION PREPARED BY:
(name and signature)

This aircraft has been loaded in accordance with these instructions including the deviations shown on the report. All ULDs and bulk load have been secured in accordance with company regulations. All locks are in upright position and all compartments are free of foreign objects.

Loading supervisor or person responsible for loading:
(name and signature)

Passenger Seating Layout | A330 | C24Y250

Applicable to YR-KID

	Business Class												
0A	**1A**	**1B**			**1C**	**1F**			**1G**	**1H**			
	2A	**2B**			**2C**	**2F**			**2G**	**2H**			
	3A	**3B**			**3C**	**3F**			**3G**	**3H**			
	4A	**4B**			**4C**	**4F**			**4G**	**4H**			
	Economy Class												
	5A	**5B**		**5C**	**5D**	**5E**	**5F**		**5G**	**5H**			
	6A	**6B**		**6C**	**6D**	**6E**	**6F**		**6G**	**6H**			
	7A	**7B**		**7C**	**7D**	**7E**	**7F**		**7G**	**7H**			
	8A	**8B**		**8C**	**8D**	**8E**	**8F**		**8G**	**8H**			
	9A	**9B**		**9C**	**9D**	**9E**	**9F**		**9G**	**9H**			
	10A	**10B**		**10C**	**10D**	**10E**	**10F**		**10G**	**10H**			
	11A	**11B**		**11C**	**11D**	**11E**	**11F**		**11G**	**11H**			
	12A	**12B**		**12C**	**12D**	**12E**	**12F**		**12G**	**12H**			
0B	**13A**	**13B**		**13C**	**13D**	**13E**	**13F**		**13G**	**13H**			
	14A	**14B**		**14C**	**14D**	**14E**	**14F**		**14G**	**14H**			
	15A	**15B**		**15C**	**15D**	**15E**	**15F**		**15G**	**15H**			
	16A	**16B**		**16C**	**16D**	**16E**	**16F**		**16G**	**16H**			
	17A	**17B**		**17C**	**17D**	**17E**	**17F**		**17G**	**17H**			
	18A	**18B**		**18C**	**18D**	**18E**	**18F**		**18G**	**18H**			
	19A	**19B**		**19C**	**19D**	**19E**	**19F**		**19G**	**19H**			
	20A	**20B**		**20C**	**20D**	**20E**	**20F**		**20G**	**20H**			
	21A	**21B**		**21C**	**21D**	**21E**	**21F**		**21G**	**21H**			
	22A	**22B**		**22C**	**22D**	**22E**	**22F**		**22G**	**22H**			
	Emergency Exit Row												
	23A	**23B**		**23C**	**23D**	**23E**	**23F**		**23G**	**23H**			
	24A	**24B**		**24C**	**24D**	**24E**	**24F**		**24G**	**24H**			
	25A	**25B**		**25C**	**25D**	**25E**	**25F**		**25G**	**25H**			
	26A	**26B**		**26C**	**26D**	**26E**	**26F**		**26G**	**26H**			
	27A	**27B**		**27C**	**27D**	**27E**	**27F**		**27G**	**27H**			
	28A	**28B**		**28C**	**28D**	**28E**	**28F**		**28G**	**28H**			
0C	**29A**	**29B**		**29C**	**29D**	**29E**	**29F**		**29G**	**29H**			
	30A	**30B**		**30C**	**30D**	**30E**	**30F**		**30G**	**30H**			
	31A	**31B**		**31C**	**31D**	**31E**	**31F**		**31G**	**31H**			
	32A	**32B**		**32C**	**32D**	**32E**	**32F**		**32G**	**32H**			
	33A	**33B**			**33C**	**33D**	**33E**		**33G**	**33H**			
	34A	**34B**			**34C**	**34D**	**34E**		**34G**	**34H**			
	35A	**35B**			**35C**	**35D**	**35E**		**35G**	**35H**			
	36A	**36B**			**36C**	**36D**	**36E**						

Row 23 is **EMERGENCY EXIT** row.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**: 1-4A, 1-4H, 5-22A, 5-22H, 24-36A, 24-35H.

Rows for **unaccompanied minors**: 2-4, 5-10.

Seats for **passengers with reduced mobility** (PRM): 1-4A, 1-4H, 5-21A, 5-21H.

Passenger Seating Layout | A330 | Y274

Applicable to YR-KID

	Economy Class										
0A	1A	1B		1C	1F			1G	1H		
	2A	2B		2C	2F			2G	2H		
	3A	3B		3C	3F			3G	3H		
	4A	4B		4C	4F			4G	4H		
0B	5A	5B		5C	5D	5E	5F	5G	5H		
	6A	6B		6C	6D	6E	6F	6G	6H		
	7A	7B		7C	7D	7E	7F	7G	7H		
	8A	8B		8C	8D	8E	8F	8G	8H		
	9A	9B		9C	9D	9E	9F	9G	9H		
	10A	10B		10C	10D	10E	10F	10G	10H		
	11A	11B		11C	11D	11E	11F	11G	11H		
	12A	12B		12C	12D	12E	12F	12G	12H		
	13A	13B		13C	13D	13E	13F	13G	13H		
	14A	14B		14C	14D	14E	14F	14G	14H		
	15A	15B		15C	15D	15E	15F	15G	15H		
	16A	16B		16C	16D	16E	16F	16G	16H		
	17A	17B		17C	17D	17E	17F	17G	17H		
	18A	18B		18C	18D	18E	18F	18G	18H		
	19A	19B		19C	19D	19E	19F	19G	19H		
	20A	20B		20C	20D	20E	20F	20G	20H		
	21A	21B		21C	21D	21E	21F	21G	21H		
	22A	22B		22C	22D	22E	22F	22G	22H		
0C	Emergency Exit Row										
	23A	23B		23C	23D	23E	23F	23G	23H		
	24A	24B		24C	24D	24E	24F	24G	24H		
	25A	25B		25C	25D	25E	25F	25G	25H		
	26A	26B		26C	26D	26E	26F	26G	26H		
	27A	27B		27C	27D	27E	27F	27G	27H		
	28A	28B		28C	28D	28E	28F	28G	28H		
	29A	29B		29C	29D	29E	29F	29G	29H		
	30A	30B		30C	30D	30E	30F	30G	30H		
	31A	31B		31C	31D	31E	31F	31G	31H		
	32A	32B		32C	32D	32E	32F	32G	32H		
	33A	33B		33C	33D	33E		33G	33H		
	34A	34B		34C	34D	34E		34G	34H		
	35A	35B		35C	35D	35E		35G	35H		
	36A	36B		36C	36D	36E					

Row 23 is **EMERGENCY EXIT** row.

NOT to be collocated to:
- incapacitated passengers
- unaccompanied minors
- children
- passengers with infants

Seats for **passengers with infants**: 1-4A, 1-4H, 5-22A, 5-22H, 24-36A, 24-35H.

Rows for **unaccompanied minors**: 2-4, 5-10.

Seats for **passengers with reduced mobility** (PRM): 1-4A, 1-4H, 5-21A, 5-21H.

BUSINESS RULES / BAGGAGE CHARGES from UK / Stansted STN Airport

Effective from 01 June 2024

SEAT SELECTION

When seats in rows 1, 2, 3-4, 11/12-13/18,27/23 (emergency exit rows vary depending on aircraft type) are available, these seats can be offered to passengers on request at airport check-in desks as per below costs (respecting restrictions). The other seats are offered at check-in desks without any additional charge. Seat selection is free of charge for Premium Plus and Business class passengers during check-in. Seats in business class can not be offered at extra costs to economy class passengers.

Rows	**1**	**2**	**3-4**	Emergency exit rows **11** (on A319) / **12-13** (on A320) / **18,27** (on A321) / **23** (on A330)
Charge	30 £	25 £	20 £	30 £

AIRPORT CHECK-IN FOR ECONOMY BASIC (classes: A, O, G, U, E, X, P)

Airport check-in charge for ECONOMY BASIC is **10 £**.

PETS IN CABIN (PETC)

PETC transportation is not allowed on flights to/from **UK (STN)**.

UNACCOMPANIED MINORS (UMNR)

Unaccompanied minor transportation charge when paid at airport is **50 £** per flight leg.

NAME CHANGE

In case of more then 3 mistakes in the passenger's name, name change at airport is possible at charge of **70 £**.

CABIN BAGGAGE TRANSPORTATION

Booking Class	**Small Size** only : **1 pc** up to: **8 kg** up to: **40x30x20 cm**	**Large Size** only : **1 pc** up to: **10 kg** up to: **50x40x25 cm**
ECONOMY **BASIC** (A, O, G, U, E, X, P)	Free of charge	**20 € on web / 30 £ at airport**
ECONOMY **CLASSIC** (V, T, Q, N, M)		Free of charge
ECONOMY **PREMIUM** (L, K, H, B)		**20 € on web / 30 £ at airport**
ECONOMY **PREMIUM PLUS** (Y, S, W, R, F, I, J)		Free of charge
BUSINESS CLASS (C, D)		Free of charge

Effective from 01 June 2024

FREE CHECKED BAGGAGE ALLOWANCE

Economy **BASIC** (A, O, G, U, E, X, P)	**No free of charge** checked baggage permitted
Economy **CLASSIC** (V, T, Q, N, M)	
Economy **PREMIUM** (L, K, H, B)	Permitted **free of charge**: 1 pc / up to **23 kg** / up to 158 cm in 3 dimensions
Economy **PREMIUM PLUS** (Y, S, W, R, F, I, J)	
BUSINESS Class (C, D)	Permitted **free of charge**: 2 pcs / up to **32 kg** each / each up to 203 cm in 3 dimensions
Children up to 2 years of age (INF) (All classes)	Permitted **free of charge**: 1 pc / up to **10 kg** / up to 115 cm in 3 dimensions 1 folding pushchair free of charge

EXCESS BAGGAGE CHARGES

	Economy **BASIC**		Economy **CLASSIC**		Economy **PREMIUM**		Economy **PREMIUM PLUS**		**BUSINESS** Class	
	A, O, G, U, E, X, P		V, T, Q, N, M		L, K, H, B		Y, S, W, R, F, I, J		C, D	
1st piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	30 €	**40 £**	30 €	**40 £**	Free of charge		Free of charge		Free of charge	
up to : **32 kg** up to : **158 cm**	50 €	**70 £**	50 €	**70 £**	50 €	**70 £**	50 €	**70 £**		
up to : **23 kg** up to : **203 cm**	50 €	**70 £**	50 €	**70 £**	50 €	**70 £**	50 €	**70 £**		
up to : **32 kg** up to : **203 cm**	50 €	**70 £**	50 €	**70 £**	50 €	**70 £**	50 €	**70 £**		
2nd piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	80 €	**100 £**	80 €	**100 £**	80 €	**100 £**	80 €	**100 £**	Free of charge	
up to : **32 kg** up to : **158 cm**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**		
up to : **23 kg** up to : **203 cm**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**		
up to : **32 kg** up to : **203 cm**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**		
3rd piece and each next										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	80 €	**100 £**	80 €	**100 £**	80 €	**100 £**	80 €	**100 £**	80 €	**100 £**
up to : **32 kg** up to : **158 cm**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**
up to : **23 kg** up to : **203 cm**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**
up to : **32 kg** up to : **203 cm**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**	100 €	**120 £**

- Large sport equipment and large bags (larger than 203 cm in 3 dimensions) will be charged **100 €** (on web) or **120 £** (at airport), regardless of any other checked baggage.

BUSINESS RULES / BAGGAGE CHARGES
from USA / New Your JFK Airport

Effective from 12 July 2024

SEAT SELECTION

When seats in below rows are available, these seats can be offered to passengers on request at airport check-in desks as per below costs (respecting restrictions). The other seats are offered at check-in desks without any additional charge. Seat selection is free of charge for Premium Plus and Business class passengers during check-in. Seats in business class can not be offered at extra costs to economy class passengers.

A330			
Rows	**5**	**6, 7, 8**	**23** (Emergency exit row on A330)
Charge	55 $	35 $	55 $

UPGRADE TO BUSINESS CLASS

Upgrade to BUSINESS class for all fares is **500 $**.
The upgrade involves only the allocation of a seat in BUSINESS class, the other options will only be offered in case of availability. The upgrade fee will be collected during airport check-in.

AIRPORT CHECK-IN FOR ECONOMY BASIC (classes: A, O, G, U, E, X, P)

Airport check-in charge for ECONOMY BASIC is **15 $**.

PETS IN CABIN (PETC)

PETC transportation charge when paid at airport is **60 $** per flight leg.

UNACCOMPANIED MINORS (UMNR)

Unaccompanied minor transportation charge when paid at airport is **60 $** per flight leg.

NAME CHANGE

In case of more then 3 mistakes in the passenger's name, name change at airport is possible at charge of **80 $**.

CABIN BAGGAGE TRANSPORTATION

Booking Class	**Small Size** only : **1 pc** up to: **8 kg** up to: **40x30x20 cm**	**Large Size** only : **1 pc** up to: **10 kg** up to: **50x40x25 cm**
ECONOMY **BASIC** (A, O, G, U, E, X, P)	Free of charge	**20 € on web / 35 $ at airport**
ECONOMY **CLASSIC** (V, T, Q, N, M)		Free of charge
ECONOMY **PREMIUM** (L, K, H, B)		**20 € on web / 35 $ at airport**
ECONOMY **PREMIUM PLUS** (Y, S, W, R, F, I, J)		Free of charge
BUSINESS CLASS (C, D)		Free of charge

BUSINESS RULES / BAGGAGE CHARGES
from USA / New Your JFK Airport

Effective from 12 July 2024

FREE CHECKED BAGGAGE ALLOWANCE

Economy **BASIC** (A, O, G, U, E, X, P)	**No free of charge** checked baggage permitted
Economy **CLASSIC** (V, T, Q, N, M)	
Economy **PREMIUM** (L, K, H, B)	Permitted **free of charge**: 1 pc / up to **23 kg** / up to 158 cm in 3 dimensions
Economy **PREMIUM PLUS** (Y, S, W, R, F, I, J)	
BUSINESS Class (C, D)	Permitted **free of charge**: 2 pcs / up to **32 kg** each / each up to 203 cm in 3 dimensions
Children up to 2 years of age (INF) (All classes)	Permitted **free of charge**: 1 pc / up to **10 kg** / up to 115 cm in 3 dimensions 1 folding pushchair free of charge

EXCESS BAGGAGE CHARGES

	Economy **BASIC**		Economy **CLASSIC**		Economy **PREMIUM**		Economy **PREMIUM PLUS**		**BUSINESS** Class	
	A, O, G, U, E, X, P		V, T, Q, N, M		L, K, H, B		Y, S, W, R, F, I, J		C, D	
1st piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	30 €	**45 $**	30 €	**45 $**	Free of charge		Free of charge		Free of charge	
up to : **32 kg** up to : **158 cm**	50 €	**80 $**	50 €	**80 $**	50 €	**80 $**	50 €	**80 $**		
up to : **23 kg** up to : **203 cm**	50 €	**80 $**	50 €	**80 $**	50 €	**80 $**	50 €	**80 $**		
up to : **32 kg** up to : **203 cm**	50 €	**80 $**	50 €	**80 $**	50 €	**80 $**	50 €	**80 $**		
2nd piece										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	80 €	**110 $**	80 €	**110 $**	80 €	**110 $**	80 €	**110 $**	Free of charge	
up to : **32 kg** up to : **158 cm**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**		
up to : **23 kg** up to : **203 cm**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**		
up to : **32 kg** up to : **203 cm**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**		
3rd piece and each next										
	Web	Airport	Web	Airport	Web	Airport	Web	Airport	Web	Airport
up to : **23 kg** up to : **158 cm**	80 €	**110 $**	80 €	**110 $**	80 €	**110 $**	80 €	**110 $**	80 €	**110 $**
up to : **32 kg** up to : **158 cm**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**
up to : **23 kg** up to : **203 cm**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**
up to : **32 kg** up to : **203 cm**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**	100 €	**135 $**

- Large sport equipment and large bags (larger than 203 cm in 3 dimensions) will be charged **100 €** (on web) or **135 $** (at airport), regardless of any other checked baggage.