



## Ground Operations Western Region



Revision History

*The GOM has been converted into Yonder and TUI Airline decided collectively in the TUI group to restart the numbering.*

Issue	Revision	Date
0	0	Dec 2022
0	1	Jun 2023
0	2	Mar 2024
0	3	May 2024
0	4	Oct 2024
0	5	Jan 2025



## Applicability

### JAF-BE

Applicable to JAF AOC

End JAF-BE

### TFL-NL

Applicable to TFL AOC

End TFL-NL



## Transmittal Letter

Reference	PAI	R R	Description of Change	Reason for Change
<a href="#">Revision History</a>	No		Issue 0, Revision 5 added	New Revision
<a href="#">1.1.1.1 Ticket Sales Counter</a>	No		Removed 'for check-in' from title of Appendix L2	To clarify the procedure
<a href="#">1.1.2 Check-In Counter Requirements</a>	No		Amended in point f. to Appendix L2 'Dangerous Goods poster'	To clarify the procedure
<a href="#">1.1.3.2 Check-In Deadlines</a>	No		Removed references to B767	B767 no longer in fleet
<a href="#">1.1.3.4 Check-In Types</a>	No		Removed 'for check-in' from title of Appendix L2	To clarify the procedure
<a href="#">1.1.4.2.1 Cabin Configuration - Seat Maps</a>	No		New sub-chapter added seating configuration image and tables	Alignment with OM SEP
<a href="#">1.1.6.3 Checked Baggage</a>	No		Removed 'for check-in' from title of Appendix L2	To clarify the procedure
<a href="#">1.1.7.1 Preparation for Boarding</a>	No		Removed 'for check-in' from title of Appendix L2	To clarify the procedure
<a href="#">3.1.3.5 Passenger Boarding Bridge (PBB)</a>	No		Removed references to B767	B767 no longer in fleet
<a href="#">4.1.3 Actions After Aircraft Arrival</a>	No		Added new reference number	Editorial due to new content in 4.1.3.1
<a href="#">4.1.3.1 Actions After Aircraft Arrival with APU INOP / APU NOT STARTED</a>	No		New content regarding APU contingencies	To clarify the procedure
<a href="#">4.5.3.2 Unit Load Device Loading and Unloading</a>	No		Removed references to B767	B767 no longer in fleet
<a href="#">5.3.2 Last Minute Changes</a>	No		Removed B767 LMC limit content	B767 no longer in fleet
<a href="#">8. Annex B List of Abbreviations</a>	No		Abbreviations added	Editorial





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Reference	PAI	R R	Description of Change	Reason for Change
9.1.3.3 Loading instructions B737-800 and B737 MAX 8	No		Revised content regarding loading sequences	New loading instructions to align with Flight Ops Fuel Efficiency project
9.1.3.5 Loading instructions B737-700	No		Revised content regarding loading sequences	New loading instructions to align with Flight Ops Fuel Efficiency project
9.2.3.10 Aircraft pushback / towing operation B787	No		Removed reference to B767	B767 no longer in fleet
9.3 Annex C B767-300	No		Removed chapter	B767 no longer in fleet
10.2.2 Prohibited and forbidden dangerous goods	No		Removed reference to B767	B767 no longer in fleet
10.5.3.2 Segregation of incompatible dangerous goods	No		Amended "Blane Cell" to "Blank Cell"	Editorial
10.5.3.3 Loading dry ice	No		Removed reference to B767	B767 no longer in fleet
10.5.3.4 Loading magnetized material	No		Removed reference to B767	B767 no longer in fleet
10.6.3 Class 3 - Flammable liquids	No		Revised title to 'Flammable Liquids'	Editorial
11.10.2.1 BRU	No		Removed point 1.b.1 & 4.b. references to B767	B767 no longer in fleet
11.16.4 B767 Critical Areas	No		Removed sub-chapter	B767 no longer in fleet
12.3.6.1 Loading positions	No		Removed sub-chapter	B767 no longer in fleet
14.2.4 Restrictions	No		Amended content regarding snub-nosed dogs or cats restrictions	IAW GOTR24-034 Updated list of Banned Snub-nosed breeds
14.2.5 Inventory	No		Removed reference to B767	B767 no longer in fleet
14.2.7.3 Aircraft hold positions	No		Removed reference to B767	B767 no longer in fleet
14.3.5 Inventory	No		Removed reference to B767	B767 no longer in fleet



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Reference	PAI	R R	Description of Change	Reason for Change
15.5.5.2 Security measures	No		Removed reference to B767	B767 no longer in fleet



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## 0 Administration and General Instructions

### 0.1 Introduction

The Ground Operations Manual (GOM) complies with the terms and conditions of the individual Air Operator Certificate (AOC) issued under EASA Regulations by the Competent Authority and the requirements contained therein as applicable within the following individual AOC's:

#### JAF-BE

Airline	AOC	IATA	ICAO	NP Ground Operations	Contact
TUI fly Belgium	B-3044	TB	JAF	Hans De Greef	<a href="mailto:Hans.DeGreef@tuifly.be">Hans.DeGreef@tuifly.be</a>

#### End JAF-BE

#### TFL-NL

Airline	AOC	IATA	ICAO	NP Ground Operations	Contact
TUI fly the Netherlands	NL-AOC-49	OR	TFL	Amber Hoogendoorn	<a href="mailto:Amber.Hoogendoorn@tuifly.nl">Amber.Hoogendoorn@tuifly.nl</a>

#### End TFL-NL

- In this manual the above mentioned airlines (referred to as TUI Airline or individual as JAF/ TUI fly Belgium or TFL/TUI fly the Netherlands) comply with EU and EASA Regulations, and as such, we expect all handling-and supervision agents to comply with such standards, as described in Commission Regulation (EU) No 965/2012 ('Air Operations') and subsequently laid down in this Ground Operations Manual (GOM).
- As a standard, all flights must be handled as described in this Ground Operations Manual. If not covered, then please follow the latest edition of the IATA Airport Handling Manual (AHM) and the newest edition of the IATA Ground Operations Manual (IGOM).
- In addition to these documents, this manual provides additional requirements and instructions for handling our flights. If there are deviations between these documents, the instructions in this manual will prevail.
- This Ground Operations Manual describes regulations, procedures, policies, and recommendations regarding passenger handling, ramp handling, communications, and logistics.
- The Applicable Nominated Person(s) Ground Operations are responsible for overall control of this manual and are the only person(s) with the authority to authorize both the content and issuance of amendments and revisions.
- Agencies assigned to represent TUI Airline and the Ground Service Providers (GSPs) rendering services to the above airlines shall adhere strictly to this manual's contents.
- This manual, its annexes, appendices and any other manuals and instructions are published on the TUI Airline Ground Operations Portal ([TAGO Portal](#)). Any printed copies



made of the above are considered uncontrolled. The GSP should have a contingency plan in place for the event the TAGO Portal is not accessible.

- h. The manual should be accessible to all staff involved in handling TUI Airline and serves as a working document giving clear instructions in preparing procedures covering the handling for TUI Airline flights. Any amendments/revisions that are sent take immediate effect and therefore should be incorporated promptly upon receipt.
- i. This manual contains information that is the property of TUI Airline. Except for competent authorities' purposes of inspection and approval, this content may not be copied, distributed, or otherwise disclosed to third parties without TUI Airline's express written consent.

## 0.2 TAGO Portal

TUI Airline Ground Operations makes use of the TAGO Portal for all communications towards and with Ground Handlers and external suppliers. The TAGO Portal consists of two parts that are linked with each other.

Purpose	Website
External (Ground Handlers and External Suppliers)	<a href="https://tago.tuigroup.com/portal/">https://tago.tuigroup.com/portal/</a>
Internal (TUI Employees)	<a href="https://tago.tuigroup.com/">https://tago.tuigroup.com/</a>

The TAGO Portal is used for the following:

- a. Station Handling and Contact Details
- b. Documentation and Distribution
- c. Emergency Response Planning (ERP) Details
- d. SITA Addresses
- e. Flight Schedules
- f. TUI Key Contact List
- g. Stationery Ordering
- h. Appendices

**Note:** Login details can be requested by emailing [gomsupport@tuifly.com](mailto:gomsupport@tuifly.com)

## 0.3 Just Culture and TUI Golden Rules

TUI Airline strongly believes in a 'just culture' reporting environment, where people are encouraged to provide essential safety-related information. The primary purpose is to provide quick, detailed information to the company and the authority. The company expects all employees to understand, remember and follow our safety policy when on company business. The policy itself can be summarized as the Golden Rules as detailed below:

- a. We **COMPLY** with all applicable laws, regulations, company standards, and procedures.
- b. We **INTERVENE** whenever we observe an unsafe or non-compliant act and **REPORT** unsafe or non-compliant situations.
- c. We **LEARN** from our mistakes and **SHARE** best practices in order to improve our safety and compliance performance and that of our surroundings.





## 0.4 Expectations of TUI

TUI Airline has established and will maintain high safety and continuity of operations in a productive, cost-efficient, and efficient manner. For this purpose, TUI Airline has contracted services at all stations. Amongst other services pertaining to TUI Airline, operations include:

- a. Ground handling at all stations;
- b. Catering services;
- c. Fueling at all stations;
- d. Pre-flight services;
- e. Cleaning Services if applicable;

## 0.5 The expectation of the Ground Handling Company

In general, the contracted handling company will:

- a. Provide ramp and passenger handling;
- b. Liaise with catering suppliers, fuel suppliers, cleaning companies and airport authorities;
- c. Notify TUI OCC of the exact arrival and departure times and loading information;
- d. Notify TUI OCC of all disruptions, foreseen or actual, to planned program, such as technical problems on the ground, weather conditions, or airport congestion

## 0.6 Manual Applicability

- a. The GOM reflects the valid company policies and procedures based on the latest regulations, technical data, and operational experience. All relevant operations personnel are required to comply with and adhere to the instructions contained in this manual.
- b. The company will ensure that information taken from approved documents and any amendment of such approved documents is correctly reflected in the OM and that the GOM contains no information contrary to any approved documentation. This requirement does not prevent the use of more conservative data and procedures.
- c. The GOM contains confidential and copyrighted material. It must not be reproduced, distributed, or copied without the respective AOC Nominated Person's prior written consent.

## 0.7 Use of Language

The GOM is prepared in English, the TUI Airline common language, to ease communication and operations. All operations personnel that are in contact with the crew must be able to communicate in English. All communication related to procedures must be performed in English by all operations personnel.

## 0.8 Key Contact List

For the Key Contact List, refer to the [TAGO Portal](#) and click "Key Contacts" in the menu.

## 0.9 AOC Specifics in Italic

All company policies or specific instructions in Chapters 1 - 6 are in italic.

Italics are used in this manual to describe the following:

- a. TUI Airline policies.



- b. TUI Airline procedures.
- c. TUI Airline specific instructions.
- d. AOC specific instructions - indicated by the AOC's ICAO code before and after the instruction.

For example:

**JAF**

*Company Specific*

**End JAF**

## 0.10 Responsibilities

All manuals, instructions, and temporary revisions mentioned above must be studied and signed off. The contracted GSP shall strictly adhere to the content of these instructions. Each party is responsible for training its staff; this implies:

- a. Having a clear description of all training requirements for all job functions, including on-the-job training;
- b. Ensure that all staff, including temporary staff and sub-contractors, comply with the training requirements for their respective job functions;
- c. Ensuring the continued competence of all staff, through relevant (continuation) training and assessments;
- d. Training shall be a combination of theoretical and practical training depending on the topic being trained;
- e. Keeping training records complete and up-to-date;
- f. Have training records available for TUI Airline upon request, e.g. during audits.

### 0.10.1 Training

The GSP shall ensure that training is conducted as described in the IATA AHM regulations and all other applicable regulations like:

- a. TUI Airline processes and procedures as described in this manual;
- b. Security training as described in Chapter 15, Annex I: Security;
- c. SAE Global De-icing Standards
- d. In some cases, local airport regulations/rules might take priority over the procedures in the GOM.

## 0.11 Annexes and Appendices

The GOM contains annexes and in addition, references to appendices in numerous chapters throughout the manual.

Annexes, located in the final chapters of the GOM, detail specific processes and procedures for the TUI Group, which are not covered by the IATA IGOM. The annexes provide extra, specific instructions, such as those for Annex D Dangerous Goods & Weapons, Annex E De-icing and Anti-icing, among others.

Appendices offer supplementary content and additional information. They serve as a valuable resource for enhancing understanding and providing content such as Appendix I10 Delay



Codes, Appendix I3 Ancillary Sales Charges, among others. The appendices are located within the TAGO portal, as outlined in the GOM.

## 0.12 Amendment and revision

TUI Airline will issue the current version in the [TAGO Portal](#). When a new issue is published on the [TAGO Portal](#), a notification email is sent to all copyholders. This notification is including a confirmation button to confirm receipt and sign off of the new issue. The copyholder must click this button within seven (7) days after publication.

Apart from the Ground Operations Manual, TUI Airline aims to have other relevant information available on the [TAGO Portal](#), such as:

- a. Aircraft documents;
- b. Forms;
- c. Applications;
- d. Notices, Temporary Revisions, and Safety Alerts;
- e. Lease in aircraft information;
- f. Logos;
- g. Any other relevant information.

### 0.12.1 Handwritten Amendments





Handwritten amendments and revisions are not permitted.

## 0.13 Annotation of changes

A vertical revision line will indicate any changes to previous versions.

## 0.14 Communication Bulletins

TUI Airline can send the following bulletins apart from the Ground Operations Manual

Header	Description
 TUI Airline Ground Operations - Instruction Notice	Refer to Instruction Notice
 TUI Airline Ground Operations - Temporary Revisions	Refer to Temporary Revisions
 TUI Airline Ground Operations - Safety Alert	Refer to Safety Alerts
 TUI Airline Ground Operations - Internal Notice	For internal procedures only. Not available to read for contracted external parties.

## 0.15 Instruction Notice

Apart from GOM-TR(s), TUI Airline can send you other relevant – non-procedural - information in the form of Ground Operations Instruction Notices.

Instruction Notices can be found on the TAGO Portal under Documents / 03. Notices, TR's, Safety Alerts.



## 0.16 Temporary revisions

TUI Airline issues temporary revisions (GOM-TR), transmitting information between formal revisions of this manual's various parts.

- a. A Temporary Revision mentions:
  - 1. The relevant part of the manual.
- b. A Temporary Revision is valid until:
  - 1. The information is no longer applicable; or
  - 2. The information is incorporated in the next revision of the relevant part of this manual.
- c. Responsibility
  - 1. The Nominated Person Ground Operations is responsible for the timely issue and the content of the GOM-TR.

## 0.17 Safety Alerts

TUI Airline issues Safety Alerts to alert on safety trends that require immediate attention. Safety Alerts can be found on the TAGO Portal under Documents / 03. Notices, TR's, Safety Alerts.

## 0.18 Feedback

All readers are invited to report any discovered discrepancies/errors and suggestions for improvement by emailing [gomsupport@tuifly.com](mailto:gomsupport@tuifly.com)



# 1 Passenger Handling Procedures

## 1.1 Passenger Departure

### 1.1.1 Predeparture Activities

#### 1.1.1.1 Ticket Sales Counter

If a Ticket Sales Counter is located at the airport it shall display either electronic or manual versions of:

- a. Operating airline signage.
- b. Dangerous goods notifications.

*(Refer to Appendix L2 Dangerous Goods Poster and Appendix L3 Forbidden Lithium Poster A4)*

- c. Handling forms, information on passenger rights and marketing material required by the operating airline, if applicable.

**Note:** forms and passenger right documentation will be send by Customer Care and are available as Appendices F3 and L1 in the TAGO Portal.

#### 1.1.1.2 Passenger Pre-Flight Preparation

Prepare check-in for flights in accordance with operating airline policy (*see below in italic*) prior to the opening of web or airport check-in, and verify all necessary data has been transferred into the check-in system correctly.

- a. Review the booking status.
- b. For code share flights with an active blocked space agreement, check the allotment to ensure the block of seats, as agreed, is guaranteed to the partner.
- c. Review the curtain version (cabin configuration) and adjust cabin capacity if applicable.
- d. Confirm the Passenger Name List (PNL) and Additions and Deletions List (ADL) were properly transmitted and match the booking status.
- e. Block seats, if required, e.g. for security officers, crew, stretcher cases, weight and balance, and if seats are unserviceable.
- f. Confirm the seating plan is set according to the actual aircraft type and version.
- g. Review the flight remarks.
- h. Record the passenger status on Passenger Name Record (PNR) if applicable e.g. ticket issued, Frequent Flyer status, revenue/non-revenue/industry travel.
- i. Review the boarding time, departure time, and gate. Brief staff about the reason for any delays.
- j. Apply payload restrictions, if any.
- k. Review the passenger list for special service request (SSR) and all passengers requesting assistance (e.g. wheelchair (WCH) assistance, unaccompanied minors (UM), service animals, special baggage etc.) and preassign a seat as per operating airline procedure (*PNL check in accordance with Appendix I1*) and according to the aircraft type.
- l. Review notifications and included handling instructions, if pre-advised for specific passengers and/or baggage by the operating airline (*see below in italic*).
- m. Conduct a staff briefing for check-in agents.



- n. If not pre-reserved, prepare seating for families traveling with infants or children, as per operating airline procedures (*see below in italics*). Check total infants booked and order additional life vests, if needed.
- o. Where free/open seating is applied, inform the crew and passengers and ensure special category passengers have appropriate seats.

### **Pre-seating**

*The PNL's will be sent as follows:*

- 1. -73 hrs for Secure Flight ;
- 2. -19 hrs for AMS, Antilles and all Belgian bases (except for BRU);

#### **JAF-BE**

-12 hrs for BRU;

#### **End JAF-BE**

- 3. -5 hrs for all other stations

*ADL's are sent on event basis.*

*The pre-seating provided by New Skies must not be changed by the Ground Handling Agent unless there is a breach of safety regulations and/or weight and balance.*

*Passengers not listed on the PNL, can only be accepted as NOREC after approval from the Flight Specials or Customer Care team.*

*If passengers are listed on the PNL but do not hold a ticket, check-in staff should contact the respective Customer Care team (see TAGO Portal KeyContacts).*

### **Additions and Deletions List (ADL)**

*It's very important that check-in agents do NOT touch the pre-seating, except for ADL's received on the day of operation as described above, in order to guarantee a proper service on*



*board or in any case the seating is not according the safety regulations as described in Appendix I1 – Seating Instructions.*

*In the rare event handling agents receive a PNL that is supposed to have seating, without seat allocation to the passengers, please contact the Customer Care team and if no seat allocation available, as described on TAGO under Appendix I1 – Seating Instructions should be followed.*

***SOM to be ignored for allocation of seats***

*At double drop flights passengers should get the seat allocated according to the pre-seating on the PNL.*

*In case of GoNow is in use:*

*SOM messages are not applicable.*

*In case GoNow is not in use*

*a. And no seating problems have occurred:*

*Adapt your DCS system so no SOM will be sent out.*

*b. And seating problems have occurred:*

*Make sure SOM will be sent out.*

**1.1.2 Check-In Counter Requirements**

Prior to opening the check-in counters:

- a. Start and test equipment.
- b. Ensure scales are functioning and calibrated.
  1. Scales must be calibrated and checked, once a year or as required by the manufacturer of the scale or by the local authority responsible.
    - i. The local authority will issue a certificate after the calibration and deliver it to the airport authority.
    - ii. Copy of the calibration certificate is kept in each station for record.
    - iii. A sticker is placed on each scale after the calibration, if applicable.
  2. The responsible check-in agent shall check that baggage scales are operating properly prior to check-in opening by:
    - i. Checking the airport authority calibration sticker is current (if applicable).
    - ii. Checking the weight indicator at the position to ensure it shows '0.0 kg'.
      - If the weight indicator shows otherwise inform the relevant airport authority department.
      - If the scale remains out of order, another check-in counter shall be requested.
  3. The periodic check of scale accuracy used in the baggage handling process lies in the equipment owner's responsibility who is also responsible to make available to ground handling services provider (GHSP) all relevant documentation, where applicable.
- c. Stock boarding card and bag tag printers – *to order stock please use Stationery Request form in the TAGO Portal.*
- d. Ensure adequate stock of any other tags, handling forms, information on passenger rights and marketing material required by TUI fly Belgium and TUI fly the Netherlands.



- e. Display signage required by the operating airline, and mark counters per class, customer status or as 'baggage drop off' if applicable.
- f. Ensure dangerous goods notifications are prominently displayed. *To be found as Appendix L2 Dangerous Goods Poster and Appendix L3 Forbidden Lithium Poster A4.*
- g. Prepare check-in queues, stanchions, carpets, baggage gauges, podiums, etc., as per operating airline procedures. *(see below in italic).*

### **Counter Set Up:**

*The counters used for dedicated check-in should clearly indicate the following:*

1. *Company logo;*

**TFL-NL**

1. *TUI fly the Netherlands: Deluxe / Comfort / Economy;*

**End TFL-NL**

**JAF-BE**

1. *TUI fly Belgium: VIP Selection / Fly Deluxe / Economy;*

**End JAF-BE**

2. *flight number;*
3. *destination(s);*
4. *Security questions.*

*Counters used for common check-in of **TUI Airline** should clearly display the appropriate company logo.*

### **Counter Types:**

*For all flights the following counters should be available in sufficient numbers in accordance with applicable SLA's.*

- a. *Economy (Economy, Comfort)*
- b. *Premium (VIP Selection, Fly Deluxe, Deluxe)*
- c. *Baggage Drop-off (if applicable)*

### **Counter Signage:**

*Signage must be used for passengers to clearly identify the counter classes as indicated above. All Signage/Logos can be found in the TAGO Portal.*

## **1.1.3 Passenger Check-In**

### **1.1.3.1 General**

Check-in is the complete sequence of steps that involve the registration of passengers and their baggage in a Departure Control System (DCS) or manual system, the labelling of the baggage and the issuance of one or more boarding passes. Boarding passes containing the registered passenger's name and additional unique identifying data must be issued to all passengers, either on paper or electronically





*The baggage of the passengers travelling in Premium club, Fly Deluxe and VIP Selection ticket should be tagged at check-in with a VIP priority tag. When you run out of stock, please order on time via the TAGO Portal.*

#### **JAF-BE**

##### **Duty/Leisure Tickets**

*Duty and Leisure tickets are issued by TUI fly Belgium for staff on business travel or employees (who are not on business travel) and their companions. Therefore, proof of employment with TUI fly Belgium (TUI ID) needs to be presented before checking in this type of passengers. In case of a companion (or 'buddy'), the accompanying staff member must be present at check-in to confirm employment. In this case, the name of the staff member will also be mentioned on the ticket. If proof of employment cannot be presented, the passenger and his/her companion(s) cannot be checked-in.*

*Passengers with a duty/leisure ticket need to be checked in on a standby basis when presenting themselves at check in. The ticket can be recognized by the header 'LEISURE TICKET' or 'DUTY TICKET' (example added below). These passengers will not be on the PNL and will have to be 'norec-ed'.*

*Final seating and final decision in case of overbooking is subject to Captain's discretion. In case of limited seat capacity a duty ticket has priority over a leisure ticket.*

*Do not let passengers with duty/leisure tickets wait until the last at check-in but check in immediately (on standby basis) when presenting at the check in. Keep the ticket in the flight file after check in, as proof for the NOREC.*

*Children under 16 years who are travelling with a leisure ticket and who are accompanying a crew member in function, must be accompanied by another adult who is willing and able to take full responsibility of the child during the entire journey.*



## STANDBY LEISURE TICKET

### Departure:

Flight nr.	Date	From/To	Check baggage	Cabin baggage	Ref nr.
TB1171	10-jan-23	OST - ALC	20 kg	1 piece / max 10 kg	2737

Passenger name: Bart Cockx

TUI fly employee: yes

If not a TUI employee, name of the accompanying TUI staff member: /

Info to handling agent: the name of this ticket holder will not be present on the PNL. This person has to be checked in on a standby basis (see JAF GOM). Before check-in, this passenger needs to provide proof of employment with TUI fly Belgium (TUI ID). TUI fly Belgium allows companions to travel with a TUI fly crew member or other TUI fly employee. In this case, the accompanying staff member must be present at check-in to prove employment. ATTENTION: do not let this passenger wait till last to check-in.

### Approval Stamp + Signature



Nicolas Mollet  
Nominated Person / General Manager  
Flight Operations TUI fly Belgium  
TUI Airlines Belgium



Info to ticket holder: You will only be added to the flight on a standby base upon presenting this ticket at check-in



**End JAF-BE**

**JAF-BE**

***When a NOREC passenger travelling with a Duty or Leisure Ticket reports at the check-in counter, the following procedure should be followed:***

*When it occurs, a passenger reports at the check-in counter and his name is not on the PNL, the ground handling agent should contact the local representative and ask for his approval.*

***If, after applying above procedure it is still not clear whether the passenger is allowed to travel, or in any other case of doubt:***

*Contact TUI fly Belgium Ops Support, not the Customer Care team. Contact Ops Support: +32 2717 81 11 (option 3).*

**End JAF-BE**

### 1.1.3.2 Check-In Deadlines

Apply check-in deadlines as per operating airline policy (*see below in italic*), respecting applicable passenger rights and on-time departure requirements.

*If not agreed in the SLA with your station, check-in counters for flights departing outside Belgium and the Netherlands below table is applicable. These rules are the minimum requirements. It is possible that for operational reasons, more check-in desks are requested, however agreements upon the number of check-in desks will be made on a station base in these circumstances.*

# of counters	Counter type			Standard Opening hours <sup>1</sup>
	Premium	Economy	Baggage Drop-off	
SH/MH	0	3	<i>If applicable</i>	Latest STD -02:00 till STD -00:40 <sup>2</sup>
LH	2	2	<i>If applicable</i>	Latest STD -03:00 till STD -01:00



**Note 1:** *If SH/MH is operated by a Wide body aircraft (B787): LH opening hours & counter numbers need to be implemented. When no VIP Selection / Fly Deluxe passengers presenting themselves to check in, the check-in agent is supposed to take one-by-one economy passengers to check in. An empty VIP counter and a row of passengers in economy is not acceptable For common check-in on stations outside Belgium and the Netherlands, please follow instructions as given per TUI group/TUI fly Belgium and TUI fly the Netherlands notice and agreements. Common check-in is only allowed after approval by the carrier.*

**Note 2:** *Non-standard Check-in Closure times*  
*The following stations have a closure time of their check-in desks at STD -00:60 minutes*  
*a. Flights to/from Eskisehir and Kayseri*  
*b. All flights from Paris, Morocco, Algeria.*  
*Check-in closure times may vary according to local SLA's with TUI.*

### **Belgian airports**

*If not agreed in the SLA with your station, or agreed otherwise, check-in counters for flights departing from Belgium below table is applicable. The number of check-in counters is a minimum requirement and applicable to flights with dedicated check-in. Flight category to be discussed with operational management.*

	<b>MH Leisure</b>	<b>MH Semi-VFR</b>	<b>MH-VFR</b>	<b>LH</b>
<i>E195-E2</i>	<i>2c at 150'</i>	<i>2c at 150'</i>	<i>2c at 150'</i> <i>1c at 120'</i>	<i>N/A</i>
<i>B737-700</i>	<i>2c at 150'</i>	<i>2c at 150'</i>	<i>2c at 150'</i> <i>1c at 120'</i>	<i>N/A</i>
<i>B737-800 &amp; B737 MAX 8</i>	<i>2c at 150'</i>	<i>2c at 150' + 1c at 120'</i>	<i>2c at 150' + 2c at 120'</i>	<i>N/A</i>
<i>B787-800</i>	<i>3c at 150'</i>	<i>4c at 150'</i>	<i>3c at 150' + 2c at 120'</i>	<i>5c at 180'</i> <i>of which 1c closes at STD-60'</i>

*A second gate agent is required for all Semi-VFR (passengers visiting friends and relatives) and VFR flights, except if performed on the E-Jet, and for all LH-flights.*



***Common Check-in (only applicable for Belgian stations):***

*The Handling Company will, provided that a minimum of 4 flights are operated to a Schengen destination, with an STD within 90 minutes of each other, organize a common check-in based on following parameters as minimum requirements:*

*Thorough preparation of number of desks in function of booked passenger numbers and taking into consideration last minute bookings.*

***For BRU; flights with departure up to STD 07:15 LT included in common check-in:***

- a. 1 VIP counter per 50 booked VIP passengers, rounded up (e.g. 52 VIP pax = 2 VIP counters).
- b. 1 Eco counter per 100 booked Eco passengers, rounded up.
  1. Opening all counters at STD-3hrs based upon schedule of the first flight.
  2. Signage economy counters: Logos of following brands; TUI fly.
  3. Signage VIP Selection counters: VIP Selection logo

*Always at least 1 queuing agent per check-in row actively involved from opening check-in until all passengers are checked-in with following core tasks:*

- a. Passengers evenly distributed over the available number of counters;
- b. Avoid eco passengers to block the queuing area of the VIP Selection counters;
- c. Never allow the VIP queue to exceed the queue length at any Economy counter;
- d. Ensure last minute passengers are called and allowed to check-in first, the latest at STD-00:50;
- e. Groups requesting own counter will get last counter in the common check-in area with personalized signage;
- f. Prior and after check-in of this group this counter will be used for other passengers;
- g. NO extra counter to be foreseen since number of counters is rounded up anyway.

### **1.1.3.3 Operating Carrier, Marketing Carrier and Wet Lease**

Advise the passenger of the operating carrier no later than *boarding but preferably* at the time of check-in, if different from the one noted as the "carrier" on the ticket.

*It may happen that a TUI fly Belgium or TUI fly the Netherlands flight is operated by another carrier. This can be a carrier from the TUI-group or another carrier.*

*Where the identity of the operating air carrier or carriers may be not yet known at the time of reservation, the handler shall ensure that the passenger is informed of the name of the air carrier that is acting as operating air carrier on the flight concerned. Therefore, in all cases, passengers shall be informed at check-in, or before boarding where no airport check-in is required.*

*It is the TUI OCC's responsibility to send the following flight programs:*

***Daily program pre-advice***

*This program is sent on day -2 and contains the flight numbers, allocated aircraft and the full flight schedule per station. As this is a pre-advice only, suppliers will not be informed in case of*



*aircraft or schedule changes, additional flights etc. This is an indication which should be used for planning purposes only.*

### **Daily program**

*This program is sent on flight date -1. It contains the flight numbers, allocated aircraft and the full flight schedule per station. This is the final program with confirmed A/C registrations. All operational changes to this program must be communicated by means of a 'Daily Revision'*

### **Daily revisions**

*These are sent in case of changes to the daily program. Changes can be delays, aircraft swaps, diversions, extra flights, fuel stops, requests for supplementary services (e.g. ASU, quick turnaround...) etc.*

*The daily revisions are our suppliers' only official source of information with regards to delays, schedule changes etc. No changes to our daily program can be officially published in any airport, handler or other suppliers' systems without having received a 'Daily Revision'.*

*Should a supplier believe a daily program or revision is not correct, then please contact TUI OCC to check whether a revision to the daily program is required.*

**Note 1:** *Be aware other rules may apply according to the operators instructions, such as but not limited to dangerous goods, SVAN, AVIH.*

**Note 2:** *The relevant manuals for the lease aircraft can be found in the TAGO Portal.*

#### **1.1.3.4 Check-In Types**

##### **a. General**

Check-in may be provided at check-in counters, via self-service methods such as web check-in, kiosk or text message, and may be performed using a DCS or manually.

##### **b. Manual Check-In**

Where no DCS is available, apply established manual check-in procedures at a staffed check-in counter.

**Note:** All updated seating information can be found in the AHM 560 in the TAGO Portal per operator and per aircraft type.

##### **c. Through Check-In**

Through check-in means a passenger is accepted and receives boarding passes for the outbound flight as well as on one or more onward flights. Perform through check-in whenever possible and as per the interline agreement. Travel documents shall be checked for all through-checked parts of the journey.

**Note:** See appendix I6 – Transfer Passenger & Baggage Handling for more information.

##### **d. Return Check-In**

Return check-in means a passenger is accepted and receives boarding passes for the outbound and return flights. The check-in for the return flight is permitted if the flight is open as per operating airline procedures.

**Note:** Return check-in is applicable only for online check-in passengers and not for airport check-in.



e. Self-Service Check-In

Web/mobile/kiosk/text message check-in may be offered if the following conditions are met:

1. The passenger is holding an electronic ticket.
2. The passenger is departing from an airport where the operating airline's or GHSP's DCS is in use.

**Note 1:** *Online check in is only available on certain flights specified by TUI and does not affect the check in procedures at the airport. All passengers will be pre-seated by TUI, also those who are not checked in online.*

**Note 2:** *Ensure dangerous goods notifications are prominently displayed at self-service check-in and at baggage drop-off. Refer to Appendix L2 Dangerous Goods Poster and Appendix L3 Forbidden Lithium Poster A4*

f. Off-site Check-In

Off-site check-in means passenger acceptance at an off-airport location, e.g. at a train station or in a hotel, and may be permitted if:

1. The passenger is holding a valid ticket.
2. The location is an approved site.
3. The passenger meets any other qualifying criteria set by the operating airline.
4. Local off-site security processes are followed.

**Note:** Off-site check-in is not applicable to TUI fly Belgium and TUI fly the Netherlands.

g. Back-Up Check-In Procedures

In case of DCS and/or Baggage Handling System (BHS) failure a local back-up check-in system can be used, if available. Local back-up procedures must be established in every station and tested regularly.

### 1.1.3.5 Check-In Counter Opening

Conduct a staff briefing for check-in agents before the check-in counters are opened and receive and review any summarized flight information.

#### 1.1.4 Passenger Acceptance

##### 1.1.4.1 Requirements for Passenger Acceptance

Apply the operating airline procedures (*see below in italic*) with respect to acceptance.

When accepting a passenger observe the following:

- a. Welcome and greet the passenger.
- b. Ask for an itinerary/booking confirmation and an official travel document (e.g. passport), if necessary and verify validity, refer to GOM 1.1.5
- c. Pay attention to any signs that the passenger might not be allowed to travel, e.g. unruly behavior, signs of illness. Certain categories of passengers may be refused travel at the operating airline's discretion. Apply the operating airline procedures with respect to acceptance (*see below in italic*).



- d. Identify the passenger in the check-in system, accept the passenger and assign a seat in line with the operating carrier procedures, refer to GOM 1.1.4.2
- e. The acceptance of passengers on the waitlist is based on booking status and operating airline procedures (*see below in italic*).
- f. Update passenger and baggage information and add any Special Service Requests (SSR) to the DCS if required and apply any related fees.

*refer to Appendix I3 – Ancillary Sales Charges*

- g. If required, apply irregularity handling *refer to GOM 1.5.5*, e.g. “search for volunteers” in case of over-sales.
- h. Observe through check-in or return check-in, if applicable, and issue all related boarding passes
- i. Hand over the boarding passes and give information about departure gate, boarding time and eventual flight irregularities *refer to 1.5.2 for delay handling*.
- j. Say goodbye and show the direction to the boarding gate.

**Note:** Certain categories of passengers may be refused travel at the operating airline's discretion.

*In all cases of refused pax; please fill in a Security report in IQSMS.*

**Note:** Refer to Chapter 15, Annex I – Security for further information.

#### 1.1.4.2 Seating

Each passenger (except infants not occupying a separate seat) is assigned an individual seat number on each flight.

At the time of passenger acceptance:

- a. Check if a seat has been allocated already
- b. If not, *contact the Customer Care team*.
- c. Observe seating restrictions for the emergency exit rows, refer to 1.1.4.3

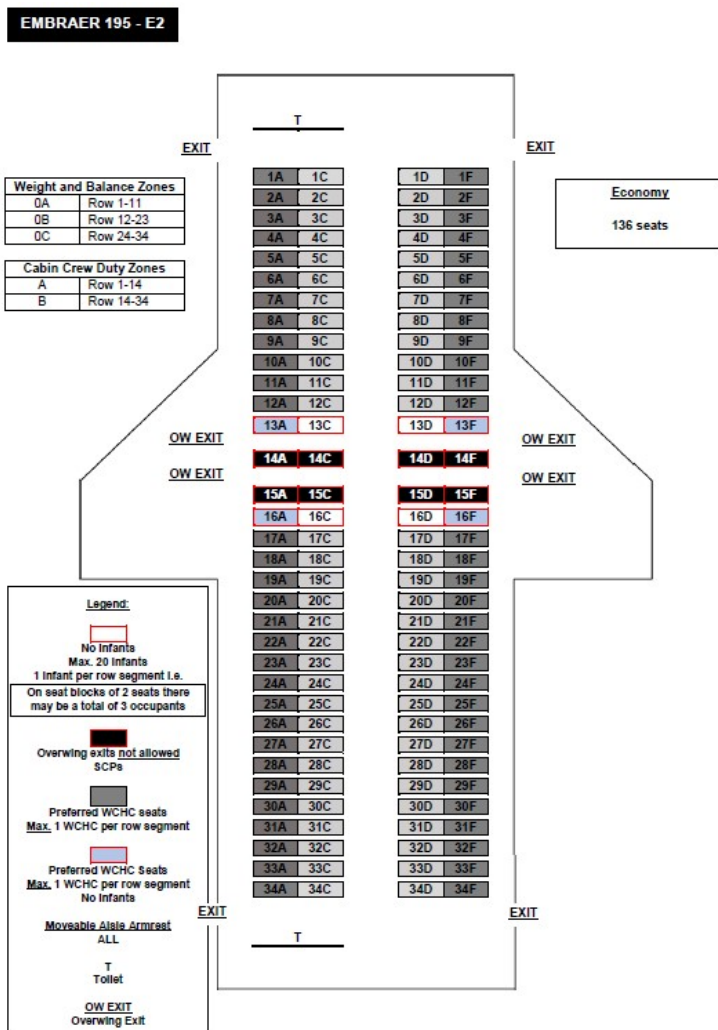
**Note:** All updated seating information can be found in the AHM 560 - This can be found in the TAGO Portal per operator and per aircraft type.

*The allocation of jump/crew seats may be permitted, for applicable seating circumstances consult the PIC of the flight.*



#### 1.1.4.2.1 Cabin Configuration - Seat Maps

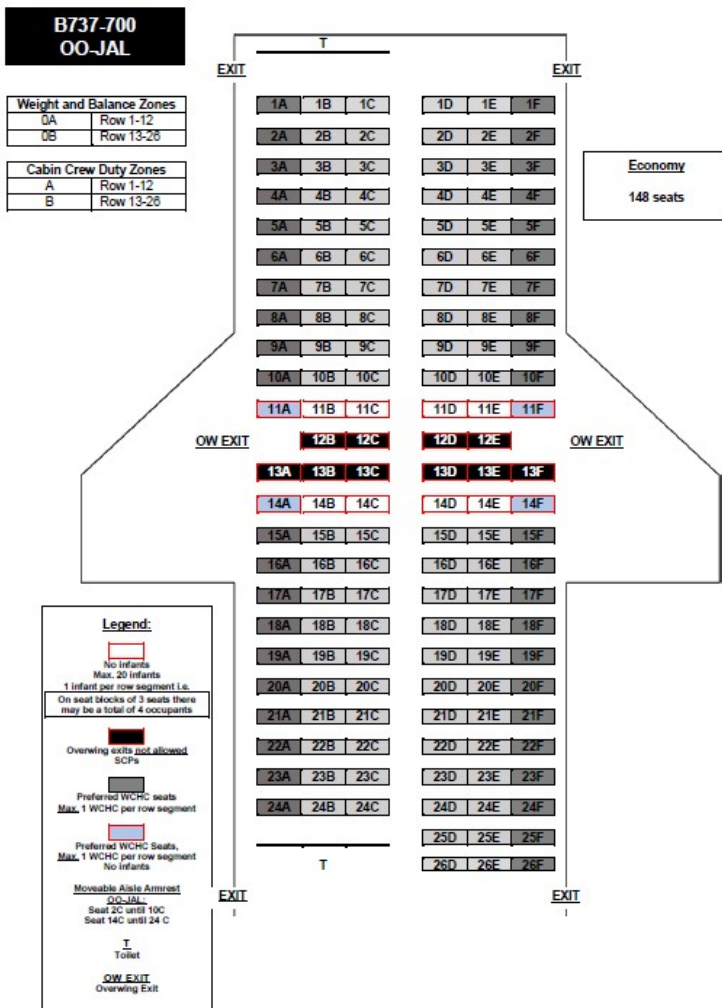
## E195-E2





## Ground Operations Western Region Passenger Handling Procedures

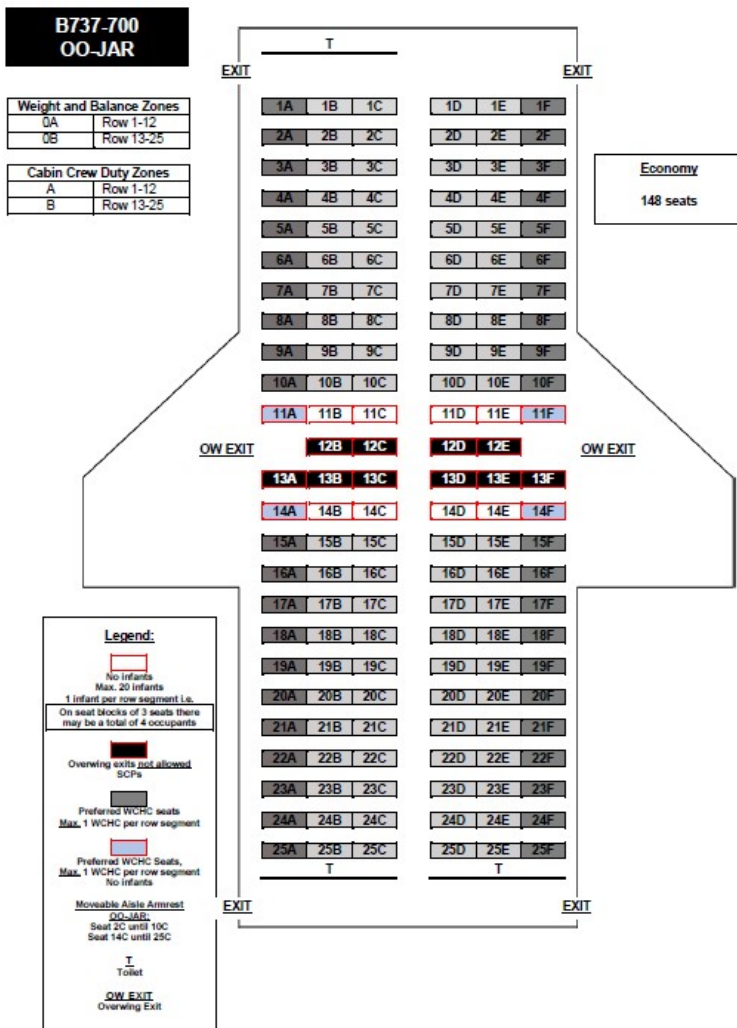
### B737-700 OO-JAL





## Ground Operations Western Region Passenger Handling Procedures

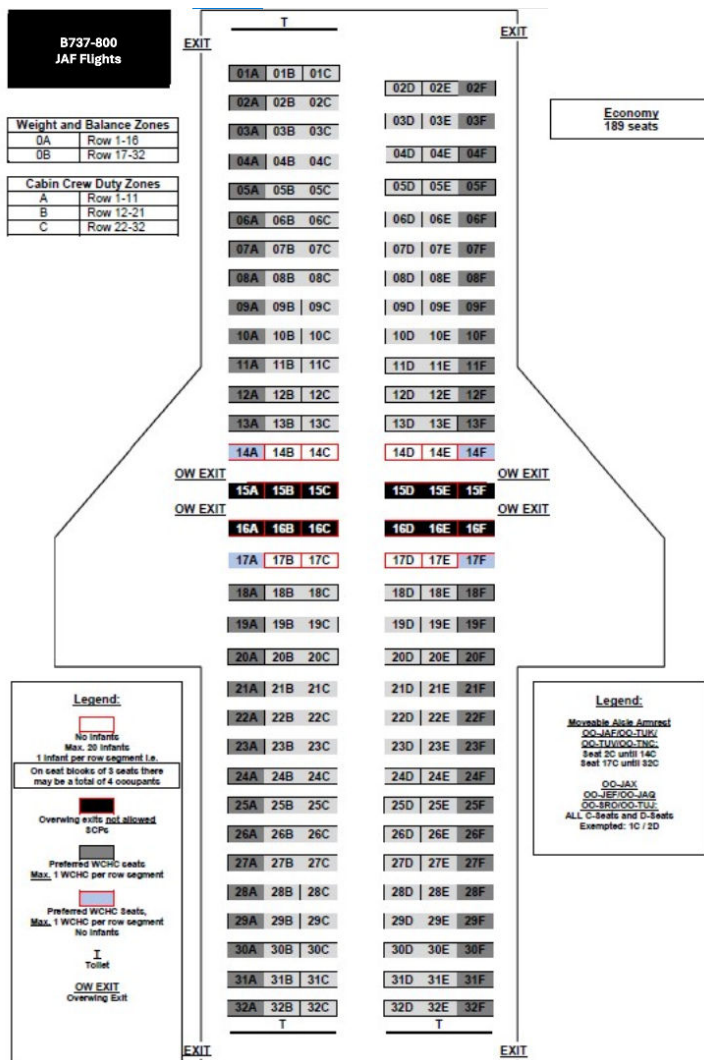
### B737-700 OO-JAR



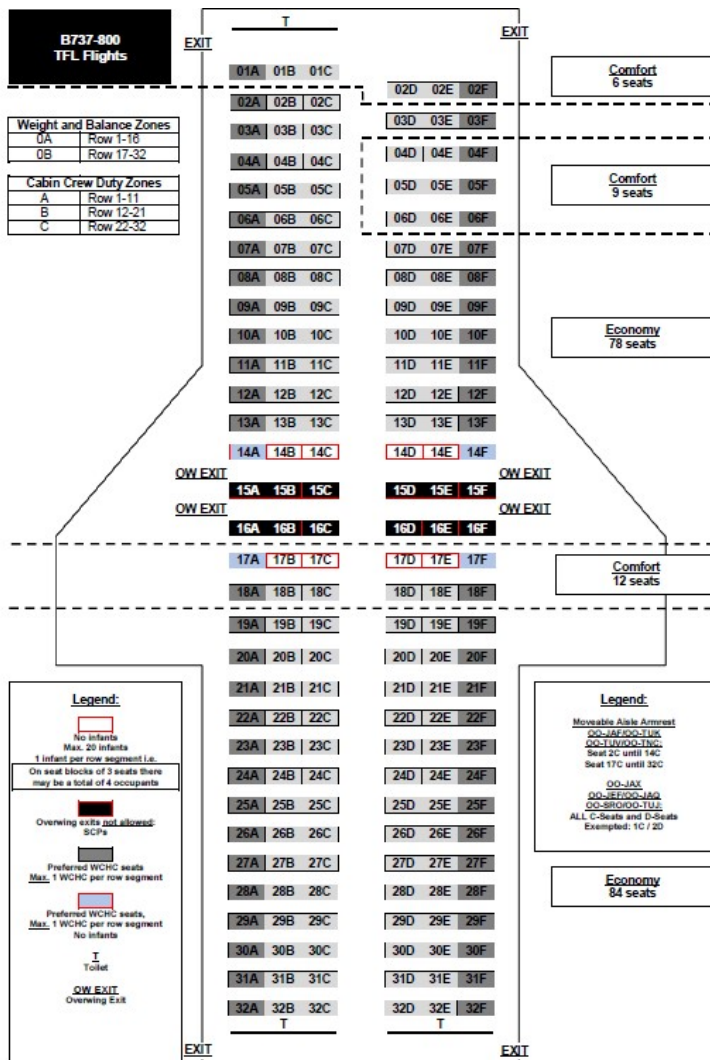


## Ground Operations Western Region Passenger Handling Procedures

### B737-800 JAF Flights



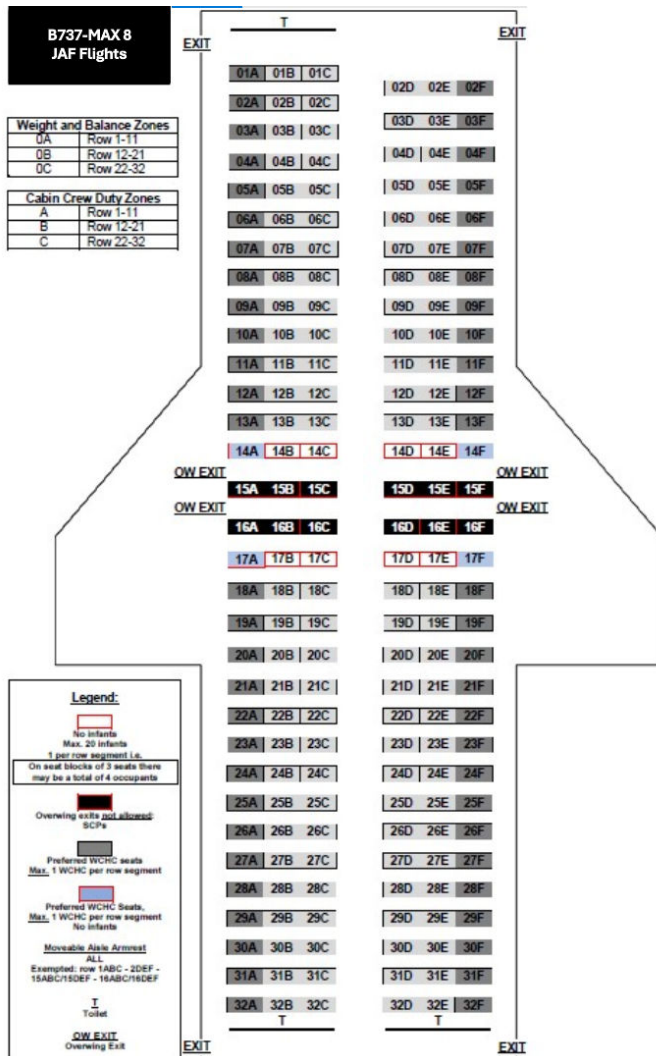
## B737-800 TFL Flights





## Ground Operations Western Region Passenger Handling Procedures

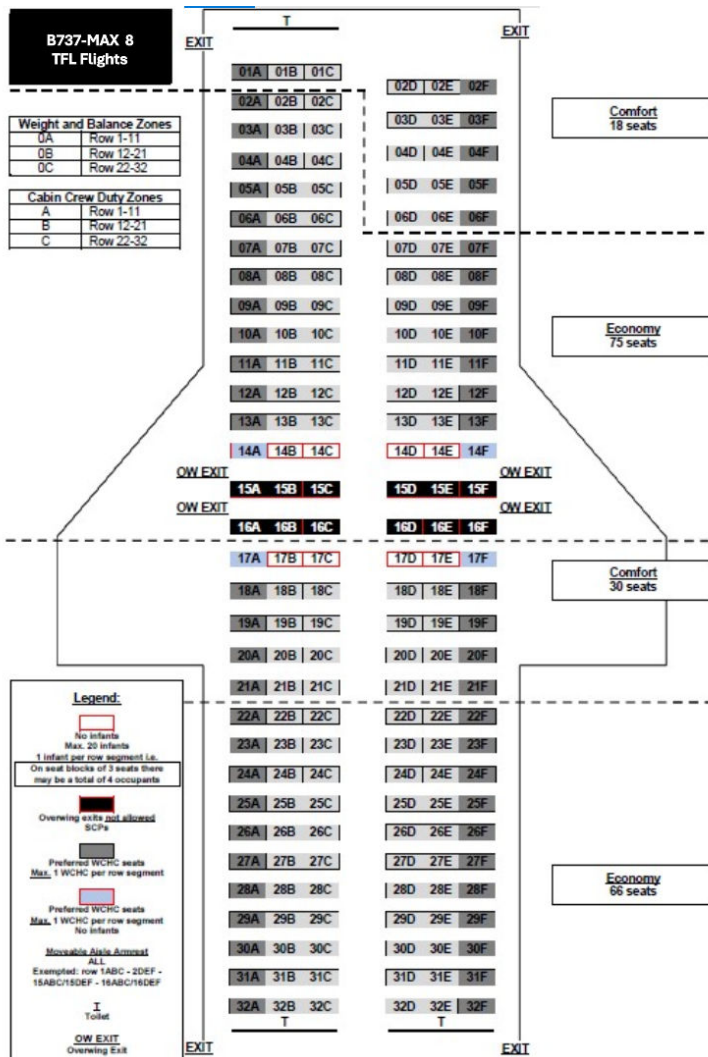
### B737-MAX 8 JAF Flights





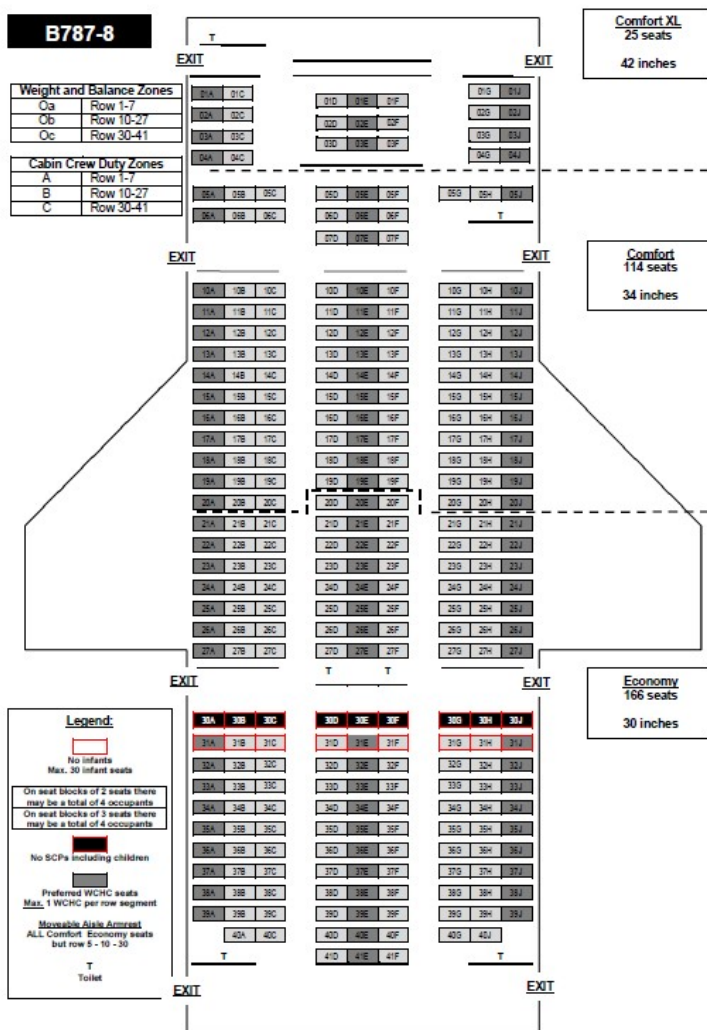
## Ground Operations Western Region Passenger Handling Procedures

### B737-MAX 8 TFL Flights



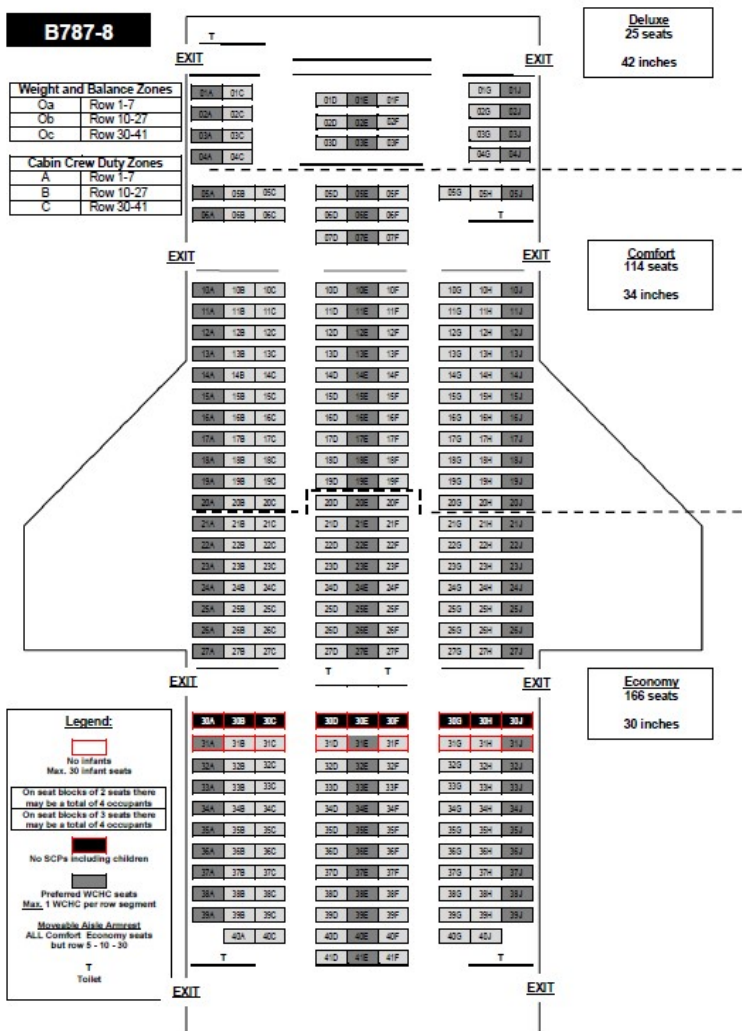


### B787-8 Short Haul Flights





## B787-8 Long Haul Flights





#### 1.1.4.3 Exit Row Seating

Occupancy of emergency exit rows is restricted in accordance with operating airline procedures and host state requirements. Before assigning an exit row seat to a passenger verify that a passenger of a correct age is willing, physically and mentally able to open the emergency exit in case of an emergency evacuation and able to understand the instructions given by the crew.

**Note:** For safety reasons, passengers with disability, unaccompanied minors and passengers with children and/or infants are not allowed to be allocated an emergency exit row seat.

*All passengers are pre-seated. In case of special circumstances and/or ad hoc tech problems then the following instructions are valid.*

#### **Emergency exit row seats and PWD seating**

*Emergency exits:*

*The following passengers shall not be allocated a seat with direct access to an emergency exit:*

- a. *Passengers suffering from an obvious physical or mental handicap to the extent that they would have difficulty in moving quickly if asked to do so;*
- b. *Passengers who are either substantially blind or substantially deaf to the extent that they might not readily assimilate printed or verbal instructions given;*
- c. *Passengers who because of age or sickness are so frail that they have difficulty in moving quickly;*
- d. *Passengers who are so obese or in the latest stage of pregnancy that they would have difficulty in moving quickly or reaching and passing through the adjacent emergency exit;*
- e. *Children (person of 2 years or above, but less than 12 years of age), whether accompanied or not and infants (less than 2 years of age);*
- f. *Deportees or prisoners in custody, and;*
- g. *Passengers with animals.*
- h. *All passengers where the check in staff / gate staff has reasonable doubt, the passenger will not be able to assist in the unlikely event of an accident.*
- i. *Whenever possible, incapacitated passengers (especially WCHS and WCHC) shall be seated on the designated seats, when provided or in the immediate vicinity of those seats or close to the toilets.*

#### **Complementary information / instructions**

*At check-in or on board Ground Handling Agent or Crew are authorised to reseat following passengers from emergency exit row seats*

- a. *PWD's;*
- b. *Passengers who cannot understand the English language or language in use during the flight (since DCS cannot control this during pre-seating).*
- c. *Passengers who are unable to communicate information to other passengers.*
- d. *Pre-booked seats will be re-seated in case of an aircraft change. If for any reason, other than safety reasons, passenger does not get the seat that is bought (e.g. in case of a last minute aircraft change), check in agent should instruct passenger to contact Customer*



*Services Center (TUI fly the Netherlands: 0031 88-088 5885; TUI fly Belgium: Visit website [www.tui.be](http://www.tui.be) ) for a possible rebate.*

- e. *Whenever possible, incapacitated passengers (especially WCHS and WCHC) shall be seated on the designated seats, when provided or in the immediate vicinity of those seats or close to the toilets.*
- f. *Final seating: When the safety related passengers are pre-seated, the rest of the passengers have to be seated according to the SSR code PNL. First the larger bookings working finally to the smallest bookings to make the best possible 'puzzle' enabling the maximum number of bookings to sit together. When operating with less than a full load, passengers should be evenly distributed throughout the cabin (in order to avoid tail-tipping).*

## 1.1.5 Documents required for Travel

### 1.1.5.1 Passenger Documents

Passenger documents consists of:

- a. Travel document (e.g., passport or national identify card, residence card).
- b. If required, residence card, visa (e.g., entry or transit visa).
- c. Health documents, if required–(e.g., vaccinations or other health-related proofs and requirements, which might be required to be presented by passenger before travel. Other additional documents, may include quarantine hotel confirmation, approval level of entry).

**Note:** The regulatory framework including these health proofs as well as the responsibility for an airline are provided by ICAO Annex 9 and by the World Health Organization (WHO). Staff responsible for check-in and or boarding shall verify passenger documents and ensure an improperly documented person is not allowed to travel.

#### ***Acceptable for intra-Schengen passengers***

- a. *Temporary ID Card*
- b. *ID Card*
- c. *Valid resident card*
- d. *Passport*
- e. *UMs (Unaccompanied Minors) can only be accepted with valid ID card*
- f. *Expired ID card can be accepted if the expiry date is less than six months before date of travel*
- g. *Emergency passport, valid for one journey only*
- h. *Driver's license expired less than six months before date of travel*
- i. *Proof of theft of ID document (which includes a picture) issued by the police*

*Any other documents such as photocopies cannot be accepted. Also old, but valid, resident cards without photographs which are no form of ID and therefore, are no travel documents. You may always consult with Customer Care team and [security@tui.tui.be](mailto:security@tui.tui.be) in CC to get approval for travel in case of doubt.*

#### ***Acceptable for non-Schengen countries***

- a. *Valid passport when necessary (refer to TIM)*
- b. *Valid ID card when necessary (refer to TIM)*
- c. *No other documents are acceptable except for those clearly described in the TIM.*



*If a passenger has been denied because of incorrect travel documentation, a copy of his documents has to be taken (do it discrete) and this must be kept on file for 7 days and then be deleted in all possible ways.*

*Please inform by e-mail using the Appendix F2 - Refused Pax form, including the copy of the travel documents. This is mandatory and must be done immediately after check-in closure.*

*Local regulations always to be applicable in case stricter then described above. When you have doubts about accepting a passenger due to his/her travel documents, you can contact local authorities. Refer to Chapter 15, Annex I – Security for specific instructions.*

#### **TFL-NL**

*A Form of Indemnity must be filled out, in which TUI Netherlands passengers with missing or insufficient documents, with vulnerable baggage or with questionable medical conditions indemnify TUI Netherlands and its Ground Handling Suppliers against any irregularities that may occur as a result of transport. TUI Netherlands allows each Ground Handling Supplier to use its own form of Indemnity. It should be send to [schipholoffice@tui.nl](mailto:schipholoffice@tui.nl).*

#### **End TFL-NL**

### **1.1.5.2 Verification**

#### **a. General**

Verification is a process also known as document check, carried out by staff charged with responsibility of check-in and/or boarding at the point of embarkation.

Document check controls uses various technologies and can occur at various points of the passenger journey including the airline website/mobile application or at the airport through self-service check-in options upto the boarding gate. The depth of the controls will also depend on the flight destination and risk profile.

Increasingly, the use of trusted digital identities allows passengers to assert their identity earlier in the journey, reducing the need for face-to-face interaction with an airline's agent, especially when touchpoints are biometrically enabled.

However, the complexity of the entry requirements of the transit and/or destination country(ies) and depending on national legislations, the document check controls may have to be performed manually.

**Note:** Verification of travel documents is performed visually and manually. Documents readers and basic inspection tools may be used in higher risk environments

#### **b. Document Checks**

Prior to passenger check-in or boarding, personnel shall;

1. Determine ticket acceptability and confirm destination and or transit with passenger including the return ticket, if applicable
2. Verify the passenger's identity against the travel document presented e.g.,
  - i. Citizenship and date of birth for entry requirements
  - ii. Expiry status of the document
  - iii. Visual comparison of the photo to the passenger
  - iv. The name on the travel document matches the booked/ticketed name.

**Note:** Ensure every person holds a valid travel document

3. Ensure where applicable, the visa or residence permit required to enter the State of transit and/or receiving State.



4. Review visa and/or entry conditions/limitations.

**Note:** A number of airlines for example use Timatic services to help ensuring that their passengers comply with the entry requirements of the transit and destination country.

5. Review health documents status for destination and/or transit requirements, if required.
6. Collect or verify advance passenger information (API) data, if required.
7. Ensure irregularities are detected such as:
  - i. Expired or invalid travel document or a visa for which the maximum number of entries set has been depleted;
  - ii. Counterfeit, forged or altered;
  - iii. Documents that belongs to another person; or
  - iv. Passenger without such document.
8. When an irregularity is identified, with the passenger document/s, the supervisor will be notified;
  - i. To contact the appropriate authority for assistance to further verify documents, if applicable or
  - ii. Deny a passenger check-in at the point of departure or boarding at the transit point, to the intended final destination, when the document(s) presented by the passenger is determined to be insufficient or inappropriate, leading to an inadmissible person, refer to AHM 121/GOM 1.4.9.1.
9. Retrieve DCS record and review any special remarks.

**Note 1:** As per ICAO Annex 9, Contracting States have the obligation to assist in the evaluation/verification of travel documents presented by passengers, in order to deter fraud and abuse.

**Note 2:** Some contracting States may have liaison officers at airports in order to assist airlines to establish the validity and authenticity of the travel documents at the different touch point of the passenger journey.

**Note 3:** Consequently, airlines will seek mitigation of State penalties whenever fraud detection was not obvious nor evident. Refer to AHM 121 for additional information on aircraft operator's responsibility mitigation.

#### 1.1.5.3 Advance Passenger Information (API)

Many governments require airlines to submit API data. API is made of two different information datasets related to the:

- a. Flight.
- b. Identity of the passenger.

The information related to the passenger are included in the Machine Readable Zone (MRZ) of the travel document (e.g., surname/given names, date of birth, nationality, travel document number, expiry date, etc.) at specified times for inbound and sometime outbound 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.



As per operating airline procedures (*see below in italic*), collect API data at the time of check-in or review and verify data already provided. Transmit API data as requested by authorities. Always protect the passenger's personal information and securely dispose of any related paperwork not kept on file.

*The Netherlands requires API data to be send for all passengers traveling from outside the EU to the Netherlands. The API procedure for the Netherlands can be found in Appendix I4 – API Implementation Guide.*

*Belgium requires API data for all passengers departing and arriving to / from Belgium. The API procedure for Belgium can be found in Appendix I7 - API Implementation Guide and Appendix I8 - API Technical Guide.*

## **1.1.6 Baggage Acceptance**

### **1.1.6.1 General**

The following section presents the baggage acceptance procedures. It should be noted that the handling of baggage may vary between airlines and therefore deviations from the processes described are possible. Always refer to and follow airline procedures where applicable.

### **1.1.6.2 Cabin Baggage**

#### **a. General**

Each operator sets their standards for size, weight and number of pieces permitted as cabin baggage.

#### **b. Cabin baggage types**

Cabin baggage includes:

1. Baggage carried within the operator's free carry-on baggage allowance.
2. Free carry-on items permitted by the operator in addition to the standard allowance (e.g. purse, laptop, duty free item, winter coat, etc.).
3. Special items permitted by the operator that may require prior arrangement, notification and/or specialized screening or additional charges (e.g., urns containing human remains, pets, medical equipment and valuables).
4. For items of dangerous goods permitted in cabin baggage including those items that require prior approval by the operator, see IATA Dangerous Goods Regulations (DGR).

#### **c. Cabin Baggage Acceptance**

Cabin baggage can only be accepted if:

1. Is suitable for air carriage (conforms to operator's procedures for weight, size and/or nature)
2. Can fit under the seat or be stowed in the overhead compartment.
3. Is suitably packed.
4. Conforms with airport security and safety procedures.
5. Restrictions:
  - i. Certain items, because of their weight, size and/or nature are only accepted with the consent of the operator, e.g. musical instruments.
  - ii. For security reasons, many countries restrict the carriage of liquids, aerosols and gels in cabin baggage.



- iii. Items refused by security screening shall be hold-checked as per operating airline procedures or refused from transport completely if not allowed in checked baggage *refer to Chapter 15, Annex I - Security.*
- d. Procedures at Check-In
  - 1. Assess the size, weight and number of pieces of cabin baggage as operating airline procedures (*see below in italic*):
    - i. Weigh/measure cabin bags if they appear to exceed the specified weight/size limit set by the operator (weighing of all cabin baggage may not be systematically required unless mandated by the operator).
    - ii. Refer the passenger to the baggage gauge, if available.
    - iii. Attach an "approved cabin baggage" tag, if applicable.
  - 2. If the cabin baggage exceeds the free allowance size and/or weight, it shall be checked in, with applicable charges, if the free baggage allowance is exceeded.
  - 3. Be aware of dangerous goods that may be commonly carried but are not permitted. Ask the passenger if they have any of these items by using the Dangerous Goods displays for visualization.
  - 4. Items that are removed by security screening personnel may only be accepted in checked baggage, as per operating airline handling and acceptance procedures (*see below in italic*).
- e. Procedures at Boarding Gate
  - 1. Check for items that are unacceptable, oversized and/or overweight or exceed the number of pieces as free cabin baggage, using the cabin baggage gauge if applicable.
  - 2. Collect any cabin baggage that cannot be accommodated on board due to these reasons or due to limited storage space. *See below in italic.*
- f. Accepting cabin baggage into the hold
  - 1. Check with the passenger that the baggage contents comply with the IATA DGR and the operating airline procedures *refer to Chapter 10, Annex D – Dangerous Goods and Weapons*. Verify whether the passenger has removed any items specifically prohibited in hold baggage.

*Mandatory question to all passengers on TUI flights:*

*"Do you have any powerbanks, external battery packs, spare-loose batteries or e-cigarettes in your checked baggage?. If YES, please remove them now and carry them as cabin baggage."*

- 2. Advise the passenger to remove any personal documents or medications, valuables and sensitive or fragile objects.
- 3. Collect applicable charges *as per operating airline procedures.*  
*With regard to Non-Registered Baggage with dimensions exceeding the max cabin size, TUI reserves the right to carry that piece as Registered-Baggage in the hold of the aircraft. TUI shall not charge the Passenger for such baggage piece.*
- 4. Tag gate-checked bags in line with the through check-in procedures using a limited release tag.
- 5. Ensure the baggage tagged at the gate is considered for load control by adding the information in the DCS (number of pieces and weight) or use Delivery at Aircraft (DAA) labels and processes if applicable see 1.1.6.12 (c) depending of aircraft type.
- 6. Inform the passenger to pick up their gate-checked bags either at the baggage claim area, final destination or at the aircraft door (Delivery at Aircraft, DAA), if applicable.



7. Inform ramp staff and/or load control of the gate baggage to be loaded.

### **Aircraft Capacity**

- Note 1:** *Cabin baggage capacity in our aircraft is limited. To avoid cabin baggage overflow, the handling agent has a target to check-in at least 15% of approved (size and weight) cabin baggage. A marker on the boarding pass or a printed document should indicate that the passenger has no cabin baggage. In this case only a personal item (labels available for order) is allowed.*
- Note 2:** *Actively determine and spot the personal items, and indicate to passengers that only these are guaranteed on board. These can be identified with a specific yellow label.*
- Note 3:** *Passengers at check-in will be informed by the gate agent that only the first few cabin baggage can be allowed into the cabin, and that all others will have to be carried in the hold. This to improve the on-time arrival of passengers at the gate.*
- Note 4:** *The gate agent will actively oversee the number of cabin baggage during the boarding procedure, specifically for on-line check-in passengers. If the number of cabin baggage is still in accordance with the cabin baggage size and weight and/or the target of 15% is not reached, the additional cabin baggage should be checked-in at the gate and before boarding. The cabin baggage should be labelled at the gate as checked baggage by the gate agent. When boarding is complete and the amount of cabin baggage still does not fit, assist cabin crew by labelling the collected cabin baggage as checked baggage. A standby dolly or container should be at the passenger stairs or the bridge to be able to move the baggage quickly to the holds during boarding, where necessary.*
- Note 5:** *All collected cabin baggage due to limited cabin baggage capacity, will be handled free of charge as checked baggage.*

*Staff must remind the customer that the gate must close at STD-10, at which time the customer and bag will not be accepted for travel.*

- Note:** Passengers are permitted to carry 1 free piece of cabin baggage weighing up to 10 kg and one small personal item.

### **Max cabin size**

Subject	JAF/TFL
Max cabin baggage size	55x40x20 cm

*The cabin baggage of all passengers should visually be checked during the boarding, making sure the size is within the company limits. If cabin baggage seem to be above the limits a size wise or cabin baggage box should be placed over the handbag to verify its size. If the bag does not fit in to the box or size wise, it should be labeled with a limited release label for transportation in the hold of the aircraft. Passengers with SSR code 'SVIP' or 'JVIP' should be allowed to keep to their carry-on baggage on board with them with the highest priority above all other passengers.*





**Note 1:** *An urn is permitted on board and can be transported as cabin baggage provided the urn is within the standard size and weight limits for cabin baggage. In addition, the following transportation requirements are applicable:*

- a. *the passenger in possession of the urn must be able to show a death certificate;*
- b. *the urn shall not be opened on board.*

**Note 2:** For all bags going in the aircraft hold, customers must be clearly informed to remove ALL valuables, important documents (passport, legal papers etc.) medicines and dangerous goods such as Spare Lithium Batteries. These items must be carried by the customer in the cabin.

### 1.1.6.3 Checked Baggage

#### a. General

1. Checked baggage is:
  - i. Taken custody by the operator who issues, validates or updates a baggage tag.
  - ii. Carried in the hold of the aircraft on which the passenger is travelling but remains inaccessible to the passenger during the flight.
2. The operator may refuse to carry checked baggage that is likely
  - i. To endanger the aircraft or persons/property on board the aircraft.
  - ii. Inadequately packed.
  - iii. Unsuitable for air carriage due to its weight, size and/or nature.
  - iv. Forbidden by law, regulations, security standards or safety standards of any state to be flown from, to or over.
3. Every piece of checked baggage shall have a baggage tag attached, showing the tag number, flight number, appropriate destination and the passenger's name.
4. Operating airline procedures may specify a maximum single item weight, is applicable. *(see below in italic)*

**Note:** Certain items, because of their weight, size and/or nature, are only accepted with the consent of the operator. For example, musical instruments such as a cello.

#### b. Standard baggage acceptance

The Check-in Agent should only accept checked baggage that is appropriately packaged and has a passenger identification label *(see below in italic)*.

1. Ensure dangerous goods notifications are on display and verify with the passenger that the checked baggage does not contain any forbidden dangerous goods.
2. Review weight and number of pieces information for recording in the DCS and for applying appropriate fees.
3. If applicable ask the passenger security-related questions.
4. Be aware of items that, due to their nature, may contain dangerous goods. Refer to the IATA DGR and operating airline procedures. *(see below in italic)*
5. Ensure the number and weight of each piece of checked baggage has been transferred automatically or manually to the load control process. When special baggage is accepted, ensure the person in charge of the weight and balance calculation task is informed accordingly.
6. Attach an appropriate baggage tag for the journey.



7. Passengers who have used a self-service check-in facility may drop their checked baggage at a baggage drop-off:
  - i. Review the boarding pass and pull up the passenger data in the check-in system.
  - ii. Verify identity and travel document, assess carry-on baggage, and accept checked baggage.
  - iii. Update baggage information and any (SSRs) in the DCS, if required, and apply any related fees.
- c. Baggage Drop-Off and Self Service Devices.

Baggage self-service drop off is becoming more prevalent. Where baggage self-service devices are in use, observe the following:

  1. Follow operating airline procedures or Service Level Agreements (SLA) for the number of staff undertaking assistance and supervision activities at each machine.
  2. Proactively guide passengers to self-service options to manage waiting times.

*Additional instructions for Dangerous Goods to be found in Chapter 10, Annex D- Dangerous Goods and Weapons.*

**Note 1:** *At check in (also self-service points) and at the boarding gate the TUI Dangerous Goods Leaflet must be displayed. This leaflet can be found in the TAGO Portal as Appendix L2 Dangerous Goods Poster*

**Note 2:** *For all bags going in the aircraft hold, customers must be clearly informed to remove ALL valuables, important documents (passport, legal papers etc.) medicines and dangerous goods such as Spare Lithium Batteries. These items must be carried by the customer in the cabin.*

**Note 3:** *The Maximum Single Item Weight is 32kg (70.5lb), maximum Single Size 80 x 25 x 60.*

**Note 4:** *The number of kilo's pre-paid for, will be visible in the DCS (for example: XBAG 20kg). Check-in agents should always look at the weight allowances indicated per passengers in the DCS*

#### **VIP Selection or Fly Deluxe (SVIP / JVIP):**

*Passengers travelling as VIP Selection or Fly Deluxe (SVIP / JVIP) are free of any inspection regarding the size and weight of their carry-on luggage but these need to be within reasonable limits.*

#### **1.1.6.4 Dangerous Goods in Baggage**

- a. In principle, dangerous goods are forbidden to be carried by passengers and crew, except as otherwise provided in Table 2.3. A of the IATA DGR and in line with *Chapter 10, Annex D - Dangerous Goods and Weapons*.

Specific transport conditions are applicable to defined items that:

  1. Require the approval of the operator prior to the acceptance
  2. Are permitted in or as checked baggage
  3. Are permitted in or as cabin baggage
  4. Must be carried on one's person only



5. The pilot-in-command shall be informed of the location of the mobility aid with installed batteries, removed batteries and spare batteries, to best deal with any emergencies that they may occur.

**Note:** A NOTOC to the pilot-in-command is not required for passenger and crew baggage

- b. All persons tasked with passenger and baggage acceptance shall:
  1. Be trained according to the training requirements in the IATA DGR.
  2. Have to verify with the passengers that they are not carrying forbidden dangerous goods during the check-in and baggage acceptance process.
  3. Be aware of commonly carried items and question passengers where there is a suspicion of their carriage (e.g., camping equipment, hunters).
  4. Handle and report any dangerous goods occurrences (e.g. forbidden dangerous goods identified in checked baggage).

For details refer to the IATA DGR and the operating airline handling procedures refer to *Chapter 10, Annex D – Dangerous Goods and Weapons*.

#### 1.1.6.5 Baggage Pooling

As per IATA Resolution 746, when passengers' baggage is pooled, each passenger in a non-family group should be given their own individual baggage claim check/receipt.

Baggage may be pooled between registered groups of passengers or passengers flying together, such as families. In this situation the baggage allowances for each passenger are combined to make a group total.

For example: a registered group of 10 passengers may each have an individual baggage allowance of 1 piece weighing up to 20 kg. Pooling the allowance would allow 10 pieces weighing 20 kg each for the entire group. Therefore, if one group member has 2 bags, and another has no checked baggage, the pooled allowance allows the second bag to be carried without penalty.

**Note:** Where applicable the maximum single item weight restrictions shall be observed.

#### 1.1.6.6 Bulky and Oversized Baggage

- a. General

Baggage is considered bulky or oversized as defined by operating airline procedures and/or its weight exceeds regulatory limits. These items are called out of gauge items. For example, in general baggage accepted in European airports may not exceed 32 kgs in weight, although exceptions may exist e.g., check-in of wheelchairs. Passengers presenting such items should:

1. Complete the normal check-in process at the check-in counter.
2. Attach a baggage label to the out of gauge (OOG) item.  
Drop the item to the OOG baggage acceptance point, if available.

- b. Maximum Single Item Weight

Each operator shall determine a maximum single item weight for checked baggage that considers:

1. Local legislation or health and safety requirements.



2. Other applicable limits for transfer baggage.
3. Specific rules may apply as per operating airline procedures for certain items e.g., Animals Vivant in Hold (AVIH), wheelchairs (WCH), musical instruments, media equipment and large sports equipment.
- c. Maximum Single Item Dimension  
Each operator shall determine maximum single item dimensions for checked baggage that considers:
  1. Local legislation or health and safety requirements.
  2. Other applicable limits for transfer baggage.
  3. Specific rules may apply as per operating airline procedures for certain items e.g., Animals Vivant in Hold (AVIH), wheelchairs (WCH), musical instruments, media equipment and large sporting equipment.

**Note 1:** The Maximum Single Item Weight is 32kg (70.5lb)

**Note 2:** *Refer to Chapter 14, Annex H – Live Animals and Chapter 12, Annex F – Electric Mobility Aids for more information on the maximum weights.*

**Note 3:** *For additional information refer to the Appendix I6 – Transfer Passenger & Baggage handling in The TAGO Portal.*

#### 1.1.6.7 Checked Baggage Allowance

Passengers are entitled to a predetermined free checked baggage allowance that can vary based on the fare paid, passenger category, routing, group status or class.

**Note:** Some fares do not include any free checked baggage allowance.

There are two standard free checked baggage allowance concepts:

- a. Weight Concept: measured by the total weight of checked baggage, which is shown as a weight amount on the ticket (e.g., 20 kg or 45 lb.).
- b. Piece Concept: measured by the number of pieces of checked baggage (shown as PC on the ticket).

**Note 1:** *The Maximum Single Item Weight is 32kg (70.5lb).*

**Note 2:** *Refer to Chapter 14, Annex H – Live Animals and Chapter 12, Annex F – Electric Mobility Aids for more information on the maximum weights.*

**Note 3:** *For additional information regarding (b) refer to the Appendix I6 – Transfer Passenger & Baggage handling in the TAGO Portal.*

**Note 4:** *The number of kilo's pre-paid for, will be visible in the DCS (for example: XBAG 20kg). Check-in agents should always look at the weight allowances indicated per passengers in the DCS.*



#### 1.1.6.8 Excess Baggage

When the free checked baggage allowance is exceeded; chargeable excess baggage handling applies as per operating airlines procedures and applicable baggage rules. Excess baggage fees (per kilogram or piece or for special items) may be prepaid, collected at the check-in, collected at a sales desk or at the boarding gate.

**Note:** Prices for SSR and excess baggage refer to Appendix I3 – Ancillary Sales Charges

#### 1.1.6.9 Baggage Tagging

- a. Remove all old baggage tags, handling labels if not applicable and baggage reconciliation tags (mini or stub).
- b. Attach appropriate baggage tag for the journey.
- c. Place tags in an easily readable location and where they will not be easily torn off or damaged.
- d. Follow tag instructions and do not stick glue directly onto passenger baggage.
- e. Use limited release tags as per operating airline procedures.
- f. As per operating airline procedures, if they are not printed on the baggage tag, supplementary tags (applicable handling tags) may be attached to baggage items, such as:
  1. Priority Tag—to identify priority baggage to be offloaded first and segregated as per operating airline procedures
  2. Short Connection Tag—for transfer baggage with minimum time between scheduled arrival and departure
  3. Limited Release Tag—used on fragile or unsuitably packaged items

*Use DCS limited release tags for:*

- i. *Any baggage already damaged when it is presented for check-in must be labelled with a limited release label, with damage indicated on the label, signed by the passenger and marked "Received damaged". This ticket needs to be send to [bagage@tuiify.be](mailto:bagage@tuiify.be) and held for 60 days;*
- ii. *Late check-in (resulting in possible misrouting);*
- iii. *Fragile or inadequate packing (resulting in possible damage; includes backpacks);*
- iv. *Unacceptable cabin baggage (bags or security items refused in the cabin).*
4. Fragile Sticker—for items that require extra care in handling
5. Heavy Tag—placed on items that exceed regular handling limits (this varies according to local legislation).
6. Security Tag (e.g. weapons)

**Note:** Transfer Baggage—Special Cases



Case	Through-labelling	Remark
Customs clearance required at the at the transfer point.	Yes	Advise passenger to pick up baggage at the transfer point. Refer to Travel Information Manual (TIM/TIMATIC) for country rules.
Passengers specifically want their baggage at a transfer point	No	Inform the passenger about the risk of missing the connecting flight.
Live animals in hold	Yes	Only permitted if the continuing carrier has confirmed acceptance. Within the permissible minimum connecting time (MCT).

**Table 1.1.6.9—Special cases for transfer baggage**

#### **1.1.6.10 Types of Baggage Tags**

**a. Manual Baggage Tag**

In case of manual baggage tag as per IATA Resolution 740:

1. Complete any hand-written portions of the manual tag, writing legibly in permanent, waterproof ink.
2. When needed due to the number of transfer legs:
  - i. Prepare a second tag by striking out the baggage identification number
  - ii. Remove the barcode section
  - iii. Attach the transfer part of the tag below the transfer line on the initial tag
  - iv. Mark the 2nd tag as a conjunction tag
3. Record the baggage identification number in the operating carrier's departure control system if possible.
4. Inform the Ramp Agent when checked cabin baggage is accepted at the gate.

**b. Electronic Baggage Tag - *Not applicable***



**Note:** Some operators have implemented the electronic baggage tag (EBT) in line with IATA Recommended Practice 1754. EBTs have a display that shows the baggage journey and are normally set to display the current journey during the passenger self-check-in process. While the display on these tags does not use power to be shown, a battery is normally used to allow the display to be updated. In general, these batteries are of the AA type and can be left in the baggage. The IATA DGR has details for dealing with lithium ion batteries.

1. Check the quality of the display, as the barcodes must be readable.
2. Check the baggage information displayed matches the passenger itinerary, including the baggage license plate number shown for the baggage item.
3. If the details are incorrect, ask the passenger to blank their baggage tag.
4. After the tag is blanked, generate and attach a normal baggage tag and any other identifying labels (see GOM 1.1.6.9).

Ensure the baggage tag number(s) are active, in the check-in system as per operating airline procedures

c. Home Printed Baggage Tag - *Not applicable*

**Note:** Where allowed by operating airline procedures and local regulations, passengers may have printed their own baggage details remotely. Home printed baggage tags (HPBT), show the baggage journey as a normal baggage label does and are folded to fit into a plastic holder and attached within the baggage:

1. Check the baggage information is clearly displayed. If the baggage label is illegible for any reason (e.g., poor printing, incorrect folding, not matching the itinerary data), destroy the HPBT and cancel the HPBT number in the DCS then, generate and attach a normal baggage tag and any other identifying labels (see GOM 1.1.6.9).
2. Check the baggage information displayed matches the passenger itinerary, including the baggage license plate number shown for the bag. If the details are incorrect, destroy the HPBT and cancel the HPBT number in the DCS then, generate and attach a normal baggage tag and any other identifying labels (see GOM 1.1.6.9).
3. Ensure the baggage tag number(s) are active in the check-in system as per operating airline procedures.

d. Fallback Baggage Tags - *Not applicable*



**Note:**

If in use, fallback baggage tags are issued when the BHS at the airport is not able to process baggage messages and, therefore cannot work with demand baggage tags. These baggage tags are specific to the airport and have an airline code and 2-digit pier/chute/lateral indicator.

When using fallback tags:

1. Generate a normal on-demand baggage tag or manual tag and affix to the baggage.
2. Ensure the appropriate airline identifier code is shown on the tag.
3. Ensure the appropriate pier/chute/lateral information is shown for the designated flight build.
4. Firmly attach the fallback tag to the baggage.

Ensure the persons responsible for building and loading baggage, are aware that the fallback tags are in use.

### 1.1.6.11 Checked Baggage Destination

Follow operating airline procedures and through-label baggage to one of the following points, whichever occurs first:

- a. The first stopover point of the passenger.
- b. The point to which transportation has been confirmed (OK in ticket), requested (RQ in ticket) or listed (SA in ticket).
- c. The point where a change of airport is involved.
- d. The final destination specified in the ticket, including any tickets issued in conjunction with this ticket.
- e. In addition, observe the following:
  1. The Minimum Connecting Time (MCT) is respected.
  2. Unless subject to specific agreement between airlines, through check-in baggage on separate tickets is prohibited.
  3. If allowed by airline operating procedures, then baggage may be labelled to a transfer destination on the ticket.  
*Not applicable.*
  4. Specific rules of the operating airline may apply for Animals Vivant In Hold (AVIH).

**Note:** Cuba (all stations)

*Transit baggage at Cuban stations needs to be offloaded unless both points here below are met:*

- a. *The transit passenger luggage must be in a different container dully identified and never unloaded from the aircraft in Cancun.*
- b. *The transit passenger luggage will never be in the bulk for any reason, please be careful on this procedure and check that the station where the aircraft operates whereas being CUBA or any other place before operating at Cancun, accomplishes such disposition, otherwise, if any of the transit luggage is in the bulk, the exception will be cancelled immediately, because customs staff will be checking at the arrival at CUN all the aircraft. Also the luggage of the passengers in transit must remain in the containers separated from the luggage with destination CUN, guaranteeing that this luggage cannot be opened, manipulated or taken out from the aircraft. This establishes the new procedure according to customs authority.*





**Note:** Additional instructions for Transfer Baggage Handling to be found in Appendix I6 – Transfer Passenger & Baggage handling in the TAGO Portal.

#### 1.1.6.12 Special Baggage

##### a. Cabin Seat Baggage

1. Cabin Seat Baggage (CBBG) is baggage not usually suitable for loading in the aircraft hold and thus requested for transport on an extra seat. Such baggage may include:
  - i. Musical instruments
  - ii. Works of art
  - iii. Electronic equipment
  - iv. Diplomatic baggage
  - v. Valuable baggage
2. Loading and Lashing Cabin Seat Baggage  
Operating airline procedures shall dictate the acceptance of CBBG. If not accepted, it can travel as hold-checked baggage providing packaging is appropriate, see instructions below in italic.

**Note:** Handling agents must also look actively for CBBGs at check in and ensure large CBBGs should be carried in the cabin whenever possible;

*Handling agents have to ensure that any large CBBG that cannot be carried in the passenger cabin (e.g. due to its size), and therefore has to be carried in checked baggage, in case of an electronic device:*

- i. *Is completely switched off and effectively protected from accidental activation. To ensure the device is never powered on during its transport, any application, alarm or pre-set configuration that may activate it shall be disabled or deactivated;*
- ii. *Is protected from the risk of accidental damage by ensuring suitable packaging or casing or by being placed in a rigid bag protected by adequate cushioning (e.g. clothing); If not suitably packed, the handling agent must refuse the luggage.*
- iii. *Is not carried in the same baggage together with flammable material (e.g. perfumes, aerosols, etc.).*
- iv. *Further information on the safe transportation by passengers of Lithium batteries is available in Chapter 10, Annex D - Dangerous Goods and Weapons.*

##### b. Crew Baggage

Crew baggage may be presented at check-in or airside and should be clearly identified with a crew label as well as all flight details. Handling rules are:

1. *Applicable to all Belgian stations - crew will take their baggage directly to aircraft.*
2. *Crew will check-in their baggage at the check-in desk assigned for their flight.*
3. *Check that the baggage is equipped with a legible and completed crew sticker label, TUI Crew label and TUI suitcase belt.*
4. *Keep crew baggage separate from the total baggage loaded, inform the crew of the actual baggage loaded and specify on LDM.*
5. *For loading instruction refer to Chapter 9, Annex C - Aircraft specifics.*
6. *Where possible; follow DAA (Delivery at aircraft) instructions.*

##### c. Delivery At Aircraft

1. Delivery At Aircraft (DAA) procedure may be applied for:



- i. Fully collapsible baby strollers and pushchairs (larger baby carriages/prams shall be checked in).
- ii. Wheelchairs and mobility aids that are not needed during the flight and cannot be stored in the cabin.
- iii. Regular cabin baggage on small aircraft with limited stowage space in the cabin.
- iv. DAA procedure shall not be used for valuable items (e.g., laptop computers, large video cameras, important documents) as such items should remain with the passenger.

**Note 2:** Observe local restrictions for DAA delivery at arrival stations and inform passengers accordingly.

**Note 3:** Verify with the passenger that any dangerous goods items which are only permitted in cabin baggage are removed before DAA acceptance.

## 2. Procedure at Boarding Gate

- i. Inform the person responsible for loading and supervision task to ensure the loading of DAA and WCH are noted on the Load Message (LDM) under SI–Remark.
- ii. If applicable, inform the flight crew of the number of DAA bags.
- iii. Inform the passenger to leave or hand-over the DAA-item in the designated area.

### d. Sporting Equipment

Generally, sporting equipment will be presented as separate pieces of checked baggage. Accept sporting equipment as per operating airline procedures.

1. Apply procedures for special handling charges, *see Appendix 13 Ancillary Sales Charges*.
2. Load as per operator instructions (*refer to ACFT specific loading in GOM Chapter 9 Annex C Aircraft Specifics*).

### e. Wheelchairs and Mobility Aids

Wheelchairs and other mobility aids are crucial to the passengers who use them. They are most often custom-designed and tailored to promote safety, comfort and independence for the user and shall be treated with care. Mobility aids such as wheelchairs, rolling walkers, Segways style mobility wheelchairs or Swiss Tracs may be operated with manual or electric power and have to be handled according to instructions provided by the passenger and according to the IATA DGR. There are specific rules and concerns when handling such aids, especially when they have batteries that also need special handling.

Passengers using a wheelchair (manual or powered) or other mobility aid should always be given the following options:

1. Where possible, retain their personal mobility aid throughout the airport,
2. Check it in and be provided with an airport/airline wheelchair to autonomously reach the gate, where applicable,
3. Check it in and be accepted by a dedicated agent with an airport/airline wheelchair or electric cart to reach the gate.
4. If the passenger mobility aid:
  - i. Is not checked-in, its usage should be permitted up to the aircraft door and the mobility aid stored in the cabin where facilities are available. Such requests will be handled on a first come first served basis (ref. IATA RS 700 5.2.3.1 (b))



and will depend on the size of the aircraft and local regulations. Although requested by the passenger, where the wheelchair or mobility aid cannot be stored on board, it shall be loaded in the aircraft hold where it is easily accessible for timely return to the passenger at the aircraft door.

- ii. Is preferred to be or (must be) checked-in, an identification tag will be attached to it. The tag alerts the baggage handling staff on the handling process or the need to deliver the mobility aid to the aircraft door or at the baggage claim.  
*Refer to GOM 1.1.6.12(c).*
- iii. When not provided at the time of booking, details of size, weight and battery type shall be validated at check-in to ensure the mobility aid is accepted and loaded on the aircraft in accordance with the IATA DGR

**Note:** In addition to any operating airline procedure, refer to the current IATA DGR and IATA Recommended Practice 1708 which can be found in the IATA Passenger Services Conference Resolution Manual (PSCRM)

f. Acceptance of Pets in Cabin and Live Animals in Hold

Handling of animals is required in accordance with operating airline procedures and Live Animals Regulations (LAR). The acceptance of pets is also subject to the respective country regulations.

There are two methods of carriage:

1. Pets in Cabin (PETC)

Subject to operating airline procedures (*see below in italic*) defined animal species like cats and dogs may be accepted as pets in cabin, PETC *See GOM chapter 14.3.4 Annex H AVIH*, either securely leashed (*only for service dogs*) or in an approved container for carriage in the passenger cabin.

2. *Except for long haul flights, cats and dogs weighing not more than 8 kg are allowed in the cabin provided that they are carried in a suitable ("nose and paw" proof) container (a solid bag can be acceptable). The animal shall remain in the container for the duration of the flight.*

2. Animals in Hold

- i. Animals Vivant in Hold (AVIH), that is live animals, may be transported as checked baggage in the aircraft hold in accordance with IATA Live Animal Regulations and operating airline procedures. Ensure that the flight crew are informed of AVIH loading to ensure sufficient heat and airflow are maintained.
- ii. Domestic animals such as dogs, cats, and if applicable, other defined animal species by the operating airline may be carried as AVIH.

**Note 1:** Domestic animals of unusual size or wild animals, reptiles and rodents must be transported as cargo.

**Note 2:** *Refer to Chapter 14, Annex H – Live Animals for more information.*

g. Service Animals and Emotional Support Animals

Subject to operating airline procedures and local regulations, it may be possible to accept defined animal species as task-trained service animals (SVAN) and emotional support animals (ESAN) in the passenger cabin. Refer to operating airline procedures for guidance.

Task-trained service animals (SVAN) are animals trained to perform specific tasks for people who have physical, sensory, psychiatric, intellectual, or mental disabilities. The



most common type of service animal is a dog.

Emotional support animals (ESAN) are usually untrained and mainly provide support, well-being and comfort to their owners through companionship, non-judgmental positive regard and affection.

**Note 1:** Emotional support animals are not globally recognized as a service animal.

**Note 2:** Refer to Chapter 14, Annex H – Live Animals for more information.

#### 1.1.6.13 Carriage of Firearms

**Note:** Firearms are among the articles prohibited for carriage in the aircraft cabin. The only exemption is for persons specifically authorized to carry a firearm in the cabin (e.g. air marshal).

##### a. Carriage of Firearms On-Board

Airline procedures are in place to ensure the pilot-in-command (PIC) is notified prior to the commencement of a commercial flight or persons(s) authorized to carry a firearm on the flight in the passenger cabin.

The notification shall include the seat number(s) of authorized armed person(s) when allowed by local regulations.

##### b. Carriage of Firearms in the Aircraft Hold

When a firearm and ammunition is carried in the hold, the procedures shall ensure:

1. Firearm is not loaded and there is no ammunition in the chamber and ammunition is carried separately from the firearm, *follow the local procedures*.
2. Firearm and ammunition are stowed in a place that is inaccessible to any unauthorized person during the flight. Firearms are not to be carried in the flight deck or retained by any crew member.
3. Carriage of firearms is permitted by all states involved (including the state of departure, transit, arrival).
4. Pilot-in-command is notified prior to a commencement of the flight.

**Note 1:** In the event a weapon or any item suspected to be an unauthorized weapon is discovered, follow operating airline procedures and local security regulations.

**Note 2:** Refer to Chapter 10, Annex D – Dangerous Goods and Weapons and Chapter 15, Annex I - Security for more information.

#### 1.1.7 Boarding times

##### **Boarding times:**

	<b>Other stations</b>	<b>AMS / CUR</b>
<i>Applicability</i>	<i>TB/OR registration</i>	<i>TB/OR registration.</i>
<i>Narrow body</i>	<i>EOBT minus 40 minutes</i>	<i>EOBT minus 35 minutes</i>
<i>Wide body</i>		<i>EOBT minus 40 minutes</i>



**Note 1:** *Boarding times stated is "at the door or at bottom of the steps".*

**Note 2:** *Crew can always ask to start earlier or later.*

**Note 3:** *For standard boarding: can only start with approval from Crew.*

**Note 4:** *For automatic boarding (BRU, AMS, CUR):  
Provided the Flight Crew is on board, boarding without approval of the crew is allowed and mandatory; and  
If crew is not ready for automatic boarding, they will inform the ground handler.*

## Boarding sequence

1. PWD passengers

2. VIP Selection, Deluxe and Fly Deluxe passengers (if any).

3. All other passengers

### 1.1.7.1 Preparation for Boarding

Before boarding, ensure passengers and their cabin baggage have undergone security checks, if applicable.

- a. Start and test gate equipment or if required prepare manual boarding documentation in accordance with operating airline procedures.

**Note:** Follow procedures based on the DCS system in use.

- b. Check that boarding facilities and gate monitors are displaying the correct flight information.
- c. Prepare the gate room for boarding (e.g. place stanchions, carpets, baggage sizers, podiums, etc.), as per operating airline procedures.

**Note:** For maximum hand baggage dimensions refer to 1.1.6.2.

- d. Ensure dangerous goods and prohibited articles notices are displayed at the boarding gate (for further guidance refer to current IATA DGR).

*To be found as Appendix L2 Dangerous Goods Poster and Appendix L3 Forbidden Lithium Poster A4.*

- e. Prepare required handling material such as boarding passes, bag tags and other handling forms as per operating carrier procedures. *See 1.1.2 for check-in counter requirements.*
- f. Review the flight and check the following:
  1. Number of booked and accepted passengers including waitlist
  2. Passengers requiring special attention or pre-boarding
  3. Passengers who are not authorized to board and if any related action is required, e.g. feeding API- data, selectee handling



4. In case of an overbooked flight assess the number of volunteers required and/or expected number of involuntarily denied boarding passengers
5. Inbound connections and arrival time
6. If applicable meal counts in relation to the number of passengers
- g. If applicable prepare for priority boarding (e.g. set up signage and barriers etc.)
- h. Prepare boarding announcements as required per operating carrier.

**Note:** refer to Appendix I5 Boarding Calls in the TAGO Portal for boarding announcements.

- i. Ensure the boarding route to the aircraft is safe and clearly marked where possible.
- j. If passengers and staff need to walk on the ramp, ensure the route to the aircraft is safe and clearly marked. Passengers must be supervised on the ramp at all times *to make sure they follow the predetermined route and stay clear of all hazards and activities present on the ramp.*
- k. For boarding with a Passenger Boarding Bridge (PBB), secure the route to the aircraft and block off any unused passageways, if required. Identify passageways (e.g., by class) as per operator requirements when there is more than one passageway in use.
- l. Obtain clearance for boarding from the flight crew, according to local procedures and operating airline procedures.

**Note:** refer to 1.1.7 for boarding times, boarding sequence and Green light boarding.

#### 1.1.7.2 Passenger Boarding Process

Passengers can be boarded by personnel in charge of boarding process using a boarding application or manual process, or passengers can use self-service devices for boarding, if available.

The following must be observed for the boarding process:

- a. Apply the boarding sequence as requested by the operating carrier, e.g. pre-boarding and priority boarding.

**Note:** refer to 1.1.7 for boarding times, boarding sequence and Green light boarding.

- b. Make boarding announcements as per operating airline procedures.

**Note:** refer to Appendix I5 Boarding Calls in the TAGO Portal for boarding announcements.

- c. Follow operating airline procedures for passengers requiring assistance or pre-boarding.

**Note:** refer to 1.1.7 for boarding times, boarding sequence and Green light boarding.

- d. Verify each passenger's identity as per the requirements.
- e. Cross-check the name on the passenger identity document with the one on the boarding token/card, and visually match the passenger with the photograph, if applicable.
- f. Register each passenger boarding and make a notification in the DCS.
- g. Apply the cabin baggage procedures of the operating airline, and account for any gate tagged items:
  1. Collect any flight related paper revenue documents, if required
  2. Clarify any boarding discrepancies, refer to 1.1.7.3.



**Note:** Refer to 1.1.6.2 for hand baggage acceptance

- h. Follow safety precautions when aircraft fueling is in progress, refer to 3.2.3 or as per state or local regulations
- i. For manual or non-automated boarding, check the flight number and date on the boarding card/token, register the security number.

**Note:** Refer to Chapter 15, Annex I – Security for information on the usage of bingo cards.

- j. If a passenger is ineligible to board (refused boarding by the system) enter passenger records to resolve the passenger boarding issue.
- k. Enforce cabin baggage procedures:
  - 1. Extra cabin baggage collected at the gate from passengers shall be tagged and the pieces/weight tag number(s), if applicable, “entered” in the DCS. Collect bags at the gate as per local procedures. Charge excess baggage if feasible. Inform load control of the additional pieces/weight if not transmitted via DCS.
  - 2. Advise ramp staff and/or load control of any gate tagged items to be loaded as per operating airline procedures.

**Note:** Refer to Chapter 9, Annex C - Aircraft Specifics.

- l. For Delivery At Aircraft (DAA) procedure refer to 1.1.6.12 (c).

**Note:** For cabin baggage acceptance at the boarding gate refer to 1.1.6.2(e).

### 1.1.7.3 Passenger Boarding Discrepancies

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

- a. Make every attempt to locate missing passengers and obtain visual proof of boarding. Verify documents if the missing passengers are found to be already onboard the aircraft.
- b. Apply operating airline procedures (*see below in italic*) and local regulations with respect to the removal of the checked baggage of passengers who checked in but failed to board *and need to be off-loaded (see below in italic)*.
- c. When more passengers are on board than shown in the boarding count the boarding passes and identities of the passengers must be verified and the acceptance corrected and reconciled accordingly.
- d. Notify crew and load control of any last-minute changes to passenger and/or baggage load.

**Note:** In the event of a missing passenger offload process has to be initiated at the gate 15 minutes before STD at the latest. Physical search for the bags in the hold must start at STD -10 at the latest.

### 1.1.7.4 End of Boarding

Before flight closure ensure that all accepted passengers have boarded the aircraft.

- a. Secure the flight by matching the checked-in passengers to the boarded passengers, finish the boarding process and close the flight in the DCS.



- b. Add any additional cabin baggage tag number(s) in the DCS collected at the gate and the system used (manually or automated)
- c. Provide final passenger numbers to cabin and/or flight crew.
- d. Provide required flight documents to cabin and/or flight crew.
- e. Ensure load control are informed about final passenger and/or baggage information.

#### 1.1.7.5 Boarding in Case of DCS Breakdown

Where no DCS is available or in case of DCS failure, apply manual boarding as per operating airline procedures (*see below in italic*). Ensure the final checked-in count matches the boarded passenger count prior to door closure. Then prepare and present a final manifest.

**Note:** in case of DCS and/or BHS failure, local back-up procedures must be established in every station and tested regularly.

#### 1.1.8 Information to the Crew

##### 1.1.8.1 General

Provide the flight crew with the required documents according to the operating airline procedures.

##### 1.1.8.2 Passenger Information List (PIL)

The Passenger Information List (PIL) provides information to the cabin crew about passengers on board, (name, seat number, special service requirements). Provide a PIL to the senior cabin crew member before departure.

**Note:** The complete PIL should be printed and must be kept in the flight file for three months. The list must be sent to the below email within 1 hour after take-off with subject: routing, flight number and date.

<i>JAF</i>	<i>TFL</i>
<i>paxlist@tuiify.be</i> <i>Sita BRUPXTB</i>	<i>paxlist@tuiify.nl</i> <i>Sita SPLPXOR</i>

##### 1.1.8.3 Other Flight Documents

Other required documents may include:

- a. Final passenger manifest.
- b. Baggage tag list for double destination flights.
- c. General declarations if required.
- d. Other special information (i.e. inadmissible (INAD) passenger documents, etc.).





**Note:** these documents must be kept in the flight file for three months.

## 1.1.9 Post Flight Departure Activities

### 1.1.9.1 Messages

Ensure all relevant messages are dispatched to the appropriate addresses (*see below in italic*).

Messages may include:

- a. Teletype Passenger Manifest (TPM)
- b. Passenger Transfer Message (PTM)
- c. Passenger Service Message (PSM)
- d. Passenger Protection Message (PPM)
- e. Seat occupied Message (SOM)
- f. Industry Discount Message (IDM)
- g. Advance Passenger Information (API)
- h. Electronic Ticket List (ETL)
- i. *Aircraft Movement Message (MVT) for a list of delay codes, refer to Appendix I10 in the TAGO Portal*

**Note 1:** *Messages shall be produced and delivered in accordance with respective AHM chapters. A flight file shall be maintained for each departing flight in a secure location according to local regulations and/or operator requirements. Post departure messaging shall be delivered within 15 minutes after off blocks.*

**Note 2:** *Ensure all relevant messages are dispatched to the appropriate addresses.*

#### **DCS (Departure Control System) other than iPort stations:**

*The complete PRL with all names of boarded passengers should be printed and must be kept in the flight file for at least three months. The final list must be sent to below email (with as subject: routing, flight number and date) or SITA addresses within 1 hour after take-off.*

*API information should be sent (if required).*

JAF	TFL
<a href="mailto:paxlist@tuiify.be">paxlist@tuiify.be</a> Sita BRUPXTB	<a href="mailto:paxlist@tuiify.nl">paxlist@tuiify.nl</a> Sita SPLPXOR

### 1.1.9.2 Flight Document Retention

Retain (electronically or paper files) flight documents *as per the table below* and for a period of no less than three months unless otherwise specified.



<b><i>Documents to be kept in flight file</i></b>	<b><i>Period</i></b>	<b><i>Reference to chapter</i></b>
<i>Hold Baggage Manifest</i>	<i>3 months</i>	<i>Chapter 15, Annex I 7.6</i>
<i>Dangerous goods transport document (shipper's declaration)</i>	<i>3 months</i>	<i>Chapter 10, Annex D 3.2.2</i>
<i>DG acceptance checklist</i>	<i>3 months</i>	<i>Chapter 10, Annex D 3.2.2</i>
<i>De-icing declaration form</i>	<i>3 months</i>	<i>Chapter 11, Annex E</i>
<i>Form of Indemnity</i>	<i>7 days</i>	<i>1.1.5.1</i>
<i>Fuel figures</i>	<i>3 months</i>	<i>5.7</i>
<i>Limited Release tag</i>	<i>60 days</i>	<i>1.1.6.9</i>
<i>LIR</i>	<i>3 months</i>	<i>5.7</i>
<i>LMC</i>	<i>3 months</i>	<i>5.4.3.2 and 5.7</i>
<i>Signed Loadsheets and trimsheet</i>	<i>3 months</i>	<i>5.7</i>
<i>NOTOC</i>	<i>3 months</i>	<i>5.7 and Chapter 10, Annex D 3.1.2</i>
<i>PIL</i>	<i>3 months</i>	<i>1.1.8.2</i>
<i>PRL</i>	<i>3 months</i>	<i>1.1.9.1</i>
<i>Refused passenger, copy of the incorrect travel documents</i>	<i>7 days</i>	<i>1.1.5.1 and 1.4.10.3</i>
<i>UM form</i>	<i>3 months</i>	<i>1.4.1.4</i>
<i>Electric Mobility Aid tag</i>	<i>3 months</i>	<i>Chapter 12, Annex F, 12.3.4.1</i>
<i>Live Animal Acceptance Checklist</i>	<i>3 months</i>	<i>Chapter 14, Annex H, 14.1.1</i>
<i>Other flight documents like Final passenger manifest, Bag tag list for double destination flights, General declarations if required. other special information i.e. INAD documents.</i>	<i>3 months</i>	<i>1.1.8.3</i>

### **1.1.9.3 Flight Close-Out**

The accounting of all revenue documents for the respective flight and related services has to be ensured.



Electronic documents are transmitted automatically by appropriate flight closing activities in the check-in system as per operating carrier procedures. Paper revenue documents (e.g. flight interruption manifests (FIMs), excess baggage coupons) must be collected and forwarded to the respective Revenue Accounting as per operating carrier procedures.

**Note:** use the Monthly Sales Report in the TAGO Portal available as Appendix F1 Monthly Sales Report.

## 1.2 Passenger Security

### 1.2.1 Security of Documents

#### 1.2.1.1 Boarding Passes, Transit Passes and Baggage Tags

To enforce the security and safe disposal of boarding passes, transit cards, baggage tags and passenger information, all materials must be always kept under surveillance and removed from counters to prevent unauthorized access and use.

#### 1.2.1.2 Printed Documents

Printed material such as boarding passes, passenger lists, and handling forms may have to be reprinted. Disposal of the original documents containing passenger data should be in accordance with data protection rules.

Unauthorized persons shall not be given access to printed documents containing personal data or their contents.

#### 1.2.1.3 Counter and Area Security

- All systems, including the DCS, passenger facing counter etc. must be controlled to prevent unauthorized access. Follow airport procedures to prevent unauthorized access to and use of un-issued (blank) boarding passes.
- Before leaving the counter, remove boarding passes and baggage tags from the printers or lock them.
- Before leaving the counter, sign out, log off and lock the system.
- Adhere to regulations concerning the usage of sign-ins and passwords.

### 1.2.2 Passenger Suitability for Travel

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;

- Suspend the passenger process for the identified passenger (check-in and/or boarding)
- Notify your supervisor or the airline representative to agree on further action(s). This should be done in accordance with the operating airline procedures (*see below*).
- Depending on the situation the airline representative will contact the appropriate local authority for assistance, if needed.



**Note:** Additional instruction to be found in Chapter 15, Annex I – Security.

### 1.2.3 Security of Passengers and their Baggage

It is the responsibility of supervision staff to ensure all security threats are immediately reported to the customer airline, the flight crew and applicable authorities as per local requirements and customer airline's policy (*see Chapter 15, Annex I -Security*).

Apply customer airline and/or regulatory airport authority security procedures for the handling of passengers and their baggage in the event of:

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

**Note:** Additional instructions to be found in Chapter 15, Annex I - Security.

### 1.2.4 Restricted Areas

Secure all gate and departure areas by keeping doors closed. Use appropriate barricades when directing passengers.

- a. Ensure all access doors are closed when not in use.
- b. Position staff as required to direct passengers.
- c. If passengers must walk on the apron to the aircraft, ensure passengers proceed directly to the aircraft.
- d. If transportation must be provided to passengers to move them from the terminal building to the aircraft, make sure only authorized personnel and screened passengers are allowed to board the vehicle.

## 1.3 Passenger Arrival, Transfer and Transit

### 1.3.1 Pre-Arrival

Review the pre-arrival information from DCS and/or messages.

- a. Prepare for short connections if applicable.
- b. Arrange facilitation for passengers requiring assistance as identified by the applicable SSR and/or as per operating airline procedures (*see below in italic*). Check requirements for any gate delivery mobility aids.
- c. In case of delay of arrival, check onward connections and make new reservations if required and as per operating airline policy (*see below in italic*).

**Note:** For additional instructions contact the Customer Care team.

### 1.3.2 Arrival

- a. Prepare PBB, ensuring it is free of debris and positioned as per the standard requirements, *refer to GOM 3.1.3.5*.
- b. Secure the disembarkation route for passengers and observe passengers' safety throughout the entire disembarkation process. If passengers are required to walk across the ramp, they shall be supervised *to make sure they follow the predetermined route and stay clear of all hazards and activities present on the ramp*.



**Note 1:** If passenger handling staff are trained and authorized to operate the PBB (see GOM 3.1.3.5).

**Note 2:** If passenger handling staff are trained and authorized to operate cabin access doors (see GOM 4.4.2).

- c. Disembark passengers in accordance with operating airline procedures (*see below in italic*).

**Note:** Passengers are only allowed to disembark after verbal contact has been made between the crew and the disembarkation agent. Special messages or communications (e.g. UMNR on board, etc.), handing over of personal documents of deportees, etc., shall be done at that moment.

- d. Provide assistance to passengers requiring it, even if not previously identified.

### 1.3.3 Transfer

For passenger handling at the connecting airport If applicable, and as per operating airline procedures (*see below in Italic*):

- a. Check the inbound/outbound connections and the number of passengers affected.
- b. Check time-critical connections, and inform gate staff of onward transfer.
- c. Prepare for handling of passengers requiring assistance.
- d. Assist the transferring passengers upon arrival of the incoming aircraft.
- e. Direct passengers:
  1. through-checked passengers to the appropriate departure gate(s).
  2. non-through checked passengers to the transfer desk or gate for check-in, whichever is applicable.

**Note:** Refer to Appendix I6\_Transfer Passenger & Baggage handling for further instructions on Transfer passenger and baggage handling procedures.

### 1.3.4 Transit

#### 1.3.4.1 General

Transit passengers may be allowed to disembark when scheduled ground time and local circumstances and facilities permit. Local airport requirements shall be applied regarding security of transit passengers up to and including screening requirements.

**Note:** Always consult with senior cabin crew member

#### 1.3.4.2 Disembarkation Procedures

- a. Provide each passenger with a transit boarding pass or instruct passengers to retain their original boarding pass;
- b. Inform passengers about boarding time and gate and available facilities;

#### 1.3.4.3 Transit Passengers Remain on Board

As per operating airline procedures, there may be categories of passengers that stay on board if locally permitted. In this situation check the number of passengers with the cabin crew



onboard to ensure a correct boarding count when re-boarding the flight 1.3.4.4 Boarding Procedure.

Provide assistance to passengers who remain on board during the transit time.

*If specific passengers staying on board simplifies the turnaround process and/or the convenience of the passenger this could be considered in good cooperation between GHS, Purser and Pilot in Command. This requires extra awareness in case a safety incident occurs.*

#### **1.3.4.4 Boarding Procedure**

- a. Board transit passengers before local passengers.
- b. 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 using the flight manifest or DCS.

#### **1.3.4.5 Missing Transit Passengers**

The flight must be re-secured before door closure. If passengers are missing, apply the procedure for passenger boarding discrepancies refer to 1.1.7.3.

#### **1.3.4.6 Aircraft Change at the Transit Station**

- a. Advise cabin crew that all transit passengers must disembark with their carry-on baggage.
- b. Distribute transit boarding passes (or instruct passengers to retain their original boarding pass)
- c. Inform passengers about the boarding time and gate as well as available facilities.
- d. Provide passenger assistance as required.
- e. In case of a change of aircraft type / configuration, assign passengers new seat numbers if applicable, or apply free/open seating.

### **1.4 Special Categories of Passengers**

#### **1.4.1 Unaccompanied Minors**

*Definitions and instructions:*

- a. An "Unaccompanied Minor" or SSR Code UMNR: is a child aged from 5 up to and including 11 years of age.  
*Procedure for handling Unaccompanied Minor is applicable, refer to the instructions in chapter 1.4.1.4.*  
*If at any station at check-in an Unaccompanied Minor is not registered as UMNR, refer to the instructions in chapter 1.4.6.2.*
- b. A "Young Person Travelling Alone" or SSR Code YPTA: is a child from 12 up to and including 17 years of age.
  1. A YP requested by a parent (or appointed guardian) not capable to travel alone without guidance or in case of doubt by the check-in agent about the YP's ability to travel alone, will be considered as UM with SSR Code UMNR.
  2. A YP with destination Aruba, Bonaire or Curaçao is not permitted to travel alone without guidance. This will be indicated as 'MAAS and YPTA'.



*Procedure for a YPTA passengers considered on the PNL as 'UMNR':*

*The same procedure as for UM is applicable, refer to the instructions in chapter 1.4.1.4. Handling Agents need to ensure the UM documents are filled in. If no UM-documents are filled in, this YP is not allowed to be checked in, refer to the instructions in chapter 1.4.6.2.*

*Procedure for a YP passengers considered on the PNL as 'MAAS and YPTA':*

*At the airport this YP is to be escorted to or from a gate or aircraft by designated staff.*

*If at check-in from or to destination Aruba, Bonaire or Curacao a Young Passenger is not registered as 'MAAS and YPTA':*

- i. *at Aruba, Bonaire or Curaçao contact the TUI Representative;*
- ii. *at Amsterdam Airport Schiphol contact the TUI desk;*
- iii. *all other stations contact the Customer Care team.*

#### **1.4.1.1 General**

The procedure for unaccompanied minors is applicable to the handling of children or youth travelling alone under conditions as defined per operating carrier procedures.

#### **1.4.1.2 Seating**

Seat UMNR as per operating airline policies and do not assign seats in emergency exit rows. Refer to AHM 560 for seating instructions.

**Note:** At your airport, an unaccompanied minor can be accommodated, in zones determined by their situation in a no smoking area.

#### **1.4.1.3 Acceptance Restrictions**

Observe travel restrictions for UM as per operating airline procedures for:

- a. Connecting flights.
- b. The maximum number of UM allowed on a flight.

**Note:** Additional instructions in regards to restrictions on the maximum number of UM's to be found in AHM 560 in the TAGO Portal.

*Transportation will never be granted to unaccompanied sick minors.*

*The acceptability of unaccompanied minors varies according to the age bracket into which they fall.*

#### **JAF-BE**

*Children under 16 years who are travelling with a leisure ticket and who are accompanying a crew member in function, cannot be accepted unless they are accompanied by another adult who is willing and able to take full responsibility of the child during the entire journey. Refer to Duty/Leisure tickets in 1.1.3.1*

#### **End JAF-BE**



#### 1.4.1.4 Procedures for Handling Unaccompanied Minors

- a. Complete the handling advice/declaration form ensuring the responsible adult has signed authorization and provided proof of identity.
- b. Distribute and keep copies as required.

**Note:** Upon transfer of responsibility from one person to the other, the person who is released from responsibility will receive the correct copy after signature of the person taking over the responsibility over the UM. Hand over a copy to the person seeing off on departure. The original + rest of the copies stay with the minor (in the UM-pocket). File your copy in the flight file for 3 months. The minor's travel documents shall be placed in a document holder. The purpose of the document holder is: to keep all the documents necessary for the minor's transportation together: UM folder and passenger ticket, passport or identity card, vaccination certificate and any other documents as required. This needs to be visibly positioned to make identification of unaccompanied minors easier.

- c. Ensure the correct remarks and SSR codes are in the check-in record.
- d. Apply handling fee where applicable.
- e. Inform the responsible adult to remain at the airport until the aircraft is airborne.
- f. Keep the UMNMR in safe custody and hand over to the cabin crew during boarding.
- g. Advise/release responsible adult once flight is airborne.

**Note:** Use form as provided. In case of low stock please order via online Stationery Request form in the TAGO Portal.

*Responsibility for the unaccompanied minor remains with the person who is momentarily in charge of the child and follows automatically each transfer from one person to another.*

Once accepted for carriage, the minor shall remain under supervision of company personnel only, until the delivery to an adult escort at the station of destination or to another carrier continuing the carriage and consequently taking charge of the minor.

Transfer to another carrier is only accepted when previous arrangements were made and the necessary agreement was obtained from the other carrier(s) by our booking office.

The handling agent has to inform the person who is momentarily in charge of the child that he/she has to remain at the airport until the flight is airborne.

#### 1.4.1.5 Transfer Station Procedure

- a. Meet and assist (MAAS) the UM and collect any travel documents from the cabin crew.
- b. Hand over the UM to the cabin crew of the connecting flight.
- c. In case of interline transfer, hand over UM to the onward connecting airline agent.
- d. In case of a flight disruption at the transfer station, the UM is to be accompanied at all times.





**Note:** In case of irregularities like diversions or delays an UM is never left alone or left behind. The station where the irregularity occurs, has to take care of the UM, except if the child is accompanied by a company escort.

#### 1.4.1.6 Arrival Station Procedure

- a. Meet and assist (MAAS) the UM and collect any travel documents from the cabin crew.
- b. Complete the handling advice/declaration form for airline staff responsible.
- c. Where applicable, ensure baggage of UM is collected.
- d. Hand over the UM only to the designated adult noted on the handling advice after verifying the identity of this person and having received his signature for receipt of the UM.

**Note:** Keep a copy at the station in the flight file for 3 months after handing over the UM to the designated adult.

### 1.4.2 Infants and Children

#### 1.4.2.1 Infants

- a. General Restrictions:

An infant is a minor who has not yet reached his/her 2nd birthday.

Restrictions may exist regarding the number of infants permitted per adult passenger or the minimum age required to be responsible for an infant. Apply operating airline procedures (*see below in italic*).

**Note 1:** *1 adult can carry 1 infant on lap, subsequent infants must book a seat as a child and a car seat fitted.*

**Note 2:** *The maximum number of infants allowed per aircraft is limited by the number of supplemental oxygen masks available on the aircraft.*

- b. Seating

Passengers travelling with infants should be assigned next to seats next to areas/zones capable of fitting bassinets (e.g., bulkhead seating area). *Baby Bassinets are not accepted by TUI fly Belgium and TUI fly the Netherlands. Most common is that infants will be carried on their parents lap.* Infants travelling with car type baby seats or similar child restraint device require an individual seat suitable for the device. *See GOM 1.4.2.2. Note.*

*Infants are considered children and shall be assigned a seat when, during the journey, they reach the age of two.*

Infants travelling with car type baby seats or similar child restraint device require an individual seat suitable for the device.

Infants are considered children and shall be assigned a seat when, during the journey, they reach the age of two.

- c. Aircraft Baby Bassinets

**Note:** Not applicable

- d. Baby Strollers

Apply checked-in or Delivery At Aircraft (DAA) service for strollers and provide information to passengers concerning the procedure, if applicable.



- Note:**
- a. Within the first 7 days after birth, an infant may not travel by air;
  - b. Infants with health problems or prematurely born infants shall be considered as MEDA passengers;
  - c. The acceptable total number of infants on board an aircraft is limited and depends upon the quantity of individual pieces of safety equipment carried, i.e.: the number of emergency oxygen masks available and the number of children life jackets and infant (or "kangaroo") belts carried. The first element is structural and cannot be modified. The second however can be increased upon demand.
  - d. Additional detailed seating instructions to be found in AHM 560 in the TAGO Portal.

#### 1.4.2.2 Children

Definition: A child is a minor between two and twelve (has reached his/her 2nd birthday, but has not reached his/her 12th birthday).

If the minor reaches his/her 2nd birthday during the journey, he/she will be considered a child as of the birthday.

Restrictions may exist regarding the minimum age of the accompanying adult passenger.

a. Seating

Children must occupy an individual passenger seat and may not be seated in emergency exit rows.

b. Child Restraint Device

Apply operating airline procedures (*see below in italic*) for the acceptance and use of car seats and other restraint devices. Verify their conformity as per the airline specifications.

1. Make sure the child restraint device is placed on a seat that will not hinder the evacuation of any passenger.
2. Do not assign a seat for the child restraint device in an emergency exit row or the row forward or behind an emergency exit row.
3. Respect any limitations specified by the operating airline, as not all seats may be suitable.



**Note 1:** Refer to Chapter 9, Annex C – Aircraft Specific and the AHM560 in the TAGO Portal.

**Note 2:** Approved and acceptable CRDs are mentioned below.

1. Regulation allows the use of car seats with integrated harnesses that have a label stating that they are certified for use on aircraft. The reference ECE R44-03 is commonly used in Europe.
2. CRDs qualified for use in aircraft according to the German Qualification Procedure for Child Restraint Systems for Use in Aero plane, (TÜV Doc.: TÜV/958- 01/2001)
3. Outside EU: CRDs approved for use in aircraft only by any JAA authority, the FAA or Transport Canada (on the basis of a national technical standard) and marked accordingly.
4. CRDs approved for use in motor vehicles and aircraft according to Canadian CMVSS 213/213.1.
5. US approved CRDs manufactured that are compliant must bear the following labels in red lettering: "THIS CHILD RESTRAINT SYSTEM CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS" And "THIS RESTRAINT IS CERTIFIED FOR USE IN MOTOR VEHICLES AND AIRPLANE"

## 1.4.3 Groups

### 1.4.3.1 General

The minimum number of passengers travelling together in a group (not including infants) is defined by the operating airline policy (*see below in italic*).

**Note:** The number of passengers traveling together in a group are identified by the reservation system and are recognised in the DCS system by the SSR code GRPS.

### 1.4.3.2 Check-In

- a. Check-in and accept all passengers individually.
- b. When possible assign seats together; if requested respect any special seating requirements.
- c. Issue baggage tags individually:
  1. each piece of baggage must bear the respective passenger's identification.
  2. exception: Bag tags for family members travelling together may be issued on one family name.

### 1.4.3.3 Non-Standard Groups

Unusual groups, passengers of size, or outside the standard set as a minimum per airline may need to be communicated to load control (i.e., sports teams with higher passenger weights).

## 1.4.4 Passengers with Disabilities

### 1.4.4.1 General Passengers with Disabilities

As of IGOM Ed. 11 (effective 2022), the term Passenger with Reduced Mobility (PRM) has been aligned with the UN Convention on the Rights of Persons with Disabilities (CRPD) and



International Civil Aviation Organization (ICAO) Annex 9 Chapter 8H, using the term Person/ Passenger with disabilities (PWD) as the official terminology. Passengers with Disabilities (PWD) includes passengers with reduced mobility and passengers with non-visible disabilities which can be temporary or permanent condition

- a. The ability to provide assistance to PWDs will vary according to:
  1. Individual's needs.
  2. the aircraft type.
  3. the aircraft configuration.
- b. For PWD and those requiring/requesting assistance:
  1. Ask the passenger what assistance they require and how you can help them.
  2. Assign a seat in their ticketed cabin which accommodates the passengers' needs, in consultation with the passengers, and ensure that they are not allocated or occupy seats where their presence could impede the emergency evacuation. If the PWD is travelling with a Personal Care Attendant and/or Safety Assistant, they shall be given seats immediately adjacent to or across the aisle from the passenger they are assisting, see GOM 1.4.4.3.
  3. Advise the passenger of what services and assistance are available based on their needs.
  4. Advise the passenger of available operating airline equipment (i.e., on board wheelchairs, braille or tactile markings, accessible lavatories, etc.).
  5. Provide information to the passenger in alternate accessible communication formats upon request (e.g. braille, captioning, large print, etc.).
  6. Ensure accurate SSR codes and any other relevant information are recorded in the DCS and PNR.
  7. Acceptance of PWDs and other passengers with disabilities will be *as described throughout this GOM*.
  8. PWDs should be allowed to pre-board.
  9. Wherever feasible, PWD's using a wheelchair (manual or powered) or other mobility aid, should be permitted to use their personal mobility aid throughout the airport until they reach the aircraft and receive it back near the aircraft upon arrival. When in transit, if time permits between flights, the airline should offer to return to PWDs their personal mobility aid and allow PWDs to retain them until they need to be stored again for carriage. Inform the stations of transfer/arrival accordingly to allow the handling of the aid.

#### 1.4.4.2 Assistance Codes for Passengers with Disabilities

PWDs may require services and assistance to facilitate their travel experience. SSR codes are used to communicate passenger preferences, procedural items, medical cases and assistance required by passengers. These are identified in airline messages by IATA Reservations Interline Procedures (AIRIMP) codes.

- a. Codes to identify a type of disability;
  1. BLND (Blind Passenger)—specify if accompanied by service animal.
  2. DEAF (Deaf Passenger)—specify if accompanied by service animal.
  3. DPNA (Disabled Passenger Needing Assistance)—passenger with cognitive or invisible disabilities needing assistance (specify details)
- b. Codes to identify assistive services provided to the passenger
  1. MAAS—Meet and Assist (specify details)



2. WCHR (Wheelchair—R for Ramp)—passenger can ascend/descend steps and make own way to/from cabin seat but requires wheelchair for distance to/from aircraft, i.e., across ramp, finger dock or to mobile lounge as applicable. When service animal is accompanying passenger, specify the type of animal in free text of SSR Item
3. WCHS (Wheelchair—S for Steps)—passenger cannot ascend/descend steps, but is able to make own way to/from cabin seat; requires wheelchair for distance to/from aircraft or mobile lounge and must be carried up/down steps. When service animal is accompanying passenger, specify the type of animal in free text of SSR Item.
4. WCHC (Wheelchair—C for Cabin Seat)—passenger completely immobile; requires wheelchair to/from aircraft/mobile lounge and must be carried up/down steps and to/from cabin seat. When service animal is accompanying passenger, specify the type of animal in free text of SSR Item.

**Note:** Specify if the passenger is travelling with own wheelchair and use one the following applicable SSR codes which describe the wheelchair

1. WCBD—Dry or Gel battery operated wheelchair/mobility aid (non-spillable wet/dry cell battery)
2. WCMP—Manual power wheelchair/mobility aid
3. WCLB—Lithium battery operated wheelchair/mobility aid
4. WCBW—Spillable wet cell battery wheelchair/mobility aid. TUI Airlines does not accept Electric Mobility Aids with spillable batteries

*If the passenger is requesting a wheelchair on board use SSR code WCOB*

- c. Codes to identify animals accompanying a passenger with disabilities
  1. When service animal is accompanying passenger, specify the type of animal in free text of SSR Item.
  2. ESAN—for passengers travelling with an emotional support/psychiatric assistance animal in cabin (specify details)—(by bilateral agreement). Subject to government regulations.
  3. SVAN—for passengers travelling with a service animal in cabin (specify details)—(by bilateral agreement).
- d. Codes to identify equipment accompanying the passenger
  1. OXYG (Oxygen)—for passengers travelling either seated or on a stretcher, needing oxygen during the flight (only to be used in conjunction with SSR Code MEDA).
  2. STCR (Stretcher Passenger)
  3. AOXY (Airline Supplied Oxygen)—for passengers travelling either seated or on a stretcher, needing oxygen during the flight (only to be used in conjunction with SSR code MEDA) (by bilateral agreement).
  4. POXY (Passenger Own Oxygen)—for passengers travelling either seated or on a stretcher, needing oxygen during the flight (only to be used in conjunction with SSR code MEDA). Subject to airline and/or government regulations (by bilateral agreement).
  5. PPOC (Personal Portable Oxygen Concentrator)—(by bilateral agreement).
  6. WCOB (Wheelchair—O for Onboard)—provided by airline (by bilateral agreement) 48 hours' notice recommended but not required.

**Note 1:** For medical cases (MEDA). Refer to 1.4.5 for specific handling details related to MEDA passengers.



**Note 2:** *Additional detailed seating instructions for passengers with disabilities to be found in AHM 560 in the TAGO Portal.*

#### 1.4.4.3 Seat Assignment

- a. PWDs, as well as their personal care attendant and/or safety assistant shall be assigned specific seats which will facilitate boarding and disembarkation and will minimize inconvenience to the passenger and maximize the scope for cabin crew assistance.
- b. As a rule, ensure that PWDs are not allocated, neither occupy, seats where their presence could:
  1. Impede the emergency evacuation of the airplane;
  2. Impede crews in their duties;
  3. Obstruct access to emergency equipment.
- c. Personal care attendants and/or safety assistants shall be given seats immediately adjacent to the passenger they are attending to.
- d. The assignment of seats may also be subject to medical requirements.
- e. When assigning seats, observe the following criteria:
  1. PWDs travelling with service dogs should be assigned seats that allow space for the dog, near a floor level exit but not impeding access to it.
  2. PWDs should, be seated so as not to impede rapid evacuation of the aircraft.
  3. If crutches, canes and similar walking aids are stored in a special location in the cabin, the users of such aids should be assigned seats nearby, to permit quick access to the aids when needed.
  4. Passengers with stiff legs, fractured legs in plaster, paraplegics, etc. should be accommodated in seats allowing the maximum space for their comfort, or space for leg support devices with the least possible disturbance to passengers in the adjacent seats. Limbs in plaster casts should not obstruct the aisle or emergency exits.
  5. Passengers with disability affecting only one side of their body (hemiplegics, artificial limb, arm or leg in cast, splint or brace, etc.) should be seated in an aisle seat with the unaffected side of their body towards the aisle; this will facilitate their mobility in cases of emergency.

**Note 1:** Wherever possible, groups of PWD shall be seated in subgroups in order to enable a rapid flow of other passengers during an evacuation.

**Note 2:** Travel by groups of PWD shall always be subject to applicable regulatory and operating airline procedures.

#### 1.4.4.4 Maximum Number of PWDs and Assistance Requirement

- a. In circumstances where the number of PWDs forms a significant proportion of the total number of passengers carried on board, the number of PWDs should not exceed the number of able-bodied persons capable of assisting during an emergency (or as per local regulation).
- b. For personal care attendants and/or safety assistants' requirements, refer to operating airline procedures.



**Note:** Refer to the AHM560 for detailed seating instructions.

#### 1.4.5 Passenger Requiring Medical Clearance

##### 1.4.5.1 General

- a. No medical clearance or special forms are required for passengers who only require special assistance in the airport, or in embarking/disembarking.
- b. Medical clearance is required by the airline if the passengers:
  1. Have any disease which is believed to be actively contagious and communicable;
  2. Are considered to be a potential risk to the safety or punctuality of the flight including the possibility of diversion of the flight or an unscheduled landing;
  3. Are incapable of caring for himself and requires special assistance;
  4. Have a medical condition which may be adversely affected by the flight environment.

**Note:** Passengers not falling into these categories normally do not need medical clearance, however, if in doubt, the airline should be advised so it can decide whether a medical clearance is required or not.

- c. Passengers with medical cases (if applicable)
  1. LEGL (Leg in cast)–for passengers with a left leg in a full cast or fused knee, (only to be used in conjunction with SSR code MEDA).
  2. LEGR (Leg in cast)–for passengers with a right leg in a full cast or fused knee, (only to be used in conjunction with SSR code MEDA).
  3. LEGB (Leg in cast)–for passengers with both legs in a full cast, (only to be used in conjunction with SSR code MEDA).
  4. MEDA (Medical Case)–company medical clearance may be required. Not to be used for passengers with disabilities or reduced mobility who only require assistance or handling and who do not require a medical clearance. Refer to IATA Resolution 700 and AIRIMP 3.7.6 for guidance.
  5. OXYG (Oxygen)–for passengers travelling either seated or on a stretcher, needing oxygen during the flight.
  6. AOXY (Airline Supplied Oxygen)–for passengers travelling either seated or on a stretcher, needing oxygen during the flight (only to be used in conjunction with SSR code MEDA) (by bilateral agreement).
  7. STCR (Stretcher Passenger).

**Note:** Passengers showing signs of communicable diseases must be referred to airport medical assistance to obtain a fit-to-fly certification.

**Adult passengers travelling with a cast(s)** (*i.e. waist and/or full leg plaster*), can be asked to purchase two or more seats in total, per Flight, to travel as required to accommodate their height comfortably. This will enable the limbs to be elevated during the Flight and reduce swelling.



*The number of seats required should be determined so as to accommodate the Passenger's height comfortably.*

*When passenger boards with plaster cast, please follow these instructions:*

- a. *Does the passenger have a fit to fly from a doctor? If yes, he can fly.  
If no: see b*
- b. *Has the plaster been fitted for at least 48 hours before the flight If yes, customer is allowed to fly  
If no: see c*
- c. *Has the passenger signed an indemnity form?  
If yes, he can fly if signed If no passenger has to be denied boarding*

### **Pregnant passengers**

- a. *During the first 28 weeks of pregnancy: Woman expecting one or multiple children can travel without a medical certificate.*

### **Single pregnancy:**

- a. *From the beginning of the 29th week to the end of the 36th week, expectant mothers will need a medical certificate.*
- b. *From the beginning of the 37th week onwards, expectant mothers will not be accepted for travel.*

### **Multiple pregnancy:**

- a. *From the beginning of the 29th week to the end of the 32nd week, expectant mothers will need a medical certificate.*
- b. *From the beginning of the 33rd week onwards, expectant mothers will not be accepted for travel.*

### **Medical certificate guidelines:**

- a. *Issued and signed by a doctor or attending midwife.*
- b. *Issued within 14 days of the date of travel.*
- c. *State if the pregnancy is single or multiple.*
- d. *State the number of weeks of pregnancy and the Expected Date of Delivery (EDD).*
- e. *State that you are fit to fly.*

### **1.4.5.2 Medical Information Form**

Each airline can use the IATA Medical Form MEDIF.

### **1.4.5.3 Frequent Traveler's Medical Card (FREMEC)**

*Not applicable for TUI fly Belgium and TUI fly the Netherlands.*

### **1.4.5.4 Advance Notification**

Passengers are asked to advise the airline of their needs at the time of reservation.

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

- a. *Passengers traveling on a stretcher.*
- b. *Passengers requiring personal portable oxygen concentrator, ventilator or respirator onboard.*
- c. *The carriage of an incubator.*





**Note 1:** Information on the type of mobility aid as well as its weight, dimensions, battery type, special information (i.e., free wheel mode, removeable parts, Internet of Things (IoT) devices, seating systems, reclining mechanisms etc.) should be made available, to enable determine how to safely handle, secure and load the mobility aid. *Refer to Chapter 12, Annex F – Electric Mobility Aids for more information.*

**Note 2:** The types of mobility aids are diverse, and each type of mobility aid has specific locations on the frame for tie downs and disassembly and assembly, care shall be observed when handling and loading/unloading.

**Note 3:** *Refer to Chapter 12, Annex F - Electric Mobility Aids*

#### 1.4.5.5 Seating

Medical case (MEDA) passengers are entitled to the most appropriate seating according to their needs, including the stowage of on board medical devices or equipment.

- a. Appropriate seating, as per operating airline (*see below in italic*) –procedures MEDA and passenger needs,
- b. Provide adjacent seating, as applicable, for:
  1. A personal care attendant
  2. A safety assistant
  3. A reader/interpreter in case of a vision or hearing impairment
- c. PWD/MEDA passengers may not be seated in emergency exits. Refer to Recommended Practice 1700c for more details.

**Note:** Additional detailed seating instructions to be found in AHM 560 in the TAGO Portal.

#### 1.4.5.6 Request for Assistance without Advanced Notice

If a passenger's needs were not communicated at the time of booking, or a passenger is identified as a PWD or potential MEDA case upon departure, make all reasonable efforts to accommodate the passenger without delaying the flight. Ask appropriate questions and record required codes in the DCS.

#### 1.4.6 Handling of PWDs not Requiring Medical Clearance

##### 1.4.6.1 Processing

Check that additional needs have been communicated via the respective SSR codes and entered into the DCS and PNR, and verify if escort requirements are fulfilled, if applicable.

**Note:** The number and categories of SCP's shall not exceed the number of passengers able to assist them in case of an emergency.

##### 1.4.6.2 Right of Refusal of PWD's and/or MEDA Cases

- a. General  
Refusing a PWD/MEDA passenger requires a legitimate reason. A PWD and/or MEDA case may be refused based on the operating airline's General Conditions of Carriage (Right to Refuse Carriage).



b. Reasons for Refusal

Do not refuse a PWD/MEDA passenger unless one of the following reasons is applicable, and in accordance with operating airline procedures (*see below in italic*).

1. The person has such a degree of physical infirmity that the trip would likely result in complications or death, leading to a diversion.
2. The person requires individual nursing or care during the flight and is not accompanied by a suitable escort.
3. The person, because of their physical or medical condition, poses a direct threat to the health or safety of other passengers, their property, the aircraft or crew. And, the threat cannot be eliminated by providing additional aid or services or by other means (e.g., face masks, separate seating).
4. The person fails or refuses to submit themselves to the specific conditions of carriage required by the operating airline (*see below in italic*).
5. Information is required about the passenger's medical condition (diagnosis) where the passenger's own physician refuses to disclose such information to the Authorized Medical Service.
6. The person has a communicable disease and still is in the infectious period (or does not have proper medical clearance).
7. Stretchers may be refused as per aircraft type.

c. Handling of PWD/MEDA Refusals

In case of refusal of a PWD and/or MEDA case, inform the passenger and explain the reason for refusal with reference to the General Conditions of Carriage.

Apply operating airline procedures (*see below*) with respect to rebooking to a later date and/or making all efforts to accommodate the passenger on the next possible flight, if applicable, or refunding the ticket.

1. Enter all relevant information about the reason for refusal into the PNR or in the operating airline report (e.g., passenger refused [flight/date] d/t lack of safety assistant [SITA address/agent name]).
2. Forward the PNR or report to the appropriate airline department. Document all details of the incident and submit as specified by the operating airline (*see below*).

**Note 1:** *PWD's should be reported beforehand via a SSR. If the passenger is identified as a PWD or potential MEDA case at check-in and does not have prior approval, the Customer Care team must be consulted.*

**Note 2:** *For every refused passenger the handling agent must fill out Appendix F2 – Refused Pax Form. Form can be found in the TAGO Portal and must be send to the e-mail address on the form.*

**Note 3:** *In case of an intended refusal of PWD/MEDA always contact airlines customer care team.*

#### 1.4.7 Stretcher Transport

If accepted by the operating airline, transport on a stretcher can be arranged provided advance notification is given for passenger(s) to be transported in a lying-down position.

- a. If stretcher transport has been confirmed at the time of booking, accept the passenger as per operating airline procedures. Once stretcher transport is confirmed seats should be blocked in the check-in system (if check-in system is open), *see below in italic*.
- b. Verify STCR codes.



- c. Update status details in the check-in record.
- d. The acceptance of stretcher cases is linked to:
  - 1. Acceptance conditions of PWD/MEDA cases.
  - 2. Provision for stretcher installation on board the aircraft (i.e., time permitting for removable of seats).

**Note:** Not applicable as TUI does not accept STCR.

#### 1.4.8 Oxygen for medical use

Once TUI fly Belgium and TUI fly the Netherlands has accepted a passenger requiring the use of oxygen on board an aircraft:

- a. Arrange pre-boarding for the passenger
- b. Verify or add SSR codes for assistance.
  - 1. Passenger supplied oxygen during a flight (AOXY).
  - 2. Portable Oxygen Concentrator (PPOC).
- c. Seat the passenger as per operating airline policy allowing for stowage of equipment.

**Note:** For seating instructions see AHM 560 in the TAGO Portal.

#### 1.4.9 Inadmissible Persons and Deportees

*In case of an arriving inadmissible passenger, please inform immediately TUI fly Belgium and/or TUI fly the Netherlands Security, by e-mail, this is mandatory and must be done immediately by the handling agent.*

*secdocs@tuifly.be for Deportees*

*inad@tuifly.be for Inadmissibles*

*DEPA/DEPU's have no priority in case of overbooking; booked passengers shall on no account be refused in order to accommodate deportees or inadmissible passengers.*

*When a passenger is found inadmissible, the removing State is encouraged to allow TUI fly Belgium and/or TUI fly the Netherlands, on a case-by-case basis, a reasonable amount of time during which to effect that passenger's removal via its own services. However, in most cases this should be the next available flight. If such removal cannot be accomplished within 24 hours using its own services, the State may direct TUI fly Belgium and/or TUI fly the Netherlands to make alternate arrangements*

#### Notification

*The Pilot-in-Command of the flight shall be informed, at least 40 minutes before STD, that an INAD or DEPO will travel on board of his flight. This notification shall be done by means of a completed form in duplicate, which has been approved by the CAA.*

*This notification form gives the Pilot-in-Command sufficient information to decide whether the INAD/DEPO can be accepted on board. The Pilot-in-Command has to sign the notification form for receipt.*

*The notification form should contain the following information:*

- a. Full identity of the INAD/DEP
- b. The possibility of being escorted



- c. *An evaluation of the possibility to have the flight secured by the security department of the company filling out of the arrangements regarding the seating in the aircraft envelope*
- d. *A detailed description of the security measures on board*
- e. *The documents accompanying the INAD/DEPO.*

*In case the Pilot-in-Command decides to refuse the INAD/DEPO on board of his aircraft, he shall motivate his decision in written on the notification form.*

### **Boarding and seating procedure**

- a. *INAD's and DEPO's, the boarding sequence is to the commander's and/or local authority' discretion.*
- b. *They will be preferably seated at the rear of the aircraft, unless otherwise decided in agreement with the Pilot-in-Command.*
- c. *INAD's/DEPO's should not be seated next to any exit door or in any aisle seat.*
- d. *INAD's/DEPO's and their escorts will not receive hot nor alcoholic beverages.*
- e. *Also no metallic cutlery or glass crockery may be given to these passengers.*

### **Handcuffs and methods of Coercion**

*In no case, a person will be handcuffed to the aircraft or any other fixed object. Except in the cases foreseen within the Tokyo Convention of September 14, 1963, the use of any method of coercion that could endanger the safety of the aircraft, the crew or the passengers, including the INAD/DEPO, is prohibited; especially:*

- a. *The complete or partial cut off of the breathing*
- b. *Administer sedatives or any other medicine aiming to suppress a person against its own will*

### **Particular cases**

*In case more than four INAD's/DEPA's are on board of the same flight, they will be accompanied by a doctor or an observer, active in the field of Human Rights. In case of incidents on the ground with either inadmissible passengers, deportees or persons in custody, the person in question will either be refused boarding or disembarked (depending on whether the incident occurs before or after the boarding) and his/her baggage shall be off-loaded.*

*Inadmissible passengers*

*Absorption of expenses*

*The inadmissible passenger shall be responsible for any expenses, such as food, hotel accommodation, guarding fees, etc. incurred for him and this from the time he is refused admission until the time he starts the outbound carriage.*

*When the Company is the inbound carrier, this basic IATA rule shall be strictly adhered to, unless:*

- a. *Its application is contrary to the applicable laws or regulations;*
- b. *Or the local station manager decides, for humanitarian reasons, to absorb essential expenses if these cannot be collected from the INAD.*



### Carrier's responsibility

*The responsibility to return an INAD to his country of origin lies completely with the airline that transported the passenger to the point where he is inadmissible. With due consideration to the Company's responsibility for the safety and security of the other passengers, the station manager (the passenger handling manager) or the Pilot-in-Command of the concerned flight may insist on the inadmissible passenger being escorted, becoming thus an ANAD.*

### Deportees Carrier's responsibility

*With due consideration to the Company's responsibility for the safety and security of the other passengers, the station manager (or the passenger handling manager) at the point of departure of a deportee or the Pilot-in-Command of the concerned flight may insist on the deportee being escorted by at least one delegate of the deporting country.*

*However, the provision of facilities and staff for escort and/or detention purposes is the sole responsibility of the deporting authorities, who are also responsible for any signaling action to the immigration authorities at the transit station and at the station of destination.*

*Unescorted deportees: DEPU's*

- a. *If the deportee is to travel unescorted, the deporting authority shall provide a document stating:*
  1. *that the authorities of the country of destination have been advised;*
  2. *that all administrative formalities have been complied with;*
  3. *that the presence of the deportee is not likely to create a hazard;*
  4. *that the deportee is not opposed to his repatriation.*
- b. *It should be noted that the carrier is not obliged to assume responsibility for a deportee to reach the destination specified by the deporting authorities.*
- c. *No document involving Company's responsibility in this matter shall ever be signed.*
- d. *The deporting authorities may however request that the deportee's passport and travel documents be handed over to the crew or the Pilot-in-Command of the aircraft. When this occurs, the documents will in fact be entrusted to the SCCM, who, unless otherwise instructed, shall hand them back to the deportee after landing at the latter's final or transfer destination (but not at intermediate stops).*

#### 1.4.9.1 Inadmissible Persons (INAD)

- a. An INAD is an inadmissible passenger who is refused admission into a state by its authorities.
- b. An INAD should depart on the first available flight.
- c. The operating carrier (*see below in italic*) should be advised by the responsible authority (local) about the conditions and the state of the INAD. This should be done well in advance of the boarding.
- d. Advise the crew and pilot-in-command of INAD passengers with judicial proceedings.
- e. All stations en route shall be advised of the INAD on board.

**Note:** In general, Inadmissible passengers, INADs, travel without being accompanied.

- f. If assessed by the responsible authority, INADs may be accompanied if:
  1. The INAD physically resists carriage.
  2. The INAD has already been denied transportation by another airline.
  3. There is any sign the INAD might endanger the safety of the flight or passengers.



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

**Note:** For additional instructions see Chapter 15, Annex I - Security.

#### 1.4.9.2 Deportees

- a. A deportee (DEPO) is someone who:
  1. Has been formally ordered by the authorities to leave that state.
  2. Is under arrest.
  3. Has to be transported to another state for legal reasons.
  4. Has applied for asylum and is transferred to the state responsible for the application.
  5. Is described by the term in the "Dublin Convention" as the reason for transportation.
- b. DEPA–deportee accompanied: a deportee who is escorted by security personnel during flight.
- c. DEPU–deportee unaccompanied: a deportee who is not escorted by security personnel during flight.

**Note 1:** The responsibility for deportees lies fully with the state(s) concerned.

**Note 2:** Deportees will be accepted for carriage only on the request of an Authority and on operating airline approval (*see below in italic*)

- d. If a DEPO resists transportation or gives rise to the assumption that he/she will be the source of annoyance to other passengers or crew members, only accept him/her according to the procedures for a deportee who is escorted by authorized personnel during the removal (DEPA).
- e. Refuse the carriage of deportees or inadmissible passengers if they are likely to:
  1. Involve any risk to the safety of the flight.
  2. Involve any hazard or risk to themselves, other passengers or crew members.
  3. Cause discomfort or make themselves objectionable to other passengers.
  4. Require special assistance from ground or in-flight staff.
- f. Advise the crew and pilot-in-command of DEPO passengers with judicial proceedings. As a starting point the Pilot in command should always be informed of INAD and/or DEPO transportation whether they are with judicial proceedings or not.
- g. All stations en-route shall be advised of the DEPO on board.

**Note:** See Chapter 15, Annex I - Security, for approval policies.

#### 1.4.9.3 Seating of Inadmissible Persons and Deportees

Assign inadmissible passengers, deportees and their escorts seats in the rear of the cabin, but not directly adjacent to exits, in accordance with operating airline policy (*see below in italic*).

**Note 1:** *Additional instructions for maximum number of INAD, DEPO and persons in lawful custody to be found in Chapter 15, Annex I - Security.*

**Note 2:** *Additional detailed seating instructions to be found in Chapter 15, Annex I - Security, 15.5.5.2.*



#### 1.4.9.4 Travel Documents of Inadmissible Persons and Deportees

Hand the travel documents to the crew if required by the local authorities, local regulations or operating airline procedure.

**Note:** Additional instructions are found in Chapter 15, Annex I - Security.

#### 1.4.10 Unruly Passengers

##### 1.4.10.1 General Conditions of Passenger Carriage

For flight safety reasons carriers may refuse carriage or onward carriage of any unruly passengers and/or those who appear by manner or physical indications, to be under the influence of alcohol or drugs. This includes prevention of any violation of applicable laws, regulations or orders of any state or country to be flown from, into or over.

##### 1.4.10.2 Handling Unruly Passengers During Check-In or Boarding

Report to the supervisor any unruly passenger behavior you observe at check-in, in the lounge, or at the boarding gate, and put baggage of such passengers on standby.

##### 1.4.10.3 Unruly Passenger Denied Carriage

If an unruly passenger is denied carriage:

- a. Offload the passenger in the DCS and offload their baggage from the aircraft.
- b. Document the case in the airport or airline report, with details of the passenger's condition (e.g. intoxication, general abuse).

**Note:** Use Appendix F2 - Refused Pax form as provided in the TAGO Portal. The form must be kept in the flight file for 3 months.

##### 1.4.10.4 Unruly Passenger is Accepted for Travel

If an unruly passenger is accepted for travel:

- a. Inform the PIC and the senior cabin crew member.
- b. Document the case in the airport or airline report with details of the passenger's condition (e.g. intoxication, general abuse).
- c. Report the incident to the applicable departments and the onward airport.

**Note:** Additional instructions are in Chapter 15, Annex I - Security.

### 1.5 Passenger Disruptions

#### 1.5.1 Information and Communication to Passengers

In general, provide immediate and accurate information at regular intervals:

- a. Ensure staff are briefed for consistent delivery of information.
- b. Brief staff on the estimated time of departure, estimated time of arrival, and any provisions being offered.
- c. Provide passengers written information about their rights according to applicable regulations, upon request or as required.



- d. Provide information in alternate formats to passengers with disabilities.

### 1.5.2 Delays

*It is from the greatest importance all handling staff is fully aware of procedures in case of delay.*

*The handling agent has to ensure that at all time available information is provided to passengers and to meters/greeters, following the DTR-principle:*

- a. *Dedication: All staff has to make all efforts to handle the delay with dedication towards the procedures and Customer experience;*
- b. *Truth: reflect the true delay/disruption reason as provided by TUI OCC (do not 'invent' reasons);*
- c. *Regularly: passengers must be advised as soon as possible and kept regularly informed thereafter.*

**Note:** The EU261\_2004 Notice (including instructions how to claim) will be send by e-mail to the handler by Customer Care and shall be distributed to passengers suffering a delay.

**Note:** The notice can be found as Appendix L1 (for flights with TB prefix) and Appendix L4 (for flights with OR prefix) in the TAGO Portal as well.

*A MVT message (by SITA) incl. ETD and delay info shall be sent to the destination station(s) and to GOC and the TUI OCC as soon as ETD is expected to be more than 30' later then STD or than the previously announced ETD. It is TUI fly Belgium and TUI fly the Netherlands policy that passengers, who are accommodated overnight in hotels as the result of a delay, should always be accompanied to the hotel by their checked baggage.*

### Five hour delay or more

*In case of a five hour delay or more every passenger has the right to cancel his flight free of charge and be reimbursed for the ticket value should he/she no longer wish to travel. The EU261\_2004 Notice (including instructions how to claim) will be send by e-mail to the handler by Customer Care and shall be distributed to passengers suffering a delay. The notice can be found as Appendix L1 (for flights with TB prefix) and Appendix L4 (for flights with OR prefix) in the TAGO Portal as well. The passenger could complete Form 261 which you will find in Appendix F3 – DBC\_F261 Compensation Form.*

*In case of such ticket refund, the passenger does no longer have the right to food and drinks or accommodation. So you don't need to find an alternative flight.*

*TUI fly Belgium and TUI fly the Netherlands assume no responsibility for making connections and therefore will not be liable for any losses/expenses arising out of any failure to achieve a planned connection, however if a passenger misses another TB/OR-flight due to a TB/OR-delay, TUI fly Belgium and TUI fly the Netherlands can be contacted for a rebooking on the next*





*available (TB/OR-) flight. You are also required to fill out Appendix F4 - Disruption report for delay cost which can be found in the TAGO Portal.*

### **Telephone calls**

*Every passenger has the right to two 2- minute phone calls or send 2 faxes/ e-mails upon his or her request. This is practically not feasible to offer, so passengers have to be asked to use his/her own mobile and re-invoice to TUI fly Belgium and TUI fly the Netherlands Customer Care team including copy of the phone bill.*

### **Long Tarmac Delays**

*In US stations it is the responsibility of the handler to ensure airport authorities, Customs and Border Protection and the Transport Security Administration are involved at each of our US stations and at nominated potential diversion stations as appropriate.*

*We will not permit an aircraft to remain on the tarmac (stands, taxiways) for more than four hours without the opportunity for passengers to disembark. This applies to both departing and to arriving aircraft. However, the pilot-in-command may decide there is a safety or security-related reason to stop this from happening. If Air Traffic Control advised us that remaining on, or returning to the gate, or permitting anyone to disembark elsewhere would significantly disrupt airport operations then we would also not be allowed to do this.*

*If the aircraft remains on the tarmac no longer than two hours after leaving the gate for a departure, or touches down after an arrival, water /snacks (following welfare policy) has to be provided*

*Whilst the aircraft remains on the tarmac the lavatory facilities will function, and adequate medical attention if needed, will be available for the passengers.*

#### **1.5.2.1 Disruptions Prior to or During Check-In**

- a. Update revised times in the DCS.
- b. *Rebooking any connecting flights is not applicable.*
- c. Check the passenger and baggage through on the rebooked flight.
- d. Update airport FIDS.
- e. Arrange the needed amenities, e.g. meals, hotel accommodation (HOTAC), transportation(s), passenger assistance, lounge access, etc., according to nature of the disruption.

#### **1.5.2.2 Disruptions Known Prior/During Boarding**

- a. Reconfirm the departure gate/time and update the revised information in the DCS.
- b. Advise passengers accordingly and at regular intervals.
- c. Apply airline specific procedures for certain categories of passengers.
- d. Update airport FIDS.
- e. Arrange the needed amenities, e.g. meals, HOTAC, transportation(s), passenger assistance, lounge access, etc., according to nature of the disruption.



**Note:** use iCoupon at your airport with regard to flight delay voucher distribution. iCoupon will be used to digitally load the voucher on the bar code of the boarding pass, enabling passengers to spend the voucher at retailers that are active on the iCoupon platform.

### Retailers available

*This list of retailers can be found by browsing to the following link (with the IATA Airport code at the end – see example for AMS below):*

<https://www.icouponworldwide.com/airport/AMS>

### Procedure

*In case of delay vouchers, TUI's 24/7 Customer Care Department will activate iCoupon for customers on the delayed flight and will inform the Ground Handler via mail.*

*The Ground Handling Agent should:*

- a. *inform passenger by making the following announcement as below. The message in yellow is essential to make sure all customers are aware of the voucher on their boarding pass.*
- b. *make sure a QR code (see attached) is made available at the gate for customers to scan. By scanning the QR code customers will see the overview of all iCoupon retailers available at the airport.*

### Backup

*In the unforeseen circumstance of an iCoupon outage, the Ground Handling Agent is requested to use the back-up plan:*

- a. *TUI's 24/7 Customer Care Department will inform customers of the flight delay and the voucher they will receive.*
- b. *TUI's 24/7 Customer Care Department will contact the Ground Handler via mail to distribute paper vouchers for the respective, delayed flight.*

*The mail will contain all required information to do so.*

English	<p>Dear Passenger,</p> <p>This is a general announcement regarding the departing flight TB/OR XXXX with destination XXX. On behalf of TUI fly we would like to inform you that unfortunately your flight has been delayed.</p> <ol style="list-style-type: none"><li>a. Option 1: the new departure time is scheduled for XX:XX. You are expected back at gate X at XX:XX for boarding.</li><li>b. Option 2: we are not yet able to inform you of a new departure time, but we will be happy to meet you at gate X at XX:XX in the hope of informing you further.</li></ol> <p><b>From delays of more than 2 hours</b></p> <p>We are happy to offer you something to eat and drink while waiting. You will receive € XXX, this credit will be loaded on your boarding pass and can be spent at the following retailers:</p> <ol style="list-style-type: none"><li>a. For a complete overview of all available retailers you can always click on the link in the SMS you received or scan the QR code at your gate agent.</li><li>b. Each voucher should always be spent at 1 retailer.</li></ol> <p>On behalf of TUI fly, we apologise for any inconvenience caused by this delay.</p> <p>If you have any further questions, please do not hesitate to contact us. We will remain at your disposal at the gate.</p>
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## Ground Operations Western Region Passenger Handling Procedures

French	<p>Cher Passager,</p> <p>Ceci est une annonce générale concernant le vol de départ TB/OR XXXX avec destination XXX. Au nom de TUI fly, nous souhaitons vous informer que votre vol a malheureusement été retardé.</p> <ol style="list-style-type: none"><li>Option 1 : la nouvelle heure de départ est prévue pour XX:XX. Vous êtes attendu à la porte X à XXXX pour embarquer.</li><li>Option 2 : nous ne sommes pas encore en mesure de vous informer d'une nouvelle heure de départ, mais nous serons heureux de vous rencontrer à la porte X à XX:XX dans l'espoir de vous informer davantage.</li></ol>
	<p><b>Des retards de plus de 2 heures</b></p> <p>Nous serons heureux de vous offrir quelque chose à manger et à boire pendant que vous attendez. Vous recevrez € XXX, ce crédit sera chargé sur votre carte d'embarquement et pourra être dépensé dans les établissements suivants :</p> <ol style="list-style-type: none"><li>Pour obtenir un aperçu complet de tous les établissements, vous pouvez toujours cliquer sur le lien figurant dans le SMS que vous avez reçu ou scanner le code QR auprès de votre agent de porte.</li><li>Chaque voucher doit toujours être dépensé chez un seul établissement.</li></ol> <p>Au nom de TUI fly, nous nous excusons pour tout désagrément causé par ce retard.</p> <p>Si vous avez d'autres questions, n'hésitez pas à nous contacter. Nous resterons à votre disposition à la porte.</p>

Dutch	<p>Beste passagier.</p> <p>Dit is een algemene aankondiging betreft de vertrekkende vlucht TB/OR XXXX met bestemming XXX. Namens TUI fly wensen wij u te informeren dat uw vlucht vertraging heeft opgelopen.</p> <ol style="list-style-type: none"><li>Optie 1: het nieuwe uur van vertrek is gepland op XX:XX. U wordt terug aan gate X verwacht om XXXX om in te stappen.</li><li>Optie 2: momenteel kunnen wij u nog geen nieuw uur van vertrek meedelen, maar wij spreken graag met u af om XXXX aan gate X, hopen u verder te kunnen informeren.</li></ol>
	<p><b>Vanaf vertraging van meer dan 2 uur</b></p> <p>Wij bieden je graag iets te eten en drinken aan tijdens het wachten. Je ontvangt € XXX, dit tegoed wordt geladen op je instapkaart en kun je besteden bij de volgende horecagelegenheden:</p> <ol style="list-style-type: none"><li>Voor een volledig overzicht van alle horecagelegenheden kan u steeds klikken op de link in de SMS die jullie ontvangen hebben of de QR code scannen bij jullie gate agent.</li><li>Elke voucher dient steeds gespendeerd te worden bij 1 retailer.</li></ol> <p>Namens TUI fly verontschuldigen wij ons voor het ongemak dat u door deze vertraging ondervindt.</p> <p>Indien u verdere vragen heeft, aarzel niet om ons aan te spreken. Wij blijven voor u ter beschikking aan de gate</p>

**Note:** When ATC delays are less than 60 minutes it is TUI fly Belgium and TUI fly the Netherlands policy to board passengers as for a scheduled departure in case an earlier slot might be obtained.

### 1.5.2.3 Disruption Upon Arrival

In case of the delayed arrival of a Flight:

- The mis-connecting passenger and baggage shall be rebooked and re-flighted accordingly.
- Update airport FIDS.
- Arrange the needed amenities, e.g. meals, HOTAC, transportation(s), passenger assistance, loungeaccess, etc., according to nature of the disruption.

### 1.5.3 Misconnections/Cancellations/Diversions

*Specific instructions on how to handle misconnections, cancellations and diversions will be provided either by the TUI OCC or the Customer Care team.*

*In general:*

- Misconnections and diversions: Contact the Customer Care team*
- Cancellations: In principle every flight, even if delayed by a day or longer will operate. Therefore, handling agents should never announce a flight cancelled and make sure the airport doesn't communicate otherwise.*



*In the very rare event of a cancelled flight, the passenger is entitled to receive information on request.*

**Note:** Delay letters for passengers, EU261\_2004 Notice, will be sent by e-mail to the handler by Customer Care and shall be distributed to passengers suffering a delay. The notice can be found as Appendix L1 in the TAGO Portal as well.

#### 1.5.4 Involuntary Change of Class

*Specific instructions on how to handle involuntary changes of class will be provided by the Customer Care team.*

**Note:** Delay letters for passengers can be found as Appendix L1 in the TAGO Portal.

#### 1.5.5 Denied Boarding due to Unavailability of Seats

- a. Passengers holding a confirmed reservation may be denied boarding due to irregularity reasons, for example:
  - 1. overbooking of the flight.
  - 2. reduced aircraft seating capacity due to unserviceable equipment (cabin doors, slides, etc.).
  - 3. reduced weight/seat capacity due to a payload restriction.
  - 4. change of aircraft or version.
- b. Apply operating airline policy (*see below in italic*) for denied boarding:
  - 1. if applicable, solicit volunteers and offer compensation and/or reProtection as per the operating airline policy (*see below in italic*).
  - 2. provide written notice as per government regulations.
  - 3. apply airline's involuntary denied boarding policy if no volunteers are solicited.

*Denied boarding forms must be completed and sent to the addresses mentioned in the forms. The forms for TUI fly Belgium and TUI fly the Netherlands will be sent by e-mail to the handler by Customer Care and shall be distributed to passengers suffering denied boarding. The notice can be found as Appendix L1 (for flights with TB prefix) and Appendix L4 (for flights with OR prefix) in the TAGO Portal as well. In such events always liaise with the TUI Tour Operator representative and the Customer Care teams who will provide instructions in line with regulation 'EC No 261/2004' and the TUI fly customer service policy. Specific instructions will be given by the Customer Care teams for selecting passengers. In principle:*

- a. *Looking for a volunteer has priority over appointing a volunteer.*
- b. *Ask volunteers, (preferably package clients on resort airports), if they are willing to stay longer and negotiate on their compensation.*
- c. *If needed, assign passengers who should be offloaded (avoid TUI fly seat-only pax).*
- d. *Do not separate families and do not assign vulnerable passengers such as PWD's.*



*Give passengers, whether or not they are volunteers, the EU261\_2004 Notice which will be sent by e-mail to the handler by Customer Care. The notice can be found as Appendix L1 in the TAGO Portal as well.*

## **1.5.6 Mishandled or Unclaimed Baggage**

### **1.5.6.1 General**

- a. Mishandled or unclaimed baggage include one or more of the following baggage disruption incidents:
  1. Delay of checked baggage
  2. Loss of checked baggage
  3. Damage or partial loss of checked baggage
  4. Pilferage of baggage or items from baggage
- b. Enter mishandled or unclaimed found baggage details into the tracing system as defined by the operating airlines procedures (*refer to 2.9.1*).
- c. Legal time limits apply to the reporting of loss, delay, damage or pilferage of baggage, see operating airline policy (*refer to 2.9.1*) and applicable conventions.

### **1.5.6.2 Storage of Mishandled Baggage**

Store mishandled baggage in a safe and secure area where access is controlled. Where required, make sure such baggage is subject to security controls before being loaded into an aircraft in line with the security requirements of the forwarding carrier, receiving carrier and relevant authorities.

### **1.5.6.3 Handling of Mishandled Baggage**

- a. Mishandled baggage shall be forwarded without any charge by the fastest possible means using the services of any IATA member airline, to the airport nearest to the passenger's address
- b. Ensure that the number of unaccompanied bags is included in the baggage counts for load control
- c. Use a "RUSH" indicator (manual and/or electronic), when applicable

### **1.5.6.4 Delivery of Mishandled Baggage**

Previously mishandled baggage shall be delivered in the most appropriate and fastest way and in line with the operating airlines procedures (*Refer to 2.9.1*).

### **1.5.6.5 On-Hand Baggage**

On-hand baggage or unclaimed found baggage is baggage that has missed the flight upon which it was intended to travel. The station/handling agents that created the on-hand file are responsible for the tracing for the first 5 days. Then it is sent to secondary/central tracing for further actions.

### **1.5.6.6 Delayed Checked Baggage/Missing Baggage**

Delayed baggage is checked baggage not available to the passenger when they present the baggage identification tag at the point of stopover or destination. For the first five days the station that created the tracing file is responsible for primary tracing and information to the passenger about the status of the file. The maximum tracing period should be 21 days (as per



the Montreal Convention) but may be longer based upon the operating airline procedures (*refer to 2.9.1*).

Baggage that has missed the flight upon which it was intended to travel should be considered to be on-hand.

#### **1.5.6.7 Secondary Tracing**

Secondary tracing is the process of taking over the responsibility and further actions for open mishandled baggage tracing files by the department as defined by the operating airlines procedures (*refer to 2.9.1*).

#### **1.5.6.8 Mishandled Mobility Aids**

Damaged, delayed or missing mobility aids should be handled as a priority:

- a. Provide a suitable equivalent loaned item or replacement (*refer to 2.9.1*).
- b. Make all efforts to provide a suitable equivalent loaned item or replacement (*refer to 2.9.1*).
- c. Arrange for the repair or replacement of the item, if needed.

#### **1.5.6.9 Mishandled Live Animals**

Delay of or injury to an AVIH should be handled as a priority.



## 2 Baggage Handling Procedures

### 2.1 The Baggage Journey

This chapter presents the flow of baggage handling from the planning and preparation of activities, through execution and monitoring of the processes. Baggage check-in procedures are addressed in Chapter 1 of this manual.

The chapter covers standard baggage handling procedures that can be implemented. Since airlines and airports are different, deviations from these procedures are possible.

Baggage tracking is part of the IATA End to End baggage program that aims to improve baggage handling efficiencies through information sharing.

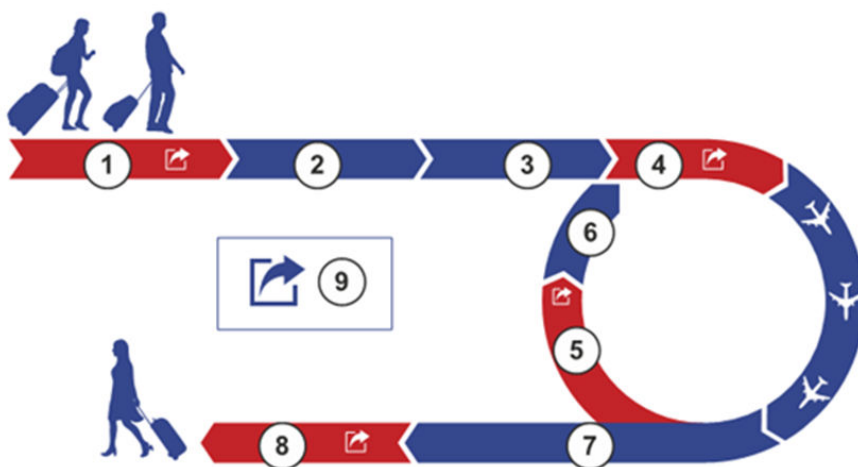
As per Resolution 753, IATA members shall maintain an accurate inventory of baggage by monitoring the acquisition and delivery of baggage.

Members shall be able to:

- Demonstrate delivery, of baggage when custody changes
- Demonstrate acquisition, of baggage when custody change
- Provide an inventory of bags, upon departure of a flight
- Exchange the above information with other airlines as needed

The provisions of Resolution 753 have been from 1 June 2018.

The diagram shows the generic flow of checked baggage, from acceptance of the bag through to the return of the baggage to the passenger. In some cases, and upon specific arrangements which recognize security measures between airports of origin, transfer and arrival, transfer screening may become non-mandatory.





Number	Description
1	Departing Bags
2	Security
3	Sort
4	Baggage Build ( <i>for loading see chapter 4 of the GOM</i> )
5	Transfer Bags
6	Security
7	Unload
8	Arrival
9	Information sharing

**Note 1:** *Transfer: Not applicable to TUI fly Belgium and TUI fly the Netherlands as there are no Interline agreements. Refer to Appendix I6 Transfer Passengers and Baggage Handling.*

**Note 2:** Information Sharing: *TUI Airline shares* tracking information with interline partners.

## 2.2 Baggage Activities

### 2.2.1 Introduction

There are several baggage activities that take place in an airport. These can be broadly classified as:

- Passenger Baggage Acceptance–See GOM 1.1.6;
- Baggage Handling–This Chapter;
- Aircraft Loading–See GOM 4.5.

**Note:** Passenger Baggage is baggage that remains with the passenger during their journey and travels in the hold of the same aircraft as the passenger. This may include cabin baggage retrieved due to various reasons and may need to be checked in. Refer to GOM 1.1.6.

### 2.2.2 Personnel Roles

Throughout this chapter reference is made to tasks that are performed in order to execute baggage operations. These tasks may be undertaken by different types and groups of personnel depending upon the operation size and structure at the airport. Typical roles include:

- Management personnel: Responsible for overseeing the performance of the operation, making decisions on how to operate based upon feedback from the operational personnel.





- b. Support personnel: Responsible for planning baggage operations and collecting metrics, including rerouting misconnection to ensure a smooth baggage operation.
- c. Baggage personnel: Operational personnel who are responsible for the movement and monitoring of baggage through the dedicated baggage makeup areas, (including immediate reporting of any unauthorized persons in the baggage make-up area) reconciling baggage and collecting/delivering baggage from/to the aircraft.
- d. Ramp loading personnel: Operational personnel who are responsible for ramp activities including loading and/or offloading and immediate reporting of any unauthorized persons on the ramp (without airport badge in a visible place).

## 2.3 Safe Baggage Handling

It is important that all personnel are aware of all risks associated with baggage handling, and that they are properly trained, and follow the guidance below as a minimum to ensure their health and safety:

- a. Handling techniques
  - 1. Baggage handling operations require personnel to manually handle equipment and baggage such as pushing and pulling non-motorized GSE (e.g. baggage carts), loading heavy bags, ULDs, etc.
  - 2. Baggage personnel should be aware of best lifting techniques to be utilized at all times to reduce the risk of injury whilst handling baggage.
  - 3. Refer to AHM 462 4.5.3 for handling techniques and principles of manual handling.
- b. Baggage personnel should not lift more than their physical capabilities to avoid injuries.
- c. Ensure appropriate care is taken regarding health and safety to ensure personnel do not sustain injuries while handling baggage. Where available, make use of assistive devices for moving heavy loads.
- d. Ensure appropriate personal protective equipment (PPE) is available and used.
- e. Ensure that baggage is handled in an appropriate manner, e.g. positioned rather than thrown onto the belts.
- f. When using baggage carts or dollies use the safety precautions in GOM 3.1.3.3.
- g. Verify the coupling/uncoupling of the baggage carts, dollies/trailers and ensure nobody is working between or nearby prior to moving.

**Danger:** Be extra careful of your hands, fingers, and feet when moving and connecting baggage carts or dollies to the tractor or another GSE. Always use the handle and never the tow ring. Seek assistance, if required.

## 2.4 Departure Baggage Handling (including Special Baggage)

### 2.4.1 Planning

Depending on the size of operation at a station it is important that for each departing flight, a pre-planning process is put in place to include:

- a. Review all types of expected checked items for each departing flight and plan for:
  - 1. The number of checked items and their categories (i.e., transferring or terminating baggage).
  - 2. The required number of carts and ULDs.
  - 3. Handling of any special baggage (*refer to GOM 1.1.6.12*) items that are planned for departure.



4. Staff assigned to deliver baggage to/from the aircraft/staging area, (*refer to GOM 4.5.6.2.*)
- b. Review the arrival of transfer baggage for the departing flight:
  1. Determine which arrival flights have transfer bags for the departure flight.
  2. Monitor these flights for the transfer baggage to ensure that the transfer bags can make their connections.
  3. Plan for short-connection baggage to the baggage sorting system or on a tail-to-tail basis for as needed.
- c. Review of the departure flight parking stand location to plan for on-time delivery of baggage.
  1. Determine the driving time to the departure stand.
  2. Determine any special conditions for the use of the stand, such as supervision of baggage awaiting loading or additional security measures in place for the flight.
  3. Consider adverse weather conditions and protection from extreme temperatures.
- d. Plan for any special handling equipment that will be used and brief baggage personnel on their use, as needed. This may include processes and procedures for handling mobility aids, weapons, live animals, etc.

#### **2.4.2 Preparation for Departing Baggage**

- a. Verify the build location that has been allocated for the departure flight:

There may be more than one build location for the flight, such as:

  1. Specific segregations being built in different areas.
  2. Specific build location for out-of-gauge (OOG) items, (e.g., sporting equipment)
- b. Ensure that the baggage personnel working at the out-of-gauge baggage point are aware of the build and/or allocated stand for delivery of items that arrive at the out-of-gauge point.
- c. Ensure that the signage for the flight departures is up to date (stand information is appropriately displayed).
- d. Ensure that the ground personnel handling the flight are aware of any special baggage item processing, especially mobility devices.

#### **2.4.3 Execution of Departing Baggage**

- a. Ensure that the baggage build location (e.g. baggage chute/carousel/lateral) and segregation for the departing flight is correct by validating against the baggage sortation plan:

If baggage is destined for another build area arrives at the build output:

  1. Notify the baggage handling system (BHS) team.
  2. Move these bags to the correct build output/pass to baggage handlers.
- b. Ensure that the ULD for the baggage to be loaded is serviceable *refer to GOM 4.5.9.3.*
- c. Ensure that any baggage carts being used are serviceable *refer to GOM 3.1.3.3.*
- d. Ensure all mandatory screening and securing of baggage is performed as required.
- e. Produce ULD cards showing the correct flight and segregation of baggage for that ULD/ baggage cart.
- f. To identify containers and baggage carts, and to allocate the appropriate segregation and flights, it is necessary to produce ULD cards (electronically or manually). These cards are often produced in the baggage reconciliation system and show a barcode that can be scanned to identify the allocation of the container or cart to the baggage reconciliation/ tracking system. These are known as ULD cards. Apply sorting and loading procedures for containers and carts with respect to checked items tagged as:



1. Priority baggage
  2. Heavy baggage
  3. Connection baggage
  4. Late baggage
  5. Fragile baggage
  6. Sporting equipment
  7. Mobility aids or devices
  8. Live Animals (AVIH)
  9. Crew baggage
  10. Baby Strollers/Push chairs
  11. Gate Delivery Items
  12. Items containing dangerous goods (i.e., dry ice)
  13. Standby baggage
  14. Items with a limited release tag.
- g. All baggage handling systems are subject to errors. This means that occasionally baggage will be directed to either a default output point or arrive at the wrong output point. Without human action, these bags will miss their intended flight. Therefore, based on the local provider and/or airport authority, and subject to airline and ground handler's agreement, it is advised to have baggage teams that can take these bags from the incorrect output location to their intended location or flight.
- h. Where baggage is being palletized ensure that pallet is structurally safe and that the net attachments are in place *refer to GOM 4.5.7*.
- i. Where tracking/reconciliation is performed in the baggage make-up area:
1. Scan the ULD/baggage cart card for the designated appropriate category.
  2. Scan the barcode of the baggage tag.
  3. Verify the load has been confirmed as being on the correct flight (obtain a "Positive" Passenger Bag Match, by visually inspecting that the baggage tag and electronically through scanning by ensuring a confirmed load response is received from the scanner).
  4. Place tagged baggage in the appropriate ULD/baggage cart, ensure that baggage is handled in an appropriate manner, e.g. positioned rather than thrown into the ULD/baggage cart.
  5. In case the baggage is identified as not being a "Positive" passenger bag matched or loaded to the incorrect flight/destination then place the baggage to one side for resolution.
  6. Compare expected baggage count and received baggage count to achieve a zero-baggage missed rate.
- j. Where reconciliation is performed manually in the baggage make-up area:
1. Visually inspect the baggage tag to check the flight number and destination.
  2. Detach one of the removable tabs and apply to the ULD/baggage 'Bingo' card.
  3. Load in numbered sequence (in loading order) to assist during offloading if applicable.
  4. Place tagged baggage in the appropriate ULD/baggage cart. Ensure baggage is handled in an appropriate manner (e.g., positioned rather than thrown into the ULD/baggage cart).
  5. Compare expected baggage count and received baggage to achieve a zero-baggage missed rate.



- k. When the ULD/baggage cart is filled and an appropriate number of ULDs/baggage carts are available for delivery, the build is complete or at a specified time before departure:
  - 1. Close and seal the ULDs and/or cover baggage carts, as appropriate.
  - 2. Arrange delivery of the ULDs/baggage carts to the aircraft for loading. If applicable, coordinate with the ramp staff member responsible for aircraft loading.
- l. Wheelchairs and Mobility aids delivered for carriage in the check-in area:
  - 1. Ensure that the mobility aid is collected from the check-in area and taken to the baggage build area via the allocated out of gauge (OOG) baggage route, as defined by local airport regulations. At some locations the OOG baggage route will necessitate the mobility aid being walked through a security checkpoint to reach the baggage build area.
  - 2. Handle all mobility aids in accordance with the IATA DGR.
  - 3. Ensure that the person responsible for the planning and loading the aircraft is advised of the number and types of mobility aids processed for carriage. Typically, this information is disseminated to the next station via a LDM or container pallet message (CPM).
- m. Where tracking/reconciliation is performed at the aircraft side:
  - 1. Unload the baggage from the baggage cart directly onto the loading conveyor for the appropriate aircraft hold into which the baggage will be loaded.
  - 2. Scan the baggage tag barcode or baggage license plate number for the baggage to be loaded.
  - 3. Verify the load has been confirmed as being on the correct flight (i.e., Positive passenger bag match has succeeded for the baggage).
  - 4. In case the baggage is identified as not cleared to load then place the baggage to one side for resolution.
  - 5. When baggage is loaded and a passenger does not board the flight or is removed from on board the aircraft, follow the procedures *as described in GOM 1.1.7.3* for treating the baggage (i.e., off-loading or transporting the baggage as unaccompanied), according to the risk assessment and locally applicable regulations.
- n. At the completion of the baggage build process, the baggage staff member should make a cross-check that the baggage has been built according to the load plan for the departing flight with load control. Discrepancies and variations need to be communicated to the load control, as soon as possible.

#### **2.4.4 Handling Gate Delivery Items**

- a. The passenger team will identify and label any baggage that is taken from a passenger at the gate due to size and/or weight restrictions.
- b. Record the baggage tag for tracking and/or reconciliation *as per GOM 1.1.6.9 baggage tagging*.
- c. Ensure the item is collected from the gate area to the aircraft for loading.
- d. Where a passenger wishes to continue to use their own mobility aid until they have boarded the aircraft ensure that:
  - 1. The mobility aid is collected after the passenger has boarded the aircraft.
  - 2. The mobility aid is handled in accordance with the IATA DGR.
  - 3. Ensure that the persons responsible for the planning and loading of the aircraft is advised of the number and types of mobility aids processed for carriage. Typically, this information is disseminated to the next station via the LDM or CPM.



- e. To ensure gate delivery items required to be made available at the aircraft door (i.e., Wheelchairs, Mobility aids and/or Strollers):
  - 1. Ensure a DAA flag/exception code is updated in the BSM and/or BPM.
  - 2. Ensure a DAA tag is applied to readily identify the item in the aircraft hold.
  - 3. Scan the DAA's baggage tag.

**Note:** Refer to 1.1.6.12 for Delivery At Aircraft procedures.

#### 2.4.5 Monitoring the Departing Baggage Operation

Baggage performance monitoring is a key element of an airline and baggage handling operations. There are a number of metrics that can be captured and applied to key performance indicators. The actual metrics used to monitor the operation depend upon the ground handling services providers and airlines involved. Metrics that may be useful include:

- a. Number of bags left behind
- b. Numbers of bags accepted late from check-in/baggage system.
- c. Number of bags received without tags
- d. First Bag Loaded.
- e. Last Bag Loaded.
- f. Number of gate bags.
- g. Number of bags delivered to the incorrect system output.

### 2.5 Transfer Baggage

*Refer to Appendix I6 – Transfer Passengers and Baggage Handling*

### 2.6 Terminating Baggage

#### 2.6.1 Planning

- a. Review relevant messages (e.g., baggage manifest message (BMM), container pallet message (CPM), load distribution message (LDM)) for the arriving flight to determine the number and location of terminating and transfer baggage, including special baggage.
- b. Review the arrival flight parking stand details.
- c. Plan personnel to meet the aircraft and determine the arrival activities, including the time at which they should be present at the stand.
- d. Plan any special handling equipment and briefing needed to meet the incoming aircraft.

#### 2.6.2 Preparation for Terminating Baggage

- a. Allocate or/confirm a reclaim point for the arrival flight based on the number of terminating items expected. Local airport regulations or airline procedures may apply. *Contact Customer Care team before terminating baggage.*
- b. Allocate or/confirm the terminating baggage inject point.
- c. Verify all the GSE allocated is in good working order.
- d. Ensure the baggage team is aware of the delivery locations for terminating baggage including special baggage.
- e. Ensure the arrivals ground personnel meeting the aircraft are aware of any special items processing, especially mobility aids.
- f. Ensure the signage for the arrival flight is up-to-date and appropriately displayed.



## 2.6.3 Execution for Terminating Baggage

### 2.6.3.1 Collection

- a. Liaise with the ramp team for the collection of baggage according to the unload plan namely CPM, LDM, etc.
- b. Verify that the load collected is the appropriate load as per the unload plan/labelling of ULDs and/or baggage labelling.
- c. Sign for the handover as appropriate.

### 2.6.3.2 Delivery

- a. Deliver the baggage to the designated location for terminating baggage
  1. Observe the priority plan for the offload. Typically, the priority plan is to place commercially important baggage (e.g., first class, business class) onto the reclaim first, then to place economy baggage onto the reclaim.
  2. Observe such government required screening and securing of baggage as appropriate.
  3. First Bag/Last Bag Time Recording: These times are often key metrics for monitoring baggage performance. Some systems can record this time automatically when a bag is scanned by an Automatic Tag Reader (ATR), whilst others require manual action such as pushing a button.
    - i. Where a system is provided that requires a manual operation to indicate the delivery of the first bag then use this when the first bag is delivered.
    - ii. If no system exists then record the flight number and time of first bag delivery manually if this is required by local procedures.
    - iii. Once baggage delivery is complete, record the time of the last bag either manually or using a system if such a system is provided.
    - iv. Where required, indicate that the last bag has been delivered by placing a baggage tub on the reclaim marked as "Last Bag Delivered" or alternatively by tagging the last bag injected to the reclaim with a "last bag" tag.
- b. Ensure that there is good communication between the ramp and baggage operations teams and the passenger team regarding the process of the unload, especially in the event of issues or delays.
- c. If a bag is visibly damaged, then the bag should be secured *as per local requirements*.
- d. Baggage that has been delivered to the arrival hall must be rescreened before being loaded onto another aircraft.
- e. Transfer baggage that is accidentally delivered to the arrival hall should be stored securely until processing for transfer.

### 2.6.3.3 In the Arrivals Hall

- a. If the reclaim belt is overloaded with bags, then bags should be removed from the belt and set aside in a secure manner (i.e. can be observed) in an area that does not present a safety risk for passenger.
- b. Once all bags have been delivered to the reclaim and passengers have progressed away from the reclaim area then a sweep of the baggage belt should be undertaken to remove RUSH bags and any unclaimed/remaining bags to the lost and found office or other designated area for further processing.



## 2.6.4 Monitoring of Terminating Baggage Processes

The operational performance indicators that are needed will vary according to the airline and handling companies that are involved in the delivery of the terminating baggage. No targets for these measures are shown here, although the following measures may be useful:

- a. First Passenger to First Bag  
This is the time between the first passenger from an arrival flight arriving at the baggage carousel and the first bag from the same flight being delivered to the carousel. This is a measure from the Airport Design Reference Manual.
- b. Last Passenger to Last Bag  
This is the time between the last passenger from an arrival flight arriving at the baggage carousel and the last bag from the same flight being delivered to the baggage carousel.
- c. This is a measure from the Airport Design Reference Manual.

**Note:** Note that both the above measures are difficult to record, as it is not always evident when the first and last passengers arrive at a reclaim carousel, especially if that carousel is allocated to several flights.

- d. First Bag Delivery Time  
This is the time of delivery of the first bag to the baggage reclaim belt.
- e. Last Bag Delivery Time  
This is the time of delivery of the last bag to the baggage reclaim belt.
- f. Baggage Delivery Duration  
This is the duration of the delivery of baggage for an arrival flight, measured from the first bag delivery time to the last bag delivery time. It is also possible to record the delivery time for specific baggage types, such as all priority baggage.
- g. Bags damaged on arrival  
This is a count of the number of bags delivered to the baggage reclaim belt that have been damaged during their journey. This damage can occur at any point in the journey, or the passenger may have used a bag that was damaged before their journey started. It is useful to record this as it allows the number of damaged bags on different flights to be compared
- h. Bags delivered out of plan  
This is a count of the number of bags that have been delivered out of the intended delivery plan. This can include priority baggage delivered after economy baggage or special baggage delivered to the regular reclaim area, etc.

## 2.7 Special Baggage

### 2.7.1 General

The following needs to apply when handling special baggage:

- a. Ensure special baggage to be accepted meets the dimension requirements (e.g., size, weight, volume) *see GOM 1.1.6.3 Note 3.*
- b. Ensure any special baggage accepted for carriage that has not been pre-declared has the required documentation, *see GOM 1.1.6.9.* This normally applies to Mobility aids, Firearms and AVIH.
- c. Ensure all special baggage items are packed in a manner that is suitable for transport and cannot jeopardize the safety of the aircraft, personnel, and its contents.



### 2.7.2 Planning for Departing Special Baggage

Refer to GOM 2.4.1 for preparation of terminating baggage

### 2.7.3 Special Baggage Handling

- a. Handling of Wheelchairs and Mobility aids are to be carried out in accordance with operating airlines procedures, with the acceptance of electric mobility aids subject to the IATA Dangerous Goods Regulations (DGR) Table 2.3A; Refer to GOM 1.1.6.12(e).
- b. Handling of Crew Baggage—see GOM 1.1.6.12(b)
- c. Handling of Firearms—see GOM 1.1.6.13
- d. Handling of Sporting Equipment (see GOM 1.1.6.12(d))
- e. Handling of baggage Delivery At Aircraft (DAA) (see GOM 1.1.6.12(c))

### 2.7.4 Handling Live Animals

- a. Handling of Live Animals in Hold (AVIH) is required in accordance with *Chapter 14, Annex H - Live Animals* and IATA Live Animals Regulations (LAR). The acceptance of AVIHs also subject to respective country regulations. See GOM 1.1.6.12(f)
- b. For AVIH delivered for carriage in the check-in area:
  - 1. Ensure that the AVIH is collected from the check-in area and taken to the baggage build area via the allocated out of gauge (OOG) baggage route, as defined by local airport regulations. At some locations the OOG baggage route will necessitate the AVIH being walked through a security checkpoint to reach the baggage build area.
  - 2. Ensure the specific container requirements comply in accordance with the IATA LAR.
  - 3. The animal shall be kept in an appropriate area airside until loading. Depending on the environmental conditions, this area may be enclosed, heated, etc. so the animal does not suffer discomfort.
  - 4. Deliver the animal to the aircraft loading team.

**Note 1:** Domestic animals of unusual size, strong bred or wild animals, reptiles and rodents must be transported as cargo.

**Note 2:** *Refer to Chapter 9, Annex C – Aircraft Specifics and Chapter 14, Annex H – Live Animals.*

### 2.7.5 Planning Terminating Special Baggage

- a. Review the incoming flight load for the numbers of special baggage items and their type (transfer or terminating).
- b. Review the incoming flight parking details.
- c. Plan any special handling equipment and briefings needed to meet the incoming aircraft.
- d. Determine the duration of activities so that later activities can be planned.

### 2.7.6 Preparation for Terminating Special Baggage

- a. Verify the reclaim allocated for the arriving flight (see GOM 2.6.2).
- b. Verify any GSE allocated are in good working order.
- c. Ensure that the arrivals ground personnel meeting the aircraft are aware of any special items processing, especially mobility devices.





## 2.8 Disruptions

### 2.8.1 Introduction

When planning for disruption, review any known disruptions planned for the operation and the contingency measures planned for the day

- a. Anticipate any likely disruption scenarios
- b. Plan any equipment that is needed to cope with the anticipated disruptions
- c. Where planned software maintenance is taking place, ensure that there are manual processes available in case the systems being modified fail to restart

### 2.8.2 Dealing with Specific Outages

#### 2.8.2.1 Baggage Reconciliation System (BRS) Outages

The BHS typically records the loading of the baggage into a container or aircraft hold. BRS failure can severely disrupt an operation, as the manual replacement processes are time consuming. A BRS can fail gracefully where the most recent data remains available in the system and baggage can be reconciled against this data with changes highlighted when connectivity is restored. Training and guidance for such systems should be followed when disruption occurs. When no graceful degradation is possible, manual processes should be adopted using bingo cards and baggage reconciliation stubs.

#### 2.8.2.2 Baggage Handling System Outages

Most major airports have a BHS to move baggage from the check-in area to the build area. These systems vary in complexity, often having fallback modes and graceful degradation modes before the system fails totally.

When the BHS fails there are 2 issues that need to be dealt with.

- a. Bags that are trapped in the BHS and need to be removed.
- b. Bags that are waiting to be checked in.

Local procedures will vary for when the BHS fails, as the system design will determine the state of the bags when there is a failure.

While the key stages of baggage processing (i.e. cleared as safe for transport, storage build) can be completed without a BHS the capacity of the airport will be reduced.

#### 2.8.2.3 Equipment Issues

Where equipment is found to be un-usable, damaged or non-functional during the planning phases of the operation then this equipment should be flagged as un-usable and moved to a location where it can be collected for repair or repaired.

#### 2.8.2.4 Staffing Issues

It is possible to have a large percentage of staff off work at the same time, and when this happens then there is a risk that the operation will be short-handed, leading to delays. Where possible, have a prepared list of staff on call that may be contacted to fill in roster gaps.



### 2.8.2.5 Diversions

When a flight is diverted to a station:

- a. Review the flight documentation/messages (e.g., Baggage Manifest Message, Cargo Pallet Message, Load Distribution Message) for mobility aids, AVIH and other items requiring special processing. Ensure the guidance under special baggage handling is followed, if available.
- b. Ensure there is a plan to unload the baggage from the flight in line with the intention for the passenger movements:
  1. If the aircraft is being replaced, transfer the baggage to the new aircraft.
  2. If passengers are being transferred to other flights, either move the baggage to the next flight or allocate a reclaim carousel for the flight so passengers can collect their bags before continuing with their journey.
  3. If passengers will be moved using ground transport, ensure a reclaim carousel is allocated to the baggage and deliver the baggage to that reclaim carousel.

### 2.8.2.6 Cancelled Flights

When a flight is cancelled then either:

- a. Deliver baggage to the alternative provided flight or;
- b. Deliver bags to a reclaim allocated to the original flight so that the passengers' can collect their bags.

## 2.9 Mishandled Baggage

### 2.9.1 Introduction

Despite the best efforts of airlines and ground handling service providers, mishandling might occur. When mishandling does occur, the following procedures should be followed:

*TUI fly Belgium and TUI fly the Netherlands are a World Tracer member so Handling Agents must always create a proper Missing Baggage Report (AHL) and avoid any non-tracing files. Details should be placed into the system immediately with, if possible, the passenger in attendance using the TUI fly Belgium 2 letter IATA code TB or TUI fly the Netherlands 2 letter IATA code OR.*

#### Damage:

- a. *Reporting damage should be done by writing a DBR ( Damaged Baggage Report). For the notification to the airline - Property Irregularity Report form (PIR) refer to the TAGO Portal. At all times mention the reservation number of the passengers' booking in the TK field on the DBR.*
- b. *Always refer passengers who wish to submit a claim to their own travel or baggage insurance company. Passengers with damage bags without baggage insurance coverage or passengers who insist to have their claim being handled by TUI are entitled to having their baggage repaired or replaced subject to certain conditions. These conditions are clearly described on an information letter of TUI fly Belgium and TUI fly the Netherlands which can be requested upon arrival in any of the Belgian or the Netherlands airports at the Lost & Found desk.*
- c. *Never settle a claim locally; claims can be submitted via TUI fly Customer Relations.*



**Damage:** *In case of damage to registered baggage, no complaints will be accepted if the traveler did not complete a complaints form within 24 hours after his/her arrival or at the latest within 24 hours after the baggage was delivered to him/her.*

**Delay or loss**

- a. *Reporting delay or loss should be done by writing a PIR (Property Irregularity Report) and is mandatory within 21 days. Refer to a PIR (Property Irregularity Report) Airline Baggage Missing in the TAGO Portal. When the file in WorldTracer is incomplete the complaint will not be taken into consideration. The passenger must receive a copy of the form, accompanied by a letter of apology and a local contact number to contact for inquiries. In case the handler is not able to download, use own PIR forms*
- b. *Passengers are entitled to compensation. The report must be accompanied by a declaration/claim. A 'Mishandled luggage form', must be handed over to passengers including phone number of the L&F-desk. For the form we refer to the TAGO Portal. A mandatory explanation shall be given to the passenger of which action will be taken*
- c. *If baggage is requested by another station:*
  1. *tag baggage with an expedite tag (rush tag);*
  2. *forward baggage as soon as possible to destination;*  
*send a Forward On Hand bag (FOH) containing all data needed as specified in IATA*

**Delay:** *If a passenger did not receive his baggage within 5 days after arrival, a Baggage Tracing / Claim Form should be completed by the passenger and sent to the Baggage and Tracing Department.*

**Unclaimed baggage:** *If baggage with an TUI fly Belgium and or TUI fly the Netherlands baggage tag for another destination or without tag from a TUI fly Belgium and or TUI fly the Netherlands flight is found, feed baggage data immediately and without exception into World Tracer (OHD) and detailed contents must be specified after 48 hours.*



## Ground Operations Western Region Baggage Handling Procedures

Subject	JAF	TFL
<i>Extended baggage tracing</i>	<i>If after six days the Handling Agent is unable to identify the luggage owner via WorldTracer or due to insufficient identification on or inside the baggage should be forwarded to the following address:</i> <b>Welcome Services Lost &amp; Found,</b> <b>Brussels National Airport, 40P,</b> <b>Box 5, 1930 Zaventem</b> <a href="mailto:baggagebru@welcomeservices.be">baggagebru@welcomeservices.be</a> <b>Phone: +32 2 753.77.07</b> (never give to passengers) <b>SITA: BRULLXH</b> <i>For WorldTracer users you can check the contact details on BRU366.</i> <b>NB: The item must be treated as unaccompanied baggage.</b>	
<i>Mishandled baggage department</i>	<i>TUI fly Belgium Mishandled Baggage Department</i> <i>Gistelsesteenweg 1</i> <i>8400 Oostende</i> <i>Belgium</i> <i>Fax: 059-56 59 56</i> <i>bagage@tuifly.be</i>	<i>TUI fly the Netherlands Baggage and Tracing</i> <i>P.O. Box 757</i> <i>NL 7500 AT</i> <i>Enschede</i> <i>The Netherlands</i> <a href="mailto:bagage@tuifly.be">bagage@tuifly.be</a>

### **Items found on board the aircraft at a station that is not a homebase**

- Items will be handed over to the handling agent by the cabin crew at the airport. The handling agent must make every effort to locate the owner. If this is not possible, the item should be passed to the handling agent baggage services department.*
- In the event that the item is not claimed within 7 days of original flight, then it should be clearly marked with the original flight details and returned to the appropriate home station as soon as possible.*
- The item must be treated as unaccompanied baggage and the normal security procedures must be applied i.e. item must be screened and the Pilot-in-Command advised that unaccompanied baggage is being carried.*
- The handling agent baggage services department must ensure that the handler of the home station is advised of all forwarding details.*

### **Any item found on board the aircraft at a home base in Belgium or the Netherlands**

*should be handed over to the handling agent or the lost and found desk at the airport. The handling agent must make every effort to locate the owner. If the owner could not be located the item must be passed to the handler Baggage Services department.*

- All items should be clearly marked with flight details and the name of the owner (if known) and you must contact the Mishandled Baggage Department of TUI fly Belgium and TUI fly the Netherlands.*



- b. *TUI fly Belgium and TUI fly the Netherlands do not accept any financial responsibility for lost cabin baggage, as this is the responsibility of the passenger.*

**TFL-NL**

*Items found on board will be placed in a seal bag where the required information will be entered in the text blocks. Crew will register the missing item and the correct seal bag number in their iPad. The Ground Handling Agent must sign on the crew iPad for acceptance and hand it over to the local Lost and Found Department of the handling company.*

**End TFL-NL**

**Baggage delivery**

- a. *Both in home bases and in airports that is not used as a home base, the nominated supplier by the handler should make every effort to avoid the need for the passenger to return to the airport to collect found baggage.*
- b. *The method of delivery will vary depending upon circumstances. When delivery costs exceed 200 euro, you should contact TUI fly Belgium and/or TUI fly the Netherlands Lost and Found Personnel to get approval and to discuss what options are available to rush the bag to the nearest airport to the domicile of the client.*

*Dispatch all requested and forwarded bags to the customer immediately after receipt at the airport. If the flight arrives later than 16:00h and the passenger's residence is more than 50 kilometres from the airport, a delivery between 8:00h and 18:00h the next day is required. Transport shall be done by the lowest cost means possible that will ensure safe, secure delivery of the bag to the customer.*

*Customer's calls / inquiries have to be answered between 08:00h-20:00h local time, answer machine messages must be checked every two hours. All messages that are left out of hours have to be responded before 09:30h the following morning.*

**Financial settlement**

- a. *In case of a delay in the delivery of baggage, always liaise with the TUI Tour Operator representative when available.*
- b. *When not available please advise customer that TUI fly Belgium and TUI fly the Netherlands will pay € 60 for each missing piece of baggage after 24 hours of arrival at the destination for emergency purchases; customers are entitled to another € 60 after 72 hours per missing piece of baggage, which results in the maximum of € 120 per suitcase.*
- c. *Provided that receipts are submitted for essential goods purchased by the traveler and that the traveler does NOT have his place of residence in the country in which the claim is filed. These amounts will not be paid in case of a return flight.*
- d. *If the baggage is missing on arrival, and there are no flights to the station concerned for the next 72 hours, the total 72 hour advance may be made in one payment by the TUI Tour Operator representative. If not, the claim has to be sent to TUI fly Belgium and TUI fly the Netherlands Mishandled Baggage Department as written above. These amounts will not be paid in case arrival is at a home base of TUI fly.*
- e. *To make a claim to TUI fly Belgium and TUI fly the Netherlands for emergency purchases, passengers must write, including copies of their PIR and receipts for essential purchases, to the respective departments:*



*Under no circumstances should handling staff become involved in discussions with the passenger regarding financial settlement, or the validity of claims*

### 2.9.2 Predeparture Mishandling

Predeparture baggage can have two possible issues needing to run the bag to the correct build location:

- a. Baggage without tags where the baggage tag has become detached from the bag.
  1. Take the bag to the lost and found baggage office.

**Note:** A specific handler should have been nominated for tagless bags, as the actual intended flight is not known.

2. Create an On-Hand Report (OHD) for the bag in the tracing system.
- b. Bags with tags in the wrong location that have been delivered to the wrong build location or the default baggage system output.

### 2.9.3 Departure Mishandling

Baggage arriving for the flight post departure

- a. RUSH the bag onto the next available flight to the same destination, regardless of carrier (as per IATA Resolution 780)
- b. Send a Forward (FWD) message for the bag to the lost and found office of the destination and any connection stations.
- c. Send a Baggage Transfer Message (BTM) for the reflighting (if not done automatically)
- d. Follow any additional screening requirements as per local regulations

### 2.9.4 Tail to Tail Baggage

If possible, and where permitted by local regulations and airline procedures, coordinate with ground control to ensure flights with connecting tail-to-tail baggage are parked close together in order to minimize the chance of mishandling.

### 2.9.5 Missing Baggage

Missing baggage is baggage that was anticipated for a departing flight but has not been received by the operating carrier.

- a. Create appropriate tracing files in the baggage tracing system,
- b. Create an On-Hand (OHD) and Forward (FWD) messages for the baggage once it is received.

## 2.10 Baggage Systems

### 2.10.1 Introduction

This section presents a brief overview of the baggage systems that are typically used. Not all airports and airlines will make use of all the systems, and sometimes systems will have different names depending upon where they are being used.



### 2.10.2 Baggage Reconciliation Systems

- a. Baggage reconciliation ensures that only accompanied or authorized unaccompanied checked baggage is loaded and transported.
- b. Baggage reconciliation procedures, either manually or automated, shall be in place where required by local regulations and operating airline procedures. Baggage reconciliation systems automate the process of recording where bags are loaded onto the aircraft and matching baggage details to passengers.

**Note:** Refer to Chapter 15, Annex I – Security

- c. In the event that the passenger is not onboard at departure then the bag may be located and removed, if this aligns to airline policy. *Refer to Chapter 15, Annex I - Security, 15.7.8.*
- d. A baggage reconciliation system will typically maintain passenger/baggage reconciliation as required, including:
  - 1. Standby passengers
  - 2. Off-airport and group check-in passengers
  - 3. Voluntary or involuntary deplaning
  - 4. Transit passengers
- e. Checked baggage of any passenger who is withdrawn from the flight or didn't board (no-show) is to be considered unaccompanied and handled in accordance with airline procedures and local regulations, which may include off-loading and additional security controls
- f. The system is not the only component in reconciliation and once a flight has been closed for check-in, the baggage room flight lead, or the baggage supervisor will:
  - 1. Review total pieces for each ULD.
  - 2. Pass on all baggage ULD figures, including baggage counts for each container and total ULD numbers, so that the total load summary can be prepared.
  - 3. Conduct a baggage room sweep to ensure there are no left-behind bags.
- g. If baggage is left behind, report this to Baggage Services. Appropriate messages shall be sent to the downline station and arrangements made to expedite the return of the bag to the passenger.

### 2.10.3 Baggage Handling Systems

A baggage handling system is used to move baggage through the airport. The system will also often be responsible for key aspects of ensuring baggage security, as the baggage screening machines are integrated into the system. Baggage handling systems often have many outputs that allow baggage to be built for an individual flight or segregations for a single flight. Other baggage handling systems output bags to carousels where several flights may be being built at the same time.

### 2.10.4 Baggage Messaging Systems

Baggage messaging underpins all the movement and processing of baggage. Baggage messages are defined in Recommended Practice 1745 and Recommended Practice 1755—for type B and Modern Baggage Messaging respectively. Messages are sent to the airport from the airline either via a direct connection or through a message distribution provider such as SITA or ARINC.



### **2.10.5 Baggage Management Systems**

A baggage management system combines baggage source messages and baggage process messages to provide a real time picture of the movement of baggage through an airport, often combining information from other systems (such as security, handling, reconciliation, flight data, etc.) in order to provide a complete picture for the check-in, handling and loading of aircraft. The system may also allow tasks to be allocated to different teams in order to handle the baggage. The Baggage Management System is often a component of an overall airport management system.

### **2.10.6 Baggage Re-fighting Systems**

A baggage re-fighting system is used to allocate baggage to a new flight when mishandling occurs. The system will typically have a complete flight schedule for the airport and be capable of generating baggage messages and labels to support the new baggage movement. Some baggage handling systems incorporate baggage re-fighting, allowing bags to be allocated to a new flight automatically and sent directly to the build for that flight.





## 3 Aircraft General Safety and Servicing Operations

### 3.1 Ramp Safety in Aircraft Handling

#### 3.1.1 Introduction

Ramp safety rules and procedures promote safe ground handling. Therefore, the minimum safety rules and procedures defined in this section shall always be applied and understood by all personnel working on the ramp.

Aircraft *accident or* damage can endanger passengers, personnel and aircraft. Disruptions may also negatively impact safe airline operations.

Even a slight scratch or dent on an aircraft may result in a serious accident.

Any aircraft damage discovered or caused shall be reported. Refer to operating airline procedures (*see below in italic*) regarding reporting of aircraft damage and the local authority.

It is not permitted to smoke or to use lighters/matches/e-cigarettes airside unless in a designated area defined by the local airport operator/regulator.

*The Ground Service Provider must fill in a Ground Operations Safety Report in IQSMS*

*First notification of aircraft damage must be sent to TUI OCC within 30 minutes of identification of the damage and before the departure of the aircraft, using SITA or e-mail, and the Pilot-in-Command (if available) or maintenance organization (if present). The first notification must include:*

- a. Aircraft registration
- b. Flight number
- c. Airport where incident occurred
- d. Brief description of damage (with photos)

*Follow up on instructions from TUI OCC. If damage caused at your station; you should fill out a Ground Operations Safety Report. Refer to the TAGO Portal home page for IQSMS instructions.*

*All Ground Operation Safety Reports must be sent within 12 hours of the occurrence of the incident.*

#### **Mandatory occurrence reporting by Handling Agent**

*Preliminary remark: definition of occurrence: 'occurrence' means any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident;*

*In accordance with EU and EASA Regulations, occurrences related to ground services which may represent a significant risk to aviation safety and which fall into the following categories*



*shall be reported by the handling agent to the aircraft captain and to TUI OCC as explained above.*

*These include but are not limited to:*

***Aircraft- and aerodrome-related occurrences***

- a. A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle (including vehicle);*
- b. Runway or taxiway incursion;*
- c. Runway or taxiway excursion;*
- d. Significant contamination of aircraft structure, systems and equipment arising from the carriage of baggage, mail or cargo;*
- e. Push-back, power-back or taxi interference by vehicle, equipment or person;*
- f. Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person;*
- g. Passengers or unauthorized person left unsupervised on apron;*
- h. Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person;*
- i. Aerodrome security-related occurrences (for example: unlawful entry, sabotage, bomb threat).*

***Aircraft- and obstacle-related occurrences***

- a. A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle (including vehicle);*
- b. Wildlife strike including bird strike;*
- c. Taxiway or runway excursion;*
- d. Actual or potential taxiway or runway incursion;*
- e. Final Approach and Take-off Area (FATO) incursion or excursion;*
- f. Aircraft or vehicle failure to follow clearance, instruction or restriction while operating on the movement area of an aerodrome (for example: wrong runway, taxiway or restricted part of an aerodrome);*
- g. Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person;*
- h. Presence of obstacles on the aerodrome or in the vicinity of the aerodrome which are not published in the AIP (Aeronautical Information Publication) or by NOTAM (Notice to Airmen) and/or that are not marked or lighted properly;*
- i. Push-back, power-back or taxi interference by vehicle, equipment or person;*
- j. Passengers or unauthorised person left unsupervised on apron;*
- k. Jet blast, rotor down wash or propeller blast effect;*
- l. Declaration of an emergency ('Mayday' or 'PAN' call)*

***Degradation or total loss of services or functions***

- a. Loss or failure of communication between:*
  - 1. aerodrome, vehicle or other ground personnel and air traffic services unit or apron management service unit;*
  - 2. apron management service unit and aircraft, vehicle or air traffic services unit.*
- b. Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants;*
- c. Significant deficiencies in aerodrome lighting, marking or signs.*



- d. *Failure of the aerodrome emergency alerting system;*
- e. *Rescue and firefighting services not available according to applicable requirements.*

### **Ground handling of an aircraft**

*This Section is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.*

### **Ground handling specific occurrences**

- a. *Incorrect handling or loading of passengers, baggage, mail or cargo, likely to have a significant effect on aircraft mass and/or balance (including significant errors in loadsheets calculations);*
- b. *Boarding equipment removed leading to endangerment of aircraft occupants;*
- c. *Incorrect stowage or securing of baggage, mail or cargo likely in any way to endanger the aircraft, its equipment or occupants or to impede emergency evacuation;*
- d. *Transport, attempted transport or handling of dangerous goods which resulted or could have resulted in the safety of the operation being endangered or led to an unsafe condition (for example: dangerous goods incident or accident as defined in the ICAO Technical Instructions;*
- e. *Non-compliance on baggage or passenger reconciliation;*
- f. *Non-compliance with required aircraft ground handling and servicing procedures, especially in de-icing, refueling or loading procedures, including incorrect positioning or removal of equipment;*
- g. *Significant spillage during fueling operations;*
- h. *Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength;*
- i. *Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water);*
- j. *Failure, malfunction or defect of ground equipment used for ground handling, resulting into damage or potential damage to the aircraft (for example: tow bar or GPU (Ground Power Unit);*
- k. *Missing, incorrect or inadequate de-icing/anti-icing treatment;*
- l. *Damage to aircraft by ground handling equipment or vehicles including previously unreported damage;*
- m. *Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.*

### **Other occurrences**

- a. *Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person;*
- b. *Aerodrome security related occurrences (for example: unlawful entry, sabotage, bomb threat);*
- c. *Absence of reporting of a significant change in aerodrome operating conditions which has or could have endangered the aircraft, its occupants or any other person;*
- d. *Missing, incorrect or inadequate de-icing/anti-icing treatment;*
- e. *Significant spillage during fuelling operations;*



- f. *Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water);*
- g. *Failure to handle poor runway surface conditions;*
- h. *Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.*

### 3.1.2 General Ramp Safety

#### 3.1.2.1 Engine Danger Areas

There is a particular risk of injury or damage in areas affected by aircraft engine intakes, exhausts and propellers. The risk is further increased if for any reason an aircraft stops and then applies the additional thrust required to “break away” and continue the maneuver.

- a. Vehicles and personnel must remain clear of aircraft danger areas when aircraft engines are running and/or the anti-collision lights are on.
- b. To prevent incidents and accidents caused by aircraft engines, *you must never position yourself* or equipment in the following critical areas before or during aircraft departure and arrival:
  - 1. Engine intake area;
  - 2. Engine blast area;
  - 3. Propeller rotation area (where applicable).
- c. Ensure the engine intake/propeller rotation area is clear at all times when engines are running or the engine start is about to start;
- d. It is forbidden to pass through the blast area while the engines are running.

**Danger:** Ground personnel and/or loose equipment must stay clear of the intake and blast areas.

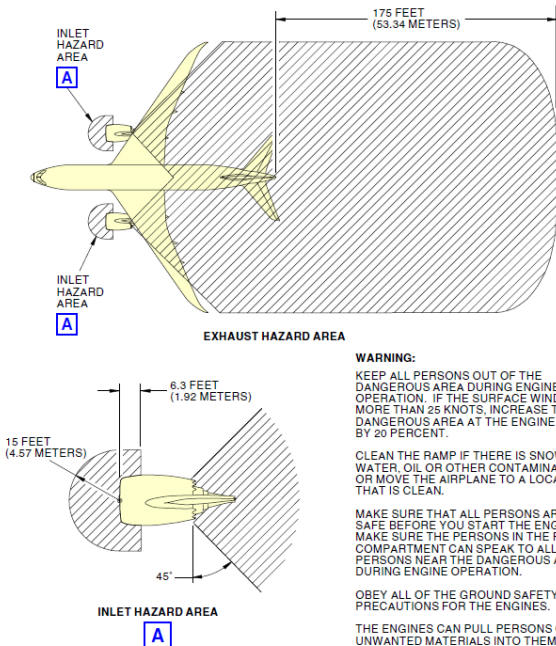


### 3.1.2.2 Engine Danger Area Diagrams



#### 787 MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-11 ENGINE INLET HAZARD AREA - ENGINE IDLE (GEnx-1B AND TRENT1000 ENGINES).



**NOTE:**

THE DANGEROUS AREA IS SHOWN FOR THE LEFT ENGINE ONLY. THE DANGEROUS AREA AROUND THE RIGHT ENGINE HAS THE SAME DIMENSIONS. WHEN YOU OPERATE TWO ENGINES, THE DANGEROUS AREA IS THE SUM OF THE LEFT AND RIGHT DANGEROUS AREAS.

**WARNING:**

KEEP ALL PERSONS OUT OF THE DANGEROUS AREA DURING ENGINE OPERATION. IF THE SURFACE WIND IS MORE THAN 25 KNOTS, INCREASE THE DANGEROUS AREA AT THE ENGINE INLET BY 20 PERCENT.

CLEAN THE RAMP IF THERE IS SNOW, ICE, WATER, OIL OR OTHER CONTAMINATION, OR MOVE THE AIRPLANE TO A LOCATION THAT IS CLEAN.

MAKE SURE THAT ALL PERSONS ARE SAFE BEFORE YOU START THE ENGINE. MAKE SURE THE PERSONS IN THE FLIGHT COMPARTMENT CAN SPEAK TO ALL PERSONS NEAR THE DANGEROUS AREA DURING ENGINE OPERATION.

OBEY ALL OF THE GROUND SAFETY PRECAUTIONS FOR THE ENGINES.

THE ENGINES CAN PULL PERSONS OR UNWANTED MATERIALS INTO THEM AND CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

FOR COMPLETE INFORMATION ON ENGINE GROUND SAFETY AND ENTRY CORRIDOR PRE-CAUTIONS, REFER TO CHAPTER 71-00-00 OF APPROPRIATE MAINTENANCE MANUALS.

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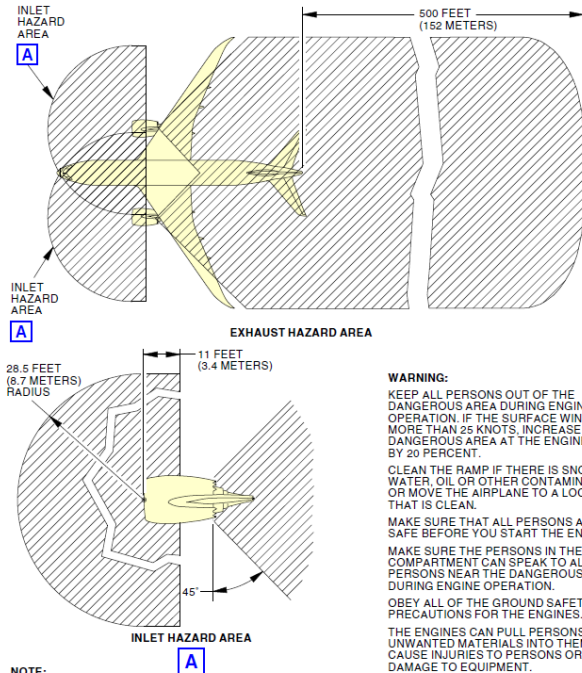
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787  
MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-12 ENGINE INLET HAZARD AREA - BREAKAWAY THRUST (GENx-1B AND TRENT1000 ENGINES).



**WARNING:**

KEEP ALL PERSONS OUT OF THE DANGEROUS AREA DURING ENGINE OPERATION. IF THE SURFACE WIND IS MORE THAN 25 KNOTS, INCREASE THE DANGEROUS AREA AT THE ENGINE INLET BY 20 PERCENT.

CLEAN THE RAMP IF THERE IS SNOW, ICE, WATER, OIL OR OTHER CONTAMINATION, OR MOVE THE AIRPLANE TO A LOCATION THAT IS CLEAN.

MAKE SURE THAT ALL PERSONS ARE SAFE BEFORE YOU START THE ENGINE.

MAKE SURE THE PERSONS IN THE FLIGHT COMPARTMENT CAN SPEAK TO ALL PERSONS NEAR THE DANGEROUS AREA DURING ENGINE OPERATION.

OBEY ALL OF THE GROUND SAFETY PRECAUTIONS FOR THE ENGINES.

THE ENGINES CAN PULL PERSONS OR UNWANTED MATERIALS INTO THEM AND CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

FOR COMPLETE INFORMATION ON ENGINE GROUND SAFETY AND ENTRY CORRIDOR PRE-CAUTIONS, REFER TO CHAPTER 71-00-00 OF APPROPRIATE MAINTENANCE MANUALS.

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**NOTE:**

THE DANGEROUS AREA IS SHOWN FOR THE LEFT ENGINE ONLY. THE DANGEROUS AREA AROUND THE RIGHT ENGINE HAS THE SAME DIMENSIONS. WHEN YOU OPERATE TWO ENGINES, THE DANGEROUS AREA IS THE SUM OF THE LEFT AND RIGHT DANGEROUS AREAS.

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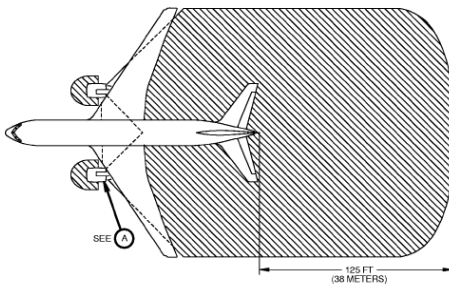


## Ground Operations Western Region Aircraft General Safety and Servicing Operations



### 767 MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-43 ENGINE INLET HAZARD AREA - GROUND IDLE POWER



#### EXHAUST HAZARD AREA

**WARNING:** KEEP ALL PERSONS OUT OF THE DANGEROUS AREA DURING ENGINE OPERATION. IF THE SURFACE WIND IS MORE THAN 25 KNOTS, INCREASE THE DANGEROUS AREA AT THE ENGINE INLET BY 20 PERCENT.

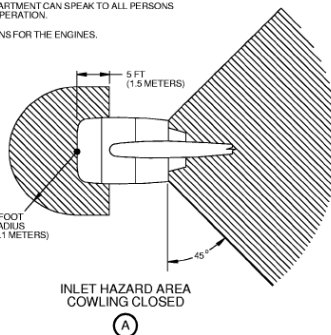
CLEAN THE RAMP IF THERE IS SNOW, ICE, WATER, OIL OR OTHER CONTAMINATION ON THE RAMP, OR MOVE THE AIRPLANE TO A LOCATION THAT IS CLEAN.

MAKE SURE THAT ALL PERSONS ARE SAFE BEFORE YOU START THE ENGINES.

MAKE SURE THE PERSONS IN THE FLIGHT COMPARTMENT CAN SPEAK TO ALL PERSONS NEAR THE DANGEROUS AREA DURING ENGINE OPERATION.

OBEY ALL OF THE GROUND SAFETY PRECAUTIONS FOR THE ENGINES.

THE ENGINES CAN PULL PERSONS OR UNWANTED MATERIALS INTO THEM AND CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.



**NOTE:** THE DANGEROUS AREA IS SHOWN FOR THE LEFT ENGINE ONLY. THE DANGEROUS AREA AROUND THE RIGHT ENGINE HAS THE SAME DIMENSIONS. WHEN YOU OPERATE TWO ENGINES, THE DANGEROUS AREA IS THE SUM OF THE LEFT AND RIGHT DANGEROUS AREAS.

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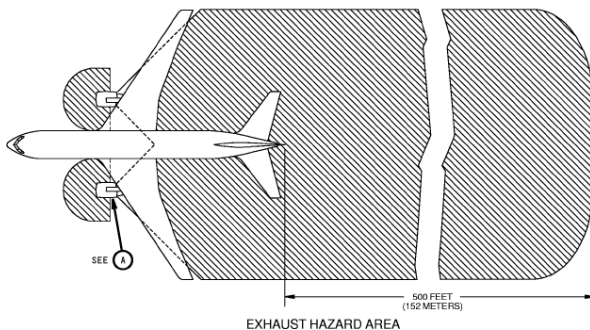


# Ground Operations Western Region Aircraft General Safety and Servicing Operations



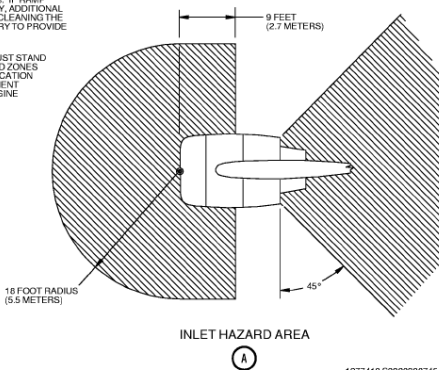
## 767 MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-45 ENGINE INLET HAZARD AREA - BREAKAWAY POWER



**WARNING:** IF SURFACE WIND IS REPORTED GREATER THAN 25 KNOTS, INCREASE DISTANCE OF INLET BOUNDARY BY 20%. IF RAMP SURFACES ARE SLIPPERY, ADDITIONAL PRECAUTIONS SUCH AS CLEANING THE RAMP WILL BE NECESSARY TO PROVIDE PERSONNEL SAFETY.

GROUND PERSONNEL MUST STAND CLEAR OF THESE HAZARD ZONES AND MAINTAIN COMMUNICATION WITH FLIGHT COMPARTMENT PERSONNEL DURING ENGINE RUNNING.



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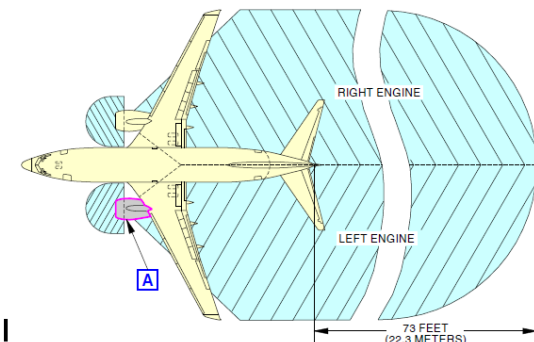




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# MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-8 ENGINE INLET HAZARD AREAS (CFM56-7) - IDLE/ABOVE IDLE POWER, FORWARD THRUST



## EXHAUST HAZARD AREA

### WARNING:

KEEP ALL PERSONS OUT OF THE DANGEROUS AREA DURING ENGINE OPERATION. IF THE SURFACE WIND IS MORE THAN 25 KNOTS, INCREASE THE DANGEROUS AREA AT THE ENGINE INLET BY 20 PERCENT.

CLEAN THE RAMP IF THERE IS SNOW, ICE, WATER, OIL OR OTHER CONTAMINATION, OR MOVE THE AIRPLANE TO A LOCATION THAT IS CLEAN.

MAKE SURE THAT ALL PERSONS ARE SAFE BEFORE YOU START THE ENGINE.

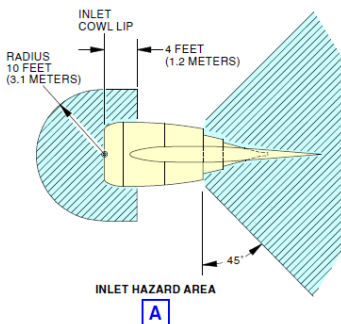
MAKE SURE THE PERSONS IN THE FLIGHT COMPARTMENT CAN SPEAK TO ALL PERSONS NEAR THE DANGEROUS AREA DURING ENGINE OPERATION.

OBEY ALL OF THE GROUND SAFETY PRECAUTIONS FOR THE ENGINES.

THE ENGINES CAN PULL PERSONS OR UNWANTED MATERIALS INTO THEM AND CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

### NOTE:

THE DANGEROUS AREA IS SHOWN FOR THE LEFT ENGINE ONLY. THE DANGEROUS AREA AROUND THE RIGHT ENGINE HAS THE SAME DIMENSIONS. WHEN YOU OPERATE TWO ENGINES, THE DANGEROUS AREA IS THE SUM OF THE LEFT AND RIGHT DANGEROUS AREAS.



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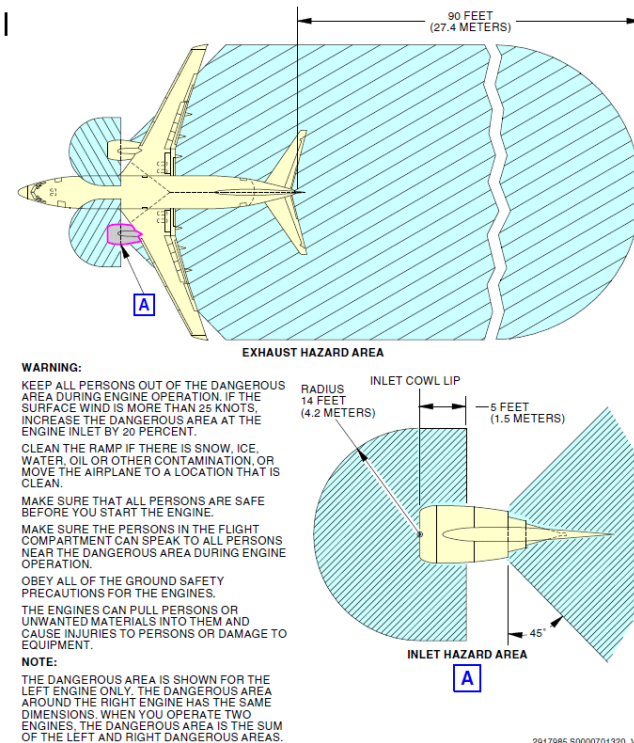
## Ground Operations Western Region Aircraft General Safety and Servicing Operations



737-600/700/800/900

### MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-9 ENGINE INLET HAZARD AREAS (CFM56-7) - BREAKAWAY/ABOVE IDLE POWER, FORWARD THRUST



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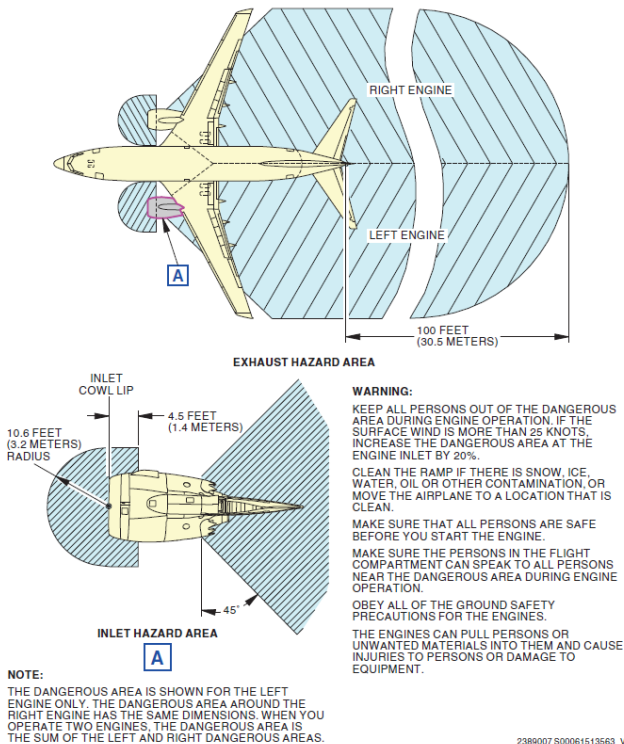


## Ground Operations Western Region Aircraft General Safety and Servicing Operations



### 737-7/8/8200/9/10 MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-13 ENGINE HAZARD AREAS, GROUND IDLE POWER, COWLS CLOSED (LEAP-1B)



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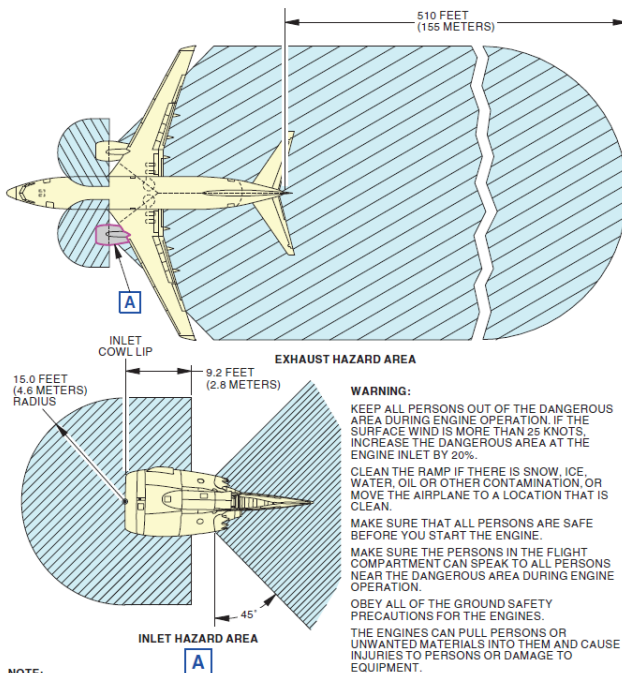


## Ground Operations Western Region Aircraft General Safety and Servicing Operations



### 737-7/8/8200/9/10 MAINTENANCE FACILITY AND EQUIPMENT PLANNING DOCUMENT

Figure 71-15 BREAKAWAY THRUST - POWER HAZARD AREA



**NOTE:**

THE DANGEROUS AREA IS SHOWN FOR THE LEFT ENGINE ONLY. THE DANGEROUS AREA AROUND THE RIGHT ENGINE HAS THE SAME DIMENSIONS. WHEN YOU OPERATE TWO ENGINES, THE DANGEROUS AREA IS THE SUM OF THE LEFT AND RIGHT DANGEROUS AREAS.

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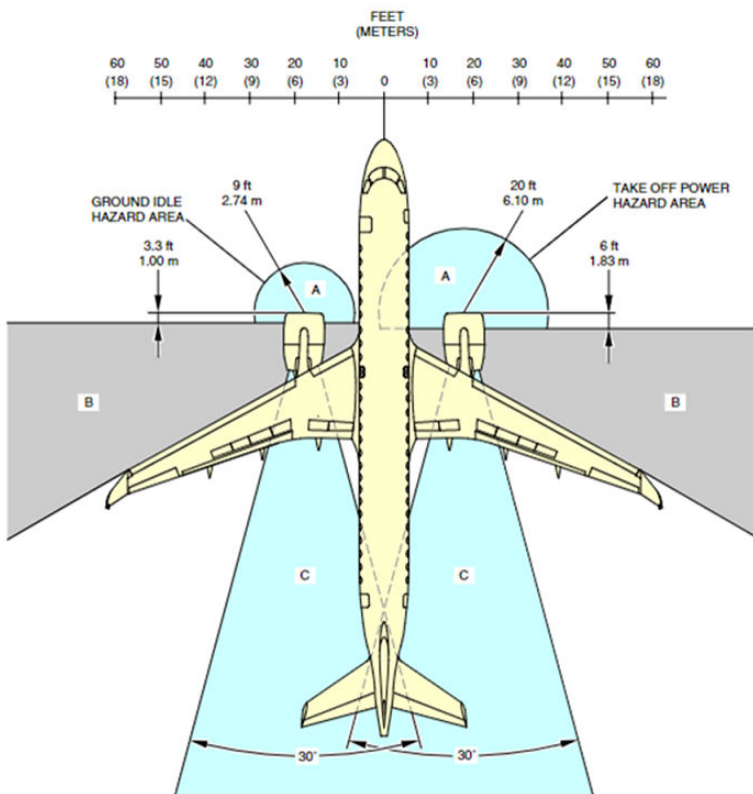


## E195-E2

EFFECTIVITY: EMBRAER 190-E2 AND 195-E2 ACFT

Hazard Areas - Ground Idle and Takeoff Power

Figure 6.2



### LEGEND:

**AREA A** - INTAKE SUCTION DANGER AREA

**AREA B** - ENTRY CORRIDOR

**AREA C** - EXHAUST DANGER AREA (AFT OF EXHAUST NOZZLE):  
240 ft (73.15 m) - GROUND IDLE (20 kt HEADWIND)  
550 ft (167.64 m) - TAKE OFF POWER (20 kt HEADWIND)

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**Note:** The extent of these areas vary for each aircraft type as well as whether the engines are at IDLE or BREAKAWAY thrust. Refer to Chapter 9, Annex C Aircraft specifics for applicable distances.

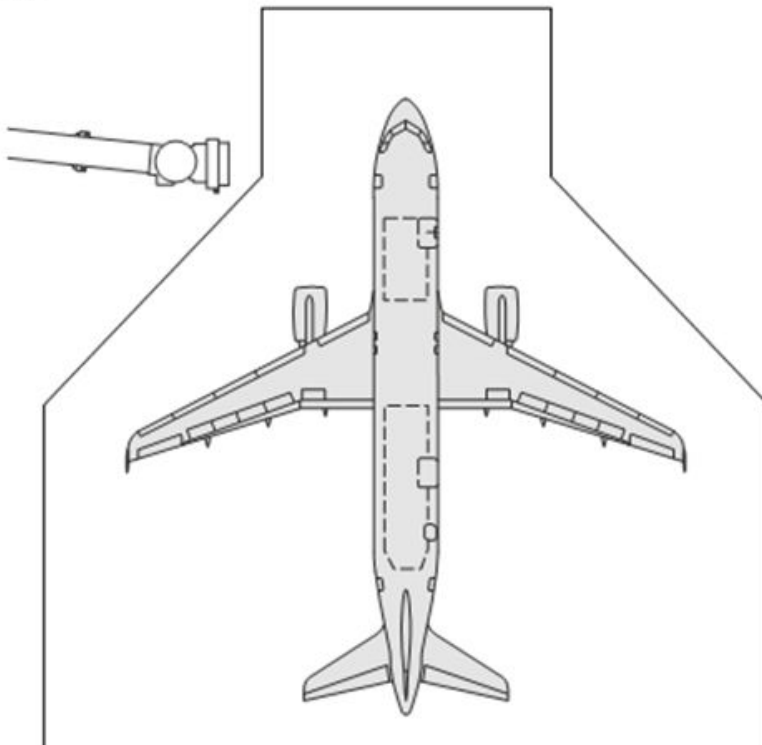
***Engine intake area.***

- a. *at arrival, until the engines have been switched off and are spooling down;*
- b. *at departure or just before pushback;*
- c. *at all times while engines are running.*

*It is forbidden to pass through the blast area while the engines are running.*

**3.1.2.3 Equipment Restraint Area and Equipment Restraint Line**

- a. The Equipment Restraint Area (ERA) is defined as the area of the apron in which an aircraft is parked during ground operations. It may be indicated by a painted line. If no markings exist, local procedures must establish safe parking areas, etc. The illustration below provides an example of the markings used at some locations.
- b. The ERA shall be free of personnel not involved in the aircraft arrival, obstructions, equipment (see exemption GOM 4.1.4.1) and Foreign Object Debris (FOD) before and during aircraft arrival and departure.



**CAUTION!** For safety reasons, spillage should be cleaned immediately to reduce the risk of personnel falling or risk of fire, in case of flammable substance spillage.

---

#### 3.1.2.4 Foreign Object Debris

- Foreign Object Debris (FOD) *is a general term that* applies to all loose objects that are a danger to the safety and integrity of an aircraft or personnel. FOD, therefore, shall not be left in any area where it would pose a hazard.
- All personnel have a responsibility to ensure that the risk of damage to aircraft from FOD is minimized. All waste material *must* be properly disposed of such that it does not become FOD and all FOD must be removed and properly disposed of as soon as it is discovered.
- Proper management of waste and debris is critical, as, if not disposed of correctly, it may become FOD. FOD can also move into airside locations during high winds.

#### Examples of FOD:

Plastic and paper: bags, sheets and towels.

Metal: nuts and bolts, empty oil and hydraulic fluid cans, tools and equipment.



Natural objects: rocks, pebbles and wood,  
Other debris: burst ballast bags, luggage handles and wheels.



---

**CAUTION! FOD can:**

- 1. Be sucked or ingested into aircraft engines causing damage leading to engine failure.**
  - 2. Cause damage to tires, the undercarriage, control systems and other parts of the airframe which can lead to in-flight failures.**
  - 3. Become a trip hazard for personnel working on or around aircraft.**
- 

- d. The following FOD checks must be conducted prior to any aircraft movement and after servicing operations:
1. Check ground equipment staging and parking areas in proximity to area of operation.
  2. Do routine checks of ground servicing equipment (including floors of enclosed cabins) to ensure that everything is secure and operational and not about to fall off and become FOD.
  3. In ramp areas ensure that anything carried in or on a vehicle is secured.
  4. Before aircraft arrival, conduct a FOD walk-around of the aircraft parking stand, removing all FOD found.
  5. *Pick-up and* dispose all FOD in designated garbage bins, where provided or as per local arrangements, FOD bins should be enclosed, to avoid FOD being blown out by wind.





**Note:** Refer to AHM 465 for FOD Prevention Program.

#### **3.1.2.5 Personnel Protective Equipment (PPE)**

All personnel shall be issued with and wear appropriate PPE as required for their role and as per local regulations to include:

- a. Safety footwear
- b. Hearing protection
- c. High visibility clothing
- d. Gloves
- e. Any other specified PPE as per local requirements

**Note:** Neckties or other loose hanging accessories which may pose risk shall be of the quick release type (clip).

### **3.1.3 Safety Instructions for Operating and Working with Ground Support Equipment on the Ramp**

#### **3.1.3.1 General Safety Instructions**

Apply these procedures whenever operating GSE on the ramp.

- a. Personnel shall only drive or operate GSE if trained and authorized for that specific equipment type.
- b. GSE shall not be moved or driven across the path of:
  1. Taxing aircraft or aircraft under tow/pushback
  2. Embarking and disembarking passengers on the ramp
  3. Emergency vehicles.
- c. When operating any GSE, check the aircraft for possible damage in the equipment contact zone before positioning and after removal of GSE to/from the aircraft.
- d. Immediately report any damage found, or where contact has taken place or suspected to have taken place, especially for composite aircraft.
- e. Where damage has been found or where contact has taken place or is suspected to have taken place, do not move any GSE to/from the aircraft in the area where damage has been found until inspection is completed, and clearance given to proceed.
- f. Personnel working with and around vehicles and equipment must protect themselves from loose clothing, long hair, and/or hanging accessories/jewelry from becoming a hazard, e.g., caught or trapped in equipment.

#### **3.1.3.2 Basic Operating Requirements for Ground Support Equipment**

- a. Securely stow GSE cables and hoses, where fitted, prior to transportation and when not in use.
- b. GSE shall not impede the accomplishment of other aircraft handling operations in progress unless there is an important reason to do so.
- c. Check that all areas of GSE are free of contamination, FOD and safe for use prior to and throughout the operation.
- d. Operators shall check the GSE assigned to them prior to initial use, particularly the parking brakes, rubber protective bumpers, and safety systems. If found to be defective, the GSE shall be reported, tagged as "Out of Service" and removed from operations, when applicable.
- e. All safety rails shall be fully retracted/lowered prior to positioning, where possible.



- f. Extra personnel shall not be carried on moving GSE without an approved seat (i.e., apply the no seat–no ride principle).
  - g. Seat belts shall be worn, where fitted, except where repositioning equipment is within the same operational area, e.g., within the parking stand or baggage makeup area
  - h. Before moving any GSE/Vehicle ensure all its doors are closed, where fitted.
  - i. GSE shall not be operated while using handheld Portable Electronic Devices (PEDs) including cellphones, portable music players, portable game units or earpiece or headset.
  - j. GSE shall only be used for its intended purpose, including for specific aircraft types.
  - k. Prior to movement of any GSE/Vehicles, the intended travel path shall be checked and confirmed clear of personnel, equipment or other obstacles.
  - l. GSE with lifting devices shall not be driven or towed in the raised position, except for final positioning onto the aircraft.
  - m. The GSE platform shall not be operated while in motion.
  - n. Use a guide person when vision is restricted. The guide person shall be able to accurately judge clearances and communicate signals to the driver/operator. Stop immediately if visual contact with the guide person is lost. Movement shall not continue until visual contact is re-established.
  - o. Once motorized GSE is in its servicing position at or near the aircraft:
    - 1. Apply the parking brake with the gear selector in park or neutral (if no selection for park)
    - 2. Turn off the engine, unless required when in operating/servicing mode.
    - 3. Install GSE wheel chocks, where equipped.
    - 4. If equipped with stabilizers, ensure they are deployed before the GSE is used for servicing. Deploy other safety devices (e.g., active proximity sensors, safety rails), if fitted.
    - 5. When motorized GSE is in operating/servicing mode, remain in a position whereby the emergency controls can be promptly accessed. This includes the immediate vicinity of the controls or an immediately adjacent and accessible location; for example, the cargo hold in the case of a ULD loader, where required to operate the aircraft cargo loading system (CLS), restraints and/or nets.
    - 6. If motorized GSE is not fitted with external emergency controls, the operator shall remain in the operating position and in control of the equipment when in operating/servicing mode.
- Note:** As an exception for pushback tractor, the engines may need to be left running unattended:

  - 1. While conducting a single person pushback operation
  - 2. To avoid specific restart by maintenance function.

If unattended apply the parking brake and place the gear selector in park or neutral, if no selection for park.
- p. When GSE is chocked:
    - 1. Place one chock at the front and one chock at the rear of the same wheel.
    - 2. Chocks shall be centered on and in contact with the wheel.
  - q. When unattended motorized GSE/vehicle is positioned in or adjacent to the ERA, other than as described in GOM 3.1.3.2 (o):
    - 1. Turn off the engine. In extreme cold weather conditions where local procedures permit engines running unattended, the motorized GSE shall be chocked.
    - 2. Apply the parking brake with the gear selector in part or neutral, (if no selection for park) and, where equipped, install wheel chocks.



- r. The ground power unit (GPU) and preconditioned air (PCA) may be left running unattended when connected to the aircraft, provided the serviceability and fuel levels are checked periodically.
- s. A No-Touch policy (i.e., GSE/PBB shall not touch the aircraft) shall be employed for all GSE/PBB types that are not equipped with self levelling sensors. The equipment shall be positioned in a way that ensures:
  - i. The protective rubber bumpers do not touch the aircraft fuselage.
  - ii. The gap between GSE/PBB and aircraft shall not allow a person or large piece of equipment to fall through. As a guideline, a gap of 5 cm (2 in.) or two fingers should be maintained between the device and the aircraft.
  - iii. Check that throughout the turnaround process a clearance is maintained between the GSE and the fuselage to allow vertical movement.
- t. Check that throughout the turnaround process a clearance is maintained between the GSE and the fuselage to allow vertical movement.
- u. After positioning equipment on the aircraft, raise or extend all safety rails on conveyor belts, loaders, and other elevated devices, except where restricted by the aircraft type.
- v. GSE shall be parked in the designated airside equipment parking areas when not in use.
- w. Access to firefighting equipment or the fuel hydrant emergency stop switch shall not be obstructed.

**Note:** For GSE operations during adverse weather refer to GOM 3.3 Adverse Weather Conditions.

### 3.1.3.3 Non-Motorized Ground Support Equipment

The follow precautions must be taken when operating non-motorized GSE:

- a. When parked and/or when not connected to motorized vehicles, all non-motorized GSE shall have brakes set or chocks in place, dollies/carts shall be connected as a chain, where possible.  
**Exception:** Aircraft towbars.
- b. ULDs shall be secured on dollies (or trailers/trucks) using the appropriate restraints.
- c. Pallet and container dollies may only be towed with turntables in the locked position (straight ahead).
- d. The number of carts and dollies allowed is usually limited by the local airport authority or ground handling service provider, however, in critical conditions (e.g., slippery surface conditions, congested facilities, low visibility) the number should be reevaluated and might be reduced to ensure safe operations on the ramp.
- e. Know the dolly types as some dollies are not compatible with others. Follow the recommended towing combinations when transferring dollies from one place to another. Do not tow more units than the recommended sets or combinations.
- f. When connecting or disconnecting dollies/carts to/from the tow bar, hold only the tow bar handle and tow pin of the dollies/carts. Do not hold the tow eye when connecting or disconnecting.
- g. Position oneself beside the tow bar when connecting or disconnecting dollies/trolleys ensuring the tow-pin is properly inserted before towing and use the tow bar handle to connect and or disconnect dollies/trolleys.
- h. During transportation with carts and dollies, the load shall be properly secured using appropriate locks, stops, rails, curtains and straps.
  - i. The overall height of loads shall permit safe lifting of each piece of the load during loading and offloading of carts by personnel standing on the ground.



- j. Light packages shall not be wedged between heavier items.
- k. When using tarpaulins, all straps shall be securely fastened to the baggage cart.
- l. If equipped with stabilizers, ensure they are deployed before the GSE is used for servicing or access. Deploy other safety devices (e.g., active proximity sensors, handrails), if fitted.
- m. If using maintenance stairs e.g., to open and close cargo hold doors:
  - 1. The stairs shall be fitted with safety rails to prevent falls.
  - 2. Maintenance stairs should be facing towards the panel which is being accessed. Retractable/extendable safety rails shall be lowered or retracted during positioning.
  - 3. Raise or extend retractable/extendable safety rails prior to any personnel accessing the stairs.
  - 4. Moving or repositioning the stairs is not permitted while a personnel is on the stairs.
- n. Towable air start units (ASU), PCA and GPU shall not be connected to the tow vehicle and aircraft at the same time, if possible. Before towing the unit away, the operator shall ensure the unit is disconnected from the aircraft.

**Danger:** While the movement of carts and dollies by hand is very simple, it can result in injuries. Therefore, additional care must be taken.

#### 3.1.3.4 Safety Driving and Parking Ground Support Equipment Inside the Equipment Restraint Area

To verify serviceability of GSE and to test the apron surfaces, operators shall apply the following precautions when driving or parking GSE within the Equipment Restraint Area (ERA):

- a. Make one complete stop with all motorized vehicles/equipment prior to entering the ERA or at 5 m from the aircraft. This action must be carried out even if there is no Equipment Restraint Line marked on the apron.
- b. GSE shall not be driven faster 5 km/h or 3 mph (walking speed).
- c. Manoeuvre GSE carefully to prevent personal injury and/or aircraft damage.
- d. Avoid performing any sharp turns near the aircraft, particularly when towing equipment.
- e. When GSE/PBB is being moved near the aircraft or positioned to the aircraft, and when the vision of the operator is or might be restricted, the operator shall be:
  - 1. Guided by a guide person using standard IATA signals. If visual contact with the guide person(s) is lost, the GSE operator shall stop movement of the GSE/PBB immediately. Movement shall not restart until visual contact is re-established.  
*When moving a Tractor/EBT near the belt loader, the movement must be guided by a guide person using standard IATA signals.*
  - 2. Assisted by means of appropriate proximity sensing and warning systems and/or visual aids such as cameras and mirrors.
- f. GSE that are not directly involved in the handling or servicing of the aircraft shall not be driven through or parked within the ERA.
- g. Any GSE (e.g., tractors, pallet transporters, carts and dollies) shall not be driven or positioned under the aircraft fuselage unless specifically required e.g., lavatory servicing, aircraft maintenance, towbarless tractor etc.
- h. Driving or parking under the aircraft wings not permitted, see exception.

#### Exception:

Due to aircraft type or local restrictions, exceptions may apply. Prior operator approval shall be given.



### 3.1.3.5 Passenger Boarding Bridge (PBB)

The operator of the Passenger Boarding Bridge (PBB) shall:

- a. Be trained and authorized to operate the PBB.
- b. Check that the PBB is serviceable before use.
- c. Report any malfunction of the PBB to the appropriate person/authority.
- d. Check that the walking surfaces are free of FOD, obstacles and safe for use.
- e. Ensure only personnel required for the PBB operation are in the PBB while it is moving.

**Danger:**

There is a risk of fall from height and distraction to operator.

- f. Ensure the PBB is fully retracted or parked in its safe designated parking position prior to aircraft arrival and departure.
- g. Ensure the safety barrier shall be in place whenever the PBB is not at the aircraft.
- h. Ensure that the movement path is clear of personnel, equipment/vehicles and all other obstacles before moving the PBB.
- i. When positioning the PBB at the cabin access door and driver/operator vision is restricted, use a guide person.
- j. Prior to positioning/removal, ensure that all safety rails/canopies on the PBB are fully retracted.
- k. Move the PBB slowly toward the aircraft, avoiding any aircraft sensors or protrusions.
  1. Where the PBB is equipped with self levelling device, continue movement until either the protective bumpers just touch the aircraft or the PBB's proximity sensors stop the movement.
  2. When not equipped with self levelling device, maintain a gap in accordance with No-Touch policy. *Refer to GOM 3.1.3.2 (s).*
- l. Ensure the PBB does not contact the wing root leading edge fairing that extends under certain cabin access doors or any other sensors or fairings.
- m. Once the equipment is positioned, ensure any safety rails and canopies on the PBB are fully extended.
- n. When positioning/removal is complete, secure/isolate the PBB controls to prevent movement by non-authorized persons.
- o. Maintain adequate clearance between the PBB and the underside of the cabin access door, or as directed by the cabin door markings to prevent damage. This reduces the possibility that the aircraft door will rest on the PBB as the aircraft settles during loading and unloading.
- p. Engage any safety systems (e.g., safety shoe) and auto-leveler features, if applicable. If the PBB is not equipped with an auto-leveler, the PBB shall be attended by an operator whenever it is positioned at an aircraft.
- q. Ensure the cabin access door is closed before removing the PBB.
- r. Where integrated with the PBB, ensure ground power cables and PCA hoses are disconnected from the aircraft prior to moving the PBB, unless required for operational purposes.

**Note:** A guide person is not required if the PBB is fitted with systems (e.g. sensors) that enable the operator to accurately judge clearances and properly position it to and from the aircraft.

**Narrow bodied aircraft:** *If a suitable PBB is available, passenger (de)boarding will be via L1.*



**Wide bodied aircraft:**

- a. *Passenger (de)boarding will be via door L2 on the B787 when a suitable PBB is available.*
- b. *Where no PBB is available, requires 2 sets of steps, front stairs on door L2.*

**Note:** If due to local regulations only one set of steps is available, door L2 must be used for boarding and disembarking on the B787.

**3.1.3.6 Passenger Stairs**

The following precautions shall also be taken when operating passenger stairs:

- a. Check that the walking surfaces are free of contamination and safe for use.
- b. Ensure the movement path is clear of personnel, equipment/vehicles and all other obstacles before moving the passenger stairs.
- c. If passenger stairs are towed, disconnect them from the tractor and manually position them at the aircraft. Ensure brakes are engaged once stairs are positioned to the aircraft.
- d. Ensure safety rails and canopies, if any, on the passenger stair platform are fully retracted prior to positioning.
- e. Move the passenger stairs slowly toward the aircraft, avoiding any aircraft sensors or protrusions, until either:
  - 1. Where the passenger stairs are equipped with self levelling device, continue movement until either the protective bumpers just touch the aircraft or the passenger stair proximity sensors stop the movement.
  - 2. When not equipped with self levelling device, maintain a gap in accordance with No-Touch policy. Refer to GOM 3.1.3.2 (s).
- f. The controls shall only be operated from inside the driver's cabin of the passenger stairs except where equipped with external controls.
- g. Maintain adequate clearance between the passenger stairs and the underside of the cabin access door, or as directed by the cabin access door markings, to prevent damage.
- h. Engage any safety systems and auto-leveler features, if applicable. If the passenger stairs are not equipped with an auto-leveler, the level of the passenger stairs shall be monitored and adjusted, as required.
- i. Deploy stabilizers, if fitted. Do not allow anyone (except the operator) to use the stairs until the stabilizers are deployed.
- j. Ensure passenger stairs are positioned so that the cabin access door can be used as an unobstructed escape route in case of emergency.
- k. Passenger stairs shall not be removed from the aircraft unless the cabin access door is closed or a fall prevention device is in place across the door. Refer to GOM 4.4.2.1 (b).
- l. After the cabin access door has been closed, confirm there is no personnel on the stairs prior to retracting stabilizers.
- m. If passenger stairs are towed when removed from the aircraft, manually position them clear of the aircraft to a suitable position before connecting them to the tractor.



### 3.1.3.7 Belt Loader

The following precautions must be taken when operating a belt loader:

- a. Do not operate the conveyor belt or raise or lower the boom when personnel are on the belt.
- b. Do not stand or walk on the conveyor belt when the safety rails are lowered/*retracted*.
- c. Do not sit or stand on a conveyor belt while it is in operation, nor while the boom is raised or lowered.
- d. Belt loaders shall not be used to transport baggage, cargo or other items across the ramp.
- e. The boom of the belt loader shall never be positioned inside the cargo hold of any aircraft.

#### Exception:

The rule does not apply to specially designed belt loaders which require the equipment to be extended/positioned inside the cargo holds.

- f. Position and remove a belt loader to/from the aircraft in a straight line.
- g. Position the boom at an angle to the cargo hold doorsill that will:
  1. Allow tractors/trailers to access the belt loader without impeding slide deployment areas and passenger evacuation routes.
  2. Prevent items and personnel from falling between the boom and doorsill.
- h. Once the belt loader is positioned ensure the wheels are left in straight ahead position.

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**CAUTION! Speeding up operation of the conveyor belt using the accelerator pedal is not permitted.**

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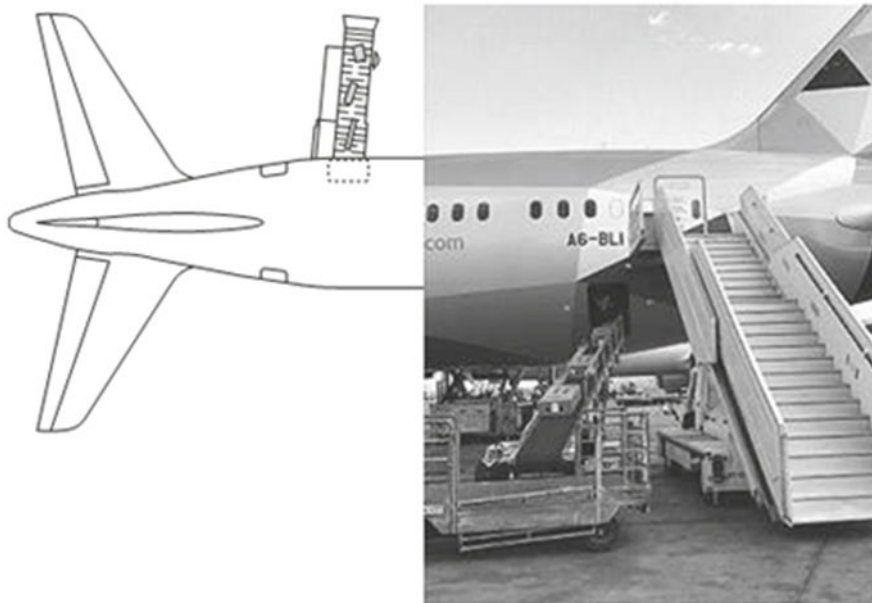
- i. Where clearance allows, always raise the side safety rail as soon as the belt loader is positioned. Ensure it does not touch the aircraft fuselage.

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**CAUTION! Care shall always be taken when working around a moving belt. Personnel shall remain vigilant to trap hazards while raising/lowering the safety rails. Keep hands/fingers away from the edges/ends of the belt where they may become trapped. Belt movement shall be stopped before any attempt to clear any obstructions.**

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- j. The safety rail shall also be deployed when a belt loader is used to gain access to aircraft cargo holds or cargo hold access door controls.
- k. Ensure proper separation between articles and appropriate belt speed to avoid jamming.
- l. When unloading or loading items onto a belt loader, ensure they are stable, and correctly positioned on the conveyor belt to avoid items falling off.
- m. When unloading or loading items between the belt and aircraft cargo hold, ensure items do not come into contact with aircraft fuselage/cargo hold door.
- n. Adjust and control the back of the conveyor belt correctly to avoid dropping goods from the belt.
- o. The safety rail may be lowered to accommodate large items during loading and unloading.
- p. Ensure the boom is clear of the aircraft or other obstacles before making a turn.



### 3.1.3.8 Unit Load Device Loader

The following precautions shall also be taken when operating a ULD loader:

- a. Lower both platforms prior to maneuvering the ULD loader.
- b. Only personnel required for the ULD Loader operation shall be on the platform while maneuvering.
- c. Ensure that the ULD guide rails are in the proper position before positioning the ULD loader at the aircraft. Use ULD loader platform guide rails, as required, to ensure alignment when loading or unloading
- d. Move the ULD loader slowly toward the aircraft, avoiding any aircraft sensors or wing fairings.
- e. When approaching the aircraft and visibility is limited or the aircraft type has limited clearance with the ULD loader, a guide person shall be used.
- f. Ensure the ULD loader is level with the height and angle of the cargo compartment floor.
- g. Do not open/close cargo access hold doors while standing on a ULD loader. Use maintenance stairs in accordance with *GOM 3.1.3.3 (m)* or a belt loader in accordance with *GOM 3.1.3.7*.

**Note:** Not applicable to main deck cargo access doors, which shall be operated from inside (on applicable aircraft types) or from a Main Deck ULD Loader.

- h. Engage any safety systems and auto-leveler features, if applicable. If the ULD loader is not equipped with an auto-leveler, the level of the ULD loader shall be constantly





monitored and adjusted as required (e.g., edge of cargo hold opening, cargo access hold door, control panel doors, fairings on fuselage and wings).

- i. The ULD loader front platform shall be fully lowered prior to personnel ascending or descending the equipment stairs and the platform shall not be raised or lowered when personnel are using the stairs. Always check the surrounding area and ensure its clear to raise/lower the ULD loader platform.
- j. Ensure no one stands between the ULD loader and dollies during ULD movement and during dolly positioning.
- k. Align dollies correctly to the ULD loader. Use a guide person, if required.
- l. ULD loaders should not be used to transport ULDs across the ramp unless specifically designed for this purpose.
- m. Move ULDs only when personnel are clear of all hazards.
- n. The vehicle (dolly or other) shall be positioned close to the ULD loader platform periphery and shall be at the same height before the transfer takes place.
- o. The use of external mechanical force to move ULDs should not be necessary, except with very heavy ULDs that may not move by manual force alone. Any such process shall be carried out with approved equipment and procedures.
- p. Whilst maneuvering ULD when it is on the ULD loader, ensure:
  - 1. The platform(s) is clear of all personnel.
  - 2. All stoppers are raised to prevent ULD from falling.
  - 3. Immediate area around the ULD loader is clear of all personnel and equipment.
  - 4. ULD is only rotated on the rear platform and when in the fully lowered position.
  - 5. Only one ULD is rotated at a time.
- q. All personnel shall keep clear of the elevating platform when it is being raised or lowered.
- r. Before removal or repositioning of a ULD loader ensure any load positioned in the doorway is secured against roll out.
- s. For main deck loading/unloading operations, prior to removing the ULD loader the equipment operator shall inform personnel inside the main deck and receive confirmation from them that it is safe to remove the equipment. On board safety devices (e.g., safety barrier net) shall be installed at the cargo hold access door prior to ULD loader removal.
- t. Whenever possible, reverse in a straight line at a walking pace, monitoring all sides for clearance.
- u. Ensure the path of the ULD loader is clear of all obstructions prior to initiating turns.

**Note 1:** The ULD loader shall be positioned at a 90-degree angle to the cargo doorsill.

**Danger:** Do not enter or place any part of the body inside the 'scissor' area beneath the ULD loader.

**Note 2:** *Additional instructions for ULD to be found in Supplier Manuals in the TAGO Portal.*

### 3.1.3.9 Elevating Equipment

The following precautions shall also be taken when operating elevating equipment:

- a. For elevating equipment with a rear access platform, ensure all safety barriers/rails are secured in place prior to vertical movement of the platform.
- b. Ensure the load is properly secured (e.g., cart brakes, stretchers, wheelchairs) and all access doors and shutters are closed prior to raising or lowering the vehicle.
- c. Any elevating equipment doors not being used for servicing at the aircraft shall be closed and latched.



- d. The positioning of the elevating equipment shall allow the loading platform to be perpendicular and at the same level to the aircraft doorsill.
- e. The final position of the elevating equipment shall allow for a safe working area and minimize the length of the walking surface between the aircraft and the elevating equipment while in the raised position.
- f. Before accessing the platform at the front or the rear of the elevating equipment, ensure the platform is at the same level as the equipment cabin.
- g. Carefully place the portable ramp/bridge on the doorsill from the platform side, as necessary.
- h. Equipment (e.g. catering cart) and passengers in wheelchairs shall be pushed on and off the aircraft. Always ensure a hand-to-hand exchange. No elevating equipment is to be staged on the platform, and no loose items are to be transported on top of carts (e.g., catering equipment).
- i. Continually observe and be aware of the clearance between the aircraft door and the elevating equipment platform.
- j. When the servicing is finished, carefully remove the portable ramp/bridge from the platform side and stow securely and close the aircraft door as per 4.4.2.7.
- k. The passengers and/or the load shall be secured properly inside the elevating equipment. Passengers shall be seated and wearing seat belts. Passengers seated in wheelchairs shall have the wheelchair secured during elevating equipment movement.
- l. Visually check for any obstructions over both sides of the elevating equipment before lowering.
- m. Lower the truck body into the fully lowered position.
- n. Close and secure all the doors of the elevating equipment when the servicing is finished.
- o. Perform a walk-around to check for FOD and clearance around elevating equipment stabilisers.
- p. All elevating equipment shall cease operating when the wind speed reaches 40 knots (gusting).

**Note:** Do not let any doors or hatches open at windspeeds (and gusts) above 40 knots to prevent damage.

**Danger:** Do not enter or place any part of the body inside the 'scissor' area beneath the elevating equipment.

### 3.1.3.10 Tractor / Electric Baggage Tug

The following precautions shall also be taken when operating a tractor or electric baggage tug (EBT) and towing dollies/baggage carts:

- a. Take care to avoid sudden sharp turns, jerks and stops.
- b. Prior to moving with towed load, ensure there are no personnel between or near the towed load.
- c. Baggage, cargo and other items shall only be transported on the tractor/EBT where the design of the equipment incorporates a designated location for the carry of such items.
- d. Use the remote push button control (inching operation) to connect dollies, carts, or towed load, where fitted.
- e. When Tractor/EBT is near the belt loader during aircraft handling, a gap of at least 1 m (3 ft.) shall be maintained.

*When moving the Tractor/EBT near the belt loader, the movement must be guided by a guide person using standard IATA signals.*



**Note:** Where necessary to position carts/dollies within 1 m (3 ft.) of the belt loader, adjust the position of the carts/dollies by hand.

- f. When removing carts during the loading on or unloading from smaller aircraft or aircraft with low wings, the tractor shall be positioned pointing away from the aircraft wing and the cart maneuvered by hand to the tractor, as required.
- g. The appropriate type of dolly shall be used according to the ULD type to transport the load.
- h. Keep an appropriate distance between dolly and ULD loader during loading and unloading process. To avoid ULD falls, realign the dolly if the distance between ULD loader and dolly is unsafe.
- i. Ensure ULD is fully transferred onto the ULD loader before moving the Tractor/EBT.
- j. Ensure all the ULDs are secured on the dollies and flaps, or curtains are closed before transporting.

#### **3.1.3.11 ULD Transporter**

The following precautions shall also be taken when operating ULD transporters:

- a. No personnel are allowed to sit or stand on the roller bed.
- b. No personnel are allowed to walk or stand between the ULD transporter and ULD loader/dollies.
- c. Position the ULD transporter at a 90-degree angle to the ULD loader/dolly to ensure safe transfer of load.
- d. If fitted with an elevating platform (narrow body ULD Loader):
  - 1. Transportation of ULDs across the ramp with the platform in the raised position is not permitted.
  - 2. Raise the platform only when finally positioned at the aircraft.

**Note:** For combined ULD transporter/loader devices, refer to GOM 3.1.3.8 for further precautions

### **3.1.4 Fire**

#### **3.1.4.1 Fire Prevention and Protection**

Personnel must always be vigilant for fire hazards and potential sources of fires in their areas of operation and try to mitigate or eliminate them during the operations (e.g., fueling and defueling operations, open wires, dangerous goods handling, GPU connections and use of electrical equipment). To eliminate conditions that may lead to fire:

- a. Personnel must never smoke airside except in a designated smoking area.
- b. All personnel shall be familiar with the location and use of firefighting equipment, fire alarms, fuel hydrant emergency shut-off valve, etc.
- c. All personnel must be familiar with assembly points.
- d. Emergency exits must be kept clear/unobstructed at all times.
- e. Exercise good housekeeping in the airside areas to eliminate the risk of fire.
- f. Dispose of garbage into the designated waste bin and do not allow garbage to accumulate.
- g. All fuel/oil leakages must be contained as soon as possible, and the area cordoned off. (e.g., using safety cones, caution tape).
- h. Smoke from GSEs/vehicles must be reported immediately.



- i. Do not refuel any GSE/equipment while the engine is running any GSE/equipment while the engine is running or while using electronic devices.
- j. GSEs/vehicles should only be parked as follows:
  - 1. Within the defined equipment parking areas;
  - 2. In a manner that does not obstruct access to firefighting equipment and the fuel hydrant emergency shut-off valve.

#### **3.1.4.2 Actions in The Event of a Fire**

- a. In the event of a fire, carry out the immediate actions specified in GOM 6.5.2 .
- b. In event of GSE/vehicle fire, additionally, carry out an assessment and only if considered safe to do so:
  - 1. Fight the fire using available fire extinguishers.
  - 2. Move affected GSEs/vehicles away from the aircraft and operational area to the extent practical.
  - 3. In case the affected GSEs/vehicles cannot be moved, move adjacent GSEs/vehicles away to avoid spreading the fire.

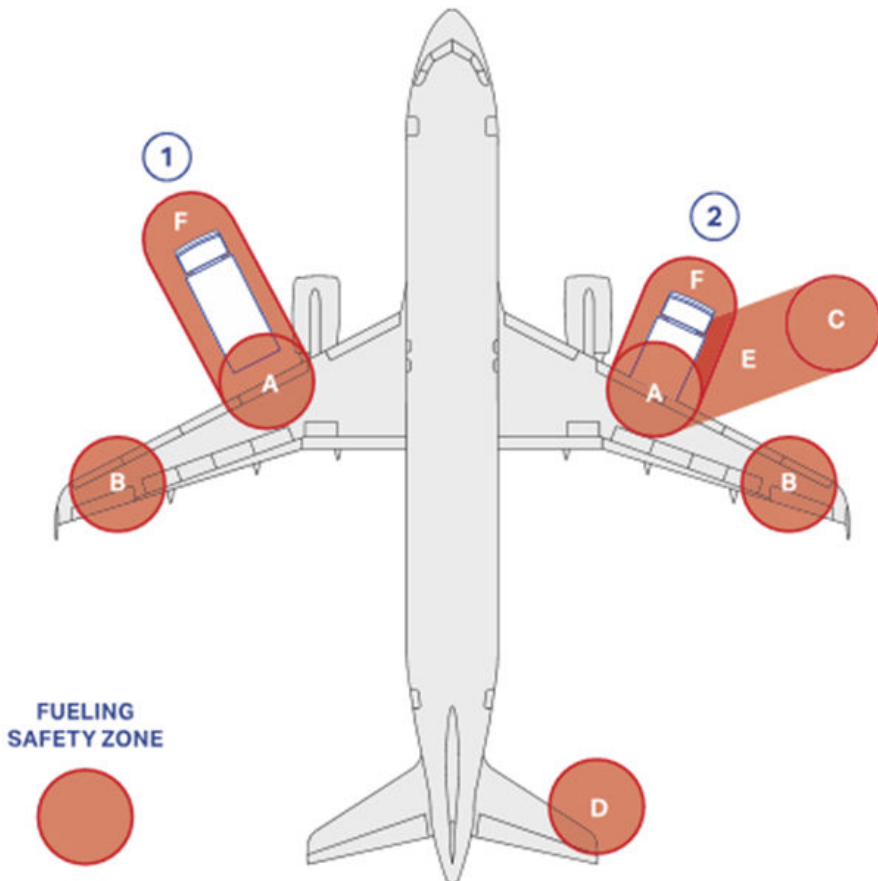
## **3.2 Safety During Fueling/Defueling**

### **3.2.1 Fueling Safety Zone**

The Fueling Safety Zone (FSZ) is defined as an area of at least 3 m (10 ft) in any direction from the centre point of all fuel vent exits, refueling plugs, aircraft refueling ports, fuel hydrants, fuel hoses and fueling vehicles. This distance may be further increased as required by local airport or civil aviation regulations.



### Example of fueling Safety zone for Jet Aircraft



Reference	Description
A	Aircraft refuelling port/plug
B	Fuel vent exit
C	Fuel hydrant pit
D	Fuel vent exit (according to the aircraft type)
E	Hoses
F	Fuel truck or hydrant dispenser



Reference	Description
1	Fuel truck
2	Hydrant dispenser

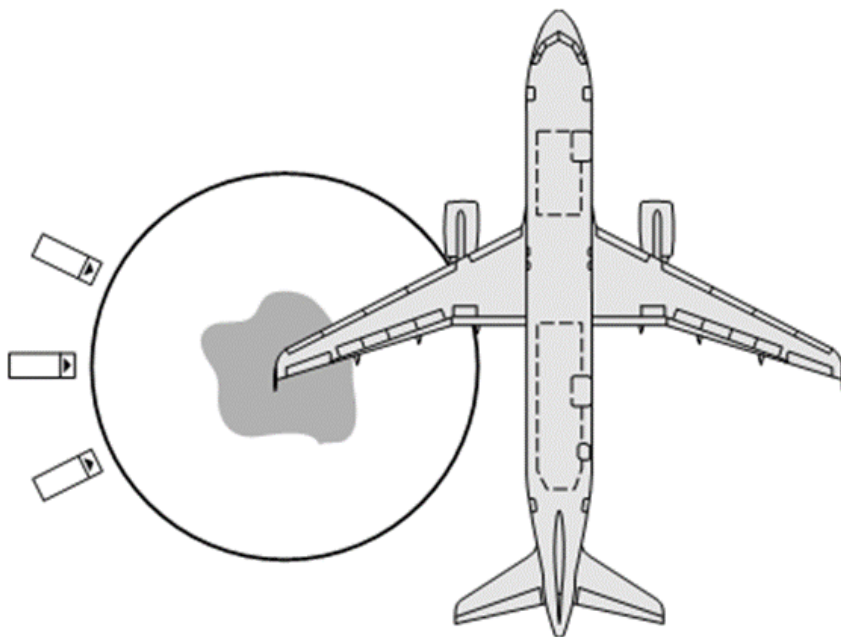
**Within the FSZ, all personnel must ensure that they:**

- a. Do not smoke.
- b. Do not use any handheld portable electronic devices (PEDs) including cell phones, portable music player, portable game units or earpiece or headset.
- c. Enter the FSZ only when required by your present job task responsibility.
- d. Assume that fueling is taking place anytime a fuel vehicle is on the stand during aircraft servicing and fuel hoses connected.
- e. Do not leave vehicle engines running unnecessarily.
- f. Position all GSE and vehicles so they do not obstruct the fueling vehicles' escape route, this is not a mandatory requirement for hydrant type fueling vehicles but every effort should be made to ensure a clear exit pathway.
- g. Do not allow any passengers to enter the FSZ.
- h. Avoid the use of motorized GSE within the FSZ.
- i. Do not park any equipment in the FSZ.
- j. Ensure fuel hoses are protected and all ground equipment is kept a minimum of 1 m (3 ft) away from any fuel hose on the stand that is connected between a fuel truck and an aircraft.

### **3.2.2 Fuel Spillage**

Take the following safety measures whenever a fuel spill occurs:

- a. Activate the emergency shut-off valve where installed.
- b. Alert the person in charge of fueling and/or the Pilot-in-Command of the spillage.
- c. Contact the local fire service if not already done.
- d. Verify with authorities/supervisor whether to stop all activity around the aircraft.
- e. As far as possible, restrict all activities inside and outside the spill area to prevent access and to reduce the risk of ignition.



*In case of a fuel spillage secure the area a minimum of 15 metres from the contaminated area.*

### **3.2.3 Fueling/Defueling with Passengers on Board**

*The Pilot-in-Command of the flight will decide and instruct the GSP whether to let the passengers embark, stay onboard or disembark during re/defueling operations. The GSP agent shall provide local restriction information, including the need of fire services, equipment, etc., to the Pilot-in-Command.*

**When fueling/defueling with passengers on board and /or during their boarding or disembarking you must:**

- a. Keep designated escape exits clear. An escape exit may either be a bridge into a terminal building, a cabin access door or a passenger stair truck positioned on an open cabin access door.
- b. Ensure that all areas on stand below designated escape exits are kept free of any equipment and vehicles which would impede the deployment of an escape slide.
- c. Do not hinder escape routes of passengers on board by ensuring that passenger stairs and bridges are clear of FOD.
- d. *Ask crew for authorization to start fueling*



**Note:** Refer to operating airline policies (see above and below in *italic*) regarding fueling as well as local airport and regulatory requirements. The above is applicable as a minimum standard.

***In addition to the minimum standard instruction:***

- e. *ground servicing activities and work inside the aircraft, such as catering and cleaning, shall be conducted in such a manner that they do not create a hazard that would restrict an emergency evacuation to take place through those aisles and exits intended for emergency evacuation;*
- f. *a two-way communication must be established and must remain available by the aircraft interphone system or other suitable means as decided by the Commander between the person supervising (Flight Crew or Ground Crew) the re/defueling and the Flight Crew Member on board the aircraft and the involved personnel shall remain within easy reach of the system of communication;*
- g. *all personnel involved with the operation shall be aware of the fire protection emergency procedures, including the alerting of personnel on board (2 way communication), the procedure for summoning of the Airport Fire Service and action to be taken in the event of a fuel spillage or kerosene contamination.*
- h. *if a hazard arises during re/defueling, ensure that fueling is stopped immediately and the Flight Crew Member on board is informed;*
- i. *at least one passenger stair or air bridge must be available at a fully opened LH door situated forward of the wing;*
- j. *when re/defueling is complete, inform the Flight Crew Member and (if applicable) return the company headset to the flight deck.*

***Fueling operations with one engine running is not allowed.***

***Additional Ground Equipment precautions***

- k. *the connection or disconnection of any aircraft electrical equipment, including GPUs, batteries and battery chargers, is not permitted within 6 m of the filling and venting points on the aircraft, and fueling vehicle;*
- l. *any mobile equipment shall not be positioned within an area with a radius of at least 3 m or as specified by local regulations, from filling and venting points on the aircraft, fueling vehicle and within the hydrant pits;*
- m. *a mobile GPU shall be started before or after fueling operations;*

**Note:** Passenger boarding must not commence whilst more than one servicing task is taking place. Passenger's may board the aeroplane whilst it is being catered or fueled/defueled but not a combination of all three.

*The fueling supervisor will not allow the fueling hose to be pressurized until all personnel are clear of the fueling panel.*

## **3.3 Adverse Weather Conditions**

### **3.3.1 General**

Airside operational staff should follow these procedures during adverse or poor weather conditions which may have a negative impact on aircraft handling activities and ground safety. In the event that additional information is required, refer to supervisory staff.





### 3.3.2 Winter or Slippery Apron Conditions

Winter weather brings extra hazards, which require awareness and more care on the part of personnel working on the apron to prevent accidents. The following precautions to reduce accident risk must be taken:

- a. Plan additional time for all ramp activities and take extra care when walking across apron surfaces, which can be slippery.
- b. Take extra care when driving, especially when approaching the aircraft. Remember that GSE require greater distances to stop safely on slippery surfaces.
- c. Operators of potable water tankers and toilet servicing units must be vigilant that there is no spillage or leakage that can lead to subsequent freezing. Care must be taken to keep spillage and overflow to a minimum.
- d. If apron conditions are hazardous, contact the competent authority to mitigate the hazard. In the event the hazard cannot be mitigated, suspend the affected operations.
- e. Close all entrance and cargo hold doors as soon as possible and keep them closed to avoid precipitation entry into the aircraft.
- f. Ensure that the aircraft parking stand, particularly the ERA, is sufficiently free of ice, snow, etc. to provide a safe working area during all ramp handling activities, including the aircraft arrival or departure operations.
- g. Remove snow and ice from equipment and work surfaces prior to the start of operations.

**Caution:** Reduce speeds on slippery roads in slippery apron conditions. Adjust all activities and operations on the ramp to suit the conditions at the time.

### 3.3.3 Thunderstorms and Lightning

#### 3.3.3.1 Work Instructions During Thunderstorms and Lightning

On receipt of an ALERT:

- a. Make preparations for the STOP phase.
  1. Suspend non-essential activities in open areas and ensure any personnel using or about to use headsets are informed of the alert.
  2. Fuelling operations can continue, however the proximity of the thunderstorm/lightning should be continually monitored.
  3. Avoid using highly conductive equipment.
- b. On receipt of STOP order:
  1. Stop fuelling and detach hoses from aircraft. Fuelling hoses cannot be left attached to the aircraft during any thunderstorm/lighting event
  2. Discontinue aircraft communication by head set.
  3. Stop all ramp activity and clear ramp.
  4. Personnel should seek shelter inside buildings or inside metal bodied vehicles. No one should seek shelter under any part of the aircraft, loading bridge, near light poles, fences, under trees.
  5. In accordance with local procedures, the aircraft may come on stand but the aircraft doors should remain closed and ground servicing suspended.

**Danger:** Failure to follow procedures could result in a fatal accident.



Levels	Action
<b>Amber-ALERT</b> Lightning activity is detected at a distance in excess of 8 km (5 miles) from your operation.	Disseminate lightning warning to airside operating staff so they can prepare and plan their activities to be ready in case of a Red Alert in accordance with local regulatory requirements.
<b>Red-STOP/SUSPEND</b> Lightnin activity is detected within 5 km (3 miles) of your operation.	Disseminate the order to stop all airside activities and seek shelter to all airside operating staff.
<b>Green-ALL CLEAR</b> Lightning activity has moved beyond 5 km (3 miles) and is heading away from your operation.	Disseminate the order to resume normal activities to all airside operating staff.

**Note 1:** The distances referred to above may vary depending on local climatic parameters.

**Note 2:** *Local Airport regulations must be adhered to. Thunderstorm communication may be implemented in alert phases and the following represents a minimum standard.*

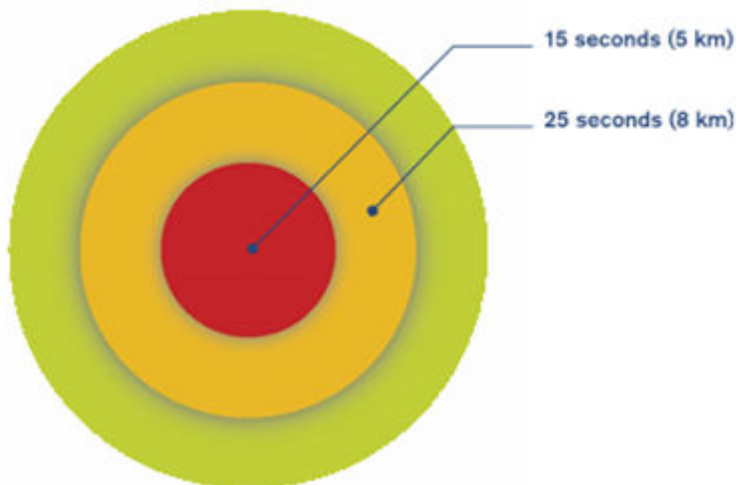
### 3.3.3.2 Lightning Alert Callout

In the absence of an integrated airport notification system, all airside operating staff shall be aware of the following procedures:

- Use the counting method to detect/predict lightning activity. Determine the corresponding level based on the counting method diagram, see 3.3.3.3.
- The responsible person notifies all airside operating staff of the lightning alert level. If the person responsible is not available, the counting method should be used by all airside operating staff for self-protection.
- In case of a Red Alert, proceed to a designated shelter.

### 3.3.3.3 Counting Method

The counting method is used when an integrated airport notification system is absent. It is used to estimate the level of lightning activity. Counting Method Chart:



**Note 1:** The time indicated is the time between the lightning and the sound of thunder.

**Note 2:** If the counted time is less than 15 seconds, the lightning activity is less than 5 km from the airport.

**Note 3:** If the counted time is between 15 seconds and 25 seconds, the lightning activity is between 5 and 8 km from the airport.

### 3.3.4 High Wind Conditions

High winds pose a great risk of damage and the following minimum precautions should be taken:

- Ensure the safety of the aircraft by installing additional chocks and removing all equipment from around the aircraft.
- Take extreme care when opening or closing any aircraft doors.
- Make sure parking brakes are set on all parked GSE.
- Set parking brakes and secure by additional means, if necessary, all non-motorized ramp equipment (i.e., baggage carts and ULD dollies).

### 3.3.5 High Winds Activity Table

The following actions shall be taken when sustained winds and/or gusts of wind 25 knots or greater are predicted however it is the actual wind speed at the aircraft parking position, which constitutes the risk for injuries and damages.



Staff Actions	25 to 39 kt (46 to 72 km/h)	40 to 59 kt (73 to 110 km/h)	Above 60 kt (Above 111 km/h)
Chock aircraft landing gear as per Aircraft Out of Service/Night Stop/High Wind; see GOM 4.2.2.	✓	✓	✓
Remove safety cones	✓	✓	✓
Secure PCA hoses	✓	✓	✓
Remove FOD	✓	✓	✓
Secure ULDs	✓	✓	✓
Secure rolling stock	✓	✓	✓
Strap all propellers on propeller aircraft	✓	✓	✓
Secure PBB and position to minimize surface exposed to the direct force of the wind		✓	✓
Close cargo hold, passenger doors and access panels		✓	✓
Do not initiate the elevation of high-lift equipment and stairs		✓	✓
Park GSE closely together, and adjacent to a building, if possible			✓
Retract PBB			✓

**Danger:** High winds pose a great risk of damage and injury

**Note:** At the moment when sustained wind and/or gusts of wind is below 25 knots place cones as per 4.3.

### 3.3.6 Sandstorms and Low Visibility

The following minimum precautions should be taken:

- a. Issue appropriate Personal Protective Equipment (PPE) such as goggles, masks, covered clothing.
- b. Ensure the provision of shelter, as required.

### 3.3.7 Intense Heat

The following minimum precautions should be taken:

- a. Issue appropriate PPE (i.e., covered clothing);
- b. Ensure the provision of rehydration for staff;
- c. Ensure the provision of a temperature-controlled environment during rest breaks.



## 3.4 Hand Signals

### 3.4.1 Introduction

To standardize ground-to-ground personnel communication and/or ground personnel to flight crew communication and/or flight crew to ground personnel communication, the following hand signals are defined:

- a. **Guide Person Hand Signals**—to be used by a specific guide person in direct liaison with the equipment operator to facilitate movements of any type of GSE.
- b. **Marshalling Hand Signals**—to be used by ground personnel, to assist the flight crew during maneuvering of the aircraft and engine starting.
- c. **Technical/Servicing Hand Signals**—to be used by ground personnel to communicate technical/servicing information to flight crew, and by flight crew to communicate technical/servicing information to ground personnel.

**Note 1:** Only use hand signals when verbal communication is not possible

**Note 2:** Make sure acknowledgement of all signals is received from flight crew

- d. **Aircraft Movement Hand Signals**—to be used during the tractor/tow bar, towberless connection/disconnection process, as well as at the start and end of the aircraft ground movement operation.

### 3.4.2 General Conditions for Using Hand Signals

The person giving the hand signals must:

- a. Use only approved hand signals.
- b. Wear a high visibility vest.
- c. Maintain the same role throughout the procedure.
- d. Keep in constant, visual contact with the other ground staff and flight crew throughout the manoeuvre. If visual contact is lost, the operation must stop and not re-commence until visual contact is re-established.
- e. Remain clear of the intended pathway of the vehicle/aircraft where possible.

### 3.4.3 Specific Requirements for Using Marshalling Hand Signals

- a. Perform aircraft marshaling only if permitted by the local airport authority and personnel have been trained and authorised.
- b. Give marshaling hand signals from a position forward of the aircraft while facing and within view of the flight crew.
- c. Wear a high-visibility vest
- d. Use illuminated flashlights/wands to improve the visibility of the hand signals in the following situation:
  - 1. Insufficient apron lighting
  - 2. Poor visibility
  - 3. Night conditions
  - 4. When required by local airport authorities or regulations

---

**CAUTION!** To avoid any possible confusion by the flight crew, do not use guide person hand signals for equipment until all aircraft marshaling has been completed.

---



**Note 1:** The hand signals printed on the following pages are illustrated with the use of wands. The meaning of the signals remains the same when bats, gloves or illuminated flashlights are used

**Note 2:** It is not possible to give signals for engaging/releasing parking brakes with the use of bats or illuminated flashlights



### 3.4.4 Guide Person Hand Signals for Ground Support Equipment

#### 3.4.4.1 To Attract the Operator's Attention and Take Command



Arms held above head in vertical position with palms, facing forward.

**Meaning:** I am in charge of this maneuver. You will take orders only from me.



#### 3.4.4.2 Forward Movement



Arms held above the head with elbows a little bent and palms facing backward; repeatedly move arms upward and backward, beckoning onward.

**Meaning:** Move towards the guide person.





#### 3.4.4.3 Backward Movement:



Arms by sides, palms facing forward, swept forward and upwards repeatedly.

**Meaning:** Move directly away from the guide person.



#### 3.4.4.4 Turn Right (from the driver's point of view)



Left arm pointed downward, hand extended; right arm repeatedly moved upwards towards the guide person's left. Speed of arm movement indicates rate of turn.



#### 3.4.4.5 Turn Left (from the driver's point of view)



Right arm pointed downward, hand extended; left arm repeatedly moved upward and downward toward the guide person's right. Speed of arm movement indicates rate of turn.



#### 3.4.4.6 Lift



Stretch both arms toward load and/or equipment, palms up; hand movement in upward direction.



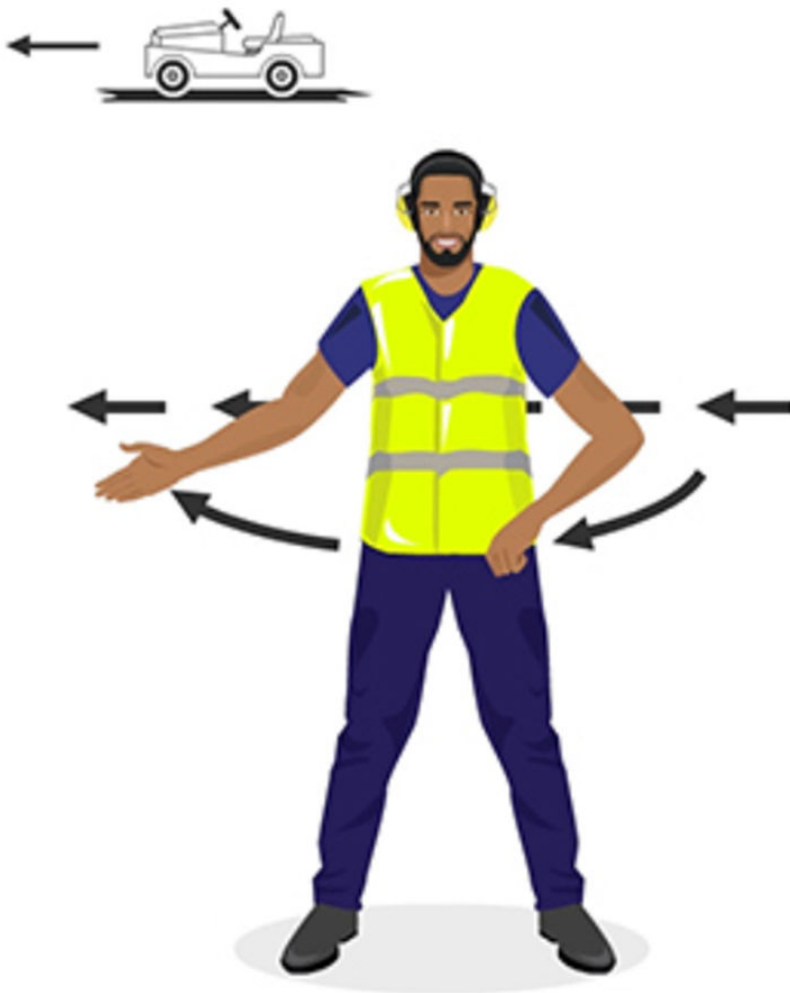
#### 3.4.4.7 Lower



Stretch both arms toward load or equipment, palms down; hand movement in downward direction.



#### 3.4.4.8 Accompanied Movement



Come with load or equipment. Maintain eye-to-eye contact with operator or driver. Swing down opposite arm.



#### 3.4.4.9 Indicate Distance



Raise arms above head, palms facing inward. Distance shown between hands must correspond exactly with actual margin.



#### 3.4.4.10 Stop



Arms raised and crossed over head, palm forward.

**Immediate stop:** Hands cross over head with clenched fists.





#### 3.4.4.11 OK



Lift right arm above head, hand closed, thumb raised.

**Meaning:** All is clear or continue on your own or drive away.



#### 3.4.4.12 Chocks Inserted; Stabilizers On



Arms down, hands closed, palms facing backward, thumbs extended; move arms in towards sides.



#### 3.4.4.13 Chocks Removed; Stabilizers Off



Arms down, hands closed, palms facing forward, thumbs extended; move arms out away from sides.



#### 3.4.4.14 To Interrupt Power Source (electricity, fuel, air)



Right arm and hand level with shoulder, palm downward; swing extended arm horizontally toward throat by bending elbow.



#### 3.4.4.15 Stop Engine



Right arm and hand level with shoulder, palm downwards, hand on throat making horizontal move to the right, passing hand across throat.



#### 3.4.4.16 To Connect or Disconnect



Raise left arm and hand in front of body, fingers extended horizontally, palm down.

**Connect:** Right hand with clenched fist moving upward to contact left palm

**Disconnect:** Right hand with clenched fist leaving left palm downward.



#### 3.4.4.17 Brakes On/Off

**Release**



**Engage**



Right arm and hand raised horizontally in front of body.

**Release brakes:** With fist clenched, extend fingers, palm inward.

**Engage brakes:** With extended fingers, clench fist, palm inward.



### 3.4.5 Aircraft Movement Hand Signals–Headset Operator to Tractor Driver

#### 3.4.5.1 Vehicle Brakes Off



Raise right hand just above shoulder height with closed fist and ensuring eye contact with tractor driver open palm toward driver.





#### 3.4.5.2 Clear to Push



Hold arm straight out at a 90° angle from shoulder and display hand with thumb up.

**Meaning:** Indicates to tractor driver that all equipment is clear of aircraft, chocks have been removed, the aircraft brakes are off and flight crew has given clearance to commence pushback.



### 3.4.5.3 Negative/Hold



Hold arm straight out at 90° angle from shoulder and display hand with thumb down.

**Meaning:** Indicates to tractor driver that aircraft is not ready for pushback and to hold position.



#### 3.4.5.4 Vehicle Brakes On/Stop



Raise hand just above shoulder height with open palm and ensuring eye contact with tractor **driver**, close into a fist. At the end of the pushback, also indicates to tractor driver that aircraft brakes have been set. Tractor driver should return signal to the headset operator to confirm vehicle brakes set.



#### 3.4.5.5 Slow Down



With hand at a 45° angle downward to the side, make a “patting” motion.



#### 3.4.5.6 Change of Pushback Direction



Touch nose with finger with arm at a 90° angle to the shoulder, extend arm to point in the direction that aircraft needs to be turned to.



### 3.4.6 Aircraft Movement Hand Signals–Wing Walker to Headset Operator, Tractor Driver, Marshaller, Flight Crew (as applicable)

#### 3.4.6.1 Clear to Move Aircraft



Raise right arm fully extended above head with wand held straight and left arm and wand at a 45° angle downward to the side.



#### 3.4.6.2 Stop Movement of Aircraft



Fully extend arms and wands horizontally 90° at shoulder level; raise arms and wands to cross above head.



#### 3.4.6.3 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.





### 3.4.7 Marshalling Hand Signals for Aircraft

#### 3.4.7.1 Identify Gate/Stand



Raise fully extended arms forward at shoulder level; raise straight above head with wands pointing up, move hands forward and backward to keep from blending into background.



#### 3.4.7.2 Continue to Taxi Straight Ahead



Holding arms extended to the side; bend arms at elbows; move arms and wands up and down from waist to head.



#### 3.4.7.3 Slow Down



Arms held at sides and slightly bent at elbows, move arms downward in a patting gesture, moving wands up and down from waist to knees.



#### 3.4.7.4 Turn Right (from the pilot's point of view)



With left arm and wand extended at a 90° angle to the body, right hand makes the come ahead signal. The rate of signal motion indicates to the pilot the rate of aircraft movement desired.



#### 3.4.7.5 Turn Left (from the pilot's point of view)



With right arm and wand extended at a 90° angle to the body, left hand makes the come ahead signal. The rate of signal motion indicates to the pilot the rate of aircraft movement desired.



#### 3.4.7.6 Stop



Fully extend arms and wands horizontally 90° at shoulder level; raise arms and wands to cross above head.



#### 3.4.7.7 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.



#### 3.4.7.8 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.





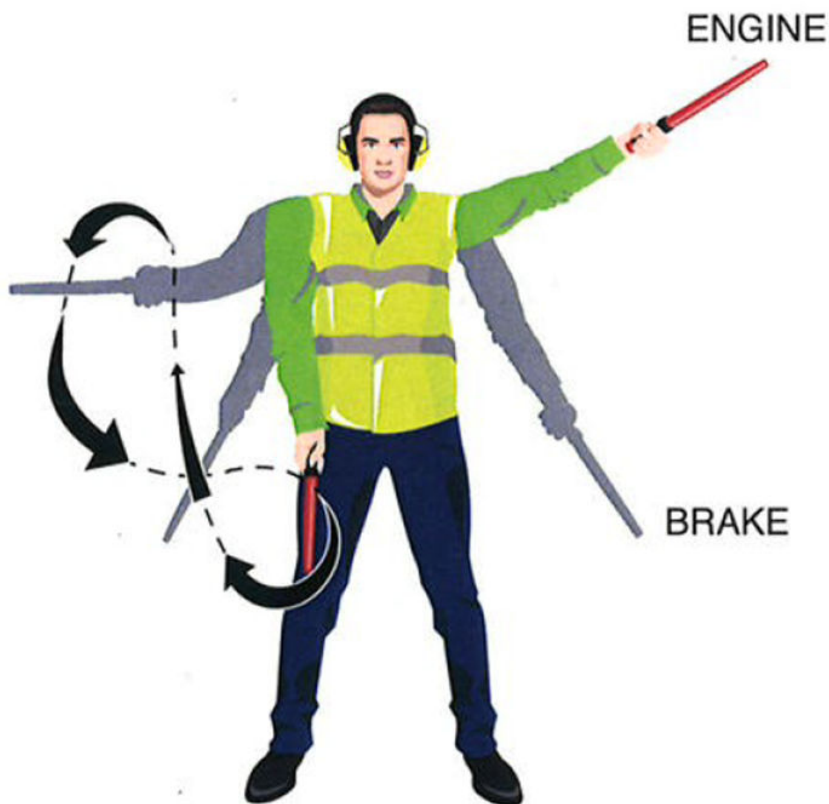
#### 3.4.7.9 Dispatch Aircraft



Perform a standard military salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with the flight crew until the aircraft has begun to taxi.



#### 3.4.7.10 Fire



Holding right arm straight, move right hand in an exaggerated figure eight (8), or a fanning-type motion, from the shoulder to the knee, while at the same time pointing with the left-hand wand to the area of the fire.

At night use same process with wands.



#### 3.4.7.11 Set Brakes



Raise right hand just above shoulder height with open palm facing forward. Ensuring eye contact with flight crew, close hand into a fist. DO NOT move until receipt of thumbs up acknowledgment from flight crew.



### 3.4.7.12 Release Brakes



Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm facing forward. **DO NOT** move until receipt of thumbs up acknowledgment from flight crew.



#### 3.4.7.13 Chocks Inserted



With arms and wands fully extended above head, move wands inward in a “jabbing” motion until wands touch.  
Ensure acknowledgement is received from flight crew.



#### 3.4.7.14 Chocks Removed



With arms and wands fully extended above head, move wands outward in a “jabbing” motion.  
**DO NOT** remove chocks until authorized to do so by flight crew.



### 3.4.7.15 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.



#### 3.4.7.16 Emergency Engine Shut Down/Cut engines



Extend right arm with wand forward of body at shoulder level, move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat. Hold left arm above head with closed fist.





### 3.4.8 Technical/Servicing Hand Signals–Ground Staff to Flight Crew

#### 3.4.8.1 Connect Towbar



Bring arms above the head and grasp forearm with opposite hand.



#### 3.4.8.2 Air Up



Wave arms up and down from thigh to waist with palms up.

**Meaning:** Supply pressurised air for engine start



### 3.4.8.3 Connect/Disconnect Ground Power



**To connect ground power:**

Hold arms fully extended above head; open left hand horizontally and move finger tips of right hand up to 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.



**To 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"); lower right hand away from the left. **DO NOT** disconnect power until authorized by the flight crew. At night, illuminated wands can also be used to open the "T" above the head.



#### 3.4.8.4 Affirmative/All Clear



Raise right arm to head level with wand pointing up or display right hand with thumbs up; left arm remains at side by knee.



#### 3.4.8.5 Negative



Hold right arm straight out at 90° from shoulder and point wand down to ground or display right hand with thumbs down; left hand remains at side by knee.



#### 3.4.8.6 Interphone



Extend both arms at 90° from body and move hands to cup both ears.



#### 3.4.8.7 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.





#### 3.4.8.8 Open/Close Stairs



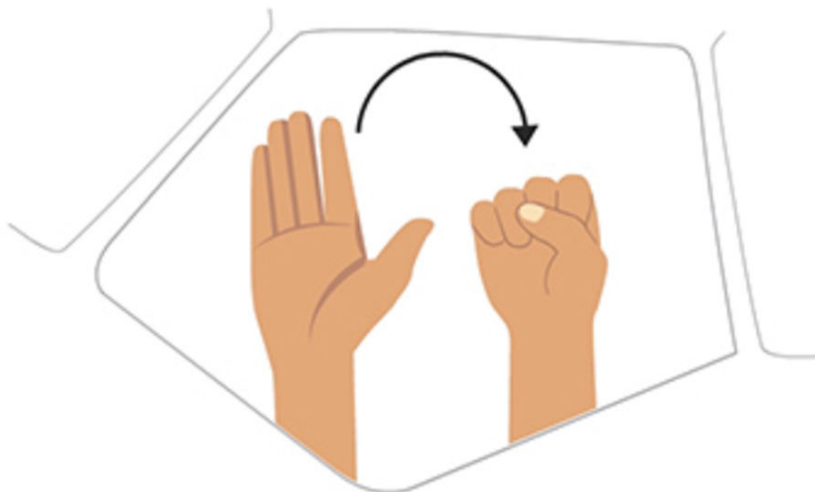
With right arm at side and left arm raised above head at a 45° angle, move right arm in sweeping motion towards top of left shoulder.

**Note:** This signal is intended mainly for aircraft with a set of integral stairs at the front.



### 3.4.9 Technical/Servicing Hand Signals-Flight Crew to Ground Staff

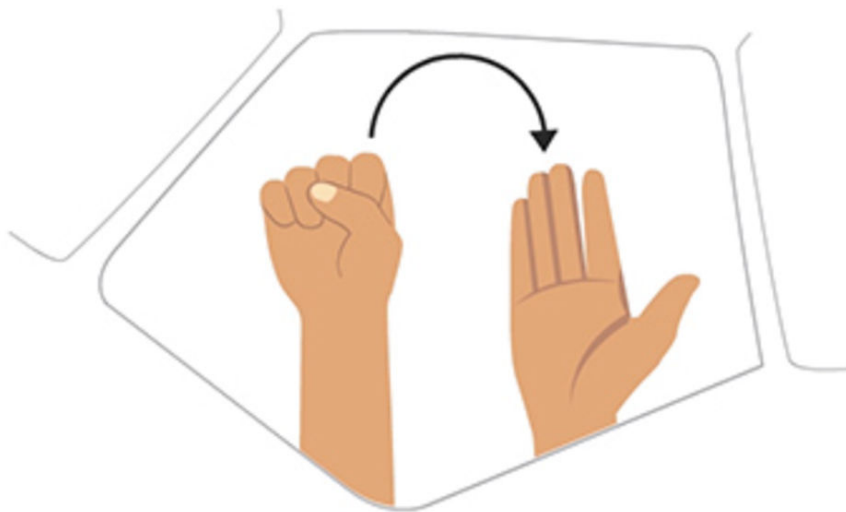
#### 3.4.9.1 Brakes Engaged



Raised arm and hand with palm facing forward and fingers extended in front of face, close hand into a fist.



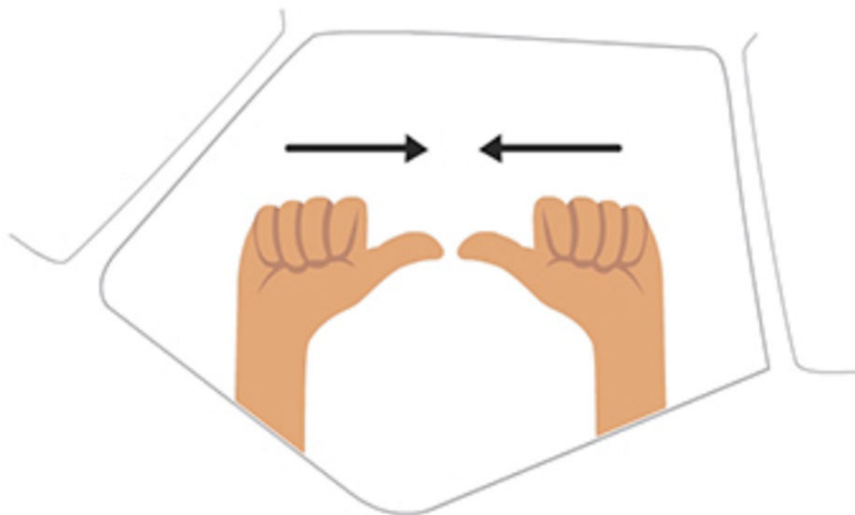
#### 3.4.9.2 Brakes Released



Raised arm with fist clenched in front of face; extend fingers to open palm facing forward.

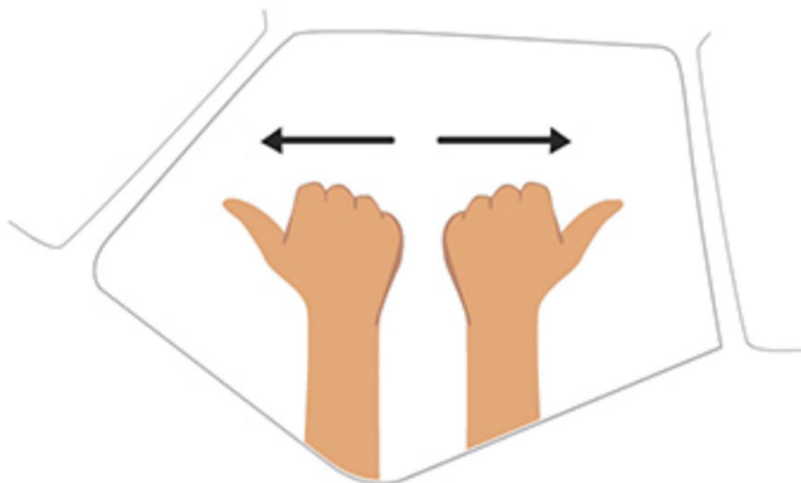


#### 3.4.9.3 Insert Wheel Chocks



Hands held in front of face, palms facing forward with fingers closed and thumbs extended; move hand inward.

#### 3.4.9.4 Remove Wheel Chocks





Hands held in front of face, palms facing backward with fingers closed and thumbs extended; move hands outward.

#### **3.4.9.5 Ready to Start Engine(s)**



One hand raised with the appropriate number of fingers outstretched to indicate the number of the engine to be started.



#### 3.4.9.6 All clear



One hand raised with closed fingers and thumb extended. Acknowledgement of all ground actions.

### 3.5 Toilet Servicing

#### 3.5.1 Introduction

The complete procedure for servicing the aircraft toilet waste tank consists of the following 3 steps:

- a. Draining of the waste tank(s);
- b. Flushing of the waste tank(s);
- c. Adding an amount of pre-charge and/or a concentrated deodorant pre-charge product—as applicable.

**Caution:**

1. Toilet fluids are corrosive.
2. Prior to servicing, inspect the toilet servicing panel on the aircraft for signs of leakage.
3. If any horizontal blue streaks are observed, the blue streak must be cleaned prior to servicing.
4. After cleaning, look again for signs of leakage.
5. Blue ice build-up in higher altitudes may influence airworthiness. In case of a possible leak, immediately inform the airline representative, ground engineer, or advise the flight crew.



### 3.5.2 Hygiene Precautions

- a. Wear heavy rubber gloves, full face protection and protective clothing against harmful wastes when performing toilet servicing.
- b. Do not park the toilet service unit in the same area as the water service unit nor at the water filling point.
- c. *The distance between Toilet/Lavatory servicing vehicles and Potable Water servicing vehicles shall always be at least 30 m.*

---

**CAUTION!** Once an agent has performed toilet servicing on an aircraft, the same agent cannot perform water servicing during the same task.

---

### 3.5.3 Toilet Servicing Procedure

#### 3.5.3.1 General

Each aircraft type has specific requirements for toilet servicing and the amount of pre-charge and/or concentrated deodorant pre-charge product.

- a. Prior to opening a toilet service panel, check for stains around the panel.
- b. While opening the service panel, stay clear and watch for signs of leakage.
- c. Stay clear of the drain fitting cap while opening, and watch for signs of leakage.
- d. Make sure the drain hose Y-fitting coupling is connected correctly, before a drain valve handle is pulled.
- e. Empty the waste tank(s).
- f. Flush the waste tank(s).

**Note:** Flush the waste tanks twice

- g. Pre-charge the tank(s) with the correct quantity of water and disinfectant—as applicable.
- h. Fill the waste tank(s) with the correct amount of water and concentrated deodorant pre-charge packets or pre-mixed fluid as applicable. For aircraft equipped with a conventional toilet system, fill the waste tank(s) with the correct amount of water and pre-charge, or concentrated deodorant pre-charge.
- i. After servicing ensure that there are no leaks at the drain fitting cap and the end of the drain hose Y-fitting coupling.
- j. Close the nozzle tightly in order to prevent the accumulation of ice during flight and wipe off residual water and disinfectant.
- k. Check for possible leakage.
- l. After servicing close and latch the fitting caps and service panel door.

**Note:**

1. Inform aircraft maintenance or flight crew, if:
  - i. Fluid leakage is observed.
  - ii. The drain valve will not open or the waste tank cannot be drained.
2. Report any spillage of waste to the supervisor.



*After Toilet Servicing has been completed, the Toilet Servicing Confirmation Form must be completed and placed on the flight deck as confirmation. Toilet Servicing Form can be found Appendix F6 -Toilet Servicing Form in the TAGO Portal.*

*Additional instructions for Aircraft specifics to be found in Chapter 9, Annex C – Aircraft specifics.*

#### 3.5.3.2 Draining

- a. Drain the aircraft waste system into the waste tank of a Toilet Service Unit.
- b. Observe the waste drain hose during draining to confirm that the waste tank is completely emptied. The hose will also vibrate for a few seconds as the contents of the waste tank pass into the waste tank of a Toilet Service Unit.

**Note:** Drain the waste tanks one at a time for optimal results.

#### 3.5.3.3 Servicing During Freezing Conditions

Take the following measures to prevent freezing of the fluid in the aircraft toilet tanks and lines during freezing conditions:

- a. Drain the waste tanks if the aircraft is parked in the open for several hours without electrical power supply and the temperature is, or is expected to be, below the freezing point. *Refer to Chapter 9, Annex C - Aircraft Specifics.*
- b. Fill the aircraft toilet system only after electrical power supply has been restored, and as close to flight departure time as possible.
- c. Ensure the fill line is fully drained before closing the cap to prevent freezing of fluid in the fill line.

**CAUTION!** Do not attempt to remove the frozen substance in the fill lines or connections or on the service panels. Contact maintenance immediately.

#### 3.5.3.4 Inoperative Toilet Systems

If defects of the toilet system prevent regular servicing, ask qualified technical staff—if available—for assistance (e.g. removal of panels, etc.).

If no technical staff is available, inform the Flight Crew or an airline representative.

### 3.6 Potable Water Servicing

#### 3.6.1 General

- a. The water used for uplift shall fully meet the hygiene and testing requirements detailed in AHM 440 7.5; 8.11.1 and 9.1 and those detailed in section 3.6.3.
- b. Equipment used shall fully comply with the specifications detailed in AHM 970 for water servicing vehicles, or AHM 981 for towed service carts.
- c. All equipment shall be serviced according to the manufacturer's recommendations. Records shall be kept of all servicing, cleaning, disinfection and maintenance tasks performed.
- d. All equipment and facilities used shall be maintained to the highest possible hygienic standard.
- e. Only uplift water to aircraft if authorized or requested.
- f. Replenish the aircraft tank.





**Note:** refer to AHM440 – Potable Water.

- g. Airline representatives shall be informed of any issue that may affect (or may have affected) the standard of water uplifted to their aircraft, including contamination incidents, maintenance findings and test failures.

### 3.6.2 Potable Water Servicing Procedures

#### 3.6.2.1 Filling Aircraft Water Tanks

- a. Before connecting the aircraft filling hose to the aircraft, flush the hose.

**Note:** The hose needs to be flushed in a basket or waste container before connecting the hose to the aircraft filling port. (Not required on consecutive servicing).

- b. Do not place hose ends on the ground
- c. On immediate turnaround sequence, water service shall always be performed before toilet service.
- d. The aircraft filling port shall be cleaned/wiped dry with antiseptic wipes before the hose is connected to the aircraft adaptor.

**Note:** Cleaning may be carried out either by wiping with a towelette or equivalent soaked with a disinfecting solution or wiping with a disinfectant pre-soaked “towelettes”. The spray-and-wipe procedure is accepted if sprayed directly on the towelette. However they should not spray directly into the aircraft coupling.

- e. Fill the water tank(s) to the required level.
- f. Each aircraft type has specific requirements for filling and draining.

**Note:** Refer to Chapter 9, Annex C – Aircraft Specifics.

- g. When not in use, hose-ends shall be:
  - 1. Kept capped or;
  - 2. Attached to a dummy connector or;
  - 3. Kept in a container filled with disinfectant solution.

#### 3.6.2.2 Water Servicing During Freezing Conditions

The following actions shall be followed to prevent freezing of the water in the aircraft water tanks and lines during freezing conditions:

- a. Drain the aircraft water tanks if instructed by the operating airline, as per the operating airline procedures. Dispose of water in accordance with airport operator requirements.
- b. Ensure the fill line is fully drained before closing the cap to prevent freezing of fluid inside.

**Caution:** Keep aircraft cargo doors closed to prevent water lines from freezing when the cargo compartments are not being loaded or unloaded. Do not attempt to remove the frozen substance in the fill lines or connections or on the service panels. Contact maintenance immediately.



### 3.6.3 Potable Water Hygiene Requirements

#### 3.6.3.1 Fill Points and Water Cabinets

- a. Daily, weekly and monthly tasks shall be conducted and recorded as per AHM 440 7.5 and 9.1.
- b. Hoses, connectors and water quality shall meet AHM 440 specifications and hygiene requirements.
- c. The water shall only be used as potable water for aircraft.
- d. The area around the fill point/water cabinet shall be kept clean and free from waste.
- e. When not in use, all fill point hoses shall be secured and locked in a metal pest proof enclosure. Fill points without attached hoses shall be capped.
- f. When not in use, hose-ends shall be:
  1. Kept capped or;
  2. Attached to a dummy connector or;
  3. Kept in a container filled with disinfectant solution
- g. Do not place hose ends on the ground

#### 3.6.3.2 Water Service Vehicles & Towed Service Carts

The water service vehicles and towed service carts shall:

- a. Daily, weekly and monthly tasks shall be conducted and recorded as per AHM 440 8.11.1.
- b. Only be filled at a designated potable water fill point using approved hoses and couplings.
- c. Only be used to fill aircraft potable water tanks.
- d. Be parked in a clean and secure area, away from toilet servicing vehicles.
- e. *The distance between Toilet/Lavatory servicing vehicles and Potable Water servicing vehicles shall always be at least 30 m.*
- f. Not be positioned close to toilet servicing units at any time, particularly when toilet servicing or toilet waste disposal is taking place.

**Note 1:** The water service vehicles and towed service carts should be parked in a shaded area during hot sunny weather, particularly if filled.

**Note 2:** The tank shall be drained completely at least once per calendar day.

#### 3.6.3.3 Water Servicing Personnel

The water servicing personnel shall:

- a. Be dressed in clean working clothes in accordance with the World Health Organization (WHO) Drinking Water Quality Standard and shall be assigned to the drinking water servicing.
- b. For hygiene reasons, if operators conduct both toilet and water servicing functions during the course of their shift, the operators must service potable water before servicing aircraft toilets.

**Caution:** Should the operator be reassigned to perform water servicing after he/she has performed toilet servicing, the operator shall shower and change into clean external clothes/overalls and PPE.
- c. The operator should wear single use or disposable gloves during the drinking water servicing. See: AHM 440 10.9.



#### 3.6.3.4 Water Treatment Chemicals (Sanitiser)

Water uplifted to aircraft potable water tanks shall contain a low concentration of disinfectant chemical (sanitiser), of a type suitable for potable water. The most common sanitisers are based on chlorine or hydrogen peroxide. Refer to AHM 440 for detail.

**Note:** Exceptions to the disinfectant requirement for inflight potable water uplift may apply at certain airports based on local regulations.

#### 3.6.3.5 Water Service Vehicle Cleaning and Disinfection

Water service vehicles, towed service cart tanks and hoses shall be checked every day, disinfected at least once per week and 'deep' cleaned at least once per month. Refer to AHM 440 for details.

#### 3.6.3.6 Fill Point and Water Cabinet Cleaning and Disinfection

- a. Fill points, hose cabinets and their surroundings shall be checked daily for general cleanliness.
- b. Fill points and hoses shall be disinfected at least once a week. Refer to AHM 440 for details.

### 3.7 Aircraft Cleaning and Disinfection

*Please reference to Appendix I18 Cabin Presentation and Cleaning Guidelines, to be found in the TAGO portal.*

## 3.8 Safety During Aircraft De-icing/Anti-icing Operations

### 3.8.1 General

No aircraft shall attempt takeoff when frozen or freezing contamination is present on or adhering to the wings, propellers, control surfaces or other critical surfaces. This is known as the ICAO 'Clean Aircraft Concept'.

Compliance with this requirement can be achieved by appropriate use of anti-icing or de-icing procedures, or where necessary a combination of both.

Detailed procedures and requirements for de-icing and anti-icing can be found in SAE AS 6285 "Aircraft Ground De-icing/Anti-Icing Processes" and other relevant SAE documents. This section provides general guidelines for safe ground de-icing/anti-icing operations.

The term de-icing will be used throughout this section, but should also be considered to refer to the anti-icing process.

De-icing operations must be performed with extreme caution to prevent injury to personnel and damage to aircraft and equipment. De-icing is not permitted during the fueling process.

**Note:** For specific instructions see Chapter 11, Annex E - De-icing and anti-icing.

### 3.8.2 Personnel Safety

The safety factors given below are designed to ensure that safety is not compromised for personnel performing aircraft de-icing tasks:



- a. Appropriate PPE should be checked for serviceability and worn by all personnel engaged in de-icing operations.
- b. Cones should be removed as necessary to allow access to the aircraft surfaces. Replace the cones on completion of the de-icing operation, if the aircraft is not departing.
- c. To prevent injury, caution must be taken when filling de-icing vehicles with hot fluid.
  1. When handling de-icing fluids, personnel should understand and follow the precautions contained in the fluid manufacturer's Safety Data Sheets.
  2. Before de-icing operations start, de-icing should be coordinated between the de-icing and ground handling personnel.
  3. De-icing/anti-icing fluids may be very hot; 60°C/140°F or even warmer. To prevent injuries, ground personnel, passengers and flight crew shall be prevented from walking near an aircraft that is being de-iced.
  4. Slippery conditions can exist on the ground and on the equipment surfaces during and following the de-icing processes. Caution should be exercised, particularly in low humidity or non-precipitating weather conditions, due to increased slipperiness following the use of glycol that is not diluted by the weather element.
  5. When de-icing on a stand, all ramp equipment, including steps, should be clear of the area to be sprayed to avoid contamination by fluid.
  6. Care should be taken to prevent the transfer of fluid by foot onto GSE (e.g., steps, jet bridges), interiors of aircraft and aircraft cargo holds.

Refer to 3.3.2 for detailed safety precautions for ramp operations in winter conditions.

### **3.8.3 Open Basket Operations**

The following minimum precautions should be taken when de-icing from an open basket:

- a. Ensure that the fall restraint device is securely anchored and the safety harness is always worn *when de-icing from an open basket*.
- b. Ensure that the basket door or safety chain is securely latched.
- c. Caution should be taken to avoid exposure to a running Auxiliary Power Unit (APU).

### **3.8.4 Closed Basket Operations**

The following minimum precautions should be taken:

- a. Ensure the seat belt is always worn.
- b. Ensure the windows of the cabin are clean. Check wiper(s) for condition and check window washer fluid level.
- c. Ensure the cabin access door is securely closed.
- d. Ensure there are no obstructions to the cabin heater/ventilation system.



## 4 Aircraft Turn-Around

### 4.1 Aircraft Arrival

#### 4.1.1 Actions Prior to Aircraft Arrival

- a. Ensure all persons involved with the aircraft arrival and post-arrival handling/servicing are briefed on safety and operational requirements relevant to their functions, e.g., aircraft defects that may affect ground handling operations, specific unloading, equipment positioning and operating requirements.
- b. Conduct a foreign object debris (FOD) check of the entire stand, removing all debris just prior to aircraft arrival.
- c. Make sure the stand surface condition is sufficiently free of ice, snow, etc. to ensure safe aircraft movement.
- d. Make sure all required ground support equipment (GSE), chocks and safety cones are available and serviceable, and are positioned well clear of the aircraft path, outside the equipment restraint area (ERA).
- e. Make sure the aircraft guidance docking system is activated, where applicable, or a marshaller is in position. Where an aircraft docking guidance system is in use, ensure it is operative and only activated when it is confirmed that conditions are safe to accept the aircraft. See 4.1.2(b) for Wing Walker positioning for Aircraft Arrival.
- f. Make sure required ground personnel are present including any additional personnel (i.e., wing walker), if applicable. See GOM 4.1.2 (b) for wing walker positioning during aircraft arrival.
- g. All personnel shall remain well clear of the arriving aircraft and its maneuvering path, outside the ERA, other than those whose functions require them to be inside the ERA during aircraft arrival, e.g., marshaller(s) and/or wing walker(s). See GOM 4.1.3 for requirements/clearance for personnel to approach the aircraft.

**Note:** Prior to the arrival of the aircraft, the following equipment must be serviceable and available on the stand:

- a. Chocks (as required by aircraft type)
- b. Safety Cones (as required by aircraft type)
- c. Ground power (as required)
- d. Preconditioned air (as required)
- e. Headset interphone (if applicable)
- f. Day or night wands (whichever is applicable)

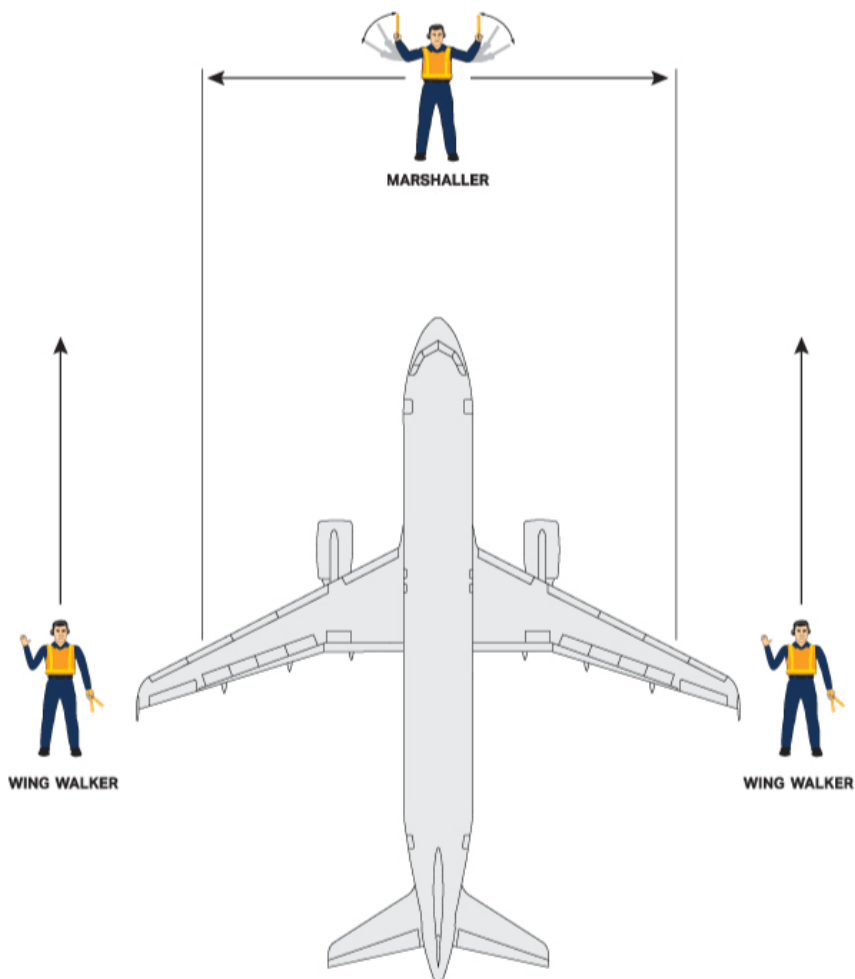
#### 4.1.2 Actions during Aircraft Arrival

- a. For a standard arrival at a stand without an automated guide-in system or at an open ramp:
  1. As the aircraft approaches the stand area, the marshaller points to the guide-in line on the ramp to be followed by the aircraft by standing at the top of the guide-in line and giving the "Identify Gate/Stand" signal, (see 3.4.7.1). Wing walkers, if required, will be positioned approximately 1 m (3 ft) outside the path of the wingtips. Wingwalkers shall maintain visual contact with the marshaller until the aircraft has



come to a complete stop. See diagram in GOM 4.1.2 for positioning of wing walker during aircraft arrival on stand.

2. While the aircraft taxis along the guide-in line, the marshaller gives the "Continue to Taxi Straight Ahead" signal with marshalling wands, (see 3.4.7.2).
  3. The nose wheel should follow the guide-in line all the way to the appropriate stop point. Use the "Turn Left (from the flight crew's point of view)" or "Turn Right (from the flight crew's point of view)" signals to correct the track of the aircraft as required, (see 3.4.7.4 and 3.4.7.5).
  4. If at any time during the aircraft movement the marshaller is unsure or identifies an imminent danger, signal the aircraft to STOP the aircraft, (see 3.4.7.6).
  5. If at any time during the aircraft movement, the wingwalkers are unsure or identify an imminent danger, signal the marshaller with the "STOP" signal, (see 3.4.7.6).
  6. As the aircraft approaches the stop position, use the "Slow Down" signal if required (see 3.4.7.3). As the nose wheel reaches the stop point slowly cross the wands in the "Stop" signal (see 3.4.7.6).
- b. For a standard arrival at a stand with an automated guide-in system:
1. The ground personnel responsible for aircraft arrival operations shall verify that the correct aircraft has been selected for the arrival and the equipment is operational.
  2. The agent responsible for staffing the emergency stop button shall be positioned with an unobstructed view of the arriving aircraft and within reach of the system to stop the aircraft in the event it is needed. It is essential to maintain a continuous unobstructed view between the agent responsible for staffing the emergency stop button and the ground personnel ensuring clearance (e.g. wing walker).
  3. If the emergency stop is activated, and only after verification by the ground personnel operating the guidance system that the risk is no longer there, the aircraft docking guidance system can be reactivated. If not standard aircraft arrival procedures shall be used.
  4. Wing walkers, if required, will be positioned approximately 1 m (3 ft) outside the path of the wingtips. Wingwalkers shall maintain visual contact with the agent responsible for the aircraft arrival operations until the aircraft has come to a complete stop. See diagram in Figure 4.1.2 for positioning of wing walker during aircraft arrival on stand.



**Figure 4.1.2 - Wing Walker Positioning for Aircraft Arrival**

#### **4.1.3 Actions After Aircraft Arrival**

- a. Upon aircraft stopping:
  1. Position wheel chocks at the nose landing gear (NLG) wheels as per *GOM 4.2.1*.
  2. Position and connect the ground power unit (GPU) or fixed power unit (FPU), if required, before engine shut down in accordance with *GOM 4.1.3.1 and 4.1.4.1*.
- b. After the engines have been shut down, are spooling down, and anti-collision lights have been switched off:



1. The person responsible for arrival operations shall give clearance for placement of the remaining wheel chocks and safety cones.
2. Remaining wheel chocks shall be placed in accordance with *GOM 4.2.1* and verbal/visual confirmation shall be given to the flight crew.
3. If applicable, the passenger boarding bridge (PBB), shall be positioned onto the aircraft after an inspection has been carried out to confirm there is no damage to the cabin access door and surrounding area.
4. Safety cones shall be placed in accordance with *GOM 4.3.1*. After placement, GSE may enter the ERA to approach the aircraft.

**Note 1:** Positioning of GSE at its final servicing position shall only take place after inspection of the door/service panel and surrounding area where the GSE shall position and clearance given.

**Note 2:** Spooling down of an engine can be identified as follows: reduced engine noise, visible fan or propeller speed reduction, lack of exhaust heat or thrust plume.

- c. Before positioning GSE, conduct an arrival walkaround to inspect for damage to the following parts of the aircraft:
  1. All cargo access doors
  2. All access panels and servicing access points
  3. Aircraft fuselage
  4. Aircraft engine cowlings/propellers
  5. All cabin access doors, including service doors.
- d. Give clearance for GSE to position to the aircraft.

**Note:** If any damage is found, report it immediately to a supervisor and do not approach the aircraft with any GSE in the area where the damage has been found.

**Danger:** If notified of a brake overheat, do not approach the main gear.

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**CAUTION!** If an aircraft arrives with an unserviceable anti-collision light, do not approach the aircraft until headset communication has been established with the flight crew.

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#### 4.1.3.1 Actions After Aircraft Arrival with APU INOP / APU NOT STARTED

Aircraft has pulled on to stand and come to a complete stop. If an engine is still running, the Anti Collision Beacon (ACB) will remain illuminated with no indication that the engine will be shutting down as per the normal expected shutdown process, visual contact must be made with the captain from a safe distance who will then indicate, via IATA standard hand signals, their requirement for a GPU / FEGP.

The arrival station should have been pre-advised of the requirement for a GPU/ASU due to an APU INOP via the MVT message if known prior to departure. In the case of an APU failure after departure no message will have been sent. If the APU has failed after landing, either engine may have been shut down for Single Engine Taxi In (SETI).

- a. **B737-800/MAX8/700.** If the APU is known to be INOP, the aircraft will normally taxi onto stand on a single engine after shutting down the right-hand engine (number 2) if the taxi time permits before turning onto stand.





1. The ACB will remain on until all engines have been shut down.
2. Unless the left-hand engine (number 1) has been shut down during SETI (see Caution below due to possible requirement for the airbridge to be attached first to allow FEGP connection), the right-hand engine (engine number 2) will be shut down to allow for the connection of the GPU on the forward right-hand side of the aircraft.
3. If possible (see Caution below), wait until the right-hand engine (number 2) has been shut down and is fully spooled down before approaching the aircraft from approximately a 2 o'clock position to allow for safe GSE / mobile units movement with a GPU / FEGP.

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**CAUTION!** If the left-hand engine (number 1) has been shut down for SETI, the right-hand engine (number 2) will remain running while the FEGP is connected. This caution also relates to when allocated an airbridge with attached FEGP as the airbridge must be connected first before the FEGP can be connected.

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**REMEMBER: STOP, LOOK, LISTEN**

4. Connect the GPU / FEGP plug into the socket on the right-hand side of the aircraft.
  5. Once connected and ground power has been started with the indication lights illuminated on the aircraft GPU panel, retreat following the same path to the safe area in front of the aircraft, then maintain visual contact with the flight crew. Inform the crew using the standard GPU connected hand signals from the front of the aircraft that the GPU / FEGP is connected.
  6. Once power is confirmed as working in the aircraft, the flight crew will shut down the remaining engine. Look out for further hand signals as another GPU might be required if the GPU/FEGP is not working.
  7. After the second engine has been shut down, and spooled down, the ACB will be switched off. **Do NOT** approach the aircraft until these actions has been completed.
  8. Once the ACBs have been switched off and the engines have fully spooled down, its only then deemed safe to approach the aircraft as normal following approval from the ramp supervisor.
- b. **B787-8/9.** The B787 will normally taxi onto stand using both engines if the APU is INOP.
1. The ACB will remain on until all engines have been shut down.
  2. Wait until the left-hand engine (number 1) has been shut down and has fully spooled down before approaching the aircraft from approximately a 10 o'clock position to allow for safe GSE / mobile units movement towards the aircraft with dual cable GPU / FEGP.

**REMEMBER: STOP, LOOK, LISTEN**

3. Connect the two cables of the GPU / FEGP plugs into the sockets located forward left-hand side of the aircraft.
4. Once connected and ground power has been started with the indication lights illuminated on the aircraft GPU panel, retreat following the same path to the safe area in front of the aircraft, then maintain visual contact with the flight crew. Inform the crew using the standard GPU connected hand signals from the front of the aircraft that the GPU / FEGP is connected.
5. Once power is confirmed as working in the aircraft, the flight crew will shut down the right-hand engine (number 2). Look out for further hand signals as another GPU might be required if the GPU/FEGP is not working.



6. After the right-hand engine (number 2) has been shut down, and spooled down, the ACB will be switched off. **Do NOT** approach the aircraft until these actions has been completed.
7. Once the ACBs have been switched off and the engines have fully spooled down, its only then deemed safe to approach the aircraft as normal following approval from the ramp supervisor.
- c. **E195** If the APU is known to be INOP, the aircraft will normally taxi onto stand on a single engine after shutting down the left-hand engine (number 1) if the taxi time permits before turning onto stand.
  1. The ACB will remain on until all engines have been shut down.
  2. Unless the right-hand engine (number 2) has been shut down during SETI, the left-hand engine (engine number 1) will be shut down to allow for the connection of the GPU on the forward left-hand side of the aircraft.
  3. If possible (see Caution below), wait until the left-hand engine (number 1) has been shut down and has fully spooled down before approaching the aircraft from approximately a 10 o'clock position to allow for safe GSE / mobile units movement towards the aircraft with dual cable GPU / FEGP.

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**CAUTION!** If the right-hand engine (number 2) has been shut down for SETI, the left-hand engine (number 1) will remain running while the FEGP is connected.

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**REMEMBER: STOP, LOOK, LISTEN**

4. Connect the GPU / FEGP plug into the socket located forward left-hand side of the aircraft.
5. Once connected and ground power has been started with the indication lights illuminated on the aircraft GPU panel, retreat following the same path to the safe area in front of the aircraft, then maintain visual contact with the flight crew. Inform the crew using the standard GPU connected hand signals from the front of the aircraft that the GPU / FEGP is connected.
6. Once power is confirmed as working in the aircraft, the flight crew will shut down the remaining engine. Look out for further hand signals as another GPU might be required if the GPU/FEGP is not working.
7. After the second engine has been shut down, and spooled down, the ACB will be switched off. **Do NOT** approach the aircraft until these actions has been completed.
8. Once the ACBs have been switched off and the engines have fully spooled down, its only then deemed safe to approach the aircraft as normal following approval from the ramp supervisor.

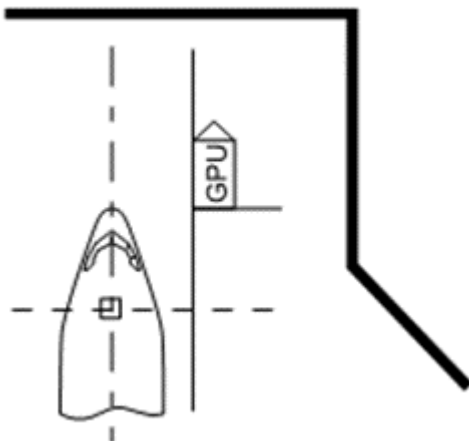
#### **4.1.4 Ground Support Equipment for Arriving Aircraft**

##### **4.1.4.1 Ground Power Unit (GPU) and Fixed Power Unit**

- a. It is permitted to pre-position a Ground Power Unit (GPU) inside the ERA provided there is a marked GPU parking position.
- b. Position the GPU on the appropriate side of the aircraft as shown in Figure 4.1.4.1 (example of GPU positioning).
- c. Set parking brake/chock for the GPU.
- d. Ensure the GPU, while in operation, is positioned a minimum of 3 m (10 ft) from any fueling vehicles and aircraft fuel vent exits.



- e. Fixed Power Units (FPU) and leads shall be fully stowed/retracted during aircraft arrival as per the system design.
- f. Only connect GPU(s)/FPU(s) if required/requested by the operating airline.
- g. Before connecting to the aircraft, check the aircraft receptacles, lead(s) and plug(s) are clean and undamaged with no sign of excessive wear or electrical burning to the contacts.
- h. Do not energise the GPU/FPU power output until the unit is connected to the aircraft.
- i. Connect the external power sources according to the operating airline manual, including number of supplies, required output, sockets to be used, etc. Advise the flight crew of any discrepancies.
- j. Attach the power lead lanyards to the aircraft attachment point (where fitted).
- k. Request approval from flight deck before turning off and disconnecting the GPU/FPU cables.
- l. Turn off the GPU/FPU power output before disconnecting the cable(s).
- m. Always disconnect and stow the GPU power cables BEFORE connecting a tow tractor to the GPU.



**Figure 4.1.4.1 - Sample GPU positioning**

*Additional instructions for Aircraft specific to be found in Chapter 9, Annex C - Aircraft specifics.*

#### **4.1.4.2 Cooling/Heating Units and Preconditioned Air**

**Danger:** Before supplying air by external source *notify flight crew as the aircraft would need to be configured for Pre-Conditioned Air intake (PACKS off), otherwise damage to aircraft equipment will occur* and make sure that at least one cabin access door is open and remains open during air unit operation. Make sure that a motorized ground air supply unit is not near the aircraft. The engine exhaust pipe of the unit must point away from the aircraft. Heat from the unit's exhaust can cause damage to the aircraft structure.

As part of the fuel conservation programs of most airlines, pre-conditioned air is required at all airports that provide on-stand pre-conditioned air.



*Refer to chapter 9, Annex C - Aircraft Specific for the specific aircraft type for the location of the PCA access panel on the specific aircraft type.*

**Note:** Make sure there is no blockage of the PCA hose.

- a. To connect PCA:
  1. Open access panel.
  2. Connect ground pre-conditioned air unit to aircraft.
  3. Start up ground pre-conditioned air unit.
  4. On the ground pre-conditioned air unit, select the desired cooling or heating settings (air temperature and flow rate) or position the selector in the appropriate position.
- b. To disconnect PCA:
  1. Shut down ground pre-conditioned air unit.
  2. Disconnect ground pre-conditioned air unit from aircraft.
  3. Close the access panel.
  4. Retract the PCA hose to the fully stowed and secured position

## 4.2 Aircraft Chocking

### 4.2.1 Wheel Chock Placement

- a. Make sure the required number of serviceable chocks are available considering the aircraft type and/or weather conditions.
- b. Chocks must be kept clear of the guide-in line and in a safe area away from arriving aircraft and engine danger areas.
- c. Wait for aircraft to come to a complete stop before approaching the aircraft to position chocks.
- d. One designated member of the ground personnel will immediately places chocks forward and aft of the nose gear, if aircraft type allows and according to options listed in, 4.2.2. This is the first action to take place around the arriving aircraft and shall be completed before any other activity takes place.
- e. Before approaching the main gear, wait until:
  1. Engines have been shut down and are spooling down (or propellers completely stopped).
  2. Anti-collision lights are switched off.
  3. Clearance to approach the aircraft has been given by the personnel responsible for the arrival operation.
- f. Walk towards the main gear in a path parallel to the fuselage, avoiding engine intake areas.
- g. Place chocks forward and aft of the main gear in accordance with the applicable normal operation chock placement diagram. See 4.2.2.

**Note:** If chocking in accordance with 4.2.2 option 2 after the first main gear has been chocked, the nose gear chocks may be removed and positioned at the other main gear.

- h. Notify the flight crew that the chocks are inserted.

**Note:** When the aircraft is parked on a slope, the chock on the down-slope side should just touch the wheels and the chock on the up-slope should not touch the wheels.

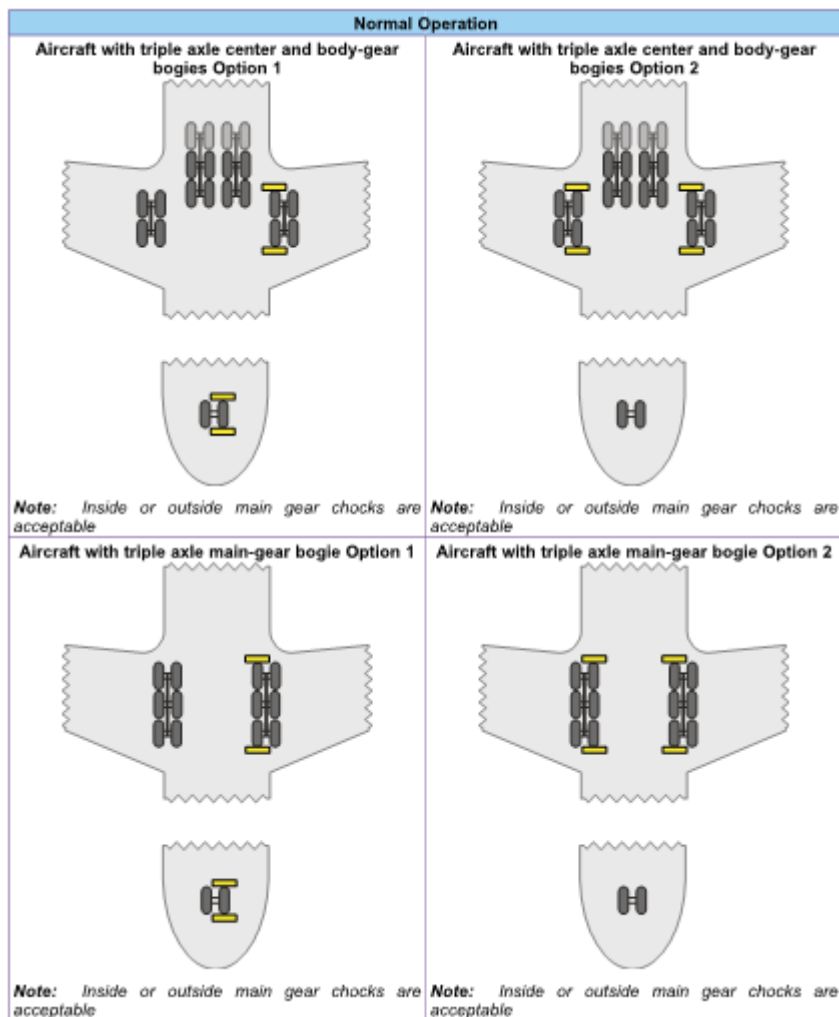


### Danger:

For propeller aircraft with a nose-engine, the nose gear cannot be chocked until the engine has been shut down and the propellers have come to a complete stop.

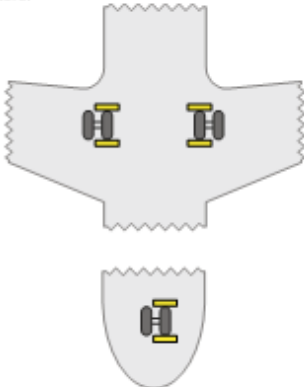
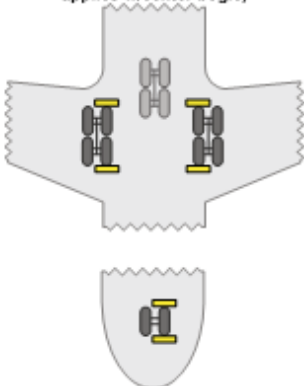
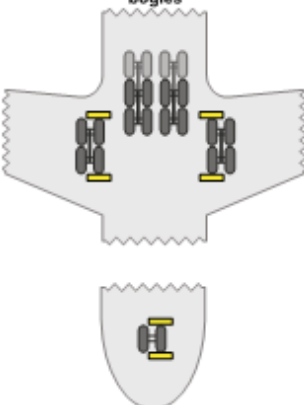
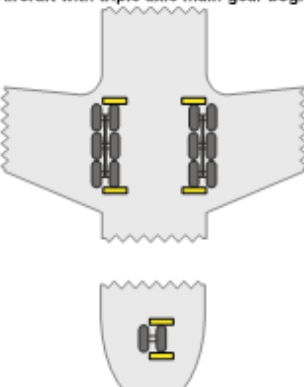
### 4.2.2 Chock Placement Diagrams

Normal Operation	
<b>Aircraft with single axle main-gear bogie Option 1</b> <b>Note:</b> No nose gear chocks on aircraft with spray deflectors.	<b>Aircraft with single axle main-gear bogie Option 2</b> <b>Note:</b> No nose gear chocks on aircraft with spray deflectors.
<b>Note:</b> Inside or outside main gear chocks are acceptable	<b>Note:</b> Inside or outside main gear chocks are acceptable
<b>Aircraft with double axle main-gear bogie (also applies w/center bogie) Option 1</b>	<b>Aircraft with double axle main-gear bogie (also applies w/center bogie) Option 2</b>
<b>Note:</b> Inside or outside main gear chocks are acceptable	<b>Note:</b> Inside or outside main gear chocks are acceptable





## Ground Operations Western Region Aircraft Turn-Around

Parking Aircraft Out of Service/Night-Stop/High Winds	
<p><b>Aircraft with single axle main-gear bogie</b></p> <p><b>Note:</b> No nose gear chocks on aircraft with spray deflectors.</p>  <p><b>Note:</b> Inside or outside main gear chocks are acceptable</p>	<p><b>Aircraft with double axle main-gear bogie (also applies w/center bogie)</b></p>  <p><b>Note:</b> Inside or outside main gear chocks are acceptable</p>
<p><b>Aircraft with triple axle center and body-gear bogies</b></p>  <p><b>Note:</b> Inside or outside main gear chocks are acceptable</p>	<p><b>Aircraft with triple axle main-gear bogie</b></p>  <p><b>Note:</b> Inside or outside main gear chocks are acceptable</p>



Refer to GOM 3.3.4 a. and GOM 4.6.2, Note 2.

### 4.2.3 Regional Aircraft Chocking

*Not applicable for TUI fly Belgium and TUI fly the Netherlands.*

## 4.3 Aircraft Coning

### 4.3.1 Safety Cone Placement and Removal

Safety cones are a caution sign for drivers to maintain required safety clearances. Cones protect parts of the aircraft against collision by GSE.

- a. Prior to arrival of the aircraft, make sure there are sufficient serviceable safety cones to protect the aircraft type to be handled.
- b. Approach the aircraft to position cones only when all the following criteria are met:
  1. Aircraft has come to a complete stop
  2. Engines have been shut down and are spooling down
  3. Anti-collision lights are switched off
  4. Aircraft has been chocked

**Note:** "Spooling down" of an engine can be identified as follows:

1. reduced engine noise,
2. visible fan speed reduction
3. lack of exhaust heat/thrust plume.

- c. Place safety cones on the ground in accordance with the diagrams, see 4.3.2 within a maximum of 1m (3 ft radius) outward from the point of the aircraft being protected. Cones must not be placed in high wind conditions.
- d. Additional safety cones may be needed as per operational requirements (*see GOM 4.3.2*) or local regulations.
- e. GSE must not approach the aircraft until all safety cones have been placed (not applicable for the PBB or GPU, if required).
- f. All required safety cones shall remain in place until GSE and vehicle activities around the aircraft have ceased prior to departure of the aircraft.

**Note:**

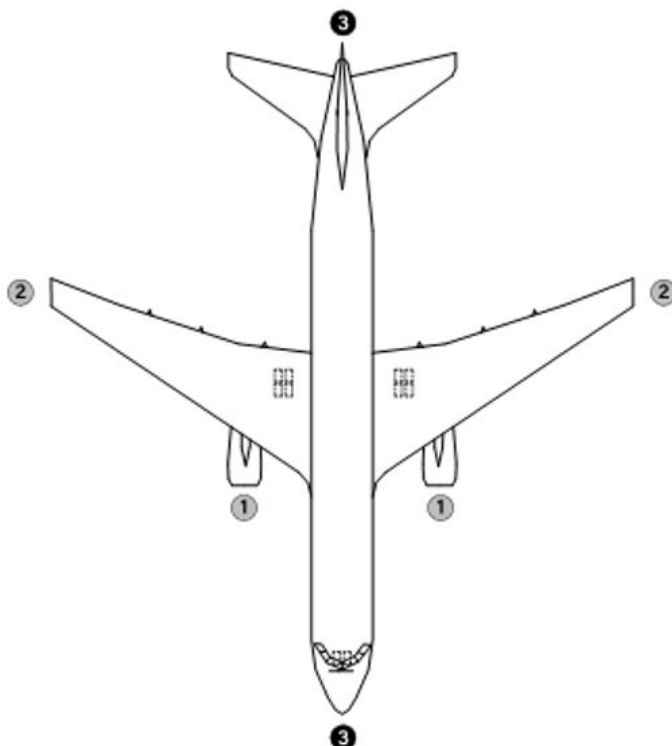
1. In some situations it may be necessary to re-position cones to allow GSE to be positioned. In such cases, reposition the cones to their original position when the GSE is removed.
2. Cones must not be placed under engines.

- g. Ensure all vehicles have been removed from the ERA, except GSE required for the departure operation, e.g., ASU, GPU/FPU and pushback tractor, as applicable.
- h. Remove the safety cones from around the aircraft.
- i. When not in use, place the safety cones in the designated storage area.





#### 4.3.2 Cone Placement for Wing-Mounted Twin Engine Jet Aircraft



CONE NUMB ER	DESCRIPTION
①	Cones max. 1 m (3 ft) in front of engines.
②	Cones max. 1 m (3 ft) from wingtips. <i>3 cones for each side required for split scimitar wingtips.</i>
③	Additional cones to be placed at the applicable end(s) of the aircraft where immediately adjacent to a service road.



*TUI fly Belgium and TUI fly the Netherlands require for the B737 equipped with split scimitar wingtips to use 3 safety cones placed max. 1 m (3 ft) away in order to protect the wingtips and it is recommended for all other wing-mounted twin engine jet aircraft.*

*A Passenger Integrated Guidance System (PIGS) may replace the cones on the passenger (left hand) side of the aircraft.*

#### **4.3.3 Cone Placement for Fuselage-Mounted Twin engine Jet Aircraft**

*Not applicable for TUI fly Belgium and TUI fly the Netherlands.*

#### **4.3.4 Cone placement for Wing-Mounted Twin Propeller Aircraft**

*Not applicable for TUI fly Belgium and TUI fly the Netherlands.*

#### **4.3.5 Cone placement for wing-mounted four engine jet aircraft**

*Not applicable for TUI fly Belgium and TUI fly the Netherlands.*

### **4.4 Aircraft Access Doors**

#### **4.4.1 General Safety Requirements**

This section provides generic precautions and does not constitute training on opening/closing of aircraft access doors.

- a. Ground personnel shall not operate any aircraft access doors unless they have been trained and authorized to do so as documented in AHM11.
- b. Aircraft access door operation shall be performed in accordance with operating airline procedures for the applicable aircraft type and, where applicable, the markings labelled on the door.
- c. Seek assistance from maintenance personnel if any difficulty is experienced during normal door operation.
- d. If damage or irregularity is discovered, immediately report it to the supervisor, aircraft maintenance personnel and if available, flight crew.

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**CAUTION! Do not operate or leave doors open in winds exceeding those indicated in the manufacturer's limitations.**

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**Note:** For door operations during severe weather, refer to GOM 3.3 Adverse Weather Conditions.

#### **4.4.2 Cabin Access Doors**

##### **4.4.2.1 General**

- a. There may be differences between airlines regarding responsibility for operating cabin access doors. The operating airline determines whether ground personnel or cabin crew



are authorized to operate cabin access doors. All ground personnel shall follow these procedures:

**Note:** Cabin access doors may only be operated by TUI trained employees such as flight crew, cabin crew, maintenance staff and GSP Personnel trained by TUI or trained in accordance with a TUI approved trainings syllabus.

- b. Cabin access doors shall only be operated or left in the open position if there is a GSE or a PBB with platform at its final height positioned at the door or if an appropriate fall prevention device is placed across the door.

**Note:**

1. An appropriate fall prevention device consists of equipment or material, or a combination of both, that is designed to stop or prevent the fall of a person from an open door (e.g., an industrial safety net, catch platform or safety harness system) see Figure 4.4.2.1.
2. Refer to operating airline instructions for installation procedures. Not applicable for TUI Airline.
3. The cabin door strap installed in aircraft doors is not considered an appropriate fall prevention device.

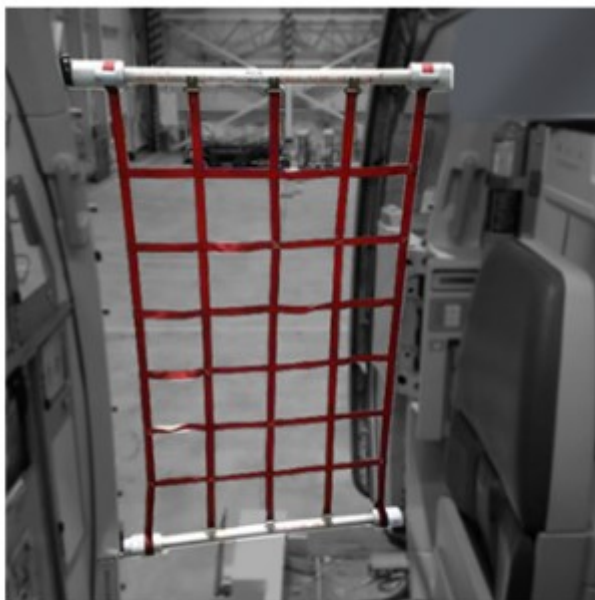


Figure 4.4.2.1—Fall Prevention Device

**Danger:**

There is a risk of falling while operating cabin access doors



- c. GSE or PBB shall be removed after the cabin access door is closed and acknowledged by cabin crew or by other authorized person.

**Danger:**

Slide deployments can be fatal. If an armed door begins to open, do not attempt to hold the door from outside, to prevent risk of serious injury or death.

- d. If a cabin access door is found open without GSE or PBB positioned at the door you must immediately notify a supervisor or the airline representative.
- e. Before allowing passenger/crew embarkation or disembarkation via a cabin access door, ensure the boarding device is properly positioned at the door. If stairs or integral airstairs are to be used, ensure both guard rails are extended, if applicable.

**Exception:**

Cabin access doors shall only be open without GSE or PBB in position when the height of the door from the ground is such that GSE is not required to be positioned to perform servicing/loading operations.

**Danger:**

Personnel shall remain aware of increased risk of a fall from a height while retracting stair platform and safety rails.

#### **4.4.2.2 Opening Cabin Access Doors from Inside by Crew**

The responsible ground personnel shall:

- a. Knock twice on the door, to indicate that a GSE or PBB is properly positioned, and the door swing area is free from obstruction. Provide a conventional “thumbs up” signal through the door window to the crew if required.
- b. Stand clear or retreat to a safe position before the door is opened by crew.
- c. Assist cabin crew (when required), with moving the door to the fully opened position and engaging the gust lock.

**Note:** The section above provides generic safety precautions and does not substitute training on opening/closing of a/c doors.

#### **4.4.2.3 Opening of Cabin Access Doors from Inside by Authorized and Trained Ground Staff**

- a. Check that the door is disarmed.
- b. Check that all indicators show that it is safe to open the door.
- c. Check visually that a boarding device is positioned at the door.
- d. The door shall be fully opened and the gust lock engaged.

#### **4.4.2.4 Opening Cabin Access Doors from Outside with Crew/Ground Staff on Board**

*When TUI Airlines Cabin Crew is guarding an aircraft door on the inside of the aircraft, opening and closing of the door is cabin crews responsibility.*

Where there is a requirement for ground personnel to open door from outside with crew/ground personnel on board:

- a. Visually inspect the cabin access door and the surrounding fuselage for signs of damage.



- b. Check all indications as per aircraft type that the door is disarmed and safe to open, e.g., residual pressure warning lights or flags.
- c. Knock twice on the door to indicate that the door is ready to be opened. Receive a “thumbs up” acknowledgement from the crew/ground personnel on board.
- d. If there is no “thumbs up” or indication from the cabin that the door is disarmed, knock twice again.
- e. If there is still no “thumbs up” or indication from the cabin crew/ground personnel onboard, contact the flight deck via an open cockpit window or the aircraft interphone system to seek confirmation that it is safe to open the cabin doors

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**CAUTION! If there is no confirmation that the door is disarmed or safe to open, do not open the door.**

---

- f. Once it is confirmed that the cabin access door is disarmed and safe to open, open the door in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type
- g. Move the cabin access door to the fully opened position and engage the gust lock.
- h. If integral airstairs are to be used (other than those permanently affixed to a boarding door), fully extend the airstairs prior to opening the door.
- i. If using integral airstairs permanently affixed to a boarding door, stand clear of the door and slowly open the door until the airstairs are fully extended

#### **4.4.2.5 Opening Cabin Access Doors from Outside with no Crew/Ground Staff on Board**

- a. Visually inspect the cabin access door and the surrounding fuselage for signs of damage.
- b. Check all indications as per aircraft type that the door is disarmed and safe to be opened. e.g., residual pressure warning lights or flags.

---

**CAUTION! If there is no indication that the door is disarmed or safe to open, do not open the door.**

---

- c. Once it is confirmed that the door is disarmed and safe to open, open the door in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type.
- d. Move the door to the fully opened position and engage the gust lock.
- e. If integral airstairs are to be used (other than those permanently affixed to a boarding door), fully extend the airstairs prior to opening the door.
- f. If using integral airstairs permanently affixed to a boarding door, stand clear of the door and slowly open the door until the airstairs are fully extended.

#### **4.4.2.6 Closing of Cabin Access Doors from Inside by Crew**

Prior to removing or repositioning GSE or PBB, the responsible ground personnel shall:

- a. Notify crew that equipment needs to be removed or repositioned (as applicable) and that the cabin access door needs to be closed.
- b. Receive confirmation from the crew that the cabin access door will be closed.
- c. Visually inspect the exterior of cabin access door and surrounding areas for signs of damage, debris, or obstructions.



- d. Retract equipment safety rails and canopy (where fitted) where necessary to close the door.
- e. Assist cabin crew when required, with moving the door to the fully closed position.
- f. Where using passenger stairs or PBB, remain on the platform until the door is fully closed.
- g. Where using elevating equipment (e.g., catering truck or medical loader) retreat from the platform prior to the door being closed.
- h. Check that the cabin access door is closed and that the door and handle are flush with the surrounding fuselage.
- i. Descend passenger stairs before they are moved.

#### **4.4.2.7 Closing of Cabin Access Doors from Inside by Authorized and Trained Ground Personnel**

- a. Coordination between applicable ground personnel inside and outside the aircraft to confirm that the cabin access door will be closed shall take place prior to closing the door.
- b. The trained ground personnel onboard shall:
  - 1. Visually inspect the cabin access door and inside surrounding areas for signs of damage, debris or obstructions.
  - 2. Move the door to the fully closed and locked position in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type.
- c. The GSE/PBB operator shall follow the same steps as documented in 4.4.2.6 b-i and additionally:
  - 1. Where using elevating equipment (e.g., catering truck or medical loader) personnel shall retreat from the platform prior to the door being closed.
  - 2. Retract equipment stabilizers after the door is closed and personnel are clear of the equipment.
  - 3. Remove GSE or PBB from the door.

#### **4.4.2.8 Closing of Cabin Access Doors from Outside with Crew/Ground Personnel on Board**

- a. Coordination between applicable ground personnel inside and outside the aircraft to confirm that the cabin access door will be closed, shall take place prior to closing the door.
- b. Prior to closing the cabin access door from outside, the person responsible for closing the door shall:

*When TUI Airlines Cabin Crew is guarding an aircraft door on the inside of the aircraft, opening and closing of the door is cabin crews responsibility.*

- 1. Visually inspect the exterior of cabin access door and surrounding areas for signs of damage, debris or obstructions.
- 2. Retract equipment safety rails and canopy (where fitted) where necessary to close the door.
- 3. Release the gust lock and move the door to the fully closed and locked position in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type.
- 4. After the door is closed, check that the door and handle are flush with the surrounding fuselage.



5. Where closing the door from passenger stairs, descend the stairs before they are moved.
- c. The GSE/PBB operator shall:
  1. Retract equipment stabilizers after the door is closed and personnel are clear of the equipment.
  2. Remove GSE or PBB from the door.
- d. If integral airstairs are used (other than those permanently affixed to a boarding door), fully retract and stow the airstairs.

#### **4.4.2.9 Closing Cabin Access Doors from Outside with No Crew/Ground Personnel on Board**

Prior to closing the cabin access door from outside, the person responsible for closing the door shall follow the same steps as documented in 4.4.2.8(b-c).

#### **4.4.2.10 Re-Opening Cabin Access Doors**

In situations where a cabin access door needs to be reopened and reclosed after initial closing (e.g., not closed properly, additional delivery of catering and/or supplies, requirement to reconnect boarding device), the following shall apply:

- a. Where flight crew or other qualified personnel are in the cockpit, but they did not initiate the request to reopen the cabin access door:
  1. Seek authorization from the flight crew or other qualified personnel in the cockpit for the cabin access door to be reopened via an open cockpit window (if applicable) or use the flight interphone system.
  2. Await clearance to re-open the cabin access door. If authorization to reopen the door is not granted, do not attempt to reopen the door.
- b. Follow the applicable actions/steps in the in the Opening Cabin Access Doors sections (see GOM 4.4.2.1 to 4.4.2.5, as applicable).

#### **4.4.3 Cargo Hold Access Doors**

##### **4.4.3.1 General**

- a. Manual operation of an electrically or hydraulically operated cargo hold access door may only be performed by trained personnel.
- b. To access the cargo access door control panel where it is out of reach from the ground, use maintenance stairs in accordance with GOM 3.1.3.3 or a belt loader in accordance with GOM 3.1.3.7.

**Note:** Not applicable to main deck cargo doors.

- c. Allow adequate space for door clearance to avoid equipment obstructing the free passage of the door during opening/closing.
- d. The cargo access door control panel, where applicable, shall be closed when not opening/closing the cargo hold access door.

##### **4.4.3.2 Opening Cargo Hold Access Doors**

- a. Before positioning GSE and/or opening, perform a visual check for any signs of damage to the doors or surrounding areas.



- b. Where applicable, check cargo hold access door control indicators, residual pressure warning lights or flags to ensure it is safe to operate the door or open the cargo access door vent flap.
- c. Open the cargo hold access door in accordance with the specific instructions for the aircraft type.
- d. For main deck cargo hold access door. See 4.4.3.5.

#### 4.4.3.3 Closing Cargo Hold Access Doors

- a. Before closing the cargo hold access door, ensure:
  - 1. The anti-roll-out system (door sill guards/latches) if installed, is in the raised position.

**Note:** At each cargo compartment door sill, there are two types of latches.

- 1. The overridable lateral latch, which stops the accidental roll-out of a unit. This latch is overridden in the loading direction and is lowered for unloading.
    - 2. The other type of latch is an upward latch and locks the unit at the doorsill.
  - 2. Load restraint and door protection nets are properly fitted, if applicable.
  - 3. Door area, including the door sill and frame, are free of debris and other obstructions.
  - 4. Door and surrounding area show no visible signs of damage.
- b. Close the cargo hold access door in accordance with the specific instructions for the aircraft type.
- c. After closing the cargo hold access door, ensure:
  - 1. The lock indicators are engaged/properly set, as applicable, and that the door is properly locked, handles are properly stowed, and panels are properly closed.
  - 2. A visual check is performed for any signs of damage to the doors and surrounding areas.
  - 3. The vent flaps are also closed, if required.

#### 4.4.3.4 Reopening of Cargo Access Hold Doors

- a. If a cargo hold access door is not closed properly, it shall be reopened and reclosed.
- b. Once the predeparture walkaround has taken place in accordance with 4.6.3.1, do not attempt to reopen any aircraft cargo hold access door without clearance from the flight crew or the trained ground staff in the cockpit.
- c. If a door needs to be reopened, the ground personnel responsible for the departure shall notify the flight crew via the use of the flight interphone system or where practical use the cockpit open window.

#### 4.4.3.5 Main Deck Cargo Access Door Operations

Observe the following additional requirements for opening and closing main deck cargo access doors:

- a. The main deck ULD loader shall remain clear of the main deck cargo access door trajectory during opening and closing.
- b. Where required to unlock/lock the main deck cargo access door from the outside, use main deck ULD loader in accordance with GOM 3.1.3.8
- c. Fall prevention device shall always be installed whenever the main deck cargo access door is open, and the main deck loader is not in position. Remove the fall prevention





device once the main deck loader is in position and reinstall the fall prevention device before removing the main deck loader.

**Danger:**

Risk of falling from height. Any personnel present in the main deck cargo compartment shall remain clear of the door opening area when it is open without a main deck ULD loader in position.

- d. Where applicable, check main deck cargo access door control indicators, residual pressure warning lights and flags to ensure it is safe to operate the door.
- e. Check to ensure there are no obstructions outside the main deck cargo access door before opening/closing.
- f. For main deck specific loading operations, see 4.5.3.3.

## 4.5 Aircraft Loading and Unloading

### 4.5.1 Supervision of Aircraft Loading and Unloading

#### 4.5.1.1 Supervision Responsibility

- a. The person performing the aircraft loading and unloading supervision task is responsible for the safe and efficient handling of the aircraft as well as the protection of the loads carried.
- b. The responsibility will ensure the aircraft is:
  - 1. Unloaded in accordance with LDM/CPM/OIR or any other incoming messages
  - 2. Loaded in accordance with the corresponding loading instruction report (LIR) (see 5.4.1.2).

**Note:** Any aircraft loading/unloading operation shall only start in the presence of the person responsible for the aircraft supervision task.

#### 4.5.1.2 Communication

When Verbal communication is used it is critical that combination of letters and numbers are pronounced and understood by those who transmit and receive voice messages by radio or telephone, regardless of their native language. The ICAO phonetic alphabet and numbering system shall be used by all parties when involved in aircraft turn-around.

**Table 4.5.1.2A – ICAO Phonetic Alphabet and Numbering System**

ICAO Phonetic Alphabet and Numbers	
Alphabet	
A	Alfa
B	Bravo
C	Charlie
D	Delta
E	Echo



ICAO Phonetic Alphabet and Numbers	
F	Foxtrot
G	Golf
H	Hotel
I	India
J	Juliet
K	Kilo
L	Lima
M	Mike
N	November
O	Oscar
P	Papa
Q	Quebec
R	Romeo
S	Sierra
T	Tango
U	Uniform
V	Victor
W	Whiskey
X	X-Ray
Y	Yankee
Z	Zulu
Numbers - (Pronunciation)	
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW er
5	FIFE



ICAO Phonetic Alphabet and Numbers	
6	SIX
7	SEV en
8	Ait
9	NIN er
Decimal	DAY SEE MAL
Hundred	HUN DRED
Thousand	THOU SAND
<b>Note:</b> Numbers shall be reported as single figures	

To ensure all load is accounted for accurately prior to departure, the parties responsible for loading and load planning shall clearly communicate and confirm:

- a. Flight Number
- b. Aircraft registration
- c. Flight leg (Destination), as applicable
- d. LIR edition number
- e. Load by position/in compartment, including NIL-Position/Compartment(s)
- f. Return load (stand-by load which is not loaded)
- g. All commodities and sub-commodities

When communicating load figures using verbal communication between the person reporting the load and the person responsible for load planning task, the person responsible for load planning task shall always read back the information given according to the same guidelines above.

**Note 1:** The same principle will apply when the person responsible for the load planning task is verbally communicating information to the person responsible for the loading supervision task, and when loading information is verbally communicated between loading team members and loading team supervisor.

**Note 2:** To further prevent miscommunication during the aircraft turnaround handling and close out reconciliation process, implementation of standard verbiage for load discrepancy communication (SEE TABLE 4.5.1.1) should be used between the person responsible for the loading supervision task and person responsible for load planning task and between the person responsible for loading supervisor task and loading team members.

**Note 3:** Efficient communication devices (e.g. headsets, high performance radio, phones etc.) should be provided to relevant team members for verbal communication to avoid misunderstanding in a noisy environment.



Discrepancy	Description
Offload	Planned load removed from aircraft for any reason (e.g., missing passenger, damaged cargo)
Position Change	Change of position within the cargo compartment or change of cargo compartment
Missing	Load not received for any reason, but planned on LIR
Weight	Difference between deadload weight as shown on LIR and actual weight of load
Incorrect Load	Mismatch of received load for flight (e.g., incorrect ULD number, wrong flight number, incorrectly documented special load)
Restraints	Missing, damaged or malfunctioning floor locks, load restraints and/or nets
Technical	Compartment technical issues (e.g., faulty locks, unserviceable stanchions, broken/missing divider nets, other defects)
Not Planned	Any deadload not included in LIR

**Table 4.5.1.1–Load discrepancy communication**

#### 4.5.1.3 Actions Prior To Unloading

Prior to unloading, the person responsible for the aircraft loading supervision task shall:

- Brief the unloading team members on safety and unloading requirements in accordance with the CPM/LDM/OIR (as applicable) including any special requirements, e.g., unloading sequence, special load items, restraint requirements, aircraft defect. Check to ensure the briefing and unloading instructions are understood by the persons responsible for aircraft unloading.

**Note:**

- The offloading instructions report (OIR), which is a systematic plan for unloading, should be issued prior to aircraft arrival.
- For transit flights, an OIR, as defined in 5.4.1.3, may be issued.

- Verify the arriving aircraft registration with the registration on the CPM/LDM/OIR.
- Ensure the necessary equipment for unloading is available on the aircraft parking stand (see 4.1.1 (c)).

#### 4.5.1.4 Actions During Unloading

During unloading, the person responsible for the aircraft loading supervision task shall:

- Cross-check the ULD/load against the CPM/LDM/OIR as the unloading progresses to ensure the correct sequence of unloading takes place in accordance with the specified timelines.
- For ULD unloading:
  - Carry out visually detectable damage checks during unloading in accordance with 4.5.9.3.



2. Check ULD placards have been properly filled out with the correct information in accordance with 4.5.9.2.
  3. Perform a cross-check against CPM/LDM/OIR to ensure the following details correspond with each other:
    - i. ULD number shown on the ULD identification tag
    - ii. ULD identification number printed or stamped on the ULD
    - iii. Confirm ULD unload information codes (e.g., X = empty ULD)
  4. Ensure that there are no signs of leakage from ULDs.
- c. For bulk unloading:
1. Perform a visual inspection of all items during unloading to ensure no damage/leakage.
  2. Ensure the load distribution is in accordance with the LDM.
- d. Ensure special equipment (e.g., tie-down straps, load spreaders, plastic sheeting for wet cargo) is unloaded, as required.
- e. Log any irregularities in the unload sequence noted during unloading and report as per operating airline procedures (see 4.5.1.5 (e)).
- f. Ensure, where applicable, transit loads are not offloaded or over-stowed.
- g. If required, Delivery at the Aircraft (DAA) bags/items shall be delivered as per operating airline requirement.
- h. If possible, organize immediate transportation of arriving ULDs and/or carts containing baggage, cargo and/or mail (see 4.5.6.2 and as per specified timelines).

#### 4.5.1.5 Actions After Unloading

After unloading has been completed, the person responsible for the aircraft loading supervision task shall:

- a. Carry out a hold inspection, in accordance with 4.5.5.1 and action issues accordingly.
- b. Ensure the nets and straps are properly stowed and cargo access door checks are performed in accordance with 4.4.3 in case the cargo access doors need to be closed.
- c. Sign the OIR if applicable, (See AHM 514 and AHM 515) and in doing so confirm that:
  1. Aircraft has been unloaded in accordance with OIR
  2. Load was unloaded in a manner that prevents damage or spillage
- d. Close the cargo access doors if the aircraft is to be left unattended (see 4.4.3.3).
- e. If irregularities are reported during the unload sequence report in accordance with operating airline procedures.

#### 4.5.1.6 Actions Prior to Loading

Prior to loading, the person responsible for the aircraft loading supervision task shall:

- a. Brief the loading team members on safety and loading requirements in accordance with the LIR, including any special requirements, e.g., loading sequence, special load items, restraint requirements, aircraft defect.

**Note:** Check to ensure the briefing and loading instructions are understood by the persons responsible for aircraft loading.

- b. Verify the aircraft registration with the registration on the LIR.
- c. Carry out a hold inspection prior to commencing loading, in accordance with the requirements detailed in GOM 4.5.5.1, and action issues accordingly.
- d. Assemble and check loads against the LIR to ensure compliance with:



1. Special handling codes and related information.
2. Destination airport. (Confirm destination of the loads)
3. Confirm preliminary Notification to Captain (NOTOC) as per AHM 381, where applicable.
4. Special load requirements, e.g., live animals, perishable, valuables, DG, temperature sensitive products etc.
- e. Ensure all loads are protected from adverse weather, and particular attention shall be given to special loads (e.g., live animals, perishables, time and temperature-sensitive cargo).
- f. Allow no contamination (e.g., snow, ice, water, wood, plastic) on the ULD or bulk load/ loose load pieces.
- g. Ensure special equipment is available (e.g., tie-down straps, load spreaders, plastic sheeting for wet cargo), as required.
- h. Where possible, organize and position the ULDs and/or carts containing baggage, cargo and/or mail in hold and load order.
- i. For ULD loading:
  1. Carry out a visually detectable damage checks prior to loading in accordance with GOM 4.5.9.3.

**Note:** Ensure all loaded ULDs are serviceable. Do not load damaged ULDs.

2. Ensure ULD placards are properly filled out with the correct information as detailed in GOM 4.5.9.2.
3. Perform a cross-check to ensure the following identification numbers correspond with each other:
  - i. ULD number shown on the LIR
  - ii. ULD number shown on the ULD identification tag
  - iii. ULD identification number printed or stamped on the ULD
4. Cross-check ULD gross weights.
5. Confirm ULD load information codes (e.g., X = empty ULD).
6. Ensure no signs of leakage from ULDs.
7. All ULDs are safe to move and will not shift, roll, or topple while maneuvering/ loading onto the aircraft.
- j. For bulk loading, confirm:
  1. Cart identification labels are correctly filled in where applicable.
  2. Loose pieces/weight information is correct, where applicable.
  3. A visual inspection of all items of bulk load is performed prior to loading to ensure there are no signs of damage or leakage that may damage or contaminate the aircraft.

#### 4.5.1.7 Actions During Loading

During loading, the person responsible for the aircraft loading supervision task shall:

- a. Crosscheck the ULD/bulk load against the LIR, as the loading progresses to ensure the correct sequence of loading takes place in accordance with the specified timelines. (e.g., where applicable, transit loads are not over-stowed for transit stations).
- b. Regularly check whether loading personnel who are physically loading the aircraft encounter any loading issues and attend to any issues raised concerning loading.



**Note:**

1. Stop/suspend loading operations where an irregularity is discovered e.g., aircraft/cargo hold/ULD damage, damage to or leakage from load items, cargo loading system malfunction
2. Log any irregularities in the load sequence noted during loading and report as per operating airline procedures (see 4.5.1.8).

- c. Liaise with the person responsible for the weight and balance calculation task and receive authorization for any deviations, including any last-minute changes to the LIR, as documented in 5.3.2. The person responsible for the weight and balance calculation task shall check the deviation and confirm whether possible or give an alternative solution.

**Note:** Any load information change between the LIR and actual loading (e.g., changes in transfer bag figures, cargo figures) shall be communicated to the person responsible for the weight and balance calculation task as soon as known to avoid unnecessary reloads, weight and balance issues, and last-minute pressure.

- d. If an authorized change of load order occurs, provide confirmation of change to the persons responsible for the aircraft loading task prior to recommencing loading in the hold.
- e. Protect all loads from adverse weather. Special attention shall be given to live animals and/or perishables.
- f. Ensure special loads are handled and loaded as per instructions provided.
- g. Where applicable remove any loose plastic or any other material used to protect load from bad weather.
- h. Visually inspect all loads requiring special handling to ensure they are secured against shifting. Ensure all necessary nets have been closed. See 4.5.7
- i. If required, Delivery At the Aircraft (DAA) bags/items shall be loaded as per operating airline and local authority requirement. See 2.4.4
- j. For tracking/reconciliation during loading see 2.4.3

#### 4.5.1.8 Actions After Loading

After loading has been completed, the person responsible for the aircraft loading supervision task shall:

- a. At the completion of loading, receive confirmation of the following from the persons performing the aircraft loading task:
1. Loading status of the aircraft is in compliance with the latest edition of the LIR.
  2. Loads are secured and that all locks, stops, nets, net stanchions, fire blankets are raised, closed, locked or installed and that load securing is correctly applied (see 4.5.7)
- b. Where the operating airline requires additional signature fields to be completed on the LIR (e.g., by the person performing the loading of each hold), ensure the applicable person(s) have signed the required fields in accordance with operating airline requirements.

**Note:** The person responsible for the aircraft loading supervision task still maintains overall responsibility for the loading of the aircraft.

- c. Sign the LIR, and in doing so confirm that:



1. Aircraft has been loaded in accordance with the final edition of the LIR including any authorized changes.
2. Load is secured (in a manner that prevents movement or spillage during flight) and locks, stops, nets, fire blankets are correctly installed, raised, locked.

**Note:** For each LIRF, two signatures are needed from different individuals: one from the Loading Supervisor and one from the Ramp Agent. However, in exceptional circumstances where local restrictions prevent this, the same person can sign both parts of the LIRF.

- d. If applicable, sign a NOTOC to confirm or otherwise state that:
  1. There was no evidence of leakage from the package(s) or any leakage from the ULDs loaded on the aircraft.
  2. The package or ULD is loaded in the designated position and secured.

**Note:** The LIR and the NOTOC shall be retained in accordance with applicable regulations (see 5.7)

- e. If irregularities are reported during the load sequence report in accordance with operating airline procedures (see 4.5.6.4 b)
- f. Ensure cargo hold access door checks are performed in accordance with 4.4.3.3

#### 4.5.2 Aircraft Ground Stability

Operating airline ground stability requirements, where applicable, shall be adhered to.

Unloading or loading may cause the aircraft to become unstable or could cause tipping. For some aircraft types, a tail stand or nose tether is available.

The unloading sequence may be reported in the OIR/CPM/LDM and loading sequence in the LIR. When detailed information about the unloading and loading sequence is not available, as a general principle for cargo aircraft and passenger aircraft sensitive to tail tipping, ensure the sequence below is adhered to:

- a. Unload the aft hold first.
- b. Unload the main deck in sequence to always have more load in front of the wing box than aft of the wing box.
- c. Unload the forward hold last.
- d. Load the forward hold first.
- e. Load the main deck in sequence to always have more load in the front of the wing box than aft of the wing box.
- f. Load the aft hold and bulk last.

**Note:** If this sequence cannot be followed, check with the operator for instructions about the correct offloading/loading sequence.

*Some of the major factors affecting the aircraft tail tipping and stability limits will include, but are not limited to the following items: Aircraft Empty Weight, Aircraft Attitude, Fuel Loading,*





*Passenger Loading, Cargo Loading, Ramp Slope, Runway Surface Condition, Snow Loads, Wind*

*The absolute tail tipping limit for the B737-800 is at 50.8% MAC, considerably aft of the ground stability limit.*

**Note:** For additional instructions refer to Chapter 9, Annex C – Aircraft Specifics.

### 4.5.3 Safety Requirements Specific to Aircraft Loading and Unloading

#### 4.5.3.1 General

- a. Holds and compartments shall only be entered or exited by using the appropriate loading equipment, which shall be positioned and secured at the aircraft cargo access door.

**Exception:** For smaller aircraft see 4.5.3.4

- b. Loading equipment shall remain in position while personnel are still in the cargo hold.
- c. Equipment operators shall ensure other personnel are not entrapped by movement of loads, pallets and/or containers, either in the aircraft or on the loading equipment.
- d. Carts shall not be used to gain access to cargo holds.
- e. Personnel shall walk around chains of carts and dollies to access required areas. Do not walk or stand between carts and dollies even when they are stationary on the ramp.
- f. Hinged side gates of loaded carts shall be lowered carefully in case loads fall out and cause injury.
- g. Take care when pulling or pushing carts, especially when ramp conditions are slippery. When necessary, obtain assistance.
- h. Use correct manual handling techniques and practices when handling heavy items. Obtain assistance when moving heavy articles.

#### 4.5.3.2 Unit Load Device Loading and Unloading

- a. For ULD loader operations, see 3.1.3.8.
- b. Inspect all ULDs before loading/unloading so that no nets, straps, protective materials can drag or get jammed in rollers, ball mats or wheels of Power Drive Units (PDU's).
- c. Push (do not pull) containers on and off dollies and loaders.
- d. ULDs on dollies or transporters shall be secured to prevent movement using locks, stops, rails or straps, except when the load is being transferred to/from the equipment.
- e. *Standard baggage ULD loading on widebody aircraft (B787-8).*

1. *8 AKE standard loading on B787-8*

*The standard baggage ULD numbers are not a fixed amount but need to be followed as much as possible.*

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**CAUTION!** Do not place ULD's directly on the ramp surface.

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#### **Danger:**

During loading/unloading operations;



1. To avoid personnel injuries (e.g., slips, trips and falls) when walking inside the cargo holds, do not step on cargo loading system components (e.g., restraints, PDUs, roller tray(s)) or sloped side walls except where dedicated step positions are provided.
2. Personnel shall remain clear of the ULD movement path at all times.
3. Moving ULDs may cause injuries to personnel.
4. Only raise locks once the ULD comes to a complete stop.

For Cargo Loading Systems (CLS) equipped with PDUs:

1. When ULDs become stuck, staff may assist with the dislodging of the unit after coordinating with CLS equipment operator. In such cases, all staff shall be aware of sudden ULD movements.
2. The CLS equipment operator shall always be aware of where loading staff are positioned.

**Note:** Certain ULDs can tip during movement as the base is smaller than the top, causing a high center of gravity.

#### 4.5.3.3 Main Deck Loading of Freighter Aircraft

*Not applicable to TUI fly Belgium and TUI fly the Netherlands.*

#### 4.5.3.4 Bulk Loading and Unloading

- a. Where a belt loader is used, position items on/off the belt loader *see GOM 3.1.3.7*.
- b. Where possible avoid placing loads directly on the ramp, especially if the ramp is contaminated.
- c. When loading/unloading aircraft directly from the ramp without the use of equipment:
  1. Position carts/dollies to/from the aircraft in a parallel direction to the fuselage, maintaining a gap of at least 1m (3 ft.) from the fuselage.
  2. Always turn tractors and carts/dollies away from the aircraft.

**Note:** For any load items that cannot be safely loaded directly from the ramp, appropriate loading equipment (e.g., belt loader) should be used to avoid injury or damage.

- d. Ground personnel carrying out bulk loading task shall:
  1. Use the right lifting techniques to reduce on the risk of injury
  2. Be accounted for once inside the aircraft hold and after completion of loading for safety reasons

#### **Danger:**

There is a risk of suffocation due to poor ventilation in the holds.

#### 4.5.3.5 Shipments Requiring Special Handling

- a. General
  1. All shipments requiring special handling will be identified on the Load Message (LDM) or Container Pallet Message (CPM) for an arrival flight or under a NOTOC for departing flights.
  2. Comply with any special handling requirements. Be alert for special load and/or dangerous goods shipments.
  3. Always follow the orientation markings and/or special handling instructions as applicable while handling.



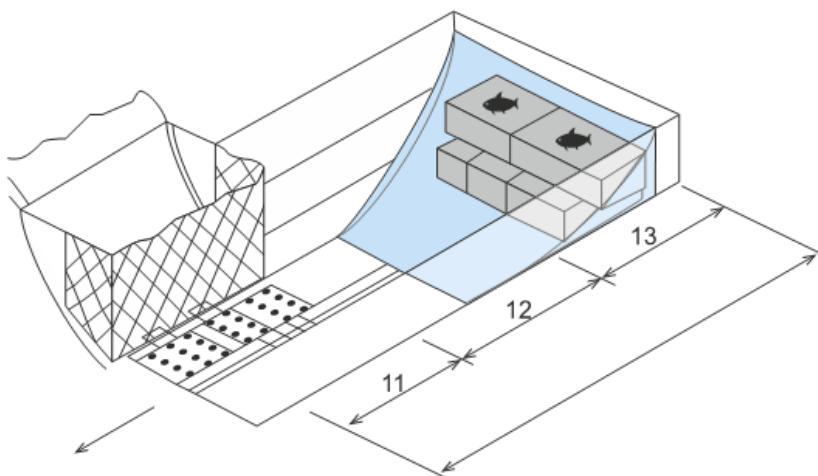
4. Make sure that packages with directional handling labels are kept in the correct orientation (e.g. THIS WAY UP).
  5. Always observe the specific instruction labels and markings (i.e., Cargo Aircraft Only (CAO), FRAGILE, TOP, THIS SIDE UP).
  6. Ensure shipments labeled "Cargo Aircraft Only" are not loaded into a passenger aircraft.
  7. Always handle fragile items with care.
- b. Dangerous Goods
1. Transportation shall be in accordance with the IATA DGR. *Refer to Chapter 10, Annex D - Dangerous Goods and Weapons.*
  2. Ensure dangerous goods are handled and secured or stowed in a manner that:
    - i. Prevents damage to packages and containers during aircraft loading and unloading.
    - ii. Provides for separation and segregation of packages on the aircraft to prevent interaction in the event of leakage.
    - iii. Prevents movement that could change the orientation of packages on the aircraft.
    - iv. Is in accordance with the information provided on the notification to captain (NOTOC).
  3. In case dangerous goods package or shipment appears to be damaged or leaking, to ensure:
    - i. Such package or shipment is prevented from being loaded into an aircraft.
    - ii. In the case of leakage, conduct an evaluation to identify and prevent from transport any other cargo, baggage or transport devices that have become contaminated by the leakage of dangerous goods, and the removal of the hazardous contamination.
    - iii. If already loaded, the package or shipment is removed from the aircraft.
    - iv. Immediate notification of the customer airline and relevant authority.
- c. Live Animals
1. Transportation shall be in accordance with the IATA Live Animals Regulation (LAR). *Refer to Chapter 14, Annex H - Live Animals.*
  2. During handling of live animals, ensure that they are:
    - i. Loaded and secured into suitable aircraft compartments as directed by the LIR
    - ii. Separated from foods, dangerous goods or other AVI that are natural enemies
    - iii. Handled with care and in a manner which minimizes the waiting period and is in compliance with the shipper's specific handling instructions, if required
    - iv. Not exposed to adverse weather or environmental conditions during transportation, loading and unloading
- Note:** See AHM 332 on Handling and stowage of live Animals
- d. Wet Cargo
- The following types of cargo, if not subject to the IATA DGR, shall be considered as wet cargo
1. Liquids in watertight containers;
  2. Wet materials not packed in watertight containers (e.g. fish packed in wet ice, fresh or frozen meat, casings (fresh animal guts), wet hides, skins)
  3. Goods that by their nature may produce liquid (e.g. larger live animals (usually mammals) where presence of faeces and urine is likely)
  4. Fruits/vegetables with high moisture, (e.g. berries)



**Note:** Live animals such as birds, reptiles, insects and certain mollusks (terrestrial) in appropriate animal containers do not pose a higher risk for corrosion than normal baggage/cargo and are, therefore, exempted. Refer to IATA LAR.

**CAUTION!** Spillage or leakage during carriage by air could lead to corrosion or other damage to the aircraft structure or its components, or damage to other loads. In case of spillage or leakage, inform responsible ground staff, maintenance and flight crew if on board.

5. The person responsible for the aircraft loading supervision task shall ensure the wet cargo is properly packed and free of leakage. Do not load damaged or leaking packages.
6. Loading precautions:
  - i. Spread plastic sheets or tarpaulins to protect the aircraft floor and walls by catching any spillage or leakage. Use absorbent material as required by *TUI Airline*.
  - ii. For wet cargo in containers which are not watertight: follow the instructions of the operating airline. *Refer to Chapter 10, Annex D – Dangerous Goods and Weapons.*



**Note 1:** When wet or damp, the strength of some packaging can be considerably reduced. Special attention shall be given to avoid the crushing of packages when stacking to several levels.

**Note 2:** For reference regarding packing of wet cargo and temperature sensitive packaging refer to IATA Perishable Cargo Regulations (PCR) and IATA Temperature Control Regulations (TCR).



- e. Perishable and temperature-sensitive healthcare products  
During transportation, loading and unloading of perishable and temperature-sensitive healthcare products, ensure that they are:

1. Handled in a manner to minimize the waiting period
2. Not exposed to adverse environmental conditions

**Note:**

1. Perishables must be moved into storage (e.g., cooler, freezer) appropriate for the type, in accordance with the Perishable Cargo Regulations (PCR).
2. Pharmaceuticals must be moved into storage (e.g., cooler, freezer) appropriate for the type, in accordance with the Temperature Control Regulations (TCR).

f. Dry Ice

Dry ice (solid carbon dioxide) is used as a refrigerant for temperature sensitive health care products e.g., vaccines and other life sciences products to ensure that they are maintained at the required temperature throughout the supply chain.

1. Where dry ice is present in the cargo being loaded or unloaded the ramp, staff must be aware of the precautions required to ensure that there is no risk of suffocation from elevated CO<sub>2</sub> levels from sublimating dry ice.
2. Verify the documentation for the presence of dry ice as a refrigerant (code ICE) and instruct the personnel that the cargo compartment shall be allowed to vent after the cargo access door is opened and before entering the cargo compartment
3. Open the cargo compartment door and stand back. No person shall enter the hold. Cargo compartment where dry ice is present must be allowed to vent after cargo compartment door is opened.
4. Cargo access doors shall remain open to clear dry ice vapors before you enter the hold or compartment.

**Danger:**

1. There is a risk of suffocation when entering a compartment containing dry ice.
2. Anyone entering a cargo compartment before the dry ice vapor has dispersed may be overcome with dizziness and shortage of breath due to lack of oxygen. In such circumstances the person should be removed immediately to fresh air and, if his breathing is seriously affected, call a doctor

#### 4.5.4 Unloading

##### 4.5.4.1 Scaling Process

If the flight crew experiences a handling issue on takeoff, they may request the scaling of all loaded baggage and cargo at the arrival station.

The scaling process shall be coordinated with the airline representative. Further handling of baggage and cargo shall only proceed once the scaling is completed and the weights confirmed.

*Contact the airline representative for details.*

##### 4.5.4.2 Safety Precautions for Unloading

- a. Before positioning GSE and/or opening cargo hold access doors, perform a visual check for any signs of damage to the doors or surrounding areas (see 4.4.3).
- b. Check to ensure the aircraft hold load has not shifted during the flight.



1. Verify the contour of the cargo loads passing through the doorway to ensure sufficient space between the doorway depressor seals and the cargo load is assured.
2. Contact the person responsible for the aircraft loading supervision task if the shifted load will not safely exit the door.
- c. Check for incorrectly loaded ULDs (i.e., locks not raised, locks or safety rails overridden).
- d. Check loads/ULDs during unload for damage, leakage and load stability.
- e. Check for damage to the aircraft hold as the unload progresses and also after completion of unloading (see 4.4.3).

**Note:** Immediately report any irregularities (e.g., spills, unusual fumes or smells) prior to or during the unloading process to the person responsible for the aircraft loading supervision task or as required by the operator or authority.

#### 4.5.5 Cargo Hold Inspection

##### 4.5.5.1 General

- a. A cargo hold inspection shall be performed:
  1. After aircraft unload is complete
  2. Prior to loading if this does not follow immediately after unloading is complete
  3. In case the aircraft was unattended between unloading and loading; or
  4. There was a change of persons responsible for the aircraft loading and supervision task.
- b. The person undertaking the cargo hold inspection shall perform a visual check of all cargo holds to ensure:
  1. No damage of compartment floors, walls, ceiling, door frames, panels, door.
  2. No missing, damaged or malfunctioning floor locks, load restraints or nets.
  3. No spills.
  4. No Loads other than transit loads have been left on-board the aircraft.
  5. Any other items that should not be present in the hold have been unloaded.
- c. Prior to commencing the loading of the aircraft, the person responsible for undertaking the cargo hold inspection shall provide positive confirmation to the person responsible for the aircraft loading supervision task that the inspection has been carried out to the person responsible for the aircraft loading supervision task that the inspection has been carried out, if appropriate.
- d. Any damage or discrepancies observed shall be reported to the person responsible for the aircraft loading supervision task or to the person responsible for the weight and balance calculation task as a minimum.

**Note:** A check shall be conducted in a hold even if on arrival the hold was reported as being empty.

- e. Any items that should not be present in the hold shall be removed. *Refer to Appendix F16 - Cargo Ramp Acceptance Check List – hold loading.*

##### 4.5.5.2 Cargo Hold Damage

Any damage to compartment liners (i.e. holes, tears, detachment) may reduce their effectiveness, permitting air to enter the compartment and fire suppression agent to escape,



thereby reducing the capability to handle a fire event that may lead to specific loading limitations; therefore:

- a. Any technical malfunction, damage or irregularity discovered shall be immediately reported to the supervisor, aircraft maintenance personnel and if available, the pilot-in-command (PIC). See 4.4.1.
- b. Adhere to any resulting load limitations according to the operating airline procedures.
- c. Inform the onward stations of the load limitations according to the instructions of the airline representative, if the defect cannot be rectified before departure.

**Note:** Damage must always be reported! Also when found upon arrival of the aircraft. See 3.1 for more information.

#### 4.5.5.3 Spills in Cargo Hold

- a. Spills can occur in cargo holds during unloading and/or loading and in flight due to:
  1. Improper packaging
  2. Damage due to mishandling prior to loading
  3. Improper loading in the compartment
- b. Spills can be from liquids, gels, or material in a powdered or granulated form.
- c. Spills can be hazardous, corrosive, flammable, explosive, toxic, poisonous, etc. Even water can cause serious damage to electrical components and systems.
- d. Spills can be corrosive to the aircraft structure. Mercury spills are particularly corrosive to the extent that the affected aircraft structure may have to be completely replaced if the spill is not cleaned up quickly.
- e. It is essential that any spill is reported immediately so that corrective action can be taken.
- f. Initiate the local spill response plan for spill events.
- g. Request information from the respective Cargo Terminal Operator about the nature of what has leaked as well as the Safety Data Sheet, if applicable.

**Note:** Incidents with Dangerous Goods and or spills must always be reported. Use the Ground Operations Safety Report in IQSMS.

#### 4.5.6 Loading

*Please be informed that the latest manual of the Total Cargo Enterprise (TCE) is accessible in the TAGO Portal under the folder Supplier Manuals. In case of questions regarding TUI fly Belgium and TUI fly the Netherlands Cargo, please contact: cargo@tuiify.be*



**Weight determination:**

*The exact weight of the cargo shall be determined or checked by weighing before loading. This actual weight shall be used when completing the load sheet.*

*When the weight of a load of numerous identical pieces is checked, at least ten of these pieces shall be weighed together, for better averaging.*

*When the load is placed on pallets, each pallet shall have a pallet identification tag, showing the weight of the load plus pallet or of the load only.*

**Refusal of cargo:**

*It is the responsibility of the Ground Handling Agent to exclude cargo from carriage if:*

- a. *it is not properly packed;*
- b. *it may damage or contaminate the aircraft or other load;*
- c. *special handling instructions / equipment cannot be observed / supplied;*
- d. *for reasons of safety;*
- e. *the aircraft maximum weights and / or Centre of Gravity is exceeded;*
- f. *the document required by the relevant authorities cannot be presented.*

*Special loads and classification of load compartments*

**Human remains**

*Whenever human remains are carried by aircraft the body shall be in a soldered container of lead or zinc, packed in a wooden outer container. If the body is not embalmed, decomposition plus altitude may produce enough pressure to burst any but well soldered joints. Special note shall be taken of the place of stowing of human remains, so that after arrival at the aerodrome of destination the ground personnel can immediately be informed of its location.*

*Live animals must not be loaded near incompatible loads that may have negative effects on their welfare (including human remains).*

**Perishable cargo**

*For Boeing 787 aircraft only.*

*Cargo is normally carried in the forward hold.*

*If the weight of the cargo exceeds the weight of the baggage, then it may be necessary to load the cargo in the aft holds with the baggage in the front.*

*Cargo should not be loaded in front of passenger's baggage, as this will delay the delivery of baggage on arrival at the destination aerodrome.*

*Temperature sensitive cargo (e.g. vegetables), should be carried in the front hold as the forward cargo hold is air conditioned. Carriage of temperature sensitive cargo in the front hold with the Forward Cargo Airconditioning (FCAC) system inoperative is permitted. Certain*





*perishable cargo, as decided by the Handling Agent (in consultation with Cargo Operations), may be carried in the aft hold.*

*Consideration must be given to the temperature of the hold.*

*Supporting Information: In order to maximize the carriage of perishable freight, it has been agreed with TCE that it is acceptable to carry temperature sensitive cargo in the forward hold even when the FCAC is inoperative and, additionally, in the aft hold although there is no temperature control.*

*Refer to Appendix F16 Cargo Adhoc Operations Quick Reference Guide – Cargo in the Hold.*

#### **4.5.6.1 Load Handover**

The handover process between cargo handling (cargo warehouse), baggage handling (baggage make-up area) and ground handling (ramp) departments shall be done systematically to ensure a safe departure.

Depending on the airport infrastructure and/or local agreements, the handover of cargo, mail and baggage to the ramp should be done at a dedicated handover point.

#### **4.5.6.2 Load Transportation**

Prior to transporting cargo and/or mail from the cargo warehouse or baggage from the baggage make-up area, the equipment operator shall ensure that:

- a. The GSE used for transportation is serviceable. For GSE operations see 3.1.3.
- b. A visual inspection of all loads is carried out to ensure:
  1. The cargo, mail and/or baggage for transport is the correct load for the departing/ arriving flight(s).
  2. No nets, ropes, straps, protective materials, can drag on the ground or get jammed in rollers, ball-mats or wheels.
  3. All built-up cargo/mail/baggage is safe to move and will not shift, roll or topple
  4. There is no damage to the load.
- c. All loads are protected from adverse weather via use of tarpaulins or covered carts. Special attention shall be given to live animals and/or perishables. When using tarpaulins, all straps shall be securely fastened to the cart.

#### **4.5.6.3 Load Delivery for Departure**

Depending on the location of the handover point the person responsible for aircraft loading supervision task or the person responsible for receiving the load shall:

- a. Receive all documentation, pouches and special instructions for the specific flight, if applicable
- b. Carry out an inspection of all the load to ensure that:
  1. The load is correct for the departing flight(s).
  2. No damage has occurred during the transport process.
  3. There is no evidence of tampering with the load (e.g cuts, tears to plastic foil etc.)
  4. No nets, ropes, straps, protective materials, etc. should drag on the ground or get jammed in rollers, ball-mats or wheels whilst maneuvering or whilst being loaded onto aircraft.
  5. All dollies are serviceable, and all restraints are engaged to secure the ULD on the dollies prior to the ULD being loaded onto the aircraft.



- c. Immediately report any damage to the load/s, whether it discovered when the load arrives on stand or occurs during loading.
  - 1. Report torn or missing baggage tags and cargo labels.
  - 2. Do not load unless discrepancies are corrected.

**Note:** Immediately report any discrepancies e.g. spills, unusual fumes or smells, etc. prior to or during the loading to the person responsible for aircraft loading supervision task or the weight and balance calculation task or flight crew or local authorities as required.

#### 4.5.6.4 Loading Process

- a. Loading shall not commence if there is no LIR (electronic or hard copy).
- b. Report any loading issues, errors, changes or other loading matters to the person responsible for the aircraft loading supervision task immediately.
- c. Any signs of hold damage must be reported immediately.
- d. While loading ULDs into position in the compartment the equipment operator shall ensure:
  - 1. When ULDs are loaded, raise/lock the ULD restraints in accordance with LIR.
  - 2. While loading ULDs:
    - i. The edges are either guided by the side rails or fit under the stops/locks/guides.
    - ii. The height of the pallet allows for sufficient clearance in the door opening.
    - iii. Control the speed at which ULDs are moved within the aircraft, slowing the ULD prior to reaching its allocated position to prevent crashing.
    - iv. They have no protrusions or overhangs that will damage the aircraft cargo access door opening or the interior of the aircraft cargo hold.

**Note 1:** A tactile check shall be performed by checking the security of each lock to ensure serviceability. A systematic double-check of the restraint system and of special loads (e.g., heavy (HEA), AVIH, human remains (HUM), etc.) *must be completed* before departure.

**Note 2:** All ULD restraints shall be raised when ULDs are loaded.

**Note 3:** ULD restraints have to be raised in cargo holds that are completely empty, door and other protection nets should be properly fitted.

**Note 4:** If applicable, ensure fire barriers are installed as the hold is loaded.

**Note 5:** *This action requires 2 signatures on the LIRF. See 4.5.1.8 Actions After Loading, for more information.*

- e. While loading into bulk holds the person carrying out the loading of baggage/cargo/mail shall:
  - 1. Load in accordance with LIR requirements.
  - 2. Cross check cart labels to ensure that the load is correct.
  - 3. Check cargo, mail and baggage labels to ensure correct destination/flight number.
  - 4. Ensure any leaking or damaged loads are not loaded and the supervisor is informed immediately. Any contaminated load is kept separately.



5. Ensure applicable special load items are tied down (see 4.5.7) or otherwise secured in accordance with operating airline requirements.
6. Install/close/secure compartment/bay divider nets, barrier nets, fire curtains, door nets and stanchions, as applicable.
7. Ensure light packages are not loaded or wedged between heavier items.
8. Ensure the necessary clearance between the load and aircraft hold ceiling is achieved to avoid any obstruction or damage to aircraft smoke detector/fire suppression system. Specific requirements given by the operating airline shall be followed. *Refer to Chapter 9, Annex C – Aircraft Specifics.*
9. Loads shall be correctly stacked to achieve maximum volume.
10. Confirm the final loading status to the person responsible for the aircraft loading supervision task.

**Note 1:** *Any load information change between LIR and actual (e.g. changes in transfer bag figures, cargo figures) shall be communicated to weight and balance calculation task as soon as known to avoid unnecessary re-loads, weight and balance issues and last-minute pressure.*

**Note 2:** Between unload and onload, compartment nets shall be secured inside aircraft compartments and not left hanging outside to avoid clips and attachment points striking the fuselage, especially during adverse weather.

**Note 3:** Ensure the ramp area is clear of all wooden and/or plastic pallets and other load related material after completion of loading or unloading.

## 4.5.7 Securing of Load

### 4.5.7.1 General Rules

When transporting a load in an aircraft, it shall be secured such that it shall not:

- a. Move during the flight, which could dangerously affect the weight and balance of the aircraft.
- b. Cause damage to the aircraft structure or other important parts of the aircraft.
- c. Cause damage to another load or become damaged itself.
- d. Cause injury to passengers and crew in case of an emergency landing.
- e. Cause injury to ground handling personnel during loading and unloading.

### 4.5.7.2 Bulk Compartments

- a. The load in bulk compartments is generally secured by door nets and sector divider nets. Ensure the following items are always secured:
  1. Barrels or drums filled with liquids
  2. Cages or boxes with live animals (AVIH)
  3. Heavy pieces (HEA) weighing 150 kg (330 lb.) or more
  4. Coffins with human remains (HUM)

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**CAUTION! Do not load baggage or other shipments on top of the coffin.**

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5. Dangerous Goods (see 4.5.7.7)
6. Powered mobility aids



7. Loads that need spreading
8. Fragile loads
- b. Following loads shall not move vertically upward or horizontally during flight. If the available volume of the compartment or net section is not volumetrically filled (three quarters of the height) with load, additional securing is necessary for:
  1. Loads that are sensitive against shocks or tilting.
  2. Wet cargo.
  3. High-density packages.
  4. Pipes, tubes, bars, beams, planks, poles or other objects of a penetrating nature
- c. If long pieces do not fit into one net section and the divider net cannot be closed correctly, check with the operator's manual for load restrictions (*see Chapter 9, Annex C – Aircraft specifics*) for further requirements.
- d. For battery-powered wheelchair and mobility devices ensure:
  1. It is loaded/unloaded in such a manner that prevent unintentional activation during transport and the battery terminals shall be protected from short circuits (refer to IATA DGR).
  2. The battery is either adequately protected against damage by the design of the mobility aid and securely attached to the device with the electrical circuits being isolated following the manufacturer's instructions, or
  3. Removed from the mobility aid following the manufacturer's instructions

**Note:** Battery-powered wheelchairs or mobility devices for use by passengers are classified in three main categories based on the battery type that powers the device as defined in DGR Manual 2.3.2.2-2.3.2.4

4. It does not roll when moving up the loading belt in an upright position. If tilting is necessary ensure the passenger has consented, and can only be done on the side without the device controls
5. It shall be secured against movement in the cargo compartment, by use of straps, tie-downs or other restraint devices.
6. The mobility aid, including batteries, electrical cabling and controls shall be protected from damage, including damage caused by the movement of baggage, mail and cargo.
7. Any battery-powered mobility aid shall not be stowed together with loose loaded (bulk) items within a unit load device (ULD) or other loads loaded on top.

**Note 1:** When securing use tie-down points, keep the mobility aid in an upright position where possible, secure the mobility aid using the base frame, avoid unnecessary tilting of the mobility aid, ensure adequate clearance when loading/unloading, avoid over-tightening tie-down straps or other securing devices, load last when possible.

**Note 2:** The pilot-in-command shall be informed of the location of the mobility aid with installed batteries, removed batteries and spare batteries.

#### 4.5.7.3 Securing of ULDs

- a. ULD should be secured by a ULD restraint system on the compartment floor (see chapter 9, Annex C – Aircraft specifics) for relevant information on applicable ULD configuration, loading and restraint system for aircraft type. Observe the handling instructions of the operator in case of missing or unserviceable restraints.



- b. In special cases the ULD can be tied down as a floating pallet with straps to tie-down points on the aircraft structure, as per TUI Airlines instructions.

#### 4.5.7.4 Tie-Down Loads

##### Definition of forces

Properly tie down the loads on board the aircraft to withstand the following types of forces during takeoff, flight and landing.

Force	Definition
Forward	Horizontal forces effective during landing and steep angles of descent.
Backward	Horizontal forces effective during takeoff and steep angles of climb.
Sideward	Horizontal 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, the forces can be stronger than normal gravity force of 1 g.

Secure all loads against the different forces according to the gravity factor (g-factor).

In general, the pallet build-up is done with a net which restraints the load against all forces.

##### Tie-down of load with straps or ropes

If the primary restraint of the load is done by straps, tie-down must be carried out according to AHM 311 or ULDR (OS 6/07).

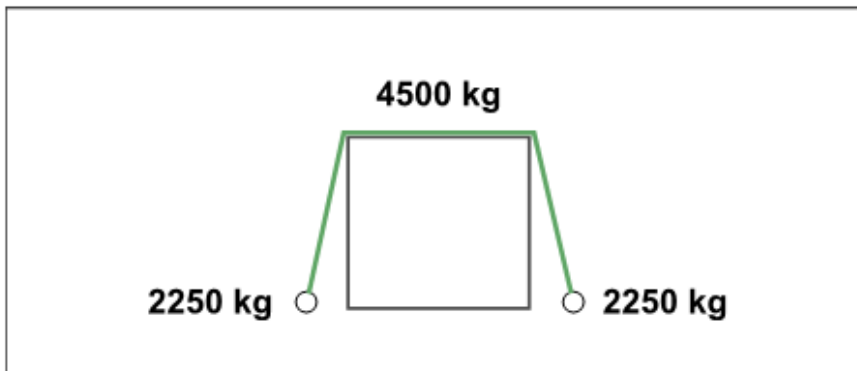
The usage of tie-down material with different capacities is not allowed.

There are two ways to secure a package with tie-down ropes or tie-down straps:

- a. Lashing across or around a package (embraced lashing)

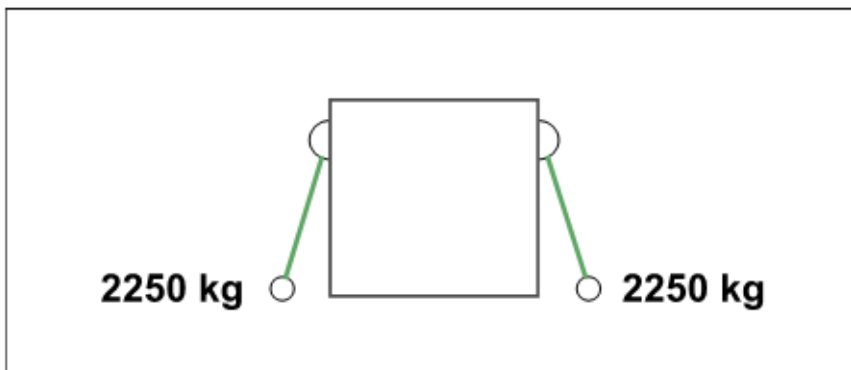
The embraced lashing method with tie-down straps or tie-down ropes is to fasten the strap or rope from one tie-down fitting across or around the load to a second tie-down fitting on the opposite side.

A strap attached to the fittings on opposite sides of the load is rated for twice its ultimate load capacity, e.g. an ETSO/TSO-C172 strap with 2,250 kg (5000 lb.) rated restraint capacity will provide up to maximum 4,500 kg (10,000 lb.) ultimate load for standard lashing.



b. Lashing directly fastened to the package (direct lashing)

If a tie-down strap is directly fastened to the load with one tie-down fitting, the ultimate restraint capacity of the strap (e.g., an ETSO/TSO-C172 strap with 2,250 kg (5000 lb.) ultimate load) will apply.



#### 4.5.7.5 Use of Tie-Down Material

Make sure that tie-down material is in a serviceable condition.

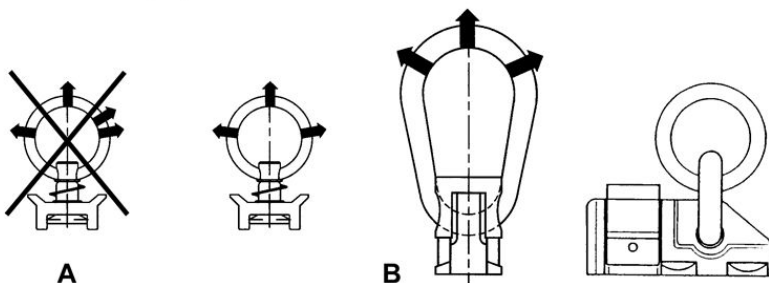
a. Tie-Down ropes

1. Fix tie-down ropes to the aircraft floor tracks or tie-down fittings.
2. Make sure that the overlapping ends of the tie-down ropes are long enough and will not loosen in the case of sudden stress.
3. Fix the tie-down ropes to the tie-down rings in a way that they may be easily loosened for unloading.
4. Do not fix tie-down ropes to other parts of the aircraft.
5. Do not use the same attachment points for lashing, which are used to secure the net sector divider nets.



b. Tie-Down fittings

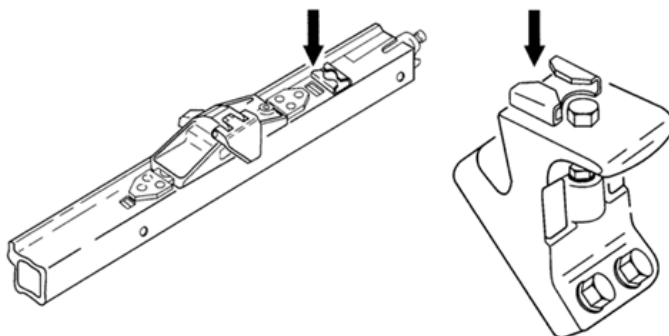
A single tie-down fitting may receive up to three straps/ropes in three different restraint directions (one up and two opposite horizontal directions). Forces generated by the load can never act in more than one direction at the same time; thus, the fitting will never be pulled by more than one strap/rope at the same time. Therefore, never attach more than three straps/ropes to the same fitting and never more than one strap/rope in the same direction.



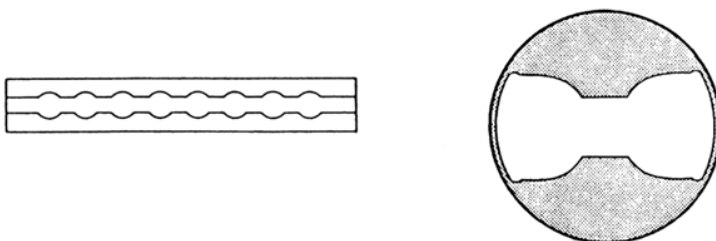
Alpha-Numeric	DESCRIPTION
A	Forbidden
B	Allowed

Fix tie-down rings to the aircraft floor only at tie-down points or tie-down tracks  
Distribute the attachment points of the tie-down rings evenly (nearly equal distances) over the length of the piece.

**Example of tie down attachment points on outboard side lock and side guide**



**Figure 4.5.7.5a - Example of tie-down attachment points on outboard side lock and side guide**



**Figure 4.5.7.5b—Example of tie-down attachment points on track and anchor plate**

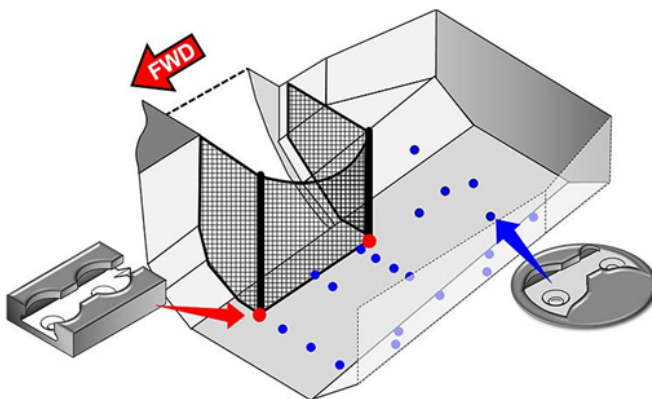






Figure 4.5.7.5c—Example of tie-down attachment points in the bulk compartment

**CAUTION!** Tie-down is forbidden on any part of the aircraft structure, other than those described in Figure 4.5.7.5c, even if equipped with rings or tie-down points.



Figure 4.5.7.5d—Example of tie-down straps

d. **Tightening**

1. Tighten the lashing strongly, but not so strong that load or tie-down material is damaged
2. Make sure that all tie-down ropes or tie-down straps used for lashing the same piece have the same tension
3. To protect fragile or sensitive cargo or dangerous goods, use cloth, cardboard or similar material for edge protection

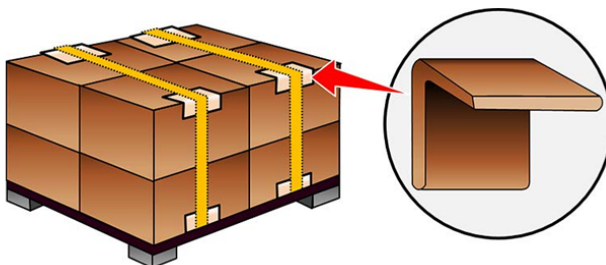


Figure 4.5.7.5e—Protect the edges of fragile or sensitive cargo

e. **Sharp Edges**

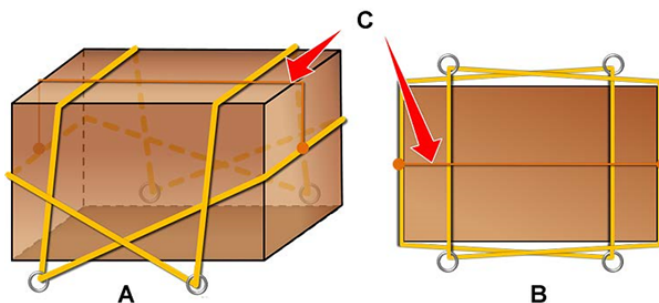
To avoid cutting or grinding of tie-down ropes or tie-down straps, smoothen sharp edges with a piece of soft materials (e.g. cloth, cardboard, plank or similar).

#### 4.5.7.6 Standard Lashing

For standard lashing use:

- a. Four tie-down rings
- b. Four tie-down ropes/straps and one safety rope
  - i. Two against upward forces
  - ii. One against forward forces
  - iii. One against backward forces
  - iv. One safety rope

The safety rope prevents the tie-down ropes/straps used against forward and backward forces from sliding down.



Alpha - Numeric	DESCRIPTION
A	Isometric view
B	Top View
C	Safety Rope

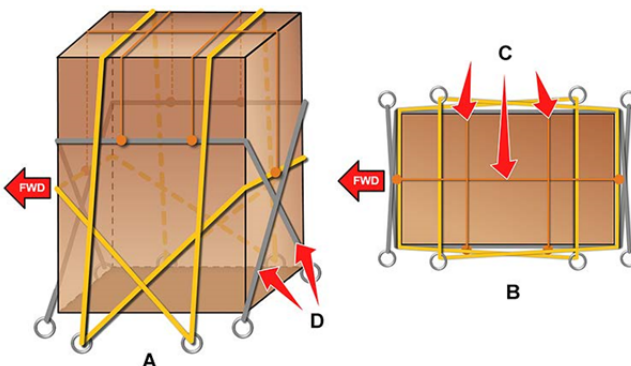
### Sideward forces

Sideward forces are normally covered by the standard lashing for upward, forward and aft forces. The rope/straps must be close to the pieces.

### Exception

If a piece is more than twice as high as wide:

1. Tie-down against sideward forces additionally to the standard lashing
2. Place this additional lashing between half and two-thirds of the height
3. Secure this lashing by two safety ropes to prevent them from sliding down.

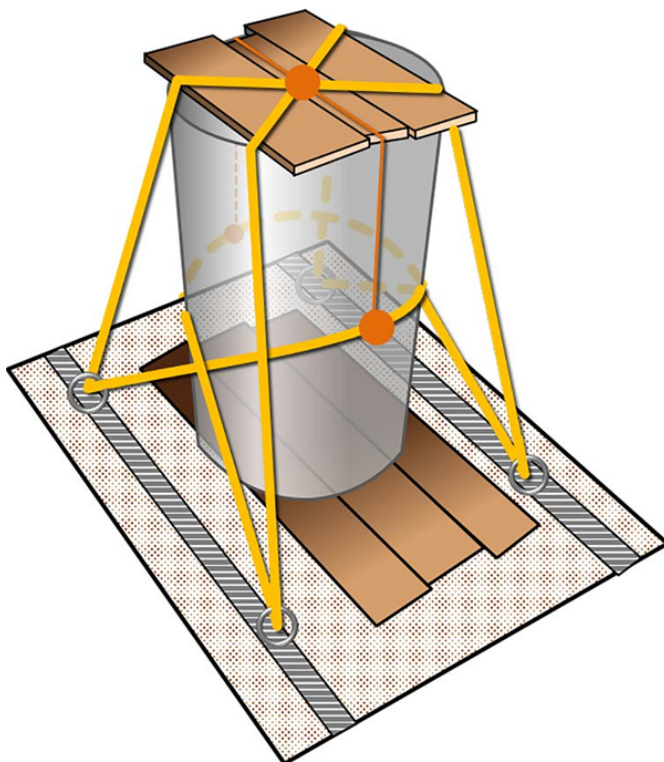




Alpha - Numeric	DESCRIPTION
A	Isometric View
B	Top View
C	Safety Rope
D	Additional Lashing

### Barrels

Barrels are difficult to lash because of their round shape and mostly sharp rims. Use supporting planks for a safe lashing.



**Figure 4.5.7.6—Lash barrels with protective planks**

#### 4.5.7.7 Securing of Dangerous Goods

- Handle dangerous goods with utmost care to prevent any damage to persons or goods.



- b. Strictly observe all special handling instructions, labels or imprints (e.g. THIS WAY UP) or arrows showing the proper orientation of the package).
- c. On a pallet, securing by tie-down is not necessary if all load on the pallet including the dangerous goods package, is secured by the pallet net.
- d. In a bulk compartment or a container, securing by tie-down is not necessary if the package cannot move horizontally or vertically. The net section or container must be volumetrically full (three-quarters of the height), and the entire floor area must be covered.

Observe the securing requirements as shown below:

**Note:** When the net sector in the bulk compartment or a lower deck aircraft container is volumetrically full or filled completely with other load on the entire floor area securing by tie-down is not necessary.

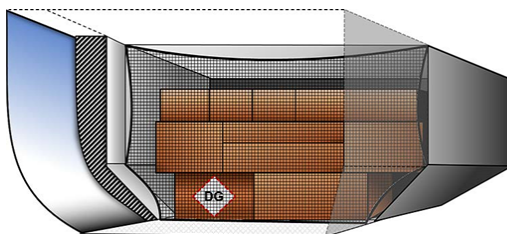


Figure 4.5.7.7a—Example 1

If the entire floor area of a container or lower deck aircraft container is not filled completely with another load, tie down the dangerous goods package to prevent any movement.

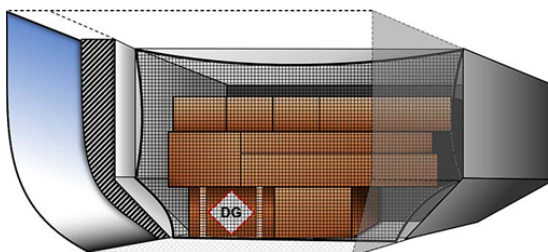
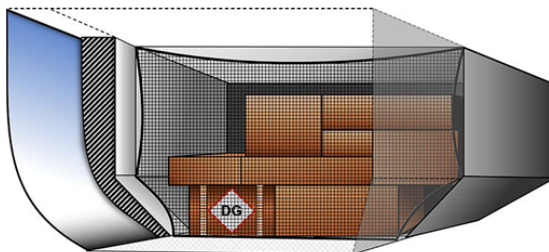


Figure 4.5.7.7b—Example 2

If the net-sector in the bulk compartment or container, which is not volumetrically full, tie-down the dangerous goods package to prevent any movement.



**Figure 4.5.7.7c—Example 3**

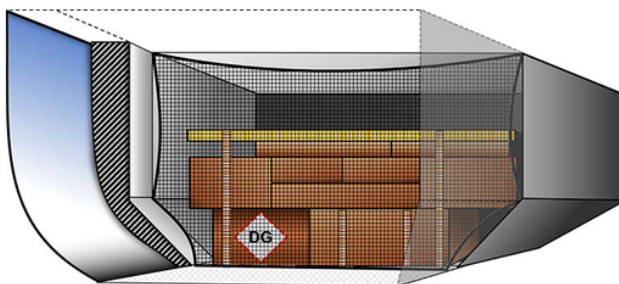
#### **Securing small dangerous goods packages**

If securing by tie-down in a net sector or container is not possible because of the small size of the package:

Fill the net sector or container as shown above (see Figure 4.5.7.7a—Example 1), or put planks on top of the package (see Figure 4.5.7.7d—Example 4) to make securing by tie-down possible.

If neither is possible, do not load the package.

If the net sector in the bulk compartment or container is not volumetrically filled, tie-down of all items is required.



**Figure 4.5.7.7d—Example 4**

#### **4.5.8 Load Spreading**

When the weight of item(s) to be loaded exceeds the maximum floor load per square meter or the maximum floor load per running meter of a compartment, the weight must be spread to prevent damage to the compartment floor. This applies to HEA loads, but may also apply to smaller items weighing less than 150 kg (330 lb.). The item must be fully restrained (see figure 4.5.8) and can be spread by making use of wooden boards or beams.

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**CAUTION! Overloading can cause damage to aircraft frames and ribs and consequently can have serious implications for the safety of the aircraft.**

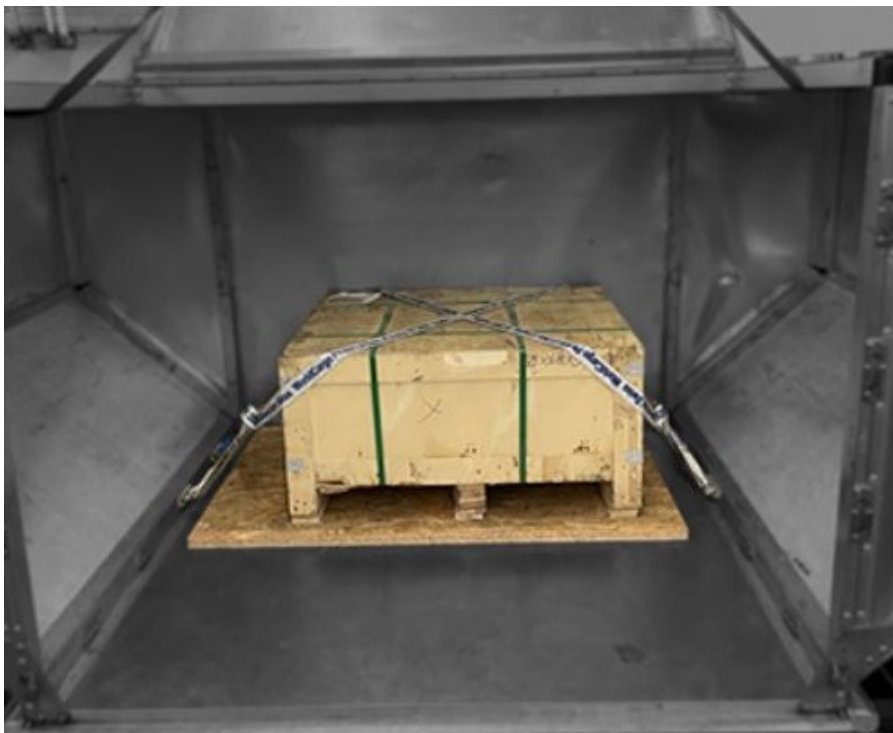
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The weight should be spread by making use of wooden boards or beams, in which case:



- a. The surface to support the weight will be enlarged, or
- b. The length will be enlarged.

The load spreading instructions shall be in accordance with operating airline requirements. The information will be included on the LIR.



**Figure 4.5.8**

#### **4.5.9 Aircraft Unit Load Devices**

##### **4.5.9.1 General**

ULDs can be divided into two groups:

- a. Aircraft Containers
- b. Aircraft Pallets and Aircraft Pallet Net combination.

ULD can be directly restrained onto the aircraft structure by the Cargo Loading System (CLS) and each ULD shall meet minimum technical specifications to ensure safe restraint of the load. These specifications are published in the IATA Unit Load Device Regulations (ULDR).



#### 4.5.9.2 Identification/Labelling of Unit Load Devices

##### Identification

ULD shall be marked in accordance with the standard IATA ULD ID Code format (see ULDR SS 40/1), which consists of ULD Type Code, ULD Serial Number, and ULD Owner Code. The standard IATA ULD ID Code format is illustrated in Table 4.5.9.2

ULD ID Code Composition	ULD Type Code			ULD Serial Number					ULD Owner Code	
ULD ID Code Positions	1	2	3	4	5	6	7	8	9	10
ULD ID Code Format	a	m	m	m	n	n	n	(n)	m	m

Symbol	Description
a	Represents a single alphabetic character (characters A through Z)
n	Represents a single numeric character (numerals 0 through 9)
m	Represents a single character of mixed alpha-numeric
()	Represents an optional character position

**Table 4.5.9.2—IATA ULD Code format**

All ULDs shall be identified with ULD tags (refer to AHM 420) when loaded.

The preprinted letters (in boxes) indicate the specific application of the ULD tag.

- Each ULD tag shall be fully completed.
- One ULD tag shall be placed in the tag holder of a container.
- A cross-check shall be performed during the loading of the ULDs. The following identification numbers must always be checked to ensure they correspond with each other:
  - ULD ID Code shown on the LIR
  - ULD ID Code shown on the ULD identification tag
  - ULD ID Code marked on the ULD

#### 4.5.9.3 Checking ULD Conditions on the Ramp

- Visually Detectable Damage Check
  - Visual checks for any detectable damage to ULD components should be performed during ramp operations in order to continuously monitor and verify the serviceability of a ULD to ensure that: only serviceable ULD is loaded aboard aircraft.

**Note:** Unserviceable ULD may be loaded onto an aircraft only when expressly allowed with empty or limited load and/or other restrictions (e.g. additional tie-down) in accordance with ULD manufacturer's documentation such as the Component Maintenance Manual (CMM) and the Operator's instructions.

- Unserviceable ULD shall be identified and removed from service immediately Failure to identify and remove unserviceable ULDs from service could:



- i. Cause injury to personnel
  - ii. Damage the aircraft structure
  - iii. Impact on-time Performance
  - iv. Damage ULD contents (baggage, cargo or mail)
  - v. Affect flight safety
3. If the visually detectable damage to a ULD component is identified during the visual check, refer to that ULD component's corresponding damage limit on the ULD Operational Damage Limits Notice (ODLN) and follow the instructions below:
  - i. If damage to a ULD component is within the allowable damage limit, the ULD is still serviceable
  - ii. If damage to a ULD component exceeds the allowable damage limit, the ULD is deemed to be unserviceable
4. The following list includes but not limited to some typical stages during ramp operations when visually detectable damage check on ULD should be performed. An airline or a Ground Handling Service Provider,(GHSP) may choose to add or reduce occasion(s) to perform ULD visual checks during ramp operations based on its own safety risk assessment and mitigation strategies:
  - i. Prior to dispatch to an aircraft
  - ii. Prior to loading aboard an aircraft
  - iii. When unloading from an aircraft
  - iv. Whenever loaded ULD is interlined, interchanged, or otherwise transferred between parties prior to acceptance, including ULD handover between cargo warehouse personnel and ramp personnel

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**CAUTION! Neither ULD serviceability check nor visually detectable damage check shall discharge airline responsibility to maintain ULD airworthiness inspection and ensure only airworthy ULD aboard an aircraft.**

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- b. In addition to the visually detectable damage check, the following ULD conditions should also be checked during ramp operations:
  1. Check if the container curtain door(s) and pallet nets are closed and latched properly;
  2. Check for each of the following defects:
    - i. Accumulations of snow, water, ice;
    - ii. Evidence of spills or leaks from load;
    - iii. Evidence of damage to the load;
    - iv. Evidence of tampering (cuts, tears of plastic foil, etc.) to the load.
  3. At the ULD loader and in the aircraft:
    - i. Identify the presence of any protective plastic sheet put over the top of a pallet net or container, that is not approved by the airlines' operations manuals;
    - ii. Check for any visible evidence that the load may have moved out of the build contour during transportation.
  4. Check if nets and straps are properly tightened without any slack or excess.
- c. Unserviceable ULDs;
  1. An Unserviceable ULD tag (see AHM 420 Attachment E) must be completed and attached to the unserviceable ULD.
  2. DO NOT load unserviceable ULDs on board any aircraft.
  3. Inform the operator/owner and return the unserviceable ULD to the cargo warehouse.
- d. For other Defects





1. Close and secure the container curtain door(s) and pallet net by appropriately trained and qualified personnel in ULD build-up
2. Remove accumulations of snow, water, ice
3. Defects such as spill/leak from load, damage to the load, or tampering should only be fixed and resolved by the appropriately trained and qualified personnel. In cases where the defect cannot be fixed/resolved on the ramp, the Cargo Handling Agent at the cargo warehouse should be contacted.

**Danger:**

- Do not touch the spill/leak from dangerous goods and immediately inform the personnel responsible for safety before moving the cargo
  - In cases where tampering evidence is identified, the personnel responsible for security should be informed
4. Remove any dispose protective plastic sheet put over the top of a pallet net or container before loading the ULD into the aircraft
  5. Improper ULD contour or overhang/indent size should only be fixed and resolved by the appropriately trained and qualified personnel in ULD build-up
  6. For net and strap tension concerns due to the existence of slack or excess, any appropriately trained and qualified personnel in ULD build-up can make appropriate adjustments to nets and straps to secure the load at any point along the ULD operational procedures
  7. For all other defects identified, contact appropriately trained and qualified personnel to assist in proper resolution in accordance with the requirements of the airlines

**Note:** Training Requirements as per AHM chapter 1100.

#### 4.5.10 Transport of Cargo and Mail in Passenger Cabin

*Not applicable to TUI fly Belgium and TUI fly the Netherlands.*

Passenger aircraft are not certified to carry cargo on passenger seats or ULDs (pallets or containers) in the passenger cabin secured to the seat tracks.

Before starting such operations, a safety risk assessment shall be performed involving all relevant operational departments (i.e., ground, cargo, cabin, flight, engineering). If required, this type of operation shall be approved by the local authority.

For further guidance on the use of aircraft configured for the carriage of passengers to safely transport cargo in the passenger cabin, refer to IATA Guidance for the Transport of Cargo and Mail on Aircraft Configured for the Carriage of Passengers.

For training, refer to (<https://www.iata.org/contentassets/094560b4bd9844fda520e9058a0fbe2e/guidance-safe-transportation-cargo-passenger-cabin.pdf>).

## 4.6 Aircraft Departure

### 4.6.1 Introduction

A departure is normally conducted with a dialogue between flight crew and ground staff member in charge of the departure operation via an interphone. This procedure ensures the highest level of safety during departures based on a precise exchange of information. The



ground staff member in charge of the departure operation shall maintain continuous contact with the flight crew and is responsible for the ground maneuver. The scope of this departure procedure is limited to conventional towbar and towbarless pushback operation.

**Note:** The term “headset” also applies whether a wired or wireless interphone system is used.

Other staff are also involved in the departure process. The number of other staff and their functions/responsibilities can change depending on the:

1. Operating airline procedures
2. Aircraft type
3. Ground Support Equipment (GSE) used for the maneuver
4. Airport infrastructure
5. Stand configuration

Section 4.6.2 describes the responsibilities for the main functions involved in the pushback maneuver.

#### **4.6.2 Ground Staff Member Responsibilities**

##### **4.6.2.1 Ground Staff Member Responsible for Departure**

The responsible ground staff member is defined as the person performing the communications with the flight crew. A responsible ground staff member shall be in charge of each aircraft pushback. This function can be performed by different agents in different roles and positions.

The ground staff member responsible for the departure shall:

- a. Be in charge of the entire pushback, once clearance to begin pushback has been given by the flight crew.
- b. Ensure the pushback tractor and/or towbar/towbarless (TWL) tractor is suitable for the specific aircraft type.
- c. Conduct briefings with all persons involved in the aircraft movement to review and confirm how the aircraft will be maneuvered.
- d. Have ultimate responsibility to review pushback procedures based on conditions observed and advise flight crew of any anticipated changes to pushback procedures.

##### **4.6.2.2 Push-back Tractor Driver**

The pushback tractor driver shall:

- a. Ensure the pushback tractor and towbar/TWL tractor is suitable for the specific aircraft type.
- b. Stand by for clearance-to-push communication from the flight crew or responsible ground staff member or brake operator in case of towing.

**Note:** When a single person pushback is conducted, the pushback tractor driver shall also carry out the function of the for departure as defined in GOM 4.6.2.1



#### 4.6.2.3 Wing Walker

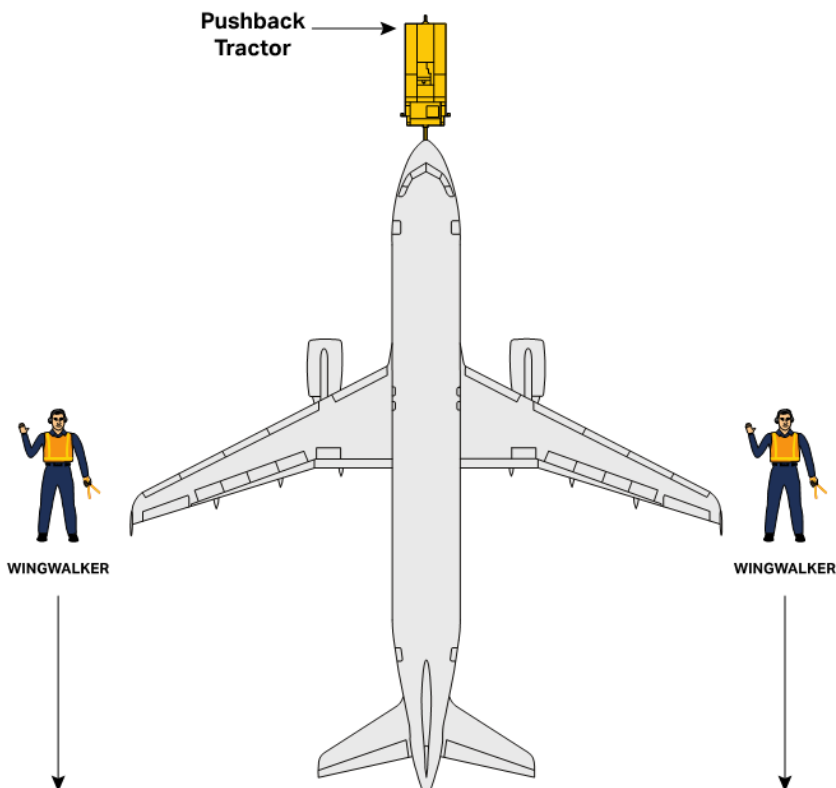
*The presence of such personnel may be controlled or restricted by civil aviation authorities or local airport authorities.*

Where applicable, the wing walker or other assist personnel shall:

- a. Be under the direction of the responsible ground staff member at all times.
- b. Use two marshalling wands, either day wands or illuminated wands for low-visibility operations.
- c. Be positioned before and during movement of the aircraft as follows, where applicable and/or permitted:
  1. Approximately 1 m (3 ft) outboard of the wingtip clearance and any potential hazards.
  2. In line with the rearmost main gear wheel.
  3. Able to maintain visual contact with the person responsible for pushback/towing.
  4. At a safe distance from the moving aircraft/pushback tractor during the entire pushback
  5. Maintain situational awareness to avoid personal injury hazards e.g., moving equipment and vehicles, aircraft, slip, trip and fall hazards such as chocks, cones, GSE, uneven ground, spillages, etc.

**Note:** See diagrams below for positioning of wing walkers during aircraft arrival on stand and during pushback.

- d. Ensure the aircraft movement path is clear of any obstructions (i.e., other aircraft, vehicles).
- e. Provide "Clear to Move Aircraft" clearance signals at all times to the person responsible for pushback by using a distinct pendulum arm motion. Refer to GOM 3.4.6.1.
- f. Continue to monitor the aircraft path until the aircraft is stopped at the departure point.
- g. If at any time during aircraft movement, the wing walkers are unsure or identify an imminent danger, signal the person responsible for pushback with the "STOP" signal (refer to GOM 3.4.7.6).
- h. When the aircraft is stopped at the departure point, position themselves either at the 11 o'clock or 1 o'clock position in clear visibility of the flight crew on the terminal side at a safe distance away from the aircraft.
- i. Give the "Hold Movement of Aircraft" signal to the flight crew when the visual "Brakes Engaged" signal has been received from the person responsible for pushback. Refer to GOM 3.4.6.3 and 3.4.9.1.
- j. Remain in position until the responsible ground staff member takes over the marshalling clearance of the aircraft.
- k. Return to the terminal once marshalling duty has been transferred.



**Figure 4.6.2.3—Wing Walker**

### 4.6.3 Pre Departure Activities

#### 4.6.3.1 Pre Departure Walk Around Check

The walk around should start as soon as possible after all ground servicing activities have been completed.

Walk around the entire aircraft at a normal walking pace. The check shall start as close as possible to departure time. If any part of the aircraft still has GSE engaged at the time of the check, or if GSE re-engages with the aircraft after the check, the applicable area(s) must be re-inspected.

The pre-departure walk around check shall include the following:

- The apron is clear of all FOD items that may cause aircraft damage or pose a risk.
- All GSE including passenger boarding devices are detached.
- The stand area is clear of obstructions.



- d. GSE and vehicles are positioned clear of the aircraft path.
- e. Adequate clearance exists between the aircraft and facilities or fixed obstacles along the aircraft movement path.
- f. All aircraft servicing panels and/or hatches are closed and secured

**Exception:**

External power and headset panels.

- g. Cabin and cargo access doors are closed and:
  - 1. Handles are flush with the fuselage and, where applicable, all other visible indicators confirm that doors are correctly locked.
  - 2. There is no visible damage on the aircraft, particularly around cabin and cargo doors.
- h. Any observed abnormalities on the aircraft observed (e.g. obvious damage, fluid leakage, unremoved pitot covers) are immediately brought to the attention of flight crew, maintenance personnel and the person responsible for supervision..
- i. Items such as propeller straps and tail stands are removed.
- j. Landing gear safety pins are removed.
- k. There are no obvious signs of unmarked dents or other skin panel damage

**Note 1:** In the event of the aircraft returning to stand, the pre departure walk around check must be repeated.

**Note 2:** It is essential to have adequate lighting when doing the walk around check. If the lighting is insufficient, use a torch.

**CAUTION!** If any of the above conditions or actions are not met, inform your supervisor, maintenance and the Pilot-in-Command. This may affect the safety of the intended flight.

#### 4.6.3.2 Pre-Departure Table

**General**

Prior to aircraft movement, the responsible ground staff (headset operator) must ascertain that the following requirements are met:

Legend: **TWT**-towbar tractor **TWL**-towbarless tractor

ACTION	APPLICABLE TO				
	PUSHBACK		TOWING		TAXI OUT
	TWT	TWL	TWT	TWL	
The required pre departure servicing checks are completed.	✓	✓	✓	✓	✓
Fire protection devices are available and correctly positioned (as per local rules).	✓	✓	✓	✓	✓



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ACTION	APPLICABLE TO				
	PUSHBACK		TOWING		TAXI OUT
	TWT	TWL	TWT	TWL	
The tractor and towbar combination, if applicable, are suitable for the operation, considering the aircraft type and weight, weather and surface conditions.	✓	✓	✓	✓	
The steering bypass pin is installed correctly or the nose gear steering torque links are disconnected, if applicable, or ensure the nose gear steering mechanisms are set as required for pushback (as applicable to aircraft type).	✓	✓	✓	✓	
Communication with flight crew/brake operator and ground staff member is established via interphone system.	✓	✓	✓	✓	✓
Aircraft Main Landing Gear (MLG) chocks are installed and nose gear chocks are removed, if applicable.	✓	✓	✓	✓	
Aircraft nose gear chocks are installed and MLG chocks removed, if applicable.					
Additional staff, such as wing walkers, are present, if applicable/required.	✓	✓	✓	✓	
If an Air Start Unit (ASU) is required, check the equipment is correctly positioned and suitable for the operation.	✓	✓			✓
If an ASU engine start is undertaken, communicate to confirm ASU position and engine start sequence with the flight crew.	✓	✓			✓



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ACTION	APPLICABLE TO				
	PUSHBACK		TOWING		TAXI OUT
	TWT	TWL	TWT	TWL	
All persons not involved in the aircraft departure operation are clear of the departing aircraft, outside the ERA, and remain clear of the aircraft and pushback equipment throughout the pushback maneuver.	✓	✓	✓	✓	✓
The GSE is parked in designated locations outside the ERA, and the intended path of the aircraft remains clear of equipment and other obstacles throughout the pushback maneuver.	✓	✓	✓	✓	✓
The Passenger Boarding Bridge (PBB) is fully retracted and parked in its designated parking location, if applicable.	✓	✓	✓	✓	✓
The ERA and the path/area that the aircraft will move toward is clear of FOD, and remains so throughout the pushback maneuver, ensuring safe aircraft movement.	✓	✓	✓	✓	✓
The stand surface condition is sufficiently free of ice, snow, etc., to ensure safe aircraft movement.	✓	✓	✓	✓	✓
The ramp area is free of objects/obstacles that may be impacted by the aircraft or may endanger others due to jet blast effects.	✓	✓	✓	✓	✓
The air intake and blast areas of the aircraft engines are clear of persons and obstacles, such as GSE.	✓	✓			✓



ACTION	APPLICABLE TO				
	PUSHBACK		TOWING		TAXI OUT
	TWT	TWL	TWT	TWL	
All persons involved in the aircraft movement stay well clear of the danger areas around the tractor landing gear and aircraft engines.	✓	✓	✓	✓	
Flight crew/brake operator confirm that the aircraft parking brake is set.	✓	✓	✓	✓	
Completion of the pre-departure table is indicated to the flight crew.	✓	✓	✓	✓	
A qualified brake operator is in the cockpit, where required by an operator procedure.			✓	✓	
Cross-reference with GOM section:	4.6.4.2	4.6.4.3			

**Note:** Where a remote-controlled pushback tractor connected to the nose gear is used, TWL predeparture activities shall apply.

**Danger:** It is critical that the responsible ground staff member (headset operator) establishes verbal communication with the flight crew via the aircraft interphone system, as departures using marshalling hand signals without headset communication shall only be conducted in exceptional cases.

#### 4.6.3.3 Pre-Departure Communication

An aircraft departure shall always be conducted using interphone communications. If the interphone becomes/is unserviceable, use standard hand signals (refer to GOM 3.4.7 and 3.4.8 for the departure).

- a. Connect the Interphone and:
  1. Verify the communication system is functional
  2. Update flight crew on the progress of the ramp operation
- b. Prior to departure, conduct a briefing with the flight crew and the ground staff member responsible for the departure, to:
  1. Review departure specifics (e.g., direction of movement, ASU requirement, final positioning, taxi out direction).
  2. Review standard hand signals to be used, including emergency signals.

**CAUTION!** Repeat all given instructions or acknowledge them in a manner clearly indicating that they have been understood and will be complied with.





- c. Request permission to disconnect ground power, if applicable.
- d. Disconnect GPU/FPU after approval is received from flight crew.

**Note:** The ground staff responsible for departure should be in continuous communication with flight crew by interphone.

#### 4.6.4 Connecting the Pushback Vehicle

##### 4.6.4.1 General

- a. Prior to connecting the tractor to the aircraft, as per Table 4.6.3.2, the tractor may be parked in front of the aircraft or outside of the ERA, but never behind the wings.
- b. Ensure the nose gear steering bypass pin is correctly installed prior to towbar/TWL connection to the aircraft and/or ensure the nose gear steering mechanisms are set as required for pushback (as applicable to the aircraft type). The steering bypass pin shall be:
  - 1. Labeled with the specific aircraft type(s) for which it can be used.
  - 2. Identified with a "Remove Before Flight" streamer.
  - 3. Checked regularly for proper technical condition, or as per manufacturer instructions.

**Note:** Each aircraft type has specific requirements for the bypass of the nose gear steering mechanism. Refer to Annex C, chapter 9 - Aircraft specifics for nose gear steering bypass pin details.

- c. Ensure the steering hydraulic system is depressurized or the nose gear steering torque links are disconnected, as applicable for aircraft not fitted with a nose gear steering bypass system. Coordination with the flight deck would be required to ensure a safe depressurization and repressurization of the aircraft hydraulic system.
- d. If using chocking option 1 (see GOM 4.2.2 Chock Placement Diagrams) and where required by the aircraft type, prior to connecting the towbar/TWL, confirm that the aircraft parking brake is set.
- e. A guide person shall be used to assist in the final approach to the towbar/nose gear when a tractor and towbar is used for the pushback process. When a TWL tractor is used, a guide person shall be used when the vision of the tractor driver is/might be restricted.

##### 4.6.4.2 Connecting Pushback Tractor and Towbar

- a. Where applicable, remove the chocks from the nose gear and reposition at the main gear (in accordance with *GOM 4.2.2 Chock Placement Diagrams option 2*).

**Note:** Nose gear wheel chocks may be removed without notification, provided the Main Landing Gear wheel chocks are still positioned.

- b. Connect the towbar to the nose gear first.
- c. Ensure the towbar connection is secured and a locking pin is in place.
- d. Ensure the tractor and towbar are aligned with the centerline of the aircraft while connecting.
- e. Raise the towbar so its head is at the same height as the tractor connection.
- f. Approach the towbar slowly until the connection aligns with the pushback tractor.
- g. Ensure the front wheels of the tractor remain straight and the tractor is in line with the centerline of the aircraft.



- h. The pushback tractor shall only be connected to the aircraft once all GSE is detached from the aircraft.

**Note:** With the exception of GPU and ASU which may be left connected.

- i. Raise the towbar wheels by releasing pressure on the hydraulic pump.
- j. Select the Park or Neutral gear (if no selection for Park) and set the parking brake of the pushback tractor.
- k. To minimize the possibility of injury, Ground handling personnel shall:
  - 1. Face the tractor when connecting the towbar to the tractor.
  - 2. Stand with both legs on the same side of the towbar during the connection/disconnection procedure (i.e. do not stand astride/over the towbar).

#### 4.6.4.3 Connecting Towbarless Tractor

- a. Ensure the correct aircraft type is selected on the TWL control panel, where applicable and in accordance with TWL operating procedures.
- b. On final approach to the aircraft, the tractor shall be properly aligned and correctly positioned.
- c. Ensure the aircraft nose wheels are safely locked into the tractor cradle by the tractor locking mechanism.
- d. Position the TWL tractor to standby for lifting.
- e. Select the Park or Neutral gear (if no selection for park) and set the parking brake of the pushback tractor.
- f. Ensure aircraft is not lifted while any GSE or PBB are connected to the aircraft.

**Note:** If using chocking option 1 (see GOM 4.2.2 Chock Placement Diagrams), prior to final positioning of the TWL, confirm that the aircraft parking brake is set.

#### 4.6.4.4 Connecting Remote Controlled Tractor to Nose Gear

- a. Ensure the remote control unit's battery is sufficiently charged.
- b. Ensure the tractor is sufficiently charged for the task/pushback maneuver.
- c. Switch on the remote control unit and ensure it connects to the tractor.

**Note:** See GOM 4.6.4.3 for other points related to connecting TWL

#### 4.6.5 Wheel Chock Removal

Prior to removal of chocks the responsible ground staff member (headset operator) shall:

- a. Via the interphone or hand signals, confirm the aircraft parking brake is set.
- b. Check all GSE have been disconnected from the aircraft, except for Ground Power Unit (GPU) and Air Start Unit (ASU) when air start is required.
- c. Check the passenger boarding devices have been retracted from the aircraft, if applicable.
- d. Check the pushback tractor and towbar are fully secured to the nose gear and the parking brake is set on the tractor.
- e. For TWL tractor operation, check that equipment is fully secured to the nose landing gear (NLG) and the parking brake is set on the tractor,
- f. Give clearance to ground staff member to remove chocks. After removal, chocks shall be placed in their designated location.



**Note 1:** If a chock is stuck and cannot be removed manually, the stuck chock can be removed by moving the aircraft after the aircraft brakes have been released, with precautions and in coordination with the responsible ground staff member for the departure.

**Note 2:** Once high-wind or icy conditions have passed, any additional chocks that were added to the aircraft may be removed so that chock placement reverts to that for normal conditions.

**Note 3:** If hand signals are used (i.e., the aircraft interphone system is inoperative), the responsible ground personnel shall seek confirmation that the aircraft parking brake is set prior to removal of the chocks. Refer to GOM 3.4.7 Marshaling Hand Signals for Aircraft and GOM 3.4.9 Technical/Servicing Hand Signals-Flight Crew to Ground Staff.

#### 4.6.6 Departure Communications

##### 4.6.6.1 General

Departure communications procedures outlined in this section are a basic standard for both pushback and open ramp (taxi out) departures. Certain operators may have specific requirements in their departure communications that may vary. This communication standard shall apply. The specific dialogue contained herein does not forbid the exchange of additional important information between flight crew and ground staff member using non-standard phraseology (e.g., request for authorization to disconnect ground support units).

- Note:**
1. If the pushback needs to be stopped, the following call shall be made: "Stop Pushback"
  2. Where applicable, use "pull out" instead of "pushback".

##### 4.6.6.2 Departure Communication Dialogue

The following dialogue is to be used for a departure.

**Note:** In the case of an aircraft taxi-out, "Pushback" and "Pushback Completed" phases are not applicable.

Dialogue between Ground Staff Member and Flight Crew		
Phase	Ground Staff	Flight Crew
Preparation	Inform the flight crew about the use of towbar or TWL tractor (if applicable)	
	<b>Call:</b> CONFIRM PARKING BRAKE SET	<b>Reply:</b> PARKING BRAKE SET



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Dialogue between Ground Staff Member and Flight Crew		
Phase	Ground Staff	Flight Crew
	<b>Reply:</b> STEERING BYPASS PIN INSTALLED/NOSE WHEEL STEERING DEACTIVATED (if applicable) <sup>1</sup>	<b>Call:</b> CONFIRM STEERING BYPASS PIN INSERTED/ NOSE WHEEL STEERING DEACTIVATED (if applicable)  <b>Call:</b> CONFIRM CLEAR TO PRESSURIZE (if applicable)
	<b>Reply:</b> CLEAR TO PRESSURIZE (if applicable)	
<b>After completion of the pre-departure servicing checks</b>	<b>Call:</b> PREDEPARTURE CHECKS COMPLETED  <b>Call:</b> ELEVATING AIRCRAFT <sup>2</sup>  <b>Call:</b> READY FOR PUSHBACK <sup>1</sup>	
		<b>Reply:</b> STANDBY
<b>After completion of the departure servicing checks Pushback</b>		<b>Call:</b> PUSHBACK APPROVED (MENTION AIRCRAFT NOSE DIRECTION, START-UP POINT, PULL FORWARD, ETC.)
	<b>Call:</b> CONFIRM PARKING BRAKE RELEASE	
		<b>Reply:</b> PARKING BRAKE RELEASED
	<b>Call:</b> COMMENCING PUSHBACK (MENTION AIRCRAFT NOSE DIRECTION, START-UP POINT, PULL FORWARD, ETC.)	
	<b>Call:</b> CLEAR TO START ENGINES.	



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Dialogue between Ground Staff Member and Flight Crew		
Phase	Ground Staff	Flight Crew
		<b>Reply:</b> STARTING ENGINES (MENTION ENGINE START-UP SEQUENCE)
<b>Pushback completed</b>	<b>Call</b> PUSHBACK COMPLETED, SET PARKING BRAKE.	
		<b>Reply:</b> PARKING BRAKE SET.
<b>Disconnection</b>	<b>Reply:</b> DISCONNECTING, HOLD POSITION AND WAIT FOR HAND SIGNAL ON YOUR LEFT/FRONT/RIGHT (DISPLAY THE STEERING BYPASS PIN (IF APPLICABLE TO THE AIRCRAFT TYPE) TO THE FLIGHT CREW	<b>Call:</b> CLEAR TO DISCONNECT
		<b>Reply:</b> HOLDING POSITION AND STANDING BY FOR HAND SIGNAL ON THE LEFT/ FRONT/RIGHT

1. Applicable to departures with towbar and TWL tractors
2. If required, applicable to TWL tractors

### 4.6.6.3 Items to be Communicated between Responsible Ground Staff Member and Flight Crew

Phase	Task	Responsible Ground Staff Member Action
Departure preparation	GPU removal	When instructed by flight crew, remove GPU.
	Towbar/TWL tractor connection	<ol style="list-style-type: none"> <li>a. Get confirmation that aircraft parking brake is set.</li> <li>b. Get confirmation that the nose wheel steering is depressurized or advise flight crew that the steering bypass pin is inserted, if applicable.</li> <li>c. Connect the towbar.</li> <li>d. Connect the TWL tractor.</li> </ol>
	Chock removal	<ol style="list-style-type: none"> <li>a. Get confirmation from flight crew that aircraft parking brake is set.</li> <li>b. Remove chocks.</li> </ol>
	Predeparture check	Advise flight crew that the predeparture check has been completed or communicate any discrepancies.



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Phase	Task	Responsible Ground Staff Member Action
Engine start	Starting engines	When requested by the flight crew, advise when the engines may be started and the start sequence.
	ASU	When requested by the flight crew, signal to the ASU operator to supply the required pressure.
Pushback and engine start	Brakes	Get confirmation that the aircraft parking brake has been released.
	Movement of the aircraft (pushback/pull out)	Get permission from flight crew to commence pushback.
	Direction of push/nose	If applicable, ask in which direction the aircraft must be pushed or in which direction the nose should point after pushback.
	Engine start	When requested by the flight crew, advise when the engines may be started.
Pushback completed	Towbar/TWL tractor disconnect	a. Get confirmation that the aircraft parking brake is set. b. Disconnect. c. Remove the steering bypass pin, if applicable.
	Headset removal	a. Get permission from the flight crew to disconnect the headset. b. Advise the flight crew to hold position and wait for visual signal at left/front/right of the aircraft.
Departure	"All Clear" signal	a. Verify steering bypass pin removal has been completed, if applicable. b. Give the "All Clear" signal when the path of the aircraft is clear of all obstacles. c. Get acknowledgement from the flight crew of the "All Clear" signal.

### 4.6.6.4 Departure Communication without Interphone

An aircraft departure shall always be conducted using interphone communications. Only if the interphone becomes unserviceable or under extreme circumstances where the interphone is not available, shall the responsible ground staff member and flight crew use conventional hand signals. Refer to GOM 3.4.7 and 3.4.8 for the Marshaling Hand Signals for Aircraft and Technical/Serviceing Hand Signals-Ground Staff to Flight Crew and technical hand signals flight.

### 4.6.6.5 Interphone Communication Failure

Aircraft pushback requires a communication interphone. If the interphone becomes unserviceable or communications is lost, the following procedure shall be followed:



- a. In the case of a single person operation and if no other means of communication are available, stop the movement and immediately request assistance to continue the movement (depending on local situations and regulations).
- b. In the case of a multiple person operation, communication with the flight crew will be established using hand signals (See GOM 3.4.7 and 3.4.8). The tractor driver shall be able to receive the visual signals as relayed from the flight crew. Once hand signal communication has been established, the pushback can resume.
- c. Notify air traffic control (ATC), if radio available, and continue the movement in cooperation with ATC, depending on local regulations.

#### 4.6.7 Pushback Maneuver

##### 4.6.7.1 Anti-Collision Lights

During a standard departure, once all aircraft doors are closed, the flight crew requests pushback clearance from ATC. Once clearance is obtained, the flight crew will switch on the aircraft's anti-collision lights.

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**CAUTION!** Anti-collision lights that are switched on are a visual indication to ground staff of imminent engine start-up or aircraft movement. Vehicle traffic shall stop until the aircraft has departed from the area.

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**CAUTION!** If the anti-collision lights are switched on unexpectedly (other than in preparation for the departure or towing operation), ground personnel shall move away and remain outside the ERA. The ground staff member shall check with the flight deck before resuming ground handling activities.

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**CAUTION!** In case of the lower anti-collision light failure, the flight crew shall inform the personnel responsible for the departure operation to inform personnel involved in the operations about the imminent engine startup or aircraft movement.

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##### 4.6.7.2 Pushback Requirements

- a. Prior to the aircraft movement, make sure the parking brake is released and the anti-collision lights are switched on, in accordance with local airport regulations.
- b. Headset operator shall signal "Clear to Push" to the pushback tractor driver and wing walkers (if applicable) once the flight crew advises that the aircraft brakes have been released and approval for pushback is given by the flight crew.

**Note:** In case of single person pushback operation, the pushback operator performs headset functions.

- c. Select the appropriate gear on the tractor and slowly begin movement. Start the pushback operation in a straight line.
- d. Carry out the pushback maneuver at a pace no greater than 5 km/h or 3 mph (walking speed) and where required, apply the vehicle brakes gently.
- e. During the maneuver, the pushback tractor driver shall ensure the taxiway (including other movement areas in the intended aircraft path) is free of other aircraft/equipment/obstacles. If an obstacle is identified, the pushback shall stop immediately until the obstacle is clear.



- f. During pushback, ensure the steering turn limits are not exceeded and advise the flight crew if any are exceeded. Damage may occur to the nose gear. Refer to the operating airline's GOM for the specific limits and how they are marked on the aircraft.

**CAUTION! The flight crew shall be notified immediately in the event any connection between the tractor and the aircraft is lost during aircraft movement.**

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- g. At the end of the maneuver, the aircraft/pushback tractor shall be correctly aligned with the taxiway centerline.
- h. When the pushback maneuver is complete, headset operator will receive the "Vehicle Brakes On/Stop" signal (see GOM 3.4.5.4) from the tractor driver to confirm that the tractor parking brake is set. Prior to the disconnection of the tow bar or towbarless tractor from the aircraft nose gear, headset operator:
1. Request flight crew to set the aircraft parking brake and hold the existing position until final clearance signal to taxi.
  2. When confirmation that the aircraft brakes have been set is received from the flight crew:
    - i. Give the "Vehicle Brakes On/Stop" signal as per GOM 3.4.5.4 to the tractor driver and wing walkers, if applicable. Tractor driver releases the tractor parking brake and puts the gear in neutral to release any pressure on the towbar.
    - ii. Give authority to disconnect pushback equipment.

#### 4.6.7.3 Staff Safety During Pushback Maneuver

- a. Tow Bar/TWL Tractor Operations
1. Throughout the pushback operation, all staff walking on the ramp (including the headset operator when the aircraft is moving) shall remain clear of:
    - i. The area on the ground directly under any part of the aircraft (including, but not limited to, the fuselage, wings, stabilizer, engines, nose gear).
    - ii. The aircraft's path.
    - iii. The tractor's path.
    - iv. Engine danger areas.
  2. The headset operator shall:
    - i. Be in visual contact with the tractor driver throughout the pushback.
    - ii. Avoid walking backwards and maintain situational awareness to reduce the possibility of tripping.
    - iii. Use a headset cable long enough to operate safely and be allowed freedom of movement while not posing a trip or tangle hazard (not applicable when a wireless headset is used).
    - iv. Ensure the headset cable remains clear of aircraft/pushback wheels.
  3. If the responsible ground staff member is too close to the nose gear or pushback equipment, the tractor driver shall stop the pushback and review the required safety clearance conducted.
- b. Remote-Controlled Pushback Operations
- When pushback operations are undertaken using remote-controlled pushback equipment connected to the NLG, the responsible ground staff member shall:
1. Stand forward of the aircraft.
  2. Follow its movements and always be in sight of the flight crew.





3. Stay outside the engine's intake/suction area and wheel path of the aircraft during the entire pushback maneuver.
4. Maintain sufficient clearance between the equipment and themselves throughout the pushback maneuver, where the pushback equipment is connected to the nose landing gear.
5. Be in continuous communication with the flight crew via the interphone system.

#### 4.6.7.4 Pushback and Pull Forward

When a pull forward maneuver is performed after a pushback maneuver, particular attention must be paid to the end of the pushback maneuver and during the whole pull forward maneuver. To prevent the aircraft from overtaking/pushing the pushback vehicle during the pull forward phase, the following precautions shall be applied:

- a. The aircraft engines shall be at idle thrust during all of the pushback/pull forward maneuver.

**Note:** If the requirement to pull forward is known in advance, consider not starting the engines until the pull forward maneuver is completed.

- b. The pull forward maneuver shall be performed with the pushback vehicle in the lowest gear available.
- c. Braking shall be performed smoothly and without jerks.
- d. The flight crew shall be alerted immediately to stop the aircraft using gentle braking if aircraft control cannot be ensured/maintained from the pushback vehicle.

**Note:** The following factors increase the risk that the aircraft will overtake/push the pushback vehicle and shall be, therefore, taken into account:

1. Aircraft type and number of engines started/running.
2. Slope of the parking stand and taxiway.
3. Use of a tractor and towbar to undertake the pushback/pull forward maneuver.
4. Adverse weather conditions.

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**CAUTION!** Care shall be taken to avoid a 'jackknife' situation between the aircraft and the pushback vehicle due to asymmetric thrust from the aircraft (one engine running) during the transition from push to pull or vice versa. Do not exceed the manufacturer's maximum tow angles.

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**Danger:** If the aircraft overtakes/pushes the pushback vehicle, the ground staff member shall ensure they stay well clear of the path of the pushback vehicle and the aircraft nose landing gear wheels.

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**CAUTION!** Flight crew and aircraft maintenance personnel must be informed if the aircraft overtakes/pushes the pushback vehicle, as both the pushback vehicle and the aircraft nose landing gear may be damaged by the incident.  
To relieve torsional stresses applied to the landing gear components and tires, move the aircraft in a straight line for a few meters to ensure the nose wheels are in the straight-ahead position when completing the pushback maneuver.

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To relieve torsional stresses applied to the landing gear components and tires, move the aircraft in a straight line for a few meters to ensure the nose wheels are in the straight-ahead position when completing the pushback maneuver.

**Danger:** If the nose wheels are not in the centered position, they can turn quickly to their centered position when the steering bypass pin is removed. This can result in personnel injury and aircraft damage.

#### 4.6.7.5 Maneuvering During Wintery Slippery Conditions

During adverse weather conditions (e.g., fog, rain) visibility and traction will be affected. The tractor driver shall reduce and adapt vehicle speed as required by the current conditions. When maneuvering the aircraft on slippery apron surfaces, extreme caution is required to avoid losing control of the tractor due to skidding, which may also lead to jackknifing (where the tractor is pushed around by the aircraft in an uncontrolled movement). Many elements can contribute to the hazards involved (i.e., strong winds, slippery road surfaces, pavement slopes). Therefore, the following minimum precautions must be observed:

- a. Avoid sudden turns, deceleration or acceleration.
- b. Except when using an ASU, do not start aircraft engines unless:
  1. The condition of the pavement is such that reasonable traction is ensured.
  2. The aircraft parking brake is set.
  3. The aircraft is disconnected from the tow tractor/TWL tractor.

#### 4.6.7.6 Maneuvering During Low Visibility Conditions

- a. Airport operators are responsible for developing low visibility procedures that are relevant for the airport.
- b. Ground handling personnel shall be trained/authorized, as appropriate, prior to undertaking low visibility aircraft ground movement operations.
- c. Ground handling personnel shall observe the movement limitations and other regulations applicable to the airport's low visibility procedures at all times.
- d. Pushback tractors should be equipped with an airfield map, where this is available.
- e. If there is any doubt as to the exact position of the pushback tractor/aircraft, the tractor driver shall stop the tractor/aircraft and inform air traffic controller (ATC) immediately.

**CAUTION!** The responsible for the departure (headset operator) should be positioned outside the tractor at safety distance (refer to GOM 4.6.7.3) during:  
**Low-visibility conditions (heavy rain, fog, bad lighting)**  
**Lack of sufficiently visible markings**  
**Obstructions behind the pushback (e.g., GSE, light post)**

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### 4.6.8 Engine Start

#### 4.6.8.1 Communication During Engine Start

Coordinate the engine starting sequence with the flight crew by conducting a pre-departure briefing.

- a. During the engine start, communicate with the flight crew only if you observe circumstances that require immediate notification and action by the flight crew.
- b. When starting up with an ASU, supply the pressure at the request of the flight crew.



- c. If ramp conditions are below standard for a normal pushback (e.g., hazards, obstacles, slippery, icy), the in charge of pushback will inform the flight crew that engine start clearances will not be given until either:
  - 1. The aircraft is moving over an area of the ramp where the conditions are safe for an engine start, or
  - 2. The pushback has been completed, the aircraft has come to a complete stop and the parking brake has been set.

**Note:** From the flight crew seat facing forward, the engine on his/her left is referenced as engine number one.

#### 4.6.8.2 Engine Start Using an Air Start Unit

- a. Only personnel and equipment involved in engine starting or aircraft pushback are permitted within the ERA during engine start.
- b. Personnel and equipment involved in the engine start shall remain clear of engine danger areas.
- c. Establish communications with the flight crew and confirm the total number of engines to be started, the engine start sequence to be used and number of ASUs being used.
- d. Advise the engine start sequence to the ASU operator(s) and any other ground personnel.
- e. Where possible, the ASU should be positioned on the opposite side of the aircraft to the engine being started.
- f. The ASU shall be positioned in accordance with the following to prevent damage to the aircraft and personal injury.
  - 1. It will not hamper other ramp operations, such as loading and fueling.
  - 2. It is parked outside the engine danger areas (if possible).
  - 3. It is parked at least 2 meters from the aircraft. The towbar is directed away from the aircraft and coupled to the tractor to simplify its removal after engine start-up (towed ASU).
  - 4. It could be easily removed after engine start-up, avoiding the engine danger areas.
  - 5. The exhaust pipe of the unit is directed away from the aircraft fuselage and wing.
- g. When connecting the air supply hose to the aircraft, ensure that:
  - 1. The air supply hose is laid in such a way as to avoid any twists that could affect the air flow.
  - 2. The aircraft receptacle is free from FOD or any fluid.
  - 3. Ensure that the air supply hose coupling is firmly attached to the aircraft connector and pressurize the ASU after consulting the flight crew.

**CAUTION!** If the ASU is positioned within an engine danger area, ensure that this engine will only be started after disconnection/removal of the ASU.

- h. If the aircraft is to be pushed back, connect the pushback tractor and set the tractor's parking brake, where this is possible without disconnecting ground electrical power.
- i. If a pushback tractor is not connected, position a chock in front of the nose wheel.
- j. Confirm with the flight crew that the aircraft parking brake is set, then remove main gear chocks.
- k. The ASU operator shall ensure the unit is ready to supply air pressure.
- l. The headset operator shall inform the flight crew that the ground crew are ready for engine start.



- m. Prepare for engine(s) start. Refer to section 4.6.6.2, Departure Communication Dialogue and Signals, for communications requirements.
- n. When engine start is complete, the headset operator shall signal the ASU and ground power operator(s) to disconnect the ASU and remove ground power.
- o. Disconnect the ASU hose(s).
- p. Close and latch external air start and electrical panels.

**Note:** Some aircraft types may require other equipment such as GPU to start engine in case of APU failure. Refer to operating airline procedures.

**Danger:** When connecting and disconnecting ASU hose(s), walk directly underneath the fuselage, or close alongside it, keeping clear of engine danger areas

#### 4.6.8.3 Engine start using cross-bleed

Engine start using cross-bleed can only be performed once the pushback has been completed, the aircraft brakes have been engaged, and the area around the aircraft is clear.

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**CAUTION!** With engine(s) above idle thrust, blast and suction effects are greater

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#### 4.6.8.4 Communication During Fire

##### a. Engine Fire

The flight crew normally detects an engine or APU fire and will take action using the engine/APU fire extinguishing system. However, the ground staff member shall alert the flight crew immediately via the headset if flames are noticed from the engine or engine pylon. If a headset is not available, the appropriate "Fire" hand signal must be used. Refer to 3.4.7.10.

##### b. Engine Tailpipe/Exhaust Fire

If flames from the engine tailpipe are noticed during engine starting, the ground staff member shall alert the flight crew immediately, as such a fire might not be detectable via temperature sensors and/or fire warning systems in the aircraft.

**Caution:** Do not fight engine fires with fire extinguishers on the ground when the flight crew is in the flight deck. The flight crew will take all necessary action.

#### 4.6.9 Pushback Disconnection

##### 4.6.9.1 Pushback Tractor and Towbar Disconnection

- a. The responsible ground staff member shall remove the tow pin securing the towbar to the pushback tractor
- b. The pushback driver/operator shall check that other staff are clear of the intended travel path and slowly drive the pushback tractor to a position in the aircraft's path and be visible to the flight crew, if possible, ready for the towbar to be reconnected.
- c. The responsible ground staff member shall disconnect the towbar from the nose landing gear and reconnect to the pushback tractor and move clear of the pushback tractor, in view of the driver/operator.
- d. The responsible ground staff member shall give an 'OK' signal to the pushback driver to confirm that the towbar is reconnected and it is clear to drive away.
- e. The pushback driver/operator shall check that other staff are clear of the intended travel path and slowly drive the pushback tractor to a position visible to the flight crew until the



responsible ground staff member on the interphone has disconnected and is in view of the flight crew.

**Note:** Ensure the towbar is disconnected from the tractor before disconnecting from the aircraft (except where the towbar is specifically designed to be disconnected from the aircraft first).

#### 4.6.9.2 Tow Barless Tractor/Remote Controlled Tractor Disconnection

- a. The pushback driver/operator shall ensure that the tractor wheels are centralized and lower the aircraft nose-wheel and open the tractor cradle.
- b. The pushback driver/operator shall check that other staff are clear of the intended travel path and slowly drive the pushback tractor to a position in the aircrafts path and be visible to the flight crew, ensuring that the wheel cradle is completely clear of the aircraft nose landing gear before commencing a turn.
- c. The pushback driver/operator shall rotate the drivers seat to the 'drive away' direction if applicable.
- d. The pushback driver/operator shall remain in a position visible to the flight crew until the responsible ground staff member on the interphone has disconnected and is in view of the flight crew.

#### 4.6.10 Pushback Completion

Pushback completion includes repositioning the pushback tractor, removing the nose gear steering bypass pin and displaying the steering bypass pin to flight crew, if equipped:

- a. Remove the nose gear steering bypass pin and/or ensure the nose gear steering mechanisms are set to normal conditions for taxiing (as applicable to the aircraft type).
- b. If previously disconnected, reconnect the torque link and inform flight crew.
- c. Complete the headset communication and, after receiving flight crew approval, disconnect the headset and close the access panel (if applicable to the aircraft type).
- d. Move clear of the aircraft to a safe position visible to the flight crew and away from its intended path.
- e. Display the steering bypass pin to the flight crew (if applicable to aircraft type).
- f. Give the "All Clear" signal (see GOM 3.4.9.6) once eye contact has been made with the flight crew and they are expecting the signal. In low-light conditions, the flight crew will turn on the interior lights of the flight deck.
- g. Remain in position until an acknowledgement from the flight crew is received.
- h. Drive the tractor back to the terminal, the appropriate holding position, or to the next task.

#### **Danger:**

If the nose wheels are not in the centered position, they can turn quickly to their centered position when the steering bypass pin is removed. Personnel injury and/or aircraft damage could result.

Do not disconnect the interphone communication cable until the towbar or TWL tractor has been disconnected from the nose gear.

#### **Danger:**

After disconnection of the headset, no attempt shall be made to approach the aircraft unless cleared by the flight crew to do so via hand signals.



#### 4.6.11 Incidents During Pushback

##### 4.6.11.1 Incidents During Pushback Involving Pushback Tractor / Towbar or Towbarless Tractor

The list of incidents below outlines the recommended actions to be undertaken immediately by flight crew and/or tractor drivers in the event of an incident during the pushback operation. The list of incidents is not exhaustive and the recommended actions should only be applied if they are deemed the safest course of action given the exact circumstances of the incident. If airport and/or operator procedures differ from the recommended actions below, those shall be followed.

Flight crew	Tractor Driver
Tractor Failure	
(a) Inform ATC. (b) Apply the aircraft parking brake. (c) Listen to VHF and wait for assistance. (d) Relay information from ATC to headset operator	(a) Stop aircraft/tractor set. (b) Apply tractor parking brake. (c) Inform the flight crew. (d) Contact supervision and equipment maintenance to advise of the situation, as required. (e) Follow instructions received from headset operator, as applicable. (f) If the TWL/towbar connection with the tractor needs to be reset (i.e., removed and reconnected), the aircraft shall be chocked while the tractor is being replaced.



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Flight crew	Tractor Driver
<b>Tractor/Aircraft Separation</b>	
(a) Apply the aircraft brakes. (b) As soon as the aircraft is at a standstill, apply the aircraft parking brake before releasing the pedal. (c) Inform ATC. (d) Relay information received from ATC to headset operator, if applicable.	(a) Do not apply tractor brakes. (b) Inform the flight crew of separation. (c) Follow the aircraft path attentively and stop the tractor according to the aircraft position. (d) Apply the tractor parking brake. (e) Confirm the aircraft parking brake is set then chock the aircraft. (f) Assess the reason for the separation. (g) Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required. (h) Follow instructions and/or complete pushback maneuver, as applicable.
<b>Towbar/Shear Pin Failure (remains attached to the aircraft)</b>	
(a) Apply the aircraft parking brake. (b) Inform ATC. (c) Relay information received from ATC to headset operator, if applicable.	(a) Stop aircraft/tractor set. (b) Apply the tractor parking brake. (c) Inform the flight crew of the towbar/shear pin failure. (d) Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required. (e) Chock the aircraft and replace the towbar. (f) Complete the pushback maneuver.
<b>Pushback Tractor Fire</b>	
(a) Inform ATC and headset operator. (b) Apply the aircraft parking brake. (c) Determine the need for aircraft emergency evacuation and confirm to ATC and headset operator.	(a) Inform the flight crew. (b) Stop aircraft/tractor set immediately. (c) Conduct an assessment of the situation and consider tackling the fire with the onboard tractor firefighting equipment only if it is deemed safe to do so. (d) Consider disconnecting and moving the tractor to a safe distance from the aircraft, if deemed safe and appropriate to do so. (e) Contact supervision, equipment maintenance and emergency services to advise of the situation, as required. (f) If flight crew confirm emergency evacuation, assist in the evacuation as far as is possible/practical by directing passengers/crew toward a safe location.



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Flight crew	Tractor Driver
<b>Aircraft Fire</b>	
(a) Inform ATC and headset operator. (b) Apply the aircraft parking brake. (c) Execute onboard emergency procedures.	(a) Stop aircraft/tractor set immediately. (b) Inform the flight crew. (c) If safe to do so, disconnect and move the tractor to a safe distance from the aircraft, where possible. (d) If safe to do so, headset operator should maintain communication with the flight crew and follow instructions. (e) Contact supervision and emergency services to advise of the situation, as required. (f) If flight crew confirm emergency evacuation, assist in the evacuation as far as is possible/practical by directing passengers/crew toward a safe location.
<b>Accident with Other Aircraft or Vehicle</b>	
(a) Contact ATC stating position and nature of the accident. (b) Listen to VHF and wait for assistance. (c) Relay information received from ATC to headset operator, if applicable.	(a) Stop aircraft/tractor set immediately. (b) Apply tractor parking brake. (c) Inform the flight crew. (d) Contact supervision, aircraft maintenance, equipment maintenance and emergency services to advise of the situation, as required. (e) Follow instructions received from the headset operator and/or wait for assistance. (f) Do not disconnect the tractor unless specifically instructed to do so by the headset operator and/or ATC. (g) If disconnecting the tractor, the aircraft must be chocked.
<b>Interphone Communication Failure</b>	
If during the pushback operation the interphone fails, the aircraft must be immediately stopped and an alternate means of communication established before continuing. If this is not possible, assistance must be requested.	
<b>Visual Contact with the Wing Walkers Is Lost (if used)</b>	
In the event that the tractor driver is unable to establish visual contact with one or both of the wing walkers, when used, the pushback shall be stopped and not recommence until visual contact is re-established.	

### 4.6.12 Re-establishing Communication After Departure

#### 4.6.12.1 Introduction

The following procedure is to be used when the ground staff member or flight crew need to re-establish interphone communication after it has been disconnected.

#### 4.6.12.2 Initiated from the Flight Deck

The flight crew sets the parking brake and reestablishes communication with the ground staff member via a company channel or ATC. If visual communication with the ground staff member is still established, visual signals may be used.





#### 4.6.12.3 Initiated from the Ground

If the ground staff member needs to reestablish communication with the aircraft after dispatch, do not approach the aircraft, If communication cannot be established using hand signals, make contact via a company channel or ATC.

When preparing to re-establish communication with the aircraft, the ground staff member shall take the following precautions:

- a. Make sure the ground staff member has been seen by the flight crew and the intention to approach the aircraft to re-establish interphone communication is understood.
- b. Approach the aircraft from the direction where visual contact with the flight crew is maintained for as long as possible.
- c. Only the person establishing the interphone communication shall approach the aircraft.
- d. Stay outside the aircraft's engine danger area when approaching the aircraft.
- e. If possible, position the pushback tractor in front of the aircraft in clear view of the flight crew to act as a safety barrier and prevent premature movement of the aircraft.

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**CAUTION!** For safety reasons, the interphone communication system cannot be used when there is thunderstorm activity over the airport as there is a risk of electrical discharges between the aircraft and the interphone system. Under these conditions, communication headsets cannot be worn.

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### 4.7 Open Ramp Departure

An open ramp is a taxi-in and taxi-out operation area. In some locations, the aircraft may be towed from an open ramp to a taxiway, prior to engine start.

- a. Complete all pre-departure checks.
- b. Refer to departure communication (See 4.6.6.2) section and follow required phases of dialogue.
- c. Ensure all staff and equipment is clear of the aircraft behind the ERA.
- d. Position for marshalling in an area behind the ERA while being in clear view of the flight crew on either side of the aircraft (depending on facility)

### 4.8 Aircraft Powerback Operations

*Not Applicable to TUI fly Belgium and TUI fly the Netherlands.*

### 4.9 Aircraft Towing

#### 4.9.1 Introduction

Aircraft towing may be carried out for three reasons:

- a. Maintenance Towing

Towing an aircraft without passengers, without cargo and with minimum fuel on board.

- b. Operational/Dispatch Towing

Towing an aircraft loaded with passengers and/or fuel and/or cargo to/from the terminal gate or parking area to/from a remote location. Operational Towing is not allowed on certain aircraft type.



**Note:** Operational Towing is not allowed on certain aircraft type.

c. Repositioning Towing

Movement of an aircraft to/from a remote parking area with/without cargo or fuel.

## 4.9.2 Ground Staff Member Responsibilities

### 4.9.2.1 Responsible Ground Staff Member for Towing

The responsible ground staff member is defined as the person who has overall responsibility for the towing maneuver and is normally the pushback tractor driver, although the function may be performed by different ground staff members in different roles.

The responsible ground staff member in charge of each towing maneuver shall check to ensure all requirements for the towing operation are met prior to commencing towing operations.

See GOM 4.6.2.2 Pushback Tractor Driver for responsibilities.

See GOM 4.6.2.3 Wing Walker for responsibilities.

### 4.9.2.2 Brake Operator

Where applicable, in accordance with local procedures, the brake operator shall:

- a. Be responsible for communication with ATC.
- b. Complete a flight deck checklist for towing (refer to the operating airline's GOM).
- c. Ensure all aircraft doors are closed by authorized personnel.
- d. During towing, the brake operator must be seated with the seat belt fastened.
- e. Apply the "Brakes On" and "Brakes Off" procedures in coordination with the headset operator.
- f. Switch on and switch off the external anti-collision lights of the aircraft.
- g. Position the seat in such a way that the brakes can be easily applied when required.
- h. Inform the headset operator immediately if potential contact with any object(s) is detected.
- i. Only apply the brakes during the tow when instructed by the headset operator/tractor operator or when it is clear the aircraft has become separated from the tractor.

**Note:**

1. For procedures related to incidents during towing (see GOM 4.9.5).
2. Presence on board of staff, other than the brake operator, is forbidden throughout the maintenance or repositioning towing operations, except for flight crew and maintenance staff. The brake operator must inform them that they must be seated with the seat belt fastened and must follow his safety orders if necessary.

### 4.9.2.3 Headset Operator

The headset operator is responsible for communications with the brake operator and/or VHF operator.

### 4.9.2.4 VHF Operator

The VHF operator is responsible for communications with ATC and/or GMC.



**Note:** The VHF operator may be positioned in the pushback tractor or on the flight deck depending on the ground staff member functions carrying out the towing maneuver.

### 4.9.3 Pre-Towing Activities

#### 4.9.3.1 General

The following requirements shall be met to perform an aircraft tow:

- a. Carry out a pre-departure walk around in accordance with Section 4.6.3.1.
- b. Carry out the requirements, as identified in the pre-departure table in Section 4.6.3.2, that are relevant to the towing maneuver.
- c. Make sure the flight crew or a qualified brake operator (VHF operator where required) is in the flight deck, if applicable.
- d. Communication shall be established between the headset operator and the flight crew, brake operator (VHF operator, where required), if applicable.
- e. Responsible ground staff member shall conduct a briefing with all persons involved in the aircraft movement to review and confirm how the aircraft will be maneuvered.
- f. Ensure the hydraulic system pressure for aircraft braking and/or the brake accumulator is within the required pressure range. *Refer to chapter 9, Annex C at each aircraft type for details.*
- g. Ensure any required electrical systems for towing are energized.
- h. Ensure all landing gear safety pins are installed. After the tow, ensure all pins are removed and stowed. *Refer to chapter 9, Annex C regarding landing gear safety pin responsibilities and requirements.*
- i. Connect the pushback tractor/equipment in accordance with the relevant instructions contained in Section 4.6.4.
- j. Remove the wheel chocks once ready to do so in accordance with Section 4.6.5 above.

**CAUTION!** Inform the brake/VHF operator, headset operator and/or maintenance department for technical inspection if anyone:

1. Observes any type of excessive fluid leakage.
2. Notices any signs of unmarked aircraft damage.
3. Observes any fault, failure, malfunction or defect that may affect the safe operation of the aircraft for the intended flight.

#### 4.9.3.2 Pre-Towing Preparation

The following checklist is to be used in preparation for an aircraft tow:

Action	Performed by	
	Brake Operator	Tractor Driver
Apply the flight deck checklist for towing. Refer to GOM Annex C, Chapter 9 - Aircraft Specifics for details.	✓	✓
Test the means of communication between the tractor and flight crew.	✓	✓
Insert the steering bypass pin and deactivate steering.	✓	✓



Give permission to connect the towbar and tractor or TWL tractor after applying the aircraft parking brake.	✓	
Install the landing gear safety pins. Refer to GOM Annex C, Chapter 9 - Aircraft Specifics for details.	✓	✓
Connect the towbar, first to the aircraft, then to the tractor and set the parking brake.		✓
Before connecting the TWL tractor, ensure the aircraft MLG are symmetrically chocked		✓
Connect the TWL tractor and set the parking brake.		✓
Once all GSE has been cleared away from the aircraft, remove or check removal of aircraft chocks.		✓
Ensure the aircraft is clearly visible to other parties according to local regulations, especially after dark (e.g., switch on external anti-collision lights).	✓	
Contact the ATC for clearance to start moving the aircraft (depending on local regulations).	✓	✓
After receiving clearance, release the aircraft parking brake.	✓	
Give clearance and instruction to the tractor driver to start moving the aircraft.	✓	
Request confirmation from the brake operator that the aircraft parking brake has been released.		✓
Conduct tow.		✓

#### 4.9.3.3 Towing Communications

An aircraft towing maneuver shall always be conducted using interphone communications when the brake/VHF operator is present. Certain airlines may have specific requirements for their towing communications that may vary from those described below. This communication standard shall apply. The specific dialogue contained herein does not forbid the exchange of additional important information between the brake/VHF operator and ground staff using non-standard phraseology (e.g., request for authorization to disconnect ground support units). Additionally, two-way radio communication shall be maintained between aircraft/tractor set and ATC, except when under escort by an airport operations or emergency vehicle. Always follow local airport regulations for communication and aircraft movement operations.



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Dialogue between Ground Staff and Brake/VHF Operator		
Phase	Ground Staff	Brake/VHF Operator
Predeparture check	<b>Call:</b> CONFIRM PARKING BRAKE SET	<b>Reply:</b> PARKING BRAKE SET <b>Call:</b> CONFIRM STEERING BYPASS PIN INSERTED/ NOSE WHEEL STEERING DEACTIVATED/ LANDING GEAR SAFETY PINS(if applicable)
	<b>Reply:</b> STEERING BYPASS PIN INSTALLED/NOSE WHEEL STEERING DEACTIVATED/LANDING GEAR SAFETY PINS (if applicable)	<b>Call:</b> CONFIRM CLEAR TO PRESSURIZE (if applicable)
	<b>Reply:</b> CLEAR TO PRESSURIZE (if required)	
	<b>Call:</b> Request permission to connect the towbar and tractor or TWL tractor)	<b>Call:</b> CLEAR TO CONNECT (towbar and tractor or TWL tractor)
	<b>Call:</b> CONNECTING	
After completion of the predeparture check	<b>Call:</b> PREDEPARTURE CHECKS COMPLETED	
	<b>Call:</b> ELEVATING AIRCRAFT (TWL tractor)	<b>Reply:</b> ROGER check
	<b>Call:</b> READY FOR TOWING	<b>Reply:</b> STANDBY



Dialogue between Ground Staff and Brake/VHF Operator		
Phase	Ground Staff	Brake/VHF Operator
Towing	<b>Call:</b> REQUEST TOW (company name, aircraft type) FROM (location) TO (location) <sup>2</sup>	<b>Call:</b> TOW APPROVED VIA (mention specific routing to be followed).
	<b>Call:</b> CONFIRM PARKING BRAKE RELEASED	<b>Reply:</b> PARKING BRAKE RELEASED
	<b>Call:</b> COMMENCING TOWING (mention specific routing to be followed)	
Towing completed	<b>Call:</b> TOWING COMPLETED, SET PARKING BRAKE	<b>Reply:</b> PARKING BRAKE SET
Disconnecting	<b>Call:</b> AIRCRAFT CHOCKED	
	<b>Reply:</b> DISCONNECTING	<b>Call:</b> CLEAR TO DISCONNECT
	<b>Call:</b> TOWBAR/TRACTOR DISCONNECTED	



1. Carry out check in accordance with specifications in the pre-departure table in Section 4.6.3.2 that are relevant to the towing maneuver.
2. Transmission from ground staff member depends on local regulations.

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**CAUTION!** All given instructions must be read back or acknowledged in a manner clearly indicating that they have been understood and will be complied with.

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**CAUTION!** When interphone communication is not possible, standard hand signals must be used for communication between the tractor driver and brake operator. Such communication may occur only when the aircraft has stopped.

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#### 4.9.4 Towing Maneuver

##### 4.9.4.1 General

See GOM 4.6.7 for pushback phase of the towing maneuver.

- a. Use relevant apron lines as guidance during maneuvering to ensure safe obstacle clearances. Be aware of the size of the towed aircraft.
- b. Keep a minimum safety distance between vehicles to allow sufficient space to stop. Where required, apply the pushback tug brakes gently.
- c. Stop 50 m (55 yd.) before a taxiway intersection if a stop is required.
- d. Relieve torsional stresses applied to the landing gear components and tires by moving the aircraft in a straight line for a few meters to ensure the nose wheels are in the straight-ahead position when arriving at the allocated/relevant parking position.

##### 4.9.4.2 Towing Speeds

Aircraft weight, tractor performance and airfield topography can affect the towing speeds. Towing speeds shall be kept to a minimum and shall not exceed the towing speed limit as regulated by the towing equipment, aircraft and airport.

If requested by ATC/GMS to 'Expedite' due to a live runway crossing, ATC must be informed if this is not possible. ATC/GMC shall also be informed if towing speeds are restricted when towing on live taxiways, as this can lead to congestion on the airfield.

##### 4.9.4.3 Towing Limits

Fuel and other loads can affect an aircraft's balance. To avoid "tail tipping" during towing, ensure that the actual center of gravity of the aircraft is forward of the critical center of gravity. If you are unable to determine this, the responsible ground staff member must request assistance from a qualified weight and balance personnel of the operating airline.

**Note:** For information relating to requirements and precautions that shall be taken when aircraft towing maneuvering takes place during adverse conditions, refer to the following sections above, as applicable:

- Wintery or Slippery Conditions, refer to GOM 4.6.7.5
- Low-Visibility Conditions, refer to GOM 4.6.7.6



#### 4.9.4.4 Towing onto Parking Stand

Immediately prior to the aircraft being towed onto the stand or gate, the responsible ground staff member shall check and confirm that the area is 'ready' (e.g., clear of obstacles, equipment, FOD, wing walkers, if required).

#### 4.9.4.5 Movement Into/Out of Hangars

- a. Only those personnel trained and qualified in the movement of aircraft into/out of hangars shall perform this operation and a person in charge of the operation must be designated.
- b. Sufficient personnel (wing/tail walkers) shall be assigned to the operation to ensure clearances between the aircraft and objects in the hangar are maintained.
- c. The method of communication between the personnel involved in the aircraft movement into/out of the hangar shall be agreed upon before any movement is started by means of a briefing conducted by the person in charge of the operation.
- d. Floor markings and stop signs shall be in accordance with the aircraft type operating into/out of the hangars.

#### 4.9.5 Incidents During Towing

Brake/ VHF Operator	Tractor Driver
<b>VHF Communication Failure</b>	
<ol style="list-style-type: none"><li>a. Set the aircraft parking brake.</li><li>b. Communicate the issue to ATC.</li><li>c. Relay appropriate information received from ATC to the headset operator</li><li>d. Continue to monitor the ATC frequency and maintain communications with the headset operator/tractor driver.</li><li>e. Release the parking brake prior to recommencement of the towing maneuver.</li></ol>	<ol style="list-style-type: none"><li>a. Stop aircraft/tractor set as soon as it is safe to do so. It is not safe to stop on an active runway.</li><li>b. Apply tractor parking brake.</li><li>c. Communicate the issue to the brake/VHF operator.</li><li>d. Attempt to contact ATC via alternative frequency/means.</li><li>e. Await assistance (e.g., from "Follow Me" vehicle) before completing the towing maneuver.</li><li>f. After completion of the towing maneuver, report VHF failure to equipment maintenance and follow instructions accordingly.</li></ol>
<b>Tractor Failure</b>	





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<b>Brake/ VHF Operator</b>	<b>Tractor Driver</b>
<ul style="list-style-type: none"><li>a. Inform ATC.</li><li>b. Set the aircraft parking brake.</li><li>c. Listen to VHF and wait for assistance.</li><li>d. Relay information from ATC to headset operator/tractor</li></ul>	<ul style="list-style-type: none"><li>a. Stop aircraft/tractor set.</li><li>b. Apply tractor parking brake.</li><li>c. Inform the brake/VHF operator.</li><li>d. Inform ATC (TWL towing with one-person operation) driver.</li><li>e. Contact supervision and equipment maintenance to advise of the situation, as required.</li><li>f. Follow instructions received from headset/brake operator, as applicable.</li><li>g. Listen to VHF (TWL towing with one-person operation).</li><li>h. If the TWL/towbar connection with the tractor needs to be reset (i.e., removed and reconnected), the aircraft shall be chocked while the tractor is being replaced.</li></ul>
<b>Tractor/Aircraft Separation</b>	
<ul style="list-style-type: none"><li>a. Apply the aircraft brakes.</li><li>b. As soon as the aircraft is at a standstill, apply the aircraft parking brake before releasing the pedal.</li><li>c. Inform ATC.</li><li>d. Relay information received from ATC to the headset operator/tractor driver, if applicable.</li></ul>	<ul style="list-style-type: none"><li>a. Do not apply tractor brakes.</li><li>b. Inform the brake/VHF operator of the separation.</li><li>c. Follow the aircraft path attentively and stop the tractor according to the aircraft position.</li><li>d. Apply the tractor parking brake.</li><li>e. Confirm the aircraft parking brake is set, then chock the aircraft.</li><li>f. Assess the reason for the disconnection.</li><li>g. Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required</li><li>h. Follow instructions to complete the towing maneuver, as applicable.</li></ul>
<b>Towbar/Shear Pin Failure (remains attached to the aircraft)</b>	



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Brake/ VHF Operator	Tractor Driver
<ul style="list-style-type: none"> <li>a. Apply the aircraft parking brake.</li> <li>b. Inform ATC.</li> <li>c. Relay information received from ATC to the headset operator/tractor driver, if applicable.</li> </ul>	<ul style="list-style-type: none"> <li>a. Stop the aircraft/tractor set.</li> <li>b. Apply the tractor parking brake.</li> <li>c. Inform the brake/VHF operator of the towbar/shear pin failure.</li> <li>d. Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required.</li> <li>e. Chock the aircraft and replace the towbar.</li> <li>f. Follow instructions to complete the towing maneuver.</li> </ul>
<b>Pushback Tractor Fire</b>	
<ul style="list-style-type: none"> <li>a. Inform ATC and headset operator/tractor driver.</li> <li>b. Apply the aircraft parking brake.</li> <li>c. Determine the need for aircraft emergency evacuation and confirm to ATC/headset operator/tractor driver</li> </ul>	<ul style="list-style-type: none"> <li>a. Inform the brake/VHF operator.</li> <li>b. Stop the aircraft/tractor set immediately.</li> <li>c. Conduct an assessment of the situation and consider tackling the fire with the onboard tractor firefighting equipment only if it is deemed safe to do so.</li> <li>d. Consider disconnecting and moving the tractor a safe distance from the aircraft, if deemed safe and appropriate to do so.</li> <li>e. Contact supervision, equipment maintenance and emergency services to advise of the situation, as required.</li> <li>f. If the brake/VHF operator confirms emergency evacuation, assist in the evacuation as far as is possible/required.</li> </ul>
<b>Aircraft Fire</b>	



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Brake/ VHF Operator	Tractor Driver
<ul style="list-style-type: none"><li>a. Inform ATC and the headset operator/ tractor driver.</li><li>b. Apply the aircraft parking brake.</li><li>c. Fight the fire with the onboard extinguisher, where possible.</li><li>d. Evacuate the aircraft using onboard means, if required.</li></ul>	<ul style="list-style-type: none"><li>a. Stop the aircraft/tractor set immediately.</li><li>b. Inform the brake/VHF operator.</li><li>c. If safe to do so, disconnect and move the tractor to a safe distance from the aircraft, where possible.</li><li>d. If deemed safe to do so, the headset operator/tractor driver should maintain communication with the brake/VHF operator and follow instructions.</li><li>e. Contact supervision and emergency services to advise of the situation, as required.</li><li>f. If brake/VHF operator confirms emergency evacuation, assist in the evacuation as far as is possible/ required.</li></ul>
Accident with Other Aircraft or Vehicle	
<ul style="list-style-type: none"><li>a. Contact ATC stating position and nature of the accident.</li><li>b. Listen to VHF and wait for assistance.</li><li>c. Relay information received from ATC to headset operator/tractor driver, if applicable.</li></ul>	<ul style="list-style-type: none"><li>a. Stop the aircraft/tractor set immediately.</li><li>b. Apply tractor parking brake.</li><li>c. Inform the brake/VHF operator.</li><li>d. Contact supervision, aircraft maintenance, equipment emergency services to advise of the situation, as required.</li><li>e. Follow instructions received from the headset/brake operator and/or wait for assistance.</li><li>f. Do not responsible ground staff member the tractor unless specifically instructed to do so by the operator and/or ATC.</li><li>g. If disconnecting the tractor, the aircraft must be chocked.</li></ul>
Interphone Communication Failure	
<p>If during the towing operation the interphone fails, the aircraft must be immediately stopped and an alternate means of communication established before continuing. If this is not possible, assistance must be requested.</p>	
Visual Contact with Wing Walkers and/or Marshaller Is Lost (if used)	



Brake/ VHF Operator	Tractor Driver
In the event that the tractor driver is unable to establish visual contact with one or both of the wing walkers or the marshaller, when required, the towing maneuver shall be stopped and not recommenced until visual contact is reestablished.	

**CAUTION!** A standard communication procedure for abnormal pushback/towing situations (e.g. towbar shear pin failure) cannot consider every possibility that may arise. Therefore, the tractor driver and brake operator shall keep each other informed. Actions should be taken using common sense, taking into account the circumstances of a particular situation.

#### 4.9.6 Towing Completion

The following checklist is to be used at the end of an aircraft tow.

ACTION	Performed by	
	Brake Operator	Tractor Driver
Set tractor parking brake.		✓
Request the brake operator to set the aircraft parking brake.		✓
Inform ATC that towing is completed, and the frequency will be left, depending on local regulations,	✓	✓
Set the aircraft parking brake and check the pressure. Inform the tractor driver: <i>"Parking Brake Set, Pressure Checked"</i> .	✓	
Chock the aircraft MLG.		✓
Switch off the external anti-collision lights of the aircraft.	✓	
Inform the brake operator: <i>"Aircraft chocked"</i> .		✓
Give permission to disconnect the towbar or TWL tractor. Disconnect the tractor ground power, where applicable.	✓	
Disconnect the towbar (disconnecting from the pushback tractor first, then the aircraft) or TWL tractor.		✓
Remove the steering bypass pin and activate steering.		✓
Place additional chocks, where applicable.		✓
Inform the brake operator: <i>"Towbar/Tractor Disconnected"</i> .	✓	
Release the aircraft parking brake and inform the tractor operator: <i>"Parking Brake Off"</i> (where applicable).		✓



ACTION	Performed by	
	Brake Operator	Tractor Driver
Install and connect a GPU/FPU.		✓
If installed, remove and stow gear safety pins in the dedicated location.		✓

## 4.10 Long-Term Parking for Aircraft

### 4.10.1 Introduction

Successful execution of the long-term parking operation, as well as the recovery and reintroduction of the aircraft back into service after long-term parking, requires close coordination and cooperation between all of the relevant airside and aviation stakeholders, including (but not limited to) the aircraft operator, airport authority, ground handling provider, and maintenance provider.

In anticipation of the possible long-term parking of multiple aircraft, ground service providers shall proactively engage with the relevant stakeholders to develop a long-term parking plan. This plan shall be regularly reviewed (minimum once per year) to ensure the plan is still valid. The plan will require ad hoc review in response to changes to the airside environment, such as changes to operators, aircraft types and numbers, airport layout, ground handling service providers and manufacturers' Aircraft Maintenance Manual (AMM). Depending on each airport's emergency plan, the airport may require the aircraft to proceed to a designated bay, possibly a remote bay, according to its plans and requirements.

The long-term parking plan shall ensure:

- Spacing between adjacent aircraft.
- When not parked at a bay (e.g., taxiway), aircraft are parked facing into the prevailing wind.
- Anchor points are available for high-wind conditions.
- Processes to monitor and adjust for severe weather conditions.

**CAUTION!** In regions with hot climates, it is preferable to park aircraft on hard surfaces such as concrete or high module asphaltic material rather than on flexible surfaces such as bituminous asphalt. This will avoid indenting those areas during long parking periods.

### 4.10.2 Aircraft Movement

Based on the airport parking plan, once resumption of operations begins it is important to ensure there is a well-coordinated aircraft movement plan to ensure there is no damage to the aircraft.

**Note 1:** Ensure all procedures during aircraft ground movement are adhered to as documented in Sections 4.6 to 4.9 of GOM



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**Note 2:** Ensure during any non-normal operations, a robust safety risk assessment is performed, and implementation of the mitigation plan is followed.

**Note 3:** Ensure timely consultation with the airport operator regarding the aircraft movement.

**Note 4:** If any surface damage is observed, liaise with the airport management team as per the airport's directives.

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**CAUTION!** After long-term parking, anticipate extra pull or push force required for aircraft wheels to exit any indentations in the pavement and/or to overcome the aircraft tires being out of round. This is to avoid shear pin breakage and/or sudden movement in direction of travel. Refer to the pushback and pull forward procedure in section 4.6.7.4.

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Long-term parking of aircraft requires a variety of specific measures to be in place to ensure the continued safety, security and general airworthiness of the aircraft. These measures are both manufacturer and aircraft type specific and are detailed in the operator's manuals and manufacturer's AMM. These documents must be complied with.



## 5 Load Control

### 5.1 Load Control Principles

Load control is a process that ensures the production of all applicable documentation complying with operator and regulatory authority requirements, for the safe and secure handling of an individual flight, so that the aircraft is within operational limits, considering both its weight and center of gravity parameters. This includes planning, supervising, reporting, recording of the loading of the aircraft, and weight and balance calculation.

The Load Control process comprises of the following tasks:

- a. Load planning
  1. Checking, calculating and communicating of load planning information and data.
  2. Ensuring information about dangerous goods and other special loads is taken into account.
  3. Planning of the loading and producing a loading instruction report (LIR).
- b. Supervision of aircraft loading and unloading
  1. Verification and recording of aircraft loading.
  2. Ensuring the aircraft is loaded in accordance with the loading instructions.
  3. Load Control Information Exchange including reporting of final loading figures.
- c. Weight and balance calculation
  1. Ensuring aircraft weight and balance conditions are correct and within limits.
  2. Production of the loadsheet in accordance with the confirmed aircraft loading.
  3. The loadsheet reflects the actual loading of the aircraft, including last minute changes (LMCs).
  4. Production of other loading documents, such as Notification to Captain (NOTOC), if applicable.
- d. Post-departure messages
  1. Production of other loading documents, such as Notification to Captain (NOTOC), if applicable.
  2. Document retention, as applicable.

Documented communication is required to provide an audit trail and accurate weight and balance calculations for the pilot-in-command (PIC) prior to the aircraft's departure.

Load Control shall be performed by qualified personnel, using the operator's aircraft data and in accordance with the operator's and with local regulatory processes, procedures and forms, all of which shall be provided by the operator.

### 5.2 Load Planning

#### 5.2.1 General

The person charged with the load planning task shall ensure loads are planned safely and distributed in the aircraft compartments and/or holds considering all aircraft limits.

The Load Planner shall:

- a. Check aircraft basic weight/index (BW/BI).



- b. Check all items to be included in the dry operating weight/index, (DOW/DOI).  
*instructions to be found in the DOW/DOI tables in the TAGO Portal.*
- c. Check operational messages from the previous flight or leg, including any special loads, if applicable.
- d. Check aircraft operational limitations or any other restrictions that may limit load planning.
- e. Calculate expected traffic load.
- f. Check any other dangerous goods and special loads (DGSL) that require special handling and segregation.
- g. Plan unit load devices (ULDs), taking into consideration the expected loading figures, the aircraft configuration and specific operator requirements.
- h. Allocate loading positions for all traffic load and special loads, if applicable, taking into consideration all flight legs.
- i. Calculate the estimated zero fuel (EZFw) and transmit to flight dispatch, as applicable, for flight planning purposes.
- j. EZFW should be communicated every time there is a significant difference from the previous calculation, as per operator requirements.
- k. Check fuel load and distribution.
- l. Perform a pre-calculation of the aircraft weight and balance should be done to ensure that the aircraft operational limits are not exceeded.
- m. Consider aircraft ground stability to avoid tail tipping, *as per chapter 4.5.2 and Annex C (Chapter 9) aircraft specific loading and unloading sequences.* Particular attention must be paid to the distribution of the transit load on multi-sector flights. The distribution of the load remaining in the compartments at the next station should be planned such that it meets the above condition. When this condition cannot be met, the offloading/loading sequence in the transit station shall be planned to ensure aircraft ground stability is maintained.
- n. Produce a LIR.

*All applicable data is published by TUI fly by the publication of an AHM 560 in the TAGO Portal.*

**JAF-BE**

**Note:** The Pilot-in-Command shall be advised when a non-standard method has been used for determining the weight of the load and this method shall be stated in the weight and balance documentation.

*All flights except BRU-BVC-SID-BRU, BRU-AOE-BRU shall use actual weights.  
Hence, BRU-BVC-SID-BRU, BRU-AOE-BRU to use standard weights.*

**End JAF-BE**

*The AHM 560 data of the TUI fly Belgium and TUI fly the Netherlands fleet for proper DCS check-in and DCS load sheet can be found in the TAGO Portal.*

*The procedure is to use actual weights for checked baggage. If actual weights are not available use standard weights as indicated in the AHM 560 in the TAGO Portal.*

*An aft CG saves fuel. TUI fly Belgium and TUI fly the Netherlands aircraft should always be loaded with a so aft possible CG.*

*For standard ULD and container standard weights additional instructions to be found in AHM 540/DOW/DOI in the TAGO Portal.*

**Note:** All ULD weights are published in the Unilode Manual.





***Weight values for crew members;***

*Weight of crew and its cabin baggage is included in DOWDOI tables in the TAGO Portal.*

***Crew checked baggage***

*the procedure is to use actual weights for checked crew baggage. If actual weights are not available use 17 kg as standard weights for checked crew baggage.*

***Co-mail***

*Company mail must be accounted for on the weight & balance documentation.*

### **5.2.2 Loading Instructions Report**

- a. A LIR shall be issued for each departing flight, to ensure all safety parameters specific to each flight are adhered to.
- b. Complete load distribution for the departing flight, using provisional data and adhering to the segregation policy, as per AHM 514 to AHM 515 and operator requirements.
- c. Indicate all information that could affect loading in the Supplementary Information (SI) section.
- d. Refer to AHM 514 for Electronic Data Processing (EDP) LIR and AHM 515 for Manual LIR.
- e. LIR revisions shall be immediately communicated via appropriate means to loading staff.

In case of system outages manual LIR's per aircraft type are available on the TAGO portal.

### **5.2.3 Offloading Instructions**

- a. Offloading instructions may be issued prior to aircraft arrival.
- b. For transit flights, produce offloading instructions as per AHM 514 and AHM 515, where transit load, offload and all positions are reported.
- c. Consideration shall be given to ensure aircraft stability during the unloading and passenger disembarkation processes.

### **5.2.4 Notification to the Captain**

The Notification to the Captain (NOTOC) is used to inform the PIC of DGSL carried as cargo or mail.

The cargo department is responsible for providing DGSL information in legible written, printed or digital form and transmitting it to the person charged with load planning task. The Load Planner shall produce LIR taking into consideration DGSL information, their compatibility and segregation criteria.

The information contained in the NOTOC shall be made available to the person charged with aircraft loading and supervision task. The person shall:

- a. Verify that DGSL are not damaged or leaking.
- b. Ensure the correct positioning of DGSL as per the LIR and NOTOC.
- c. Report actual loading position.
- d. Signs the NOTOC.
- e. Deliver the signed NOTOC to PIC for signature.

The NOTOC must be issued in adequate number of copies, in order to provide information to all concerned and for file retention.

DGSL information shall be made available to the next downline airport before the flight arrives.



For NOTOC, refer to current IATA Dangerous Goods Regulations (DGR).

**Note:** Refer to Chapter 10, Annex D – Dangerous Goods and Weapons, 10.3.1.2. for more information regarding the NOTOC.

## 5.3 Weight and Balance Calculation Task

### 5.3.1 General

*As soon as the final loadsheet cross check has been completed and that the edition number has been noted as being the final loadsheet, then a final verbal confirmation with the flight crew must be made by the TRC / Dispatcher advising the flight crew that they are in possession of the same corresponding edition number and that the cross check with the signed LIR and loadsheet edition number has been completed. This confirmation must include the edition number. This verbal confirmation can be made on the flight deck or via the aircraft intercom system if the aircraft doors have been closed.*

*If an error has been identified after the aircraft has pushed back, and during taxi, the standard handling procedure would be to inform local ATC who will then contact the aircraft to advise the crew via VHF.*

*The final cross check will consist of.*

1. Edition number to confirm with the crew
2. Cross check passenger numbers / TOB
3. Cross check baggage count & cargo
4. Cross check final loading positions

*Appendix I17 is available in the TAGO portal.*

- a. The objective of the weight and balance calculation task is to ensure that a final and accurate loadsheet is issued and this has been crosschecked with:
  1. Final LIR from the person in charge of the Loading Supervision task.
  2. Final passenger close-out data.
  3. Final fuel figures.
  4. All aircraft operational and structural limitations for the appropriate aircraft registration.

If a preliminary loadsheet is produced, one or more criteria may not have been finalized.

The person designated with the weight and balance calculation task shall ensure all data is finalized or confirmed for manual or electronic loadsheet production.

- b. Load sheet accuracy check will continuously be performed prior to production or transmission of the final loadsheet:
  1. Correct flight number and date (flight identifier).
  2. Correct aircraft registration.
  3. Correct DOW/DOI used according to aircraft type, registration, version, number of crew and pantry.
  4. Underload (total traffic load not exceeding allowed traffic load).



5. Correct entry of final fuel figures.
6. Correct entry of transit load data from incoming load-message/load sheet.
7. Correct passenger close out data.
8. ULD tare weight for containerized aircraft.
9. Hold baggage weight and gate delivery items shall be added.
10. Actual loading positions of DGSL indicated on the NOTOC, if applicable.
11. Balance calculation and conditions of loaded aircraft, including LMCs, are within prescribed limits.
12. The loadsheet must be checked against the final LIR and other information related to the actual load.
13. Any operator-specific requirements are adhered to, if applicable.  
*after the passengers have boarded and the aircraft has been loaded, the Ground Handling Staff must inform the Pilot-in-Command about:*
  1. *The number of embarked passengers per type (adult / child / infant) and per cabin section;*
  2. *The actual weight of the checked baggage and cargo loaded per cargo compartment (Hold 1, 2, etc.) and position (P1, P2, etc.);*
  3. *Any special cargo (e.g. live animals).*
14. All specified documents shall be signed by means of manual or electronic identifiers.

*The mass and balance documentation shall contain the name of the commander and the name of the person who prepared the document.*

- c. Loadsheets format and contents shall meet the minimum criteria set in AHM 516, AHM 517, AHM 518.
- d. The signed loadsheet shall then be delivered to PIC, either as a manual or digital hard copy or in Aircraft Communication Addressing and Reporting System (ACARS) format.
- e. Any changes occurring after the final loadsheet has been produced must be accounted for by either production of a new edition of loadsheet or via documented Last Minute Change process as per the operator's requirement.
- f. Any discrepancy in weight and balance documentation shall be reported to the person responsible for the weight and balance calculations and to the customer airline agreed reporting methods as required by customer airline procedures.
- g. If a discrepancy is discovered after the final loadsheet has been issued, the PIC shall be informed via the available channels without delay and provided with relevant and requested information to prevent unsafe takeoff and/ or landing.

*At some stations a computerized loadsheet is prepared by a Centralised Load Control (CLC). Additional instructions to be found in chapter 5.4.3.4.*

*Further information regarding eloadsheets (ELS) can be found in the TAGO Portal, Documents, 08. TUI OneDCS Training, eLoadsheets.*

*For stations not approved for producing computerized loadsheets, a manual produced loadsheet will be produced by the Flight Crew. For an example of the manual loadsheet, that Flight Crew will produce, refer to Appendix F7 Manual Loadsheets in the TAGO Portal. Flight Crew requests the handler to deliver required details 15 minutes before STD by filling in*



*required details in box 2 'Payload information from Ground Handling' of the form and confirm by filling in the box 'Prepared by' with name and signature of the platform supervisor.*

### 5.3.2 Last Minute Changes

*Last Minute Change (LMC) are late changes / amendments to the aircraft load which do not require the preparation of a new load sheet.*

*The LMC procedure may be followed provided that the airplane is not close to a weight or envelope limit. In these circumstances a verification of the updated weights and CG should be accomplished.*

- a. Standard procedure: The load sheet presented to the PIC must include all LMCs. These will be shown as entries in the LMC box and, if required, as corrections to gross weights, fuel figures and balance conditions.
- b. Alternative procedure: Operators may allow the load sheet to be handed over to the PIC before any last minute adjustments are made.

**Note:** Where local regulations require LMCs to be included in the load sheet, it may be possible for operators to seek the consent of their authorities for use of the alternative procedure.

- c. If LMCs are conveyed to the PIC separately, this may be done by the responsible person, either verbally or in writing, in accordance with operating airline procedures. For each flight where no procedure has been determined, the method to be employed must be agreed upon beforehand with the PIC. Employing both methods for the same flight must be avoided as this can lead to confusion and time lost for clarification. In cases where changes do not have to be reported, the responsible person must confirm to the PIC that the data recorded on the load sheet copy already handed over remains unchanged.
- d. LMCs are to be communicated to the PIC only after the responsible person has entered all changes and corrections on the load sheet copies retained on the ground, and after he/she has carried out the checks.
- e. If the PIC is informed verbally of LMCs, either directly or by using the internal communication facilities of the aircraft (interphone, intercommunication system, ACARS), or by radio communication, the following details must be recorded in writing:
  - 1. Name of responsible person
  - 2. Time of transmission
  - 3. Confirmation that the flight crew has acknowledged the changes.
- f. To inform the PIC about LMCs, either verbally or in writing, when the responsible person is not including the LMCs on the load sheet, a special LMC slip should be used. The information to be recorded on this form may be limited to the following:
  - 1. Total weight of all LMCs
  - 2. Total number of LMC passengers
  - 3. Corrected balance conditions—even if it is not allowed by the operator (e.g., "BAL not corrected").

This record shall be kept in the flight file.



<b>Aircraft type</b>	<b>LMC limit</b>	<b>Description</b>
<i>B737/ B737 MAX 8</i>	<i>The maximum LMC weight (traffic load and fuel) is 500 kg.</i>	<i>The sum of the weights irrespective of the sign + (loaded) or - (offloaded) shall be maximum 500 kg. When part of the total traffic load is relocated, the weight should be considered to be offloaded and then re-loaded.</i>
<i>B787</i>	<i>The maximum LMC weight is 1500 kg excluding fuel, 2000 kg including fuel.</i>	<i>If an ULD is moved from one position to another, a new load sheet must be completed. An ULD can be moved within the same hold.</i>
<i>E195-E2</i>	<i>The maximum LMC weight is 500 kg (traffic load and fuel)</i>	<i>The maximum value of the sum LMC irrespective of the sign + or - is 500 kg.</i>

*Prior to completion of the LMC entries on the load sheet, the responsible person must check that:*

- a. *The maximum gross weight (ZFW, TOW, LDW) applicable for the flight are not exceeded;*
- b. *The maximum weight limitation of each compartment or ULD position and, if applicable, the limitations for combined load, cumulative load and asymmetrical load are not exceeded;*
- c. *The calculated center of gravity at TOW and, if applicable, at ZFW and LDW is within the allowed limits.*

### 5.3.3 Information Exchange

#### 5.3.3.1 General

All data pertaining to aircraft weight and balance calculations shall be communicated to the person charged with the load planning task; this information shall be documented and filed using one of the following methods:

- a. Digitally
- b. Written via documentation
- c. Verbal communication; in this case, the person receiving the information must assure that one of the following is applied:
  1. Read back all information received by radio or telephone or other electronic means to guarantee accuracy of the data.
  2. Record all verbal transmissions in written format (manually or digitally) to be able to clarify all discrepancies before the final load sheet is transmitted.
  3. Digitally record all verbal communications.
- d. A written transmission is always the recommended method. If it is necessary to use verbal communication, ensure that the following details are recorded:
  1. Name of the responsible person
  2. Time of transmission
  3. Confirmation that the receiving party has acknowledged the changes.  
This record must form part of the flight file *for 3 months* for retention.



### 5.3.3.2 Communication of Aircraft Loading to Load Control

Where the communication of aircraft loading, including loading changes and discrepancies, is not carried out by the Loading Supervisor for the flight, but by a designated person, the following requirements apply:

- a. Person responsible for communication of aircraft loading shall be trained in accordance with AHM 1110 RMP 18 Turnaround Coordination
- b. Direct communication with the person charged with the supervision of aircraft loading and unloading task shall be established.
- c. A direct communication means shall be established with the person charged with the load planning and weight and balance calculation task.
- d. Communication protocol, as described in GOM 4.5.1.2 Communication, shall be used.
- e. Written communication methods are recommended, as per GOM 5.3.3.1.
- f. When verbal communication is used, a readback of all weight and balance load control information received shall be carried out.

**Note:** For the task of supervision of aircraft loading and unloading, refer to GOM 4.5.1.

### 5.3.3.3 Remote Load Control

Remote Load Control is a process of performing the load planning task and/or weight and balance calculation task for a departing flight in a location away from the departure station.

- a. The key roles of remote Load Control are:
  1. To perform the load planning task.
  2. To compute the weight and balance calculation task in liaison with the departure station.
- b. The key roles of the departure station are:
  1. To supervise aircraft loading and unloading as defined in GOM 4.5.1.
  2. To communicate to remote Load Control any discrepancies and/or deviations during the loading/unloading process.
  3. To report final loading of the aircraft to the remote Load Control.

Information exchange is essential for a safe remote Load Control process. Data shall be transmitted between remote Load Control, departure station and cockpit crew either directly or indirectly, using predetermined means of communication as established by the operator.

*CLC stations must follow the instruction in the TAGO Portal.*

*Before accepting an electronically processed load and trim sheet the Pilot-in-Command must verify that the data are within the operational limits and applicable for the flight to be performed.*

*Nevertheless input errors are always possible therefore the following items have to be checked by the Handling Agent:*

- a. *Dry Operating Weight is correct for the current configuration.*
- b. *The number of Crew Members and passengers stated are equal to those on board.*
- c. *The weight of a given load in the respective compartment does not exceed the maximum limit.*
- d. *The fuel quantity on board is in accordance with the load sheet.*



## 5.4 Post-departure Messages Task

All post-departure messages and any other relevant messages pertaining to flight handling shall be sent to the defined stations as per operator requirements. Such messages may include, but are not limited to (*see also chapter 1.1.9*):

- Load Departure Message (LDM): *the number and position of loaded wheelchairs and strollers must be specified on the LDM as SI remark*;
- Container Palet Message (CPM) ;
- ULD Control Message (UCM);
- Statistical Load Summary (SLS);
- Aircraft Movement Message (MVT) *for a list of delay codes, refer to Appendix I10 in the TAGO Portal.*

Messages shall be produced and delivered in accordance with respective AHM chapters.

A flight file for each departing flight shall be maintained for each departing flight in a secure location according to local regulations and/or operating airline procedures.

*Defined stations and departments (see our contact details in the TAGO Portal: TUI Group Operations Center (GOC)).*

*All operational messages must be sent to TUI OCC and Group Operations Center (GOC) for every flight.*

*Post departure messaging shall be delivered within 15 minutes after off blocks.*

*The following messages must be sent per e-mail in regards to every flight operated by TUI fly Belgium and TUI fly the Netherlands.*

	JAF	TFL
Passenger Final Sales (IATA Recommended practice 1719)	<i>paxlist@tui-fly.be</i>	<i>paxlist@tui-fly.nl</i>
Passenger Reconcile List (IATA Recommended practice 1719b);	<i>paxlist@tui-fly.be</i>	<i>paxlist@tui-fly.nl</i>

## 5.5 Load Control Task Job Responsibility

Responsibilities of persons performing the Load Control task may vary depending on the organizational set-up. It is recommended that:

- The load planning task and weight and balance calculation task may be performed by the same person.  
The person performing these two tasks should not combine the responsibilities with those for the aircraft loading and unloading supervision task.
- The aircraft loading and unloading supervision task, the weight and balance calculation task and the post-departure message task may all be performed by the same person. However the person performing these three tasks should not include the responsibility for the load planning task as well.
- At a station where ACARS is used, finalization of the weight and balance calculation task actions may differ.



- d. When Load Control processes are centralized, the person performing aircraft loading and the supervision task is charged with transmitting all final data to the remote control center.

## 5.6 Qualification Requirements

Personnel performing Load Control tasks shall be duly qualified. Training must be in accordance with AHM 1110.

Training for the Load Control task shall be performed by a qualified instructor authorized by the operator.

Load Control licensing, training and documentation shall be in compliance with regulations and operator's policies.

## 5.7 Documentation

The operator is responsible for providing all relevant documentation for load planning and weight and balance calculations. The operator shall define the data content and terminology for documents reports and messages.

The person issuing the load sheet shall accurately reflect all received data on documents, reports and messages produced for each flight, as per AHM 590.

Relevant documents shall be manually or electronically issued and signed as per operator and regulatory requirements.

Specified documents shall be retained for a period in accordance with applicable local regulations and/or operator requirements, but not less than three months.

As a minimum, the documentation for each departing flight shall include:

1. Final LIR signed by the responsible person. *We require 2 different staff members to sign the LIR, a ramp loading agent and the responsible loading supervisor both assigned to this flight.*
2. NOTOC (when applicable).
3. Fuel figures confirmation (when applicable).
4. Final loadsheet and trim sheet, including LMC, signed by PIC.

Disposal of documents may also be subject to regulation.

When everything is checked and the loadsheet is signed by the Pilot-in-Command, copies are distributed. This distribution procedure is a legal requirement.

Distribution of the pages of the computerized, manual or ACARS load sheet:

1. Original: shall be handed over to the Pilot-in-Command;
2. First copy: give to the Purser;
3. Second copy: shall be left behind at the departure station. The Ground Handling Agent must ensure that this copy is stored for at least 3 months

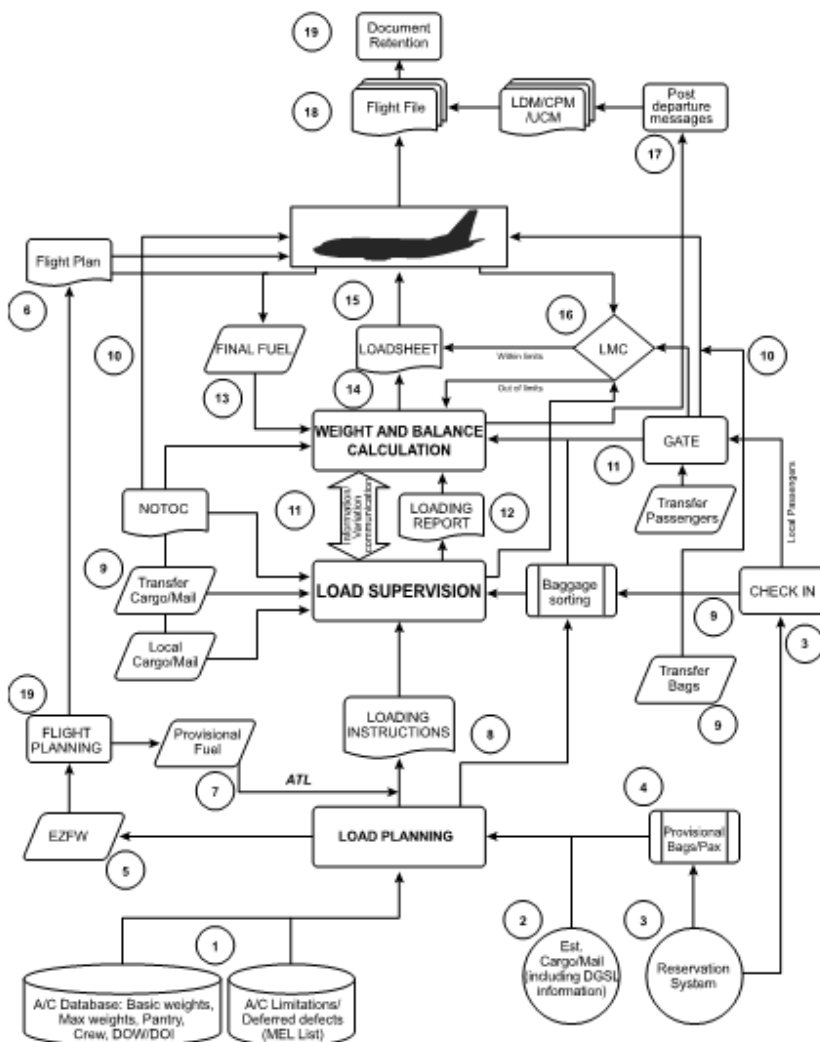
**Acceptance of an ACARS loadsheet:** If available, an ACARS loadsheet may be accepted with an electronic signature.





## 5.8 Load Control Process Flow

### 5.8.1 Load Control Process Flow Schema





### 5.8.2 Load Control Process Flow Legend

CIRCLE #	ACTION
1	Aircraft designation: access to permanent and semi-permanent data as per AHM 565 and maintenance data related to limitations that could affect loading and weight and balance.
2	Estimated/Provisional cargo and mail data, including DGSL information, to load planning.
3	Data from reservation system to capacity calculation (passenger and baggage counts) and check-in (SSR).
4	Provisional passengers sorted by class and provisional baggage according to operating airline procedures to load planning.
5	Provide EZFW to flight planning system.
6	Operational flight plan to PIC.
7	Provisional fuel to calculate the allowed traffic load and verify that load planning is within limits.
8	LIR to load supervision and loading team. Segregation plan to sorting area.
9	Actual data flowing from check-in (e.g., passenger number, baggage pieces and weight, special load information), cargo and mail warehouse (special load information), transfer load.
10	Load to aircraft.
11	Load information and variation communication between load control and load supervision: discrepancies between planned and real load weight, nature and distribution.
12	Final data confirmation from loading supervision and gate (gate-collected items).
13	Final fuel figures communication from the flight planning system or PIC.
14	Loadsheet verification and release.
15	Loadsheet to aircraft.
16	Last minute changes.
17	Post-departure load messages and DGSL information to station of arrival.
18	Signed documents verification and collection.
19	File archiving and retention.



## 6 Operational Oversight

### 6.1 Introduction

Oversight is applied at both a managerial level as well as at an operational level.

Managerial oversight ensures a company has in place a management system that sets up the policies, processes, performance indicators and other mechanisms, outlines accountabilities throughout the company as well as ensures there are necessary resources available to conduct operations.

It is important that management continuously reviews its operations to ensure the on-going suitability, adequacy and effectiveness of the management and control of ground operations. A review shall include assessing opportunities for improvement and the need for changes to the system, including, but not limited to, the organizational structure, reporting lines, authorities, responsibilities, policies, processes, procedures and allocation of resources.

An effective operational oversight structure and process helps to ensure that day-to-day operations do not deviate from the agreed policies, procedures and company goals, while simultaneously acting as a mechanism to identify and investigate occasions when deviations occur.

A company is also subject to external oversight performed a regulatory body (e.g., Civil Aviation Authority) and, in case of ground handling service providers (GHSP), by the contracted airlines or via an industry body (e.g., IATA) on their behalf.

This chapter provides guidance on what needs to be in place for effective operational oversight and gives practical examples of how oversight may be conducted via supervisory functions.

#### ***Accident prevention***

*Accidents and serious incidents always have a strong impact on the company in any possible way. Most obvious is the public reputation which will deteriorate immediately, followed by loss of resources, both human and hardware. Most serious and long-lasting is the effect on staff morale. Public, customers and employees will ask: 'Did we all do everything possible to avoid this accident from happening?'.*

*Safety is primary corporate objective of TUI fly Belgium and TUI fly the Netherlands and should be delivered as such to all employees, company suppliers and customers.*

*Safety is not the responsibility of pilots only, or of the people working in flight operations, but every single person working in or for TUI fly Belgium and TUI fly the Netherlands should strive to produce the highest possible quality of work. This will lead to the highest quality product delivered by TUI fly Belgium and TUI fly the Netherlands, hence highest degree of safety.*

*The permanent goal should be: zero accidents and zero incidents. Anything less than that would eventually lead to a disaster.*

*Always remember: Safety is everybody's business!*

*This means for daily practice:*

- a. *compliance with all regulations and instructions for work;*



- b. *awareness for situations which can lead to safety hazards;*
- c. *awareness for safety weaknesses;*
- d. *reporting of above mentioned situations to superiors and/or authorities.*

## 6.2 Operational Oversight Purpose

The purpose of operational oversight is to ensure:

- a. Continuous conformance with all documented standards, procedures and working practices covering all aspects of ground operations including, but not limited to, occupational health and safety, operational safety, security and quality.
- b. Compliance with regulatory requirements and applicable laws.
- c. Measurement of performance against indicators and achievement of company goals.
- d. Identification of opportunities to improve performance.
- e. Occurrences, findings and opportunities are addressed.

To ensure compliance with all applicable laws and conformance to documented standards and procedures, all station activities, including, those outsourced to a third-party GHSP and/or its subcontractors, shall be conducted under the direct oversight of suitably trained and qualified operational personnel. Operational oversight is a hierarchical process that ensures continuous compliance, conformance and improvement through a variety of monitoring processes. Examples of oversight mechanisms include:

- a. Operational Management (ongoing/daily operation)
  - 1. Direct Supervision—provides specific instructions and frequently reviews work for completeness and accuracy.
  - 2. General Supervision—generally oversees what is to be done and sets limitations, deadlines, and priorities.
- b. Monitoring Programme (Quality Management System (QMS)), Safety Management System (SMS), Occupational Health and Safety (OHS) and Corporate Risk Management include specified quotas per month or number of turnarounds/operations as well as audit plans based on other risk factors such as quality or safety performance.
  - 1. Quality Control—checks and inspections often referred to as Safety Inspections, Frontline Inspections, Line Checks, Line Evaluations, etc.
  - 2. Measuring—testing the output of a process to determine compliance with technical, performance and/or quality standards such as measuring KPIs as part of a Service Level Agreement (SLA).
  - 3. Internal Audit—a structured, independent, and objective assessment conducted by an organization on its own functions or activities that determines the level of conformity with specific standards, regulations, or other requirements.
  - 4. External Audits—Regulatory or accreditation audits conducted under a regulatory or accreditation program to ensure continuing conformity with industry standards.

See AHM 610 SMS and AHM 615 Monitoring Programme for further details.

## 6.3 Supervision

### 6.3.1 Functions

During any operation, different persons may perform supervisory functions to ensure tasks are completed safely, according to relevant procedures and as per contracted SLAs.



A 'Supervisor' can commonly be described as a person who supervises activities and/or other persons performing tasks within a process as defined in GOM 6.3.2. It should be noted that, while some organizations have a dedicated 'Supervisor' as part of an operations team, certain supervisory responsibilities may be delegated to any individual within a process regardless of their job title.

- Note:**
1. Airline approaches to supervision may vary by airline and location.
  2. Details of the contracted services will be specific to each contract and will be agreed between the two parties.
  3. Airlines may contract a dedicated person from the contracted GHSP or
  4. A third party to oversee/supervise and/or coordinate specific airline requirements as contracted to ensure they are met.
  5. The person can be contracted to cover all turnaround activities, including administrative tasks, or the scope can be limited to a specific part of the airline's operations.

### 6.3.2 Scope and Responsibilities

Supervision scope of ground handling and related activities will include, but is not limited to, the following activities:

- a. Passenger handling
- b. Baggage handling
- c. Ramp handling
- d. Load control

Generally, the responsibilities of an individual with supervisory functions include:

- a. Setting goals for operational performance and deadlines in ways that comply with the company's structure, plans and vision.
- b. Organizing workflows and ensuring employees understand their duties or delegated tasks.
- c. Monitoring employee activity and providing constructive feedback and coaching.
- d. Providing oversight and guidance to personnel conducting operational functions.
- e. Reporting any accidents, incidents and/or noncompliance as per the organization's procedures.

Supervision personnel shall be trained and qualified to perform the assigned functions (see AHM Ch.1110).

#### **Crew Briefing Package (CBP)**

*TUI GOC in HAJ will send CBP (Flight Plan, NOTAM, WX reports) to the stations where crew changes occur. If additional info is needed, please contact the GOC (operations@go-centre.com), with copy to Operationsflightwatch@tui.co.uk, for any flight plan related matters. If not available or if additional info is needed, please contact the GOC (operations@go-centre.com).*

### 6.3.3 Turnaround Coordination

The turnaround coordination is performed by a Turnaround Coordinator whose primary goal is to oversee and coordinate processes for both above and below the wing activities during a flight turnaround.



The Turnaround Coordinator may be described as a person who:

- a. Provides a focal point of coordination for all ground activities and operational teams, including flight crew.
- b. Ensures adherence to the station's Precision Time Schedule (PTS).
- c. Ensures safe, secure and punctual performance.
- d. Stops any turnaround activities that are not in compliance with safety, security and operational procedures and processes.

**Note:** This function may be performed remotely.

As the organizational structure may differ from company to company or due to local setup, it is important to make a distinction between a Supervisor and a Turnaround Coordinator. In some situations, the Turnaround Coordinator will also assume supervisory responsibilities, while in others the roles are split and assigned to specific individuals. A Turnaround Coordinator may be responsible for more than one aircraft turnaround/stand simultaneously.

## 6.4 Oversight Checklists

### 6.4.1 Passenger Handling Checklists

NO	ACTION	GOM REF	CHEC K-IN	BOAR DING	TRAN SFER S	ARRI VALS	REMA RKS
1	Preparation activities are completed (e.g., flight editing, review aircraft configuration, passenger name list/status, special service requests (SSRs), special passengers, inbound/outbound connections, passenger numbers and connection times, stand allocations).	1.1.1	✓	✓	✓	✓	
2	Preparation activities are completed (e.g., flight editing, review aircraft configuration, passenger name list/status, special service requests (SSRs), special passengers, inbound/outbound connections, passenger numbers and connection times, stand allocations).	1.1.1. 2	✓	✓	✓	✓	
3	Personnel are briefed before performing tasks.	1.1.1. 2  1.1.3. 5	✓	✓	✓	✓	
4	Personnel are wearing the required personal protective equipment (PPE) and uniform in line with the company's standards (see AHM 462).	3.1.2. 5	✓	✓	✓	✓	
5	Personnel are wearing the required personal protective equipment (PPE) and uniform in line with the company's standards (see AHM 462).	1.1.2	✓	✓	✓	✓	



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NO	ACTION	GOM REF	CHEC K-IN	BOAR DING	TRAN SFER S	ARRI VALS	REMA RKS
6	All relevant desks and airport information boards display the correct flight information.	1.1.2  1.1.7.1	✓	✓	✓	✓	
7	Stock boarding pass/bag tag printers with boarding passes/bag tags while ensuring adequate stock of any other tags required by the airline for handling.	1.1.2 1.1.7.1	✓	✓	✓	✓	
8	Prominently display dangerous goods and any other notifications, either electronically or in print versions.	1/1/1  1.1.7.1	✓	✓	✓		
9	Weighing scales are functioning correctly.	1.1.2	✓			✓	
10	Passengers are welcomed, greeted, and assisted in a professional manner.	1.1.4.1	✓	✓	✓	✓	
11	Carry out verification and acceptance of passenger documents, as applicable.	1.1.5.2	✓	✓	✓		
12	Pay attention to any signs the passenger might not be allowed to travel (e.g., unruly, overall fitness to fly, including potentially communicable diseases, medical conditions, intoxication) and monitor the watchlist.	1.1.4.1	✓	✓	✓		
13	Check with the passenger whether they have any SSRs, prioritize these as required and provide assistance, if applicable.	1.4	✓	✓	✓	✓	
14	Seats are assigned and distributed in line with the operating carrier's procedures.	1.1.4.2  1.1.4.3	✓	✓	✓		
15	Cabin baggage is assessed to ensure it conforms to the carrier's allowable size and weight dimensions, where applicable.	1.1.6.2	✓	✓			



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NO	ACTION	GOM REF	CHEC K-IN	BOAR DING	TRAN SFER S	ARRI VALS	REMA RKS
16	Verify with the passenger whether they are carrying items of dangerous goods or other prohibited articles that are not permitted either as personal belongings, cabin baggage or checked baggage as per DGR 2.3A.	1.1.6. 2  1.1.6. 3  1.1.6. 4	✓	✓			
17	Checked baggage is assessed, weighed and recorded in the departure control system (DCS) in line with the operating airline's procedures and excess baggage charges are applied, where necessary.	1.1.6. 3	✓				
18	Ensure all bags, including special baggage (e.g., oversize baggage, sporting equipment, live animals (AVIH), firearms and weapons, deliver at aircraft (DAA)) are labeled, tagged and handled correctly.	1.1.6	✓	✓			
19	Hand boarding passes, baggage receipts, and other travel documents to the passenger and direct or guide them on to the next steps.	1.1.4	✓	✓			
20	Communicate any relevant information, including disruptions and/or delays, to passengers immediately and at regular intervals.	1.1.4. 1  1.5	✓	✓	✓	✓	
21	Passengers are directed according to the flight gate and/or local immigration requirements, as applicable.	1.1.4. 1	✓	✓	✓	✓	
22	Boarding/disembarkation routes to/from aircraft and/or passenger buses and/or passenger boarding bridges (PBB) are safe and clearly marked, where possible.  <b>Note:</b> Passengers must be supervised on the ramp at all times.	1.1.7. 1  1.3.1		✓		✓	
23	All gate areas and access doors are secured to prevent unauthorized access when not in use.	1.2.4		✓		✓	
24	Preboarding and priority boarding is applied in line with the operating airline's procedures.	1.1.7. 1		✓			
25	Once clearance is received, board/disembark passengers as per the airline boarding sequence.	1.1.7. 2		✓		✓	





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NO	ACTION	GOM REF	CHECK- IN	BOARDING	TRANSFERS	ARRIVALS	REMARKS
26	During the boarding process, boarding passes, travel documents are checked as required and each passenger is reconciled against the DCS.	1.1.7. 2 1.1.5		✓			
27	Accept all standby passengers (revenue, non-revenue) and standby bags as per the airline's priority listing.	1.1.7. 4	✓	✓			
28	Register all last-minute changes in the DCS and inform load control about the final passenger and/or baggage information, as per operating airline procedures.	1.1.7. 3  1.1.7. 4	✓	✓			
29	Before gate closure, ensure all accepted passengers have boarded the aircraft. Secure the flight by matching the checked-in passengers to the boarded passengers. All discrepancies must be resolved prior to closing the aircraft access door.	1.1.7. 4		✓			
30	Provide final passenger numbers and departure documents to cabin and/or flight crew, as required.	1.1.7. 3  1.1.8		✓			
31	Cabin access doors are closed before removal of passenger boarding devices.	4.4.2		✓			
32	All relevant messages are dispatched to the appropriate addresses, as per operating airline procedures.	1.1.9	✓	✓	✓	✓	
33	All stationery and passenger information is kept under surveillance and removed from counters to prevent unauthorized access and use, whenever possible.	1.2	✓	✓	✓	✓	
34	The DCS and other systems are locked when not in use to prevent unauthorized access.	1.2	✓	✓	✓	✓	



## 6.4.2 Baggage Handling Checklist

NO	ACTION	GOM REF	ARRIVAL-TERMINATING	ARRIVAL-TRANSFER	DEPARTURE-JOINING	DEPARTURE-TRANSFER	COMMENTS
1	Planning activities are completed for requirements for expected baggage for arriving/	2.4.1	✓	✓	✓	✓	
	departing flights, including:	2.5.1					
	Parking stands for on-time delivery of bags	2.6.1					
	Allocation of sufficient build/ delivery locations and injection/ transfer points						
	Planning for applicable categories (e.g., priority versus economy bags, long versus short transfer, international versus domestic).						
	Staff and equipment allocation and positioning (e.g., unit load devices (ULDs)/ baggage carts).						
2	All staff correctly wearing appropriate PPE (see AHM 462).	2.3	✓	✓	✓	✓	
		3.1.2.5					
3	Staff aware of storage locations for bags that will arrive before opening of corresponding departure flights.	2.5.1		✓			
		2.5.2					



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NO	ACTION	GOM REF	ARRIVAL-TERMINATING	ARRIVAL-TRANSFER	DEPARTURE-JOINING	DEPARTURE-TRANSFER	COMMENTS
4	Staff briefing conducted and staff aware of any baggage requiring special handling (e.g., firearms, mobility aids, strollers, oversized items).	2.4.1	✓	✓	✓	✓	
		2.4.2					
5	Equipment (e.g., ULDs, dollies, baggage carts) available and serviceable upon collection prior to use.	2.4.3	✓	✓	✓	✓	
		2.8.2.3					
6	Systems and hardware available and usable (e.g., baggage reconciliation system (BRS) serviceable and logged in, scanners charged) and assigned to correct flight.	2.6.3.2	✓ (if applicable)	✓ (if applicable)	✓	✓	
		2.1					
7	Required documentation available (e.g., ULD cards, bingo cards) and marked up for correct flight.	2.4.3		✓ (if applicable)	✓	✓	
8	Working areas and equipment clear of obstacles and refuse that can cause foreign object damage (FOD), old baggage labels.	3.1.2.3	✓	✓	✓	✓	
		3.1.2.4					



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NO	ACTION	GOM REF	ARRIVAL- TERMINATING	ARRIVAL- TRANSFER	DEPARTURE- JOINING	DEPARTURE- TRANSFER	COMMENTS
9	ULD/dollies/ baggage carts checked for serviceability and set up to accept baggage. Brakes engaged on dollies/ baggage carts. ULDs secured using restraints.						
10	Unserviceable equipment reported and removed from service.						
11	Baggage build area organized for planned baggage category segregation.						
12	Baggage sent to correct injection/ transfer/arrival points.						
13	Bags injected/ delivered/  transferred in accordance with segregation requirements (e.g., priority bags before economy, short transfer bags before long transfer)						
14	Staff follow manual handling requirements and, where applicable, use lifting aids						



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NO	ACTION	GOM REF	ARRIVAL- TERMINATING	ARRIVAL- TRANSFER	DEPARTURE- JOINING	DEPARTURE- TRANSFER	COMMENTS
15	Flight details visually checked on all bag tags (flight number, date, destination)						
16	Verify the bag has been confirmed as being on the correct flight (positive passenger-bag match) by visually inspecting the baggage tag and electronically through-scanning by ensuring a confirmed load response is received from the scanner. When the baggage is identified positive passenger-matched bag or loaded onto the incorrect flight/ destination, place the baggage to one side for resolution.						
17	Bag tag peel-off portions placed only on bingo cards, where manual reconciliation used.						
18	Baggage is handled in an appropriate manner (e.g., positioned and not thrown).						
19	Each bag processed individually (i.e., no scanning or removal of tags from multiple bags before loading into ULD/baggage cart)						



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NO	ACTION	GOM REF	ARRIVAL- TERMINATING	ARRIVAL- TRANSFER	DEPARTURE- JOINING	DEPARTURE- TRANSFER	COMMENTS
20	ULDs/baggage carts correctly utilized (e.g., proper use of available volume, larger/heavier items nearer to the base).						
21	Correct departure baggage category segregation						
22	Correct handling/ loading of fragile, heavy, large and/or oversized items. Handling labels followed and items handled carefully to avoid damage to baggage and injury to personnel.	2.3	✓	✓	✓	✓	
		2.4.3					
23	Special baggage handled/	2.4	✓	✓	✓	✓	
	transferred/delivered in accordance with local procedures and customer airline requirements (e.g., firearms, mobility aids, strollers, oversized items) and in a manner to prevent damage (e.g., no other items placed on top).	2.7					
24	Final checked-in bag figure reconciled against bags received.	2.4.3			✓	✓	



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NO	ACTION	GOM REF	ARRIVAL-TERMINATING	ARRIVAL-TRANSFER	DEPARTURE-JOINING	DEPARTURE-TRANSFER	COMMENTS
25	Number of ULDs used reconciled against the baggage plan/flight summary before being released to the aircraft.	2.10.2	✓		✓	✓	
26	Loads secured prior to transportation using appropriate locks, stops, rails, curtains and straps.	2.4.3	✓	✓	✓	✓	
27	Canopies/covers secured before baggage carts dispatched in wet weather.	2.4.1	✓	✓	✓	✓	
		2.10.4					
28	ULD cards and bulk load cards secured to each ULD/ baggage cart before leaving baggage build up area.	2.4.3			✓	✓	
		2.10.3					
29	Unloaded ULDs/ baggage carts checked to ensure no remaining items inside.	n/a	✓	✓			
30	First/last bag times recorded in accordance with local procedures and customer airline requirements.	2.6.3.2	✓	✓			
		2.6.4					
31	Arrival carousel deactivated and secured upon completion of baggage delivery.	n/a	✓	✓			



## Ground Operations Western Region Operational Oversight

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NO	ACTION	GOM REF	ARRIVAL- TERMINATING	ARRIVAL- TRANSFER	DEPARTURE- JOINING	DEPARTURE- TRANSFER	COMMENTS
32	Any damaged baggage segregated, and supervisory personnel notified.	2.6.3.2	✓	✓	✓	✓	





### 6.4.3 Ramp Handling Checklist

NO	ACTION	GOM	ARRIVAL	DEPARTURE	REMARKS
1	Preflight briefing conducted regarding flight requirement(s) and services, as needed.		✓		
2	Pre-arrival and pre-departure checks ensuring that the parking position and intended path of aircraft are free of FOD and/or obstacles.	4.1.1 4.6.3.1	✓	✓	
3	Personnel are available and wearing PPE (see AHM 462	4.1.1 3.1.2.5	✓	✓	
4	Position all ground support equipment (GSE) and personnel (undertaking the departure process) outside the equipment restraint area (ERA) prior to aircraft arrival and departure, unless specifically required by the arrival/departure procedure (e.g., pre-positioned ground power unit (GPU)).	4.1.1 4.1.4.1 4.6.3.1	✓	✓	
5	Personnel shall check the GSE assigned prior to initial use.	3.1.3.2	✓	✓	
6	Aircraft guidance system is activated and/or marshaller(s)/ wing walkers correctly positioned, as applicable.	4.1.1 4.6.3.1	✓	✓	
7	Personnel shall remain outside the ERA while the aircraft anti-collision lights are switched on unless specifically required by the arrival/departure procedure.	4.1.1 4.6..7.1	✓	✓	
8	Aircraft chocked and coned as per requirements.	4.1.2.2 4.6.3.1	✓	✓	
9	An external walkaround check prior to approach of any GSE is performed and as soon as possible after all GSE activities have been completed prior to aircraft departure.	4.1.2.2 4.6.3.1	✓	✓	
10	GSE is correctly positioned to/removed from the aircraft (e.g., use of guide person, safety rails lowered/retracted, no touch policy, platforms lowered, approach/removal speed.	3.1.3.2	✓	✓	
11	PBB and passenger steps are correctly positioned to/ removed from the aircraft (e.g., sliding safety rails and canopies retracted, vertical clearance maintained between platform and passenger cabin access door when in position).	3.1.3.5 3.1.3.6	✓	✓	
12	GSE is correctly configured and operated during aircraft handling and servicing (e.g., speed within the ERA, safety rails raised/extended when in position at aircraft, use of parking brake, seat belts, no seat–no ride, vertical clearance maintained between equipment and aircraft/doors).	3.1.3.2	✓	✓	



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NO	ACTION	GOM	ARRIVAL	DEPARTURE	REMARKS
13	All personnel follow ramp safety procedures (e.g., fuel safety zone, do not walk between ULD or connected equipment, correct manual handling techniques used).	3.1 3.2 4.5	✓	✓	
14	All cargo holds are inspected to check condition and security of loads prior to unloading/after loading (e.g., locks raised, nets secured, no leakage, no loads shifted).  <b>Note:</b> All holds shall be opened and inspected even if empty.	4.5.5	✓	✓	
15	Cargo holds are unloaded/loaded in the correct sequence in accordance with the loading instruction report (LIR) and commodities correctly handled as required (e.g., dangerous goods and special loads are correctly handled, segregated, secured and stowed).	4.5.4 4.5.6	✓	✓	
	ACTION	GOM	ARRIVAL	DEPARTURE	REMARKS
16	Cargo holds are inspected after unloading/prior to loading to check for damage and ensure empty other than documented transit load items. Note: If cargo hold will not be loaded as part of the departure onload, locks/nets shall be raised/secured in accordance with airline requirements.	4.5.5 4.5.6.4	✓	✓	
17	Check ULDs and bulk loads for condition (e.g., damage, leakage) prior to/after transportation and prior to loading.	4.5.4 4.5.6	✓	✓	
18	Aircraft cabin access door operation is performed by an authorized and qualified person.	4.4.2	✓	✓	
19	Passenger walkways are clear of obstacles and free of undesired contaminated substances.	1.1.7.1	✓	✓	
20	Passenger movement is supervised when passengers walk on the ramp (e.g., between aircraft and bus/terminal).	1.1.7.1	✓	✓	
21	Fueling vehicle is correctly positioned and escape route is not obstructed when fuel tanker/bowser is used.	3.2		✓	
22	Fuel safety zone procedures/restrictions are followed.	3.2.1		✓	
23	Safety precautions for fueling with passengers on board or boarding are adhered to, as applicable.	3.2.3		✓	
24	Person responsible for the loading supervision task is in possession of the latest edition of the LIR prior to commencement of loading.	4.5.6.4			
25	Final load information is communicated/confirmed to load control with all deviations noted.	4.5.6.4			



NO	ACTION	GOM	ARRIVAL	DEPARTURE	REMARKS
26	Final load information (e.g., Loadsheet/Notice to Captain–NOTOC) is provided to flight crew, as required.	5.7			
27	Aircraft ground movement preparation activities correctly carried out (e.g., connection of pushback/towing equipment, communication with flight crew established).	4.6			
28	Departure sequences conducted as required (e.g., GPU, air start unit (ASU), pushback, engine start, personnel/ equipment positioning).	4.6.6.2			
29	Post-departure activities are conducted as required with appropriate document retention.				

**Note 1:** *The numbering of the process does not depict sequence of action.*

**Note 2:** *The checklists are examples of elements that require supervision by individuals assigned to oversee ground handling operations. The primary task is to stop all unsafe acts.*

## 6.5 Incident Notification and Immediate Actions

### 6.5.1 General

During ground operations, there is a risk of incident, accident or other emergency situations, such as, but not limited to:

- a. Fuel and oil spills
- b. Dangerous goods events
- c. GSE collisions/accidents
- d. Situation requiring an aircraft evacuation without passengers
- e. Personnel injuries
- f. Severe weather emergencies
- g. Illicit acts (e.g., security breach)
- h. *Aircraft damage*

Depending on the severity and magnitude of the event, the airline (*see TAGO Portal Documents- Emergency Response Documents*) and/or airport emergency response procedures might be activated (see AHM 620 for Crisis and Emergency Response at the Airport).

**Note:** Some occurrences might be managed locally within the company's emergency response procedures.

Any person carrying out a supervisory function must be familiar with:

1. The emergency response procedures and/or reporting protocol of their own company or operating airline:

*Submit the report as described in GOM chapter 3.1.*

2. Immediate actions per type of event, including aircraft evacuation (see 6.5.2 and 6.5.3) - see AHM 650 *available in the TAGO Portal*.



**Note:** Additional instructions to be found section GOM 3.1 on procedures regarding incident, accident and damage reporting.

### 6.5.2 Immediate Actions

In the event of an incident or accident, all frontline personnel shall understand and be familiar with the immediate response, which includes, but is not limited to the following actions:

- a. Stop the activity/process, if applicable to the type of event (e.g., switch off engine/activate emergency stop button).
- b. Ensure all passengers and personnel are moved away from the incident unless they are involved in mitigating actions.
- c. Immediately notify the relevant parties and any personnel directly involved or impacted by the nature of the incident (e.g., flight crew).
- d. Report the event to the supervisor/line manager and emergency services, if deemed necessary, who will then assume responsibility to initiate the local response plan:
  1. Secure the area of the event.
  2. Ensure compliance with all instructions from emergency services, if applicable.
  3. Report to the airline representative and, as required, to local authorities and be in constant communication.
  4. Complete a *Ground Operations Safety Report in IQSMS as described in chapter 3.1.1*
  5. Support any post-incident investigation, analysis and/or review.

The actions, as documented above, are not in chronological order, which will depend on the nature and severity of the event.

*In order to facilitate the follow up and closure of safety investigations a new form has been created for handling agents to use.*

*The Occurrence Closure Response Form includes guidance for all required information to be delivered. It includes the steps to be taken in order to close the occurrence/finding.*

*The form must be completed and sent together with your closure report to your local TUI Airline Ground Operations Station Account Manager.*

*The form can be found on the TAGO Portal document section, Appendix F15 - Occurrence Closure Response Form.*

**Note:** Investigation shall be carried out in accordance with AHM 652 and/or company procedures.

### 6.5.3 Aircraft Evacuation

Aircraft evacuation without flight crew and passengers on board:

- a. Roles and responsibilities for the evacuation.
- b. Procedures and different methods of evacuation from the aircraft (e.g., mobile stairs, PBB). Escape slides are not intended as the primary means of exit.
- c. Means of communicating the evacuation (e.g., radios, audible warnings).

**Note:** Personnel should be trained in the evacuation procedures, including periodic evacuation drills/practices.



#### 6.5.4 Dangerous Goods

Whenever a suspected damage or leakage involving dangerous goods occurs, the following actions shall be taken (refer to DGR and *Chapter 10, Annex D - Dangerous Goods and Weapons, 10.7* for further guidance):

- a. Identify the nature, source and associated hazard of the contamination.
- b. Stop the handling activities or reduce them to a minimum in the vicinity of the hazard.
- c. Prevent access by unauthorized personnel.
- d. Do not walk through, touch, sniff or taste any substance or spilled material.
- e. Notify the relevant parties, including crew and any personnel in the vicinity.
- f. Restrict/block access to the damaged item using any suitable means.
- g. Contact and report the event immediately to the supervisor/line manager and emergency services, if deemed necessary, who will then assume responsibility to initiate the local response plan.
- h. Coordinate the response in conjunction with Dangerous Goods Regulations (DGR) experts or emergency services, for example:
  1. Use the NOTOC (review emergency code as provided) or Load Messages–LDM (e.g., Offloading Instruction, container pallet message (CPM), LIR or similar) to identify the substance.
  2. Follow emergency response procedures as per the DGR category in Section 9.
  3. Verify the ground connection of electrical equipment (e.g., GPU) and remove all possible sources of ignition, if deemed necessary.
  4. Isolate all staff suspected of being contaminated and refer for treatment.
  5. Seek confirmation from emergency services that the area is safe to re-enter.
- i. Identify and prevent from transport any other cargo, baggage or transport devices that have become contaminated by the leakage of dangerous goods.

#### 6.6 Adverse Weather Oversight Procedures

Oversight of an aircraft arrival/departure during adverse weather includes, but is not limited to, the activities listed below. Some examples of adverse weather include snowstorms, thunderstorms/lightning, sandstorms, high winds, hurricanes/typhoons, tornadoes and intense heat (see AHM 462 and GOM 3.3).

	ACTION	✓	REMARKS
	Received notification of adverse weather <ol style="list-style-type: none"><li>a. Thunderstorm, lightning</li><li>b. Low visibility</li><li>c. Snow/ice conditions</li><li>d. High/strong winds, gusts</li><li>e. Heavy rains, flooding</li><li>f. Sandstorms</li><li>g. Extreme temperature (hot/cold)</li><li>h. Other</li></ol>		
	Acknowledge notification of adverse weather		



	ACTION	✓	REMARKS
	Identify the threat and actions for the following: <ul style="list-style-type: none"><li>a. Personnel and passengers, including PWD/PRM</li><li>b. Arriving aircraft</li><li>c. Parked aircraft, vehicles and GSE</li><li>d. Baggage handling</li><li>e. Cabin equipment</li><li>f. Catering and ramp handling</li><li>g. Departure</li><li>h. Exterior cleaning</li><li>i. Interior cleaning</li><li>j. Load control and flight operations</li><li>k. Marshaling</li><li>l. Moving of aircraft</li><li>m. Passenger services</li><li>n. Ramp fueling/defueling operations</li><li>o. Ramp services</li><li>p. Ramp to flight deck communications</li><li>q. Toilet services</li><li>r. Towing cargo and baggage</li><li>s. ULDs and bulk loading/unloading of baggage and cargo</li></ul>		
	Activate the Severe Weather Plan <ul style="list-style-type: none"><li>a. Communicate to all affected parties</li><li>b. Meet with ground ops personnel, GSE and maintenance personnel</li><li>c. Outline forecast, actions and review resources</li><li>d. Notify dispatch, passenger services and planning groups that operations might be interrupted</li><li>e. Continue to monitor and communicate the weather situation</li></ul>		
	Take actions according to established procedures		
	Check staff conduct, behavior and operational practices (e.g., PPE)		
	Ensure compliance with local regulations		



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<b>ACARS</b>	Aircraft Communications Addressing and Reporting System—a digital datalink system for transmission of short, relatively simple messages between aircraft and ground stations.
<b><i>Access Aids</i></b>	<i>Access aids equals steps, stairs, air bridges or any high lift devices.</i>
<b>Accident (Aircraft)</b>	An occurrence associated with the operation of an aircraft that takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked in which a person is fatally or seriously injured, the aircraft sustains substantial damage, or the aircraft is missing or is completely inaccessible. Equivalent Terms: Aircraft Accident, Hull Loss.
<b>Adult</b>	A person of the age of 12 years old and above.
<b>Aircraft</b>	Any machine that can derive support in the atmosphere from the actions of the air. Equivalent terms: Airplane, Aeroplane.
<b>Aircraft Access Doors</b>	Doors that provide access to the passenger cabin or lower compartment(s), which may be actuated manually or by electrical, hydraulic or pneumatic means.
<b>Aircraft Ground Movement</b>	Operations associated with moving of an aircraft on the ground, to include aircraft taxi-in, aircraft pushback, aircraft taxi-out, aircraft powerback, aircraft towing. See Aircraft Pushback, Aircraft Powerback, Aircraft Taxi-in, Aircraft Taxi-out, Aircraft Towing.
<b>Aircraft Handling</b>	Activities associated with servicing of an aircraft on the ground, including aircraft access, equipment attachment and removal, and operation of vehicles and equipment in the immediate vicinity of the aircraft.
<b>Aircraft Maintenance Manual (AMM)</b>	A manual produced and continuously updated by the aircraft manufacturer that contains procedures relating to the maintenance of aircraft, engines and components.
<b>Aircraft Marshalling</b>	The detailed direction of an aircraft ground movement from outside by a marshaller who is in a position to see the aircraft exterior as well as areas on and adjacent to the path over which the aircraft is moving.
<b>Aircraft Operations</b>	All activities associated with the operation of an aircraft on the ground and in the air.



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<b>Aircraft Pallet</b>	A flat platform with flat undersurface of standard dimensions, on which cargo, baggage or mail is grouped and restrained by a compatible aircraft pallet net before being loaded as one unit onto the aircraft, and which is designed to be directly restrained by the aircraft Cargo Loading System (CLS). See Cargo Loading System, Unit Load Device.
<b>Aircraft Pallet Net</b>	Webbing or rope net used for restraining load onto an aircraft pallet. <b>Note:</b> See Unit Load Device and Cargo Restraint System.
<b>Aircraft Powerback</b>	Rearward moving of an aircraft from a parking position to a taxi position by use of the aircraft engines.
<b>Aircraft Pushback</b>	Rearward moving of an aircraft from a parking position to a taxi position by use of specialized ground support equipment (GSE) <ul style="list-style-type: none"><li>• Nose gear-controlled pushback includes either the towbar method, where the rearward movement and steering of the aircraft is controlled by a tractor and towbar attached to the nose gear, or the towbarless method, where a tractor is attached directly to the nose gear.</li><li>• Main gear-controlled pushback utilizes a tractor that grasps the aircraft main gear tires to provide rearward movement, and directional control is provided from the flight deck through use of the nose wheel steering system.</li></ul> Equivalent Term: Pushback
<b><i>Aircraft service panels and hatches</i></b>	<i>Aircraft external access points and compartments that have external handles or external clip-down panels and are routinely used for providing aircraft ground handling services.</i>
<b>Aircraft Stand</b>	A designated area on an apron intended for parking an aircraft. Equivalent Terms: Stand, Parking Stand.
<b>Aircraft Taxi-in</b>	Forward moving of an aircraft into a parking position by use of the aircraft engines.
<b>Aircraft Taxi-out</b>	Forward moving of an aircraft from a parking position by use of the aircraft engines.
<b>Aircraft Towing</b>	<ol style="list-style-type: none"><li>1. Maintenance towing. Towing an aircraft without passengers or cargo and with minimum fuel on board.</li><li>2. Operational/Dispatch towing. Towing an aircraft, loaded with passengers and/or fuel, and/or cargo, to/from the terminal gate or parking area, to/from a remote location.</li><li>3. Repositioning towing is the towing of an aircraft to/from remote parking purposes. An aircraft can be loaded with cargo or fuel.</li></ol>
<b>Aircraft Type</b>	All aircraft of the same basic design, including all modifications except those modifications which result in a change of handling, flight characteristics or flight crew complement.





<b>Airport Handling Manual (AHM)</b>	A manual published by IATA that defines industry standards in the following areas relevant to airline ground operations: passenger handling; baggage handling; cargo and mail handling; load control; aircraft handling and loading; aircraft movement control; airside management and safety; airport handling specifications for GSE; environmental specifications for ground handling operations; ground handling agreements.
<b>Airside</b>	The movement area of an airport, adjacent terrain and building or portions thereof, access to which is controlled.
<b>Airside Safety</b>	To ensure an acceptable level of safety by personnel in the performance of duties in the Airside areas of an airport.
<b>Airworthiness</b>	The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.
<b>Anti-Icing</b>	A 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).
<b>Apron</b>	A defined area on an airport intended to accommodate aircraft for loading or unloading of passengers or cargo, or for fueling, parking or maintenance. Equivalent Term: Ramp.
<b>Arrivals Hall</b>	The area of the airport where passengers collect their baggage on arrival. Exiting this area may involve passing through customs for international journeys.
<b>Assessment</b>	The process by which an Assessor determines how well a trainee's performance fulfils the required course competences. The process may include a demonstration of knowledge, proficiency and/or competence as required and appropriate. The assessment can be conducted using a range of methods, e.g. written, digital and/or practical, however it shall be conducted against a defined set of criteria. All assessments shall be documented accordingly.
<b>Authorised person</b>	<i>Is a passenger holding a valid boarding pass for the related flight or is a person holding valid airport badge and has an operational need to be at the aircraft.</i>
<b>Authority (Regularity)</b>	A government agency or other administrative body that exercises regulatory or oversight control over operations or activities within a defined jurisdiction.
<b>Authority</b>	The delegated power or right to: <ul style="list-style-type: none"><li>• Command or direct;</li><li>• Make specific decisions;</li><li>• Grant permission and/or provide approval;</li><li>• Control or modify a process.</li></ul>



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<b>Automatic boarding</b>	<i>Boarding allowed without acceptance of crew.</i>
<b>Baggage</b>	The personal property or other articles of a passenger or crew member that is transported on an aircraft. Equivalent Term: Luggage.
<b>Baggage Build</b>	The allocated output for baggage from the Baggage Handling System (BHS). Baggage will be loaded into ULDs at this point and, generally, baggage will be reconciled here.
<b>Baggage Reconciliation</b>	A security process that matches a passenger with his or her checked baggage, and ensures the passenger and baggage travel together on the same aircraft.
<b>Behavior</b>	The way a person responds, either overtly or covertly, to a specific set of conditions, which is capable of being measured.
<b>Best Practice</b>	A strategy, process, approach, method, tool or technique that is generally recognized as being effective in helping an operator to achieve operational objectives.
<b>Block off</b>	<i>The moment that an aeroplane first moving for the purpose of taking off.</i>
<b>Block on</b>	<i>Aircraft coming to a rest on the designated parking position or when all engines are stopped.</i>
<b>Block time</b>	<i>The time between an aircraft first moving from its parking place for the purpose of taking off until it comes to rest on the designated parking position and all engines are stopped.</i>
<b>Cabin Access Door</b>	A door in the aircraft fuselage utilized for gaining entry and exiting the passenger cabin. Equivalent Term: Cabin Entry Door.
<b>Cabin Baggage</b>	Baggage that is, or is intended to be, brought onto an aircraft in the custody of a passenger or crew member for stowage in the cabin. Operators set their own standards for size, weight and number of pieces permitted as cabin baggage. Equivalent Terms: Hand Baggage, Unchecked Baggage, Carry-on Baggage.
<b>Cabin Crew</b>	Crew members, other than flight deck crew.
<b>Calibration</b>	The application of specifically known and accurately measured input to ensure an item will produce specifically known output which is accurately measured or indicated. Calibration includes adjustment or recording of corrections, as appropriate.
<b>Captain</b>	A person qualified to be the pilot-in-command of an aircraft. See Pilot-in-Command. Equivalent Term: Commander.



<b>Cargo</b>	<p>Any property carried or to be carried in an aircraft, other than mail or other property carried under the terms of an international postal convention, baggage or property of the carrier; provided that baggage moving under an air waybill or a shipment record.</p> <p>Equivalent terms: Goods, Freight, See COMAT (Company Material).</p> <ul style="list-style-type: none"><li>a. Revenue cargo is transported on an aircraft for commercial purposes; generates revenue for the operator.</li><li>b. Non-revenue cargo is transported on an aircraft for non-commercial purposes; does not generate revenue for the operator.</li></ul> <p><b>Note 1:</b> COMAT (Company Material) is non-revenue cargo.</p> <p><b>Note 2:</b> In the GOM, non-revenue cargo and revenue cargo are identically addressed, for the purposes of handling, loading, securing and transporting.</p> <p><b>Note 3:</b> In the GOM 'mail' is considered to be an item of 'cargo'; therefore, any reference to cargo also includes mail.</p>
<b>Cargo Aircraft</b>	<p>An aircraft, other than a passenger aircraft, that is carrying cargo. Cargo aircraft may be of different types, as given below:</p> <ul style="list-style-type: none"><li>a. AC: All-cargo aircraft are configured to carry only cargo, and such configuration</li><li>b. QC: Quick Change airplanes, designed to carry passengers OR cargo, but not a combination, on the main deck.</li></ul> <p>When operated in the Cargo configuration, the standards applicable to 'all cargo' operations will apply.</p> <ul style="list-style-type: none"><li>c. Combi: Aircraft that can accommodate both passengers AND cargo in different proportions on the main deck.</li></ul> <p>See Cargo, Passenger Aircraft.</p>
<b>Cargo Compartment</b>	<p>The area of an aircraft that may be utilized for the transport of cargo, and/or baggage. There are different classifications of cargo compartments and, depending on aircraft type and/or configuration, some cargo compartments are accessible by the crew in flight, while others are not.</p> <p>Equivalent Terms: Cargo Hold, Cargo Area, Baggage Hold, Baggage Compartment.</p>



<b>Cargo Compartment Fire Suppression System</b>	<p>A portable or built-in method for fire suppression that does not cause dangerous contamination of the air within the aircraft, and provides a means to contain, or to detect and extinguish, fires that might occur in such a way that no additional danger to the aircraft is caused. Such systems cannot affect the ability of the flight crew to maintain controlled flight and may also take into account a sudden and extensive fire such as could be caused by an explosive or incendiary device or dangerous goods.</p> <p>In aircraft with cargo compartments accessible to the flight crew or from the passenger compartment (combi aircraft), a crewmember with access to a fire extinguisher, approved or accepted for the purpose by the State of the Operator, can satisfy the means for fire suppression. Such crew member action when used in combination with fixed fire detection systems and fire resistance materials, in the applicable areas, as approved or accepted by the State, meets the definition of a fire suppression system.</p>
<b>Cargo Loading System (CLS)</b>	<p>A conveyor system installed on the floor of an aircraft that allows loading and unloading of unit load devices (ULDs) into the aircraft; incorporates a suitable restraint system to secure ULDs in the parked position. See Unit Load Device (ULD).</p> <p>Equivalent Term: In-plane Loading System.</p>
<b>Cargo Restraint System</b>	<p>A system in the aircraft designed to keep cargo from moving within the aircraft as a result of loads exerted during normal and emergency aircraft ground and flight maneuvers; includes nets, seat tracks, pallet locks, side restraints, and roller trays; may also include a 9G cargo net or 9G rigid barrier/bulkhead (i.e. a net or barrier that is stress tested for a load of nine Gs of force) when cargo is carried on the same deck as the flight deck and/or passengers or supernumeraries).</p> <p>Equivalent Term: 9G system</p> <p>See: Aircraft Pallet Net</p>
<b>Centre of Gravity (CG)</b>	<p>(C of G). Point at which an aircraft would balance if it were possible to suspend it at that point.</p>
<b>Checked Baggage</b>	<p>Passenger baggage that has been taken into custody by the Operator, and for which a baggage claim check has been issued to the passenger; includes cabin baggage that has been taken from a passenger and loaded into the hold (e.g. due to physical size/weight restrictions, lack of cabin stowage space).</p> <p>Equivalent Terms: Hold Baggage, Registered Baggage, Registered Luggage.</p>
<b>Code share</b>	<p><i>An arrangement under which an operator places its designator code on a flight operated by another operator; and sells and issues tickets for that flight.</i></p>
<b>COMAT (Company Material)</b>	<p>Any non-revenue cargo that is owned by or is for use by the operator, and is transported on the operator's aircraft. See Cargo.</p> <p>Equivalent Term: Company Supplies.</p>



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<b>Commander</b>	<i>The Captain designated by the operator to be in command of the aircraft and responsible for the safe operation of the aircraft.</i>
<b>Compliance</b>	The state of being in accordance with rules or requirements specified in standards or regulations.
<b>Connecting Baggage</b>	Baggage that is connecting between flights during the baggage journey. Equivalent terms: Transfer Baggage, Transit Baggage.
<b>Conformity</b>	Fulfilment of specifications contained in standards or recommended practices; under IOSA/ISSA/ISAGO Conformity means specifications are documented and/or implemented by the Operator/GHSP.
<b>Crew Baggage</b>	Baggage that is the property of operating crew or supernumerary, which is separately identified.
<b>Countries recognized as applying equivalent security standards</b>	<i>Canada Faroe Islands, in regard to Vagar airport Greenland, in regard to Kangerlussuaq airport Guernsey Isle of Man Jersey Montenegro Republic of Singapore, in regard to Singapore Changi Airport United States of America.</i>
<b>Crew Member</b>	A member of either the flight crew or the cabin crew; when used in the plural (i.e. crew members), refers to flight and cabin crew members collectively. Equivalent Terms: Flight Crew Member, Cabin Crew Member.
<b>Curtain Version</b>	Cabin configuration.
<b>Customer Airline</b>	An air operator that has entered into a contractual agreement with an external services provider for the conduct of specified operational functions for the airline. Equivalent Term: Client Airline.
<b>Customer Care Team</b>	<i>24/7 available for passenger related issues.</i>
<b>Dangerous Goods (DG)</b>	Articles or substances that are capable of posing a risk to health, safety, property or the environment, and that are shown in the list of dangerous goods in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air or IATA Dangerous Goods Regulations (DGR), or are classified according to those Instructions or Regulations. Equivalent Term: Hazardous Materials (HAZMAT)
<b>Dangerous Goods Accident</b>	<i>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.</i>



<b><i>Dangerous Goods Incident</i></b>	<i>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.</i>
<b>Dangerous Goods Regulations (DGR)</b>	A document (manual) published by IATA in order to provide procedures for the shipper, operator and the GHSP, by which articles and substances classified as dangerous goods can be safely transported by air on commercial flights. Information in the DGR is derived from the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Technical Instructions).
<b>Database</b>	Any structured collection of information, records or data that are specifically organized in a system for rapid search and retrieval. <ul style="list-style-type: none"><li>• Electronic Database—A database whereby information is accessed and managed electronically through use of a computer.</li></ul>
<b>De-icing/Anti-icing</b>	A process that combines both de-icing and anti-icing, which can be performed in one or two steps.
<b>Defect</b>	Any confirmed abnormal condition associated with an aircraft, aircraft engine or aircraft component. <ul style="list-style-type: none"><li>• Major Defect—a defect in that could affect the safety of the aircraft or cause the aircraft to become a danger to person or property.</li></ul>
<b>Departure Control System (DCS)</b>	An automated method of performing check-in, capacity and load control, and dispatch of flights.
<b>Deportee</b>	A person who had legally been admitted to a state by its authorities or who had entered a state illegally, who later is formally ordered by the competent authorities to leave that state. <ul style="list-style-type: none"><li>• DEPA is a deportee accompanied by an escort</li><li>• DEPU is a deportee unaccompanied by an escort</li></ul> The deporting State is responsible for the transportation of deportees.
<b>Disruptive Passenger</b>	A passenger who fails to respect the rules of conduct at an airport or on board an aircraft or to follow the instructions of the airport staff or crew members and thereby disturbing the good order and discipline at an airport or on board the aircraft. Equivalent Term: Unruly passenger.



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<b>Dry Operating Weight / Mass (DOW/DOM)</b>	Basic weight of an aircraft plus operational items, such as crew, crew baggage, flight equipment and pantry as per company specifications. The total weight of the aircraft ready for a specific type of operation excluding all usable fuel and traffic load. This weight includes items such as, crew members and their cabin baggage; catering and removable passenger service equipment; and potable water and lavatory chemicals.
<b><i>Domestic flight.</i></b>	<i>A flight with origin and destination within the borders of one State.</i>
<b>Electronic Data Processing System (EDP)</b>	Electronic data processing system (computer).
<b>Emergency Exit</b>	A door, window exit, or any other type of exit (e.g. hatch, tail cone exit) used as an egress portal to allow maximum opportunity for cabin and flight crew evacuation within an appropriate time period.
<b>Engine (Aircraft)</b>	The basic aircraft engine assembly plus its essential accessories as supplied by the engine manufacturer.
<b>Equipment Restraint Area (ERA)</b>	The area of the apron bordered by a red line known as the Equipment Restraint Line, or otherwise indicated, in which an aircraft is parked during ground operations. Equivalent Term: Equipment Safety Area.
<b>Family member</b>	A parent, sibling, child, spouse, grandparent, or grandchild.
<b>Fatigue</b>	A physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, and/or workload (mental and/or physical activity) that can impair a person's alertness and ability to perform safety-related operational duties.
<b>Flight Crew</b>	Crew members whose duties require them to be on the flight deck.
<b><i>Flight plan (operational)</i></b>	<i>The operator's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned.</i>
<b><i>Flight Specials Team</i></b>	<i>Handle all procedures around seating, final seating and reseating.</i>
<b>Fragile Baggage</b>	Baggage that is declared as fragile by the passenger and must be labelled to notify handlers.



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<b>Fuel (Flight Planning)</b>	<p>The following terms refer to fuel values used during the flight planning process.</p> <ul style="list-style-type: none"><li>• Taxi Fuel–The fuel required from engine start to the start of take-off roll.</li><li>• Trip Fuel–The amount of fuel planned to be consumed from take-off to the station of first intended landing including alternate Fuel, Holding Fuel, Contingency Fuel, Reserve Fuel, Additional Fuel and/or Tanker Fuel.</li><li>• Takeoff Alternative Fuel-The amount of fuel on board less the fuel consumed before the take-off run.</li></ul>
<b>Fueling Safety Zone</b>	<p>An area with associated restrictions that is established on the ramp around the aircraft fueling receptacles, tank vents, and around the fueling equipment during aircraft fueling operations. Equivalent Term: Refueling Safety Zone.</p>
<b>Gate Delivery Items</b>	<p>Items that are carried by the passenger to the gate and then placed in the hold for the flight.</p>
<b>Group Operations Centre (GOC)</b>	<p><i>Responsible for the dispatch of aircraft, ATC co-ordination, overall Operational control.</i></p>
<b>GOSHO or GO-SHOW</b>	<p><i>Passenger that is not holding any reservation or ticket (and therefore not mentioned on the passenger list) and is accepted for check-in after payment.</i></p>
<b>Ground Handling</b>	<p>The ground services necessary for the arrival and departure of an aircraft at an airport, other than air traffic services.</p>
<b>Ground Operations</b>	<p>The conduct of activities associated with the ground services that comprise ground handling. See Ground Handling.</p>
<b>Ground Handling Service Provider (GHSP)</b>	<p>A provider acting as the handling agent for one or more customer airlines, providing one or more of the ground services as defined in SGHA. See Provider.</p>
<b>Ground Support Equipment (GSE)</b>	<p>Any piece of mobile equipment, whether or not powered or self-propelled, purpose designed, built and used for ground handling, servicing or field maintenance of aircraft on the ramp area of an airport.</p>
<b>Hazard</b>	<p>A condition, situation or object with the potential of causing unsafe aircraft operations, injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function.</p>
<b>Heavy Baggage</b>	<p>Baggage that exceeds 23KG in weight and must be labelled to notify handlers.</p>





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<b>Hold</b>	See Cargo Compartment.
<b>Hold Baggage</b>	Any baggage that is carried in the hold of passenger aircraft. See Checked Baggage.
<b>Human Factors</b>	Principles applied to aeronautical design, certification, training, operations and maintenance to ensure equipment, systems, processes and procedures take into account human capabilities and limitations, as well as the safe interface between the human and system components, for the purpose of optimizing human performance and reducing human error.
<b>IATA</b>	The abbreviation and acronym for the International Air Transport Association.
<b>IATA Cargo Handling Manual (ICHM)</b>	An IATA manual that contains the latest procedures and recommended practices for the safe and efficient handling of cargo.
<b><i>IATA Ground Damage Database (GDDb)</i></b>	<i>An IATA repository of structured data, submitted by industry participants, that is subjected to expert statistical analysis for the purpose of identifying the trends and causes of aircraft ground damages, and for supporting a performance-based approach to ground operations management.</i>
<b>IATA Ground Operations Manual (IGOM)</b>	An IATA manual that is the source for the latest industry-approved standards harmonizing ground handling processes and procedures for frontline personnel. See Airport Handling Manual (AHM).
<b>IATA Incident Data Exchange (IDX)</b>	An IATA repository of structured data, submitted by industry participants, that is subjected to expert statistical analysis for the purpose of identifying the trends and causes of aircraft ground damages, and for supporting a performance-based approach to ground operations management.
<b>ICAO</b>	The abbreviation and acronym for the International Civil Aviation Organization.
<b>ICAO Annexes</b>	Additional sections to the ICAO Convention, which are guidelines, provided for the various national aviation authorities for use in developing the civil aviation rules and regulations that govern flight operations in their respective states. Equivalent Term: Annexes.
<b><i>Ice</i></b>	<i>Water that has frozen or compacted snow that has transitioned into ice, in cold and dry conditions.</i>
<b>Implemented (Operations)</b>	The state of an operational specification as being established, activated, integrated, incorporated, deployed, installed, maintained and/or made available as part of the operational system, and monitored and evaluated as necessary for continued effectiveness.



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<b>Improperly Documented Person</b>	<p><i>A person who travels, or attempts to travel:</i></p> <ol style="list-style-type: none"><li><i>with an expired travel document or an invalid visa;</i></li><li><i>with a counterfeit, forged or altered travel document or visa;</i></li><li><i>with someone else's travel document or visa;</i></li><li><i>without a travel document;</i></li><li><i>without a visa, if required.</i></li></ol>
<b>Inadmissible Passenger (Person) INAD</b>	<p>A person who is refused admission by its authorities. As per IATA RESO 701 A passenger who is refused admission to a country by authorities of such country, or who is refused onward carriage by a Member or government authority at a point of transfer, e.g. due to lack of a visa, expired passport, etc. <i>and who are being transported back to their country of departure;</i></p> <ul style="list-style-type: none"><li><i>ANAD is an inadmissible passenger accompanied by an escort.</i></li><li><i>UNAD is an inadmissible passenger unaccompanied by an escort. UNAD voluntarily return to their destination and pose no risk to the airline.</i></li></ul> <p><i>The airline is responsible for the transportation of and is financial liable for inadmissible passengers.</i></p>
<b>Incident</b>	<p>An occurrence (i.e. aircraft damage, injury, equipment damage, loading event/irregularities, aircraft servicing issues) other than an accident associated with the handling of the aircraft.</p>
<b>Incompatible (Dangerous Goods)</b>	<p>Description of dangerous goods which, if mixed, would be liable to cause a dangerous evolution of heat or gas or produce a corrosive substance.</p>
<b>Infant</b>	<p>A child that, for the purpose of identification as a passenger, is typically defined as being less than two years of age.</p>
<b>Integral Airstairs</b>	<p>Stairway contained within or built into the aircraft fuselage, which may be deployed on the ground to provide a means for persons to enter or exit the aircraft. Equivalent Term: Integral Stairway.</p>
<b>Intercontinental flight</b>	<p><i>Flights beyond the European region with origin and destination in different continents.</i></p>
<b>IOSA</b>	<p>The abbreviation and acronym for the IATA Operational Safety Audit.</p>
<b>ISAGO</b>	<p>The abbreviation and acronym for the IATA Safety Audit for Ground Operations.</p>
<b>ISSA</b>	<p>The abbreviation and acronym for the IATA Standard Safety Assessment.</p>
<b>Items with a Limited Release Tag</b>	<p>Items that are carried by the airline without accepting liability for damage or loss due to a pre-existing condition (i.e. baggage noticed as being damaged upon acceptance, baggage arriving to check-in late), etc.</p>
<b>Job Card</b>	<p>See Task Card. Equivalent Term: Work Card.</p>



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<b>Jump Seat</b>	A seat located at the rear of the flight deck and/or in the cabin or cargo compartment for use by crew members, supernumeraries, cargo attendants, observers or other approved persons.
<b>LAGs</b>	<i>Liquids, Aerosols and Gels (LAGs) shall include pastes, lotions, liquid/ solid mixtures and the contents of pressurised containers, such as toothpaste, hair gel, drinks, soups, syrups, perfume, shaving foam and other items with similar consistencies.</i>
<b>Landing Gear Safety Pin</b>	Prevents gear retraction. Equivalent Terms: Downlock Equipment–NLG & MLG.
<b>Landside</b>	<i>Everything outside the airport boundary e.g. passenger check-in and public areas.</i>
<b>Lashing</b>	Lashing secures a load with maximum restraint capacity, in the aircraft to prevent it from moving and reduce risk of aircraft damage and/ or personal/ passenger injury: <ol style="list-style-type: none"><li>1. Embrace lashing fastens the rope/ strap from one tie-down fitting, across/ over/ around the load, fastening to another tie-down fitting.</li><li>2. Direct lashing fastens the rope/ strap from tie-down fittings to the load.</li></ol>
<b>Late Baggage</b>	Baggage that has arrived late for a flight or late at the reclaim carousel.
<b>Lavatory</b>	A compartment or closet installed on an aircraft, with a toilet and typically washing facilities inside, which has structural walls and a door that, when closed, creates a fully enclosed and isolated interior space not visible from outside the compartment. Equivalent Term: Toilet.
<b>Live Animals in Hold (AVIH)</b>	Live animals that are carried in the pressured and heated aircraft hold. Must be reserved in advance. Equivalent terms: Animals Vivant in Hold, Live Animals.
<b>Live Animals Regulations (LAR)</b>	A document (manual) published by IATA in order to provide procedures for shippers, freight forwarders, Operators and animal care professionals for the transport of animals by air in a safe, humane and cost- effective manner, and in compliance with airline regulations and animal welfare standards.
<b>Load</b>	Everything, including persons and items, but not including fuel, that is carried in an aircraft and is not included in the basic operating weight of the aircraft.
<b>Load Control</b>	Process that ensures that an aircraft is safely and economically loaded for flight.
<b>Load Planning</b>	The part of the load control process that ensures a load is planned for safe transportation onboard the aircraft.
<b>Loading Instruction</b>	Instructions for loading of the aircraft produced by Load Control for the person responsible for aircraft loading.



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<b>Loading Instruction Report (LIR)</b>	The Loading Instruction, signed by the person responsible for aircraft loading reflects any deviations that occurred during loading and requiring action by Load Control.
<b>Loadsheet</b>	A legal document that states the weight data and the balance condition of the loaded aircraft for each individual flight. The term loadsheet includes provisional loadsheet, final loadsheet, ACARS loadsheet or any other approved transmission. The loadsheet includes the weight of the aircraft, crew, pantry, fuel, passengers, baggage, cargo and mail, as well as the details of the distribution of the load in the aircraft.
<b><i>MAAS; Meet and Assist</i></b>	<i>Service at the airport where a passenger is escorted to or from a gate or aircraft by designated staff.</i>
<b>Mail</b>	Dispatches of correspondence and other items tendered by and intended for delivery to postal services in Accordance with the rules of the Universal Postal Union (UPU).
<b><i>Mass</i></b>	<i>May be used instead of "weight"; they are deemed to have the same meaning.</i>
<b>Maximum Landing Weight (MLW)</b>	Maximum allowed weight of the aircraft at landing.
<b>Maximum Take-off Weight (MTOW)</b>	Maximum allowed weight of the aircraft at take-off.
<b>Maximum Zero Fuel Weight (MZFW)</b>	Maximum allowed weight of the aircraft excluding fuel
<b>Mean aerodynamic Chord (MAC)</b>	The average length of the chord (Width) of the aircraft wing.
<b><i>Medium Haul</i></b>	<i>A medium haul flight is a flight with at least one sector more than 2 hours but less than 7 hours.</i>
<b>Mishandled Baggage</b>	Checked baggage that has been involuntarily or inadvertently separated from passengers or crew members.
<b>Mobility Aids</b>	Aids used by passengers to assist in their journey.
<b>Monitoring</b>	The process of observing, checking, measuring and/or assessing the performance of operations or operational functions for the purpose of determining if, or verifying that, operational requirements are being fulfilled. See Also Operational Function (Aircraft Operations).
<b>Movement Area</b>	That part of an airport to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).



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<b>National Aviation Authority (NAA)</b>	<p>The regulatory authority that governs civil aviation within a state. See Regulatory Authority. Equivalent Term: Civil Aviation Authority (CAA) Examples: CAA, FAA, DGAC, CASA</p> <p><b>Note:</b> In the GOM, use of the term Authority has the same meaning as the National Aviation Authority of the State of the Operator.</p>
<b>Non suspicious objects</b>	<i>Any object, not being a prohibited item, which can be visually or physically reasonable verified to be safe to handle and to relocate.</i>
<b>Nose gear steering bypass pin</b>	Deactivates the steering function. Equivalent Term: Nose Wheel Steering deactivation pin, Lock pin–Nose Gear Towing Lever, Steering Bypass Pin.
<b>NOREC</b>	<i>We consider as NOREC a passenger that does not appear on the passenger list (due to a technical or human error) while the passenger has a valid reservation and / or ticket. A NOREC can occur when seats are sold after closure of the PNL: These seats are mostly NOML and always have to be booked at the last rows. If no seats are available it is allowed to book them on the front rows. A handling agent can never NOREC any person without the authorization by the system, a TUI fly Belgium and TUI fly the Netherlands representative or the Customer Care teams of the respective airlines.</i>
<b>NOSHO or NO-SHOW</b>	<i>A passenger whose name appears on the passenger list of flight with a confirmed status, but has not reported at check-in.</i>
<b>NOTOC (Notification to Captain)</b>	<p>Accurate and legible written or printed information provided to the pilot-in-command concerning dangerous goods shipments or other special cargo that is to be carried onboard the aircraft. Equivalent Terms: NOTAC (Notification to Aircraft Commander), NOPIC (Notification to Pilot-in-Command).</p>
<b>TUI OCC (Operations Control Center)</b>	<i>TUI operations control center (TUI OCC), for all TUI Airlines</i>
<b>Occurrence</b>	<i>Any safety-related event which endangers or which, if not corrected or addressed, could endanger an aeroplane, its occupants or any other person and includes in particular an accident or serious incident.</i>
<b>Operations</b>	The recurring activities of an organization directed toward delivering a product or service.
<b>Operator</b>	<p>An organization that holds an Air Operator Certificate (AOC) and engages in commercial passenger and/or cargo air transport operations. Equivalent Terms: Air Operator, Airline.</p>



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<b>Outsourcing</b>	The business practice whereby one party (e.g. an operator or provider) voluntarily transfers, usually under the terms of a contract or binding agreement, the conduct of an operational function to a second party. Under outsourcing, the first party retains responsibility for the output or results of the operational function even though it is conducted by the second party.
<b>Passenger</b>	Person that is transported on board an aircraft by an operator, mostly for commercial purposes. A passenger is not an operating crew member or a supernumerary.  <b>Note:</b> Nonoperating crew members, company employees and employee dependents occupying passenger seats on passenger flights are considered passengers.
<b>Passenger Aircraft</b>	An aircraft that carries passengers.
<b>Passenger Boarding Bridge</b>	A telescoping corridor that extends from an airport terminal to an aircraft for the boarding and disembarkation of passengers. Equivalent Terms: Jetway, Air Bridge, Boarding Bridge, Loading Bridge, Loading gate, Boarding Gate.
<b>Passenger Flight</b>	A flight that carries passengers. See Passenger.
<b>Passenger with Disability (PWD)</b>	Passengers with disabilities (PWD) includes passengers with reduced mobility and passengers with non-visible disabilities which can be temporary or permanent conditions. Reduced mobility is due to physical disability (locomotor or sensory) intellectual impairment, age, illness or any other cause of disability and who need some degree of special accommodation or assistance over and above that provided to other passengers.
<b>Personal Electronic Device (PED)</b>	A Personal Electronic Device (PED) is an item of electrically powered equipment that uses internally or externally supplied electrical power and is of a size that enables it to be portable. This includes devices that may be brought on board aircraft by passengers, such as: <ol style="list-style-type: none"><li>1. laptop computers and mobile phones;</li><li>2. devices that are provided to the passengers by the aircraft crew, e.g. Digital Versatile Disc (DVD) players for on-board entertainment; and</li><li>3. devices that may be used by the aircraft crew when performing their duties, e.g. duty free point of sale equipment.</li></ol>
<b>Personal Protective Equipment (PPE)</b>	Equipment or clothing worn by personnel to protect against operational injury and health hazards.
<b><i>Persons in lawful custody</i></b>	<i>Persons either under arrest or convicted by courts of law who have to be transported to another State for legal reasons. The competent authority shall ensure that persons in lawful custody are always escorted.</i>



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<b>Pilot-in-Command (PIC)</b>	The pilot designated by an operator as being in command of the aircraft and charged with responsibility for the operational control and safe conduct of a flight. Equivalent Terms: Aircraft Commander, Captain, Commander.
<b>Plan</b>	The formulation of action or series of actions designed to achieve a defined end result.
<b>Policy</b>	The stated intentions and direction of an organization.
<b>Policy and Procedure Manual (PPM)</b>	Policies and Procedures Manual (PPM) is a generic name; an equivalent manual with a different name is an acceptable alternative (e.g. Ground Operations Manual, Ramp Handling Manual, Passenger Handling Manual, as applicable to the operations).
<b>Portable Electronic Device (PED)</b>	Any electronic device that can be moved and contains its own power source. PEDs include laptop and tablet smartphones, handheld GPS devices and navigation devices that can be detached from an aircraft.
<b>Priority Baggage</b>	Baggage belonging to commercially important passengers.
<b>Procedure</b>	An organized series of actions accomplished in a prescribed or step-by-step manner to achieve a defined result.
<b>Process</b>	One or more actions or procedures implemented in a coordinated manner to achieve a goal, a defined result or to satisfy a requirement.
<b>Program</b>	An organized set of processes directed toward a common purpose, goal or objective.
<b>Provider</b>	An organization that delivers services (e.g., maintenance, ground handling, training) to an air operator on a contractual basis. See Ground Handling Services Provider (GHSP). Equivalent terms: Service Provider, Service Vendor.
<b>Ramp</b>	See Apron.
<b>Ramp Operations</b>	All aircraft activities that occur on an airport ramp area. Equivalent Term: Tarmac Operations.
<b>Regulatory Authority</b>	An organization designated or otherwise recognized by the government of a state for regulatory purposes, which issues rules and regulations in connection with protection and safety.
<b>Requirement</b>	A specification that is considered an operational necessity; compliance is typically mandatory.
<b>Responsibility</b>	An obligation to execute or perform assigned functions, duties, tasks or actions; typically includes an appropriate level of delegated authority; implies holding a specific office, title, or position of trust. See Authority.
<b>Reunion</b>	<i>Reunion for survivors with friends and family.</i>



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<b>Risk</b>	See Safety Risk.
<b>Root Cause Analysis</b>	A method of analysis that focuses on identifying the root cause(s) of an undesirable situation or condition.
<b>RUSH Baggage</b>	Baggage that has missed the flight for which it was intended and will now travel without the passenger for the remainder of the journey.
<b>Safety Action Group (SAG)</b>	A high level tactical committee within a Safety Management System (SMS) that comprises designated line managers and representatives of front line personnel; takes strategic direction from the Safety Review Board (SRB) and addresses the implementation and effectiveness of risk control actions in operations. See Safety Management System (SMS) and Safety Review Board (SRB).
<b>Safety Assurance</b>	The component of a safety management system that comprises processes for: <ul style="list-style-type: none"><li>• Safety performance monitoring and measurement;</li><li>• The management of change;</li><li>• Continual improvement of the SMS.</li></ul> See Safety Management System (SMS).
<b>Safety Audit</b>	An independent and documented examination of activities, records, systems, programs, processes, procedures, resources and/or other elements of operations to verify an operator's/provider's safety performance and validate the effectiveness of existing risk controls.
<b>Safety Culture</b>	The extent to which an organization actively seeks improvements, vigilantly remains aware of hazards, and utilizes systems and tools for continuous monitoring, analysis, and investigation; includes a shared commitment by personnel and management to personal safety responsibilities, confidence in the safety system, and a documented set of rules and policies. The ultimate responsibility for the establishment and adherence to sound safety practices rests with the management of the organization.
<b>Safety Data</b>	A defined set of facts or set of safety values collected from various aviation-related sources, which is used to maintain or improve safety. Safety data is typically collected from proactive or reactive safety-related activities, such as: <ul style="list-style-type: none"><li>• Accident or incident investigations</li><li>• Safety reporting</li><li>• Continuing airworthiness reporting</li><li>• Operational performance monitoring</li><li>• Inspections, audits, surveys, and/or</li><li>• Safety studies and reviews.</li></ul>
<b>Safety Harness</b>	A seat harness consisting of a seat belt and shoulder straps that, when fastened, retains a person's torso secure in the seat. To provide greater upper body movement, the seat belt may be used independently with, the shoulder straps unfastened.





<b>Safety Information</b>	Safety data that is processed, organized or analyzed in a given context so as to make it useful for safety management purposes. See Also Safety Data.
<b>Safety Management System (SMS)</b>	<p>A systematic approach to managing safety within an organization, including the necessary organizational structures, accountabilities, policies and procedures. As a minimum, an SMS:</p> <ul style="list-style-type: none"><li>• Identifies safety hazards;</li><li>• Ensures that remedial action necessary to maintain an acceptable level of safety is implemented;</li><li>• Provides for continuous monitoring and regular assessment of the safety level achieved; and</li><li>• Aims to make continuous improvement to the overall level of safety.</li></ul>
<b>Safety (Operational)</b>	<p>The state in which the possibility of harm to persons or of property damage is reduced to and maintained at or below an acceptable level through a continuing process of hazard identification and safety risk management. See Aircraft Operations.</p> <p><b>Note 1:</b> The term Safety used in the IOSA Standards Manual (ISM) and the ISSA Standards Manual (ISSM) refers to the management of safety and/or security risks that have the potential to affect aircraft operations.</p> <p><b>Note 2:</b> The term Safety used in the ISAGO Standards Manual (GOSM) refers to the management of safety and/or security risks that have the potential to affect aircraft or ground operations.</p>
<b>Safety Performance Indicator</b>	A data-based safety parameter used for monitoring and assessing safety performance.
<b>Safety Promotion</b>	<p>The component of an SMS that provides support for the processes associated with safety risk management and safety assurance, and defines:</p> <ul style="list-style-type: none"><li>• Training and education;</li><li>• Safety communication.</li></ul> <p>See Safety Assurance, Safety Management System (SMS) and Safety Risk Management.</p>
<b>Safety Review Board (SRB)</b>	A strategic committee within an SMS that comprises senior management officials; addresses high level safety issues associated with an operator's policies, resource allocation organizational performance monitoring. See Safety Management System (SMS) and Safety Action Group (SAG).



<b>Safety Risk</b>	The projected severity and likelihood of occurrence of an adverse consequence or outcome from an existing hazard. A projected outcome could be an accident, but an intermediate unsafe event or consequence might be identified as the most credible outcome. See Safety Risk Assessment (SRA).
<b>Safety Risk Assessment (SRA)</b>	A formal process used to determine safety risk by assessing the potential severity and likelihood of occurrence of an adverse consequence or outcome from an existing hazard. See Safety Risk, Safety Risk Management.
<b>Safety Risk Management</b>	The component of a safety management system that includes the organization-wide implementation of hazard identification and safety risk assessment processes to ensure safety risks are mitigated or controlled to an acceptable level. See Safety Management System (SMS), Safety Risk Assessment (SRA).
<b>Safety Risk Mitigation</b>	The development and implementation of action(s) or measures designed to reduce a safety risk to, and maintain such risk at or below, an acceptable level in accordance with an organization's safety risk tolerability. Equivalent terms: Safety Risk Control, Safety Risk Reduction, Safety Risk Tolerability See Safety Risk, Safety Risk Management, Safety Risk Tolerability.
<b>Safety Risk Tolerability</b>	The level of safety risk that is acceptable (or unacceptable) to an organization based on the risk acceptance criteria of that organization. See Also Safety Risk, Safety Risk Management.
<b>Security Restricted Areas (SRA)</b>	<b><i>Security Restricted Areas (SRA)</i></b> <i>The following applies for EU aerodromes. SRA means that area of airspace where, in addition to access being restricted, other aviation security standards are applied.</i>
<b>Security Restricted Areas – critical parts (SRA-CP)</b>	<i>The following applies for EU aerodromes. SRA-CP means that all parts of an aerodrome to which screened;</i> <ul style="list-style-type: none"><li><i>• departing passengers and all their belongings</i></li><li><i>• crew and all their belongings</i></li><li><i>• ground personnel and their supplies</i></li><li><i>• vehicles</i></li><li><i>• cargo and mail</i></li></ul> <i>have access.</i> <i>Within the UK:</i> <ul style="list-style-type: none"><li><i>• all parts of an aerodrome designated for the loading and unloading of passengers and baggage.</i></li></ul> <i>A part of an aerodrome shall be regarded as a critical part at least for the period of time that the activities referred to are taking place.</i> <i>All parking positions within the EU are within the SRA-CP, unless informed otherwise by the company or local aerodrome authority, or other contracted service providers.</i>



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<b>Security Items</b>	Items (e.g. weapons): that for security reasons must be removed from hand baggage and must be loaded in aircraft hold. Must be labelled to notify handlers.
<b>Service Level Agreement (SLA)</b>	A formal agreement, usually as part of a contract, between an operator and an external services provider, or in some cases, and internal services provider, that: <ul style="list-style-type: none"><li>• Specifies, in measurable terms, the services the external provider is expected to perform;</li><li>• Becomes the basis for monitoring of the performance of the external services provider by the operator.</li></ul>
<b>Short Connection Transfer Baggage</b>	Baggage that has a short connection time and may need assistance to make the intended connection. Equivalent Term: Hot Transfer Baggage.
<b>Short Haul</b>	<i>A short haul flight is in general a flight with sectors less than 2 hours.</i>
<b>Slush</b>	<i>Snow that is so water-saturated that water will drain from it when a handful is picked up or will splatter if stepped on forcefully.</i>
<b>Special Category Passengers</b>	<i>Passengers that require special attention, specific guidelines to be followed and appropriate security procedures. Persons requiring special conditions, assistance and/or devices when carried on a flight shall be considered as SCP's including at least PWD's, infants, unaccompanied children, deportees, inadmissible passengers, and prisoners in custody.</i>
<b>Special Load</b>	<i>A load that requires special attention and treatment during the process of acceptance, storage, transportation, loading and unloading.</i>
<b>Sporting Equipment</b>	<i>Any item of sports equipment that is not carried packed as normal baggage, such as skis, bicycles, etc.</i>
<b>Special Service Request (SSR)</b>	<i>It is a message to communicate the passenger preferences or special services needed. They are indicated by a specific SSR code.</i>
<b>Standard</b>	A provision that specifies a system, policy, program, process, procedure, plan, set of measures, facility, component, type of equipment, or any other aspect of operations that is considered to be an operational necessity and with which conformity is required by an operator, as defined in the applicable IATA industry-developed audits, such as IOSA, ISSA or ISAGO.
<b>Standby Baggage</b>	Baggage that is carried by passengers travelling on a standby or space available basis.
<b>State Safety Program (SSP)</b>	An integrated set of regulations and activities established by a State aimed at managing civil aviation safety.
<b>Station</b>	An airport where a ground handling services provider conducts ground operations for one or more customer airlines.



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<b>Station Audit</b>	The Audit, under ISAGO, which assesses conformity with the applicable GOSARPs for the GSP's implementation of corporate and locally managed processes and procedures for the ground operations performed that are within the scope of ISAGO.
<b>Sterile Area</b>	<p>That area between any passenger inspection or screening station and the aircraft, into which access is strictly controlled.</p> <p><b>Note:</b> In some states, sterile areas and security restricted areas are the same; in others states different levels of security exist.</p> <p>Equivalent Term: Security Restricted Area.</p>
<b>Sub-Contracting</b>	See Outsourcing.
<b>Supplier</b>	An organization that sells products or services for use by the air transport industry. The products may include maintenance, spare parts and information.
<b><i>Suspicious object</i></b>	<i>Anything which is out of place and cannot be accounted for, or any item suspected of being an explosive or incendiary device.</i>
<b><i>Tailing</i></b>	<i>Movement of an aircraft on the surface of an airport under its own power, excluding take-off and landing area on the airport where aircraft park.</i>
<b>Task</b>	An activity accomplished when following a procedure.
<b>Task Card</b>	<p>A document or other medium that specifies all maintenance or workshop tasks or actions approved by an Instrument of Appointment Authorized Person as part of the System of Maintenance. Task Cards are computer or manually produced Sign-Off Sheets or Cards and include but are not limited to; Travelers; Tasks in Check Sheets; Survey Sheets; Maintenance Routines; Job Cards; Work Orders; Modification Cards; Scheduled Rectification Cards; Approved Repair Schemes; Operation Sheets. They may detail all requirements or may refer to Amplification details in a particular manual or document.</p> <p>They are used to issue technical instructions and require certification for the accomplishment of that task.</p> <p>Task Cards are either Permanent or Inspection tasks and may be produced in either base, workshop or line maintenance locations for inspections, modifications or component changes.</p> <p>Equivalent Terms: Job Card, Work Card.</p>
<b><i>Taxiing</i></b>	<i>Movement of an aircraft on the surface of an airport under its own power, excluding take-off and landing area on the airport where aircraft park.</i>
<b>Technical Instructions</b>	The Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284) approved and issued periodically in accordance with the procedure established by the ICAO Council.



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<b>Third Country</b>	<i>Third countries are countries that are not part of the EU, except airports in Switzerland, Norway, Liechtenstein and Iceland (the airports of those four countries are treated like EU country airports) and countries not recognized as applying equivalent security standards.</i>
<b>Traffic load</b>	<i>Means the total mass of passengers, baggage, cargo and carry-on specialist equipment, including any ballast.</i>
<b>Transfer Cargo and Mail</b>	Cargo and Mail shipments departing on an aircraft other than that on which it arrived.
<b>Transfer Baggage</b>	Baggage that has been transported on a flight to a certain location, and then is offloaded and transferred to another flight within a defined time period for transportation to another location.
<b>Transit Flight</b>	An aircraft making a landing for commercial reasons where a partial change of loads, passenger and/or crew occurs. It should be noted that a change in flight number of the same aircraft does not change the status of the flight.
<b>Transportation Index (TI)</b>	Applicable to radioactive material only; a single number assigned to a package, overpack or freight container to provide control over radiation exposure.
<b>Travel Document</b>	A travel document is a passport or other official document of identity issued by a State or organization, which may be used by the rightful holder for international travel.
<b>TUI Airways</b>	TUI Airways, UK AOC
TUI Airline	<div><i>Referring in this GOM to TUI fly Belgium and TUI fly the Netherlands</i></div>
<b>ULD Regulations (ULDR)</b>	A document (manual) published by IATA in order to provide technical and operational standard specifications, regulatory requirements and airline requirements applicable to overall ULD operations. See Unit Load Device (ULD).
<b>UN number</b>	<i>The four-digit number assigned by the United Nations Committee of experts on the transport of dangerous goods to identify a substance or a particular group of substances.</i>
<b>Unaccompanied Baggage</b>	Checked baggage that has been loaded into an aircraft that does not have the owner/passenger also onboard.
<b>Unaccompanied Minor</b>	A child, usually under twelve years of age, traveling without a parent or guardian.
<b>Unclaimed Baggage</b>	Baggage that arrives at an airport on a flight and is not picked up or claimed by a passenger or crew member.



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<b>Unidentified Baggage</b>	Baggage at an airport, with or without a baggage tag, which has not been picked up by or identified with a passenger or crew member.
<b>Unit Load Device (Aircraft ULD)</b>	A device for grouping and restraining cargo, mail and baggage for air transport. It is either an aircraft container or a combination of an aircraft pallet and an aircraft pallet net. Aircraft ULD is designed to be directly restrained by the aircraft Cargo Loading System (CLS). <i>Equivalent terms: Freight Container, Aircraft Container.</i>
<b>United Kingdom</b>	<i>The United Kingdom consists of four countries: England, Northern Ireland, Scotland and Wales.</i>
<b>Unruly Passenger</b>	See Disruptive Passenger.
<b>Unserviceable</b>	The state of an aircraft, engine, component, or any piece of equipment as being in a condition that does not permit usage in operations. Equivalent Term: Inoperative.
<b>Valuable Cargo</b>	A cargo shipment that contains one or more valuable articles (specified in the IATA Cargo Services Conference Resolutions Manual, Resolution 012.
<b>Vendor</b>	See Supplier.
<b>Weapon</b>	An instrument or device that is capable of and intended for being used to inflict damage or harm to living beings, structures, or systems; normally prohibited from being carried on board an aircraft by a passenger.
<b>Weight</b>	<i>May be used instead of "Mass"; in this manual they are deemed to have the same meaning.</i>
<b>Weight and Balance Manual (W&amp;BM)</b>	A manual published for each aircraft type by its manufacturer, which is approved by the airworthiness authority as part of the aircraft type's certification, and which defines the set of weight and balance limits not to be exceeded by the operator when loading the aircraft.
<b>Wing Walker</b>	A member of the ground crew whose primary job function is to walk alongside an aircraft's wing tip during aircraft ground movement (e.g. pushback, towing) to ensure the aircraft does not collide with any objects.
<b>Workplace Safety</b>	Process and procedures in place with an operator or services provider that protect people and aircraft from inadvertent injury or damage (i.e. safety of maintenance operations, environment, fire prevention or protection, identification of Safety First Equipment, safety guarding of machinery, FOD protection, housekeeping and proper identification of "maintenance vital" greases and fluids). Equivalent Term: Protection Systems.
<b>XRAY</b>	An electromagnetic wave of high energy and very short wavelength, which is able to pass through many materials opaque to light.



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<b><i>Young Passenger</i></b>	<i>A child from 12 up to and including 17 years of age.</i>
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## 8 Annex B List of Abbreviations

<i>A/C</i>	<i>Aircraft</i>
<i>ACARS</i>	<i>ACARS Aircraft Communications Addressing and Reporting System</i>
<i>ACB</i>	<i>Anti Collision Beacon</i>
<i>ACC3</i>	<i>Air cargo and mail carrier operating into the European Union from a Third Country Airport</i>
<i>ACT</i>	<i>Active Temperature Controlled System</i>
<i>ACU</i>	<i>Air Conditioning Unit</i>
<i>ADL</i>	<i>Addition and deletion list</i>
<i>AGM</i>	<i>Aircraft Ground Movement (ISAGO)</i>
<i>AHL</i>	<i>Missing Baggage Report</i>
<i>AHM</i>	<i>IATA Airport Handling Manual</i>
<i>AIRIMP</i>	<i>A4A IATA Reservations Interline Procedure</i>
<i>AMM</i>	<i>Aircraft Maintenance Manual</i>
<i>ANAD</i>	<i>Is an inadmissible passenger accompanied by an escort. Refer to Chapter 7, Annex A - Inadmissible Passenger (Person)</i>
<i>AOC</i>	<i>Air Operator Certificate</i>
<i>AOG</i>	<i>Aircraft on Ground</i>
<i>AOXY</i>	<i>Airline Supplied Oxygen during a flight</i>
<i>API</i>	<i>Advanced Passenger Information</i>
<i>APU</i>	<i>Auxiliary Power Unit</i>
<i>ASAP</i>	<i>As soon as possible</i>
<i>ASU</i>	<i>Air Start Unit</i>
<i>ATA</i>	<i>Actual Time of Arrival</i>
<i>ATC</i>	<i>Air Traffic Control</i>
<i>ATD</i>	<i>Actual Time of Departure</i>
<i>ATR</i>	<i>Automatic Tag Reader</i>
<i>ATT</i>	<i>Goods Attached To Air Waybill</i>
<i>AVI</i>	<i>Live animal</i>





## Ground Operations Western Region Annex B List of Abbreviations

AVIH	<i>Animal Vivant in Hold (Live Animal in hold)</i>
AWB	<i>Air Waybill</i>
BAL	<i>Balance</i>
BHS	<i>Baggage Handling System</i>
BI	<i>Basic Index</i>
BIG	<i>Outsized cargo</i>
BLND	<i>Blind passenger (specify if accompanied by seeing eye dog)</i>
BRM	<i>(IATA) Baggage Reference Manual</i>
BRS	<i>Baggage Reconciliation System</i>
BUP	<i>Bulk Unitization Programme, Shipper/Consignee DGR Handled Unit</i>
BW	<i>Basic Weight</i>
CAA	<i>Civil Aviation Authority</i>
CAO	<i>Cargo Aircraft Only</i>
CAT	<i>Cargo Attendant Accompanying Shipment</i>
CBBG	<i>Cabin Seat Baggage</i>
CBP	<i>Crew Briefing Package</i>
CCM	<i>Cabin Crew Member</i>
CCT	<i>Customer Care Team</i>
CCTV	<i>Closed Circuit Television</i>
CFSS	<i>Cargo Fire Suppression System</i>
CG	<i>Center of Gravity</i>
CGM	<i>Cargo and Mail Handling (ISAGO)</i>
CGO	<i>Cargo Operations (IOSA)</i>
CIF	<i>Crew Information File</i>
CLC	<i>Centralized Load Control</i>
CLS	<i>Cargo Loading System/Cargo Loading Control panels</i>
CMM	<i>Component Maintenance Manual</i>
COL	<i>Cool Goods</i>
COM and C OMAIL	<i>Company Mail</i>



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Annex B List of Abbreviations**

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<i>COMAT</i>	<i>Company Material</i>
<i>CPM</i>	<i>Container Pallet Message</i>
<i>CRC</i>	<i>Crew Reception Centre</i>
<i>CRD</i>	<i>Child Restraint Device</i>
<i>CRS</i>	<i>Computerized Reservations System</i>
<i>CUTE</i>	<i>Common Use Terminal Equipment</i>
<i>DAA</i>	<i>Delivery at Aircraft</i>
<i>DAIC</i>	<i>De/Anti-icing (ground) Crews, performing the DAIOPS</i>
<i>DAIOPS</i>	<i>De/Anti-icing Operations</i>
<i>DAIP</i>	<i>De/Anti-icing Providers</i>
<i>DCS</i>	<i>Departure Control System</i>
<i>DEAF</i>	<i>Deaf passenger (specify if accompanied by service animal)</i>
<i>DEPA</i>	<i>Accompanied Deportee</i>
<i>DEPO</i>	<i>Deportee</i>
<i>DEPU</i>	<i>Unaccompanied deportee</i>
<i>DG</i>	<i>Dangerous Goods</i>
<i>DGD</i>	<i>Shipper's Declaration for Dangerous Goods</i>
<i>DGR</i>	<i>(IATA) Dangerous Goods Regulations</i>
<i>DGSL</i>	<i>Dangerous Goods and Special Loads</i>
<i>DIP</i>	<i>Diplomatic Cargo</i>
<i>DIV</i>	<i>Aircraft Diversion Message</i>
<i>DLW</i>	<i>Dead Load Weight</i>
<i>DM</i>	<i>Duty Manager</i>
<i>DOI</i>	<i>Dry Operating Index</i>
<i>DOW</i>	<i>Dry Operating Weight</i>
<i>DPNA</i>	<i>Disabled passenger with intellectual or developmental disability needing assistance</i>
<i>EAP</i>	<i>E-freight Consignment with No Accompanying RDS Biological Substance, Category B (UN 3373) Paper Documents</i>
<i>EASA</i>	<i>European Aviation Safety Agency</i>



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<i>EAT</i>	<i>Foodstuff</i>
<i>EAP</i>	<i>e-freight Consignment with no accompanying paper documents</i>
<i>EBT</i>	<i>Evidence Based Training</i>
<i>EBT</i>	<i>Electronic Baggage Tag or Electric Baggage Tag</i>
<i>ECC</i>	<i>Consignment established with an electronically concluded cargo contract ECC with no accompanying paper Air Waybill</i>
<i>ECC</i>	<i>Emergency Call Centre</i>
<i>EDP</i>	<i>Electronic Data Processing</i>
<i>EF</i>	<i>Flowers</i>
<i>EFB</i>	<i>Electronic Flight Bag</i>
<i>EIC</i>	<i>Equipment in Compartment</i>
<i>ELI</i>	<i>Lithium Ion Batteries otherwise excepted from the IATA DGR</i>
<i>ELM</i>	<i>Lithium Metal Batteries otherwise excepted from the IATA DGR</i>
<i>E&amp;M</i>	<i>Engineering and Maintenance</i>
<i>EMA</i>	<i>Electric Mobility Aid</i>
<i>EOBT</i>	<i>Estimated off block time</i>
<i>EOC</i>	<i>Emergency Operations Centre (Airport)</i>
<i>ERA</i>	<i>Equipment Restraint Area</i>
<i>ERC</i>	<i>Emergency Response Centre, also known as a Crisis Management Centre</i>
<i>ERP</i>	<i>Emergency Response Plan</i>
<i>ESAN</i>	<i>Emotional Support Animal. Passenger with emotional support animal in cabin</i>
<i>ETA</i>	<i>Estimated/Expected Time of Arrival</i>
<i>ETL</i>	<i>Electronic Ticket List</i>
<i>EU</i>	<i>European Union</i>
<i>EZFW</i>	<i>Estimated Zero Fuel Weight</i>
<i>FAC</i>	<i>Family Assistance Centre</i>
<i>FCAC</i>	<i>Forward Cargo Air Conditioning</i>
<i>FCM</i>	<i>Flight Crew Member</i>



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<i>FEGB</i>	<i>Fixed Electrical Ground Power</i>
<i>FIDS</i>	<i>Flight Information Display System</i>
<i>FIL</i>	<i>Undeveloped/Unexposed film</i>
<i>FIM</i>	<i>Flight Interruption Manifest</i>
<i>FOD</i>	<i>Foreign Object Debris</i>
<i>FPU</i>	<i>Fixed Power Unit</i>
<i>FRC</i>	<i>Friends and Relatives Reception Centre</i>
<i>FREMEC</i>	<i>Frequent Traveler's Medical card</i>
<i>FRI</i>	<i>Frozen goods subject to veterinary/phytosanitary inspections</i>
<i>FRO</i>	<i>Frozen goods</i>
<i>FSZ</i>	<i>Fueling Safety Zone</i>
<i>GADM</i>	<i>Global Aviation Data Management</i>
<i>GHA</i>	<i>Ground Handling Agent</i>
<i>GHSP</i>	<i>Ground Handling Services Provider</i>
<i>GMC</i>	<i>Ground Movement Control</i>
<i>GOC</i>	<i>Group Operations Centre, responsible for dispatch of the aeroplane, ATC co-ordination, overall Operational control.</i>
<i>GOG</i>	<i>Hanging garments</i>
<i>GOG</i>	<i>Ground Operations Group (IATA ground operations advisory body)</i>
<i>GOM</i>	<i>Ground Operations Manual</i>
<i>GOS</i>	<i>Ground Operations Standards (IATA ground operations working group)</i>
<i>GOSARP</i>	<i>ISAGO Standards and Recommended Practices</i>
<i>GOSM</i>	<i>ISAGO Standards Manual</i>
<i>GPS</i>	<i>Global Positioning System</i>
<i>GPU</i>	<i>Ground Power Unit</i>
<i>GSE</i>	<i>Ground Support Equipment</i>
<i>GSP</i>	<i>Ground Service Provider</i>
<i>HEA</i>	<i>Heavy items/loads – over 150kg</i>
<i>HEG</i>	<i>Hatching eggs</i>



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<i>HEPA</i>	<i>High-Efficiency Particulate Air (HEPA) filters</i>
<i>HOTAC</i>	<i>Hotel Accommodation</i>
<i>HPBT</i>	<i>Home-Printed Baggage Tag</i>
<i>HUM</i>	<i>Human Remains</i>
<i>IATA</i>	<i>International Air Transport Association</i>
<i>IAW</i>	<i>In accordance with</i>
<i>ICAO</i>	<i>International Civil Aviation Organization</i>
<i>ICAO CART</i>	<i>The International Civil Aviation Organization (ICAO) Council Aviation Recovery Taskforce</i>
<i>ICE</i>	<i>Carbon dioxide, solid (Dry ice)</i>
<i>ICHM</i>	<i>IATA Cargo Handling Manual</i>
<i>IDQP</i>	<i>IATA Drinking-water Quality Pool</i>
<i>IDX</i>	<i>IATA Incident Data Exchange</i>
<i>IFE</i>	<i>Inflight Entertainment</i>
<i>IFQP</i>	<i>IATA Fuel Quality Pool</i>
<i>IGOM</i>	<i>IATA Ground Operations Manual</i>
<i>IMP</i>	<i>International Massage Procedure</i>
<i>INAD</i>	<i>Inadmissible Passenger (Person)</i>
<i>IOSA</i>	<i>IATA Operational Safety Audit</i>
<i>IoT</i>	<i>Internet of Things</i>
<i>IPA</i>	<i>Isopropyl Alcohol solution</i>
<i>IPM</i>	<i>IOSA Program Manual</i>
<i>IRM</i>	<i>IATA Reference Manual for Audit</i>
<i>ISAGO</i>	<i>IATA Safety Audit for Ground Operations</i>
<i>ISARPs</i>	<i>IOSA Standards and Recommended Practices</i>
<i>ISM</i>	<i>IOSA Standards Manual</i>
<i>ISO</i>	<i>International Organization for Standardization</i>
<i>ISSA</i>	<i>IATA Standard Safety Assessment</i>
<i>kg/KG/Kg</i>	<i>Kilogram(s)</i>
<i>KPI</i>	<i>Key Performance Indicator(s)</i>



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<i>LACC</i>	<i>Local Accident Control Centre</i>
<i>LAGs</i>	<i>Liquid, Aerosols and Gels</i>
<i>LAR</i>	<i>(IATA) Live Animal Regulations</i>
<i>LAW</i>	<i>Landing Weight</i>
<i>LDM</i>	<i>Load Message or Load Departure Message</i>
<i>LEGB</i>	<i>Legs in cast—for passengers with both legs in a full cast, (only to be used in conjunction with SSR code MEDA).</i>
<i>LEGL</i>	<i>Leg in cast—for passengers with a left leg in a full cast or fused knee, (only to be used in conjunction with SSR code MEDA).</i>
<i>LEGR</i>	<i>Leg in cast—for passengers with a right leg in a full cast or fused knee, (only to be used in conjunction with SSR code MEDA).</i>
<i>LEP</i>	<i>List of Effective Pages</i>
<i>LH</i>	<i>Long Haul: Flight time &gt;7hrs</i>
<i>LHO</i>	<i>Living human organs/blood</i>
<i>LI</i>	<i>Lithium - ION (battery)</i>
<i>LIC</i>	<i>License required</i>
<i>LIR</i>	<i>(Aircraft) Loading Instruction Report</i>
<i>LIRF</i>	<i>Loading Instruction Report Form</i>
<i>LMC</i>	<i>Last Minute Changes</i>
<i>LOD</i>	<i>Load Control (ISAGO)</i>
<i>MAAS</i>	<i>Meet and Assist</i>
<i>MAC</i>	<i>Mean Aerodynamic Chord</i>
<i>MAG</i>	<i>Magnetized material</i>
<i>MAL</i>	<i>Mail</i>
<i>MCT</i>	<i>Minimum Connecting Time</i>
<i>MEDA</i>	<i>Passenger Requiring Medical Assistance (airline medical clearance may be required)</i>
<i>MEDIF</i>	<i>IATA Medical Information Form</i>
<i>MH</i>	<i>Medium-Haul. Flight time between 4&lt;6 hrs</i>
<i>MLG</i>	<i>Main Landing Gear</i>



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<i>MLW</i>	<i>Maximum Landing Weight</i>
<i>MRZ</i>	<i>Machine Readable Zone</i>
<i>MTOW</i>	<i>Maximum Takeoff Weight</i>
<i>MUW</i>	<i>Munitions of War</i>
<i>MVT</i>	<i>Aircraft Movement Message</i>
<i>MZFW</i>	<i>Maximum Zero Fuel Weight</i>
<i>NAA</i>	<i>National Aviation Authority</i>
<i>NLG</i>	<i>Nose Landing Gear</i>
<i>NOREC</i>	<i>NO RECOrd</i>
<i>NOSHO</i>	<i>No Show</i>
<i>NOTOC</i>	<i>Notification to Captain/Pilot-in-Command</i>
<i>NSC</i>	<i>Cargo has not been secured yet for Passenger or RRY Radioactive material, Categories II and III-Yellow All-Cargo Aircraft</i>
<i>NWP</i>	<i>Newspapers, magazines</i>
<i>OAT</i>	<i>Outside Air Temperature</i>
<i>OBX</i>	<i>Obnoxious cargo</i>
<i>OCC</i>	<i>TUI fly Belgium and TUI Fly the Netherlands Operations Control Centre is operated by TUI OCC or TOCC</i>
<i>ODLN</i>	<i>ULD Operational Damage Limits Notice</i>
<i>OEM</i>	<i>Original Equipment Manufacturer</i>
<i>OHG</i>	<i>Overhang item</i>
<i>OIR</i>	<i>Offloading Instruction Report</i>
<i>OOG</i>	<i>Out-of-Gauge (oversized baggage)</i>
<i>OPC</i>	<i>IATA Operations Committee – now known as Safety, Flight and Ground Operations Advisory Council (SFGOAC)</i>
<i>OPT</i>	<i>On-Board Performance Tool</i>
<i>PAB</i>	<i>Passenger and Baggage Handling (ISAGO)</i>
<i>PAC</i>	<i>Passenger and Cargo</i>
<i>PAL</i>	<i>Passenger Assistance List</i>
<i>PAP</i>	<i>Passenger</i>



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<i>PBB</i>	<i>Passenger Boarding Bridge</i>
<i>PBD</i>	<i>Passenger Boarding Device</i>
<i>PC</i>	<i>Piece Concept</i>
<i>PCA</i>	<i>Pre-conditioned Air</i>
<i>PCR</i>	<i>(IATA) Perishable Cargo Regulations</i>
<i>PDU</i>	<i>Power Drive Unit</i>
<i>PEA</i>	<i>Hunting trophies, skin, hide, and all articles made from or containing parts of species listed in the CITES (Convention on International Trade in Endangered Species) appendices.</i>
<i>PED</i>	<i>Portable/Personal Electronic Device</i>
<i>PEF</i>	<i>Flowers</i>
<i>PEM</i>	<i>Meat</i>
<i>PEP</i>	<i>Fruits And Vegetables</i>
<i>PER</i>	<i>Perishable cargo</i>
<i>PES</i>	<i>Fish/Seafood</i>
<i>PETC</i>	<i>Pet in Cabin</i>
<i>PIC</i>	<i>Pilot-in-Command</i>
<i>PIGS</i>	<i>Passenger Integrated Guidance System. Passenger guidance in the form of, for example, a ribbon that at the same time functions as a barrier for GSE.</i>
<i>PIL</i>	<i>Pharmaceuticals</i>
<i>PIL</i>	<i>Passenger Information list</i>
<i>PIR</i>	<i>Property Irregularity Report</i>
<i>PNL</i>	<i>Passenger Name List</i>
<i>PNR</i>	<i>Passenger Name Record</i>
<i>PPOC</i>	<i>Portable Oxygen Concentrator</i>
<i>PPE</i>	<i>Personal Protective Equipment</i>
<i>PPM</i>	<i>Passenger Protection Message or Policy and Procedure Manual</i>
<i>PPU</i>	<i>Powered Push Unit</i>
<i>PRC</i>	<i>Passenger Reception Centre also known as a Survivor Reception Centre</i>





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<i>PRM</i>	<i>Passenger with Reduced Mobility</i>
<i>PSCM</i>	<i>IATA Passenger Standards Conference Manual</i>
<i>PSM</i>	<i>Passenger Service Message</i>
<i>PTL</i>	<i>Passenger Transfer List</i>
<i>PTM</i>	<i>Passenger Transfer Message</i>
<i>PTS</i>	<i>Precision Time Schedule</i>
<i>PWD</i>	<i>Passenger With Disabilities</i>
<i>QA</i>	<i>Quality Assurance</i>
<i>QC</i>	<i>Quality Control</i>
<i>QMS</i>	<i>Quality Management System</i>
<i>QRT</i>	<i>Quick Ramp Transfer</i>
<i>RAC</i>	<i>Reserved Air Cargo</i>
<i>RCA</i>	<i>Root Cause Analysis</i>
<i>RCL</i>	<i>Cryogenic liquids</i>
<i>RCM</i>	<i>Corrosive</i>
<i>RCX</i>	<i>Explosives 1.3C</i>
<i>RDS</i>	<i>Diagnostic Specimen/ Biological Substance, Category B (UN 3373)</i>
<i>REQ</i>	<i>Excepted Quantities of Dangerous Goods</i>
<i>REX</i>	<i>To be reserved for normally forbidden explosives-Divisions 1.1, 1.2, 1.3, 1.4F, 1.5 and 1.6</i>
<i>RFG</i>	<i>Flammable gas</i>
<i>RFL</i>	<i>Flammable liquid</i>
<i>RFS</i>	<i>Flammable solid</i>
<i>RFW</i>	<i>Dangerous when wet</i>
<i>RGX</i>	<i>Explosives 1.3G</i>
<i>RIS</i>	<i>Infectious substance</i>
<i>RLI</i>	<i>Fully Regulated Lithium Ion Batteries (Class 9)</i>
<i>RLM</i>	<i>Fully Regulated Lithium Metal Batteries (Class 9)</i>
<i>RMD</i>	<i>Miscellaneous dangerous goods</i>
<i>RNG</i>	<i>Non-flammable non-toxic gas</i>



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<i>ROP</i>	<i>Organic peroxide</i>
<i>ROX</i>	<i>Oxidizer</i>
<i>RPB</i>	<i>Toxic substance</i>
<i>RPG</i>	<i>Toxic gas</i>
<i>RRE</i>	<i>Excepted Quantities/Packages of Radioactive Material</i>
<i>RRW</i>	<i>Radioactive material, Category I-white</i>
<i>RRY</i>	<i>Radioactive material, Categories II and III-Yellow</i>
<i>RSB</i>	<i>Polymeric beads</i>
<i>RSC</i>	<i>Spontaneously combustible</i>
<i>RXB</i>	<i>Explosives 1.4 B</i>
<i>RXC</i>	<i>Explosives 1.4 C</i>
<i>RXD</i>	<i>Explosives 1.4 D</i>
<i>RXE</i>	<i>Explosives 1.4 E</i>
<i>RXG</i>	<i>Explosives 1.4 G</i>
<i>RXS</i>	<i>Explosives 1.4 S</i>
<i>SAG</i>	<i>Safety Action Group</i>
<i>SARP</i>	<i>Standards and Recommended Practices</i>
<i>SCCM</i>	<i>Senior Cabin Crew Member</i>
<i>SCO</i>	<i>Cargo Secure for All-Cargo Aircraft only</i>
<i>SCP</i>	<i>Special Category of Passenger</i>
<i>SCPA</i>	<i>A Security Critical Part of the Airport(SCPA).</i>
<i>SDS</i>	<i>Safety Data Sheet</i>
<i>SeMS</i>	<i>IATA Security Management System Manual</i>
<i>SETI</i>	<i>Single Engine Taxi In</i>
<i>SFGOAC</i>	<i>IATA Safety, Flight and Ground Operations Advisory Council (formerly the IATA Operations Committee)</i>
<i>SGHA</i>	<i>Standard Ground Handling Agreement</i>
<i>SH</i>	<i>Short Haul: Flight time &lt;4hrs</i>
<i>SHL</i>	<i>Save Human Life</i>
<i>SI</i>	<i>Supplementary Information</i>



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<i>SLA</i>	<i>Service Level Agreement</i>
<i>SLS</i>	<i>Statistical Load Summary</i>
<i>SME</i>	<i>Subject Matter Expert</i>
<i>SMS</i>	<i>Safety Management System</i>
<i>SOM</i>	<i>Seats Occupied Message</i>
<i>SOP</i>	<i>Standard Operating Procedure</i>
<i>SP</i>	<i>Special Meal</i>
<i>SPF</i>	<i>Laboratory Animals</i>
<i>SPX</i>	<i>Cargo Secure for Passenger and All-Cargo Aircraft</i>
<i>SRA</i>	<i>Safety Risk Assessment</i>
<i>SRA</i>	<i>Security Restricted Area</i>
<i>SRA-CP</i>	<i>Security Restricted Area – Critical Part</i>
<i>SRB</i>	<i>Safety Review Board</i>
<i>SSP</i>	<i>State Safety Program</i>
<i>SSR</i>	<i>Special Service Request</i>
<i>STCR</i>	<i>Stretcher Passenger</i>
<i>SUR</i>	<i>Surface Transportation</i>
<i>SVAN</i>	<i>Service animals. Passenger with Service animal in cabin.</i>
<i>SWP</i>	<i>Sporting Weapons</i>
<i>TACT</i>	<i>(IATA) Air Cargo Tariff and Rules</i>
<i>TAGO Portal</i>	<i>TUI Airline Ground Operations Portal</i>
<i>TAS</i>	<i>TUI Airline Services</i>
<i>TCR</i>	<i>IATA Temperature Control Regulations</i>
<i>TG</i>	<i>Technical Group</i>
<i>TI</i>	<i>Transportation Index</i>
<i>TIM</i>	<i>Travel Information Manual</i>
<i>TIMATIC</i>	<i>Travel Information Manual Automatic. (IATA) world's leading source for information on air travel (entry) requirements in regards to visa, passports, airport tax, Customs, currency and health information.</i>



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<i>TM</i>	<i>Training Manual</i>
<i>TOR</i>	<i>Terms Of Reference</i>
<i>TOW</i>	<i>Take-off Weight</i>
<i>TR</i>	<i>Temporary Revision</i>
<i>TUI E&amp;M</i>	<i>TUI Engineering and Maintenance</i>
<i>TWL</i>	<i>Towbarless Tractor</i>
<i>TWT</i>	<i>Towbar Tractor</i>
<i>UCM</i>	<i>ULD Control Message</i>
<i>ULD</i>	<i>Unit Load Device</i>
<i>ULDR</i>	<i>(IATA) Unit Load Devices Regulations</i>
<i>UM</i>	<i>Unaccompanied Minor</i>
<i>UNAD</i>	<i>Is an inadmissible passenger unaccompanied by an escort.</i>
<i>UPU</i>	<i>Universal Postal Union</i>
<i>UTM</i>	<i>(IATA) Unit Load Devices Technical Manual</i>
<i>VAL</i>	<i>Valuable Cargo</i>
<i>VFR</i>	<i>Passengers visiting friends and relatives.</i>
<i>VHF</i>	<i>Very High Frequency</i>
<i>VOL</i>	<i>Volume</i>
<i>VUN</i>	<i>Vulnerable Cargo</i>
<i>W&amp;B</i>	<i>Weight and Balance</i>
<i>WCBD</i>	<i>Wheelchair (non-spillable battery)</i>
<i>WCBW</i>	<i>Wheelchair (spillable battery)</i>
<i>WCH</i>	<i>Wheelchair</i>
<i>WCHC</i>	<i>Wheelchair (C for Cabin Seat)</i>
<i>WCHR</i>	<i>Wheelchair (R for Ramp)</i>
<i>WCHS</i>	<i>Wheelchair (S for Steps)</i>
<i>WCLB</i>	<i>Wheelchair Lithium ion Battery</i>
<i>WCMP</i>	<i>Wheelchair (manual power)</i>
<i>WCOB</i>	<i>Wheelchair-Requesting wheelchair on board</i>



## Ground Operations Western Region Annex B List of Abbreviations

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<i>WET</i>	<i>Shipments of wet material not packed in watertight containers</i>
<i>WHO</i>	<i>World Health Organization</i>
<i>XPS</i>	<i>Priority small package</i>
<i>YP</i>	<i>Young Person</i>
<i>YPTA</i>	<i>Young Person Traveling Alone</i>
<i>ZFW</i>	<i>Zero Fuel Weight</i>



## **9 Annex C Aircraft Specifics**

### **9.1 B737-700, B737-800 and B737 MAX 8**

#### **9.1.1 General**

This chapter applies to our B737-700, B737-800 and B737 MAX 8. Some chapters are not general applicable. In that case we point out clearly regarding which type we are explaining.

#### **9.1.2 Current fleet list**

For the current fleet list refer to AHM 560 in the TAGO Portal.

#### **9.1.3 Ramp handling**

Minimum ground times for a turnaround.



### 9.1.3.1 Turnaround plan - targeted timings B737-700, B737-800 and B737 MAX 8

Directly or indirectly related to in-plane services	
Timing	Action
ATA – 00:01	a. Mobile GPU or fixed 400Hz cable and wheel chocks ready. b. Bridge or 2 stairs + busses in vicinity of aircraft ready.
ATA	c. Aircraft in parking position and fully stopped.
ATA + 00:01	d. Mobile GPU or fixed 400 Hz and wheel chocks in place and interphone. e. Headset (or hand signals where no headsets available) communication to flight deck. f. Engines shut down, anti-collision light off.
ATA + 00:02	g. Bridge or 2 stairs in place + doors open + passengers ready for disembarkation. h. Buggies brought upstairs/to bus. i. Briefing SCCM to handling agent dispatcher: passengers info + cleaning info. j. Slot & pre-load info by handling agent to cockpit + special info (delivery flight plan from HAJ GOC, fire brigade etc)
ATA + 00:03	Passengers disembarking.
ATA + 00:16	k. Last passenger out. l. Start disembarkation Disabled passengers. m. Target Cleaning agents to start if applicable n. Target Cabin Crew to start Cabin cleaning if applicable o. Target Catering agent to start catering uplift or other service (e.g. belly-galley change).
STD – 00:40	Crew boarding in case of crew change.
STD – 00:35	p. Disabled passengers ready at aircraft for boarding. q. Cleaning toilets and waste bags disposal finished. r. Catering uplift finished.
STD – 00:35	Start boarding
STD – 00:15	s. Load sheet delivery to aircraft Captain. t. LMC max 500 Kg difference less or more than load sheet. u. LMC max 750 Kg difference in moving baggage in holds.
STD – 00:05	Air-bridge or stairs removed and doors closed.



## Ground Operations Western Region Annex C Aircraft Specifics

### Directly or indirectly related to in-plane services

Timing	Action
STD – 00:02	Call by handling agent: engine start or push back.

**Note:** In case of baggage search, refer to Chapter 15, Annex I - Security, 7.8 Unaccompanied hold baggage

### Directly or indirectly related to out-plane services

Timing	Action
ATA – 00:01	<ul style="list-style-type: none"><li>a. Aircraft wheels chocks ready.</li><li>b. Bridge or 2 stairs + busses in vicinity of aircraft ready.</li><li>c. Any outbound cargo should be ready at aircraft side.</li></ul>
ATA	Engines shut down, anti-collision light off.
ATA + 00:01	<ul style="list-style-type: none"><li>a. Chocks in place.</li><li>b. Interphone headset or hand signals (where no headsets available) communication to flight deck.</li><li>c. Cargo door open for (un)loading.</li><li>d. Toilet &amp; Water Service ready to start. Replenish water tanks with drinking water to a maximum of 75% filling.</li></ul>
ATA + 00:08	<ul style="list-style-type: none"><li>a. Fuel into plane company ready to load.</li><li>b. Fire brigade ready when necessary</li></ul>
ATA + 00:15	<ul style="list-style-type: none"><li>a. Refueling process to start (cross check by Handling Agent) (ATA + 00:20 for 737-800).</li><li>b. First VIP Selection priority bag delivered to arrivals belt if applicable</li></ul>
ATA + 00:20	First rest of baggage delivered to arrivals belt.
ATA + 00:40	Last bag delivered to arrivals belt.
STD – 00:25	<ul style="list-style-type: none"><li>a. Refueling process to be finished (STD " 00:20 for 737- 800).</li><li>b. Toilet and Water service to be finished.</li></ul>
STD – 00:15	<ul style="list-style-type: none"><li>a. Fuel voucher sign off by Pilot-in-Command.</li><li>b. Handling Agent Dispatcher to advise Captain on number of missing bags.</li><li>c. TUI OCC Duty Manager, Captain and Handling agent dispatcher will consider the criteria and decide whether or not to depart.<ul style="list-style-type: none"><li>1. Where is flight going to?</li><li>2. What type of passengers?</li><li>3. Will crew duty hours be affected?</li><li>4. What type of failure is it – how long till we get bags?</li></ul></li></ul>





**Ground Operations Western Region  
Annex C Aircraft Specifics**

Directly or indirectly related to out-plane services	
Timing	Action
STD – 00:10	a. Loading cargo holds (baggage and cargo, if any) finished. b. Closing cargo doors ( STD - 00:05 the latest in case of last minute bags).
STD – 00:05	Air-bridge or stairs removed and doors closed.
STD – 00:02	Call by handling agent: engine start or push back.

In case of triangle flights reduce the above with 15 minutes providing cleaning service is not performed at the station with reduced turnaround time.

Hub Flights: normal ground time – no reduction.

Minimum Turnaround times (Carrier off schedule > 60 minutes)

MINIMUM DECLARED GROUND TIMES		HOME BASE	OUTSTATION		
			SINGLE DROP	DOUBLE DROP 90' for LH with catering, transit + cleaning	
A/C	CONFIG			STATION 1	STATION 2
B737	148Y	50'	45'	35'	45'
B738	189Y	50'	50'	40'	50'



### 9.1.3.2 Loading and unloading B737-700, B737-800 and B737 MAX 8

The carriage of live animals (AVIH) is permitted, but they must only be loaded in the forward hold.

Load instruction report (LIR) for all Boeing 737 aircraft can be found in Appendix F10 and Appendix F11.

It is essential that the forward hold is loaded before, and unloaded after, the rear hold. This to ensure that the aircraft balance does not reach the critical tail tipping point. The ground stability limit takes into account the effects of the following:

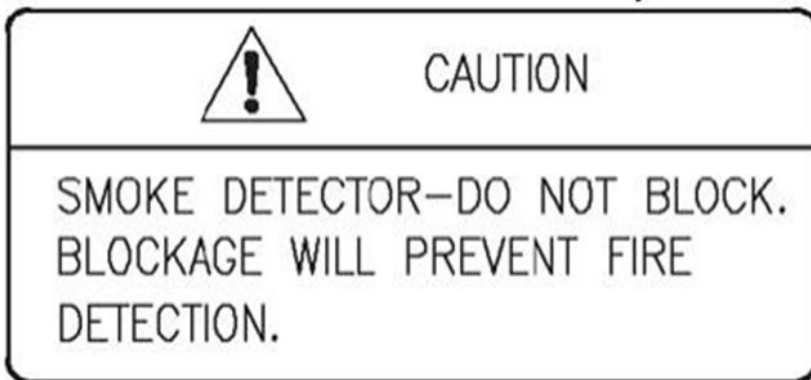
- a. 3% Ramp slope
- b. Towing forces
- c. 40 knot headwind

No compartment may contain any controls, wiring, lines, equipment, or accessories whose damage or failure would affect safe operation, unless those items are protected so that:

- a. They cannot be damaged by the movement of cargo in the compartment, and
- b. Their breakage or failure will not create a fire hazard.

All baggage, parcels and other forms of cargo must be loaded such that there is a 2-inch minimum clearance from the ceiling to permit airflow to smoke detectors and fire suppression agent distribution. Limited intrusions, such as corners of luggage are acceptable provided they are not directly below the smoke detectors or fire suppression nozzles.

The 2-inch minimum clearance is indicated by the cargo placards "Smoke detector - do not block. Blockage will prevent fire detection".



### 9.1.3.3 Loading instructions B737-800 and B737 MAX 8

#### a. Standard loading sequence:

Single drop flights:

1. First load cargo, if any, in hold 2



2. Load crew baggage, if any, in hold 1
3. Load 35 pieces into hold 2
4. Before starting to load the AFT hold keep minimum 15 pieces aside and start to load hold 3
5. When hold 3 is loaded put those 15 remaining pieces in hold 4 until full.
6. Load hold 3 to full capacity, where VIP priority labelled baggage must be loaded last;
7. Load oversized hand baggage, if any, in hold 3
8. Load any remaining baggage in hold 2
9. Wheelchairs and buggies in doorway of hold 3 and 4.
10. It is imperative to start **offloading** from hold 4 first then hold 3 and finally hold 2.

Double drop flights:

1. First load cargo, if any, in hold 2
2. Load crew baggage, if any, in hold 1
3. Destination with the lesser baggage load in hold 2 (minimum 35 bags / 600kg)
4. Destination with the higher baggage load in hold 3.

**Note 1:** Last leg of double drop flight should be considered as a single drop flight;

**Note 2:** After loading is completed it is important that all cargo nets are secured correctly.

**Note 3:** Transfer Baggage must be loaded in hold 4.

**Note 4:** To avoid lost baggage in case of double drop flights, ensure to check the load message carefully because baggage could be distributed in several holds.

#### JAF-BE

Double drop flights ex Belgium stations:

1. First load cargo, if any, in hold 2;
2. Load crew baggage, if any, in hold 1;
3. Load economy baggage of lightest station in hold 2;
4. Load VIP baggage of lightest station last in hold 2 in front of the economy bags and when 2 is full any remaining VIP baggage of lightest station in hold 1;
5. Load economy baggage of heaviest station in hold 3;
6. VIP of heaviest station to be loaded in hold 4 and when 4 is full any remaining VIP baggage of heaviest station last in hold 3;
7. Wheelchairs and buggies of lightest station in the doorway of hold 1 and 2, those of the heaviest station in doorway of hold 3 and 4.

**Note:** Last leg of double drop flight should be considered as a single drop flight;

Hold 1: The area forward of the forward cargo door is for storage of commercial cargo or catering equipment and is therefore not available for baggage, except for VIP bags of the lightest station

#### End JAF-BE

b. **Non-standard loading sequence:**

When the takeoff runway is 30m wide, the following non-standard loading distribution should be used:



1. Load hold 2 with 1/3 of baggage;
2. Load hold 3 with 2/3 of baggage,
3. Load hold 4 with any remaining bags.

The maximum weight permitted in each hold can be found in the AHM 560. This is published in the TAGO Portal.

#### 9.1.3.4 Unloading instructions B737-800 and B737 MAX 8

Disembarkation of passengers through door L1 only:

- a. Wheelchairs and buggies;
- b. VIP and Priority baggage and immediate delivery of VIP Priority labeled baggage at the terminal;
- c. Hold 4 if any;
- d. 50% of hold 3;
- e. All remaining baggage, hence unloading from aft compartment and forward compartment at same time by sufficient number of loaders to optimize Last Bag timings;
- f. Cargo.

Disembarkation of passengers through door L1 and L4 at same time.

- a. Wheelchairs and buggies with instant Delivery at Aircraft (DAA);
- b. VIP and Priority baggage and immediate delivery of VIP Priority labeled baggage at the terminal;
- c. Hold 4, if any;
- d. All remaining baggage, hence unloading from aft compartment and forward compartment at same time by sufficient number of loaders to optimize Last Bag timings;
- e. Cargo.

Double drop flights at the arrival airports: unload respective holds from aft to front. Passengers need to be first disembarked before unloading FWD hold in transit station (this to prevent tail tipping).

#### JAF-BE

#### 9.1.3.5 Loading instructions B737-700

- a. **Standard loading sequence**

Single drop flights:

1. First load cargo, if any, in hold 2
2. Load crew baggage, if any, in hold 1
3. First load hold 3 until full;
4. When hold 3 is full put remaining bags in hold 4 and when hold 4 is full put the rest in hold 2;
5. VIP baggage, if any, in hold 4;
6. Manual wheelchairs and buggies in doorway of AFT hold;
7. It is imperative to start offloading from hold 4 first then hold 3 and finally hold 2.

Double drop flights ex Benelux stations:

1. Load crew bags, if any, in hold 1
2. VIP baggage, of lightest station to be loaded last in hold 2 in front of the eco bags and when 2 is full any remaining VIP baggage, of lightest station in hold 1
3. Economy bags of heaviest station in hold 3



4. VIP baggage and crew baggage if any of heaviest station to be loaded in hold 4 and when 4 is full any remaining VIP baggage, of heaviest station last in hold 3 behind the economy bags
5. Manual wheelchairs and buggies of lightest station in the doorway of hold 1 and 2, those of the heaviest station in doorway of hold 3 and 4.

**Note 1:** Last leg of double drop flight should be considered as a single drop flight;

**Note 2:** After loading is completed it is important that all cargo nets are secured correctly.

Hold 1: The area forward of the forward cargo door is for storage of commercial cargo or catering equipment and is therefore not available for baggage, except for VIP bags of the lightest station.

Wheelchairs, buggies and oversized hand baggage must be loaded in the rear hold to ensure an early offload.

For arriving flights, the buggies must be delivered at the aircraft door (contact gate) or at the bottom of the stairs (remote position).

- b. **Use non-standard load distribution to compensate for cargo and for out of trim passenger seating. In this case the flight crew must be advised.**

When the takeoff runway is 30m wide, the following non-standard loading distribution should be used:

1. Load hold 2 with 1/3 of baggage;
2. Load hold 3 with 2/3 of baggage.

**End JAF-BE**

#### 9.1.3.6 Unloading instructions B737-700

Sequence:

Single drop flights:

Following order: both compartments must be unloaded at the same time by sufficient loaders to guarantee on-time delivery of last bag.

Double drop flights

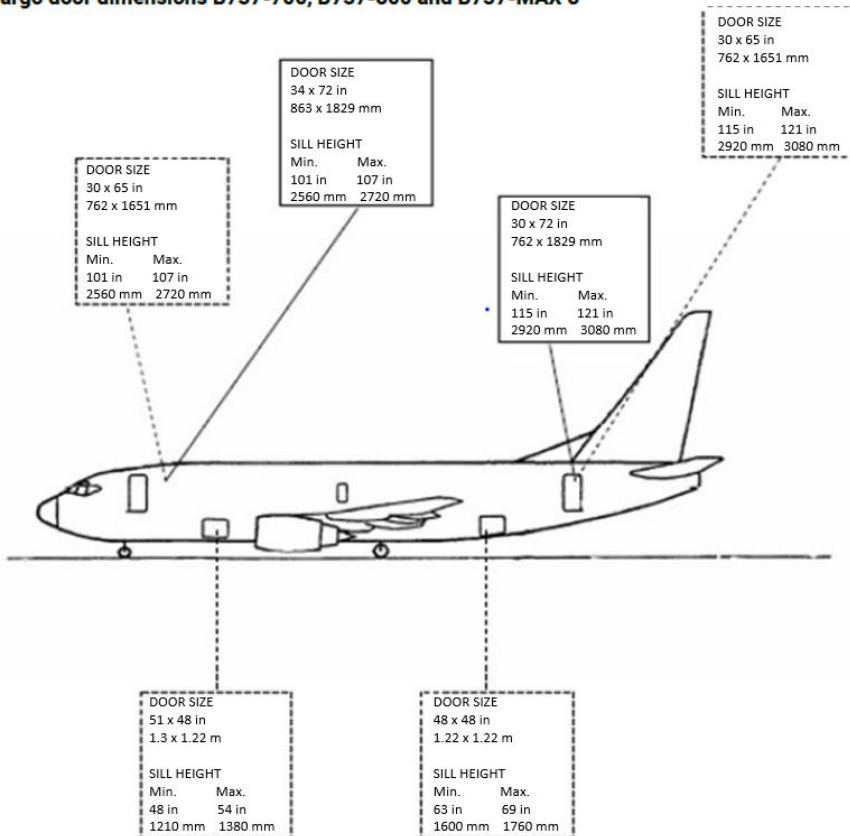
Offload the concerned holds from aft to front.

Wheelchairs and buggies are loaded in the doorway of the respective cargo door and must be offloaded first with instant delivery at Aircraft for the comfort of the passengers, regardless of the presence of a 'delivery at aircraft' tag.

VIP Priority and crew baggage: first and immediate delivery of Priority labeled and crew baggage at the terminal.



**Cargo door dimensions B737-700, B737-800 and B737-MAX 8**





### 9.1.3.7 Package size dimensions B737-700 , B737-800, B737-MAX 8

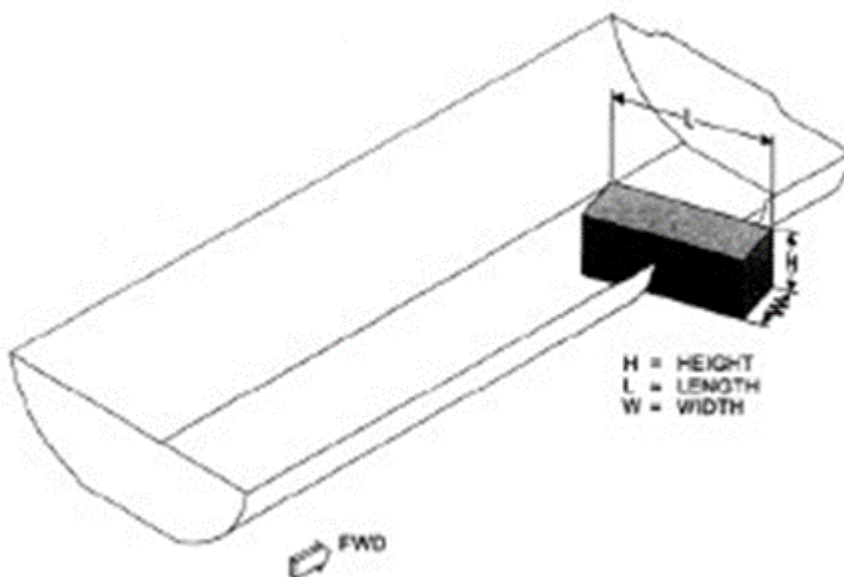
The tables below show maximum package size dimensions which will pass through the cargo door openings. Individual tables are presented for upright and tilted loading through the forward and aft hold cargo doors.

Upright loading refers to large or heavy packages with assistance of a fork truck or other loading device and maneuvered through the door in an upright position.

Tilted loading refers to lightweight cargo which can be hand maneuvered through the door by tilting to avoid obstructions.

Package heights are measured from upper surface to the floor.

#### Forward hold package size illustration





**Forward cargo compartment AFT of the door package tables – heavy lift assisted**

HEAVY PACKAGES - LIFT ASSISTED										
HEIGHT - IN	WIDTH - IN									
	5	10	15	20	25	30	35	40	45	48
	LENGTH - IN									
34	124	114	104	94	84	74	64	54	50	45
30	124	114	104	94	84	74	64	54	50	45
26	124	114	104	94	84	74	64	54	50	45
22	124	114	104	94	84	74	64	54	50	45
18	125	114	104	94	84	74	64	54	50	45
14	127	114	104	94	84	74	64	54	50	45
10	131	116	104	94	84	74	64	54	50	45
5	156	120	105	94	84	74	64	54	50	45

HEAVY PACKAGES - LIFT ASSISTED										
HEIGHT - CM	WIDTH - CM									
	13	25	38	51	64	76	89	102	114	122
	LENGTH - CM									
86	315	290	264	239	213	188	163	137	127	114
76	315	290	264	239	213	188	163	137	127	114
66	315	290	264	239	213	188	163	137	127	114
56	315	290	264	239	213	188	163	137	127	114
46	218	290	264	239	213	188	163	137	127	114
36	323	290	264	239	213	188	163	137	127	114
25	333	295	264	239	213	188	163	137	127	114
13	396	305	267	239	213	188	163	137	127	114

**Forward cargo compartment AFT of the door package tables – heavy lift assisted**

LIGHT PACKAGES - HAND MANOEUVRED										
HEIGHT - IN	WIDTH - IN									
	5	10	15	20	25	30	35	40	45	48





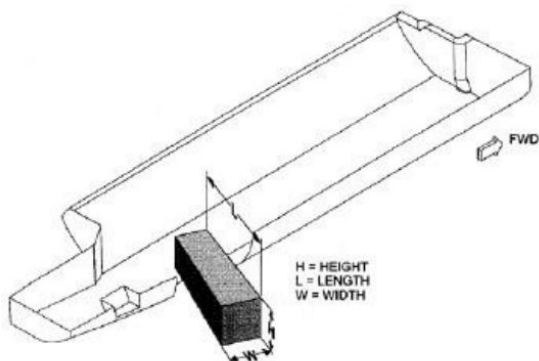
**Ground Operations Western Region  
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<b>LIGHT PACKAGES - HAND MANOEUVRED</b>										
	LENGTH - IN									
34	112	100	90	81	73	67	61	57	54	53
30	150	131	117	105	95	87	80	74	71	69
26	188	161	142	126	113	103	94	88	83	81
22	231*	194	167	147	131	118	108	100	94	91
18	273*	228*	193	167	147	132	119	110	102	100
14	275*	267*	220*	188	169	145	130	119	110	107
10	277*	274*	250*	210*	181	159	142	129	118	112
5	280*	276*	273*	242*	205	178	158	142	130	116

<b>LIGHT PACKAGES - HAND MANOEUVRED</b>										
HEIGHT - CM	WIDTH - CM									
	13	25	38	51	64	76	89	102	114	122
	LENGTH - CM									
86	315	290	264	239	213	188	163	137	127	114
76	315	290	264	239	213	188	163	137	127	114
66	315	290	264	239	213	188	163	137	127	114
56	315	290	264	239	213	188	163	137	127	114
46	218	290	264	239	213	188	163	137	127	114
36	323	290	264	239	213	188	163	137	127	114
25	333	295	264	239	213	188	163	137	127	114
13	396	305	267	239	213	188	163	137	127	114

**Note:** \*Package length is limited to a maximum of 205 in when transverse cargo nets are installed

**Note:** \*Package length is limited to a maximum of 520cm when transverse cargo nets are installed Conversion factor in > cm 1in = 2.54cm.



AFT hold package size illustration

**AFT cargo compartment forward of the door package tables – heavy lift assisted**

HEAVY PACKAGES - LIFT ASSISTED										
HEIGHT - IN	WIDTH - IN									
	5	10	15	20	25	30	35	40	45	48
	LENGTH - IN									
34	70	60								
32	99	89	79	70	60	49				
31	122	112	102	92	82	72	62	52	43	43
30	122	112	102	92	82	72	62	52	43	43
26	122	112	102	92	82	72	62	52	43	43
22	122	112	102	92	82	72	62	52	43	43
18	124	112	102	92	82	72	62	52	43	43
14	127	112	102	92	82	72	62	52	43	43
10	138	117	103	92	82	72	62	52	43	43
5	164	130	108	92	82	72	62	52	43	43



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<b>HEAVY PACKAGES - LIFT ASSISTED</b>										
HEIGHT - IN	WIDTH - IN									
	5	10	15	20	25	30	35	40	45	48
	LENGTH - IN									
34	70	60								
32	99	89	79	70	60	49				
31	122	112	102	92	82	72	62	52	43	43
30	122	112	102	92	82	72	62	52	43	43
26	122	112	102	92	82	72	62	52	43	43
22	122	112	102	92	82	72	62	52	43	43
18	124	112	102	92	82	72	62	52	43	43
14	127	112	102	92	82	72	62	52	43	43
10	138	117	103	92	82	72	62	52	43	43
5	164	130	108	92	82	72	62	52	43	43

**AFT cargo compartment forward of the door package tables – light hand maneuvered**

<b>LIGHT PACKAGES - HAND MANOEUVRED</b>										
HEIGHT - IN	WIDTH - IN									
	5	10	15	20	25	30	35	40	45	48
	LENGTH - IN									
34	89	77	66	58	52	[b]	[b]	[b]	[b]	[b]
30	160	140	123	110	99	89	81	75	70	67
26	201	171	148	130	116	104	94	86	80	76
22	247	206	177	152	134	120	108	99	92	88
18	338*	242	206	176	155	135	122	111	102	97
14	340*	293*	238	201	174	153	134	121	111	104
10	343*	339*	273	226	190	166	148	133	122	110
5	345*	340*	337*	268	221	188	163	144	131	120



Ground Operations Western Region  
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LIGHT PACKAGES - HAND MANOEUVRED										
HEIGHT - CM	WIDTH - CM									
	13	25	38	51	64	76	89	102	114	122
	LENGTH - CM									
86	226	196	168	147	132	[b]	[b]	[b]	[b]	[b]
76	406	356	312	279	252	226	206	191	178	170
66	511	434	376	330	295	264	239	218	203	193
56	627	523	450	386	340	305	274	252	234	224
46	859*	615	523	447	394	343	310	282	259	246
36	864*	744*	605	511	442	389	340	307	282	264
25	871*	861*	693	574	483	422	376	338	310	279
13	876*	864*	856*	681	561	478	414	366	333	305

**Note:** \*Package length is limited to a maximum of 277 in when transverse cargo nets are installed.  
Any length package will require tilting to clear compartment taper.

**Note:** \*Package length is limited to a maximum of 703 cm when transverse cargo nets are installed.  
Any length package will require tilting to clear compartment taper. Conversion factor in > cm 1in = 2.54cm



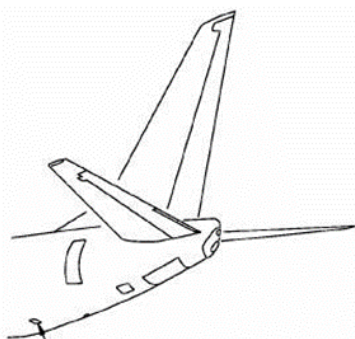
#### **9.1.3.8 Toilet servicing B737-700, B737-800 and B737-MAX 8**

There is one toilet drain fitting in the aft lower fuselage.

The toilet drain consists of an integral drain cap and "flap" valve, (see figure in this section). Service should be done by different truck than the water servicing truck.

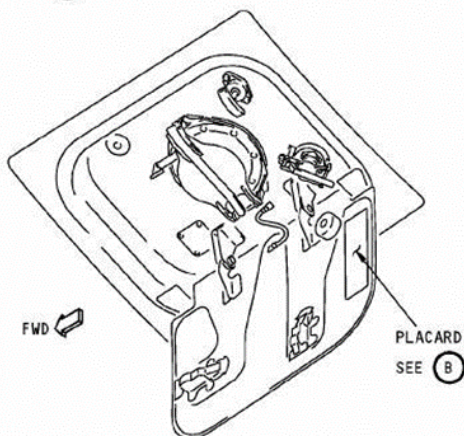
The drain fitting is manually opened by first opening the drain cap and connecting the ground coupling and service cart. Then rotate the "Open" lever in the direction of the arrow. This unlatches the flapper valve and allows it to open.

The valve is closed by rotating the "Close" lever in the opposite direction from the "Open" arrow. The filler point is located in the service panel, (see figure in this section).



WASTE TANK  
SERVICE PANEL

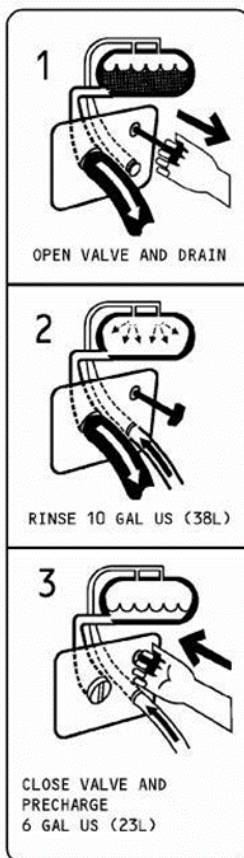
SEE (A)



WASTE TANK SERVICE PANEL

(A)

PLACARD  
SEE (B)



PLACARD

(B)

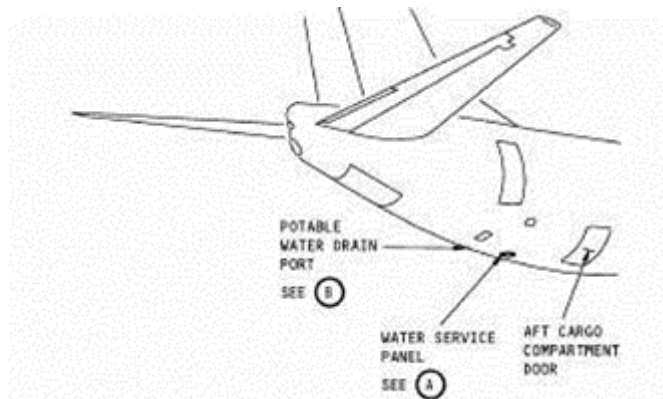
#### Waste Tank Servicing

### B737-700, B737-800 and B737-MAX 8 – Toilet Service Panel

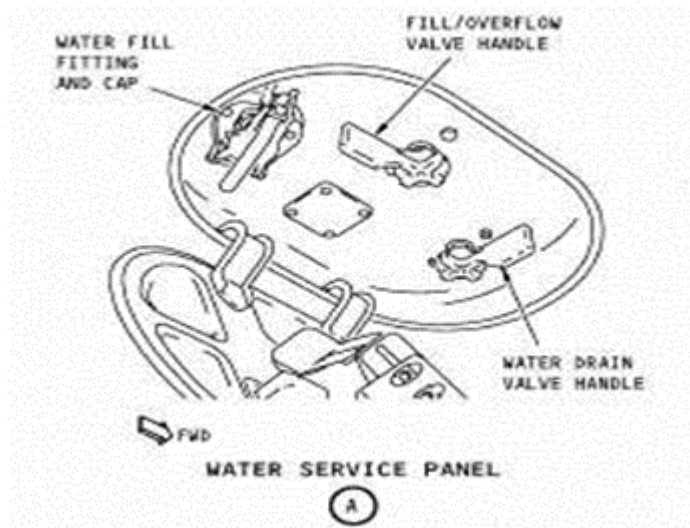


### 9.1.3.9 Potable water servicing B737-700, B737-800 and B737-MAX 8

The B737 has a pressurized water system serving on-board requirements except toilet flushing. There is one potable-water service point under the aft fuselage. Service should be done by different truck than the toilet servicing tuck.



### B737-700, B737-800 and B737 MAX 8 Potable-water service panel





Potable-water servicing:

- a. Open the door to the potable water service panel
- b. Open the cap on the water fill connection;
- c. Connect the water supply hose to the water fill connection;
- d. Turn the handle on the water tank fill valve to open;
- e. Fill the potable water tank with water until water flows from the overflow port on the service panel. (Use water at a pressure of 25psi.);
- f. Stop the supply of water to the potable water tank;
- g. Turn the handle for the water tank fill valve to closed;
- h. Disconnect the water supply hose from the water fill connection and let the fill line drain;
- i. Close the cap on the water fill connection;
- j. Close the door on the service panel.

The maximum water uplift is:

1. B737-700: 114 litres ;
2. B737-800: 151 litres;
3. B737-Max 8: 227 litres.

The cabin crew is not able to select the amount of water and this must be done by the ground handling agent.

**Note:** For all aircraft flights operating less than 4 hours potable water servicing is not required at the destination airports. Not applicable for Moroccan airports.

#### **9.1.3.10 Fueling procedures B737-700, B737-800, B737 MAX 8**

APU or external electrical power is required. Pressure system to all tanks is located under-wing.

Fueling:

Total usable capacity: 20,728 (usable fuel at level attitude, fuel density = 0.8029 kilograms per liter).

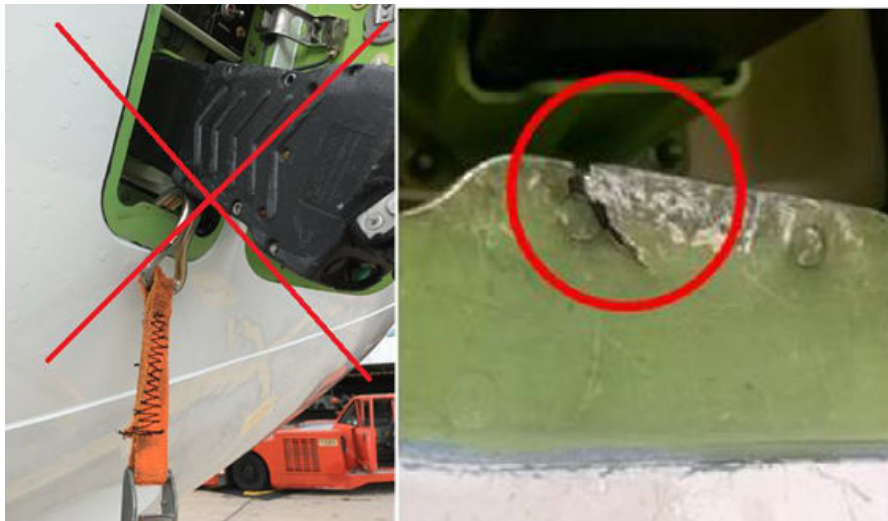
Control of total fuel input, (tank selection / quantity auto shut-off etc.), is available at the wing control panel.





#### 9.1.3.11 Ground power connection: hooks B737-700, B737-800, B737 MAX 8

To avoid aircraft damage, hooks are not allowed to use on B737.





#### 9.1.3.12 B737 MAX 8 Ground air starter

The 737 MAX 8 will require approximately **35% more airflow** and 3% more air pressure to be delivered from ground air carts compared to the 737-800 NG for successful GSE ground cart engine starts

ASU must have following Airflow (lb/min):

0°C = 140 lb/min & 44 PSIA

15°C = 135 lb/min & 42 PSIA

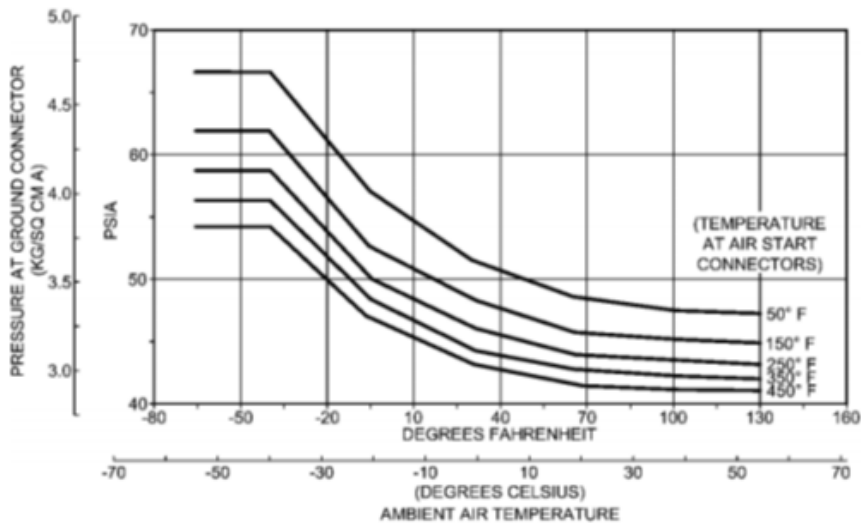
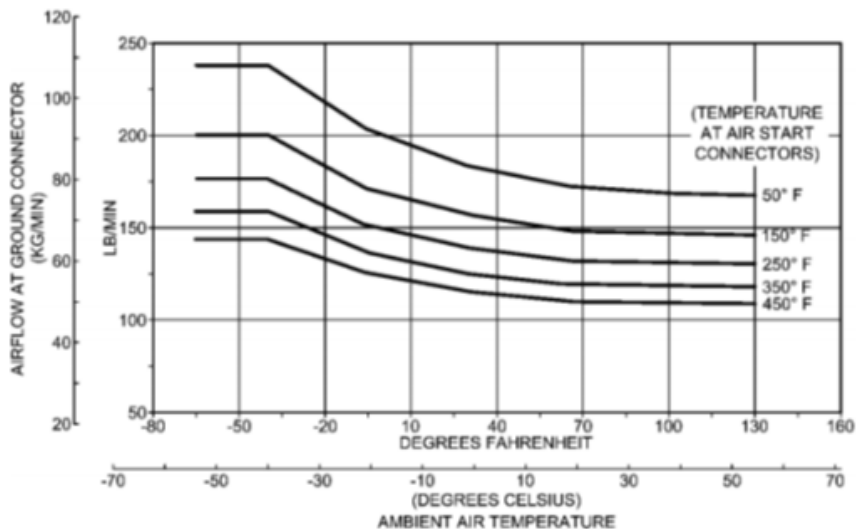
30°C = 135 lb/min & 42 PSIA

Example Airfield elevation: Sea Level	B737NG-800 (CFM56-7)		B737MAX-8 (LEAP-1B)	
	Airflow (lb/min)	Pressure (PSIA)	Airflow (lb/min)	Pressure (PSIA)
0°C	95	43	140	44
15°C	90	41	135	42
30°C	90	41	135	42





Engine Starting Pneumatic Requirements Sea Level: All Models





#### 9.1.4 Loading Dry-Ice B737 where the main cabin occupants do not exceed 15

Dry ice may be loaded in all cargo holds and in excess of 75kg per airplane. The maximum recommended load is determined from the charts below.

Boeing has calculated the recommended maximum amount of dry ice carriage in the airplane and the charts included below are **valid for airplanes where the main cabin occupants do not exceed 15**. The maximum recommended amount is the total amount of dry ice in all holds and other compartments. The shipper is responsible for supplying the sublimation rate and TUI must ensure that proper sublimation rates are used to determine the weight of dry ice that can be carried safely.

The charts below are valid for airplanes with a fully operating air conditioning system. They provide for safe carriage of the dry ice loads identified if an air conditioning pack were to malfunction while in flight. In the case of a loss of a single air conditioning pack in flight, diversion is not required.

**To calculate the maximum recommended load of dry ice, refer to the relevant chart below depending on the dry ice sublimation rate provided by the shipper.**

**Note 1:** Some shippers may use low sublimation rates below 1%.

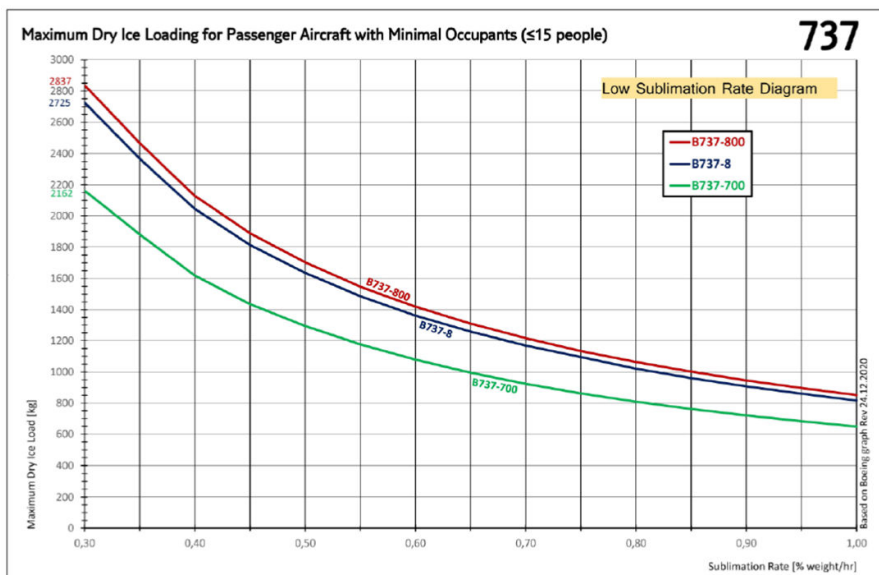
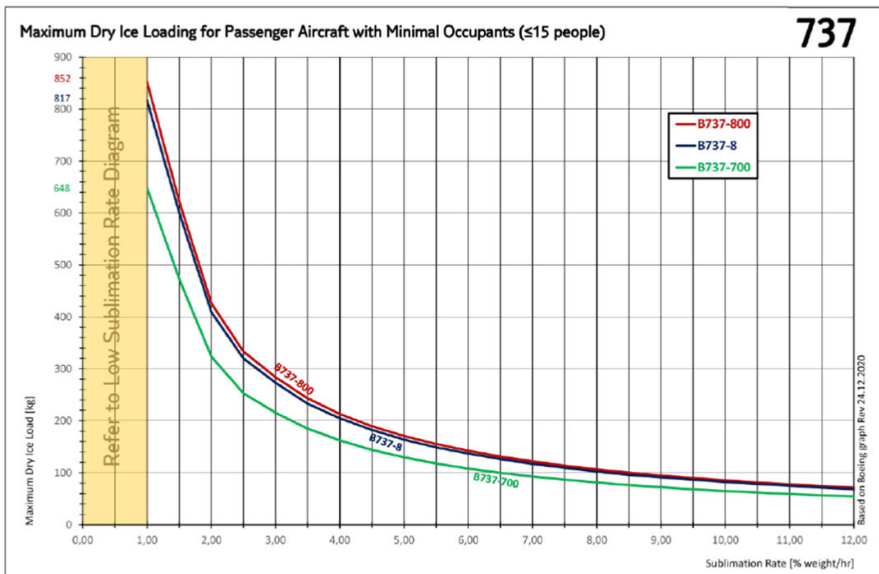
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**CAUTION! No AVIH's may be loaded in a hold which also contains dry-ice.**

---

**Note 2:** If no sublimation rates are available contact TUI OCC.

**Note 3:** If catering is loaded, subtract 40kg of the maximum load of dry ice to account for dry ice used to cool catering.





### 9.1.5 Loading Dry-Ice B737 where the main cabin occupants exceed 15

Dry ice may be loaded in all cargo holds and in excess of 75kg per airplane. The maximum recommended load is determined from the charts below.

Boeing has calculated the recommended maximum amount of dry ice carriage in the airplane and the charts included below are **valid for airplanes where the main cabin occupants exceed 15**. The maximum recommended amount is the total amount of dry ice in all holds and other compartments. The shipper is responsible for supplying the sublimation rate and TUI must ensure that proper sublimation rates are used to determine the weight of dry ice that can be carried safely.

The charts below are valid for airplanes with a fully operating air conditioning system. They provide for safe carriage of the dry ice loads identified if an air conditioning pack were to malfunction while in flight. In the case of a loss of a single air conditioning pack in flight, diversion is not required.

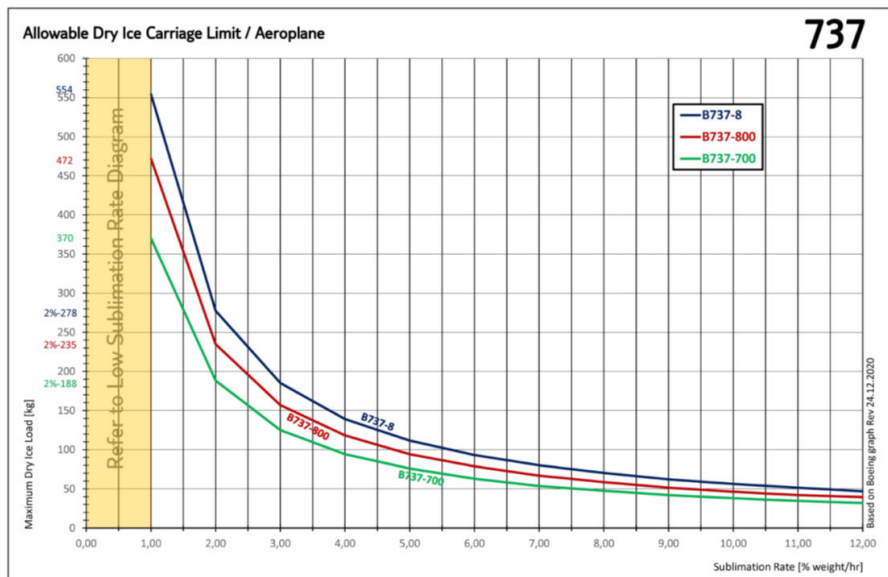
**To calculate the maximum recommended load of dry ice, refer to the relevant chart below depending on the dry ice sublimation rate provided by the shipper.**

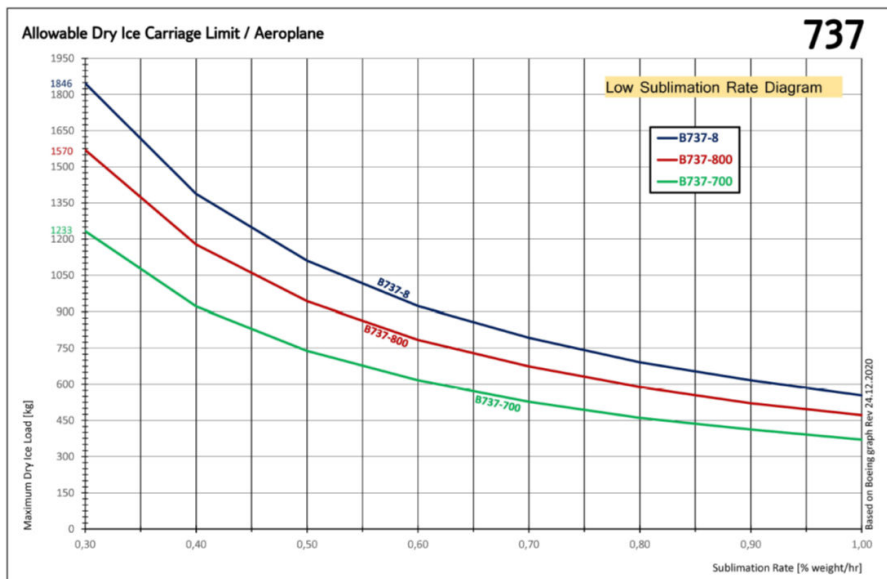
**Note:** Some shippers may use low sublimation rates below 1%.

**Note:** If no sublimation rates are available contact TUI OCC.

**CAUTION! No AVIH's may be loaded in a hold which also contains dry-ice.**

**Note:** if catering is loaded, subtract 40kg of the maximum load of dry ice to account for dry ice used to cool catering





## 9.1.6 Boeing 737 Max 8

### 9.1.6.1 Loadsheets

The Boeing 737-8 MAX is not equipped with an on-board printer. Therefore, ground handlers shall provide all flights with this aircraft type with 2 paper printed copies of the Loadsheets.

### 9.1.6.2 How to deal with Customers

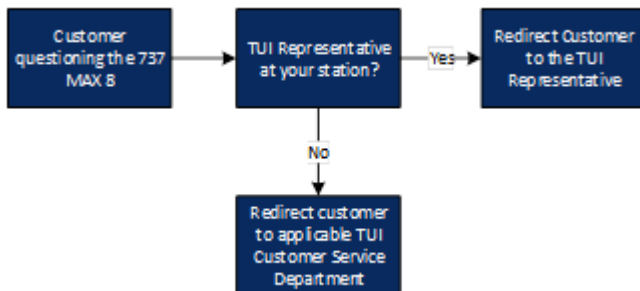
Customers might raise specific questions regarding the return to service of the Boeing 737 MAX 8. In those cases please give those customers the following confidence message:

*"Safety is TUI's number one priority, they will only fly an airplane if they are convinced it is safe. The 737 MAX is one of the most tested commercial aircraft ever, all parts of the control system have been recertified and the pilots completed extra training to the strictest standards."*

All Ground Handling Agents are requested not to answer any further questions about the technicality of the aircraft. In case customers have further questions about their flight, please redirect them using the scheme below.



## Ground Operations Western Region Annex C Aircraft Specifics



Airline	Telephone number	Email address
TUI fly Belgium	+32 2 717 86 61	N/A
TUI fly the Netherlands	+31 88 088 58 50	N/A





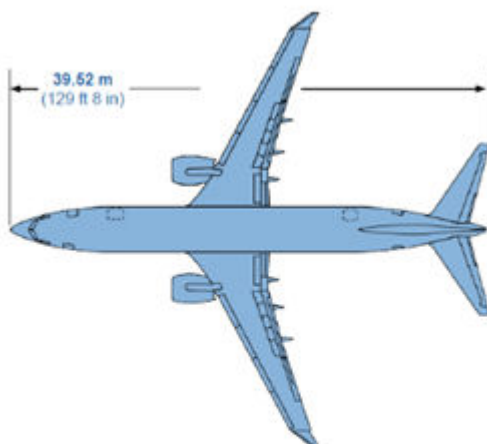
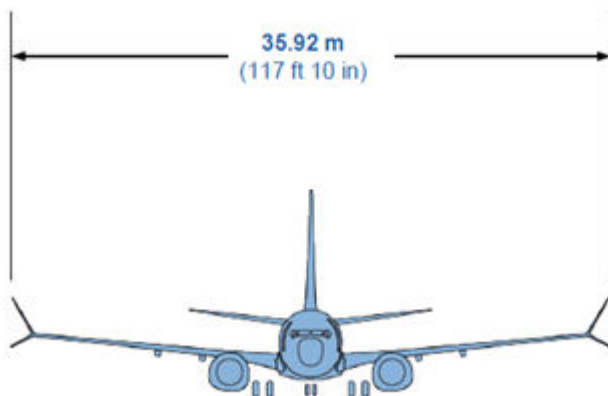
### 9.1.6.3 Ground Support Equipment and Dimensions

All kind of equipment connections/mechanisms will remain the same at the Boeing 737 MAX 8.

Variant	Length	Wing Span	Tail Height
737-800	39.5 m	35.8 m	12.5 m
737 MAX 8	39.5 m	35.9 m	12.3 m



## Dimensions





### Comparison

The 737NG has a 61-inch fan



The 737-8 has a 69-inch fan



Due to the bigger engine of the Boeing 737-8 the spacing between engine and forward hold is smaller than compared to the Boeing 737-800NG.



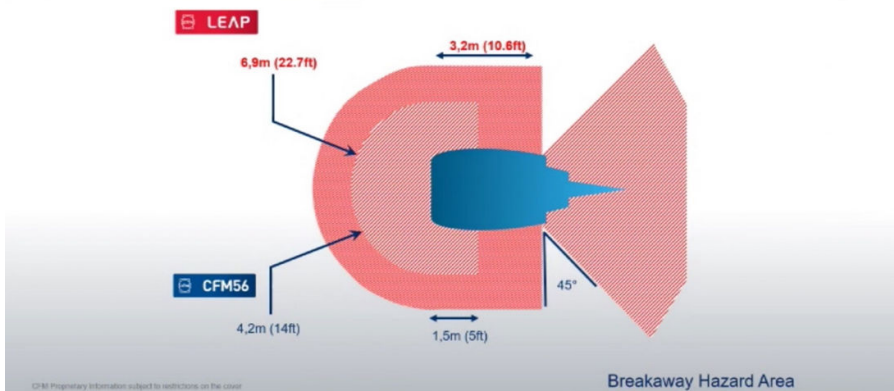
Boeing 737-800NG



Boeing 737-8 (MAX)



## Engine Keep Out Zone





#### 9.1.6.4 Ground Support Equipment Commonality

GSE	737-800	737 MAX 8
<b>Tug</b>	Tractor draw bar pull: 5,547 kg Tow Tractor weight: 12,327 kg	Tractor draw bar pull: 5,769 kg Tow Tractor weight: 12,820 kg
<b>Towbar</b>	See towbar specification drawing C09002	See towbar specification drawing C09002
<b>Towbarless Towing</b>	Requirements specified in D6-56872 See Service Letter 737-SL-09-002-J	Requirements specified in D6-56872 See Service Letter 737-SL-09-002-J
<b>Electrical Power</b>	One 90kVa source: <ul style="list-style-type: none"><li>• Connection min ht: 188 cm</li><li>• Connection max ht: 226 cm</li></ul>	One 90kVa source: <ul style="list-style-type: none"><li>• Connection min ht: 213 cm</li><li>• Connection max ht: 249 cm</li></ul>
<b>Lower Lobe Cargo/Loader</b>	Door Clear Opening: <ul style="list-style-type: none"><li>• FWD – 89 cm x 122 cm</li><li>• AFT – 84 cm x 122 cm</li></ul> Door sill heights: <ul style="list-style-type: none"><li>• FWD – Min: 130 cm, Max: 152 cm</li><li>• AFT – Min: 145 cm, Max: 173 cm</li></ul>	Door Clear Opening: <ul style="list-style-type: none"><li>• FWD – 84 cm x 122 cm</li><li>• AFT – 84 cm x 122 cm</li></ul> Door sill heights: <ul style="list-style-type: none"><li>• FWD – Min: 142 cm, Max: 167 cm</li><li>• AFT – Min: 132 cm, Max: 165 cm</li></ul>
<b>Fuel Bowser</b>	Total fuel capacity: 26,025 litres (6,875 g) Single refuelling adapter: <ul style="list-style-type: none"><li>• Min height: 284 cm. Max height: 297 cm</li></ul>	Total fuel capacity: 26,025 litres (6,875 g) Single refuelling adapter: <ul style="list-style-type: none"><li>• Min height: 284 cm. Max height: 297 cm</li></ul>
<b>Air Conditioning</b>	Single 22 ton unit Single Standard 20 cm (8") connector <ul style="list-style-type: none"><li>• Min height: 114 cm. Max height: 130 cm</li></ul>	Single 22 ton unit Single Standard 20 cm (8") connector <ul style="list-style-type: none"><li>• Min height: 119 cm. Max height: 135 cm</li></ul>
<b>Engine Air Start</b>	Single 7.62 cm (3") ID connector: <ul style="list-style-type: none"><li>• Min height: 127 cm. Max height: 142 cm</li></ul>	Single 7.62 cm (3") ID connector: <ul style="list-style-type: none"><li>• Min height: 132 cm. Max height: 147 cm</li></ul>
<b>Potable Water Service Servicing</b>	Water capacity: 60 gallons / 40 gallons Single Service point - standard connection: <ul style="list-style-type: none"><li>• Min height: 170cm. Max height: 206 cm</li></ul>	Water capacity: 60 gallons Single Service point - standard connection: <ul style="list-style-type: none"><li>• Min height: 155cm. Max height: 193 cm</li></ul>



GSE	737-800	737 MAX 8
<b>Lavatory Servicing</b>	Waste capacity: 60 gallons Single service panel – standard connection: <ul style="list-style-type: none"><li>• Min height: 157 cm. Max height: 191 cm</li></ul>	Waste capacity: 60 gallons Single service panel – standard connection: <ul style="list-style-type: none"><li>• Min height: 145 cm. Max height: 178 cm</li></ul>

#### 9.1.6.5 Engine Starting Requirements Using Ground Air Start Units

The 737-8 LEAP-1B engine is larger than the 737 NG's CFM56-7 engine:

+1 stage HPC, +1 stage HPT, larger LPC = Higher operating pressure ratios

As a result, the LEAP-1B requires more starter air flow to achieve fuel on speed (max. motoring) compared to the CFM56-7; differences in air pressure requirements are negligible

If a Ground Air Start Unit (ASU) is required to start an engine (due u/s APU), the 737-8 has been designed to utilise standard ASUs also suitable for the 737 NG

The delivery airflow required for the 737-8 is towards the top-end of standard as ASUs published performance capability\*

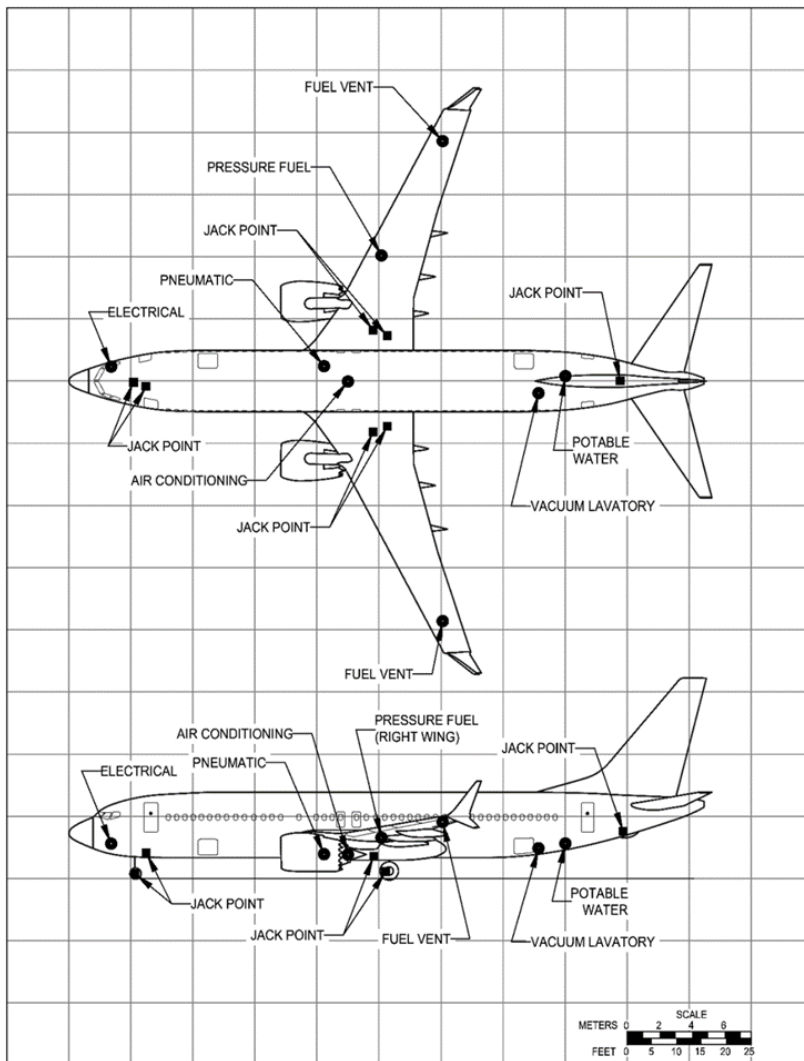
ASUs that produce a lower than published output due deteriorated performance (age / poor maintenance) may work for the 737 NG but not for the 737-8

*Example* Airfield  
elevation:  
**Sea Level**

Ambient Temperature	B737NG-800 (CFM56-7)		B737-8 (LEAP-1B)	
	Airflow (lb/min)	Pressure (PSIA)	Airflow (lb/min)	Pressure (PSIA)
0°C	95	43	140	44
15°C	90	41	135	42
30°C	90	41	135	42



### 9.1.6.6 Boeing 737-8 Ground Service Connections







#### 9.1.6.7 Ground Power and Interphone connection

The Ground Power and Interphone connection/mechanism will stay unchanged.  
Note that the connection for the Boeing 737-8 is higher than the connection of the Boeing 737-800.

Boeing 737-800NG



Boeing 737-8



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**CAUTION!** only use certified steps as aid to connect the Ground Power Unit

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#### 9.1.6.8 APU inlet hatch

Boeing 737-800NG APU inlet door closed



Boeing 737-8 APU inlet door closed



Boeing 737-800NG APU inlet door open



Boeing 737-8 APU inlet door open





## Tail design

Boeing 737-800NG Tail design



Boeing 737-8 Tail design





#### 9.1.6.9 Seats with restricted view

Seats with restricted view will remain unchanged

11A, 12A and 12F





#### 9.1.6.10 Waste trolley forward galley comparison

On the Boeing 737-800 aircraft the Waste trolley in the forward galley can only be removed by opening the door.

On the Boeing 737-8 aircraft the waste trolley can be removed by taking out one full size meal trolley.

It's not necessary to open the aircraft door

Boeing 737-800NG



Boeing 737-8





## **9.2 B787**

### **9.2.1 General**

The Boeing 787 is almost entirely built using carbon fiber material. It will not react in the same way as an aluminum aircraft when impacted by ground servicing equipment. In almost all cases it will look as if no damage has been caused. Any contact with the aircraft by ground equipment must be reported. TUI handles a no blame philosophy.

The Boeing 787 does not use pneumatic systems onboard to the extent of older generation aircraft. In case of an inoperative APU, engine starts and ground servicing functions can be achieved via the aircraft electrical connection/ground power.

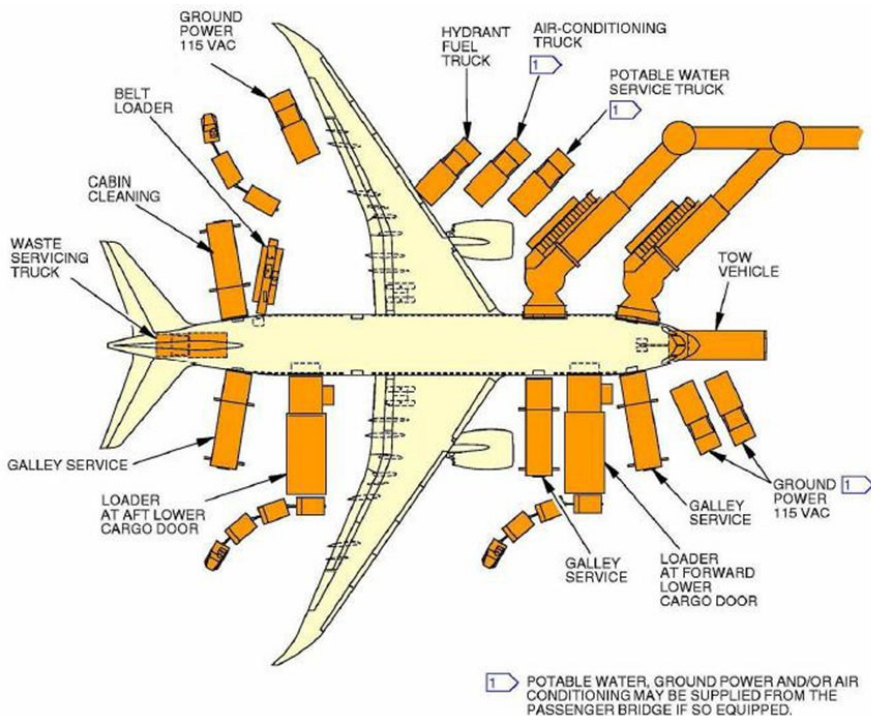
### **9.2.2 B787 - Current fleet list**

For the current fleet list we refer to the AHM 560 in The TAGO Portal



## 9.2.3 Ramp Handling

### 9.2.3.1 Aircraft servicing arrangement B787



Approaching the aircraft with any sort of Ground Service Equipment, Banksman guiding is a requirement!

- 1 staff member driving the GSE
- 1 staff member to guide and to ensure the GSE does NOT touch the aircraft.

### 9.2.3.2 Turnaround plan - targeted timings B787

Single drop flights: work to minimum Ground Time of 90 minutes (01h30)

Double drop flights: work to a minimum Ground Time of 50 minutes in the first station and 80 minutes in the second station.

Do NOT work to the ATC slot time. All times are targeted for action at the latest. Action should start earlier where possible.

Servicing of night-stop aircraft and servicing of aircraft faced with long turnaround times



## Ground Operations Western Region Annex C Aircraft Specifics

throughout the day should be planned immediately after passenger disembarkation, to be completed the latest at 60 minutes prior to STD.

<b>Directly or indirectly related to in-plane services</b>	
<b>Timing</b>	<b>Action</b>
ATA – 00:01	<ul style="list-style-type: none"> <li>a. 2 Mobile GPU or fixed 400Hz cable and wheel chocks ready.</li> <li>b. Bridge or 2 stairs + busses in vicinity of aircraft ready.</li> </ul>
ATA	<ul style="list-style-type: none"> <li>c. Aircraft in parking position and fully stopped.</li> </ul>
ATA + 00:01	<ul style="list-style-type: none"> <li>d. 2 Mobile GPU or fixed 400 Hz and wheel chocks in place and interphone.</li> <li>e. Headset (or hand signals where no headsets available) communication to flight deck.</li> <li>f. Engines shut down, anti-collision light off.</li> </ul>
ATA + 00:02	<ul style="list-style-type: none"> <li>g. Bridge or 2 stairs in place + doors open + passengers ready for disembarkation.</li> <li>h. Buggies brought upstairs/to bus.</li> <li>i. Briefing SCCM to handling agent dispatcher: passengers info + cleaning info.</li> <li>j. Slot &amp; pre-load info by handling agent to cockpit + special info (delivery flight plan from HAJ GOC, fire brigade etc)</li> </ul>
ATA + 00:03	Passengers disembarking.
ATA + 00:17	<ul style="list-style-type: none"> <li>k. Last passenger out.</li> <li>l. Start disembarkation Disabled passengers.</li> <li>m. Target Cleaning agents to start if applicable</li> <li>n. Target Cabin Crew to start Cabin cleaning if applicable</li> <li>o. Target Catering agent to start catering uplift or other service (e.g. belly- galley change).</li> </ul>
STD – 00:45	Crew boarding in case of crew change.
STD – 00:45	<ul style="list-style-type: none"> <li>p. Disabled passengers ready at aircraft for boarding.</li> <li>q. Cleaning toilets and waste bags disposal finished.</li> <li>r. Catering uplift finished.</li> </ul>
STD – 00:40	Start boarding
STD – 00:15	<ul style="list-style-type: none"> <li>s. Load sheet delivery to aircraft Captain.</li> <li>t. LMC max 500 Kg difference less or more than load sheet.</li> <li>u. LMC max 500 Kg difference in moving baggage in holds.</li> </ul>
STD – 00:05	Air-bridge or stairs removed and doors closed.
STD – 00:02	Call by handling agent: engine start or push back.





## Ground Operations Western Region Annex C Aircraft Specifics

Directly or indirectly related to <u>out</u> -plane services	
Timing	Action
ATA – 00:01	<ul style="list-style-type: none"> <li>a. Aircraft wheels chocks ready.</li> <li>b. Bridge or 2 stairs + busses in vicinity of aircraft ready.</li> <li>c. Any outbound cargo should be ready at aircraft side.</li> </ul>
ATA	Engines shut down, anti-collision light off.
ATA + 00:01	<ul style="list-style-type: none"> <li>d. Chocks in place.</li> <li>e. Interphone headset or hand signals (where no headsets available) communication to flight deck.</li> <li>f. Cargo door open for (un)loading.</li> <li>g. Toilet &amp; Water Service ready to start. Replenish water tanks with drinking water to a maximum of 75% filling.</li> </ul>
ATA + 00:08	<ul style="list-style-type: none"> <li>h. Fuel into plane company ready to load.</li> <li>i. Fire brigade ready when necessary.</li> </ul>
ATA + 00:17	<ul style="list-style-type: none"> <li>j. Refueling process to start (cross check by Handling Agent) (ATA + 00:20 for 737-800).</li> <li>k. First VIP Selection priority bag delivered to arrivals belt if applicable</li> </ul>
ATA + 00:20	First rest of baggage delivered to arrivals belt.
ATA + 00:39	Last bag delivered to arrivals belt.
STD – 00:20	<ul style="list-style-type: none"> <li>l. Refueling process to be finished (STD " 00:20 for 737- 800).</li> <li>m. Toilet and Water service to be finished.</li> </ul>
STD – 00:15	<ul style="list-style-type: none"> <li>n. Fuel voucher sign off by Pilot-in-Command.</li> <li>o. Handling Agent Dispatcher to advise Captain on number of missing bags.</li> <li>p. TUI OCC Duty Manager, Captain and Handling agent dispatcher will consider the criteria and decide whether or not to depart.               <ul style="list-style-type: none"> <li>1. Where is flight going to?</li> <li>2. What type of passengers?</li> <li>3. Will crew duty hours be affected?</li> <li>4. What type of failure is it – how long till we get bags?</li> </ul> </li> </ul>
STD – 00:10	<ul style="list-style-type: none"> <li>q. Loading cargo holds (baggage and cargo, if any) finished.</li> <li>r. Closing cargo doors ( STD - 00:05 the latest in case of last minute bags).</li> </ul>
STD – 00:05	Air-bridge or stairs removed and doors closed.
STD – 00:02	Call by handling agent: engine start or push back.

**Note:** In case of baggage search, refer to Chapter 15, Annex I - Security

Minimum Turnaround times (Carrier off schedule > 60 minutes)

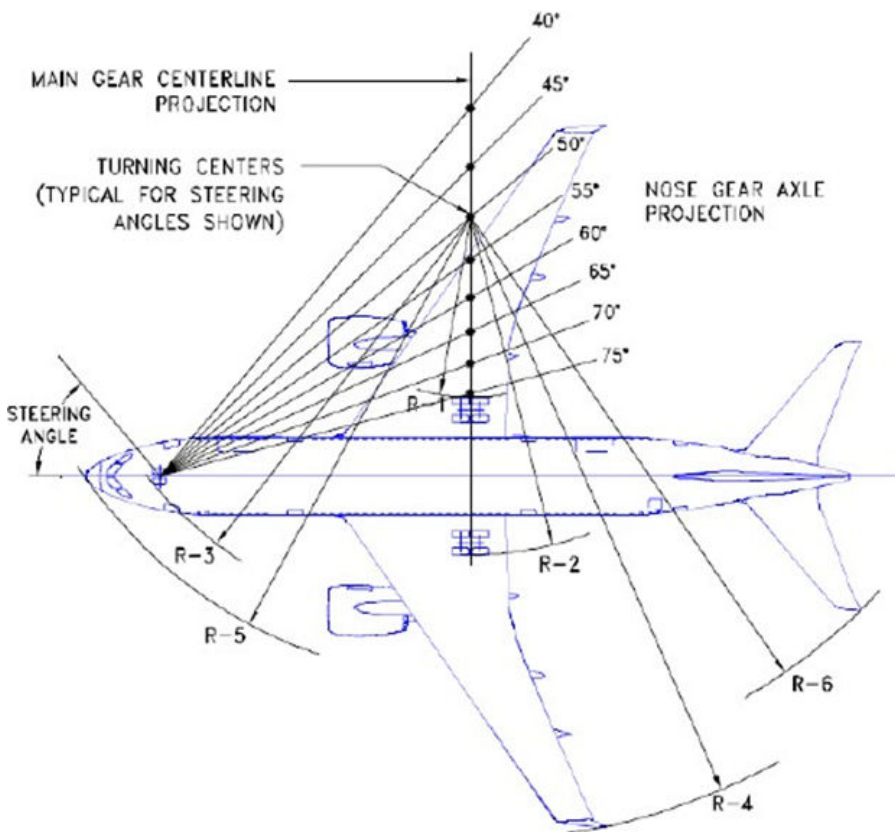


MINIMUM DECLARED GROUND TIMES		HOME BASE	OUTSTATION		
			SINGLE DROP	DOUBLE DROP 90' for LH with catering, transit + cleaning	
A/C	CONFIG			STATION 1	STATION 2
B787	305Y	120	90 LH/ 75 MH	60	60 LH/ 75 MH

In case of triangle flights reduce the above with 15 minutes providing cleaning service is not performed at the station with reduced turnaround time.  
Hub Flights: normal ground time – no reduction.



### 9.2.3.3 Aircraft dimensions B787



**Note:** Actual operating turning radii may be greater than shown.

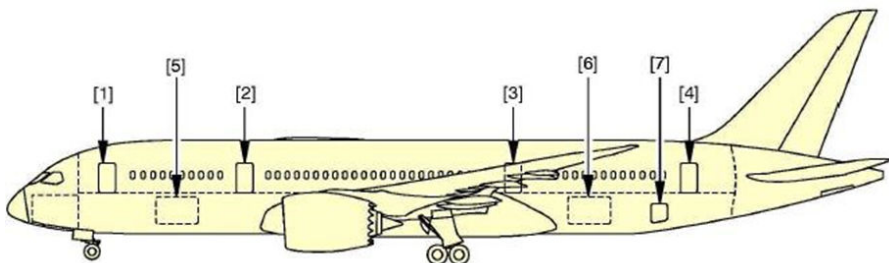
Steering angle (DEG)	R-1 Inner gear		R-2 Outer gear		R-3 Nose gear		R-4 Wing tip		R-5 Nose		R-6 Tail	
	FT	M	FT	M	FT	M	FT	M	FT	M	FT	M
30	110.5	33.7	148.6	45.3	151.4	46.2	231.6	70.6	160.1	48.5	187.1	57.0
35	87.7	26.7	125.8	38.4	132.2	40.3	209.2	63.8	142.0	43.1	167.8	51.1



## Ground Operations Western Region Annex C Aircraft Specifics

40	70.1	21.4	108.2	33.0	118.2	36.0	191.9	58.5	129.0	39.1	153.4	46.8
45	55.7	17.0	93.8	28.6	107.6	32.8	177.9	54.2	119.4	36.3	142.3	43.4
50	43.7	13.3	81.8	24.9	99.5	30.3	166.2	50.7	112.1	34.1	133.5	40.7
55	33.3	10.2	71.4	21.8	93.2	28.4	156.1	47.6	106.5	32.4	126.3	38.5
60	24.1	7.4	62.2	19.0	88.2	26.9	147.3	44.9	102.2	31.1	120.3	36.7
65	15.8	4.8	53.9	16.4	84.4	25.7	139.3	42.5	99.0	30.1	115.3	35.1
70	8.2	2.5	46.3	14.1	81.5	24.8	132.0	40.2	96.5	29.4	111.0	33.8

### Aircraft door dimensions B787



Loc	Door	Size H x W Inches (cm)	Ground clearance Inches (cm)	
			Min	Max
1	Pass Entry Door 1	74 in (188cm) x 42 in (107cm)	167.0 in (424cm)	185.5 in (471.2cm)
2	Pass Entry Door 2	74 in (188cm) x 42 in (107cm)	172.7 in (439cm)	185.2 in (470.4cm)
3	Pass Entry Door 3	74 in (188cm) x 42 in (107cm)	181.4 in (460.8cm)	188.4 in (478.5cm)
4	Pass Entry Door 4	74 in (188cm) x 42 in (107cm)	182.9 in (464.6cm)	194.2 in (493.3cm)
5	FWD Cargo Door	67 in (170cm) x 106 in (269cm)	92.9 in (236.0cm)	108.2 in (274.8cm)



## Ground Operations Western Region Annex C Aircraft Specifics

6	Aft Cargo Door	67 in (170cm) x 106 in (269cm)	105.1 in (267.0cm)	114.35 in (290.4cm)
7	Bulk Cargo Door	45 in (114cm) x 40 in (102cm)	106.7 in (271.0cm)	118.9 in (302.0cm)

**Note:** The heights of the doors above ground can change in relation to the aircraft's weight and center of gravity.

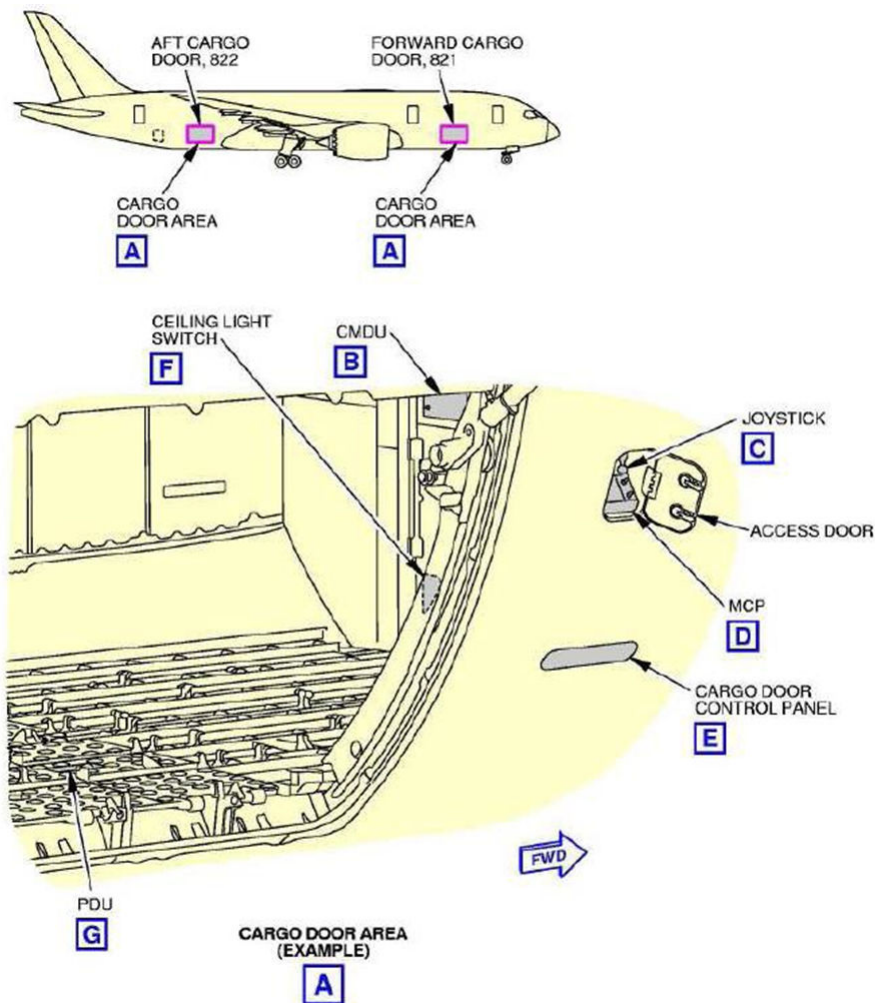
### Cargo hold information B787

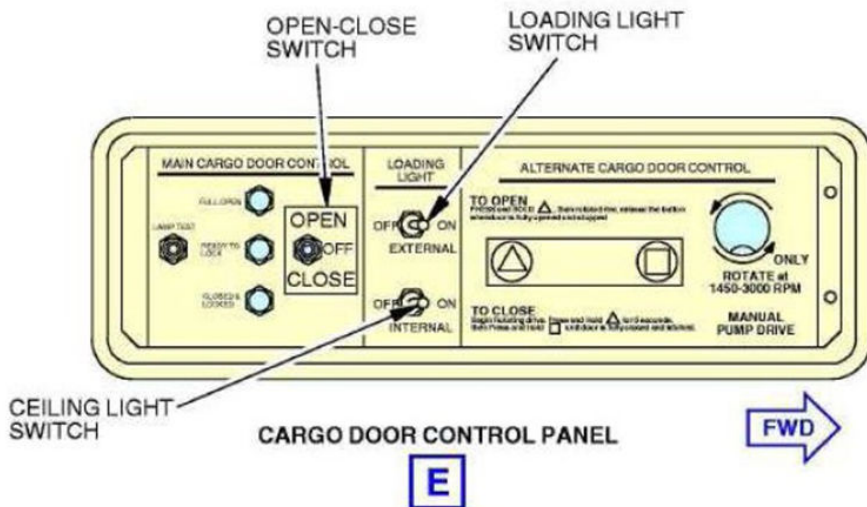
The heights of the hold doors above ground can change in relation to the aircraft's weight and center of gravity however, the following can be used as a guide:

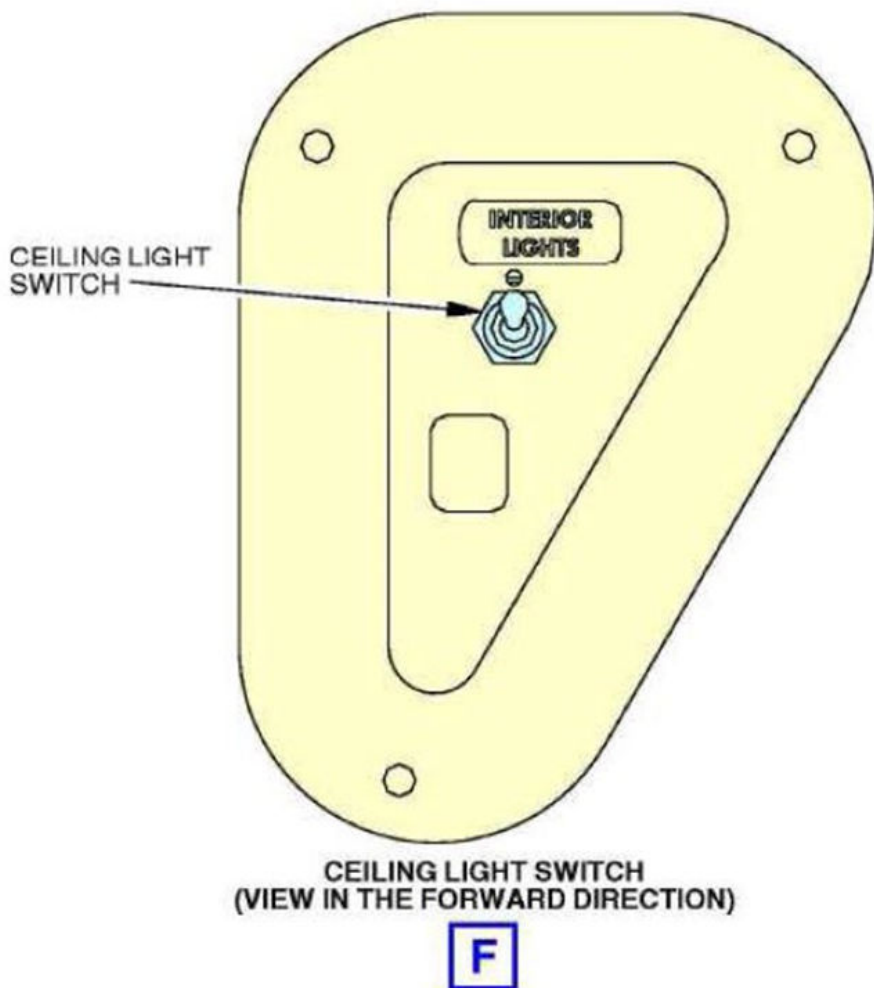
Height above the ground		
	AFT Cargo Hold Door	FWD Cargo Hold Door
Minimum	105 in / 267 cm	93 in /236 cm
Maximum	114 in / 290 cm	108 in / 275cm



## Baggage / Cargo loading B787



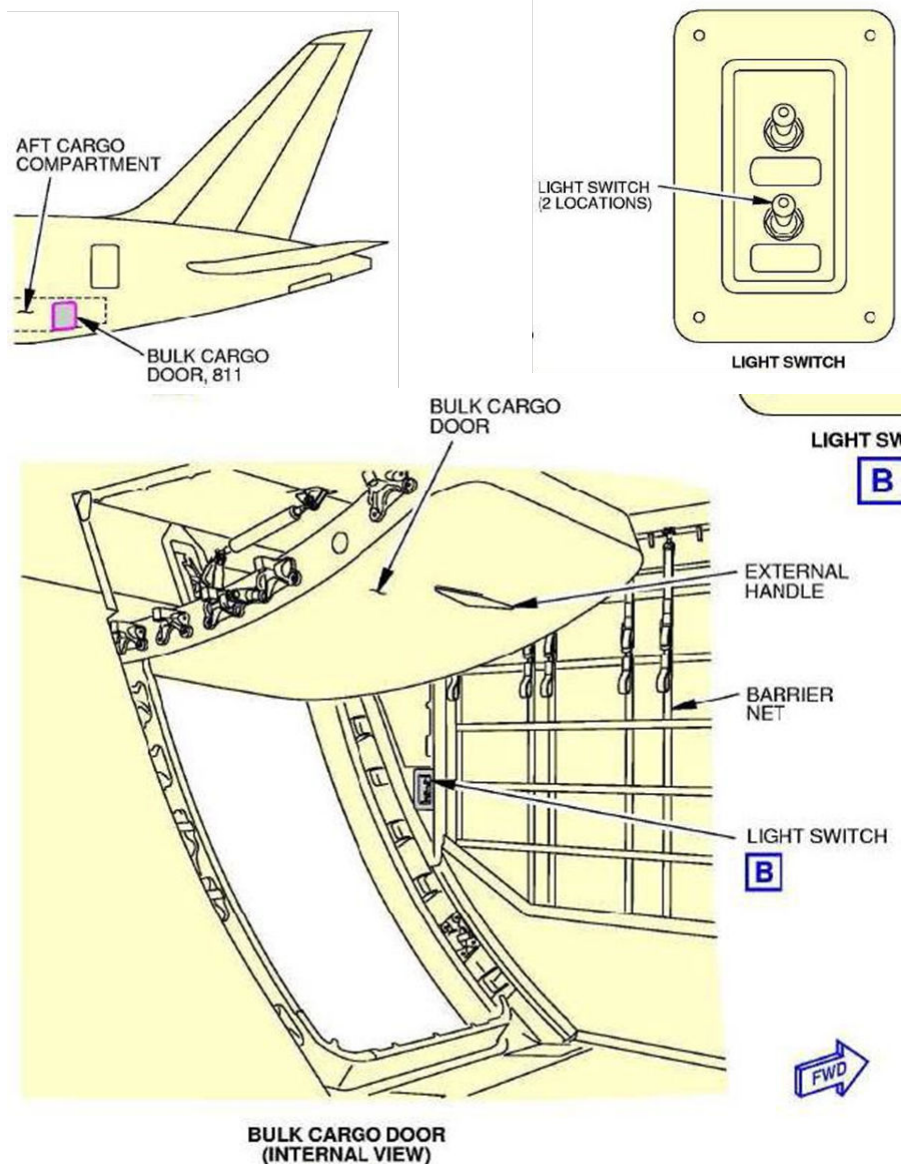






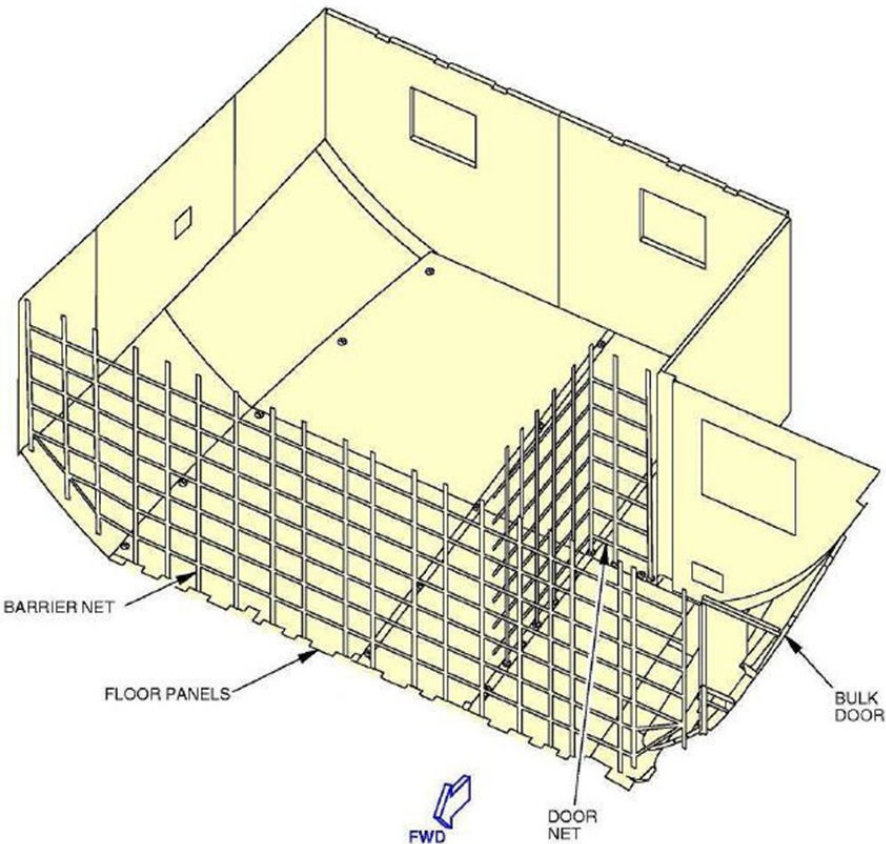


## Bulk cargo hold B787





Bulk cargo hold layout B787



Bulk hold door B787

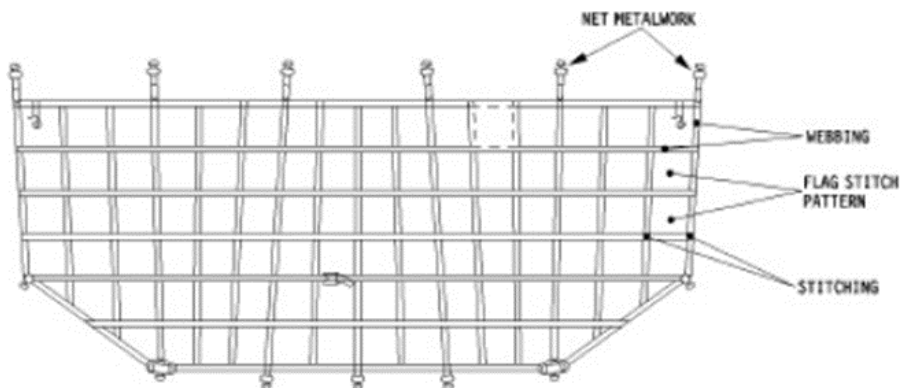
The Bulk Hold cargo compartment has a smaller door on the left aft fuselage. The door measures 45 in x 40 in (114cm x 102cm) and the table below illustrates the heights above ground. However, the height above ground can vary depending on the weight of the aircraft and Centre of Gravity.

Height above ground – Bulk cargo door	
Minimum	107 in (271cm)
Maximum	119 in (302cm)



## Bulk hold net serviceability

### Typical net assembly



- a. Where there is damage to a net or metalwork, any of the following will make the net unserviceable:
  - More than one ceiling fitting missing
  - Any severed vertical web
  - Fraying of two non-adjacent vertical webs
  - Fraying of three non-adjacent horizontal webs
- b. Unserviceable nets must be reported to a TUI fly Belgium and TUI fly the Netherlands Engineer or operating Flight Crew.



### 9.2.3.4 Loading and unloading B787

#### General

a. **Cargo**

Cargo is normally carried in the forward hold.

If the weight of the cargo exceeds the weight of the baggage, then it may be necessary to load the cargo in the aft holds with the baggage in the front.

Cargo should not be loaded in front of passenger's baggage, as this will delay the delivery of baggage on arrival at the destination airport.

Temperature sensitive cargo (e.g. vegetables), should be carried in the front hold as the forward cargo hold is air conditioned. Carriage of temperature sensitive cargo in the front hold with the FCAC system inoperative is permitted. Certain perishable cargo, as decided by the Handling Agent (in consultation with Cargo Operations), may be carried in the aft hold.

The carriage of live animals is permitted but they must only be loaded in holds 1, 2 or 5. If CSUs are loaded in hold 2, live animals must be loaded in hold 5. If perishable cargo, flowers or foodstuffs are loaded in holds 1 and/or 2, live animals must be loaded in hold 5. Consideration must be given to the temperature of the hold.

For additional instructions we refer to Chapter 14, Annex H - Live Animals

b. **Baggage**

Baggage is normally carried in LD3 containers. Each container accommodates approximately 45 bags.

c. **Standard Distribution**

Non-standard distribution of ULDs is permitted to compensate for out of trim conditions or to facilitate reduced fuel consumption with a CG further aft.

**Note:** Transfer baggage must be bulk loaded in hold 5

#### Unloading baggage B787

##### Sequence:

Priority shall be given to baggage for VIP, Premium Club passengers and crew baggage, clearly indicated on the LDM.

Wheelchairs which are loaded in bulk hold 5 must be offloaded first with instant Delivery at Aircraft for the comfort of the passengers.

##### VIP Priority baggage:

First and immediate delivery of VIP Priority labeled baggage at the terminal for Premium club and VIP passengers.

#### Load distribution B787

For Load Instruction Forms; see Appendix F10 for TUI fly Belgium and Appendix F11 for TUI fly the Netherlands in the TAGO Portal.

#### Departure ex Benelux stations double drop flights:

- a. When nil cargo: Heaviest destination in hold 3 and lightest destination in hold 4 (containers containing VIP labeled bags loaded closest to the door).



- b. When cargo: All baggage containers in compartment 3 and 4, containers for the first destination loaded last.
- c. When the VIP labeled baggage for one destination does not fit in one LD8 the remainder must be loaded in compartment 5 and clearly specify this on the LDM.

#### Departure 2nd station:

- a. The VIP labeled baggage from both 1st and 2nd station should be separately belt loaded in a LD3 container(s) and loaded last to enable priority delivery at the arrival station.
- b. All LD8 to be loaded in the aft hold (hold 3+ hold 4), subject to trim and Captain's approval.

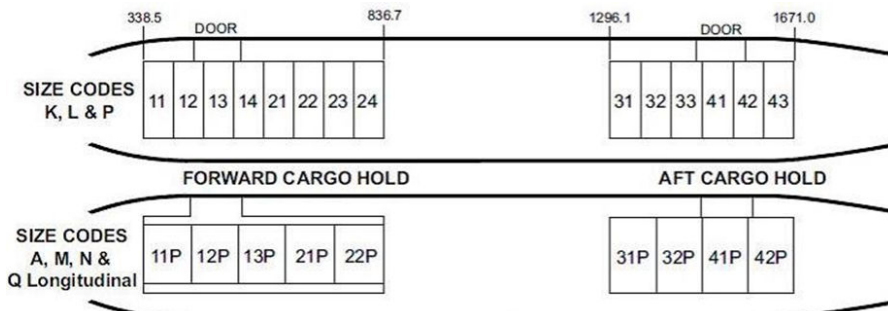
#### Departure single drop flights:

All containers to be loaded in the aft hold (hold 3+ hold 4) subject to trim and Captain's approval.

#### ULD Positions

The following schematic depicts the hold positions for ULDs.

Figure 6.1



#### ULD Dimensions

Figure 6.3

##### LD-2

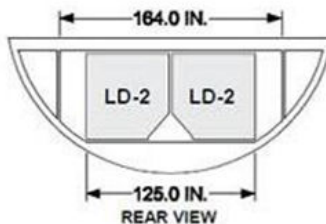
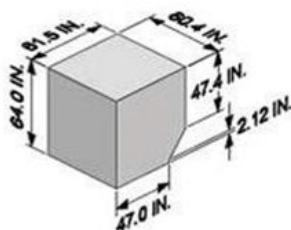




Figure 6.4

LD-3

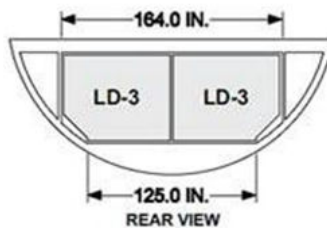
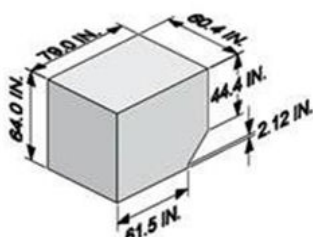


Figure 6.5

LD-3 Pallet

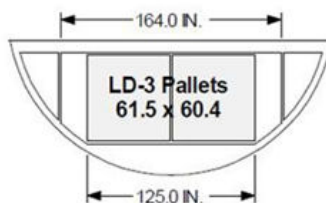
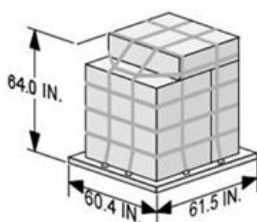


Figure 6.6

LD-5  
LD-11

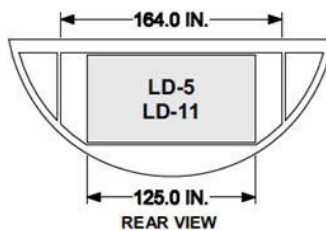
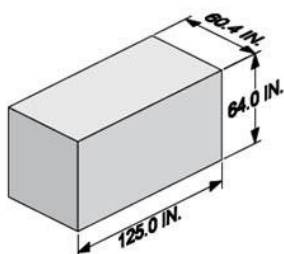


Figure 6.7

LD-6

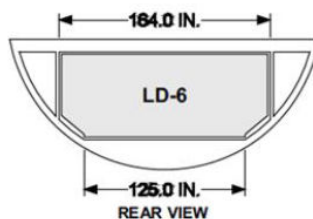
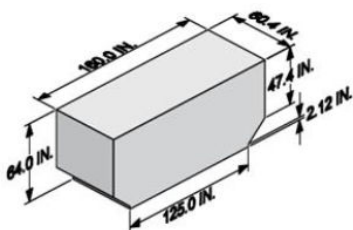
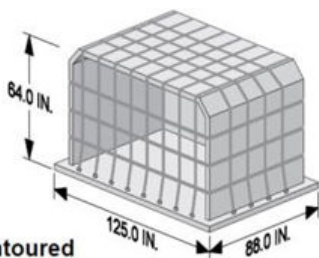
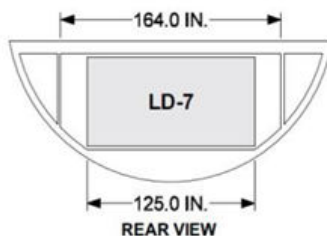
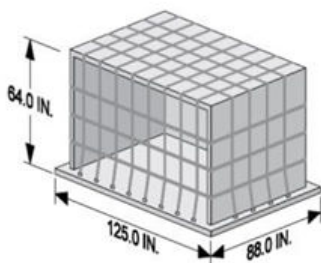




Figure 6.8

LD-7



Contoured

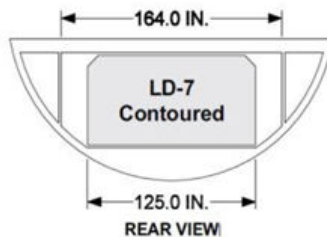


Figure 6.9

LD-8

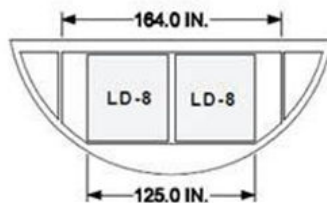
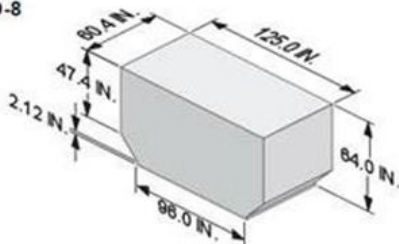
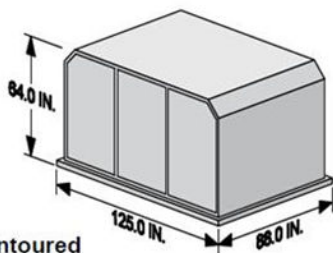
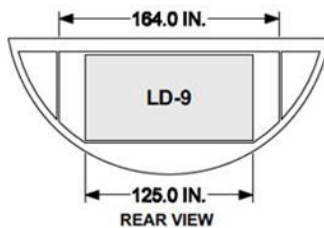
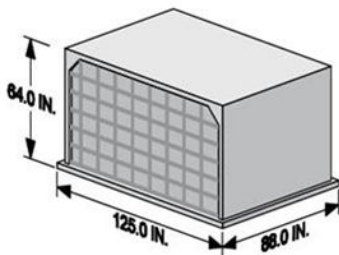


Figure 6.10



LD-9



Contoured

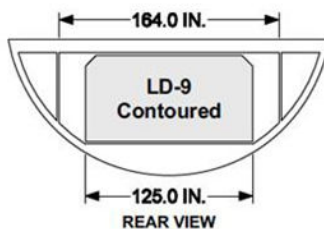


Figure 6.11

P1

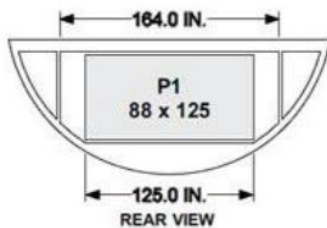
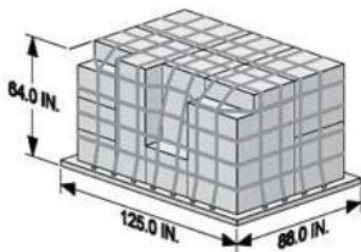
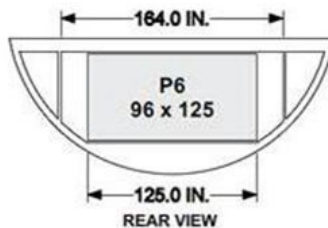
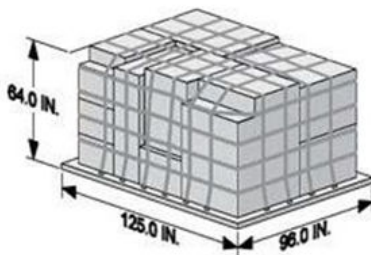


Figure 6.12

P6



## ULD Weight and Volume

Table 6.2.3.3(1)





## Ground Operations Western Region Annex C Aircraft Specifics

ULD	Usable Volume (m <sup>3</sup> )	Empty Weight (kg) (*)
Containers		
LD2 (DPE)	3.5	72
LD3 (AKE, AKN)	4.3	65
LD5 (ALP)	7.2	185
LD6 (ALF)	8.9	196
LD7 Winged (XAW) (Note 5)	14	170 (Note 4)
LD7 incl. Contoured (LAK/AAJ)	9.5	251
LD8 (DQF)	7.1	138
LD9 (AAP)	10	220
LD36 (AMF)	14.5	330
Pallets		
PLA, PLB (Note 3)	8.8	130 (Note 2)
P6P (PMC)	12	118 (Note 4)
P1P (PAJ, PAG, PAA, PAX, PAP)	11	114 (Note 4)
LD3 Pallet	3.5	75 (Note 2)
Temperature Controlled Containers		
RAP e2 (Note 6,7)	6.4	1100
RAP t2 (Note 6,7)	8.2	450
RKN e1 (Note 1,7)	2.3	635
RKN t2 (Note 1,7)	2.9	265
(*) Empty (TARE) weights can vary slightly by manufacturer		

**Note 1:** The RKN has the same dimensions as an AKE.

**Note 2:** The LD3 Pallet, PLA, PLB empty weights include a 10 kg net.

**Note 3:** The ALP, PLA, PLB have the same dimensions as an LD5.

**Note 4:** The PMC, P6P, PAJ, PAG, PAA, PAX, PAP, P1P, LD7 Winged empty weights include an 18 kg net.

**Note 5:** The LD7 Winged is a P1P base with fixed wings for overhang.

**Note 6:** The RAP has the same dimensions as an AAP.



**Note 7:** For RAP/RKN temperature range and control mechanisms see below:

Model	RAP e2/ RKN e1	RAP t2/ RKN t2
Temp range	±0 to +25 °C	-20 to +20 °C
Temp control	electrical heating and compressor cooling	heat exchanger (16 D-size alkaline batteries and up to 300kg dry ice as coolant)

### Cargo Hold Weights

Table 6.2.4(1)

Hold/Position	Maximum Weight (kg)
Total Forward Hold	25,514
Hold 1 = position 11 to 14 or 11P to 13P	15,306
Hold 2 = position 21 to 24 or 21P to 22P	12,700
DPE loaded on position 11, 12, 14 to 24 (L and/ or R)	1224
AKE, AKN, RKN, LD3 Pallet loaded on position 11 to 24 (L and/ or R)	1587
ALP, ALF or PLA, PLB loaded on position 11 to 24	3175
DQF loaded on position 12PL, 21PL, 21PR (Configuration 1) or 13PL, 13PR (Configuration 2)	1587
PMC, P6P loaded on position 11P to 21P	5102
PMC, P6P loaded on position 22P	5669
PAJ, PAG, PAA, PAX, PAP, P1P, LD7 (Square, Contoured, Winged), AAP or RAP loaded on position 11P to 21P	4676
PAJ, PAG, PAA, PAX, PAP, P1P, LD7 (Square, Contoured, Winged), AAP or RAP loaded on position 22P	5102
Total Aft Hold	19,132
Hold 3 = position 31 to 33 or 31P to 32P	10,771
Hold 4 = position 41 to 43 or 41P to 42P	9525
DPE loaded on position 31 to 33, 42, 43 (L and/ or R)	1224
AKE, AKN, RKN, LD3 Pallet loaded on position 31 to 43 (L and/ or R)	1587
ALP, ALF or PLA, PLB loaded on position 31 to 43	3175



Hold/Position	Maximum Weight (kg)
DQF loaded on position 32PL, 32PR	1587
PMC, P6P loaded on position 31P	5669
PMC, P6P loaded on position 32P and 42P	5102
PAJ, PAG, PAA, PAX, PAP, P1P, LD7 (Square, Contoured, Winged), AAP or RAP loaded on position 31P	5102
PAJ, PAG, PAA, PAX, PAP, P1P, LD7 Square, Contoured, Winged), AAP or RAP loaded on position 32P to 42P	4676
Hold 5 = Bulk	2735

**Note:** Maximum weight is per ULD.

**Note:** The allowable position weights include ULD tare.

## Loading

ULD Locations

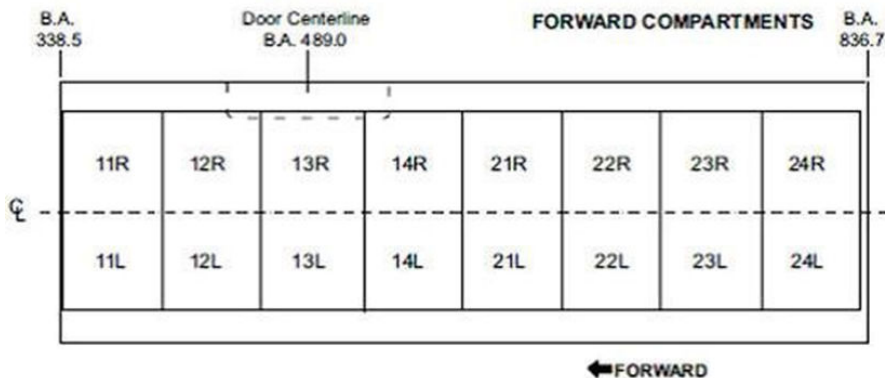
Forward Cargo Hold

**Note:** Different types of ULD may be combined.

LD2, LD3, LD5, LD6 or ALP, PLA, PLB

**Note:** LD2 must be paired with another LD2 or LD3 container-type ULD and must be loaded with its protrusion facing the airplane centerline. LD2 must not occupy the doorway position L and R.

Figure 7.1



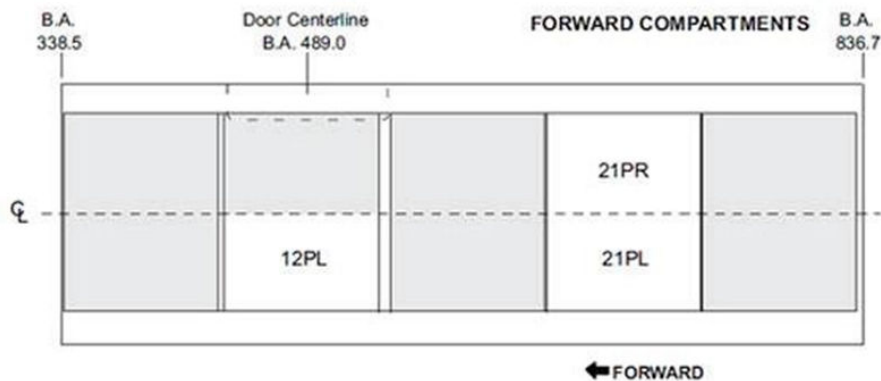
LD8

**Note:** LD8 are loaded longitudinally. The positions directly forward and aft of each LD8 must be left empty to provide space for the protruding ULD.

There are two configurations for loading LD8s:

Configuration 1:

Figure 7.3

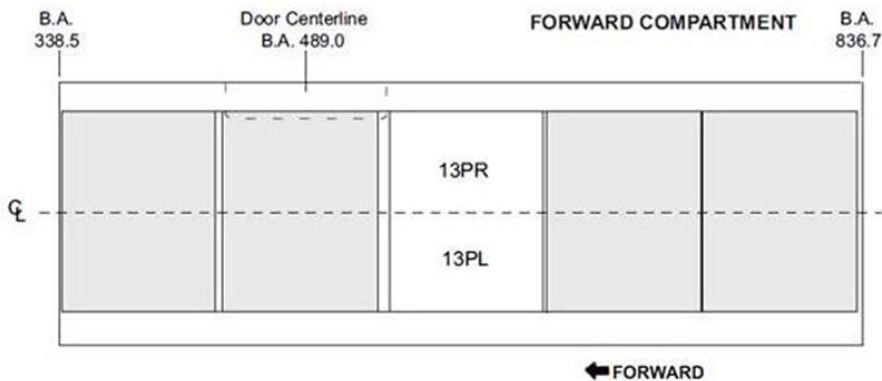


Configuration 2:

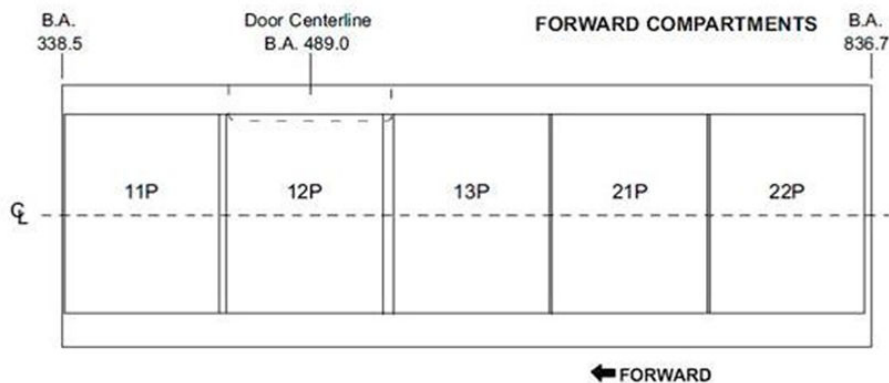
Figure 7.4



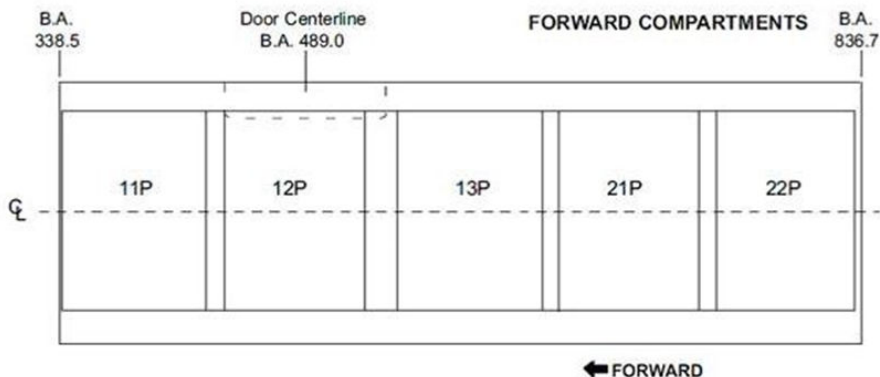
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PMC, P6P, AMF  
Figure 7.7



PAJ, PAG, PAA, PAX, PAP, P1P, LD7 (Square, Contoured, Winged), AAP, RAP  
Figure 7.9



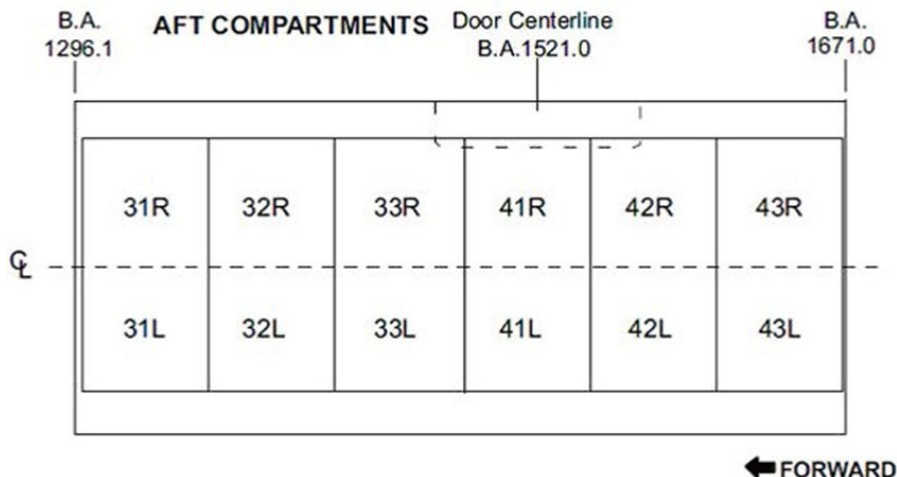
#### Aft Cargo Hold

**Note:** Different types of ULD may be combined.

LD2, LD3, LD5, LD6 or ALP, PLA, PLB

**Note:** LD2 must be paired with another LD2 or LD3 container-type ULD and must be loaded with its protrusion facing the airplane centerline. LD2 must not occupy the doorway position L and R.

Figure 7.11

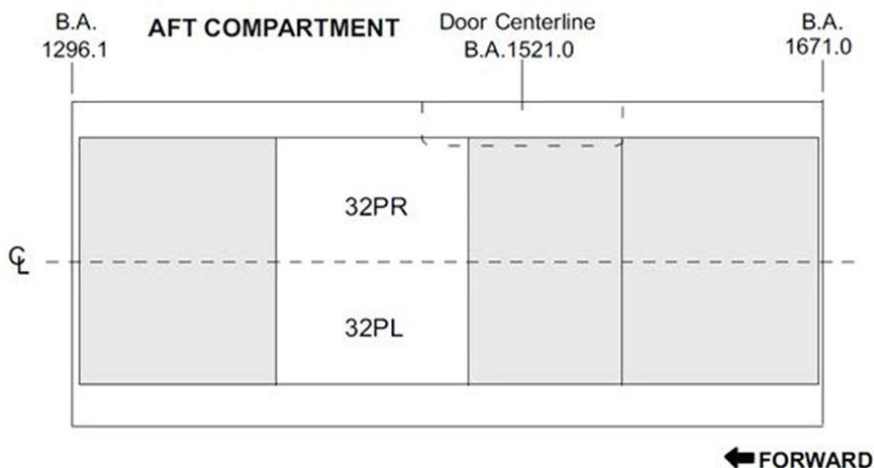


LD8



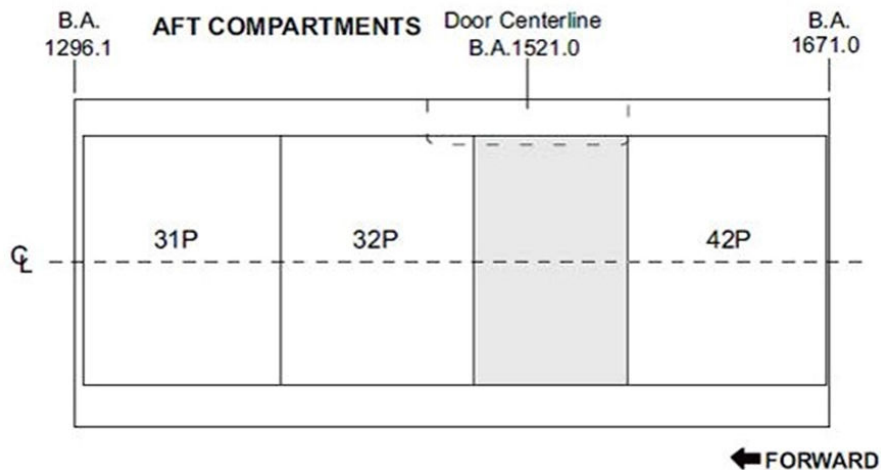
**Note:** LD8 are loaded longitudinally. The positions directly forward and aft of each LD8 must be left empty to provide space for each ULD.

Figure 7.13



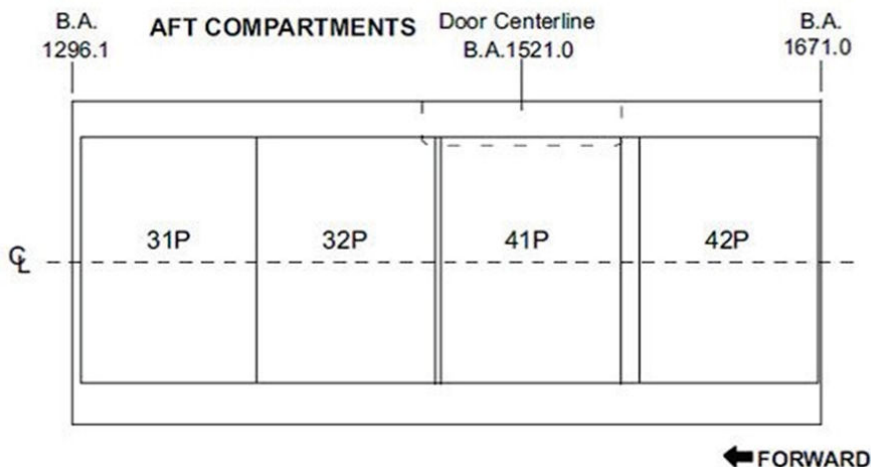
PMC, P6P, AMF

Figure 7.16



PAJ, PAG, PAA, PAX, PAP, P1P, LD7 (Square, Contoured, Winged), AAP, RAP

Figure 7.18



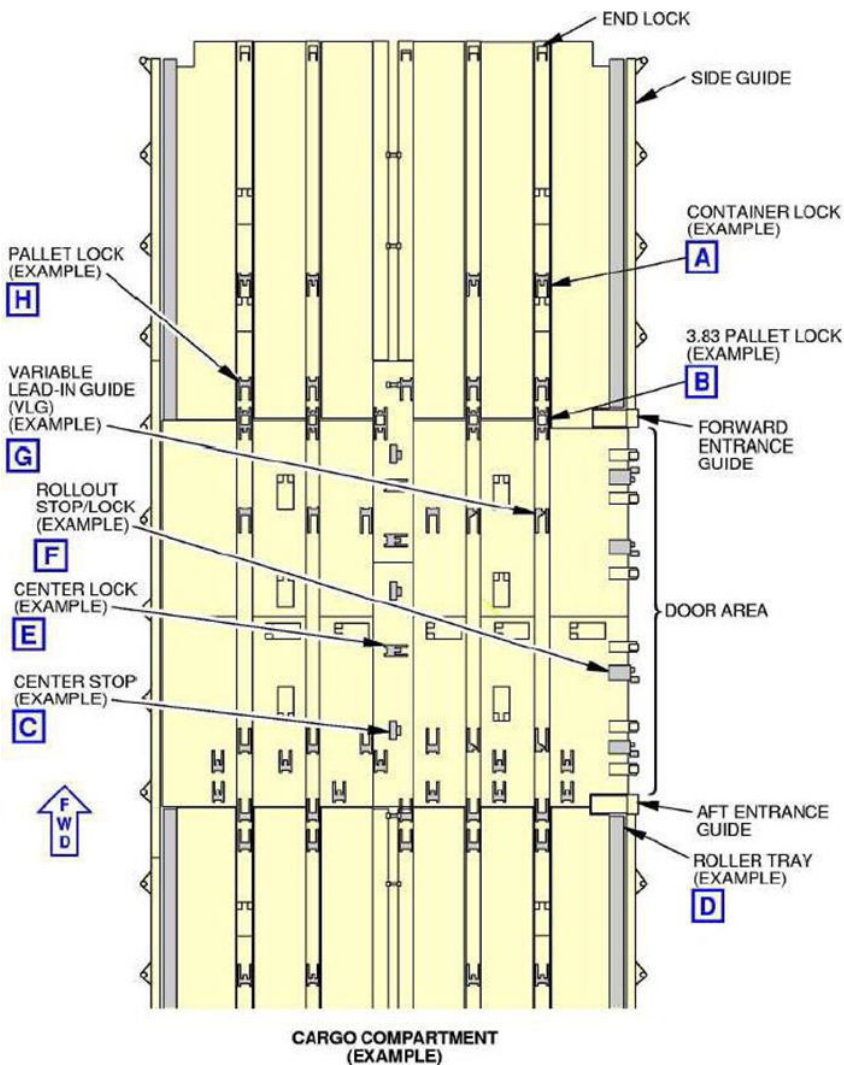
## Cargo locking instructions

For safety reasons (to avoid cargo moving forward/backwards during any stage of the flight), specific attention should be given to the below cargo locking instructions when loading pallets and/or containers onto the B787.

### Intermediate load stops

When loading of ULDs leaves no-fit positions, ALL pallet locks / intermediate load stops should be raised to prevent the inadvertent movement of cargo loaded adjacent to no-fit positions.



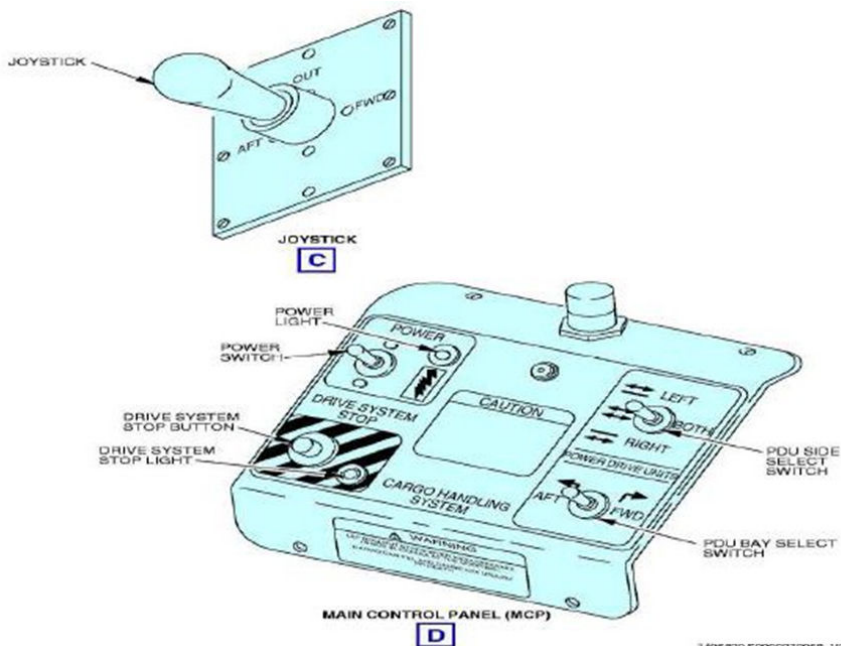


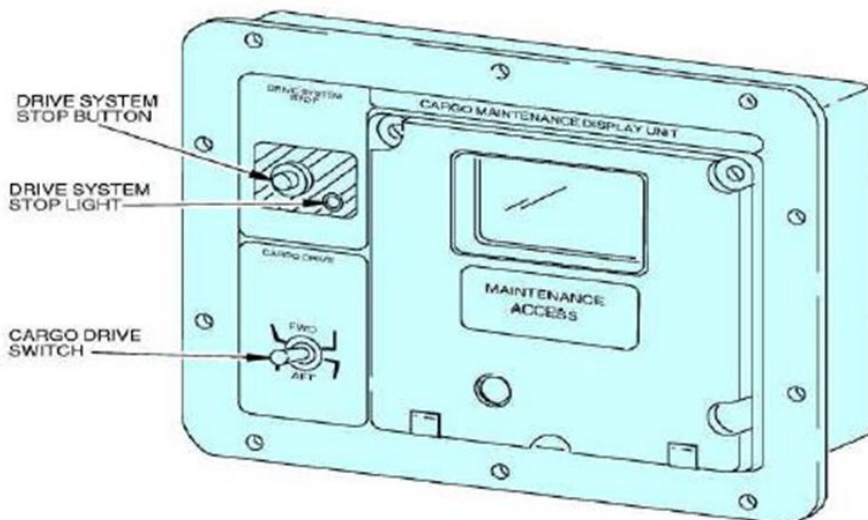
### Loading/unloading operation B787

- Ensure that cargo compartment and loading lights are on, and mechanical components in the cargo compartment are set for loading.
- Using the Main Control Panel (MCP) in the figure below, set the power switch to the ON position and a green light will illuminate.
- Set the POWER DRIVE UNITS to the required direction of loading on the Main Control Panel (MCP).



- d. Select the directional control to IN and then select directional control to the required direction of loading.
- e. On the Cargo Maintenance Display Unit (CMDU), use the CARGO DRIVE function and select to required direction for loading. This will move the ULD/Pallet into position.
- f. Once the ULD/Pallet is in the correct position, ensure the locks are set to secure the ULD/pallet.
- g. To load LD3 containers, ensure center stops are used where appropriate.
- h. To unload baggage/containers the above process in reverse.





**Cargo maintenance display unit (CMDU)**

### Lateral imbalance

Cargo lateral imbalance occurs when the Centre of Gravity of the cargo loaded is offset from the aircraft center line:

- Filled ULDs are loaded on one side of the compartment and the opposite side is empty;
- Payload is carried in multiple ULDs that when loaded have a lateral CG offset and cannot be loaded laterally in pairs;
- Heaviest ULDs are loaded along one side of the compartment and lighter ones along the opposite side.

Handlers should load payload symmetrically about the aircraft centerline to minimize the effect of lateral imbalance:

- Load a similar number of ULDs on each side of the aircraft;
- Load heavy and light ULDs on both sides of the aircraft.

Lateral imbalance may have the effect of reducing the MTOW. When the takeoff weight is greater than 209000 kg, load planners should check for lateral imbalance restrictions.

### FWD compartment ULD load limits

**Maximum allowable load with missing / inoperative restraints – AKE / ZKE (kg)**

Restraint		Container position								
Direction	Number operable	11L/R	12L/R	13L	13R	14L/ R	21L/R	22L/ R	23L/R	24L/R



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Maximum weight / side		1587	1587	1587	1587	1587	1587	1587	1587	1587
Vertical*	10		1587			1587				
	9	1587	1587			1165		1587		1587
	8	1152	1115			966	1587	1065	1587	929
	7	1043	1075			0	898	957	1152	839
	6	0	0			0	789	0	993	0
	5	0	0	1587		0	0	0	0	0
	4	0	0	0	1587	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0
Forward	3			1587	1587	1587				
	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1474	1474	1587	1587	1587	1587	1587	1587	1587
Aft	3		1587	1587	1587					
	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587	1587
Left	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	879	1587	1587	1587	1587	943	1174	1242	875
Right	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	879	1587	1587	1587	1587	943	1174	1242	875

**Note:** \*For AKE on the right hand side do not count the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

**Maximum allowable load with missing / inoperative restraints – PMC (kg)**

Restraint		Container position				
Direction	Number operable	11P	12P	13P	21P	22P
Maximum weight / side		5102	5102	5102	5102	5669
Vertical*	19	5102	5102			
	18	4440	4145	5102	5102	5669



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	17	4014	3746	4145	4309	4336
	16	0	0	3746	3823	3850
	15	0	0	0	0	0
Forward	5	5102	5102	5102	5102	5669
	4	4758	5102	2830	2830	3769
	3	3733	4018	2599	2599	2957
	2	0	0	0	0	0
Aft	5	5102	5102	5102	5102	5669
	4	2576	2576	3769	3701	3701
	3	2195	2195	2957	2957	3397
	2	0	0	0	0	0
Left	5		5102			
	4	5102	0	5102	5102	5102
	3	0	0	0	0	0
	2	0	0	0	0	0
Right	5	5102				
	4	0	5102	5102	5102	512
	3	0	5102	0	0	0
	2	0	4708	0	0	0
	1	0	0	0	0	0

**AFT compartment ULD load limits**

**Maximum allowable load with missing / inoperative restrains – AKE / ZKE (kg)**

Restraint		Container position							
Direction	Number operable	31L/R	32L/R	33L/R	41L	41R	42L/R	43L	43R
Maximum weight / side		1587	1587	1587	1587	1587	1587	1587	1587
Vertical*	9	1587		1587			1587	1587	1587



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	8	1202	1587	1129			1043	1197	1152
	7	566	1070	521			621	566	566
	6	0	594	0			0	0	0
	5	0	0	0	1587		0	0	0
	4	0	0	0	0	1587	0	0	0
	3	0	0	0	0	0	0	0	0
Forward	3				1587	1587	1587		
	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1263
Aft	3			1587	1587	1587	1587		
	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587
Left	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	784	1369	1587	1587	1587	1587	857	857
Right	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	784	1369	1587	1587	1587	1587	857	857

**Maximum allowable load with missing / inoperative restraints – PMC (kg)**

Restraint		Container position		
Direction	Number operable	31P	32P	42P
Maximum weight		5669	5102	5102
Vertical*	20		5102	
	19		4458	5102
	18	5669	4036	4286
	17	4744	0	4018
	16	4232	0	0
	15	0	0	0
Forward	5	5669	5102	5102
	4	3701	3701	3029
	3	3397	2957	2717



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	2	0	0	0
AFT	6		5102	
	5	5669	2662	5102
	4	3769	2426	2662
	3	2957	0	2426
	2	0	0	0
Left	5			
	4	5669	5102	5102*
	3	0	0	0
	2	0	0	0
Right	5		5102	5102*
	4	5669	5102	0
	3	0	0	0
	2	0	0	0

**Note:** \*For position 42P the allowable weight is 4009kg with a crack in the left or right side rail.

### Bulk hold 5 – package tables

HEIGHT in.	WIDTH in.						
	5	10	15	20	25	30	35
	LENGT in.						
44	120	120	115	110	105	100	95
40	125	120	115	110	105	100	95
36	125	120	115	110	105	100	95
32	125	120	115	110	105	105	95
28	130	125	120	115	110	105	100
24	130	125	120	115	110	105	100
20	130	125	125	120	115	110	105
16	135	130	125	120	115	110	105



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12	135	135	130	125	120	115	110
8	140	135	130	125	120	120	115
4	145	140	135	130	125	120	115

HEIGHT in.	WIDTH in.						
	12	25	38	50	63	76	88
	LENGT in.						
111	304	304	292	279	266	254	241
101	317	304	292	279	266	254	241
91	317	304	292	279	266	254	241
81	317	304	292	279	266	266	241
71	330	317	304	292	279	266	254
60	330	317	304	292	279	266	254
50	330	317	317	304	292	279	266
40	342	330	317	304	292	279	266
30	342	342	330	317	304	292	279
20	355	342	330	317	304	304	292
10	368	355	342	330	317	304	292





#### 9.2.3.5 Doors and holds B787

- a. L2 a suitable air bridge, or at door L1 if the air bridge will not reach door L2;
- b. Where no air bridge is available, as a minimum steps at doors L2 and L4;
- c. L4 a mobile steps for passenger boarding and / or to permit access for cleaning and other staff involved in the providing of services during the aircraft turnaround (the absence of steps at the rear door does not prohibit boarding or disembarking).
- d. Forward hold: One hi-loader

**Note:** with AKE handling capability, or PMC (pallet) capability when cargo is carried.

- e. Aft hold
  - i. One hi-loader (note) with AKE handling capability, or PMC (pallet) capability when cargo is carried for weight and balance purposes. Hi-loader to remain in position during turnaround;
  - ii. One mobile conveyor for bulk hold 5, if bulk loaded items are carried.

**Note:** high loaders with ULD side shift capability on the front platform (bridge) for container/pallet alignment.



### 9.2.3.6 Ground power unit (GPU) B787

#### General

The B787 aircraft utilizes two (2) forward ground power receptacles and one (1) mid-aft ground power receptacle. Each receptacle is rated at 90 kVA, as is standard on all Boeing current production wide body aircraft.

By design each receptacle can support continuous 90 kVA and a peak power consumption of 115 kVA for up to five (5) minutes regardless of the output capacity of the Ground Power Unit (GPU). For continuous supply, the aircraft will draw less than 90 kVA from any receptacle.

Although the B787 is designed to perform a normal gate turn with two 90 kVA GPUs, we require a third 90 kVA GPU be available for non-normal engine start due to an inoperative Auxiliary Power Unit (APU).

#### Ground handling

For Ground Handling Functions, a minimum of 2 Ground Power Sources are required, each at 90 KVA, 115 Vac, 400 Hz.

Similar to existing aircraft, the B787 utilizes power from the APU for normal engine start. The B787 is different in that it uses electrical power for engine start rather than pneumatic power used on existing aircraft. If the APU is inoperative, an engine start can be performed using a minimum of two 90 kVA external ground power units. Boeing however recommends the use of three 90 kVA ground power sources to minimize the impact on cabin load shedding of ventilation, In Flight Entertainment (IFE) and cabin lighting.

The forward external power panel has 2 power receptacles for normal ground power. This panel is approximately 108 in (273cm) above the ground.

There is a third receptacle for Ground Power aft left side, forward of the L3 door. For the aft external power connection (3rd EP) a minimum of one other AC electrical power source must be connected before you supply the aft external power source. The aft EP source must be removed (deselected) prior to removing the forward EP source(s).

Ground Power can be achieved by a mixture of 1 FEGP connection and 1 GPU connection providing a minimum of 90 KVA is delivered from each source. Two 90 KVA EP cables should be connected at forward receptacles, when available, for improved aircraft performance.

**GPUs used to power the 787 aircraft from an unpowered state must be capable of providing 115VAC power for 2.5 seconds or more, without requiring Pin F voltage from the aircraft.** When connected, the GPU will look for voltage on Pin F of the external power receptacle to determine if power has successfully been connected. If voltage is not detected, the GPU determines that it is not connected, and will cease to provide 115 VAC power to the aircraft.

The length of time that a GPU will continue to provide 115 VAC power without seeing voltage on Pin F varies depending on the manufacturer and model of GPU.

**GPUs which do not provide 115 VAC power for 2.5 seconds or more, without requiring Pin F voltage from the aircraft, are not able to connect power to the 787 aircraft from an unpowered state.**



(E.G most models Hitzinger are OK, most models Houchin are not OK, however to be determined by specific type).

**Airport operators should work with their GPU suppliers to adjust the Pin F GPU-specific timing parameter.** Operators can use GPUs to power the aircraft even if a 2.5 second threshold is not met, provided that another power source is powering the aircraft prior to connecting to external power. For GPUs that are not equipped with an interlock bypass switch, electrical power is provided without Pin F voltage for a short duration while the GPU ON button is pressed. In these cases, if the operator holds the "ON" button for 2.5 seconds or longer, an appropriate electrical connection can be made.

Solid State GPU's must not be used. During external power application, the 787 steps up 115 VAC power from the ground cart to the 235 VAC Auto Transformer Units (ATUs). A short duration in-rush current may cause solid state ground power units to trip off line. Due to the size of the in-rush and its short duration, it is unlikely that mechanical ground power units will trip.

To connect the Ground Power, ensure the GPU/FEGP power source is turned off prior to connecting the GPU/FEGP plugs into the aircraft receptacles.

**When connecting GPU/FEP to the forward receptacles always connect the left hand receptacle first.**

Once the GPU/FEGP are connected into the forward receptacles, the power source can be turned on.

When the electrical power is supplied from the GPU/FEGP, the CONNECTED and NOT IN USE lights come on. The NOT IN USE lights show that external power is not selected on the flight deck, but ground handling loads now have power.

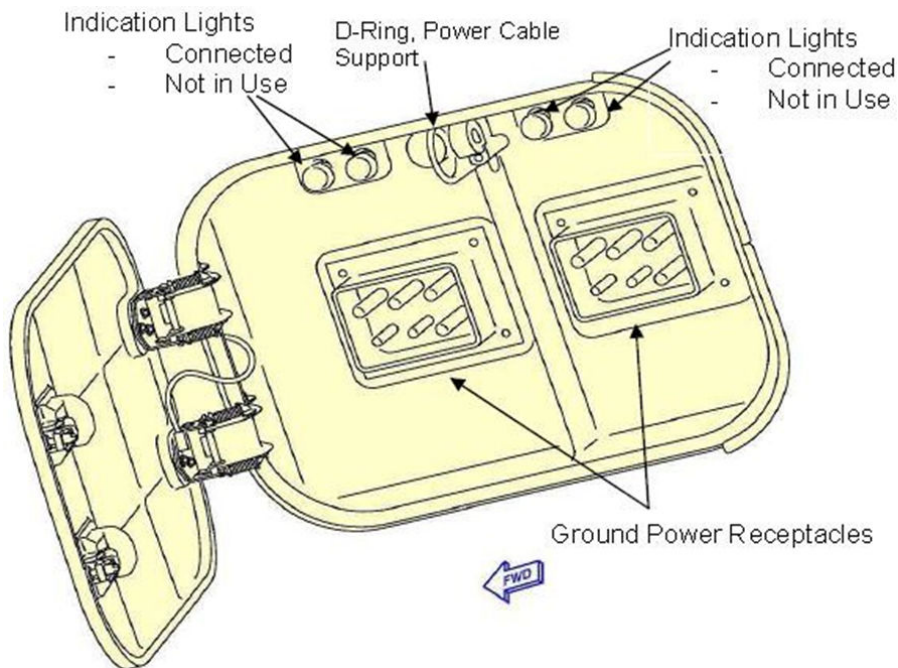
To disconnect the Ground Power, ensure a positive signal is received from the Captain to confirm ok to disconnect.

Once the positive signal has been received, ensure the power is turned off at the source, that is the GPU or FEGP are turned off.

Once the power source has been turned off, the CONNECTED and NOT IN USE lights will turn off. At this point, the plugs can be removed from the aircraft's receptacles safely, and the hatch securely closed.

When removing last EP source, "LET THE POWER ELECTRONICS COOLING SYSTEM OPERATE A MINIMUM OF 10 MINUTES. THE TEMPERATURE OF THE HVDC ELECTRONICS MUST DECREASE OR DAMAGE TO THE HVDC ELECTRONICS CAN OCCUR".

On aircraft arrival, it is important that Ground Power is supplied to the aircraft for a minimum of 22 minutes after aircraft engine shutdown. This is to allow for the adequate cooling of the aircraft's electrical systems.



### Forward ground power receptacles

If applicable, always make use of the hook on the ground power cables to attach to the aircraft to release the stress from the weight of the cables pulling at the ground power receptacle of the aircraft.





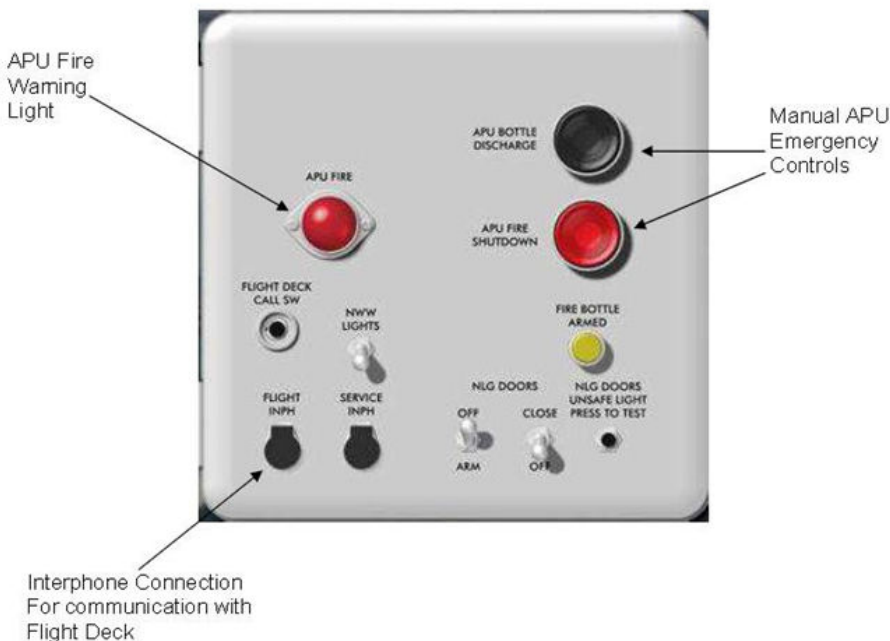
### 9.2.3.7 APU emergency shutdown B787

In the event of an APU Emergency, such as a fire affecting the APU, the aircraft is fitted with an emergency function that shuts down the APU and discharges the bottle automatically.

If the APU needs to be shut down in the event of an emergency such as a fire, ground staff will hear a horn sound, and a red light illuminate on the P40 panel located on the nose landing gear

The 'Fire Bottle Armed' indication light will illuminate, and the shutdown of the APU and the discharge of the fire bottle occurs automatically.

On the P40 panel are two manual switches, placarded 'APU Bottle Discharge' and 'APU Fire Shutdown' which supply a manual backup should the automatic system not function.



**P40 panel**



#### **9.2.3.8 Galley servicing B787**

Servicing of night-stop aircraft should be completed 60 minutes prior to STD. Aircraft with a standard turnaround should be serviced immediately.

All maneuvering by vehicles at, or around, the aircraft should be guided by an assistant.

Catering vehicles must not approach or drive away from an aircraft during the time it is arriving on stand or pushing back.

Vehicles must not drive onto an aircraft unless it is chocked.

The aircraft service doors must not be opened during the time the body of the catering vehicle is being raised.

The sequence of loading is as follows:

- a. Outbound - the forward galley will be catered first, followed by the aft galley. Where applicable, outbound and inbound catering will be loaded.
- b. Inbound - when catering is uplifted on turnaround, the forward galley will be catered first, followed by the aft galley.



#### **9.2.3.9 Cabin cleaning electrical power B787**

Cabin Servicing can be conducted if ground power is connected to the aircraft.

Prior to servicing, ensure the 'Ground Service' switch on the master attendant panel at the forward attendant seat has been activated. This will provide power to the cabin.

There are servicing outlets (electrical main power sockets) at each aircraft door. The supply voltage from the outlets is 115V, 400Hz.



#### **9.2.3.10 Aircraft pushback / towing operation B787**

The standard tow bar connection fitting is fitted to the front of the nose gear.

The B787 aircraft does have a requirement for a specific torque shear pin which must be used at all times when towing/pushing the B787 Aircraft.

Ground Handling Agents must ensure that the correct shear pin is used at all times during the B787 towing/pushback operation. It is therefore recommended that Ground Handling Agents dedicate specific towbars for use on the B787 Aircraft.

During pushback/towing operations, communication with the flight deck can be achieved via the P40 control panel on the nose landing gear by using a standard headset.

Following towbarless (TBL) tractors/pushback vehicles have been approved for use on the B787:

- a. TLD-200 MT/MTS
- b. Goldhofer AST-2 series
- c. Goldhofer AST-1X (4x4)
- d. Douglas TBL-200
- e. Douglas TBL-280





#### **9.2.3.11 Flight deck / ground communication B787**

A serviceable head-set must be used for ground crew/ flight deck communication.

If a serviceable head-set is not available, or it is not possible to establish two-way communication via the ground/ flight deck interphone, the engineer/ head-set man must agree with the flight crew, before start of push-back, a sequence of hand signals for use during the push-back.



### 9.2.3.12 Potable water and toilet waste servicing B787

#### Potable water servicing

The Potable Water service panel is at the bottom of the fuselage on the forward left side of the wing-to- body fairing. The panel is approximately 77 in (196cm) above the ground.

The potable water service panel has a standard fitting to fill and drain the potable water system. Also contained within the hatch is a potable water quantity panel that has controls and indications for potable water servicing.

Prior to start filling the B787 potable water tank, the servicing agent needs to ensure (check with FCM, SCCM or TUI engineer) that the required Potable water level quantity has been preselected, on the Cabin Attendant Panel.

All stations are requested to uplift water with a maximum of 450 liters for flights with a duration of less than 4 hours.

All stations are requested to uplift water with a maximum of 570 liters for flights with a duration of 4 hours and more.

Maximum fill pressure is 125 psid (863 kPa).

#### Water uplift values

The water values are standard included in the DOW/DOI figures. If necessary, these values can be corrected for a full water tank via a LMC. To adjust the weight and balance for a full water tank please use the following options:

- a. For flights < 4 hours uplift add a LMC of 571 kg with an arm of 1832,6 inches.
- b. For flights > 4 hours uplift add a LMC of 451 kg with an arm of 1832,6 inches.

Aircraft must have power either from a Ground Power Source, or from the APU prior to potable water servicing processes being undertaken.

When the Potable Water Quantity Panel is first opened, the 'Flight' indication is usually on. The quantity indication also shows the remaining quantity of potable water in the tank.

To commence filling the Potable Water, on the Potable Water Quantity Panel, connect the water hose from the bowser. The 'Fill To' level will be determined by the Cabin Preselect Panel.

At this stage, an 80 second delay will occur which will be illustrated by a 'UV Delay' light illuminating on the Potable Water Quantity Panel. This is whilst an internal ultraviolet source comes up to full operation for water purification. After 80 seconds, the 'UV Delay' indication will go off, and the system valves open to let the potable water tanks fill. Please consider the 80 seconds needed.



### Potable water quantity panel

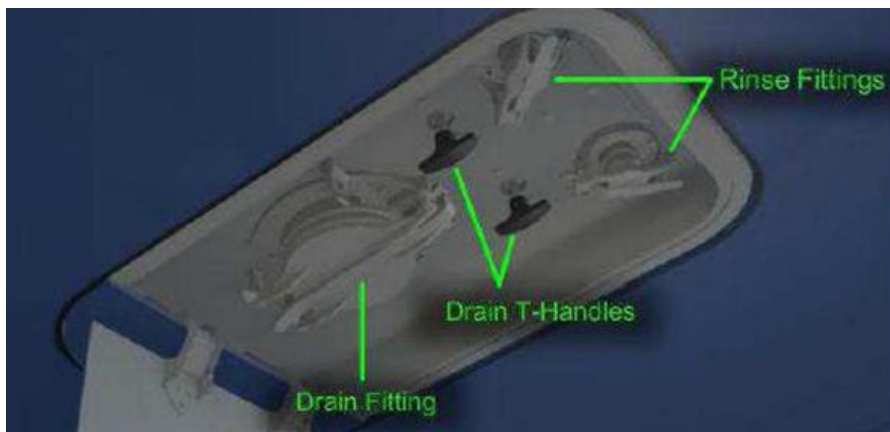


When the water quantity gets to the 'Fill too' level, the system valves close to stop the flow and the panel changes to the "Flight" mode. Only at this stage can the water supply to the Potable Water Quantity Panel be removed by the Ground Handling Agent.

Make sure that the water system is in the flight mode before you remove the supply hose. If you remove the hose and close the fitting before the system is in the flight mode the system can be damaged. In case you stop manually the addition of water before the maximum water level or preselected water level is reached, push the FLIGHT mode button.

### Waste servicing B787

The waste servicing panel is located under the tail of the aircraft and has a standard rinse line, and drain hose fittings for waste tank servicing. Each T-Handle opens a valve and drains 1 of the 2 waste tanks.



### **Waste servicing – draining**

Attach draining hose to the Drain Fitting as shown in the figure above and select the lever adjacent to the drain hose to open the drain valve.

The appropriate Drain T-Handle can then be selected to drain the required waste tank. As the tank drains, feel the hose to monitor the flow until it stops.

Select the remaining Drain T-Handle to drain the other waste tank and feel the hose to monitor the flow until it stops.

### **Waste servicing – tank rinse**

Select the right Rinse Fitting and connect the rinse line.

Start the drain fluid and feel the hose to make sure the fluid flows out. Rinse Pressure: 30 " 50 psid (207 " 345 kPa), 80 psid (552 kPa) maximum.

Rinse Volume: 10 to 50 gal (38 to 189 liters).

After the rinse fluid is stopped, make sure all the fluid flows out.

Select the left Rinse Fitting and start the drain fluid and feel the hose to make sure the fluid flows out. Rinse Pressure: 30 " 50 psid (207 " 345 kPa), 80 psid (552 kPa) maximum. Rinse Volume: 10 to 50 gal (38 to 189 liters).

After the rinse fluid is stopped, make sure all the fluid flows out.

### **Waste servicing – precharge**

Ensure all chemicals used are approved for use on the B787 Aircraft as non-approved chemicals can cause damage to the tank.

In the event of the outside air temperature being within freezing limits, ensure chemical precharge is not added until close to departure time as the precharge can freeze causing damage to the aircraft tanks.



Ensure the T-Handles are pushed in and add 10 gallons (38 liters) of precharge through the left rinse fitting. Remove the rinse line, however ensure the fitting cap remains open.

Add a further 10 gallons (38 liters) of precharge through the right rinse fitting. Remove the rinse line, however ensure the fitting cap remains open.

Keep the fitting caps open for a further few minutes to let the liquid drain out through the fittings.

Ensure the fitting caps are closed after use, select the adjacent lever to the drain hose to close the drain valve, and then remove the drain hose. Ensure there is no leakage from the panel.

After servicing, clean the area as necessary and close the drain cap and access panel.



### **9.2.3.13 Fueling procedures B787**

APU or external electrical power required.

Should power to the aircraft fail during the fuel uplift process, refueling must be stopped immediately as the fuel valves do not close.

The Aircraft and Refueling vehicle must have the correct ground and electrical bond.

Bonding connection point on the aircraft is situated as illustrated at the left main landing gear assembly.



Under-wing pressure system to all 3 tanks (left main / center / right main). Fuel capacity:

- a. Total usable capacity Left Main Tank - 5543 US Gal / 20,982 liters
- b. Total usable capacity Right Main Tank - 5543 US Gal / 20,982 liters
- c. Total usable capacity Centre Tank - 22,442 US Gal / 84,952 liters

Control of total fuel input, (tank selection / quantity auto shut-off etc.), is available at the wing control panel which is located on the aircraft's left wing.



There are two receptacles located on the left wing along with the fueling control panel. Each receptacle is rated for 1893 liters per minute (500 gpm) at 50 psig (379 kPa).

Ensure that the fuel pressure used to refuel is not more than 55 PSI (379.2 kPa). If the pressure is greater, damage to aircraft can occur.

The height of the fuel panel is a maximum of 534cm (210 in).

#### 9.2.4 Loading Dry-Ice B787 where the main cabin occupants do not exceed 15

Dry ice may be loaded in all cargo holds and in excess of 75kg per airplane. The maximum recommended load is determined from the charts below.

Boeing has calculated the recommended maximum amount of dry ice carriage in the airplane and the charts included below are **valid for airplanes where the main cabin occupants do not exceed 15**. The maximum recommended amount is the total amount of dry ice in all holds and other compartments. The shipper is responsible for supplying the sublimation rate and TUI must ensure that proper sublimation rates are used to determine the weight of dry ice that can be carried safely.

The charts below are valid for airplanes with a fully operating air conditioning system. They provide for safe carriage of the dry ice loads identified if an air conditioning pack were to malfunction while in flight. In the case of a loss of a single air conditioning pack in flight, diversion is not required.

**To calculate the maximum recommended load of dry ice, refer to the relevant chart below depending on the dry ice sublimation rate provided by the shipper.**

**Note 1:** Some shippers may use low sublimation rates below 1%.

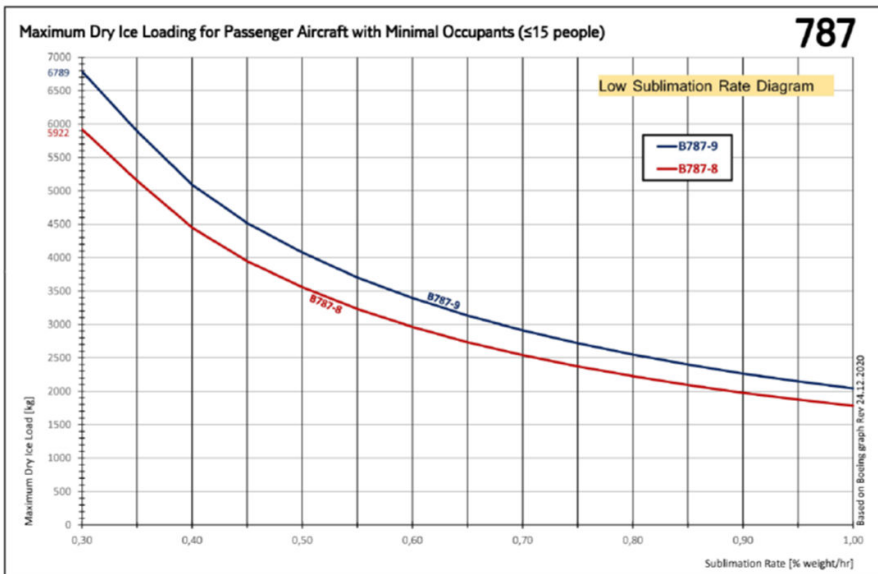
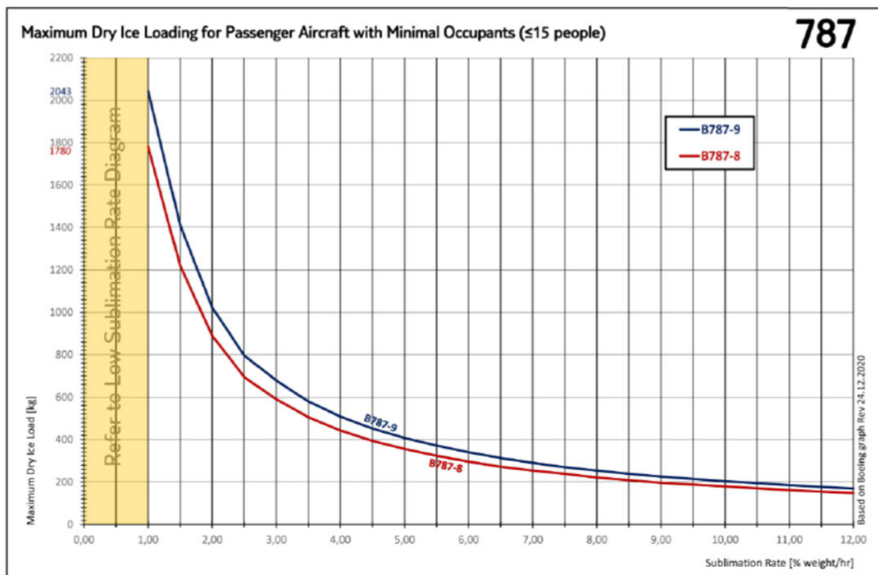
**CAUTION! No AVIH's may be loaded in a hold which also contains dry-ice.**

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**Note 2:** If no sublimation rates are available contact TUI OCC.

**Note 3:** if catering is loaded, subtract 60kg of the maximum load of dry ice to account for dry ice used to cool catering.







### 9.2.5 Loading Dry-Ice B787 where the main cabin occupants do exceed 15

Dry ice may be loaded in all cargo holds and in excess of 75kg per airplane. The maximum recommended load is determined from the charts below.

Boeing has calculated the recommended maximum amount of dry ice carriage in the airplane and the charts included below are **valid for airplanes where the main cabin occupants do exceed 15**. The maximum recommended amount is the total amount of dry ice in all holds and other compartments. The shipper is responsible for supplying the sublimation rate and TUI must ensure that proper sublimation rates are used to determine the weight of dry ice that can be carried safely.

The charts below are valid for airplanes with a fully operating air conditioning system. They provide for safe carriage of the dry ice loads identified if an air conditioning pack were to malfunction while in flight. In the case of a loss of a single air conditioning pack in flight, diversion is not required.

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**Note 1:** Some shippers may use low sublimation rates below 1%.

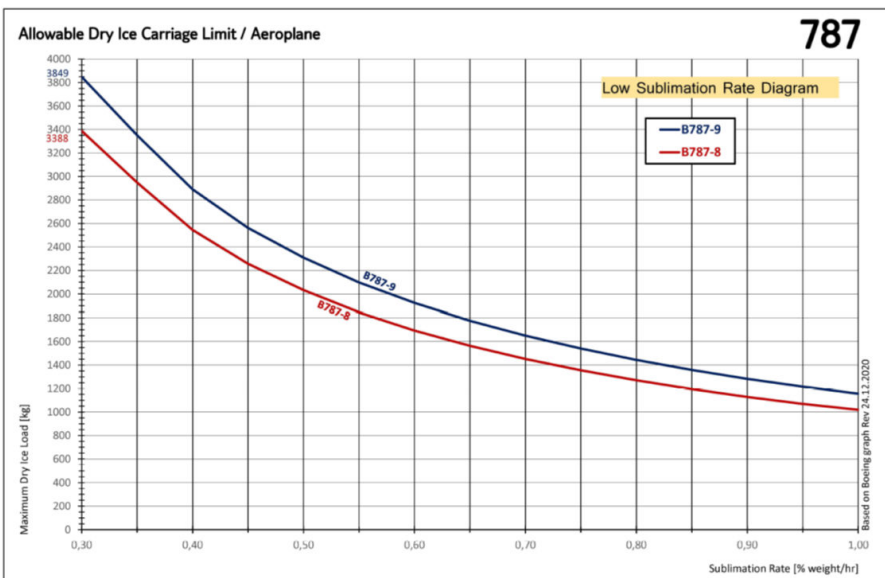
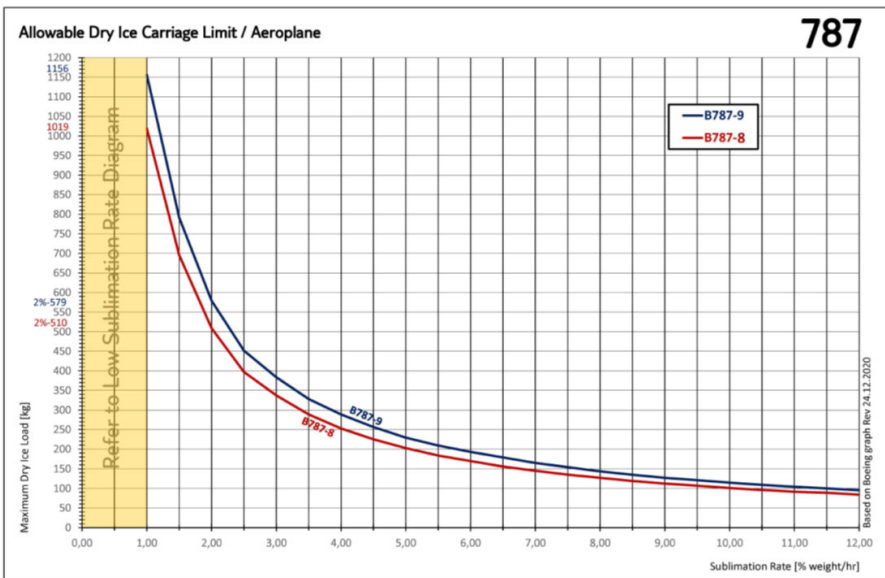
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**CAUTION! No AVIH's may be loaded in a hold which also contains dry-ice.**

---

**Note 2:** If no sublimation rates are available contact TUI OCC.

**Note 3:** If catering is loaded, subtract 60kg of the maximum load of dry ice to account for dry ice used to cool catering.





## 9.3 E195-E2

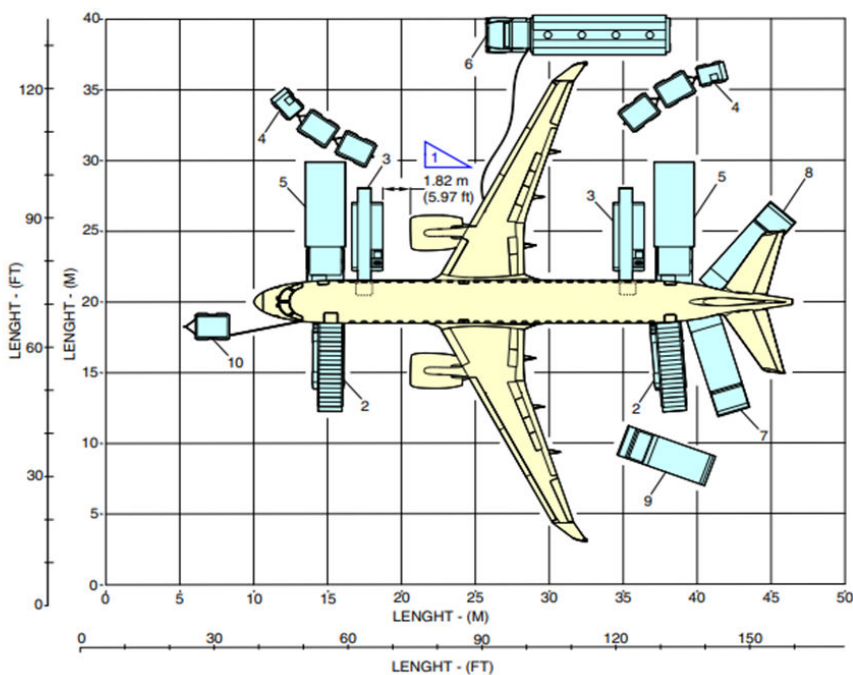
### 9.3.1 General

#### 9.3.2 E195-E2 – Current fleet list

For the current fleet list we refer to the AHM 560 in the TAGO Portal.

### 9.3.3 Ramp Handling

#### 9.3.3.1 Aircraft servicing arrangement E195-E2



1. For safe Operation, keep a minimum distance of 0.8 m (2.62 ft)
2. Passenger stairs/bridge
3. Baggage loader
4. Baggage/cargo
5. Galley service
6. Fuel service
7. Potable water
8. Lavatory service
9. Cleaning service



10. GPU (Ground Power Unit)

9.3.3.2 Turnaround plan – targeted timings E195-E2

Directly or indirectly related to in-plane services	
Timing	Action
ATA – 00:01	a. Mobile GPU or fixed 400Hz cable and wheel chocks ready. b. Bridge or 2 stairs + busses in vicinity of aircraft ready.
ATA	a. Aircraft in parking position and fully stopped.
ATA + 00:01	a. Mobile GPU or fixed 400Hz and wheel chocks in place and interphone. b. Headset (or hand signals where no headsets available) communication to flight deck. c. Engines shut down, anti-collision light off.
ATA + 00:02	a. Bridge or 2 stairs in place + doors open + passengers ready for disembarkation. b. Buggies brought upstairs/to bus. c. Briefing SCCM to handling agent dispatcher: passenger info + cleaning info. d. Slot & pre-load info by handling agent to cockpit + special info (delivery flight plan from HAJ GOC, fire brigade etc.)
ATA + 00:03	Passengers disembarking
ATA + 00:16	a. Last passenger out. b. Start disembarkation Disabled passengers. c. Target Cleaning agents to start if applicable. d. Target Cabin Crew to start Cabin cleaning if applicable. e. Target Catering agent to start catering uplift or other service (e.g. belly-galley change).
STD – 00:40	Crew boarding in case of crew change
STD – 00:35	a. Disabled passengers ready at aircraft for boarding. b. Cleaning toilets and waste bags disposal finished. c. Catering uplift finished.
STD - 00:35	Start boarding
STD - 00:15	a. LMC max 500 Kg difference less or more than the load sheet b. LMC max 500 Kg difference in moving baggage in holds. c. Load sheet delivery to aircraft Captain.
STD – 00:05	Air-bridge or stairs removed and doors closed.



**Directly or indirectly related to in-plane services**

Timing	Action
STD – 00:02	Call by handling agent: engine start or push back.

**Directly or indirectly related to out-plane services**

Timing	Action
ATA – 00:01	a. Aircraft wheels chocks ready. b. Bridge or 2 stairs + busses in vicinity of aircraft ready. c. Any outbound cargo should be ready at aircraft side.
ATA	Engines shut down, anti-collision light off.
ATA + 00:01	a. Chocks in place. b. Interphone headset or hand signals (where no headset available) communication to flight deck. c. Cargo door open for (UN) loading. d. Toilet & Water Service ready to start. Replenish water tanks with drinking water to a maximum 75% filling.
ATA + 00:08	a. Fuel into plane company ready to load. b. Fire brigade ready when necessary.
ATA + 00:15	a. Refueling process to start (cross check by Handling Agent). b. First VIP selection priority bag delivered to arrivals belt if applicable.
ATA + 00:20	First rest of baggage delivered to arrivals belt.
ATA + 00:40	Last bag delivered to arrivals belt.
STD – 00:25	a. Refueling process to be finished. b. Toilet and Water service to be finished.
STD - 00:15	a. Fuel voucher sign off by Pilot-in-Command. b. Handling Agent Dispatcher to advise Captain on number of missing bags. c. TUI OCC Duty Manager, Captain and Handling agent dispatcher will consider the criteria and decide whether or not to depart. 1. Where is flight going to? 2. What type of passengers? 3. Will crew duty hours be affected? 4. What type of failure is it – how long till we get bags?
STD - 00:10	a. Loading cargo holds (baggage and cargo, if any) finished. b. Closing cargo doors (STD – 00:05 the latest in case of last minute bags).
STD – 00:05	Air-bridge or stairs removed and doors closed.



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Directly or indirectly related to out-plane services	
Timing	Action
STD – 00:02	Call by handling agent: engine start or push pack.

Minimum Turnaround Times (Carrier off schedule >60 minutes)

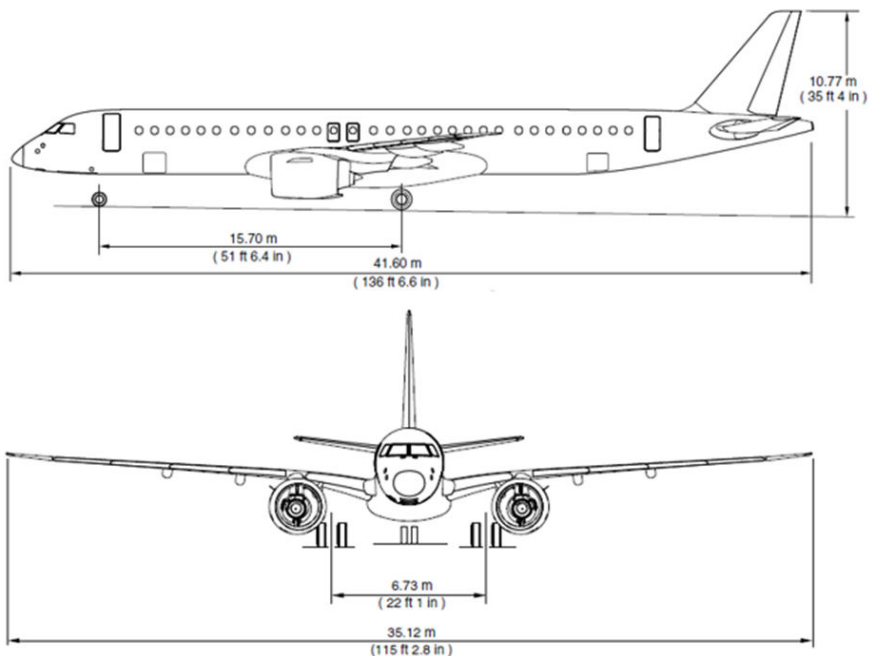
MINIMUM DECLARED GROUND TIMES		HOME BASE	OUTSTATION		
			SINGLE DROP	DOUBLE DROP 90' for LH with catering, transit + cleaning	
A/C	CONFIG			STATION 1	STATION 2
E195-E2	136Y	50'	45'	35'	45'

In Case of triangle flights reduce the above with 15 minutes providing cleaning service is not performed at the stations with reduced turnaround time.

A/C base; normal ground time – no reduction.



### 9.3.3.3 Aircraft dimensions E195-E2 Exterior dimensions and ground clearance



**Note:** The maximum ground clearances are valid for the Dry Operating Weight and the Maximum Taxi weight.

The Maximum clearances can be even lower if tires have low pressure or landing gears have no pressure.





Vertical ground clearance table E195-E2

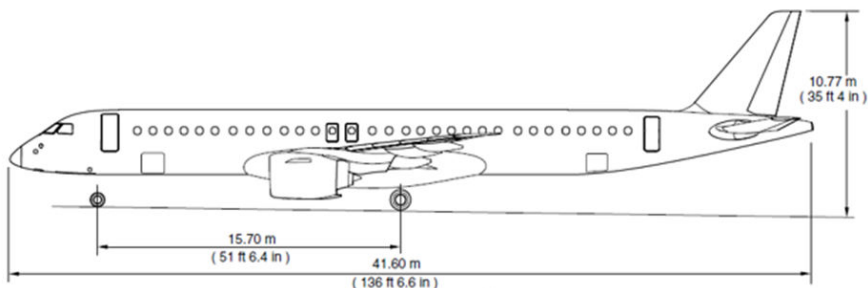
VERTICAL GROUND CLEARANCES TABLE

VERTICAL CLEARANCE	MINIMUM	MAXIMUM
Aft Cargo Door	2.006 m (6 ft 7 in)	2.355 m (7 ft 9 in)
Aft Passenger Door	3.034 m (9 ft 11 in)	3.414 m (11 ft 2 in)
Aft Service Door	3.034 m (9 ft 11 in)	3.414 m (11 ft 2 in)
Forward Cargo Door	1.728 m (5 ft 8 in)	1.897 m (6 ft 3 in)
Forward Passenger Door	2.787 m (9 ft 2 in)	2.957 m (9 ft 8 in)
Forward Service Door	2.787 m (9 ft 2 in)	2.957 m (9 ft 8 in)
Fuselage Angle	-1.03°	-0.38°
Nacelle	0.384 m (1 ft 3 in)	0.587 m (1 ft 11 in)
Tailskid Angular Clearance	10.36°	11.72°
Vertical Tail	10.318 m (33 ft 10 in)	10.778 m (35 ft 4 in)
Wingtip	3.846 m (12 ft 7 in)	4,151 m (13 ft 7 in)

Cargo doors E195-E2



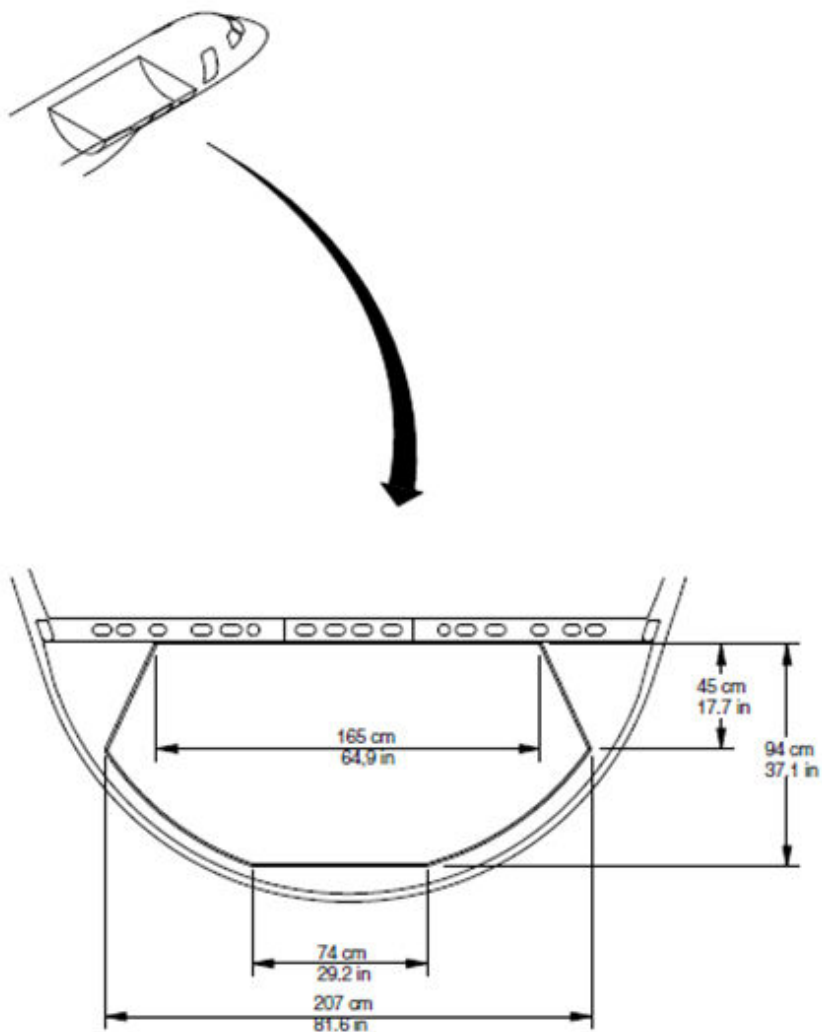
## Ground Operations Western Region Annex C Aircraft Specifics

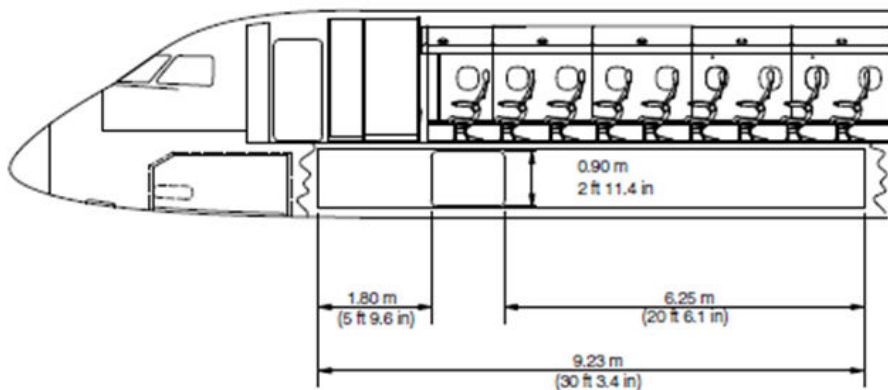


Door	Height (m)	Width (m)
FWD Hold	0.9	1.1
AFT Hold	0.78 " 0.87	1.1

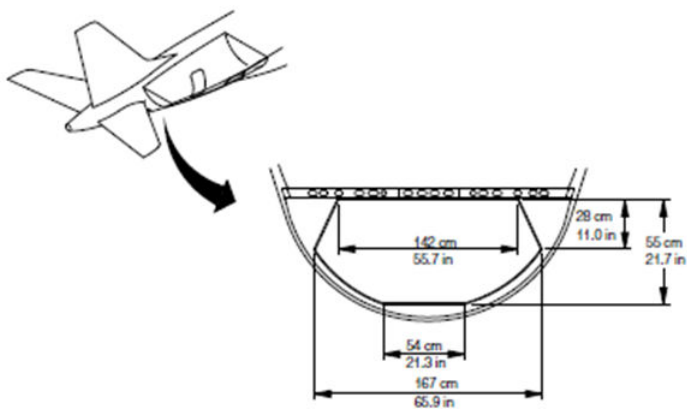
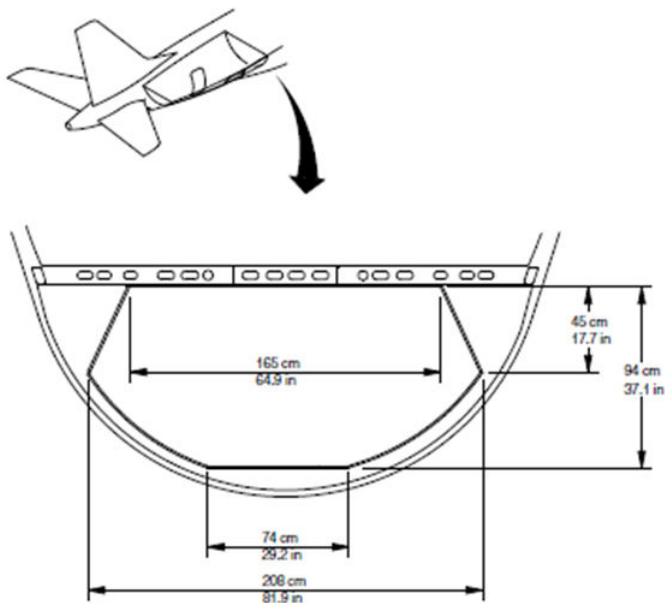
### Hold dimensions E195-E2

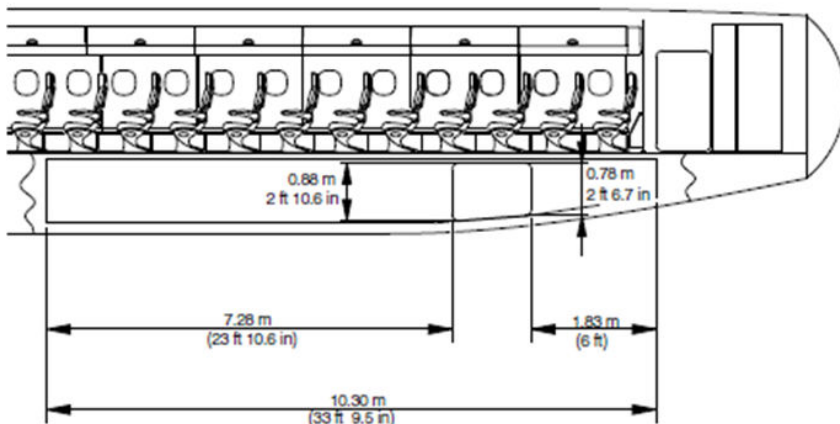
FWD cargo hold cross section





AFT cargo hold cross section





### Cargo hold limits E195-E2

#### FWD cargo hold

Usable volume	13.19 m <sup>3</sup>	465.80 ft <sup>3</sup>
Max. floor distribution load	488 kg/m <sup>2</sup>	100 lb/ft <sup>2</sup>
Max. floor concentrated load*	0.59 kg/cm <sup>2</sup>	8.41 lb/ft <sup>2</sup>
Total maximum capacity	2375 kg	5235.9 lb

**Note:** \*Any number of contact points can be used as long as, in total, they do not exceed the maximum cargo compartment weights and maximum weights adjacent to vertical nets.

AFT cargo hold		
Usable volume	13.63 m <sup>3</sup>	481.34 ft <sup>3</sup>
Max. floor distribution load	488 kg/m <sup>2</sup>	100 lb/ft <sup>2</sup>
Max. floor concentrated load*	0.59 kg/cm <sup>2</sup>	8.41 lb/ft <sup>2</sup>
Total maximum capacity	2555 kg	5632.8 lb

**Note:** \*Any number of contact points can be used as long as, in total, they do not exceed the maximum cargo compartment weights and maximum weights adjacent to vertical nets.

#### Maximum cargo dimensions (FWD)



Ground Operations Western Region  
Annex C Aircraft Specifics

	WIDTH in (cm)							
	5.00 (12.70)	10.00 (25.40)	15.00 (38.10)	20.00 (50.80)	25.00 (63.50)	30.00 (76.20)	35.00 (88.90)	40.00 (101.60)
HEIGHT in (cm)	MAXIMUM PACKAGE LENGTH in (cm)							
5.00 (12.70)	224.41 (570.00)	224.41 (570.00)	144.09 (366.00)	122.44 (311.00)	110.24 (280.00)	106.30 (270.00)	86.61 (220.00)	78.74 (200.00)
8.00 (20.32)	203.15 (516.00)	178.35 (453.00)	139.37 (354.00)	118.11 (300.00)	110.24 (280.00)	94.49 (240.00)	86.61 (220.00)	78.74 (200.00)
10.00 (25.40)	200.79 (510.00)	176.38 (448.00)	137.01 (348.00)	114.17 (290.00)	102.36 (260.00)	90.55 (230.00)	78.74 (200.00)	66.93 (170.00)
13.00 (33.02)	198.82 (505.00)	163.78 (418.00)	133.86 (340.00)	110.24 (280.00)	102.36 (260.00)	90.55 (230.00)	78.74 (200.00)	66.93 (170.00)
16.00 (40.64)	196.85 (500.00)	161.42 (410.00)	122.05 (310.00)	110.24 (280.00)	94.49 (240.00)	82.68 (210.00)	74.80 (190.00)	62.99 (160.00)
19.00 (48.26)	194.88 (495.00)	157.48 (400.00)	118.11 (300.00)	106.30 (270.00)	94.49 (240.00)	82.68 (210.00)	66.93 (170.00)	59.06 (150.00)
22.00 (55.88)	190.16 (483.00)	155.48 (396.00)	115.75 (294.00)	84.65 (215.00)	70.87 (180.00)	66.93 (170.00)	59.06 (150.00)	51.18 (130.00)
25.00 (63.50)	135.43 (344.00)	100.79 (256.00)	87.01 (221.00)	70.87 (180.00)	66.93 (170.00)	59.06 (150.00)	51.18 (130.00)	51.18 (130.00)
28.00 (71.12)	118.90 (302.00)	98.43 (250.00)	84.65 (215.00)	59.06 (150.00)	55.12 (140.00)	55.12 (140.00)	51.18 (130.00)	47.24 (120.00)

	WIDTH in (cm)							
	5.00 (12.70)	10.00 (25.40)	15.00 (38.10)	20.00 (50.80)	25.00 (63.50)	30.00 (76.20)	35.00 (88.90)	40.00 (101.60)
HEIGHT in (cm)	MAXIMUM PACKAGE LENGTH in (cm)							
5.00 (12.70)	185.04 (470.00)	177.17 (450.00)	165.35 (420.00)	149.61 (380.00)	137.80 (350.00)	118.11 (300.00)	98.43 (250.00)	82.68 (210.00)
8.00 (20.32)	185.04 (470.00)	149.61 (380.00)	133.86 (340.00)	125.59 (319.00)	98.43 (250.00)	90.55 (230.00)	74.80 (190.00)	70.47 (179.00)
10.00 (25.40)	185.04 (470.00)	141.73 (360.00)	125.98 (320.00)	115.35 (293.00)	90.55 (230.00)	82.68 (210.00)	66.93 (170.00)	63.78 (162.00)
13.00 (33.02)	181.10 (460.00)	137.80 (350.00)	114.17 (290.00)	101.18 (257.00)	82.68 (210.00)	78.74 (200.00)	64.17 (163.00)	62.60 (159.00)
16.00 (40.64)	177.17 (450.00)	133.86 (340.00)	110.24 (280.00)	94.49 (240.00)	82.68 (210.00)	78.74 (200.00)	61.02 (155.00)	60.63 (154.00)
19.00 (48.26)	177.17 (450.00)	133.86 (340.00)	110.24 (280.00)	92.52 (235.00)	78.74 (200.00)	76.77 (195.00)	59.06 (150.00)	58.66 (149.00)
22.00 (55.88)	157.48 (400.00)	133.86 (340.00)	106.30 (270.00)	90.55 (230.00)	78.74 (200.00)	76.77 (195.00)	57.09 (145.00)	57.09 (145.00)



### 9.3.3.4 Loading and unloading E195-E2

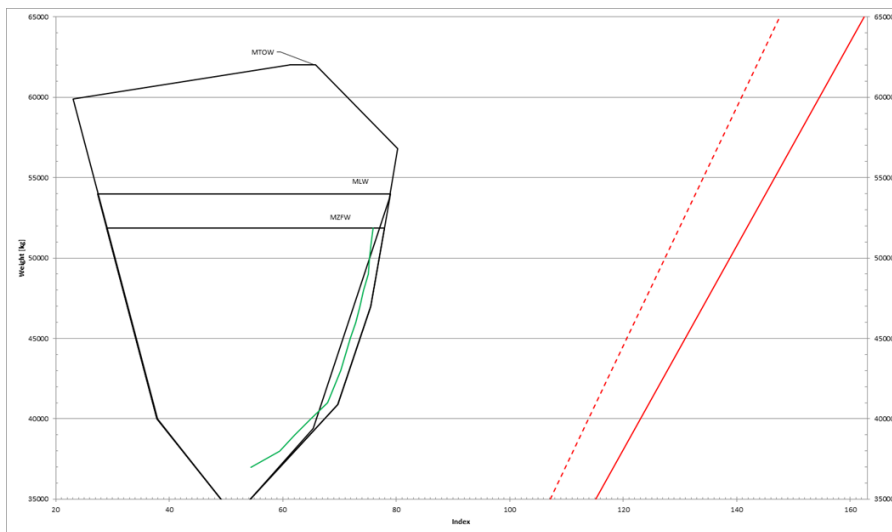
#### 9.3.3.4.1 Loading instructions E195-E2

The E195-E2 aircraft need to be loaded with a **MACTOW of 25% or above**.

In case loading out of trim, first, compensate with luggage to avoid passenger reseating. Passenger reseating has to be considered as the last action to perform to be in trim bearing in mind always to load with a so aft possible CG.

Plan the load for an E195-E2 according to the green line as shown below in the graph. For reference, a table is included to see what **MACZFW** applies to what **ZFW**.

The red line represents the tail tip limit.



Ideal Trim Line (green line in graph)

Ideal Trim Line		
ZFW	ZFW CG (%)	ZFW index
37000	26	54,399
38000	29	59,470
39000	30,5	62,136
40000	32	64,940
41000	33,5	67,881
42000	34	69,035





Ideal Trim Line		
ZFW	ZFW CG (%)	ZFW index
43000	34,5	70,235
44000	34,8	71,078
45000	35,1	71,948
46000	35,4	72,846
47000	35,6	73,556
48000	35,8	74,284
49000	36	75,031
50000	36	75,338
51000	36	75,644
51850	36	75,905

#### Single drop flights

- Load VIP baggage in front of Economy baggage
- Manual wheelchairs and buggies in doorway of AFT cargo.
- All other SSR equipment needs to be loaded in the doorway of the FWD cargo
- Load AVIHs in the FWD hold

#### Double drop (triangular) flights

- Baggage of lightest station in hold 2.
- VIP baggage of lightest station to be loaded last in hold 2 in front of the Economy baggage and when 2 is full, any remaining VIP baggage of lightest station in hold 1.
- Baggage of heaviest station in hold 3. If not enough space respect the MACTOW balance.
- VIP baggage of heaviest station to be loaded in hold 4 and when hold 4 is full, any remaining VIP baggage of heaviest station last in hold 3 in front of Economy baggage.
- Manual wheelchairs and buggies of lightest station in the doorway of hold 1 and 2, those of the heaviest station in doorway of hold 3 and 4.
- All other SSR equipment needs to be loaded in the doorway of the FWD cargo
- Load AVIHs in the FWD hold

Hold 1: The area forward of the forward cargo door is for storage of commercial cargo or catering equipment, except for VIP bags of the lightest station. For arriving flights, the buggies must be delivered at the aircraft door (contact gate) or at the bottom of the stairs (remote position)

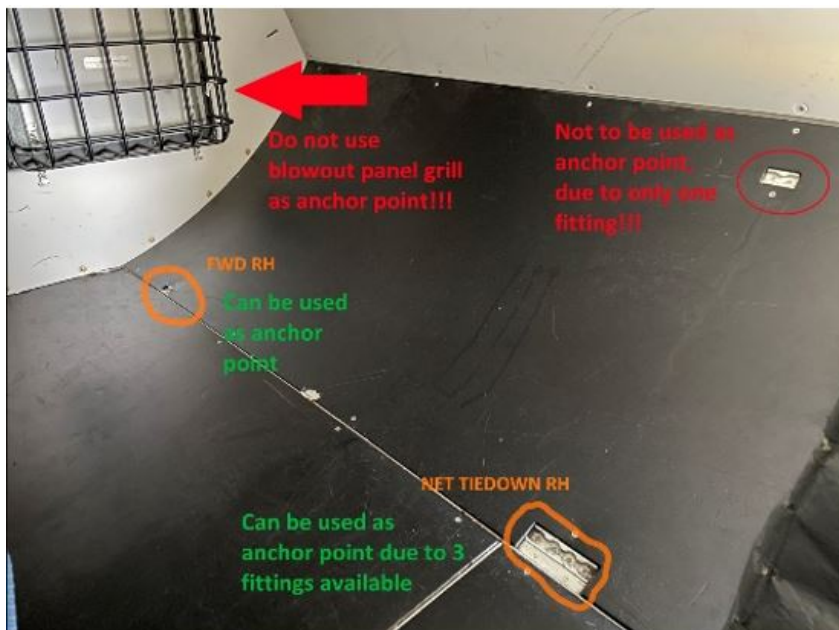
#### Securing loads in Hold 1

Limited anchor points are present in Hold 1. The following anchor points may be used:

- FWD LH & RH
- Net Tiedown LH & RH

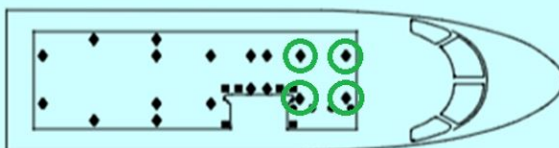


Efficient use of the anchor is recommended. Single net tracks may not be used to secure the special cargo. In addition, it is prohibited to use the blowout panel as anchor point. See below picture for reference:



## FLOOR TIE DOWN POINTS MAP

- CARGO DOOR NET: USE ONLY FOR CARGO DOOR NET
- ◆ CARGO TIE DOWN POINTS
- CARGO CREW NET: USE ONLY FOR CARGO CREW NET



**Note 1:** Last leg of double drop flight should be considered as a single drop flight;

**Note 2:** After loading is completed it is important that all cargo nets are secured correctly;

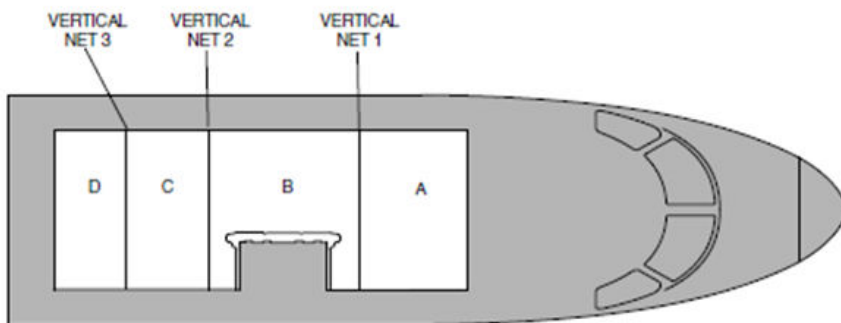


### Maximum loading height limitations

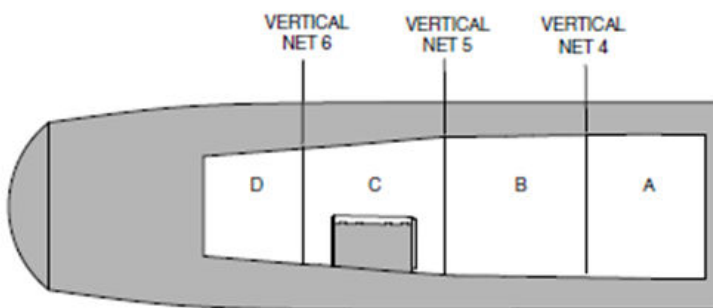
To ensure proper operation of the smoke and fire suppression systems under all operating condition, a placard, located on the inside wall panel of the cargo compartment, clearly visible when the cargo door is opened, is installed in the compartment to restrict cargo from begin loaded to within 2.0 in (51mm) of the cargo compartment ceiling. Cargo loaded up to the ceiling may cause a baffle effect and prevent dispersion of smoke in the compartment, resulting in delays in detection time. The proper dispersion of fire suppression agent in the compartment may also be affected if the cargo is installed in such a manner that it blocks the area surrounding the protection cage of the suppression nozzle.

### Maximum weight

Maximum weight permitted in each hold is as follows:



FWD Cargo Compartment



VERTICAL CARGO COMPARTMENT NETS CONFIGURATION

AFT cargo Compartment



Compartment	Maximum Compartment weight	Maximum Section	Weight	Maximum Distributed Load
FWD	2375 kg / 5236 lb	A	440 kg / 970 lb	488 kg/m <sup>2</sup> / 100 lb/ft <sup>2</sup>
		B	400 kg / 881 lb	
		C	410 kg / 903 lb	
		D	1125 kg / 2480 lb	
AFT	2555 kg / 5633 lb	A	755 kg / 1664 lb	
		B	1250 kg / 2756 lb	
		C	340 kg / 749 lb	
		D	210 kg / 463 lb	

#### 9.3.3.4.2 Unloading instructions E195-E2

Sequence:

Single drop flights:

Always start unloading from AFT to FWD

Both compartments can be unloaded at the same time by sufficient loaders to guarantee on-time delivery of last bag.

Double drop flights

Offload the concerned hold from AFT to FWD.

Both compartments can be unloaded at the same time by sufficient loaders to guarantee on-time delivery of last bag.

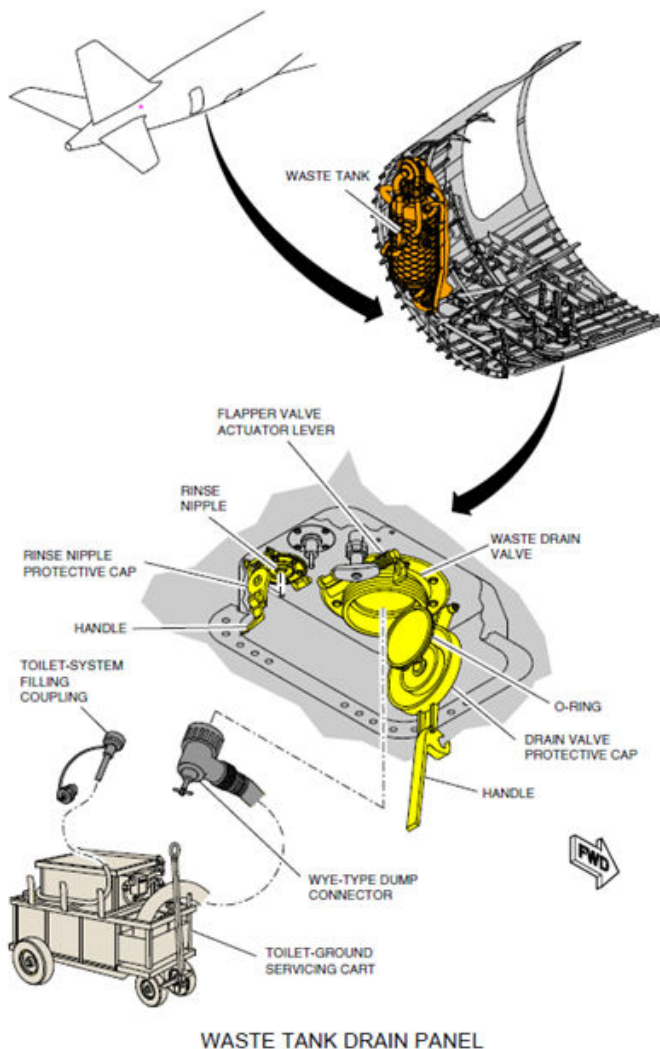
Wheelchairs and buggies are loaded in the doorway of the respective cargo door and must be offload first with instant delivery at Aircraft for the comfort of passengers, regardless of the presence of a 'delivery at aircraft tag'.

VIP priority and crew baggage: first and immediate delivery of Priority labeled and crew baggage at terminal.



### 9.3.3.5 Toilet servicing E195-E2

Toilet waste disposal servicing is accomplished by accessing a panel on the rear right side of the fuselage. Do not let the toilet system cleaner touch the eyes or skin. If it happens, flush the eyes or skin with water and get medical aid.





### 9.3.3.6 Potable water servicing E195-E2

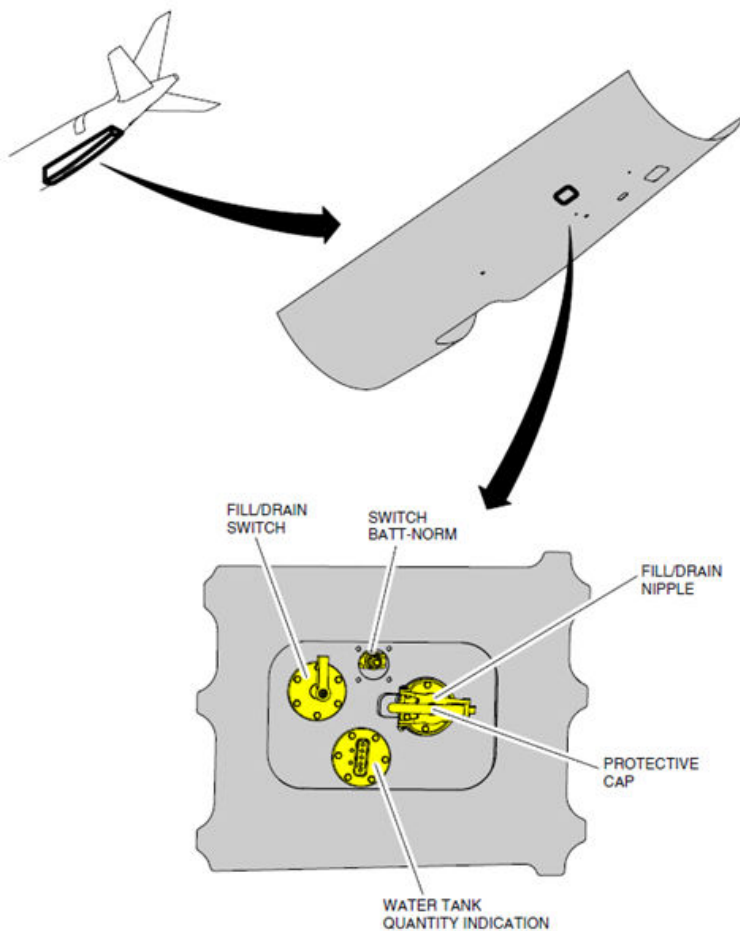
#### 9.3.3.6.1 Potable water tank service E195-E2

Potable water tank filling and draining is done through a panel installed on the rear left side of the fuselage. Different truck as toilet service.

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**CAUTION! Do not touch the drain mast, it has a heater installed and causes burns.**

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POTABLE WATER TANK PANEL

#### 9.3.3.7 Fueling procedures E195-E2

Use an AC GPU or start the APU and then set the POWER SELECTION switch to the NORMAL position on the refueling / defueling control panel.

If AC power sources is not available set the POWER SELECTION switch to the BATTERY position. Gain access to the refueling / defueling control panel.



Maximum fuel capacity is: 13690 kg

Control of total fuel input (tank selection / quantity auto shut-off etc.) is available at the wing control panel.







## Refueling / Defueling control panel

### 1 – REFUEL SELECTION SWITCH

**AUTO REFUEL:** . . . . . automatically distributes the fuel quantities between tanks during refueling process.

**MANUAL:** . . . . . manually distributes the fuel quantities according to the refuel valves switch selection.

### 2 – REFUEL VALVES SWITCHES

**OPEN:** . . . . . manually opens the respective refueling shutoff valves.

**CLOSED:** . . . . . manually closes the respective refueling shutoff valves.

### 3 – REFUEL VALVES LIGHT

**GREEN:** . . . . . respective refueling shutoff valve is closed.

**OFF:** . . . . . defuel shutoff valve is closed.

### 4 – DEFUEL VALVE LIGHT

**BLUE:** . . . . . defuel shutoff valve is opened.

**OFF:** . . . . . defuel shutoff valve is closed.

### 5 – DEFUEL VALVE SWITCH (GUARDED)

**OPEN:** . . . . . open the defueling shutoff valve.

**CLOSE:** . . . . . close the defueling shutoff valve.

### 6 – POWER SELECTION SWITCH (GUARDED)

**NORMAL:** . . . . . AC power source supplies electrical power to the refueling and defueling system.

**BATT:** . . . . . airplane batteries supply electrical power to the refueling system. Pressure defueling operation cannot be performed using the airplane batteries as electrical source.

### 7 – REFUEL TOGGLE SWITCH

**REFUEL START:** . . . . . start the refueling operation.

**STOP:** . . . . . stop the refueling operation.

**REFUEL VALVES PRE-CHECK:** . . . . . manually accomplish the precheck of refueling shutoff valves.

### 8 – FUEL QUANTITY SWITCH

**INC:** . . . . . increment the selected refueling quantity.

**DEC:** . . . . . decrement the selected refueling quantity.

### 9 – TANK SELECTION AND LIGHT TEST SWITCH



**TKSEL:** . . . . . selects to display total fuel quantity or fuel quantity in each tank. Toggling the switch to the TKSEL position alternates between total (T), left (L), center (C), and right (R) fuel tank quantities.

The first line of the display shows the letter of the selected fuel tank.

**LIGHTS TEST:** . . . . . test display and LEDs lights.

#### 10 – REFUEL STATUS

- Displays the status messages of refueling and defueling control panel system.

**WAITING:** message displayed after the start of refueling and defueling panel indicator. Normally after opening the refueling door.

**NO DATA:** no valid configuration is detected. Displayed until the system transmits a valid configuration'.

**PRECHECK WAIT:** shutoff valves precheck is running.

**PRECHECK OK:** shutoff valves precheck finished and no fault detected.

**PRECHECK FAIL:** fault detected during shutoff valves precheck.

**AUTO PQF RDPI:** automatic mode selected for refueling.

**AUTO IN PROG:** refueling in automatic mode is in progress.

**AUTO COMPLETE:** automatic refueling is completed.

**AUTO ABORT:** failure detected during refueling in automatic mode. Refueling operation has stopped.

**MANUAL IDLE:** manual mode selected for refueling.

**MANUAL IN PROG:** refueling in manual mode is in progress.

**MANUAL COMPLETE:** manual refueling has finished.

**DEFUEL IN PROG:** defueling is in progress.

**STOP REFUEL:** system is unable to stop the refueling automatically.

**IMBAL:** imbalance between wing tanks detected.

**NOTE:** FAIL or INVALID message on panel display indicated failure of respective component. Maintenance action is required.

#### 11 – PRESEL

- Indicated the total fuel quantity selected for refueling.

#### 12 – FUEL QTY

- Indicates the fuel quantity in the selected fuel tank. The selection alternates between the fuel quantity in the total, center, right wing, and left wing tanks.

#### 13 – DISPLAY

- Displays the selections and status of refueling and defueling control panel.

#### 14 – FAIL LIGHT



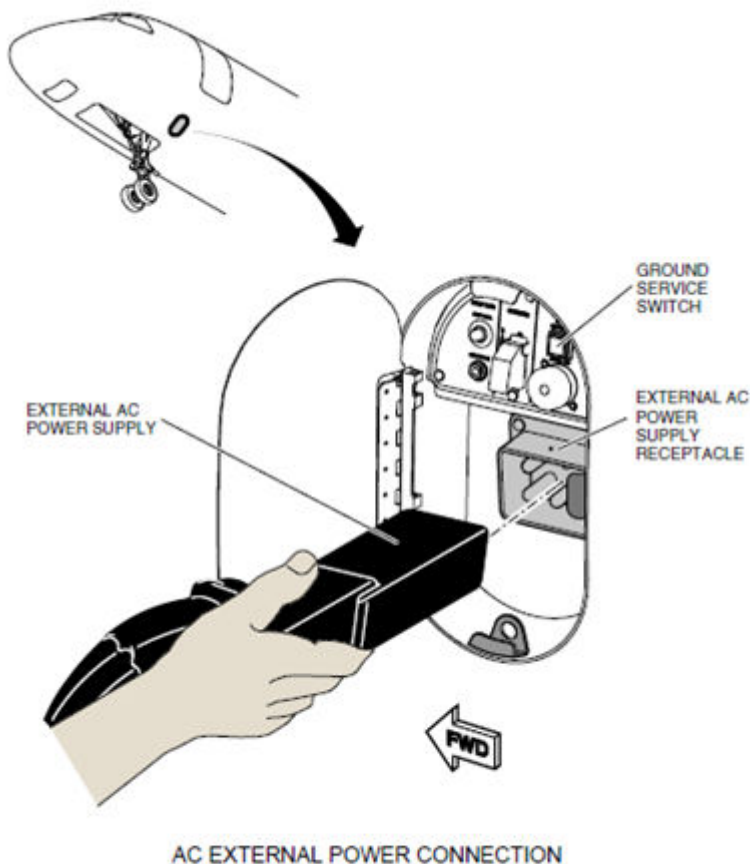
**RED:** ..... fault detected at refueling system component.

**OFF:** .....no fault detected at refueling system component.

### 9.3.3.8 Ground power connection: hooks E195-E2

The E195-E2 has a ground power hook. This hook can be used to reduce the chance of the GPU to fall out.

**Note:** If the hook is not present, do not use the hook.





### 9.3.4 Loading Dry-Ice E195-E2

To compensate for uncertainties on sublimation rates, if sublimation rates obtained from shipper are lower than 1% weight/h, the maximum dry ice mass should be limited to 325 kg.

When having a mixed cargo transportation, dry ice should be the last one to be loaded and the first one to be unloaded.

#### **Amount <75kg**

- a. Dry ice can be loaded in both FWD and AFT holds.



### Amount >75kg

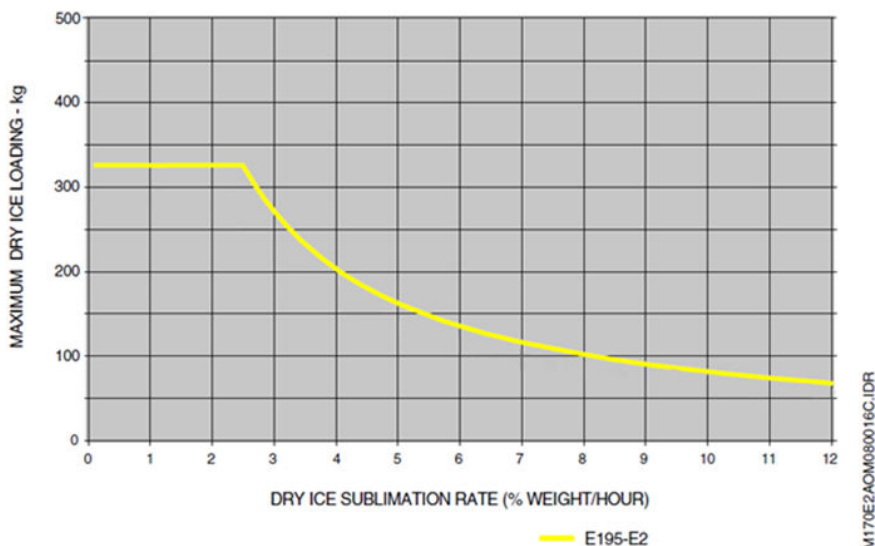
- Vaccine transportation (including dry ice) is allowed in the FWD and/or AFT cargo compartments according to the restriction below but not in the passenger cabin.
- Advise ground crew of the presence of dry ice in the hold before unloading.
- An accurate determination of sublimation rate is necessary. Sublimation rates may be obtained from shippers.
- The figure below shows the recommended dry ice maximum load versus the sublimation rate in percentages of weight per hour:

**CAUTION!** Live animals must not be transported in a cargo compartment loaded with dry ice.

**Note 1:** If catering is loaded, subtract 40 kgs of the maximum load of dry ice to account for dry ice used to cool catering.

**Note 2:** If no sublimation rates are available contact TUI OCC.

### RECOMMENDED DRY ICE MAXIMUM LOAD



### RECOMMENDED DRY ICE MAXIMUM LOAD



## 10 Annex D Dangerous Goods & Weapons

### 10.1 General

Dangerous goods are articles or substances which are capable of posing a hazard to health, safety, property, or the environment and which are classified according to the ICAO Technical Instructions and further defined by the IATA Dangerous Goods Regulations.

Addendum to IATA Dangerous Goods Regulations. Copy holders of the IATA Dangerous Goods Regulations must ensure that they receive and action any Addenda published by IATA.

#### 10.1.1 Policy

It is the policy of TUI fly Belgium and TUI fly the Netherlands to follow the instructions and requirements contained in this chapter, to ensure that dangerous goods are safely carried either as passenger/crew baggage and/or cargo.

Dangerous goods can only be carried according to ICAO's Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) and IATA Dangerous Goods Regulation.

Any dangerous goods incident or accident must be reported in accordance with the instructions stated in this Annex.

#### 10.1.2 Approvals

An approval is granted by the local CAA to carry dangerous goods on an aircraft for all flights of TUI, whether the flight is wholly or partly within or wholly outside the territory of a State.

Exceptions apply as identified in 10.2.3 and 10.2.6 including Appendix I16. An additional approval or an exemption may be required to permit the transport of some dangerous goods.

TUI hold an approval for the transport of dangerous goods by air from:

- a. TUI fly Belgium - Belgian Civil aviation authority (BCAA).
- b. TUI fly the Netherlands - Dutch Civil aviation authority (IL&T and A(-) recognition (shipper approval).

#### 10.1.3 Related documents

The latest available version of the following documents serve as reference for the instructions and procedures in this Annex:

- a. ICAO Annex 18; technical Instructions for the Safe Transport of Dangerous Goods by Air, including the Supplement and any Addendum, approved and published by ICAO (ICAO Doc 9284- AN/905);
- b. EASA Subpart G of Annex V (SPA.DG);
- c. IATA Dangerous Goods Regulations (DGR);
- d. National requirements for the transport of dangerous goods by air.



## 10.2 Handling of dangerous goods

### 10.2.1 Acceptance

All prior approved dangerous goods carried by a passenger may be accepted. Any dangerous goods carried by a passenger that is not approved in advance by TUI, can only be accepted if it's verified according to the Technical Instructions, and/or IATA DGR. The IATA DGR Table 2.3A can be referred to but must be used in conjunction with this Annex D Dangerous Goods at all times. Variations that are more restrictive than these regulations are listed in Appendix I16 – Dangerous Goods Table of Items.

### 10.2.2 Prohibited and forbidden dangerous goods

- a. Small Lithium battery powered personal transportation devices including hover boards (Excluding electric mobility aids); These include:
  - 1. hover boards;
  - 2. Segway or mini Segway;
  - 3. Balance Wheels;
  - 4. Airwheel;
  - 5. Solowheel;
  - 6. e-bikes.
- b. Class 7 Radioactive materials;

#### TFL-NL

A few Class 7 Radioactive materials are permitted, for details see GOM Annex D, chapter 10.3.1.1 (h).

#### End TFL-NL

- c. Class 1 Explosives (except 1.4S);
- d. Lithium-ION batteries (UN3480) and Lithium metal batteries (UN3090) - forbidden on passenger aircraft;
- e. Munitions of war.
- f. Disabling devices;
- g. Electro shock weapons

Dangerous goods must not be carried in the cabin or cockpit of an aircraft occupied by passengers, except as provided for in the Technical Instructions and IATA Dangerous Goods Regulations.

Dangerous goods identified as suitable for transport only on a cargo aircraft must not be carried on an aircraft on which passengers are being carried.

In this context “passenger” excludes a crew member, an operator’s employee, an authorized representative of an Authority and a person with duties in respect of a particular shipment of dangerous goods or other cargo on board.

**Note 1:** Magnetized material (class 9) will only be accepted when loaded in aft compartment (hold 3 and 4 for the E-Jets and Boeing 737 and hold 2, 3, 4 and 5 for the 787).

**Note 2:** Unilode Bluetooth tracking devices installed in ULD's (Incl Pallets) contain a small lithium ion battery. TUI have satisfactorily conducted a safety case assessment for the use of these items on the 787 aircraft therefore these units are acceptable for carriage without a dangerous goods approval.



### 10.2.3 Exceptions on forbidden dangerous goods

Certain dangerous goods, which are normally forbidden, may be specifically approved for air transport by the State of Origin and the State of the Operator:

- a. to transport dangerous goods forbidden on passenger and/or cargo aircraft where Special Provision A1/A2 applies; or
- b. for other purposes as specified in ICAO Technical Instructions.

In instances of extreme urgency or when other forms of transport are inappropriate or full compliance with the prescribed requirements is contrary to public interest, the States concerned may grant an exemption from the provisions of the Instructions provided that in such instances an overall level of safety in transport which is at least equivalent to the level of safety provided for in these Instructions is achieved.

For the purposes of exemptions, "States concerned" are the States of Origin, Operator, transit, overflight and destination.

**Note:** Application for forbidden dangerous goods approvals shall be submitted to the competent authority' Office at least 10 working days prior to the proposed flight date.

#### 10.2.3.1 Airworthiness and operational items

Dangerous goods, which are normally forbidden, but are directly or indirectly related to a safe operation of an aircraft, may be specifically approved for air transport by the State of Origin and the State of the Operator:

- a. Items for airworthiness or operating reasons or for the health of passengers or crew, such as batteries, fire extinguishers, first-aid kits, insecticides, air fresheners, life rafts, escape slides, life-saving appliances, portable oxygen supplies, tritium signs, smoke hoods, passenger service units;
- b. Aerosols, alcoholic beverages, perfumes, colognes, liquefied gas lighters and portable electronic devices containing lithium metal or Lithium-ION cells or batteries provided that the batteries meet the provisions applicable when carried by passengers and crew) carried aboard an aircraft by the operator for use or sale on the aircraft during the flight or series of flights, but excluding non-refillable gas lighters and those lighters liable to leak when exposed to reduced pressure;
- c. Dry ice intended for use in food and beverage service on board the aircraft.
- d. Electronic devices such as electronic flight bags, personal entertainment devices, credit card readers, containing Lithium metal or Lithium-ION cells or batteries and spare Lithium batteries for such devices carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights, provided that the batteries meet the provisions applicable to the carriage of portable electronic devices containing Lithium or Lithium-ION cells or batteries by passengers. Spare Lithium batteries must be individually protected so as to prevent short circuits when not in use.
- e. Unilode Bluetooth tracking devices installed in ULD's (Incl Pallets) contain a small lithium ion battery. TUI fly Belgium and TUI fly the Netherlands have satisfactorily conducted a safety case assessment for the use of these items on both 787 and 767 aircraft therefore these units are acceptable for carriage.
- f. Hygiene products – Alcohol-based hand sanitiers and alcohol-based cleaning products are carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights for the purposes for passenger and crew hygiene.





#### 10.2.3.2 Veterinary aid

Not applicable as none of the TUI fly Belgium and TUI fly the Netherlands aircraft are operated in a cargo/combi configuration.

#### 10.2.3.3 Medical aid for a patient

An approval is not required for dangerous goods which:

- a. are placed on board an aircraft with the approval of the operator; or
- b. form part of the permanent equipment of the aircraft when it has been adapted for specialized use, to provide, during flight, medical aid for a patient, such as gas cylinders, drugs, medicines, other medical material (e.g. sterilising wipes) and wet cell or Lithium batteries, providing:
  - i. the gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;
  - ii. the drugs and medicines and other medical matter are under the control of trained personnel during the time when they are in use;
  - iii. the equipment containing wet cell batteries is kept and, when necessary secured, in an upright position to prevent spillage of the electrolyte; and
  - iv. proper provision is made to stow and secure all the equipment during take-off and landing and at all other times when deemed necessary by the commander in the interests of safety.

These dangerous goods may also be carried on a flight made by the same aircraft to collect a patient or after that patient has been delivered (e.g. training flights and positioning flights prior to or after maintenance), when it is impracticable to load or unload the goods at the time of the flight on which the patient is carried.

**Note:** The dangerous goods carried may differ from those identified above due to the needs of the patient. These provisions apply both to dedicated air ambulances and to temporarily modified aircraft. Dangerous goods that passengers are permitted to carry as medical aids are described in IATA Dangerous Goods Regulation Table 2.3.A

#### 10.2.4 Excess baggage being sent as cargo

An approval is not required for dangerous goods contained within items of excess baggage being sent as cargo provided that:

- a. the excess baggage has been consigned as cargo by or on behalf of a passenger;
- b. the dangerous goods may only be those that are permitted by and in accordance with IATA Dangerous Goods Table 2.3.A to be carried in checked baggage; and
- c. the excess baggage is marked with the words "Excess baggage consigned as cargo".

With the aim of preventing dangerous goods, which a passenger is not permitted to have, from being taken aboard an aircraft in excess baggage consigned as cargo, any organization or enterprise accepting excess baggage consigned as cargo should seek confirmation from the passenger, or a person acting on behalf of the passenger, that the excess baggage does not contain dangerous goods that are not permitted and seek further confirmation about the contents of any item where there are suspicions that it may contain dangerous goods that are not permitted.



### 10.2.5 Instructions on the carriage of employees of the operator

There is no restriction of the carriage of employees on an aircraft carrying dangerous goods which are permitted on a passenger aircraft, providing the requirements of the ICAO Technical Instructions and/or IATA Dangerous Goods Regulations are complied with.

### 10.2.6 Items that may be carried by passengers and crew

Dangerous goods carried by passengers or crew shall be verified according to the Technical Instructions, and/or IATA DGR. The IATA DGR Table 2.3A can be referred to but must be used in conjunction with this section at all times. Any airline variations that are more restrictive than these regulations are listed below.

Dangerous Goods shall not be carried by passengers or crew:

- a. As or in checked baggage;
- b. As or in carry-on baggage; and
- c. on their person.

Cabin and checked in baggage, that is separated from it's owner may be forwarded as rush bag (on a different flight than the passenger in question).

Cabin baggage that is separated from it's owner but that will however travel in hold on the same flight as the passenger, needs then to fulfil provisions in Appendix I16 checked baggage".

Where the approval of the airline is required, the decision can be made by appropriately trained staff only (e.g. Tour Operator's Call Centre, Pre-flight and Customer Operations Teams).

Dangerous goods carried by passengers or crew shall be verified according to the Technical Instructions, and/or IATA Dangerous Goods Regulations (DGR). The IATA DGR Table 2.3A can be referred to but must be used in conjunction with Appendix I16 at all times.

**Note 1:** Baggage intended to be carried in the cabin that is placed in the hold must only contain Dangerous Goods permitted in checked baggage. It is necessary for cabin crew to verify that for example spare lithium batteries & heat producing articles are removed. This also means that if any Portable Electronic Devices are carried in checked baggage, measures must be taken to prevent unintentional activation and to protect the devices from damage; and the devices must be completely switched off (not in sleep or hibernation mode).

**Note 2:** Radiopharmaceuticals contained within the body of a person as a result of medical treatment are not subject to these Dangerous Goods regulations.

**Note 3:** Energy efficient lamps when in retail packaging intended for personal or home use are not subject to these Dangerous Goods regulations.

**Note 4:** any item or article that contains more than one item of dangerous goods must meet the provisions of all applicable entries. For example, an avalanche rescue pack back containing lithium batteries and gas cartridges must meet the applicable individual provisions.



**Note 5:** Damaged, defective or recalled lithium batteries and devices are forbidden for transport. Lithium batteries and their respective devices which are subject to a recall program can overheat and pose a safety risk.

#### 10.2.6.1 Table of items

Refer to IATA DGR Appendix I16 – Dangerous Goods Table of Items.

#### 10.2.6.2 Drones

A drone or “unmanned aerial vehicle” (UAV) can be safely carried on TUI flights under the following conditions:

- a. If Lithium-ION or Lithium polymer batteries are used and fitted within the device, the drone can be carried as hand baggage or hold baggage, as long as the drone is, and can be protected from being accidentally activated.
- b. The size and weight limits of hand or hold baggage are not exceeded.
- c. The drone or UAV will form part of the customer's baggage allowance and must be included as such in whatever capacity (hand or hold baggage) the drone or UAV is being taken.
- d. Spare batteries must be protected from short circuit and damage, (carried within the packaging they are supplied with, away from any other electrical source – including each other) and can be carried in hand baggage only. Preferably the entire drones are always carried in cabin baggage.
- e. For drones powered by batteries up to 100Wh, prior approval by TUI is not required. For drones with batteries exceeding 100Wh but not exceeding 160Wh, prior approval by TUI is required by contacting the Contact Centre.
- f. Drones with and batteries, or their spare batteries, exceeding 160Wh are forbidden from carriage.

**Note:** A number of countries have strict guidelines on the use of drones, where some countries do not allow drones to be used at all. It is entirely up to the users of such devices to ensure they are observing all country specific rules / regulations before attempting to take into one of these countries a drone or fly it.

#### 10.2.6.3 Smart bags

Baggage equipment with an integrated Lithium battery that cannot be removed must contain no more than 0.3g Lithium metal or 2.7 wh for Lithium-ION. If the battery can be removed the baggage must be checked in. Removed batteries must be carried in the cabin.

Baggage where the Lithium battery is designed to charge other devices and cannot be removed is forbidden from carriage.



## 10.3 Reporting and provision of information

### 10.3.1 Provisions of information to passengers

TUI provides information to passengers on those dangerous goods which are not permitted to be carried by passengers, either on their person or in hand or hold baggage prior to the check-in process, on their websites.

When provision is made for the check-in process and boarding pass issuance to be completed remotely, the information on the types of dangerous goods which a passenger is forbidden to transport is presented to passengers. Information is in text or pictorial form and is such that the check-in process cannot be completed until the passenger has positively indicated that they have understood the restrictions.

The appointed handling agent along with the airport operators must ensure that information on the types of dangerous goods which they are forbidden to transport aboard an aircraft is communicated effectively to passengers. This information must be presented at each of the places where tickets are issued, passengers are checked in, boarding passes are issued, passenger baggage is dropped off, and boarding areas. These notices include both written and pictorial details of dangerous goods forbidden from transport by aircraft. A few Class 7 Radioactive materials are permitted, for details see GOM Annex D, chapter 10.3.1.1 (h).

When provision is made for the check-in process and boarding pass issuance to be completed at an airport by a passenger without the involvement of any other person (e.g. automated check-in facility), the information on the types of dangerous goods which a passenger is forbidden to transport is presented to passengers. Information is in text or pictorial form and is such that the check-in process cannot be completed until the passenger, has positively indicated that they have understood the restrictions on dangerous goods in baggage.

#### Notification to Captain (NOTOC)

As early as practicable before departure of the aircraft, but in no case later than before the aircraft moves under its own power, all contracted Ground Handling Agents must by means of a NOTOC:

1. Provide the Commander with accurate and legible written or printed in English information concerning dangerous goods that are to be carried as cargo; and
2. Provide personnel with responsibilities for operational control of the aircraft (TUI OCC, Duty Manager) with the same information that is required to be provided to the commander (e.g. a copy of the written information provided to the commander). Send copy of NOTOC to [operationsflightwatch@tui.co.uk](mailto:operationsflightwatch@tui.co.uk) & [ODM@tui.co.uk](mailto:ODM@tui.co.uk)

The Commander must sign a legible copy of the NOTOC which shall be retained on the ground. By signing the NOTOC the Commander accepts the responsibility for carriage of these goods. This copy must have an indication on it, or with it, that the commander has received the information.

Amongst other obligations, this is to facilitate notifying emergency services and authorities of the dangerous goods on board in the event of an aircraft accident.

**Note:** This includes information about dangerous goods loaded at a previous departure point and which are to be carried on the subsequent flight.



### 10.3.1.1 NOTOC content

The NOTOC must include:

- a. Flight date; and
- b. the air waybill number (when issued); and
- c. the proper shipping name (the technical name(s) shown on the shippers declaration is not required) and UN Number or ID number; and
- d. the class or division, and subsidiary hazard(s) corresponding to the subsidiary hazard label(s) applied, by numerals, and (in the case of Class 1) the compatibility group; and
- e. the packing group shown on the shippers declaration; and
- f. the number of packages and their exact loading location; and
- g. for non-radioactive material, the number of packages, the net quantity, or gross weight if applicable, including the units of measurement, of each package, except that this does not apply to dangerous goods where the net quantity or gross weight is not required on the shipper's declaration for Dangerous Goods, or, when applicable, alternative written documentation and their exact loading location.
  - For a consignment consisting of multiple packages containing dangerous goods bearing the same proper shipping name and UN number or ID number, only the total quantity and an indication of the largest and smallest package at each loading location need to be provided. For consumer commodities, the information provided may be either the gross weight of each package or the average gross weight of the packages as shown on the Shipper's Declaration;
  - The number of overpacks and an indication of which dangerous goods packages are contained in each overpack;
  - The number of all packed in one packages and an indication of which dangerous goods are contained in the package(s).
- h. radioactive material, please see below; and

#### JAF-BE

*Radioactive material is not carried by TUI fly Belgium.*

#### End JAF-BE

#### TFL-NL

*Radioactive material, excepted package (UN 2908, UN 2909, UN2910 or UN 2911) is carried by TUI fly the Netherlands and need not appear on the NOTOC.*

*Other Radioactive material is not carried by TUI fly the Netherlands and if despite that it is loaded, it should appear on the NOTOC as a backup check by flight crew to enable them to interfere.*

#### End TFL-NL

- i. whether the package must be carried on cargo aircraft only; and
- j. the aerodrome at which the package(s) is to be unloaded; and
- k. where applicable, an indication that the dangerous goods are being carried under a State exemption; and
- l. signed confirmation, or some other indication, from the person responsible for loading the aircraft that there was no evidence of any damage to or leakage from the packages or any leakage from the unit load devices loaded on the aircraft.
- m. Emergency Response Drill codes (ERG Code) as found in the ICAO's 'Emergency Response Guide for Aircraft Incidents Involving Dangerous Goods' may be added to the



NOTOC. The code consists of a combination of letters and numbers which represent responses to incidents involving the specific dangerous good entry to which the drill code is assigned.

The following dangerous goods need not to appear on the NOTOC:

- a. Dangerous goods packed in excepted quantities
- b. Biological substance, Category B
- c. Genetically modified micro-organisms
- d. Genetically modified organisms
- e. Lithium-ION batteries contained in equipment (UN 3481), and Lithium-ION batteries packed with equipment when meeting the requirements of the applicable Packing Instruction
- f. Lithium metal batteries contained in equipment (UN3091), and Lithium metal batteries packed with equipment when meeting the requirements of the applicable Packing Instruction
- g. Magnetized material
- h. Radioactive material, excepted package (UN 2908, UN 2909, UN 2910 or UN 2911).

**Note 1:** For UN 1845 Carbon dioxide, solid (dry ice), the information detailed above may be replaced by the UN number, proper shipping name, class, total quantity in each hold on the aircraft and the aerodrome at which the package(s) is to be unloaded. To calculate the maximum recommended load of dry ice, refer to the relevant charts in Chapter 9, Annex C - Aircraft Specifics.

**Note 2:** For consumer commodities, the information provided may be either the gross mass of each package or the average gross mass of the packages as shown on the dangerous goods transport document

**Note 3:** The Commander must be notified before a flight begins of the details and location on board the aircraft of any weapons of war or munitions of war by means of the NOTOC.

#### 10.3.1.2 Distribution of NOTOC copies

- a. Copy 1 is retained by the cargo handler;
- b. Copies 2 and 3 go with the shipment to the aircraft;
- c. On completion of loading the person responsible for the loading will sign both copies of the NOTOC. The 2 signed copies must be presented to the commander for countersignature of at least copy 3;
- d. Copy 2 will be retained by the commander;
- e. Copy 3 will be retained by the dispatcher/Load Control and held on the flight file, after the information has been emailed to the TUI OCC, e-mail address: [operationsflightwatch@tui.co.uk](mailto:operationsflightwatch@tui.co.uk)

#### 10.3.2 Retention of documents

##### 10.3.2.1 Availability of NOTOC on the ground for the duration of flight

It must be ensured that a copy of the information to the pilot-in-command/ commander is retained on the ground and that this copy, or the information contained in it, is readily



accessible to the aerodromes of last departure and next scheduled arrival, until after the flight to which the information refers.

#### **10.3.2.2 Documents and period**

At least one copy of the appropriate documents to the transport by air of a consignment of dangerous goods (including consignments that fail their acceptance check) must be retained for a minimum period of three months, or such other period as specified by the States concerned, after the flight on which the dangerous goods were transported. As a minimum, the documents which must be retained are:

- a. The dangerous goods transport documents (shipper's declaration and Air Waybill);
- b. The acceptance checklist (when this is in a form which requires completion) including identification of the person who completed it;
- c. The NOTOC (if the goods were carried).

TUI fly Belgium and TUI fly the Netherlands retain the documents appropriate to the transport by air of a consignment of dangerous goods within a flight file, or within the files of a handling agent(s). If this to be carried out by a handling agent, procedures need to be in place, particularly for ad hoc charters.

### **10.4 Duties and responsibility of all personal involved**

#### **10.4.1 Detailed assignments of responsibilities**

Key responsibilities and duties associated with the carriage of dangerous goods include:

Nominated Person Ground Operations	<ul style="list-style-type: none"><li>• Oversight and control of the carriage of dangerous goods.</li><li>• Ensuring all necessary permissions, approvals and exemptions are held.</li><li>• Generation (or acceptance) of relevant procedures.</li><li>• Responding to queries regarding the carriage of dangerous goods.</li><li>• Final Responsible over the Dangerous Goods process for the airline.</li></ul>
Cargo Department and/or sales agents-	<ul style="list-style-type: none"><li>• Arrangement of the carriage of dangerous goods only in accordance with the operators stated policies.</li><li>• Recognition of undeclared dangerous goods.</li></ul>
Persons receiving or handling general cargo, mail and stores (suitably qualified ground handling agent personnel)	<ul style="list-style-type: none"><li>• Recognition of undeclared and mis-declared dangerous goods.</li><li>• Dealing with dangerous goods that are found damaged or leaking during processing for transport.</li><li>• If there is a dangerous goods incident or accident, or if undeclared or mis-declared dangerous goods are detected a report is made to the appropriate Authority, and a copy is provided to TUI OCC.</li></ul>



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Persons receiving or handling dangerous goods (suitably qualified ground handling agent personnel)	<ul style="list-style-type: none"> <li>• Acceptance procedures for dangerous goods are carried out as required by the Technical Instructions</li> <li>• Inspection procedures during the processing of dangerous goods for transport are carried out as required by the Technical Instructions</li> <li>• Dealing with dangerous goods that are found damaged or leaking during processing for transport.</li> <li>• Dangerous goods are loaded, segregated, stowed and secured on an aircraft in accordance with the Technical Instructions</li> <li>• Generation of written information to the Commander (NOTOC).</li> <li>• Provision of written information about dangerous goods loaded on board to the commander for signature.</li> <li>• Retention of documentation on the ground.</li> <li>• Recognition of undeclared and mis-declared dangerous goods.</li> <li>• If there is a dangerous goods incident or accident, or if undeclared and mis-declared dangerous goods are detected, a report is made to the appropriate Authority, and a copy is provided to TUI OCC.</li> </ul>
Reservations and Contact Centre Staff	<ul style="list-style-type: none"> <li>• Ensuring that information is provided with the passenger ticket or in another manner such that prior to or during the check-in process the passenger receives the information</li> <li>• Considering passenger requests for approval of dangerous goods requiring such carrier approval.</li> </ul>
Persons handling passengers (suitably qualified ground handling agent personnel)	<ul style="list-style-type: none"> <li>• Ensuring that the provisions concerning passengers and dangerous goods are complied with.</li> <li>• Ensuring that notices are displayed in sufficient number and prominence at each of the places at an airport where tickets are issued, passengers checked in and aircraft boarding areas maintained, and at any other location where passengers are checked in.</li> <li>• With the aim of preventing dangerous goods which passengers are not permitted to have from being taken on board an aircraft in their baggage, seeking confirmation from a passenger that they are not carrying dangerous goods that are not permitted, and seek further confirmation about the contents of any item where there are suspicions that it may contain dangerous goods.</li> <li>• Ensuring that the discovery of prohibited dangerous goods (after a passenger has checked in) is reported to the operator in the first instance, who will advise the appropriate authority, and a copy is provided TUI OCC.</li> </ul>
Cabin Crew	<ul style="list-style-type: none"> <li>• Ensuring that the provisions concerning passengers and dangerous goods are complied with.</li> <li>• Responding to a dangerous goods incident or accident in the cabin.</li> <li>• Ensuring that a dangerous goods incident or accident in the cabin, or the discovery of prohibited dangerous goods (after a passenger has boarded) is reported to the appropriate authority and a copy is provided to TUI OCC.</li> </ul>





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Operations Personnel	<ul style="list-style-type: none"><li>• If there is an aircraft incident or accident, information is passed to emergency services and state Authorities as required by the Technical Instructions</li><li>• If there is a dangerous goods incident or accident, or if undeclared and mis-declared dangerous goods are detected, a report is made to the appropriate Authority and a copy is provided to TUI OCC.</li></ul>
Flight Crew	<ul style="list-style-type: none"><li>• Signature of NOTOC to indicate receipt of information.</li><li>• If an in-flight emergency occurs, as soon as the situation permits, respond to the emergency situation related to transport of dangerous goods in accordance with the Emergency Response Guidance, and pass-details of dangerous goods on board to the appropriate Air Traffic Services Unit.</li></ul>
Trainers	<ul style="list-style-type: none"><li>• Provision of initial and recurrent dangerous goods training commensurate with the responsibilities of the personnel concerned (training records are kept for a minimum of 48 months).</li></ul>
Compliance Monitoring & Quality Manager, Auditors and Safety Manager	<ul style="list-style-type: none"><li>• Ensuring that activities are monitored for compliance with dangerous goods requirements and that these activities are carried out properly under the supervision of the relevant head of functional area.</li><li>• Ensuring the initiation and follow-up of internal occurrence / accident investigations.</li></ul>

TUI fly Belgium and TUI fly the Netherlands utilize suitably qualified personnel of contracted cargo agents and ground handling agents at the various aerodromes of the operation. Instruction is provided to these agencies via this Ground Operations Manual which is distributed throughout the worldwide network of agents.

Contracted airport handling agents must provide an oversight and functional role in the process of loading and un-loading cargo shipments on and off aircraft. Instruction is provided to these too via this Ground Operations Manual.

### 10.4.2 Shippers responsibility

TUI fly Belgium and TUI fly the Netherlands contract a total cargo management company at all stations for the handling of air cargo. Instruction is provided to these agencies within the Ground Operations Manual which is distributed throughout the worldwide network of agents.

A shipper must comply fully with the ICAO Annex 18 and the Technical Instructions /IATA Dangerous Goods Regulations when offering a consignment of dangerous goods. In addition, shippers must comply with any applicable regulations set forth by the States of origin, transit and destination.

- a. The shipper must ensure that the articles or substances are not prohibited for transport by air;
- b. The articles or substances must be properly identified, classified, packed, marked, labelled and documented in accordance with the Regulations;
- c. Infectious Substance - before offering any infectious substances for carriage, the shipper must have made advance arrangements with the consignee:



- i. received confirmation that the substance may be legally imported without delay in delivery;
  - ii. made advance arrangements with the operator to ensure expeditious carriage;
  - iii. and notified the consignee of all shipping details.
- d. A Shipper's Declaration for Dangerous Goods is required; this must be completed in accordance with the Regulations;

## 10.5 Guidance on the requirements for acceptance, handling and stowage

### 10.5.1 Acceptance check

Before a consignment consisting of a package or overpack containing dangerous goods, a freight container containing radioactive material or a unit load device containing dangerous goods is first accepted for carriage by air, the person or contracted party responsible for accepting the consignment must, by use of a checklist, verify the following:

- a. The dangerous goods are not prohibited or forbidden for carriage (see 10.2.2 Prohibited and forbidden dangerous goods);
- b. the documentation or, when provided, the electronic data, is compliant with the applicable requirements. The number of documents varies by the type of shipment;
- c. the quantity of dangerous goods stated on the Shippers Declaration is within the limits per package;
- d. the marking of the package, overpack or freight container accords with the details stated on the accompanying dangerous goods transport document and are clearly visible;
- e. where required, the letter in the packaging specification marking designating the packing group for which the design type has been successfully tested is appropriate for the dangerous goods contained within. This does not apply to overpacks where the specification marking is not visible;
- f. proper shipping names, UN numbers, labels, and special handling instructions appearing on the interior package(s) are clearly visible or reproduced on the outside of an overpack;
- g. the labelling of the package, overpack or freight container is as required for the consignment
- h. the outer packaging of a combination package or the single packaging is permitted by the applicable packing instruction, and when visible is of the type stated on the accompanying dangerous goods transport document and is permitted by the applicable packing instruction;
- i. the package or overpack does not contain different dangerous goods which require segregation from each other;
- j. the package, overpack, freight container or unit load device is not leaking and there is no indication that its integrity has been compromised;

**Note 1:** An acceptance check is not required for dangerous goods in excepted quantities and radioactive material in excepted packages and Lithium batteries consigned in accordance with the applicable Packing Instruction.

**Note 2:** Persons conducting dangerous goods acceptance checks must have received dangerous goods training commensurate with this responsibility.



**Note 3:** Own parts/stores (COMAT) which is classed as dangerous goods, is shipped as cargo. Dangerous goods cargo handling procedures are followed, including issue of all required documentation. The acceptance check is carried out by the cargo handling agents.

### 10.5.2 Inspections for damage or leakage

A package or overpack containing dangerous goods must not be loaded onto an aircraft or into a unit load device unless it has been inspected immediately prior to loading and found free from evidence of leakage or damage. A unit load device must not be loaded aboard an aircraft unless the device has been inspected and found free from any evidence of leakage from or damage to any dangerous goods contained therein. Packages or overpacks containing dangerous goods must be inspected for signs of damage or leakage upon unloading from the aircraft or ULD.

### 10.5.3 Loading

#### 10.5.3.1 Segregation and Separation

Dangerous goods must be loaded, stowed and secured on an aircraft as required by the ICAO Technical Instructions / IATA DGR. This includes segregating packages from each other when they contain incompatible dangerous goods, the separation of explosives of different division numbers and compatibility groups (when required), and securing packages in a manner that will prevent any movement. This will normally be by tying down by straps, ropes or nets.

Packages of dangerous goods must also be protected so they cannot be damaged by the movement of baggage, mail, stores or other cargo.

Any ULD containing dangerous goods, which require a hazard label, must have a dangerous goods tag attached clearly showing the primary and secondary hazard classes. The tag must be removed from the ULD immediately after the dangerous goods have been unloaded. This also includes instructions for storage of incompatible dangerous goods before and after a flight.

A minimum physical segregation must always be observed. See table of segregation of incompatible dangerous goods below.

#### 10.5.3.2 Segregation of incompatible dangerous goods

Class or Division											
Hazard Label	1 excl 1.4S	2.1	2.2, 2.3	3	4.1	4.2	4.3	5.1	5.2	8	9 see 9.3.2.1.3
1 excl 1.4S	Note	x	x	x	x	x	x	x	x	x	x
2.1	x										x
2.2, 2.3	x										
3	x							x			x
4.1	x										x
4.2	x							x			
4.3	x									x	
5.1	x			x		x					x
5.2	x										
8	x						x				
9 see 9.3.2.1.3	x	x		x	x			x			



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 “Blank Cell” at the intersection of a row and a column indicates that packages containing these classes/divisions of dangerous goods do not require segregation.

**Note 1:** Explosives of Division 1.4B must not be loaded with other explosives except for Division 1.4S. When loaded on the same aeroplane with explosives other than Division 1.4S, Division 1.4B explosives must be loaded into separate unit load devices and when stowed aboard the aircraft, the unit load devices must be separated by other cargo with a minimum separation distance of 2 m. When not loaded in a unit load device Division 1.4B and other explosives must be loaded into different, non-adjacent loading positions and separated by other cargo with a minimum separation distance of 2 m.

**Note 2:** Only division 1.4s is permitted for carriage on passenger aeroplanes.

**Note 3:** Packages containing dangerous goods with multiple hazards in the class or divisions which require segregation in accordance with the above table need not be segregated from other packages bearing the same UN number.

#### 10.5.3.3 Loading dry ice

Following limitations are applicable for the transport of dry ice:

- b. Dry ice may be loaded in both FWD and AFT holds on E-Jet aircraft.
- c. For maximum quantity of Dry Ice refer to Chapter 9, Annex C – Aircraft Specifics.

All ground staff involved must be informed that dry ice is being loaded or is onboard the aircraft.

**Note:** Dry ice (Carbon dioxide, solid; UN1845) may be carried onboard an aircraft to keep food (galley or cargo) and medicine or materials (as cargo) in a frozen or chilled condition. Carbon dioxide gas produced by the sublimation of dry ice is an asphyxiant and will reduce the amount of available oxygen to breathe. Dry ice sublimation producing excess CO<sub>2</sub> gas may be dangerous in confined spaces where there is an absence of ventilation or ventilation rates are low. The signs and symptoms of CO<sub>2</sub> poisoning are similar to those that precede lack of oxygen, namely headache, dizziness, muscular weakness, drowsiness, and ringing in the ears. CO<sub>2</sub> poisoning does have a greater effect on breathing than simple lack of oxygen, causing a significant increase in the rate and depth of breathing as an early symptom. 10% carbon dioxide in air can be endured for only a few minutes whereas 12% to 15% would cause unconsciousness.

#### Maximum quantity of dry ice when the number of main cabin occupants does not exceed 15:

The maximum amount of dry ice may be determined in accordance with the type specific charts in Chapter 9, Annex C – Aircraft Specifics

The maximum amount of dry ice to be carried depends on the aeroplane type and the sublimation rate of the package.



TUI Airline Ground Operations is responsible for determining the maximum weight of dry ice to be carried per flight.

The shipper is responsible for supplying the sublimation rate. This information is provided on the NOTOC.

#### 10.5.3.4 Loading magnetized material

IATA DGR Packing Instruction 953 allows the carriage of such material when the magnetic field strength at a distance of 4.6 m causes a compass deflection of not more than 2 degrees (equivalent to 0.418 A/m or 0.00525 Gauss measured at a distance of 4.6 m). Material with a magnetic field strength exceeding these limits may only be carried with the prior approval of the State of Origin and the State of the Operator.

Magnetised material must be loaded so headings of aircraft compasses are maintained within the tolerances prescribed by the applicable aircraft airworthiness requirements and, where practical, in locations minimising possible effects on compasses.

**Note 1:** Masses of ferromagnetic metals such as automobiles, automobile parts, metal fencing, piping and metal construction material, even if not meeting the definition of magnetised materials, may affect aircraft compasses. As may packages or items of material which individually do not meet the definition of magnetised material, but cumulatively may have a magnetic field strength of a magnetised material.

**Note 2:** Magnetised material (class 9) will only be accepted when loaded in aft compartment (hold 3 and 4 for the E-Jets & B737 and hold 2, 3, 4 and 5 for the B787).

#### 10.5.4 Hidden dangerous goods

Personnel must be alert to indications that undeclared dangerous goods are present within cargo, mail or stores. Personnel interfacing with passengers must be alert to indications that prohibited or forbidden dangerous goods are carried by passengers or within their baggage.

For a full list of general descriptions that are often used for items in cargo or in passenger's baggage and the types of dangerous goods that may be included in any item bearing that description can be found in IATA DGR 2.2.

**Note:** The discovery of undeclared or mis-declared dangerous goods or the discovery of dangerous goods forbidden for carriage by passengers (discovered after the check-in process) must be reported by use of a Ground Operations Safety Report in IQSMS.

#### 10.5.5 Identification of dangerous goods through X-ray screening

Persons conducting security screening of cargo should be alert to the presence of dangerous goods within packages that are not marked and labelled as dangerous goods and/or not accompanied by a Shipper's Declaration. In particular, items such as aerosols, ammunition, gas cylinders (camping gas, cylinders attached to life-jackets, etc.), cigarette lighters and wet acid batteries can be readily identified from x-ray images. Information provided on an air waybill or marked on a package often indicates that a consignment contains no dangerous goods. In the absence of such annotation by the shipper, should suspicions be raised by the



size and shape of the contents of a package, consideration should be given to opening and hand-searching the consignment to verify that no undeclared dangerous goods are present.

Consignments of dangerous goods that have been properly marked, labelled and declared to the operator (where approved for carriage) are commonly processed separately from general freight. Should consignments bearing UN numbers, proper shipping names or hazard labels be discovered within general freight, when separate arrangements exist, this should be queried. It may be that no shipper's declaration accompanies the consignment; as such the consignment of dangerous goods would be considered 'undeclared'.

#### 10.5.6 Safety data sheets

REACH (Registration, Evaluation, Authorisation & restriction of CHemicals) is a European Union regulation controlling chemicals in Europe. REACH requires for many substances and mixtures, a Safety Data Sheet (SDS) to be provided either before or at the time of first delivery. Section 14 of the EU format SDS provides basic classification information, i.e. UN number, proper shipping name, Class/Division and Packing Group.

### 10.6 Marking and labelling of packages

Articles and substances meeting the dangerous goods classification criteria are assigned a 'UN Number' under the United Nations classification system. This consists of a four-digit number preceded by the capital letters 'UN'. Packages of dangerous goods must be marked with the UN Number(s) applicable to their contents.

Packages containing dangerous goods can also be identified by labels indicating the hazard of the goods by their class or division or by the presence of certain handling labels/markings.

**Note:** When dangerous goods marking or labels are seen on items not declared as dangerous goods it is often an indication that they do contain such goods. Undeclared dangerous goods must not be loaded on an aircraft and reporting procedures must be implemented.

During the course of air transport, including storage, dangerous goods marking and labels must not be covered or obscured by any part of or attachment to the packaging or any other label or marking.



### 10.6.1 Class 1 – Explosive

Class 1 (with exploding bomb symbol) - explosives generally not permitted on an aircraft.



\* Division and compatibility group

Class 1 (without exploding bomb symbol)  
DIV 1.4 explosives: usually permitted on an aircraft.






DIV 1.5 and 1.6 explosives: Packages with this label are normally forbidden for air transport.



\*\* Compatibility group






### 10.6.2 Class 2 – Gases

Flammable gas (Division 2.1) 	Non-flammable, non-toxic gas, (Division 2.2) 	Toxic gas (Division 2.3) 
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### 10.6.3 Class 3 - Flammable liquids






### 10.6.4 Class 4 - Flammable solids

Flammable solid, Division 4.1 	Substance liable to spontaneous combustion, Division 4.2 	Substance which, in contact with water, emits flammable gas, Division 4.3 
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### 10.6.5 Class 5 - Oxidising substances & Organic peroxides

Oxidising substance, Division 5.1	Organic peroxide, Division 5.2 (flame may be black or white)	
		

### 10.6.6 Class 6 – Toxic and infectious substances

Toxic substance, Division 6.1	Infectious substance, Division 6.2	
		The bottom part of the label should bear the inscription: "INFECTIOUS SUBSTANCE – In case of damage or leakage immediately notify public health authority"



### 10.6.7 Class 7 – Radioactive materials

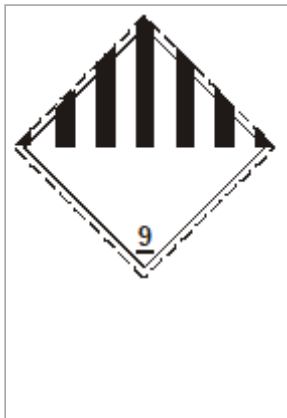
<p><b>Category I</b></p> 	<p><b>Category II</b></p> 	<p><b>Category III</b></p> 
<p><b>Criticality safety index label</b></p> 		

### 10.6.8 Class 8 - Corrosive





#### 10.6.9 Class 9 - Miscellaneous



Class 9 label for Section IA and IB Lithium battery shipments

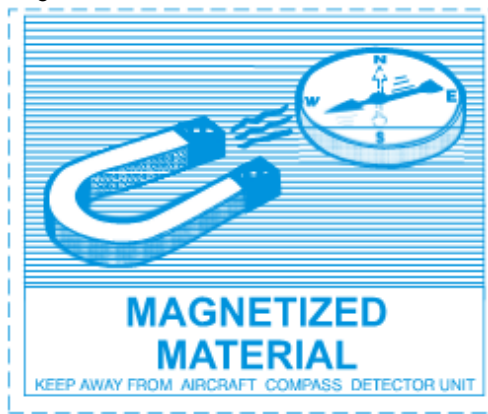




## 10.6.10 Handling labels

Packages of dangerous goods may also bear labels providing handling information; these are:

### Magnetized material



### Cargo aeroplane only



### Cryogenic liquid label



### Package orientation



*(red or black)*

### Keep away from heat



Intermediate Bulk Containers (IBCs) are only permitted for the transport of UN 3077 Environmentally hazardous substance, solid, n.o.s. The maximum permitted stacking load applicable when the IBC is in use must be displayed on a symbol as follows:



IBCs capable of being stacked	IBCs NOT capable of being stacked

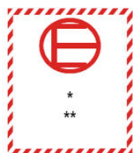
#### 10.6.11 Lithium batteries mark

	<p>The mark must be in the form of a rectangle or square with the hatched edging. The symbol (group of batteries, one damaged and emitting flame, above a UN number for lithium ion or lithium metal batteries or cells) must be black on white or suitable contrasting background. The hatching must be red.</p> <p>The mark must be a minimum dimension of 100 mm wide x 100 mm high and the minimum width of the hatching must be 5 mm. If the size of the package so requires, the dimensions may be reduced to not less than 100 mm wide x 70 mm high.</p> <p>Where dimensions are not specified, all features must be in approximate proportion to those shown on the full-size mark. Packages containing lithium batteries that meet the requirements of Section IB of Packing Instructions 965 and 968 must bear both the lithium battery mark and the lithium battery Class 9 hazard label.</p> <div><p><b>Note:</b> With the removal of the telephone number requirement on Lithium Battery mark label there will be a transition period until 31st December 2026 during which time the existing mark may continue to be used</p></div>
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#### 10.6.12 Excepted quantities mark

Packages containing excepted quantities of dangerous goods can be identified from the following:



Hatching and symbol of the same colour, black or red, on white or suitable contrasting background.

\* Place for class or, when assigned, the division number(s).

\*\* Place for name of shipper or consignee, if not shown elsewhere on the package.

#### 10.6.13 Limited quantities mark

Packages containing limited quantities of dangerous goods can be identified from the following



Many dangerous goods when in reasonably limited quantities present a reduced hazard during transport and can safely be carried in good quality packaging that have not been tested and marked as is required for UN Specification packaging's required for larger quantities of dangerous goods. Packages containing limited quantities of dangerous goods must be marked with a diamond shaped mark. When presented for carriage by air, the mark must additionally include a "Y" which indicates compliance with the provisions of the ICAO Technical Instructions, some of which are more stringent than those of the UN Model Regulations and of other modes of transport.

**Note:** The mark depicted here but without the 'Y' indicates that the package contains dangerous goods in limited quantities as permitted by surface transport regulations (ADR/IMDG) which may not be acceptable for air transport. A package so marked and offered for transport in the absence of a dangerous goods transport document must be reported to the appropriate authority where the goods are discovered as a discovery of undeclared dangerous goods

#### 10.6.14 Environmentally hazardous substance mark



Packages containing environmentally hazardous substances (UN Nos. 3077 and 3082) must be durably marked with the environmentally hazardous substance mark with the exception of packages containing a net quantity per single or inner packaging of 5 L or less for liquids; or having a net mass per single or inner packaging of 5 kg or less for solids.



## 10.7 Removal of contamination

In the event of a spillage or leakage of dangerous goods within an aircraft, the position where the dangerous goods or unit load device was stowed on the aircraft must be inspected for damage or contamination and any hazardous contamination removed.

The hazard of the dangerous goods within packages concerned may be established by checking the entry on the NOTOC for that loading position or from hazard labels applied to the packages. The hazard classes and divisions of dangerous goods within an ULD may also be identified from the NOTOC or otherwise, should package labels not be visible, from the ULD tag bearing red hatchings applied to the outside of the ULD.

Persons responding in the event of damage to or leakage of dangerous goods from packages must:

- a. inform the pilot in command or an engineer who will check the aircraft for any contamination and advise TUI OCC;
- b. Identify the hazards and wear appropriate protective clothing; and
- c. Avoid handling the package or keep handling to a minimum; and
- d. Inspect adjacent packages for contamination and put aside any that may have been contaminated; and
- e. Arrange for decontamination of the aircraft and equipment; and
- f. In the case of infectious material, inform the appropriate public health authority or veterinary authority, and provide information to any other countries of transit where persons may have been exposed to danger; and
- g. To notify the shipper and/or the consignee.
- h. Report by means of Ground Operations Safety Report in IQSMS.

If it is evident that a package containing radioactive material is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package must be restricted and a qualified person must, as soon as possible, assess the extent of contamination and the resultant radiation level of the package.

The scope of the assessment must include the package, the aircraft, the adjacent loading and unloading areas and, if necessary, all other material which has been carried in the aircraft. When necessary, additional steps for the protection of persons, property and the environment, must be taken in accordance with provisions established by the relevant competent authority, to overcome and minimize the consequences of such leakage or damage.

An aircraft which has been contaminated by radioactive materials must be immediately taken out of service and not returned until the radiation level at any accessible surface and the non-fixed contamination are not more than the values specified in the Technical Instructions. In the event of non-compliance with any limit in the Technical Instructions applicable to radiation level or contamination, the operator must ensure the shipper is informed if the non-compliance is identified during transport; take immediate steps to mitigate the consequences of the non-compliance; communicate the non-compliance to the shipper and relevant competent Authority(ies), respectively, as soon as practicable and immediately whenever an emergency situation has developed or is developing.



## 10.8 Weapons, munitions of war and sporting weapons

### 10.8.1 General

All weapons and ammunition are carried subject to prior approval. Weapons of war can only be carried if approval has been granted by all the States concerned before a flight, in accordance with the local procedure.

TUI fly Belgium and TUI fly the Netherlands do not hold approval for the transportation of Munitions of war (MOW).

### 10.8.2 Carriage of sporting weapons

Sporting weapons and ammunition for such weapons may be carried without an approval from an Authority, provided:

- a. The ammunition is subject to the conditions set out in IATA DGR table 2.3.A. The ammunition must be securely packaged and the contents must be packed so as to prevent movement within the boxes. The boxes must then be placed inside the passenger's checked baggage, in the center of the suitcase or bag, surrounded by other contents.
- b. The passenger and operator (or his agent) must observe all regulations applicable to the export, import and transit of weapons and ammunition, applicable in the country of departure, transit and destination;
- c. Restrictions exist in most countries and passengers must be advised to check requirements with the appropriate Government Representative;
- d. They are stowed in a place on the aircraft which is inaccessible to passengers during flight; and
- e. In the case of firearms, unloaded;
- f. Firearms and ammunition must be declared to Customs authorities.

## 10.9 Incident reporting

If there is a dangerous goods incident or accident, or if undeclared and mis-declared dangerous goods are detected, immediately inform:

- a. By phone to TUI OCC; and
- b. If possible, to the commander of the flight.

Within 24 hours after the occurrence a Ground Operations Safety Report must be submitted in IQSMS:

**TUI OCC: [Operationsflightwatch@tui.co.uk](mailto:Operationsflightwatch@tui.co.uk)**

The person responsible for loading is responsible for the loading of Dangerous Goods shipments as described in and must be qualified as per IATA Dangerous Goods Regulations (DGR) training requirements.

### 10.9.1 Definition of dangerous goods accident

An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.





### 10.9.2 Definition of dangerous goods incident

An occurrence other than a dangerous goods accident associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes an aircraft or its occupants is also deemed to be a dangerous goods incident.

### 10.9.3 Information to be provided in the event of an aircraft accident

In the event of an aircraft incident where dangerous goods may be involved and if requested to do so, provide information about the dangerous goods on board, as shown on the copy of the information to the Pilot-in-Command (NOTOC), without delay to:

- a. The Commander of the aircraft
- b. By phone To TUI OCC; and
- c. The emergency services responding to the incident.

The information must be sufficient to enable any hazards created by the dangerous goods to be minimised and include the proper shipping name, UN number, class/division, any identified subsidiary risks, the compatibility group for explosives, the quantity and the location on board the aircraft.

Every dangerous goods accident is subject to the mandatory occurrence reporting scheme.

### 10.9.4 Dangerous goods accident and incident reports

All incident or accident related to dangerous goods will be reported by TUI to the appropriate authorities of the State of the Operator and the State in which the accident or incident occurred in accordance with the reporting requirements of those appropriate authorities.

This includes incidents involving dangerous goods that are not subject to all or part of these instructions through the application of an exception or of a special provision.

Reports to the State of the Operator and the State of Origin are any occasion when dangerous goods are:

- a. Discovered to have been carried when not correctly loaded, segregated, separated or secured.
- b. Discovered to have been carried without information having been provided to the commander (when required) or the information is inadequate.
- c. Undeclared or mis-declared in cargo or mail.
- d. Discovered in the baggage or on the person of passengers (after check-in) or crew members.

Dangerous goods occurrences are to be reported within 72 hours. Dangerous goods occurrences reportable under the Mandatory Occurrence Reporting Scheme include:

- a. Dangerous goods found not to have been secured to prevent movement.
- b. Damage to packages of dangerous goods.
- c. NOTOC errors where dangerous goods have not been stowed in accordance with loading instructions.
- d. Failure to prepare electric mobility aids in order to prevent accidental activation.
- e. Electric mobility aids found not to have been stowed and secured correctly.



- f. Leakage of dangerous goods from passenger baggage.

### **10.9.5 Dangerous goods occurrence report form**

Please use the Ground Operations Safety Report in IQSMS.

### **10.9.6 Company airline specifics regarding reporting**

Any type of incident or accident must be reported as per instructions outlined in 3.1 Ramp Safety in Aircraft Handling

## **10.10 Training requirements**

### **10.10.1 General**

To ensure that everyone involved is aware of their responsibilities in the transport of dangerous goods, no matter whether such goods are carried as cargo or are in the possession of passengers, training must be given so that awareness is gained of the hazards associated with dangerous goods and how they should be dealt with in air transport. Personnel identified in the categories specified in Table 1-4 of the ICAO Technical Instructions (refer to the IATA Dangerous Goods Training Guidance Edition 1, [www.iata.org/contentassets/90f8038b0eea42069554b2f4530f49ea/dgcbita-1-en.pdf](http://www.iata.org/contentassets/90f8038b0eea42069554b2f4530f49ea/dgcbita-1-en.pdf)) must be trained or training must be verified prior to the person performing any duty specified in ICAO Technical Instruction 10147.

Recurrent training must be provided within 24 months of previous training and assessment to ensure that competency has been maintained in addition to the remainder of the month of completion to ensure knowledge is current. If recurrent training is completed within the final three months of validity of previous training, the period of validity shall extend from the month of completion, until 24 months from the expiry month of that previous training and assessment.

As with other aviation qualifications the expiry date of dangerous goods training is absolute and an offence against the regulations will be committed if staff continue to work after their training qualification has expired.

Training must ensure that personnel are competent to perform any function for which they are responsible prior to performing any of these functions. This must be achieved through training and assessment commensurate with the functions for which they are responsible. A test to verify understanding must be undertaken following training and confirmation that the test as well as a competency assessment required. The records of training must be retained by the employer for a minimum period of 48 months from the most recent training and assessment completion date and must be made available upon request to the employee or the appropriate national authority.

### **10.10.2 Instructor qualifications**

Instructors of initial and recurrent dangerous goods training programs must demonstrate or be assessed as competent in instruction and the function(s) that they will instruct prior to delivering such a dangerous goods training program (in accordance with ICAO Doc 10147 Appendix relevant to their job role prior to conducting such training.)

Instructors delivering initial and recurrent dangerous goods training programmes must at least every 24 months deliver such courses, or in the absence of this attend recurrent training.



### **10.10.3 Training programs - records**

A record of training must be maintained, which must include:

- a. the individual's name;
- b. the most recent training and assessment completion month;
- c. a description, copy or reference to training materials used to meet the training requirement;
- d. the name and address of the organization providing the training;
- e. evidence, which shows that a test and a competency assessment has been completed satisfactorily;

The training records must be made available upon request to the appropriate national authority of the airline.



## 11 Annex E De-icing & Anti-icing

### 11.1 General

Any deposit of frost, ice, snow, or slush on the external surfaces of an aircraft may drastically affect its flying qualities because of reduced aerodynamic lift, increased drag, modified stability, and control characteristics. Furthermore, freezing deposits may cause moving parts, such as elevators, ailerons, flap actuating mechanisms etc. to jam and create a potentially hazardous condition. Engine and APU systems performance may deteriorate due to the presence of frozen contaminants to blades, intakes, and components. Also, engine operation may be seriously affected by the ingestion of snow or ice, thereby causing engine stall or compressor damage. In addition, ice or frost may form on certain external surfaces (e.g. upper and lower wing surfaces) due to the effects of cold fuel / structures, even in ambient temperatures well above 0°C.

Procedures for de-icing /anti-icing are intended to ensure that the aircraft is clear of contamination so that degradation of aerodynamic characteristics or mechanical interference will not occur and, following anti-icing, to maintain the airframe in that condition during the appropriate holdover time which are known to the flight crew.

Under certain meteorological conditions, de-icing and/or anti-icing procedures may be ineffective in providing sufficient protection for continued operations. Examples of these conditions are freezing rain, ice pellets and hail, heavy snow, high wind velocity, fast dropping OAT (Outside Air Temperature) or any time when freezing precipitation with high water content is present. No Hold over Time guidelines exists for these conditions.

#### 11.1.1 Requirements

EASA requires that operators establish procedures to be followed when ground de-icing and anti-icing and related inspections of aircraft are necessary. It also requires that the aircraft commander shall only commence take-off if the aircraft is clear of any deposit that might adversely affect the performance or controllability of the aircraft, except as permitted under the airline procedures.

This Annex E is in accordance with EASA-OPS, ICAO Doc. 9640, latest version of applicable SAE documents and Aircraft Manufacturer Manuals.

### 11.2 Terminology

#### **Active Frost:**

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

#### **Anti-icing:**

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

**Anti-icing Code:**

Report given to the flightcrew that deicing/anti-icing has been carried out and the details of the anti-icing procedure that was applied. Also known as post-deicing/anti-icing report.

**ANTI-ICING FLUID:**

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

**Note:** For deicing/anti-icing purposes in a one-step procedure, fluids in 1, 2, and 4 shall be heated to ensure a temperature of 60 °C (140 °F) minimum at the nozzle.

**Brix (degrees Brix or °Brix ):**

Unit of measurement of refraction. See also refraction and refractometer.

**Buffer ( Freeze Point Buffer ):**

The difference between the Outside Air Temperature (OAT) and the freezing point of the fluid used.

**Certificate of Analysis:**

A document, issued by a manufacturer, attesting that a lot or batch of a product fulfills the manufacturer's sales specification requirements, listing the tests, the test requirements, the test results on that lot or batch, the lot or batch number and a date.

**Certificate of conformance:**

A document declaring that a product fulfills the requirements of a standard. Also known as certificate of conformity.

**Check:**

The examination of an aircraft item against a relevant standard by a trained and qualified person to ascertain satisfactory condition.

**Chemical Contamination:**

Condition when substances (chemicals) are present where they should not be or are at concentrations higher than they should be.

**Clear ice:**

Ice difficult to detect visually. It is normally formed in the area of the wing fuel tanks, caused by cold-soaking. Clear ice may break loose during or after takeoff, and poses a hazard particularly to aircraft with rear mounted engines.

**Cold Soaking:**

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



**Conditions conducive to aircraft icing on the ground:**

Freezing fog , freezing precipitation , frost , rain , or high humidity ( on cold soaked wings ) , mixed rain and snow, and snow.

**Contamination:**

Contamination in this context is understood as all forms of frozen or semi-frozen deposits moisture such as frost, snow, slush, or ice (also known as frozen contamination).

**Contamination check:**

Check of the aircraft surfaces and components for contamination to establish the need for de-icing.

**De-icing:**

The procedure by which frost, ice, snow, or slush is removed from an aircraft in order to provide clean surfaces and components

**De-icing / anti-icing:**

Combination of or referring to both of the procedures “de-icing” and “anti-icing”. It may be performed in one or two steps

**De-icing fluid:**

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

**Note:** Unheated fluids are ineffective to deice.

**De-icing personnel:**

Groundcrew personnel with roles and responsibilities associated with aircraft ground icing operations.

**De-icing Service Provider:**

The company responsible for the aircraft de-icing/anti-icing operations on an airfield.

**Dewpoint:**

Temperature at which unsaturated air must be cooled to cause saturation with respect to liquid water. The moisture condenses to liquid water either on surfaces as dew or as tiny liquid droplets suspended in air.

**Freezing Drizzle:**

Fairly uniform precipitation composed exclusively of fine drops (diameter less than 0.5 mm (0.02 in)) 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 (5/8 mile).

**Freezing Point:**

Temperature at which a liquid becomes a solid.

**Freezing Point Buffer:**

The difference between the outside air temperature (OAT) and the freezing point of the fluid used.

**Freezing Point Buffer, Negative:**

Conditions when the freezing point of a de-/anti-icing fluid is above the OAT.

**Freezing Rain (light):** Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects, either in the form of drops of more than 0.5 mm (0.02 inch) or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is up to 2.5 mm/hour (0.10 inch/hour) or 25 grams/dm<sup>2</sup>/hour with a maximum of 0.25 mm (0.01 inch) in 6 minutes.

**Freezing Rain (moderate):**

Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects. Moderate freezing rain may appear in the form of large drops or can appear to fall in sheets where individual drops are not identifiable. Moderate freezing rain has a measured intensity of between 2.5 mm/hour to 7.5 mm/hour (0.10 to 0.30 in/h).

**Freezing Rain (heavy):**

Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects. Heavy freezing rain can seem to fall in sheets and individual drops may not be identifiable. Heavy freezing rains has a measured intensity of more than 7.5 mm/hour (0.30 in/h).

**Frost/Hoar Frost:**

Tiny ice crystal formed on a surface at or below the frost point. Frost generally occurs with clear skies at temperatures below freezing point. Frost can also occur from the freezing of dew.

**Frost, local:**

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

**Frost Point:**

Temperature, at or below 0 °C, at which air undersaturated with moisture must be cooled (at constant pressure) to cause saturation with respect to ice. The moisture directly deposits, without going through the liquid phase, as frost on exposed surfaces providing nucleation sites. The frost point is higher (warmer) than the dewpoint by about 10% at a given humidity level in air. Air temperature readings given by a thermometer are applicable to the height above ground of the thermometer itself. Because cool air sinks and the ground often cools very quickly, especially on clear nights, the ground temperature on clear, still nights is invariably lower than the temperature only a few feet higher. Thus, frost can form even when a thermometer gives a reading above freezing. The same happens with aircraft—frost can form on aircraft when the thermometer air temperature reading is above 0 °C.

**Fuel Frost:**

Frost, normally in the area of the wing fuel tanks, caused by cold-soaking. Also known as non-environmental frost or cold-soaked fuel frost.



**Groundcrew:**

Personnel with responsibilities for the handling, maintenance and servicing of an aircraft while on the ground, as well as the coordination of these activities.

**Hail:**

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

**Highest on-wing Viscosity (HOWV):**

Highest viscosity of a thickened de-/anti-icing fluid which is still aerodynamically acceptable.

**Hoarfrost:**

A synonym for frost. See frost/hoarfrost.

**Holdover Time:**

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

**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 (0.2 in.) or less. The pellets of ice usually bounce when hitting hard ground.

**Lowest on-wing viscosity (LOWV):**

Lowest viscosity of a thickened de-/anti-icing fluid for which the applicable holdover timetable can still be used.

**Lowest Operational Use Temperature (LOUT) The LOUT is the higher (warmer) of:**

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

**Post-Deicing Check:**

A check by qualified ground personnel to ensure that all critical surfaces are free of adhering contamination after the deicing procedure has been completed.

**Post-De-icing/Anti-icing Check:**

A check by qualified ground personnel to ensure that all critical surfaces are free of adhering contamination after the de-/anti-icing has been completed.

**Post-deicing/Anti-icing Report:**

Report given to the flightcrew confirming that deicing/anti-icing has been carried out and the details of the deicing/anti-icing procedure that was applied.

**Pre-Deicing Process:**

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

**Preflight Contamination Check:**

A check performed by the flight crew or ground crew prior to departure to verify the presence





of adhering contamination to establish the need for de-/anti-icing. It may be part of the flight crew walk around before the flight.

**Pre-takeoff Check:**

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

**Pre-takeoff Contamination Check:**

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

**Proximity Sensor:**

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

**Qualified Staff:**

Trained staff who have passed theoretical and practical training tests and have been certified for performing this type of job.

**Quality Assurance:**

Is process-oriented, and it focuses on preventing quality issues. It is a proactive approach. An audit is done to validate QA processes, the quality procedures to be followed (e.g., "documented")'

**Quality Control:**

Is product-oriented and focused on identifying quality issues in manufactured products and performance of service. It is a reactive approach. Inspections/checks/tests are done as part of the QC procedure, to verify the quality of the available procedures and operations. (e.g., "implemented").

**Refractive Index:**

Unit of measurement of refraction expressed in the form of a dimensionless number. See also refraction and refractometer.

**Refraction:**

The bending of light as it passes from one transparent substance into another. For solutions, the refraction will vary upon the concentration of the solute in the solvent. Using a calibration curve, it is possible to determine the concentration of the solute in the solvent. For example, for aqueous glycol solutions, it is possible to determine the concentration of the glycol in water by measuring refraction with a refractometer and comparing the result to the calibration curve. Refraction can be expressed as a dimensionless number (index of refraction) or as a



scale of concentration, e.g., degrees Brix (°Brix), or freezing point (°C or °F). See also refractometer.

**Refractometer:**

An instrument to measure refraction. Result of measurement with a refractometer can be expressed as a dimensionless number (index of refraction) or as a scale of concentration, e.g., degrees Brix (°Brix), or freezing point (°C or °F).

**Residue/Gel:**

A build-up of dried out thickened fluids typically found in aerodynamically quiet areas of the aircraft.

**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 ice particles.

**Slush:**

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

**Snow:**

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

**Snow Grains:**

Precipitation of very small white and opaque particles of ice that are fairly flat or elongated with a diameter of less than 1 mm (0.04 in.). When snow grains hit hard ground, they do not bounce or shatter.

**Snow Pellets:**

Precipitation of white, opaque particles of ice; the particles are round or sometimes conical; their diameters range from approximately 2 to 5 mm (0.08 to 0.2 inch); they are brittle and easily crushed; they do bounce and may break upon contact with hard ground.

**Storage Tank:**

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

**Tactile Check:**

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

**Thickened fluid:**

A fluid that contains polymetric thickeners. AMS1428 Type II, III and IV fluids are thickened fluids; AMS 1424 Type I fluids are not thickened.

## 11.3 De-icing and Anti-icing Fluids

**Type I fluid:** Due to its properties, type I fluid forms a thin, liquid-wetting film on surfaces to which it is applied which, under certain weather conditions, gives a very limited holdover time.



With this type of fluid, increasing the concentration of fluid in the fluid / water mix does not provide any extension in holdover time.

**Type II and type IV fluids:** contain thickeners which enable the fluid to form a thicker liquid-wetting film on surfaces to which it is applied. Generally this fluid provides a longer holdover time than type I fluids in similar conditions. With this type of fluid, the holdover time can be increased by increasing the ratio of fluid in the fluid / water mix.

**Type III fluid:** A thickened fluid intended especially for use on aircraft with low rotation speeds.

Fluids used for de-icing and/or anti-icing should be acceptable to the operator and the aircraft manufacturer. These fluids normally conform to specifications such as SAE AMS1424, SAE AMS1428 or equivalent. Use of non-conforming fluids is not recommended due to their characteristics being unknown. The anti-icing and aerodynamic properties of thickened fluids may be seriously degraded by, for example, inappropriate storage, treatment, application, application equipment and age.

### 11.3.1 Safety Precautions

After swallowing – seek immediate medical advice

After inhalation – supply fresh air; consult doctor in case of complaints.

After skin contact – generally product does not irritate skin.

After eye contact – rinse open eye for several minutes under running water

## 11.4 Communications

### 11.4.1 Procedures

Persons communicating with the flight crew shall have a basic knowledge of the English language (operational level or equivalent according to the current version of the Training Document SAE AS6286). For local flights involving local flight and ground crews, local language may be used (see the current version of training document SAE AS6286) otherwise, English is the preferred language of communication.

Communication between the flight crew and the groundcrew will usually be achieved using a combination of documentation, visual and/or verbal communication. For treatments carried out with flightcrew onboard, the use of flight interphone (headset) or VHF radio will usually be required. Message boards (electronic/written) may also be used at designated deicing facilities (DDF) and other deicing locations to enhance communications. Use of hand signals is not recommended except for the final 'all clear' signal.

**Note:** In circumstances where an aircraft is deiced or anti-iced overnight and/or where flightcrew members are not onboard, the subsequent flightcrew communication procedures do not apply. In these circumstances, the air operator should be advised the treatment details, and where applicable, the anti-icing code elements where anti-icing was performed. (in line with SAE).



#### 11.4.2 Communication Prior to Starting De-Icing / Anti-Icing Treatment

- a. Before starting treatment, the flight crew shall be requested to confirm the treatment required (i.e., surfaces and components to be de-iced, anti-icing requirements, plus any special de-icing procedures).
- b. Before treatment starts, the flight crew shall be requested to configure the aircraft for de-icing/anti-icing (surfaces, controls, and systems as per aircraft type requirements or recommended procedures). The de-icing personnel shall wait for confirmation that this has been completed before commencing the treatment.
- c. For treatments conducted without the flight crew present, suitably Qualified Staff shall be nominated by the aircraft operator to confirm the treatment required (when applicable) and to confirm the correct configuration of the aircraft.

Follow the suggested phraseology in the table under 11.4.7.

#### 11.4.3 Post De-icing/Anti-Icing Communication

Communication During Deicing/Anti-Icing Procedures (Flightcrew Onboard). During engines-on deicing/anti-icing operations, a constant two-way verbal communication shall be maintained between deicing personnel and flightcrew, and a visual positive hold control method shall be utilized during the deicing/anti-icing procedure. During engines-off deicing/anti-icing operations, where constant two-way verbal communication is not possible, deicing personnel shall inform the flightcrew that communications will be disconnected and re-established on completion of the deicing/anti-icing process. In the event of abnormal operations associated with the aircraft, flightcrew shall follow air operator procedures for re-establishing communications (i.e., flashing of landing and/or taxi lights).

An aircraft shall not be dispatched for departure after treatment until the flight crew has been notified of the type of treatment operation performed and all the relevant information. The post de-icing/anti-icing communication shall be provided by Qualified Staff upon completion of the treatment, indicating that the checked surfaces are free of frost, snow, slush, or ice; that de-icing/anti-icing is complete, that equipment is cleared from the area; and in addition, providing the necessary information for the flight crew to estimate the appropriate holdover time for the prevailing weather conditions when anti-icing fluid has been used.

A deicing/anti-icing procedure should be continuous and as short as possible.

If a treatment is interrupted (for example, a truck running out of fluid), the flightcrew shall be immediately informed, stating:

1. The reason for the interruption.
2. Actions to be taken (in consultation with the flightcrew).
3. Expected time of delay.

Before continuing the treatment:

1. Inform the flightcrew
2. Establish, in consultation with the flightcrew, the further treatment to be carried out, including any surfaces requiring re-treatment in relation to holdover time.

Carry out the treatment as agreed.



#### 11.4.4 The Anti-Icing Code

The following elements comprising the Anti-Icing Code shall be recorded and be communicated to the flight crew by referring to anti-icing treatment. The elements below shall be provided:

**Note:** This information shall not be communicated in circumstances where anti-icing holdover times do not apply, e.g., local frost prevention in cold-soaked wing areas, symmetrical local area de-icing, or de-icing of specific surfaces only (such as leading edges for removal of impact ice) etc., see 11.4.5 and 11.4.8.1 for more information.

- a. The fluid type (i.e., Type I, II, III, or IV);
- b. The fluid name (manufacturer and brand/trade name) of the Type II, III, or IV anti-icing fluid;

**Note:** Communication of this element is not required for Type I fluid.

- c. The concentration of fluid (dilution) within the undiluted fluid/water mixture, expressed as a percentage by volume for Type II, III, or IV (i.e., 100% ("undiluted") = 100% fluid, 75% = 75% fluid and 25% water, 50% = 50% fluid and 50% water);

**Note:** Communication of this element is not required for Type I fluid.

- d. The local time (hours and minutes - hh:mm), either:
  - i. For a one-step de-icing/anti-icing operation: at the start of the final treatment; or
  - ii. For a two-step de-icing/anti-icing operation: at the start of the second step (anti-icing);
- e. The date in the following format: day, month, year (DDMMYY (e.g., 28JAN19 = January 28, 2019));

**Note:** This element is required for record keeping and is optional for flight crew notification

- f. The statement, "Post de-icing/anti-icing check completed."

**Note 1:** For specific aircraft types, additional requirements exist, e.g., tactile checks for clear ice on wing surfaces. Additional confirmation for these checks may be required.

**Note 2:** An alternative means of visual communication of the anti-icing code to the flightcrew can be used (e.g., written on paper, MBs, ACARS, EFBs, etc.).

**Note 3:** Aircraft onboard systems, available to assist flightcrew to determine holdover time, require a good coordination between service providers and aircraft operators to provide fluid information in advance or to inform the customers of any change of fluids prior the de/anti-icing operation.

#### 11.4.5 Post-Deicing Report (Deicing Treatments Only; Anti-Icing Holdover Times Do Not Apply)

After the completion of a deicing only procedure, where no anti-icing holdover time is applicable, the company responsible for conducting the post-deicing check shall also provide



the flightcrew with the post-deicing communication. The following elements shall be recorded and be communicated to the flightcrew as part of the post-deicing communication:

- a. Deicing fluid type (i.e., Types I, II, III, or IV).
- b. Statement that anti-icing holdover times do not apply.
- c. The date in the following format: day, month, year (DDMMYY format) (e.g., 28JAN15 = January 28, 2015).

**Note:** This element is required for record keeping and is optional for flightcrew notification.

- d. The statement “post-deicing check completed.

Follow the suggested phraseology in Table in 11.4.8.1

#### **11.4.6 Post De-icing/Anti-icing Check and Transmission of the Post De-icing/Anti-icing Report to the Flightcrew**

It shall be clearly defined by the aircraft operator which company is responsible for conducting the post de-icing/anti-icing check and providing the flight crew with the post de-icing/anti-icing report including the anti-icing code, when applicable. 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 post de-icing/anti-icing communication is not given before the post de-icing/anti-icing check has been completed.

The company conducting the de-icing/anti-icing treatment shall be responsible for the treatment and transmit all information about the treatment to the company conducting the post de-icing/anti-icing check. The company conducting the post de-icing/anti-icing check shall have overall responsibility for the performance of the company conducting the de-icing/anti-icing treatment.

#### **11.4.7 Confirmation that Equipment and Personnel Are Safely Away from the Aircraft**

The flight crew shall receive a confirmation from the deicing personnel that all de-icing/anti-icing operations are complete and that all personnel and equipment have been removed from the area before reconfiguring or moving the aircraft.

#### **11.4.8 Phraseology and communication process for Ground Crew and Flight Crew during De-/Anti Icing Operations**

Use of the following phraseology is recommended during deicing/anti-icing operations and are intended as guidelines for establishing clear, concise standardized communication and phraseology between flightcrew and groundcrew during an aircraft deicing/anti-icing operation. It is very important that both parties understand fully about communication requirements, aircraft configuration, de-/anti-icing treatment needed, and post-deicing reporting requirements.

In locations/operations with unique or specific operating requirements and/or technologies, supplemental phraseology or modifications to the phraseology in this document may be required. This may include but is not limited to specific aircraft configuration requirements or specialized checks (i.e., tactile check), locations/operations where approved alternate means of communications are utilized (i.e., MBs, EFB applications, etc.), or other regulatory or air operator requirements exist. This is permitted, pending the required communication elements



(i.e., anti-icing code or post-deicing report) are maintained and provided to the flightcrew in the respective circumstance.

Off-Gate Communications During deicing/anti-icing, a two-way communication between the flightcrew and the deicing/anti-icing operator/supervisor must be established prior to the deicing/anti-icing procedure. This may be done either by interphone or by VHF radio. Alternate means of communication may be the use of ACARS, EFBs, and MBs. In the event of conflict, verbal communication shall take precedence. During treatment, all necessary information must be transmitted to the flightcrew, including the beginning of treatment, treatment of the sections requiring de-activation of aircraft systems, etc. (using standardized deicing/anti-icing phraseology). Communication contact with the flightcrew may be concluded after transmission of the post-deicing/anti-icing communication and readiness for taxi-out has been announced.

- a. During deicing/anti-icing operations with engines-on, both verbal and visual communications shall be utilized, and positive control maintained during the deicing/anti-icing operation in accordance with ARP5660. General instructions: The deicing/anti-icing operator and/or airport authority must ensure that all necessary information regarding operation of the off-gate/CDF/DDF site is published and available to flight crews. This information shall be included within the deicing/anti-icing operator's and/or airport authority's local procedures documentation and be made available to air operators and flight crews (e.g., it can be included as part of flight release documentation, etc.). This information should also be published in applicable state aeronautical navigation documents/publications. This information shall include, at a minimum:
  - i. The location of and standard taxi routing to, within, and from the deicing/anti-icing site.
  - ii. How to coordinate the deicing/anti-icing operation.
  - iii. How to communicate before, during, and after the deicing/anti-icing operation.
  - iv. How taxi-and-stop guidance is provided to the flightcrew (e.g., VHF, MBs, etc.).
  - v. Any unique requirements or procedural differences affecting the flightcrew and/or flightcrew/groundcrew interface.
- b. Responsibilities: The responsibility to conduct a contamination check before dispatch rests with trained and qualified personnel. If the contamination check was performed by a person different than the flightcrew, the results of the contamination check must be provided to the flightcrew via verbal or visual (written or electronic) means. Subsequently, the flightcrew is responsible for acquiring the proper treatment. After treatment, the treated surfaces and components must be checked by a trained and qualified staff (see Section 11) and the post-deicing/anti-icing report must be given to the flightcrew (see 8.4). Subsequently, the flightcrew is responsible for the airworthiness of the aircraft.
- c. Emergency procedures: Whether conducting deicing/anti-icing operations at a remote location or at a centralized deicing/anti-icing facility, local procedures shall be established to ensure that both aircraft and ground emergencies are handled safely, expeditiously, and are coordinated with the local emergency plan.



#### 11.4.8.1 Normal Operations with Running Engines

Circumstances	Crew	Phraseologies
1. Prior to de-icing/anti-icing, groundcrew will contact the flightcrew to advise:	a. Groundcrew	a. (aircraft identification or call sign) CONFIRM BRAKES SET, AIRCRAFT CONFIGURED AND TREATMENT REQUIRED
	b. Flightcrew	b. <b>[AFFIRM] BRAKES SET, AIRCRAFT CONFIGURED, REQUEST (specify treatment requirements including surfaces to be treated, fluid type(s), de-icing only, manual de-icing methods (i.e., forced air (where available and use is authorized), anti-icing only or de-icing/anti-icing (two-step ("HOLDOVER REQUIRED")), etc.)</b>
	c. Groundcrew	c. HOLD POSITION, DE-ICING STARTS NOW, [MONITOR THE (visual positive hold control method)] <sup>1</sup>  <b>Note:</b> <sup>1</sup> Required for engines-on de-icing only where visual positive hold control is utilized.
	d. Flightcrew	d. <b>HOLD POSITION, [MONITOR THE (visual positive hold control method)]<sup>1</sup></b>  <b>Note:</b> <sup>1</sup> Required for engines-on de-icing only where visual positive hold control is utilized.





Circumstances	Crew	Phraseologies
2. <b>On completion of the de-icing/anti-icing procedure</b> , groundcrew will contact the flightcrew to advise:	a. Groundcrew	<p>a. <i>(aircraft identification or call sign)</i> DE-ICING COMPLETE, <i>(name of final fluid type applied)</i><sup>1</sup></p> <p><b>Note:</b> <sup>1</sup> Omit fluid type information if de-icing was solely performed using a manual method.</p> <p>b. <i>(fluid manufacturer, brand/trade name), mixture ration (in percent)</i><sup>2</sup></p> <p><b>Note:</b> <sup>2</sup> These components are required for anti-icing with Type II, III and IV fluids only. Omit if one-step de-icing procedure was performed or if de-icing was solely performed using a manual method.</p> <p>c. ANTI-ICING BEGAN AT <i>(HH:MM (local time))</i><sup>3</sup>, POST-DE-ICING CHECK COMPLETED, DE-ICING<sup>4</sup> PERSONNEL AND EQUIPMENT ARE SAFELY AWAY.</p> <p><b>Note:</b> <sup>3</sup> Where a de-icing only procedure was performed, replace this element with: "HOLDOVER TIMES DO NOT APPLY".</p> <p><b>Note:</b> <sup>4</sup> In locations where deicing takes place exclusively at designated deicing facilities (i.e., CDFs, DDFs, etc.), "DEICING" can be omitted from this element where no other groundcrew personnel or ground support equipment are within the equipment restraint area (ERA) or within the aircraft footprint or expected to be within these areas.</p> <p>d. HOLD POSITION AND CONTACT <i>(departure control/advisory position (i.e. ATC) or groundcrew (as applicable))</i> FOR <i>(departure method, i.e., taxi, pushback, etc.)</i></p>



Circumstances	Crew	Phraseologies
		<p><b><u>DEICING ONLY PROCEDURE - MANUAL METHOD phraseology example:</u></b> <i>"AIRLINE 123, DEICING COMPLETE, HOLDOVER TIMES DO NOT APPLY, POST-DE-ICING CHECK COMPLETED, DE-ICING PERSONNEL AND EQUIPMENT ARE SAFELY AWAY, HOLD POSITION AND CONTACT PAD CONTROL ON 131.17 FOR TAXI."</i></p> <p><b><u>DEICING ONLY PROCEDURE - ADF METHOD phraseology example:</u></b> <i>"AIRLINE 123, DE-ICING COMPLETE, TYPE I, HOLDOVER TIMES DO NOT APPLY, POST-DE-ICING CHECK COMPLETED, DE-ICING PERSONNEL AND EQUIPMENT ARE SAFELY AWAY, HOLD POSITION AND CONTACT GROUND CREW FOR PUSH AND START."</i></p> <p><b><u>DEICING/ANTI-ICING or ANTI-ICING ONLY PROCEDURE phraseology example:</u></b> <i>"AIRLINE 123, DE-ICING COMPLETE, TYPE IV, ACME CLEAN GREEN 75%, ANTI-ICING BEGAN AT 14:35, POST DE-ICING CHECK COMPLETED, DE-ICING PERSONNEL AND EQUIPMENT ARE SAFELY AWAY, HOLD POSITION AND CONTACT GROUND ON 121.9 FOR TAXI".</i></p>
	b. Flightcrew	<p><b><i>HOLD POSITION AND CONTACT (departure control/advisory position (i.e ATC) or groundcrew (as applicable) FOR (departure method, i.e. taxi, pushback, etc.)</i></b></p>



#### 11.4.8.2 Abnormal Occurrences

Circumstances	Crew	Phraseologies
<p>1. <b>For a declared emergency, mayday or pan pan</b></p> <p><b>Note:</b> When an urgency, distress, or other emergency call has been received or declared by an aircraft or de-icing equipment during de-icing operations (transmitted to all stations by the groundcrew), Further guidance to be provided after these transmissions have taken place.</p>	a. Groundcrew	<p><b>For aircraft (transmitted by groundcrew):</b></p> <p>a. EMERGENCY, EMERGENCY, EMERGENCY, ALL AIRCRAFT STOP, HOLD POSITION</p> <p><b>For de-icing equipment (transmitted by groundcrew):</b></p> <p>b. EMERGENCY, EMERGENCY, EMERGENCY, ALL TRUCKS STOP DE-ICING, PROCEED TO THE <i>(identify location based on local operation (i.e. safety zone, predetermined safety area, equipment staging area, etc.))</i> AND STANDBY FOR FURTHER</p>
<p>2. <b>For de-icing equipment proximity sensor activation (physical)</b></p>	a. Groundcrew	<p>a. A SAFETY PROXIMITY SENSOR <i>(identify location on the de-icing equipment)</i> HAS BEEN ACTIVATED ON THE <i>(specify specific location on the aircraft)</i>, CONDUCTING INITIAL CHECK, STANDBY FOR FURTHER INFORMATION</p>
	b. <b>Flightcrew</b>	<p>b. <b>ROGER, STANDING BY FOR FURTHER INFORMATION</b></p>
	c. Groundcrew	<p>c. <i>(title of individual (role) that performed check (other than the de-icing operator that made contact)</i> HAS PERFORMED A VISUAL CHECK ON THE AFFECTED AREA <i>(provide results of the check (e.g. there is no visual damage detected or damage is suspected or present))</i>, ADVISE YOUR INTENTIONS.</p>



Circumstances	Crew	Phraseologies
<p>3. <b>Engine inlet contamination has been detected/observed after de-icing/anti-icing has commenced</b></p> <p><b>Note:</b> Applicable to locations where engines-on de-icing/anti-icing is performed.</p>	a. Groundcrew	a. CONTAMINATION HAS BEEN DETECTED IN YOUR ENGINE INLET(S), <i>indicate both or specific engine number(s) and describe contamination details</i> , GROUNDCREW CAN REMOVE THIS CONTAMINATION ONSITE WITH ENGINE SHUTDOWN USING ( <i>advise specific removal method (s)</i> ), ADVISE YOUR INTENTIONS
<p>4. <b>Contamination observed after completion of de-icing/anti-icing and release of aircraft</b></p> <p><b>Note:</b> If unable to contact the flightcrew, contact must be made to Air Traffic Control (ATC) (i.e. ground, tower, etc) or on the maneuvering frequency (in the absence of ATC services).</p>	a. Groundcrew	a. CONTAMINATION WAS OBSERVED ( <i>describe area (i.e., within the flaps tracks)</i> ), RECOMMEND YOU RETURN TO ( <i>specify location (i.e. the CDF, de-icing pad/bay, stand/gate, etc.)</i> ) FOR RETREATMENT
	b. <b>Flightcrew</b>	b. <b>ROGER WILL RETURN TO (<i>location specified</i>) FOR RETREATMENT</b>

#### 11.4.8.3 Interrupted Operations

A deicing/anti-icing treatment should be continuous and as short as possible. If a treatment is interrupted (for example, a truck runs out of fluid or flightcrew troubleshooting, etc.), parties involved in the operations shall be immediately informed by stating:

1. The reason for interruption
2. The actions to be taken (in consultation with other party flightcrew/groundcrew)
3. The expected time of delay, and
4. Statement that deicing/anti-icing is incomplete and to standby



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Circumstances	Crew	Phraesologies
<p>1.a. <b>Interrupted operations (groundcrew related)</b></p> <p><b>Note:</b> the de-icing operation has stopped and is incomplete</p>	a. Groundcrew	<p>a. <i>(reason for interruption (i.e. truck inoperative, low in fluid, etc.))</i></p> <p>b. <i>(actions to be taken to resolve (in consultation with the flightcrew))</i></p> <p>c. <i>(expected time of delay)</i></p> <p>d. DE-ICING IS INCOMELETE, STANDBY FOR FURTHER TREATMENT</p>
<p>1.b. <b>Before continuing treatment</b></p>	b. Groundcrew	e. <i>(confirm the treatment to be carried out including any surfaces requiring retreatment), CONFIRM BRAKES SET ANS AIRCRAFT CONFIGURED</i>
	c. Flightcrew	f. <b>BRAKES SET, AIRCRAFT CONFIRGURED, <i>(specify any deviation from treatment requirements previously requested or any new or supplemental requests)</i></b>
	d. Groundcrew	<p>g. HOLD POSITION, DE-ICING STARTS NOW, (MONITOR THE <i>(visual positive hold control method)</i>)<sup>1</sup></p> <p><b>Note:</b> <sup>1</sup> Required for engines-on de-icing only wherevisual positive hold control is utilized.</p>
	e. Flightcrew	<p>h. <b>HOLD POSITION, (MONITOR THE <i>(visual positive hold control method)</i>)<sup>1</sup></b></p> <p><b>Note:</b> <sup>1</sup> Required for engines-on de-icing only where visual positive hold control is utilized.</p>



Circumstances	Crew	Phraesologies
2.a. Interrupted or cancelled operations (flightcrew related)	a. Flightcrew	<p>a. <b>STOP DE-ICING, (<i>specify reason</i>), (<i>specific intentions (including if relocating elsewhere on the airfield)</i>), ADVISE WHEN DE-ICING<sup>1</sup> PERSONNEL AND EQUIPMENT ARE SAFELY AWAY FROM THE AIRCRAFT</b></p> <p><b>Note:</b> <sup>1</sup> In locations where de-icing takes place exclusively at designated de-icing facilities (i.e. CDF's, DDFs, etc.), "DE-ICING" can be omitted from this element where no other groundcrew personnel or GSE are within the ERA, within the aircraft footprint, or expected to be within these areas.</p>
	b. Groundcrew	<p>b. <b>ROGER, STOP DE-ICING, HOLD POSITION AND STANDBY, EQUIPMENT IS PROCEEDING TO THE (<i>identify location based on local operation (i.e. safe zone, predetermined safety area, equipment staging area, etc.)</i>)</b></p>



Circumstances	Crew	Phraesologies
	c. Groundcrew	<p>c. DE-ICING IS INCOMPLETE, <i>(advise de-icing status)</i>, DE-ICING<sup>1</sup> PERSONNEL AND EQUIPMENT ARE SAFELY AWAY, HOLD POSITION AND CONTACT <i>(departure control/advisory position (i.e., ATC) or groundcrew (as applicable) FOR (departure method (i.e., taxi, pushback, etc.))</i><sup>2</sup></p> <p><b>Note:</b> <sup>1</sup> In locations where de-icing takes place exclusively at designated de-icing facilities (i.e. CDFs, DDFs, etc.), DE-ICING can be omitted from this element where no other groundcrew personnel or GSE are within the ERA or within the aircraft footprint or expected to be within these areas. <sup>2</sup> Omit departure method element if aircraft is remaining in position and not maneuvering elsewhere on the airfield.</p>
	d. Flightcrew	<p>d. <b>ROGER, DE-ICING IS INCOMPLETE, HOLD POSITION AND CONTACT <i>(departure control/advisory position (i.e. ATC) or groundcrew (as applicable) ) FOR (departure method(i.e. taxi, pushback, etc.))</i></b><sup>1</sup></p> <p><b>Note:</b> <sup>1</sup> Omit departure method element if aircraft is remaining in position and not maneuvering elsewhere on the airfield.</p>

## 11.5 General Aircraft Requirements After De-Icing/Anti-Icing

Following the de-icing/anti-icing procedures and prior to take-off, the critical aircraft surfaces shall be free of all frost, snow, slush, or ice accumulations in accordance with the following requirements.

### 11.5.1 Wings, Tails, and Control Surfaces

Wings, tails, and control surfaces shall be free of frost, snow, slush, or ice unless the aircraft manufacturer and state regulatory authority permits that a coating of frost may be present on



wing lower surfaces in areas cold soaked by fuel between forward and aft spars; and/or on upper wing surfaces within defined areas, in accordance with the aircraft manufacturer's published documentation.

**Note:** Except for frost due to cold-soaked fuel as mentioned above, and unless otherwise specified in the Aircraft Flight Manual or other aircraft manufacturer's documentation, contamination is not acceptable on: the upper or lower surfaces of the horizontal stabilizer and elevator/tab; strakes; inboard, outboard, upper, and lower surfaces of the wing and wing tip devices; and either side of the vertical stabilizer and rudder.

#### 11.5.2 Pitot Tubes, Static Ports, and All Other Air Data Sensing Devices

Pitot tubes, static ports, angle of attack sensors and other air data sensing devices shall be free of frost, snow, slush, ice, and fluid.

**Note:** Ice ridges can form on different areas of the aircraft, especially on the nose of the fuselage while on ground. These ridges will disrupt air flow into the air data sensing devices and which can result in false measurements. All contamination shall be removed from these areas.

#### 11.5.3 Engines

Engine inlets (including the leading edge), exhaust, thrust reversers, cooling intakes, control system probes, vortex dissipators and ports shall be free of frost, snow, slush, or ice. Engine fan blades, propellers (as appropriate), and spinner cones shall be free of frost, snow, slush, or ice, and shall be free to rotate.

#### 11.5.4 Air Conditioning Inlets and Outlets

Air inlets, outlets, pressure-release valves, and outflow valves shall be free of frost, snow, slush, or ice, and shall be unobstructed.

#### 11.5.5 Landing Gear and Landing Gear Doors

Landing gear and landing gear doors shall be unobstructed and free of frost, snow, slush, or ice. Do not spray de-icing/anti-icing fluids directly onto wiring harnesses and electrical components (receptacles, junction boxes, etc.,) brakes and wheel components.

#### 11.5.6 Fuel Tank Vents

Fuel tank vents shall be free of frost, snow, slush, or ice.

#### 11.5.7 Fuselage

The fuselage shall be free of ice, slush, and snow. In accordance with the aircraft manufacturer's documentation, frost may be present on the fuselage for take-off within specified amounts provided that no other forms of contamination are present, and inlets, outlets, and other devices (as identified by the aircraft manufacturer) are free of contamination.





### 11.5.8 Flight Deck Windows and Nose or Radome Area

Any significant deposits of frost, snow, slush, or ice on the flightdeck windows or on areas forward of the flightdeck windows shall be removed prior to departure. Heated flight deck windows will not normally require de-icing. Any forward area from which fluid may flow back onto flightdeck windows during taxi or subsequent take-off shall be free of fluid prior to departure.

If SAE Type II, III, or IV fluid have been used, all traces of the fluid on flight deck windows shall be removed prior to departure, with particular attention paid to windows fitted with wipers. Thickened-fluid (SAE Type II, III, or IV) can be removed by using a diluted Type I mixture, water (where it has been determined that refreezing will not occur), a manual method (ensuring that windscreen heat is turned off), or another cleaner as approved by the aircraft manufacturer.

**Note:** During falling precipitation, heated windows may cause liquid effluent to freeze near sensors, requiring de-icing.

### 11.5.9 Dried Thickened Fluid Residues When the Aircraft Has Not Been Flown After Anti-Icing

Dried thickened-fluid (SAE Type II, III, or IV) residues can occur when surfaces have been de-iced/anti-iced but the aircraft has not imminently been flown and has not been subject to precipitation. The fluid may then have dried on the surfaces. In such situations, the aircraft must be checked for dried residues from thickened fluids and cleaned as necessary.

### 11.5.10 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 and the removal of lubricants.

## 11.6 Checks

The decision whether de-icing/anti-icing is required shall be determined when one or more of the following circumstances is applicable:

- a. An aircraft is parked overnight and subjected to ice or snow conditions
- b. When ice has accumulated in flight (inflight ice accretion)
- c. During taxi to the gate occurring in icing and/or snow conditions
- d. Following an inspection or check by the flight crew at a gate
- e. As indicated by a check by a qualified de-icing/anti-icing person
- f. Active frozen or freezing falling precipitation is occurring
- g. When cold soaked fuel has created ice or frost on critical surfaces or components
- h. When aircraft has been de-iced/anti-iced some time prior to flight crew arrival

### 11.6.1 Contamination Check to Establish the Need for De-icing

A Contamination Check shall include all areas mentioned in 11.5.1 through 11.5.8 and any other surfaces and components of the aircraft as indicated by the aircraft manufacturer and shall be performed from points offering sufficient visibility of these parts (e.g., from the de-icing/anti-icing vehicle, a ladder or any other suitable means of access as necessary). Any contamination found on the surfaces or components of the aircraft that are critical to safe



flight shall be removed by a de-icing treatment; this shall be followed by anti-icing treatment when required.

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 shall specify the parts of the aeroplane requiring treatment.

**Note:** For specific aeroplane types additional requirements exist e.g., special clear ice checks, such as tactile checks on wings. These special checks are not covered by the contamination check. Aeroplane operators shall make arrangements for suitably qualified personnel to meet these requirements.

**Note:** See contract for details.

### 11.6.2 Tactile Check

The need for a tactile check shall be determined by the aircraft manufacturer air operator and/or local regulator.

### 11.6.3 Post De-icing/Anti-Icing Check

An aircraft shall not be dispatched after a de-icing/anti-icing treatment until the aircraft has received the following visual check by Qualified Staff. This check shall include wings, horizontal stabilizers (both lower and upper surfaces), vertical stabilizer, and fuselage, including pitot heads, static ports temperature sensors and angle of attack sensors. 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 post de-icing/anti-icing check shall be performed from points offering sufficient visibility of all treated surfaces (e.g., from a de-icing/anti-icing vehicle, ladder, or other suitable means of access). Any contamination found shall be removed by further de-icing/anti-icing treatment, and the post de-icing/anti-icing check shall be repeated. Before take-off, the flight crew must ensure that they have received confirmation that this post de-icing/anti-icing check has been accomplished.

**Note:** For specific aircraft types, additional requirements exist, e.g., special clear-ice checks, such as tactile checks on wings. These special checks are not covered by the Post De-icing/Anti-icing Check. Aircraft operators shall make arrangements for suitably Qualified Staff to meet any special check requirements.

**Note:** During engine(s)-on deicing operations, the access/view to certain aircraft components is restricted and cannot be checked (e.g., Inboard underwings between the running wing mounted engines and the fuselage). These areas should be inspected during the pre-flight contamination check and if treatment is required, advise the deicing personnel for further coordination and removal.

**Note:** See contract for more details

When the de-icing/anti-icing service provider performs the de-icing/anti-icing treatment as well as the Post De-icing/Anti-icing Check, it may either be performed as a separate check or



incorporated into the de-icing/anti-icing operation as specified below. The de-icing/anti-icing service provider shall specify the method used in his winter procedures, where necessary:

- a. As the de-icing/anti-icing treatment progresses, the de-icing/anti-icing sprayer will closely monitor the surfaces receiving treatment in order to ensure that all forms of frost, snow, slush, or ice (with the exception of cold-soaked fuel frost on the lower surface of wings and light frost on the fuselage, which may be allowed per the aircraft manufacturer and state regulatory authority) are removed and that upon completion of anti-icing treatment, these surfaces are fully covered with an adequate layer of anti-icing fluid.
- b. When the request for de-icing/anti-icing did not specify the fuselage, a visual check of the fuselage shall be performed at this time, in order to confirm that it has remained free of contamination (with the possible exception of light frost, which may be allowed as per the aircraft manufacturer and state regulatory authority) If contaminated, advise flightcrew to consider its removal.
- c. Any evidence of contamination that is outside the defined limits shall be reported to the flight crew immediately and be removed by further de-icing/ anti-icing treatment. Then the post de-icing/anti-icing check shall be repeated.
- d. Once the treatment has been completed, the De-icing Operator will conduct a close visual check of the surface where the treatment commenced, in order to ensure that it has remained free of contamination.

#### **11.6.4 Pre Take-off Check**

The flight crew shall continually monitor the weather conditions after the de-icing/anti-icing treatment. Prior to take-off a flight crew member 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.

#### **11.6.5 Pre Take-off Contamination Check**

This is 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 take-off check or when the holdover time has been exceeded. This check is normally performed outside of the aircraft. The alternate means of compliance for a pre take-off contamination check is to perform a complete de-icing/anti-icing re-treatment of the aircraft.

#### **11.6.6 Flight Control Check**

A functional flight control check using an external observer may be required after de-icing/anti-icing depending upon aeroplane type (see relevant manuals). This is particularly important in the case of an aeroplane that has been subjected to an extreme ice or snow covering.

### **11.7 Aircraft Ground Deicing/Anti-icing Methods**

#### **11.7.1 General Comments**

These procedures specify the methods for de-icing and anti-icing of aircraft on the ground to provide safe take-off. When aircraft surfaces are contaminated by frozen moisture, they shall be de-iced prior to dispatch with fluids, mechanical methods, alternative technologies, or combinations thereof. When freezing precipitation exists and the precipitation is adhering to the surfaces at the time of dispatch, aircraft surfaces shall be de-iced/anti-iced with fluids. 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 methods (generally the use of de-icing and anti-icing fluids), and the holdover time needed. If a one-step procedure is used, then both 11.9.1 and 11.11.1 apply for guidance regarding fluid limitations.

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**CAUTION! Slippery conditions can exist on the ground or equipment following the de-icing/anti-icing treatment.**

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### 11.7.2 Pre De-icing Process to Be Done Prior to De-icing/Anti-Icing

Companies may employ a pre de-icing process prior to the main de-icing procedure, in order to remove large amounts of frozen contamination (e.g., snow, slush, or ice), in order to reduce the quantity of glycol-based de-icing fluid that is needed. This pre de-icing process may be performed with various means (e.g., infrared technology, brooms, forced air, fluid injected into forced air, heat, heated water, heated fluids with negative buffer). If the pre de-icing 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 de-icing procedure.

#### 11.7.3 De-icing by fluids

Frost, snow, slush, or ice may be removed from aircraft surfaces by the use of de-icing fluids. It is the responsibility of the De-icing Service Provider to ensure that all frozen deposits (with the possible exception of frost, which may be allowed as described in section 11.5) are removed from the specified surfaces during the de-icing procedure.

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**CAUTION! Consult aircraft maintenance manuals for limitations for the maximum application pressure, temperature, and the use of glycol versus non-glycol fluids.**

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### 11.7.4 Removal of Contaminants

For maximum effect, fluids shall be applied close to the surface to minimise heat loss. Fluid temperature and pressure should not exceed aircraft maintenance manual requirements. 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 OAT, the fluid used, the mixture strength, and the weather.

#### 11.7.4.1 Removal of Frost and Light Ice

A general procedure consisting of a nozzle setting that gives a solid cone (fan) spray should be used. This ensures the largest droplet pattern available, thus retaining the maximum heat in the fluid. Providing the hot fluid is applied close to the aircraft skin, a minimal amount of fluid will be required to melt the deposit.

#### 11.7.4.2 Removal of Snow

A nozzle setting sufficient to flush off deposits and minimise foam production is recommended. Foam could be confused as snow. The method adopted will depend on the



equipment available and the depth and type of snow; i.e., light and dry or wet and heavy. In general, the heavier the deposits of snow or ice, 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, the selection of a 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 11.7.5.3 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 majority of the snow using a pre-step procedure before attempting a normal de-icing process.

#### 11.7.4.3 Removal of Ice

Heated fluid shall be used to break the ice bond. The high thermal conductivity of metal skin is utilized when a stream of hot fluid is directed at close range onto one spot, until the surface is just exposed. This will then transmit the heat laterally in all directions raising the temperature above the freeze point and thereby breaking the adhesion of the frozen mass with the aircraft surface.

Non-metallic surfaces (e.g., composites) have a lower heat transfer than metallic surfaces. De-icing may take longer and more fluid may be needed. 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.

#### 11.7.4.4 Cold Dry Snow or Ice Crystals

Cold dry snow or ice crystals, in very cold conditions [generally below -10 °C (14°F)], may not adhere to a cold dry aircraft nor its critical surfaces. Under these conditions, it may swirl as it blows across the surfaces, making it evident it is not adhering. Therefore, the critical surfaces remain free of adhering contaminants.

However, if frozen contamination has accumulated on critical surfaces, it must be adequately removed. It cannot be assumed that these accumulations will blow off during takeoff.

During cold dry conditions, the air operators will need take into consideration the following elements:

1. Refueling with fuel warmer than the wing skin temperature may create a condition whereby previously non-adhering precipitation may adhere to the wing surfaces.
2. The use of heated deicing fluids may increase the risk of cold dry snow or ice crystals to adhere to critical surfaces post application. Under such operational conditions, an anti-icing treatment might need to be considered.

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**CAUTION! A close monitoring of de/anti-icing fluid's LOUT is required to ensure a safe operation.**

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3. Monitor the location of heat-releasing equipment such as ground power units or bridges that may create conditions for non-adhering precipitation to start adhering to aircraft surfaces.



4. The location where the aircraft is parked might increase the risk for non-adhering precipitation to start adhering (e.g., one wing in the sun, a building obstructing the wind, etc.).
5. Operations in close proximity to other aircraft may cause snow, ice particles, or moisture to be blown onto critical aircraft components; or can cause dry snow/ice crystals to melt and refreeze on aircraft critical surfaces.

If it cannot be adequately demonstrated that cold dry snow or ice crystals is not adhering or accumulating, then it must be removed before takeoff.

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**CAUTION! Aircraft with rear mounted engines are more susceptible to ingest frozen accumulation that might cause damage or engine failure.**

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## 11.8 Removal Of Local Area Contamination

When no precipitation is falling or expected, and when there is no active frost 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 localised areas on the surfaces of the aircraft and no holdover time is applicable, only the contaminated areas will require treatment.

This type of contamination will generally be found on the wing and/or stabilizer leading edges or in patches on the wing and/or stabilizer upper surfaces. Spray the affected area(s) with a heated fluid/water mixture suitable for a one-step procedure. Both sides of the wing and/or stabilizer upper surfaces shall receive the same amount and type of fluid at the same concentration; the same area in the same location on each wing/stabilizer shall be sprayed including when conditions would not indicate the need for treatment of both wings/stabilizers.

It is the responsibility of the De-icing Service Provider 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 areas are clean the following statement shall be given to the flight crew: "Local area de-icing only. Holdover times do not apply"

### 11.8.1 General De-icing Fluid Application Strategy

For effective removal of snow and ice the following techniques should be adopted. Aircraft may require unique procedures to accommodate design differences, aircraft manufacturer's instructions should be consulted. Ice, snow, or frost dilutes the fluid. Apply enough hot de-icing fluid to ensure that re-freezing does not occur and all contaminated fluid is driven off. The application of de-icing fluid must be done in a pattern that ensures all contaminants on the aircraft are removed. The preferred method is to spray the aircraft from top to bottom

#### 11.8.1.1 Wings, Horizontal Stabilizers, and Elevators

The direction of the spray shall be from the leading edge to the trailing edge. Caution must be used to ensure fluids is not sprayed directly into any vertical tail or control surface openings.

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**CAUTION! Wing surface temperatures can be considerably below ambient temperature due to contact with cold fuel and/or proximity to large masses of cold-soaked metal. Use a fluid/water mixture with a higher concentration of glycol than is usually required by the OAT to prevent refreezing.**

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### 11.8.1.2 Lower Wing Surface (under side of wing) De-icing Procedures

Treatments must be symmetrical and may include flaps and lower surfaces. Spray the affected areas with a heated fluid/water mixture suitable for a one-step procedure as required, (see caution below), and then spray the same areas under the other wing. Both wings must be treated identically (same areas, same amount and type of fluid, same mixture strength), even if the frozen contamination is only present under one wing. Holdover times do not apply to underwing treatments.

It is the responsibility of the De-icing Service Provider to ensure that the treatment is performed symmetrically and that on completion all frozen deposits (with the possible exception of frost, which may be allowed), have been removed. When it is confirmed that the treated areas are clean, the following statement shall be given to the flight crew: "Underwing de-icing only, holdover times do not apply"

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**CAUTION! Underwing frost and ice are usually caused by very cold fuel in the wing tanks. Use a fluid/water mixture with a higher concentration of glycol than is usually required by the OAT to prevent re-freezing.**

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### 11.8.1.3 Vertical Surfaces

Start at the top and work down to the base of any vertical surfaces, spraying from forward to aft in the vicinity of control surfaces.

### 11.8.1.4 Fuselage

Spray the fluid along the top centreline and then towards the outboard of the fuselage. Ensure that it is clear of ice, snow, and slush in accordance with the aircraft manufacturers' manuals. Hoarfrost may be allowed in accordance with the aircraft manufacturers' manuals.

### 11.8.1.5 Nose/Radome Area and Flight Deck windows

Type I fluid/water mixture or manual methods of removal (such as squeegees or brushes) are recommended.

When thickened fluids are used, avoid spraying near the flight deck windows, as fluid can cause a severe loss of visibility. Any thickened fluid remaining on the nose areas where it could blow back onto the flightdeck windows should be removed prior to departure, using a diluted type I fluid, squeegees or equivalent. If flight deck windows are contaminated with thickened fluids use water or an approved windshield cleaner (use of a low windscreen washing fluid is recommended when OAT is at or below 0 °C (32 °F)).

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**CAUTION! Prior to cleaning of the flight deck windows ensure that the window heating system is switched off.**

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### 11.8.1.6 Landing Gear and Wheel Bays

Do not spray de-icing fluid directly onto wheels and brakes. Remove all ice and snow from the landing gear; paying particular attention to uplocks, downlocks, sensors, door mechanisms, gravel deflectors and steering systems.



**Note:** It may be possible to mechanically remove accumulations such as blown snow, however, where deposits have bonded to surfaces they can be removed by the application of hot air.

#### 11.8.1.7 Engines

Deposits of snow should be mechanically removed from engines prior to departure. Any frozen deposits that may have bonded to either the lower surface of the intake or the fan blades including the rear side, or propellers, may be removed by hot air or other means recommended by the engine manufacturer. If use of de-icing fluid is permitted, do not spray directly into the engine core.

#### 11.8.1.8 B737-800 Tail Cone Department

When spraying de-icing fluid on the tail cone area of B737 aircraft (fin, stabiliser), it is important to avoid excessive fluid entering the tail cone compartment. Excessive de-icing fluid in the tail cone compartment can cause flying controls to freeze in flight.

When de-icing the tail area, avoid spraying fluid towards the cut out in the fuselage skin that allows up / down movement of the stabiliser.

### 11.9 Anti-Icing

#### 11.9.1 Anti-Icing by Fluids

Frost, snow, slush, or ice will, for a period of time, be prevented from adhering to or accumulating on aircraft surfaces by the application of anti-icing fluids. This section provides procedures for the use of anti-icing fluids.

- a. 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 dispatch.
- b. Optional Usage: Anti-icing fluid may be applied to clean aircraft surfaces at the time of arrival (preferably before unloading begins) on short turnarounds during freezing precipitation, and on overnight aircraft. This will minimize ice accumulation prior to departure and often makes subsequent de-icing easier.

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**CAUTION!** This practice has the potential to build up dried residues. An appropriate inspection and cleaning program shall be established.

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In anticipation of weather conditions that require de-icing, anti-icing fluid may be applied to clean aircraft surfaces prior to aircraft being exposed to the 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.

Prior to flight, the aircraft must be de-iced, unless the integrity of the fluid can be ensured. De-ice in accordance with 11.15; whenever possible, to reduce the potential for dried residue build up (second caution of 11.13.1).

**Note:** Dehydration water evaporation of Type II, III, and IV fluid can negatively impact the fluid performance.





For effective anti-icing an even layer of sufficient thickness of fluid is required over the prescribed aircraft surfaces which are free of frozen deposits. For maximum anti-icing protection, undiluted SAE Type II, III, or IV fluid should be used. The high fluid flow pressure and flow rates normally associated with de-icing are not required. When possible, pump speeds and nozzle spray patterns should be adjusted accordingly.

**Note:** SAE Type I fluids provide limited holdover effectiveness when used for anti-icing purposes.

At certain airports, anti-icing procedures exist, whereby, if snow, freezing drizzle, or light freezing rain is forecast, clean aircraft may be sprayed with cold, undiluted anti-icing fluid in order to prevent snow or ice build-up on the airframe.

The de-icing supervisor will contact the TUI Line Engineer. Permission to apply this procedure will come under the responsibility of the TUI Line Engineers when the following criteria are met:

- a. Planned departure is less than 8 hours
- b. Temperature is forecast to remain between 0°C and -25°C
- c. Snow, freezing drizzle, or light freezing rain is forecast. No other precipitation or freezing fog forecast
- d. Aircraft is free from frost/ice/snow contamination
- e. Airport expected to be operational at STD

The anti-icing fluid will degrade after approximately 8 hours, by which time the aircraft will need to be de-iced, unless the ice or snow has melted.

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**CAUTION! acetate - or formate-based fluids when used for de-icing:**

- **May significantly shorten the holdover times of Type II, III, and IV fluids when used in combination with these fluids.**
  - **May cause corrosion on aircraft materials.**
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Refer to aircraft manufacturers documentation, fluid manufacturer recommendations and SAE publications for more information.

## 11.10 Early De-Icing

At certain airports, and where certain conditions prevail, early de-icing of the aircraft may take place before crew report time in order to reduce congestion and permit on time departures. Before early de-icing takes place, the de-icing supervisor should call the local TUI line engineers to ensure that the aircraft is serviceable, and that it is expected to operate as planned.

The Early De-Icing Procedure is as follows:

- a. On receipt of a weather forecast indicating frost, snow, ice, freezing fog, or freezing rain the service provider should contact the local engineering line station to advise them of the weather warning, duration and expected temperature range.
- b. Before early de-icing an aircraft, the service provider must make contact the local engineering line station to advise them of their intention to de-ice.
- c. It is the responsibility of the line managers to;
  1. Provide permission to the service provider that de-icing can take place.
  2. Ensure that the aircraft is configured for de-icing



If engineers cannot be contacted, then early de-icing may take place providing the following criteria are met:

- a. Ice or frost is on the wings or airframe
- b. The current weather is frost only
- c. There is no precipitation forecast between now and the flight STD
- d. The calculated holdover time will still be current at STD
- e. The airport is operational
- f. The aircraft is configured for de-icing

If the ambient conditions are outside any of these parameters, or there is no suitably qualified personnel to configure the aircraft, no action will be taken by the handling agent until requested by the crew.

It is important that TUI line engineering are contacted prior to early de-icing to confirm that the aircraft is configured for de-icing (737), and that no engineering work is planned or currently being carried out on the aircraft intended for early de-icing.

If the ambient conditions are outside any of these parameters, no action will be taken by the handling agent until requested by the crew.

After early de-icing has been completed, the de-icing supervisor will leave a de-icing declaration form on the flight deck, or with the dispatcher with details of the times and mixture used. The commander will sign the certification and hand a copy to the agent. The declaration should be kept in the flight file for 3 months.

#### **11.10.1 Early De-icing Checklist**

- a. Ice or frost is on the wings or airframe
- b. The current weather is frost only
- c. There is no precipitation forecast between now and the flight STD
- d. The calculated holdover time will still be current at STD
- e. The airfield is operational
- f. The aircraft is configured for de-icing i.e. B737 engineers must be contacted to ensure stabilisers have been correctly set for de-icing.
- g. You have made contact with local TUI engineers

It is Important that TUI line engineering are contacted prior to early de-icing to confirm that the aircraft is configured for de-icing (737), and that no engineering work is planned or currently being carried out on the aircraft intended for early de-icing.



## 11.10.2 Early De-icing for Specific Stations

### 11.10.2.1 BRU

	DE-ICING / ANTI-ICING PROCEDURE for BRU ONLY	Action by:
1.	<p><b>TUI OCC weather evaluation</b></p> <p>At <b>3:00 LT</b>, the TUI OCC Duty Manager checks the weather forecast if actual or forecasted OAT is below 0°C and no actual or forecasted precipitation.</p> <p><b>Note:</b> Early de-icing should only be considered at 03.00lt when the actual or forecast temperature is below 0°C and no precipitation is forecast.</p> <p><b>Then:</b></p> <ol style="list-style-type: none"><li>TUI OCC DM sends e-mail to :<ol style="list-style-type: none"><li>TUI fly Belgium Station Ops Coordinator: <a href="mailto:stationopscooBE@tuifly.be">stationopscooBE@tuifly.be</a> &amp; <a href="mailto:groundopscooBE@tuifly.be">groundopscooBE@tuifly.be</a></li><li>Maintrol : <a href="mailto:maintrol2@tui.co.uk">maintrol2@tui.co.uk</a> &amp; <a href="mailto:duty.engineer.bru@tuifly.be">duty.engineer.bru@tuifly.be</a></li><li>Handler:<ol style="list-style-type: none"><li><a href="mailto:bru.airside.supervisor@aviapartner.aero">bru.airside.supervisor@aviapartner.aero</a></li><li><a href="mailto:flightwatch@aviapartner.aero">flightwatch@aviapartner.aero</a></li><li><a href="mailto:rampcontrol@aviapartner.aero">rampcontrol@aviapartner.aero</a></li></ol></li></ol></li><li>TUI OCC DM uses following standard content for Early de-/anti-icing request:<ol style="list-style-type: none"><li>Please verify the presence of ice on following flights:<ol style="list-style-type: none"><li>List of registrations and TB flight numbers (E-Jets, B737 and B787) with priorities i.f.o. STD/ETD and critical flight duties.</li></ol></li><li>De-/anti-ice those on which ice was detected. <b><i>Note that A/C should be de-/anti-iced in order of appearance above, the most critical flights appearing first.</i></b></li><li>Please inform TUI OCC, station ops coordinators and TUI fly MOC accordingly.</li></ol></li></ol>	<p><b>Duty Manager TUI OCC</b></p>
2.	<p><b>VISUAL INSPECTION BY HANDLER DE-ICING COORDINATOR</b></p> <p>The de-icing coordinator takes final decision to de-/anti-ice based on following considerations:</p> <ol style="list-style-type: none"><li>No (forecasted) precipitation or other visible moisture.</li><li>Sufficient holdover time (HOT) in respect of STD/ETD and expected taxi time.</li><li>Possibility to start de-/anti-icing not before STD/ETD minus (HOT minus one hour). E.g.: HOT is 5 hrs. Earliest de-/anti-icing at STD/ETD minus 4hrs.</li></ol>	<p><b>Aviapartner BRU</b></p>



	<b>DE-ICING / ANTI-ICING PROCEDURE for BRU ONLY</b>	<b>Action by:</b>
<b>3.</b>	<b>CONFIRMATION OF EARLY DE-/ANTI-ICING BY HANDLER</b> At the latest at <b>3:30LT</b> : <ol style="list-style-type: none"> <li>Handler replies to the above e-mail to confirm or cancel "Early de-/anti-icing request".</li> <li>If "Early de-/anti-icing request" is confirmed, TUI OCC DM immediately advises Maintrol and station ops coordinator on duty that de-/anti-icing will be performed</li> </ol>	<b>Aviapartner BRU</b>
<b>4.</b>	<b>TUI fly PREPARATION FOR DE-ICING</b> <ol style="list-style-type: none"> <li>TUI fly MOC technician prepares fleet in accordance with sequence provided by TUI OCC. <b>See fleet list below</b></li> <li>TUI E&amp;M technician makes an entry in the ATL <u>E-JET</u>: 'STAB TRIM FULL AIRPLANE NOSE DOWN FOR DE-ICING'.</li> <li>After each aircraft has been prepared for de-/anti-icing (step 2 and step 3), confirm to Handler Ops. (02 723 0555) that de-/anti-icing can start on this particular aircraft.</li> </ol>	<b>TUI MOC</b>
<b>5.</b>	<b>EARLY DE-/ANTI-ICING BY HANDLER</b> <ol style="list-style-type: none"> <li>De-/anti-icing must start at or before <b>4:00LT</b>. Take into account priorities as defined by TUI OCC.</li> <li>Leave a paper notification in the cockpit or with the relevant loadmaster stating:               <ol style="list-style-type: none"> <li>Type of de-icing fluid and mixture (as written in example of item 1.2)</li> <li>Start time <u>in LT</u></li> <li>Amount of fluid used</li> </ol> </li> <li>Advise TUI OCC at the latest at 5:00 LT which aircraft have been de-/anti-iced.</li> </ol>	<b>Aviapartner BRU</b>
<b>6.</b>	<b>INSPECTION BY TUI STATION OPS COÔRDINATOR</b> SOC will inspect each aircraft: <ol style="list-style-type: none"> <li>Check with a torch if both wings, winglets, stabilizer and vertical tail plane have been de-iced equally.</li> <li>Check if paper notification is available.</li> </ol> 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 shall specify the parts of the aircraft requiring treatment.	<b>TUI GOPS</b>



### 11.10.2.2 AMS

	DE-ICING / ANTI-ICING PROCEDURE	Action by:
1.	In winter/freezing conditions Handling Agent Airside Operations will contact TUI OCC at 23:00 hrs LT to discuss the options: 1. Early Anti-icing 2. De-icing at departure	Handling Agent
2.	TUI OCC and TUI E&M will have contact to discuss the options.	Duty Manager TUI OCC
3.	TUI OCC informs Handling Agent which registrations will receive what treatment and determines at what time this will take place (eventually in cooperation with TUI E&M).	Duty Manager TUI OCC
4.	Handling Agent Airside Operations sends an e-mail to TUI OCC in order to confirm the registrations to be treated.	Handling Agent
5.	At 03:00 hrs LT there is again contact between Handling Agent Airside Operations and TUI OCC to discuss possible changes.	Handling Agent
6.	<b>Handling Agent will only start anti/de-icing after approval from TUI E&amp;M and/or flight crew.</b> When, in a given situation, a de-icing unit runs empty, the treatment will only re-start after consultation with/and after approval from TUI E&M and/or flight crew.	Handling Agent
7.	After completion of anti/de-icing reporting is as follows:  <b>De-icing:</b> The Loading Supervisor communicates the de-icing code to the cockpitcrew: (example) <i>'Post de-icing check completed. Clariant Safewing MPII flight, Type II, 100%, 13:35'</i>  <b>Early Anti-icing:</b> Handling Agent Airside Operations reports the treatment, registration, and final time per e-mail to <a href="mailto:Maintrol2@tui.co.uk">Maintrol2@tui.co.uk</a> <a href="mailto:groundopscooNL@tuifly.nl">groundopscooNL@tuifly.nl</a> , <a href="mailto:stationopscooNL@tuifly.nl">stationopscooNL@tuifly.nl</a> <a href="mailto:odm@tui.co.uk">odm@tui.co.uk</a> <a href="mailto:ams.dutymanager@tuifly.nl">ams.dutymanager@tuifly.nl</a> TUI OCC ensures that the concerned flight crew will receive this information.	Handling Agent  Handling Agent  TUI OCC



## 11.11 Optional Anti-icing

### 11.11.1 Anti-icing checklist

- a. Is snow, freezing drizzle, or light freezing rain forecast?
- b. Is the aircraft "clean"?
- c. Have local TUI engineers/ representative given approval for anti-icing?
- d. Is the aircraft in a condition / configured to be anti-iced?
- e. If the answer to all questions is YES, then the aircraft may be anti-iced.

### 11.11.2 Anti-icing Fluid Application Strategy

The spraying procedure should be continuous and as short as possible. Anti-icing should be carried out as near to the departure time as possible in order to utilize available holdover time. The anti-icing fluid shall be distributed uniformly and with sufficient thickness over all surfaces to which it is applied. In order to control the uniformity, all aircraft surfaces shall be visually checked during application of the fluid. Spray from the leading edge to the trailing edge on wings, horizontal, and vertical stabilizers.

To use Type I holdover times guidelines in all conditions, including active frost, an additional minimum of 1 L/m<sup>2</sup> (~2 gallons/100 ft<sup>2</sup>) of heated Type I fluid/water 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 Type I/ water mixture used for anti-icing must be selected so that the freezing point of the mixture is at least 10 °C below the OAT and heated so the nozzle temperature is at least 60 °C (140 °F).

For Type II, III, or IV fluids (non-Newtonian fluids), a sufficient amount is indicated by fluid just beginning to run off of the leading and trailing edges of horizontal surfaces. Apply sufficient fluid to achieve an even, uniform layer, typically achieved by using 1 to 3 L/m<sup>2</sup> (~2 to 6 gallons/100 ft<sup>2</sup>), depending on the type of non-Newtonian anti-icing fluid used.

Consult the fluid manufacturer for any applicable fluid specific application guidance.

Refer to local regulatory documents, such as the FAA Holdover Time Guidelines: Winter 20xx-20yy (annual publication) or to Transport Canada Holdover Time Guidelines: Winter 20xx-20yy (annual publication).

The following surfaces shall be treated as specified by the aircraft manufacturer's documentation:

- a. Wing upper surfaces including leading edges and upper control surfaces
- b. Wing tip devices
- c. Both sides of vertical stabilizer and rudder to receive anti-ice protection when freezing precipitation conditions exist. See 11.12 for more information about holdover time limitations when anti-icing with non-Newtonian fluids on vertical surfaces
- d. Horizontal stabilizer upper surfaces including leading edges and elevator upper surfaces
- e. When necessary, fuselage upper surfaces, dependent upon the amount and type of freezing precipitation (this is especially important on center-line engine aircraft)

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**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.**

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It is the responsibility of the deicing service provider to ensure that the surfaces mentioned above are free of frost, snow, slush, or ice prior to the start of the anti-icing treatment, and that on completion of the treatment, these surfaces are fully covered with an adequate layer of anti-icing fluid.

**Note:** SAE Type II, III, and IV fluids used for anti-icing purposes are normally applied unheated on clean aircraft surfaces, but they may be applied heated and diluted for a one-step procedure. Refer to the fluid manufacturer's recommendation.

## 11.12 Holdover Time

Holdover time is obtained by anti-icing fluids remaining on the aircraft surfaces. With a one-step procedure the holdover time begins at the start of the treatment and with a two-step procedure 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 heat transfer and the thin liquid wetting film, provides limited holdover time, especially in conditions of freezing precipitation. With this type of fluid no additional holdover time would be provided by increasing the concentration of the fluid in the fluid/water mixture. Type II, III, and IV fluids contain a 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/water mixture, with a maximum holdover time available typically from undiluted fluid.

Holdover time guidelines 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 minima or maxima as the actual time of protection may be extended or reduced, depending upon the particular conditions existing at the time, such as strong winds, jet blast, etc. Aircraft surfaces with steeper angles (e.g., vertical stabilizer, deployed flaps, etc.) might also have an effect on holdover times that needs to be considered. Holdover time guidelines are established and published by the FAA and TC. The responsibility for the application of this data remains with the user.

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**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 take-off check.

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**CAUTION!** Surface coatings, including but not limited to waxes, are currently available that may be identified as ice phobic or hydrophobic, 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. Test all surface coatings against AIR6232 to ensure they do not interfere with the performance of deicing/anti-icing fluids. For more information, consult the fluid and aircraft manufacturers.

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## 11.13 Limits And Precautions

**Applied fluids:** The freezing point depressant concentration of applied fluid must not exceed the highest freezing point depressant concentration (as measured by refractive index) at which the fluid met the aerodynamic acceptance test. For applicable values, refer to the fluid manufacturer's documentation.

Frost, snow, slush, or ice dilutes the fluid. Apply enough hot deicing fluid to ensure that refreezing does not occur, and all contaminated fluid is driven off.

**Temperature Limits (see appropriate tables):** When performing two-step de-icing/anti-icing, the freezing point (FP) of the fluid used for the first step shall be at or below the OAT.

**SAE Type I Fluids:** The FP of the SAE Type I fluid mixture used for either one-step procedure or as a second step in the two-step operation shall be at least 10 °C (18 °F) below the OAT. In no case shall this temperature be lower than the LOU.T.

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**CAUTION!** All 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.

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**CAUTION!** All Type I fluids have a maximum concentration mix related to the aerodynamic acceptability. Refer to fluid manufacturer's documentation.

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**SAE Type II, III, and IV Fluids:** The freeze point of SAE Type II, III, IV fluids used for either one-step procedure or as the second step in a two-step treatment shall be at least 7 °C (13 °F) below OAT and not lower than the aerodynamic acceptability lower limit of the fluid.

**Note:** Type II, III, and IV fluids do not have a published holdover times below -25 °C (-13 °F) in active frost conditions. Refer to local regulatory documents, such as the FAA Holdover Time Guidelines: Winter 20xx-20yy (annual publication) or to Transport Canada Holdover Time Guidelines: Winter 20xx-20yy (annual publication) for more information.

### 11.13.1 Fluid 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 11.15). Ensure that any remaining fluid from any previous treatment is flushed off. Anti-icing only is not permitted.

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**CAUTION!** The application of Type II, III, and 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 cause flight control problems. These dried residues may require removal. Consult the aircraft manufacturer with regard to inspection methods and frequency, related maintenance requirements and aircraft washing recommendations.

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**CAUTION!** The application of hot water or heated Type I fluid in the first step of a two-step process will minimize the formation of residues. Dried residues may rehydrate and freeze under certain temperature, high humidity and/or rain conditions and may block or impede critical flight control systems. If a Type II, III, or IV fluid is used in a one-step process or in the first step of a two-step process, then an appropriate inspection and cleaning program shall be established dependent on the operator's experience and fleet type. Whenever suitable, de-ice and anti-ice with only Type I to help avoid these residue issues.

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Flight control problems associated with frozen or unfrozen residues have been observed to be particularly prevalent when thickened fluids are used to remove frost during a period of dry weather followed by hydration of the dried residues by water from rain, condensation, cleaning, or wet snow in flight.

**Note 1:** In order to detect dried residues, it may help to spray a water mist onto the affected surfaces. This causes the dried residues to rehydrate and swell into a gel.

**Note 2:** 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 minimise fluid flow into drain holes. Whenever possible, use Type I only. Consult the aircraft manufacturer's documentation.

### 11.13.2 Aircraft Related Limits

The application of de-icing/anti-icing fluid shall be in accordance with the requirements of the airframe/engine manufacturers and local procedures.

### 11.13.3 Procedure Precautions

#### 11.13.4 One-Step De-icing/Anti-Icing

This is performed using heated de-icing/anti-icing fluids. The correct fluid concentration is chosen with regard to desired holdover time, dictated by OAT and weather conditions. The fluid used to de-ice the aircraft remains on the aircraft surfaces to provide limited anti-ice capability.

**CAUTION!** Wing skin temperature may differ and in some cases may be lower than OAT. A mix with higher glycol concentration can be used under the latter condition to ensure a sufficient buffer.

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**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. Consult the aircraft manufacturer with regard to inspection methods and frequency, related maintenance requirements and aircraft washing recommendations.

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**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, de-ice 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 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 minimise fluid flow into drain holes. Whenever possible, use Type I only. Consult the aircraft manufacturer's documentation.

#### 11.13.5 Two-Step Procedure when the First Step Is Performed with De-icing Fluid

The correct fluid(s) shall be chosen with regard to OAT. The second step is performed with anti-icing fluid to protect the surfaces. This fluid and its concentration are chosen with regard to desired holdover time, which is dictated by OAT and weather conditions. The second step shall be performed before the 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 Service Provider to ensure that all frozen deposits have been removed from the treated surfaces, before applying the second step fluid.

Service providers shall ensure the first step fluid and the second step fluid used on aircraft are compatible. This can be accomplished by contacting the respective fluid manufacturer(s).

Use a second step spraying technique to cover completely the first step fluid with a sufficient amount of second step fluid. For guidance on the amount of fluid refer to AS6286 and/or the fluid manufacturer's documentation.

Where re-freezing occurs following the initial treatment, both the first and second step must be repeated.

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**CAUTION!** Wing skin temperature may differ and in some cases may be lower than OAT. A mix with higher glycol concentration can be used under these conditions to ensure a sufficient buffer.

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**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. Consult the aircraft manufacturer with regard to inspection methods and frequency, related maintenance requirements and aircraft washing recommendations. The use of hot water or heated mixture of Type I fluid/water for the first step of a two-step de-icing/anti-icing process will minimise the formation of dried residues.

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**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, de-ice 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 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 deicing fluid freezing point must be low enough to prevent refreezing.

- a. With regard to holdover time provided by the applied fluid, the objective is that it is equal to or greater than the estimated time from the start of anti-icing to the start of take-off based on existing weather conditions.
- b. Aircraft shall be treated symmetrically, that is, left hand and right hand side shall receive the same and complete treatment, even when only one side of the aircraft needs treatment. Procedures in 11.11.3 shall be followed if an anti-icing treatment is to be performed on the aircraft. Anti-icing treatments shall always cover the entire wing, the entire vertical stabilizer/rudder and horizontal stabilizer/elevator on both sides of the aircraft.

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**WARNING! This is a regulatory requirement. The aircraft is considered UNSAFE if this requirement is not met.**

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- c. During anti-icing and de-icing, the moveable surfaces shall be in a position as specified by the aircraft manufacturer.
- d. Engines shall remain running at idle or can be shut down during de-icing/anti-icing operations. Air conditioning and/or APU bleed air shall be selected OFF, or as recommended by the airframe and engine manufacturer. Avoid spraying de-icing/anti-icing fluid directly into the engine inlet core.
- e. Do not spray de-icing/anti-icing fluids directly onto wiring harnesses and electrical components (receptacles, junction boxes, etc.) brakes, wheels, exhausts, or thrust reversers, cavities, or other sensitive devices.
- f. De-icing/anti-icing fluid spray shall not be directed into the orifices of pitot tubes (heads), static ports/vents, or directly onto air stream direction detectors probes/angle of attack airflow sensors. This includes all openings.
- g. All reasonable precautions shall be taken to minimize fluid entry into engines, APU, other intakes/outlets, and control surface cavities. Refer to manufacturer documentation. De-icing/anti-icing fluid spray shall not be directed into engine core or directly onto engine probes/sensors.
- h. Do not direct fluid spray onto the flight deck or cabin windows as this can cause crazing of the acrylic or penetration of the window seals. Fluid spray may be directed above these surfaces and allowed to flow over. Do not spray deicing/anti-icing fluids directly onto windows, doors, and emergency exits/hatches to prevent any fluid infiltration.
- i. If SAE Type II, III, or IV fluids are used, all traces of the fluid on flight deck windows shall be removed prior to departure, with particular attention being paid to windows fitted with wipers. Any forward area from which fluid may blow back onto flightdeck windows during taxi or subsequent take-off shall be free of fluid prior to departure. Failure to do so may result in obscured visibility.

**Note:** a. De-icing/anti-icing fluid can be removed by rinsing with an approved cleaner and a soft cloth or flushing with Type I fluid.



- j. Landing gear and wheel bays shall be kept free from the build-up of slush, ice, or accumulations of blown snow.
- k. When removing ice, snow, or slush from aircraft surfaces care shall be taken to prevent it entering and accumulating in auxiliary intakes and control surface balance bays, gaps, or hinge areas.
- l. Contamination build up on and within aircraft lift devices and other critical surfaces can form in flight or when on the ground. During icing conditions, when flaps and slats are retracted, contamination may not be visible. Conditions where this can occur may include but are not limited to the accumulation of ice in flight; the splash up of slush onto the underwing and flaps during ground maneuvering; and flap track contamination where snow and/or other contaminants may blow and compact within these openings. As the possibility exists that this could remain undetected, it is important that when these conditions are present or suspected, these areas be inspected and any frozen deposits removed prior to departure.
- m. Under the conditions of freezing fog, or other freezing precipitation conditions, it is necessary for the front and rear side on the fan blades to be checked for ice build-up prior to start-up. Any deposits discovered are to be removed by directing air from a low flow hot air source, such as a cabin heater, onto the affected areas or other means recommended by the aircraft operator based on information from the aircraft and engine manufacturers.
- n. 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. Consult airframe manufacturers for inspection and cleaning details and procedures.
- o. A de-icing/anti-icing treatment should be continuous and as short as possible. If a treatment is interrupted (for example a truck running out of fluid), the flightcrew shall be immediately informed stating:
  - 1. The reason for the interruption;
  - 2. Actions to be taken (in consultation with the flightcrew);
  - 3. Expected time of delay.
  - 4. Before continuing the treatment:
  - 5. Inform the flightcrew;
  - 6. Establish in consultation with the flightcrew, the further treatment to be carried out, including any surfaces requiring re-treatment in relation to holdover time.
  - 7. Carry out the treatment as agreed.

## 11.14 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 procedure, in order to ensure that all deposits have been removed. Significant deposits of clear ice can form in the vicinity of the fuel tanks, on wing upper surfaces as well as underwing. Aircraft are most vulnerable with regard to this type of build-up when one or more of the following conditions exist:

- a. Wing temperatures remain well below 0 °C (32 °F) during the turnaround/transit.
- b. Ambient humidity is high and/or Precipitation occurs while the aircraft is on the ground.
- c. When frost or ice is present on lower surface of either wing.
- d. Ambient temperatures between -2 °C (28 °F) and +15 °C (59 °F) are experienced, although clear ice may form at other temperatures if the other three conditions listed above exist.



Clear ice formation is extremely difficult to detect. Therefore, when the above conditions prevail, or when there is otherwise any doubt that clear ice may have formed, a close examination shall be made visually and/or physically prior to departure, in order to ensure that surfaces are free of clear ice. If clear ice is believed to be present, de-icing is required.

**Note:** 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 refuelling is insufficient to cause a significant increase in fuel temperature.

## 11.15 Fluid Application Guidelines

The fluid application guidelines are part of local regulatory documents, such as the FAA Holdover Time Guidelines: Winter 20xx-20yy (annual publication) or to Transport Canada Holdover Time Guidelines: Winter 20xx-20yy (annual publication).

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**CAUTION!** Failure to follow proper fluid application guidance may result in reduced protection of uncertain duration.

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## 11.16 Critical Areas

Use the diagrams on the following pages to identify the location of critical areas referenced below.

Pitot Probes, Static Ports, and Total Air Temperatures (TAT) probes

**Note:** be careful when working around probes. If you are not careful you could damage them.

- Look for ice that is attached to the surface 4 feet or less from the pitot inlets, static port, and TAT probe inlets. Remove all the ice in these areas.
- Do not point a spray or de-icing/anti-icing fluid directly at or into the pitot inlets, static ports, or the TAT tubes.
- If ice causes a blockage of the static openings, carefully apply warm air until the ice melts.
- If you applied too much fluid to the fuselage near the static ports, examine the nearest in-line drain, and remove the water if it is collected here.

### 11.16.1 Angle-of-Attack Sensors

Make sure that no ice and/or snow is on the sensors. Make sure the sensors are free to move. Apply de-icing fluid if necessary.

#### No-spray Areas

Do not apply fluid directly on:

- The APU intake
- The ram air inlets
- Brake system and wheels or the landing gear
- Landing gear doors
- Engine cowls and air intakes
- Outflow valve air outlet



**Note:** 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.

### 11.16.2 Wing and Tail Surfaces

**Note:** be careful when removing ice and snow from the wing and tail surfaces near the vortex generator. If you are not careful you could damage them.

The wing, including winglets (if fitted) and horizontal tail surfaces must have no ice, snow, or frost on them.

**Note:** A layer of frost 3mm (1/8-inch) thick or less on the lower wing surfaces is permitted if it is caused by very cold fuel. But all of these areas must have no ice, snow or frost on them:

- a. Leading edge devices
- b. Control surfaces, including upper and lower surfaces of the horizontal stabilizer
- c. Tab surfaces
- d. The top wing surface

**Note:** stabilizer trim – De-Icers should liaise with local TUI Engineers to ascertain if the aircrafts stabilisers is in the correct position prior to early de-icing.

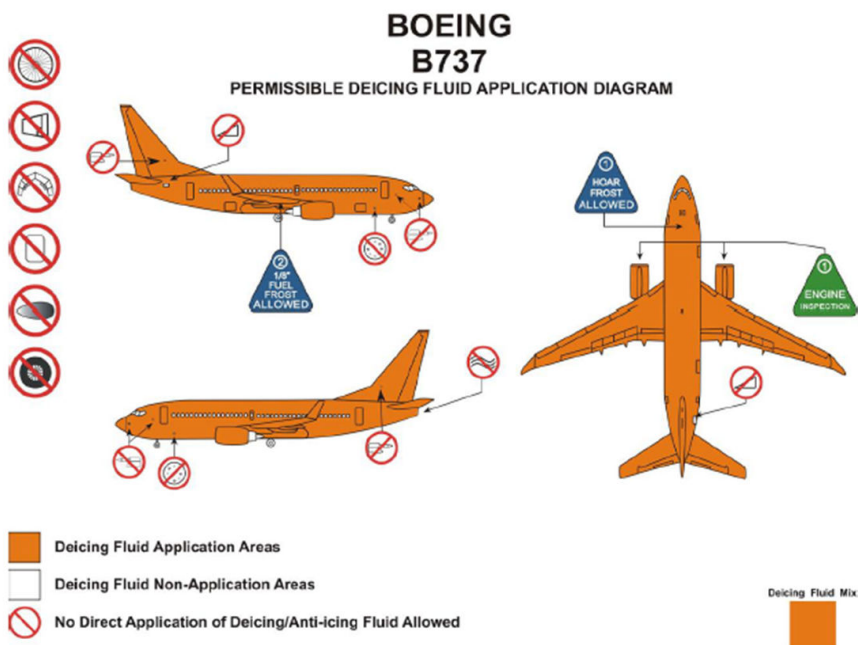
A stabilizer trim setting in the take-off green band adequately prevents de-icing fluid and slush run-off from entering the stabilizer balance panel cavity.

When spraying de-icing fluid on the tail cone area of B737 aircraft (fin, stabiliser), it is important to avoid excessive fluid entering the tail cone compartment. Excessive de-icing fluid in the tail cone compartment can cause flying controls to freeze inflight.

When de-icing the tail area, avoid spraying fluid towards the cut out in the fuselage skin that allows up / down movement of the stabiliser.



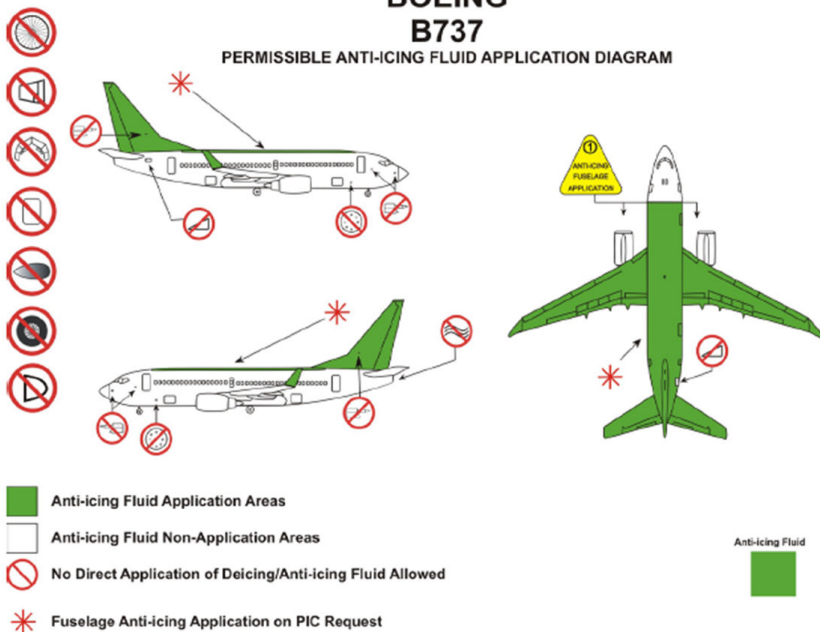
### 11.16.3 B737 Critical Areas





## BOEING B737

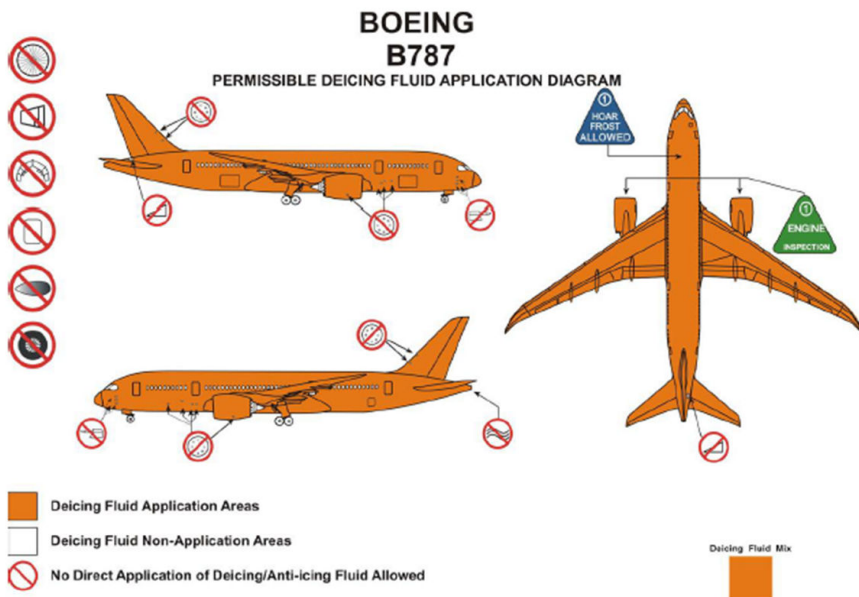
### PERMISSIBLE ANTI-ICING FLUID APPLICATION DIAGRAM

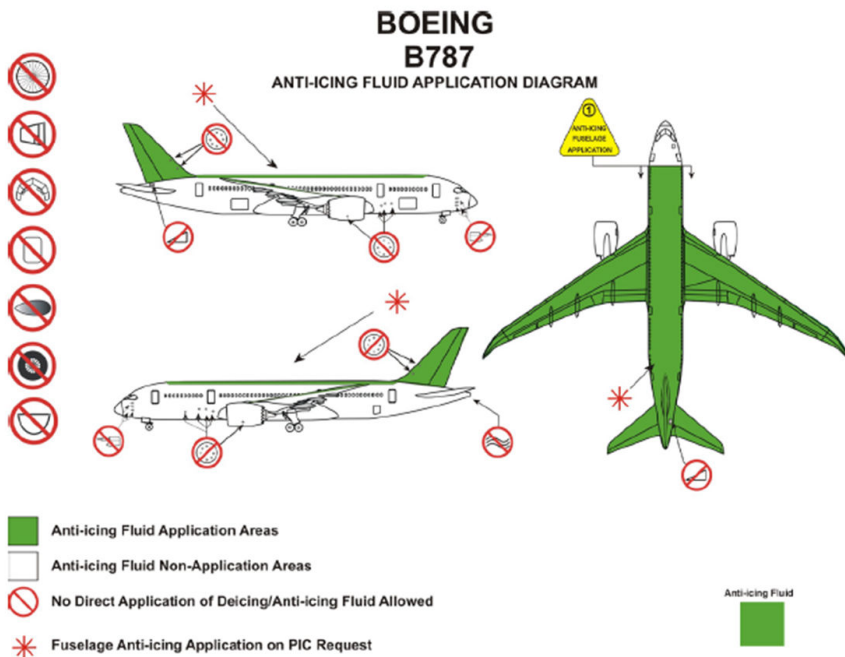






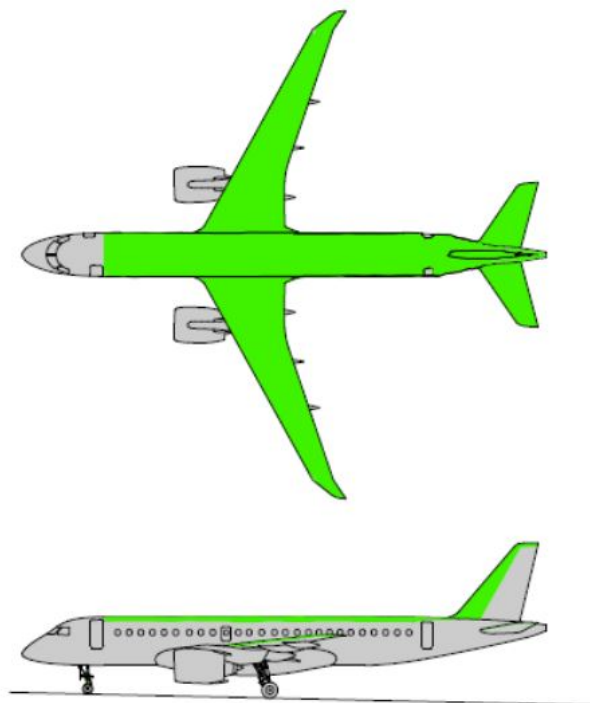
#### 11.16.4 B787 Critical Areas







### 11.16.5 E195-E2 Critical Areas

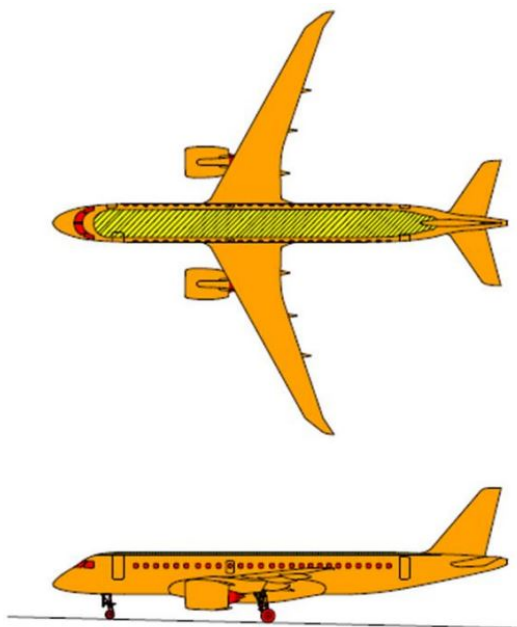


LEGEND:




- ANTI-ICING FLUID APPLICATION AREAS.
- ANTI-ICING FLUID NON-APPLICATION AREAS.

BMW 7162320M 31055 VA 10N

TYPE III/III/IV ANTI-ICING FLUID APPLICATION DIAGRAM



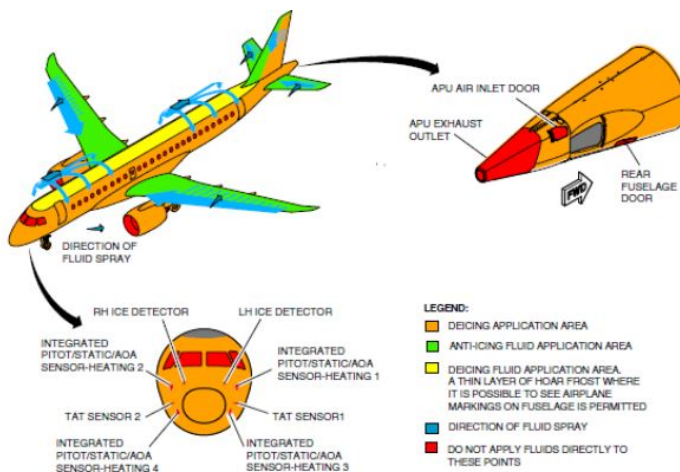
LEGEND:

-  A THIN LAYER HOAR FROST WHERE YOU CAN SEE THE AIRPLANE MARKINGS ON THE FUSELAGE IS PERMITTED. OTHERWISE, DEICING FLUID MUST BE APPLIED.
-  DEICING FLUID APPLICATION AREAS.
-  DEICING FLUID NON-APPLICATION AREAS.

EMIT75E2ACM1300X508.IDR

DEICING FLUID APPLICATION DIAGRAM

**Caution:** In case of type 2 de-ice fluid, the aircraft nose and the cockpit window needs to be clear of de-ice fluid.



## 11.17 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 shall have both a Qualification Programme and a Quality Assurance Programme to monitor and maintain an acceptable level of competence.

Both initial and yearly 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. It is recommended that the theoretical examination is in accordance with SAE AS 6286 or any equivalent requirements. The pass mark should be 75% and only persons passing this examination can be qualified.

### 11.17.1 Theoretical Training - Examination Process

The examination process contains a theoretical exam, for which a minimum passing score of 75% shall be required. The practical part (where applicable) only contains a pass/fail determination. Since 75% is a passing score for the theoretical part, this means that up to 25% may still be misunderstood. This "gap" shall be noted and wrong answers corrected with the trainee such that 100% understanding is achieved in order to secure a safe deicing operation. The written exam can be performed as an open-book exam so that pertinent Holdover Time tables and other data sources such as refractive index tables can be referenced. Normal deicing procedures should be basic knowledge, so there should not be any material available during the test explaining these subjects.

The examination for any particular course should be built so that all relevant subjects are covered by the questions. The level of difficulty per question should reflect the level of qualification and the relevance of the subject for that particular qualification. As a rule of



thumb, a minimum of one question per subject relating to the qualification level should be included in the written exam. The minimum number of questions shall reflect the qualification level and may vary accordingly; however, this minimum amount should not be less than 15 questions (starting with the least demanding level of qualification/training hours). The theoretical examination shall be in accordance with national requirements and/or local regulations. The questions should be multiple choice containing a minimum of three possible answers per question. If there are differing procedures from normal deicing operations, then written answers can be used to explain this. The exam questions shall be periodically reviewed and updated to cover all current standards and regulations.

The Head of Deicing Training shall include these elements in the training program:

- The questions should always be based on facts and not perceptions.
- The question should not be misleading and should be clearly written such that it is not possible for it to be incorrectly interpreted.
- Misinterpretations may lead to remembering the subject in an incorrect way.
- The question series should cover all aspects of operation and include the local arrangements (if any).
- Evaluation should include oral quizzing where practical items are covered (e.g., reading Holdover Time tables and/or refractive index limits, etc.).

#### **11.17.2 Practical Training (initial)**

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 aeroplane is required in order to familiarise trainees with the relevant typical aeroplane 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.

#### **11.17.3 Practical Training (Annual/Recurrent)**

For personnel performing the actual de-icing/anti-icing treatment on aircraft, the practical evaluation and demonstration of skills for normal equipment and operational methods is expected. The practical training and demonstration of knowledge or skills where new equipment or operational methods are utilized is required.

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 contact 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.

#### **11.17.4 Training System and Records**

All training should be performed according to a pre-established training program. This program should include all levels of training and their relevant requirements. The theoretical part should be categorized according to the qualification, thus dividing the training sessions from each other. This training program will easily identify what course is leading to which qualification. This numbering system presented here does not need to be the same for every company but is a logical sequence to follow if desired. To remain qualified to perform certain deicing duties, annual recurrent training is required. An annual recurrent course should be presented as a training session that renews previous qualifications. This recurrent training does not have to be performed exactly or before the date of the previous qualification. A prior year's qualification remains valid for the beginning of the next deicing season but must be renewed before the year's end.

Records shall be kept of all tests and scores, for both the theoretical exam and the practical assessment. A test record shall indicate the trainee, the qualification being sought, the date of the test, the evaluating instructor, and the score. A failed examination can be retaken, and this must be noted in the record. The evaluation process must lead to a qualification before the trainee shall be allowed to carry out the required role. Any restriction to a qualification shall be documented. A certificate should be given to the person to verify all training and qualifications. A copy of the certificate should be kept. All documentation for the current season should be kept easily at hand for verification by approved deicing staff. Records shall be retained in accordance with applicable timelines established by local regulatory, air operator, or organisational record retention requirements.

#### **11.17.5 Responsibilities**

- a. 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 or SAE recommendations on de-icing
- b. Personnel carrying out the de-icing /anti-icing operation are responsible for ensuring the task is performed in accordance with the requirements detailed in the latest edition of the aircraft Maintenance Manual or SAE recommendations on de-icing
- c. The person responsible for final release/dispatch of the aeroplane is responsible for ensuring that the aeroplane has been de-iced/anti-iced in accordance with the requirements detailed in the latest edition of the aircraft Maintenance Manual or SAE recommendations on de-icing ensuring that relevant surfaces are free of frost , ice, slush and snow at the time of dispatch



- d. After receiving the Anti-ice Code, the Commander (pilot in command) is responsible for ensuring that the relevant surfaces remain free of frost, ice, slush and snow until take off.

## 11.18 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 commingled (blended) without additional qualification testing. Consult with the fluid manufacturers. Slippery conditions may exist on the ground or equipment following the deicing/anti-icing procedure. Caution should be exercised, particularly under low humidity or non-precipitation weather conditions.

### 11.18.1 Storage

Tanks shall be dedicated to the storage of the deicing and/or anti-icing fluid to avoid contamination with other fluids.

Storage tanks shall be of a material of construction compatible with the de-icing/anti-icing fluid, as specified by the fluid manufacturer (corrosions 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 labelled to avoid contamination.

As a minimum the following information shall be identified:

- Type of fluid (Type I, II, III or IV)
- Fluid product name
- Fluid concentration or mixture

Tanks shall be inspected annually for corrosion, contamination and / or leaks. If corrosion or contamination is evident, tanks shall be repaired or replaced. To prevent corrosion at the liquid/vapour interface and in the vapour space, a high liquid level in the tanks is recommended. If the quality of the fluids is checked in accordance with SAE regulations, 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.

### 11.18.2 Fluid Transfer Systems

The performance characteristics of Type II, III, and IV deicing/anti-icing fluids may be degraded by excessive mechanical shearing or chemical contamination. Therefore, only compatible pumps, control valves, piping, hoses, and application devices (nozzles) shall be used. The design of fluid transfer systems shall be in accordance with the fluid manufacturer's recommendations. Fluid transfer systems shall be dedicated to the specific fluid being handled to prevent inadvertently mixing fluids of different Types or manufacturers. All fill ports and discharge points shall be clearly labeled to prevent inadvertent product mixing. All fill ports must be protected to prevent foreign contamination.





### 11.18.3 Heating

De-icing/anti-icing fluids shall be heated according to the fluid manufacturer's guidelines, and the heated fluids shall be checked periodically.

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 degradation making them not usable.

The fluids shall be checked periodically.

---

**CAUTION! Avoid unnecessary heating of fluid in vehicle tanks. Prolonged or repeated heating of fluids (directly or indirectly) may result in loss of water or oxidation which can lead to performance degradation of the fluid and may cause viscosity degradation in Types II, III and IV fluids leading to shorter hold over times.**

---

Any of the following situations or a combination of them can accelerate the fluid performance degradation:

- usage (turnover)
- trucks being in standby mode with heating system on for extended periods of time;
- high temperatures in fluid tanks;
- high temperatures in water tanks which are in direct contact with the fluid tanks (no insulation between tanks).

The integrity of the fluid following heating shall be checked periodically. Factors like heating rate, time, and temperature cycling should be considered in determining the frequency of fluid inspections. Refer to the fluid manufacturer's recommendations.'

### 11.18.4 Application Equipment (De-Icing Rigs)

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.



## 12 Annex F Electric Mobility Aids - EMA

### 12.1 Booking

Electric mobility aids are in principle pre-booked and an appropriate special service request (IATA SSR) is sent to the local handling companies departure control system (DCS).

It is the responsibility of the Handling Agents to approve the EMA on behalf of the airline in accordance with ICAO Technical Instructions / IATA DGR.

#### 12.1.1 Acceptance

A series of compliance questions must be asked in order to establish if the EMA can be approved. If the passengers cannot answer the questions they must be asked to check the device user guide or obtain the information from the device's manufacturer.

Should the device be deemed safe for carriage, they must be advised of the conditions of carriage based on the information they have declared. These conditions differ depending on battery type and if they are travelling in the hold or cabin. The conditions of carriage are detailed in this section or refer to IATA DGR 2.3.2.2/3/4 & table 2.3.A.

Should the device be deemed not suitable for travel by air, the customer will be advised and the reasons provided. The Handling Agent must add notes reflecting this to the PNR in the DCS.

For more information about restrictions check chapter 2 of this section.

#### 12.1.2 IATA SSR codes

When an EMA is booked the following IATA SSR codes must be used.



IATA SSR Code	Description	Watt Hour Restriction	Common Names
IATA SSR Code	Description	Watt Hour Restriction	Common Names
WCBD	Non-Spillable batteries		AGM (Absorbed Glass Mat) Dry / Dry Cell Gel Cell SLA (Sealed Lead Acid) Nickel – metal hydride Wet Non Spillable
WCBW	Wet Cell batteries		TUI Airlines does not accept Electric Mobility Aids operated by spillable wet cell batteries.
WCLB	Lithium batteries*	Max 300Wh or 2 batteries not exceeding 160 Wh each Max of 1 spare battery not exceeding 300 Wh or 2 spare batteries not exceeding 160 Wh each	Lithium - ION (re-chargeable) Lithium Metal (not re-chargeable) Lithium polymer Lithium Alloy

### 12.1.3 Lithium - ION batteries

Lithium - ION batteries pose a risk, as they can overheat if they are overcharged, and when not properly packed, spare batteries could short circuit in customers' luggage, causing fires.

Lithium - ION batteries are regulated, and manufacturers have to include a "watt-hour" rating on the battery. Depending on the watt hour rating, will depend on whether we need to approve it, and whether we can carry it at all.

### 12.1.4 How to calculate Watt Hour for Lithium - ION battery

If the customer is taking an item powered by a Lithium - ION battery you must ask them for the Wh rating. If they are not sure you can calculate this yourself but you need the Volts and the Ampere of the battery. See the calculation below:

Volts (V) x Ampere (Ah) = Watt Hour (Wh)

Example: 5V x 25Ah = 125Wh-

To convert milliamp hour (mAh) to Ah you divide by 1000. 1Ah = 1000mAh

Example: 25000mAh ÷ 1000mAh = 25Ah



## 12.2 Restrictions

### 12.2.1 Inventory

All prior approved electric mobility aids may be accepted. Any electric mobility aid that is not approved in advance by TUI, can only be accepted if it's verified according to the Technical Instructions, and/or IATA DGR. The IATA DGR Table 2.3A can be referred to, but must be used in conjunction with Annex D Dangerous Goods and Weapons at all times. Variations that are more restrictive than these regulations are listed in D 2.6 may not be accepted.

In addition, all requests need to be authorised by TUI fly Belgium and TUI fly the Netherlands if not approved upfront. For authorisation contact TUI OCC.

### 12.2.2 EMA weights restrictions

TUI fly Belgium and TUI fly the Netherlands do not restrict EMA's based on weight. If the weight exceeds 150 kg you must advise local ramp operations so they can prepare the correct resource and equipment for loading.

### 12.2.3 EMA maximum dimensions

It is important to check what aircraft type the customer is travelling on to ensure their EMA will fit through the hold door and be loaded with enough roof clearance as not to cause damage to the hold roof or the EMA.

To make it easier for customer facing staff we have published a table giving what we believe to be the maximum height, width & depth of an EMA to fit, this takes into consideration any door clearance issues on the B737 aircraft where the hold door opens inwards. Under no circumstances should EMA's be tilted for loading.

Maximum EMA dimensions	Height x Width x Depth in CMS
E-Jets	H86cm x W119cm x D119cm
B737 – 800 & MAX 8	H86cm x W119cm x D119cm
B787 – 800 (Wide-bodied)	H150cm x W150cm x D119cm
B787 – 9 (Wide-bodied)	H150cm x W150cm x D119cm

**Note:** Do not try and dismantle an EMA without the permission of the passenger.

### 12.2.4 Conditions of Carriage

The following table advises where the item should be loaded. Some batteries are designed to be removed and others are not. This question should be asked when following the acceptance process.

Once the battery restrictions have been verified customers need to be advised the conditions which **MUST** be met in order for the item to be authorised.

The definition of cabin is also known as carry-on or hand baggage, hold is also known as checked or hold loaded baggage.



**Ground Operations Western Region  
Annex F Electric Mobility Aids - EMA**

All passengers who has pre-booked their EMA will receive a copy of the conditions of carriage when they book.

BATTERY TYPE	RESTRICTION	CABIN	HOLD
Non spillable DRY GEL WET Attached to EMA	A battery powered mobility aid with installed batteries must be secured, by use of straps, tiedowns or other restraint devices. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo. The battery terminals must be protected from short circuits (e.g. by being enclosed within a battery container); The battery must be securely attached to the wheelchair or mobility aid; The electrical circuits must be isolated following the manufacturers instruction; The pilot in command must be informed of the location of mobility aids with installed batteries, removed batteries and spare batteries.	x	✓
Non spillable DRY GEL WET Removed from EMA	Where the mobility aid is specifically designed to allow its battery(ies) to be removed by the user the battery(ies) must be removed following the manufacturers instructions; the mobility aid may then be carried as checked baggage without restriction, provided:  The passenger carries a maximum of one spare battery; Any battery(ies) removed from the mobility aid or spare batteries are carried in strong, rigid packagings which must be carried in the cargo compartment The battery(ies) must be protected from short circuit; The pilot in command must be informed of the location of the packed battery; The pilot in command must be informed of the location of mobility aids with installed batteries, removed batteries and spare batteries.	x	✓



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**Annex F Electric Mobility Aids - EMA**

BATTERY TYPE	RESTRICTION	CABIN	HOLD
Lithium - ION Attached to EMA	<p>The EMA must be secured, by use of straps, tiedowns or other restraint devices.</p> <p>The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo</p> <p>The battery terminals must be protected from short circuits (e.g. by being enclosed within a battery container); and</p> <p>The battery either is securely attached to the EMA; or</p> <p>The mobility aid and the electrical circuits are isolated following the manufacturers instruction;</p> <p>The battery must not exceed 300 wh or for mobility aids fitted with two batteries, each battery must not exceed 160 wh.</p> <p>The pilot in command must be informed of the location of mobility aids with installed batteries, removed batteries and spare batteries.</p>	x	✓
Lithium - ION Removed from EMA	<p>If the mobility aid is specifically designed to allow the battery (ies) to be removed following the manufacturers instructions.</p> <p>The battery removed from the mobility aid must not exceed 300 wh or for mobility aids fitted with two batteries, each battery must not exceed 160 wh;</p> <p>Any battery(ies) removed from the mobility aid or spare batteries must be carried in the passenger cabin.</p> <p>The removed or spare batteries must be protected from damage (e.g. by placing each battery in a protective pouch).</p> <p>The pilot in command must be informed of the location of mobility aids with installed batteries, removed batteries and spare batteries.</p>	✓	x
Lithium - ION Spare Battery	<p>A passenger may carry a maximum of one spare battery</p> <p>Lithium-ION battery not exceeding 300 wh or two spare batteries each not exceeding 160 wh.</p> <p>The pilot in command must be informed of the location of spare batteries.</p>	✓	x



**Ground Operations Western Region  
Annex F Electric Mobility Aids - EMA**

BATTERY TYPE	RESTRICTION	CABIN	HOLD
Spillable Battery  Attached to EMA	<p>A battery powered mobility aid with installed batteries must be secured, by use of straps, tiedowns or other restraint devices.</p> <p>The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.</p> <p>The operator must verify that: The battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and the battery is either; Securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturers instruction.</p> <p>The operator must load, stow, secure and unload a mobility aid with a Spillable battery in an upright position. If the mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position or if the mobility aid does not adequately protect the battery, the operator must remove the battery. The operator must inform the pilot in command of the location of mobility aids with installed batteries and removed batteries.</p> <p>TUI fly Belgium and TUI fly the Netherlands do not accept Electric Mobility Aids operated by spillable batteries.</p>	x	x



BATTERY TYPE	RESTRICTION	CABIN	HOLD
Spillable Battery  Removed from EMA	<p>If the mobility aid cannot be loaded, stowed, secured and unloaded, always in an upright position, the battery(ies) must be removed following the manufacturers instructions and carried in strong, rigid packaging, as follows:</p> <p>Packaging must be leak-tight, impervious to battery fluid and be protected against upset by securing to pallets or by securing them in cargo compartments using appropriate means of securement (other than bracing with freight or baggage) such as by use of restraining straps, brackets or holders:</p> <p>Batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and</p> <p>These packagings must be marked "BATTERY, WET, WITH WHEELCHAIR" or "BATTERY, WET WITH MOBILITY AID" and to be labelled with the corrosive label and with the "package orientation" label.</p> <p>The mobility aid may then be carried as checked baggage without restriction.</p> <p>TUI fly Belgium and TUI fly the Netherlands do not accept Electric Mobility Aids operated by spillable batteries.</p>	x	x

## 12.3 Handling at the airport

### 12.3.1 Check-in

The handling agent must verify and inspect the item before accepting the EMA.

If the Lithium battery is designed to be removed it must travel in the cabin, and ensure this information is added to the PIL for the cabin crew and that Loadcontrol/Dispatch are made aware it is travelling in the cabin.

Once safety checks have been conducted the handling agent must check if the EMA will fit in the applicable aircraft type. Refer to the maximum EMA sizes.

The EMA can either be made safe for carriage at the check-in counter, at the departure gate or at the aircraft side. If the passenger is making the EMA safe, or assisting in making the item safe they must be advised when or where this will happen. Manufacturers user guide can assist with this process. Also written or verbal instructions from the PWD.

The Check-in agent should ensure that the Load Control department is informed that an EMA has been accepted for the flight as soon as the passenger presents themselves, and pass all relevant information for load planning purposes, to include the weight of the EMA and if the Lithium battery is being removed and carried in the cabin.





In the event that the carriage of the EMA is refused on safety grounds, the Customer Care teams within TUI fly Belgium and TUI fly the Netherlands must be contacted by the GHA.

If you already have 2 EMA's booked on your flight and you are presented another which has not been pre-booked, please check with Loadcontrol to see if the item will fit considering all other loads already booked. Every possible effort must be made to accept the EMA without compromise to safety and DGR.

### **12.3.2 Pre booked EMA's**

Passengers presenting themselves at the appropriate TUI fly Belgium and TUI fly the Netherlands check-in counter, the check-in agent must check if the item has been pre-booked, these bookings take priority over non pre-booked EMA's. The appropriate SSR code will show on the PNL.

The EMA booking information needs to be verified at the check-in desk to ensure it has been declared correctly.

### **12.3.3 Non-pre booked EMA's**

TUI fly Belgium and TUI fly the Netherlands will make all reasonable efforts to carry a customer's EMA if this has not been advised to the Airline prior to STD -48 hours.

Some passengers may not pre-book and present themselves unannounced at check-in. The handling agents must be aware that passengers may travel with EMA's which are not easy to be identified. Sometimes EMA's are designed to travel fully compact in a case with the Lithium battery. The size of the case can be the same size as a normal case.

It is the responsibility of the handling agents to approve the EMA on behalf of the airline in accordance with ICAO Technical Instructions / IATA DGR. Follow procedures as described in 2.2.3 and 2.5.7

In the event that there are more EMA's for a flight than permitted priority will be given to those that were pre-booked. Any non-pre booked EMA will need to be placed on a standby basis, and this explained to the customer. TUI fly Belgium and TUI fly the Netherlands will take all reasonable efforts to ensure that the non-advised Electric Mobility Aids are accepted for travel.

EMA's take priority if aircraft space/weight is an issue.

If you accept an EMA that hasn't been pre-booked, please contact TUI OCC.

### **12.3.4 Safety Checks before loading**

The EMA must arrive at the aircraft side for loading in sufficient time to ensure that it can be safely loaded.

On arrival at the aircraft side, the loading supervisor must inspect the EMA and ensure that measures have been taken to deactivate it and make it safe for carriage by air.

The Loading Supervisor must check that inadvertent operation of the device has been prevented. This can be achieved by placing the device into drive mode (i.e. not freewheel mode), seeing if the EMA will power up, and if so whether use of the joystick results in the mobility aid moving.



A check should also be made that batteries are securely attached to the EMA and battery terminals are protected from short circuit.

If a Lithium battery has been declared as travelling in the cabin the EMA must be checked, if found to still be attached it must be removed.

If it is evident that an EMA has not been made safe, it must not be loaded, the loading supervisor must contact the person who was responsible for making the device safe for carriage to get this made safe immediately.

The majority of EMA's have a key which can be switched to the off position, removed and handed to the customer.

Most EMA's are switched on and off with a push button which could be reactivated in flight by inadvertent movement of baggage or cargo. Further steps may be required depending on the device to inhibit the circuits of such devices like disconnecting electric cable plugs or connectors or by inserting an inhibiting plug such as the 'Airsafe plug' into the charging socket of the device.

Please ensure spreader boards are used for EMA's over 150kg.

#### **12.3.4.1 EMA Tag**

The check-in agent will issue an EMA Tag which must be filled in and attached to the EMA. The EMA Tag serves many purposes and displays the following information:

1. Make, model & weight of EMA, pap & flight details
2. Identification of Battery type SSR, Watt hour rating and spare battery info
3. How has the item been made safe for travel
4. Special Loading Instructions for the loading team
5. Signature proof that the EMA has been made safe for air travel
6. Signature proof of de-activation, loading position of the batter(ies) & that TUI procedures have been followed.



The EMA tag is carbonated, please distribute copies to:

1. Flight Deck
2. Flight File
3. Attach to EMA

The Person responsible for making the EMA safe for carriage can be:

1. Appointed Ground Handling Agent
2. PRM/PWD Service Provider
3. The Passenger

Supplies of this tag can be requested from TAGO.

## Check in Responsible

### Example of relevant Section 1, 2, 3, & 4



Ground Operations Western Region  
Annex F Electric Mobility Aids - EMA

ELECTRIC MOBILITY AID TAG		TUI	
<small>TOP COPY FLIGHT DECK / COPY FLIGHT FILE / COPY ATTACH TO DEVICE COPY MUST BE ATTACHED TO ELECTRIC MOBILITY AID</small>			
Make/Model: _____		Flight Number: _____	
Weight: _____		Date: _____	
Customer Name: _____		Destination: _____	
Battery Type WCLB Watt Hour Rating <input type="text"/>		WCBD <input type="checkbox"/>	SPARE/ADDITIONAL <input type="checkbox"/>
<b>Which one method has been used to inhibit the electrical circuits of the vehicle?</b> (Obtain information from BHTA log or manufacturer's written instructions).			
<input type="checkbox"/> Power switched off with key removed and given to customer			
<input type="checkbox"/> Detach cable from battery/controller/connectors and protect against short circuit			
<input type="checkbox"/> Inserted inhibiting plug (e.g. airsafes™ plug)			
<input type="checkbox"/> Lithium battery removed, taken in to cabin and protect against short circuit			
<input type="checkbox"/> Other (please state in the box below)			
<div></div>			
<b>Special Loading Instructions:</b> (e.g. Do not collapse).			
<div></div>			

Check-in or Departure Gate Responsible – Passenger Signature Required

Example of relevant Section 5

Person responsible for making the Electric Mobility Aid safe for carriage	
I confirm that I have protected the device from short circuits and have inhibited the electrical circuits as indicated above.	
Name _____	Signature _____

Ramp Responsible

Example of Section 6



## Ground Operations Western Region Annex F Electric Mobility Aids - EMA

Confirm that the following loading instructions have been completed:

Electric mobility aid is loaded upright/collapsed into a separate netted compartment or ULD, segregated from any other loose baggage items and correctly secured using appropriate restraints. (Netting rings are NOT to be used).

Electric Mobility Aid loaded in Hold and/or ULD position:

Battery in hold ☐ Battery in cabin ☐

If Battery in cabin\* \*Seat number

Loading Supervisor/ Team leader / Head loader  
I confirm that the Electric Mobility Aid is loaded and secured in accordance with current TUI instructions and have checked the Electric Mobility Aid does not operate.



Name: \_\_\_\_\_ Signature \_\_\_\_\_

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### Dispatcher Responsible

Copy to Flight deck & copy for flight file.

Examples of completed tag



ELECTRIC MOBILITY AID TAG

TOP COPY FLIGHT DECK / COPY FLIGHT FILE / COPY ATTACH TO DEVICE  
COPY MUST BE ATTACHED TO ELECTRIC MOBILITY AID

Make/Model: \_\_\_\_\_ BEBROKE MODEL \_\_\_\_\_

Flight Number: \_\_\_\_\_ TOM23

Weight: \_\_\_\_\_ TO KGS

Date: \_\_\_\_\_ 01 MAY 2024

Customer Name: \_\_\_\_\_ CPT F.NAWAZ

Destination: \_\_\_\_\_ PALMA

Battery Type: \_\_\_\_\_ WCLB Watt Hour Rating:  400 WH \_\_\_\_\_

WCBD ☐ SPARE/ADDITIONAL ☐

Which one method has been used to inhibit the electrical circuits of the vehicle?  
(Obtain information from BHTA tag or manufacturer's written instructions).

☐ Power switched off with key removed and given to customer

☐ Detach cable from battery/controller/connectors and protect against short circuit

☐ Inserted inhibiting plug (e.g. airsafe™ plug)

☒ Lithium battery removed, taken in to cabin and protect against short circuit

☐ Other (please state in the box below)

Special Loading Instructions: (e.g. Do not collapse).

BATTERY TO BE LOADED IN CABIN  
DO NOT COLLAPSE WHEELCHAIR

Person responsible for making the Electric Mobility Aid safe for carriage

I confirm that I have protected the device from short circuits and have inhibited the electrical circuits as indicated above.

Name: \_\_\_\_\_ MR A. BMTM

Signature: \_\_\_\_\_ A.BMTM

Confirm that the following loading instructions have been completed:

Electric mobility aid is loaded upright/collapsed into a separate netted compartment or ULD, segregated from any other loose baggage items and correctly secured using appropriate restraints. (Netting rings are NOT to be used).

Electric Mobility Aid loaded in Hold and/or ULD position:  HOLD 2

Battery in hold ☐ Battery in cabin ☒

If Battery in cabin\* \*Seat number  2A

Loading Supervisor/ Team leader / Head loader  
I confirm that the Electric Mobility Aid is loaded and secured in accordance with current TUI instructions and have checked the Electric Mobility Aid does not operate.

Name: \_\_\_\_\_ John Brown

Signature: \_\_\_\_\_ J.BROWN

DO NOT DISMANTLE EMA WITHOUT PASSENGER AUTHORISATION

### 12.3.5 Securing the EMA

When loading into the aircraft hold, care must be taken not to cause damage to the EMA or aircraft.

Secured the EMA using lashing material in an upright position using the four anchor points,



Ensure all other loads are protected to prevent unintentional activation or damage by the movement of baggage, mail, stores or other cargo. Where possible, the EMA should be loaded and secured in a separate compartment.

If a ULD is being used for loading it must be secured in the same way within the ULD. No other baggage to be loaded in the same ULD as an EMA.

### 12.3.6 Loading instructions

Under no circumstances should EMA's be tilted for loading.

Loading supervisor must verify and inspect the item before loading onto the aircraft.

The Loading Supervisor must ensure that the EMA is loaded as per the instructions on the LIRF (Loading Information Report Form) into the correct hold/position.

The Loading Supervisor must confirm by signing the LIRF that the EMA has been loaded in the correct position. Any deviation from the planned LIRF must be clearly annotated, and the dispatcher advised.

The Loading Supervisor must ensure the dimensions are within our guidelines and immediately inform TUI OCC if the EMA will not fit through the aircraft hold door. **DO NOT TRY AND DISMANTLE THE EMA WITHOUT PERMISSION FROM THE CUSTOMER.**

Any removable items, such as seat cushions or arm rests must be removed and securely stored in a clear plastic bag/sack to prevent damage.

#### 12.3.6.1 Loading positions

Aircraft	Pefered Hold	Comments
E-Jets	2 Bulk	for double drop flights see loading section for this a/c type.
B737	2 Bulk	for double drop flights see loading section for this a/c type. Hold 2/3 doorways to be used.
B787	3/4 ULD 5 Bulk	ULD loading is preferred as it accommodates higher devices, while the H5 doorway is restrictive and often contains other items.

#### 12.3.6.2 Load sheet

The dispatcher must ensure that the load sheet accurately reflects the loading position of the EMA and the actual weight is recorded. Free text advising the pilot in command of: the SSR Code e.g. WCLB, that an EMA with an installed battery has been loaded, the position in the hold. If a Lithium battery has been removed for travel in the cabin this must be noted also.

#### 12.3.7 Aircraft Arrival

On arrival, the Loading Supervisor must ensure that the device has arrived secured. If any inadvertent activation or incorrectly stowed and secured EMA is found a safety report must be raised immediately to according to 11.3.1 Ramp Safety in Aircraft Handling

When offloading the EMA, care must be taken not to cause damage to the EMA or aircraft.



Any removable items that have been removed from the EMA and have been stored in a clear plastic sack/bag must also be offloaded.

The appointed GHA is to return the EMA and any removed items to the customer within the baggage reclaim and assist the customer in re-activating the device for use.

#### **12.3.8 Battery in the cabin**

Lithium batteries that are designed to be removed from an EMA must travel in the cabin. As the battery risk is now in the cabin and not the hold you must ensure the Cabin Crew is informed of this via the PIL.

Pilots are informed of this via the load sheet, please advise where in the cabin it will be stowed.

Not to be stowed in the cockpit.

#### **12.3.9 A/C Leases & Sub Charters**

When other carriers perform flights on behalf of TUI fly Belgium or TUI fly the Netherlands and if any issue occurs during handling of an EMA please contact TUI OCC.

#### **12.3.10 Refusing EMA's**

In principle we do not refuse EMA's. In the rare event that it is required immediately contact via phone the Customer Care team and/or local TUI representative (if available).

#### **12.3.11 Messaging**

For all pre-advised customers taking approved Electric Mobility Aids, this information will be communicated to our local Handling Agents and /or PWD Provider STD -36 hours as per EU Legislation. Using IATA messaging PNL/PAL.

Post aircraft departure, the LDM/CPM must clearly state the location



## 13 Annex G - For Future Use

Annex G - For Future Use





## 14 Annex H Live Animals

### 14.1 Pet Travel Scheme

#### 14.1.1 General

[https://ec.europa.eu/food/animals/pet-movement/eu-legislation\\_en](https://ec.europa.eu/food/animals/pet-movement/eu-legislation_en)

As an EU national, you can freely travel with your cat or dog if it has a European Pet Passport. You can find the legal information about travelling with your pets within the EU at Regulation (EU) No 576/2013.

This regulation applies to the non-commercial movement of pet animals into a Member State from another Member State or from a territory or a third country. It does not apply to the movement of pets within one EU country.

EU member state 'country specific' information can be found using the following link. This covers identification, vaccinations, traveling from & too member states and travelling from third party countries back to Belgium & Netherlands.

[https://ec.europa.eu/food/animals/pet-movement/ms-websites\\_en](https://ec.europa.eu/food/animals/pet-movement/ms-websites_en)

This scheme covers pet cats & dogs travelling in both the cabin and the hold of our aircraft.

In case of any questions immediately contact via phone the Customer Care team and/or local TUI representative (if available).

To assist passengers, agents, and operators in preparing pets for air carriage in compliance with IATA Live Animals Regulations, a Live Animal Acceptance Checklist must be completed for each SVAN, PETC, and AVIH travelling as passenger baggage. The handling agent checking the animal must verify all requirements from the checklist have been met and the passenger needs to sign in acknowledgement. If not all fields of the checklist are complied with then the animal must not be accepted for transport. One copy of the fully completed checklist will be provided to the passenger and another is to be retained at the station. Appendix F23, Live Animal Acceptance Checklist can be found on the TAGO Portal.

#### 14.1.2 Entry points Belgium & The Netherlands

Pets are subjected to documentary and identity checks by the competent authorities at the following airport entry points:

##### **TUI fly Belgium**

Antwerp  
Brussels  
Liège  
Oostende  
Charleroi

##### **TUI fly the Netherlands**

Eindhoven  
Rotterdam  
Amsterdam Schiphol



Groningen  
Maastricht

## **14.2 Domestic cats & dogs in the hold (AVIH)**

### **14.2.1 Booking procedures**

Pre-booking this service is done directly by the Customer Care or Flight Specials teams of TUI fly Belgium and TUI fly the Netherlands.

### **14.2.2 General**

They are carried as passenger baggage under the pet travel scheme

Pets to be accompanied by the passenger

Pets carried in the hold of our aircraft are coded as AVIH

Cats & Dogs only.

### **14.2.3 Charge**

There is a charge for this service, please refer to Appendix I3 - Ancillary Sales Charges.

If the pet has been pre-booked it will have SSR AVIH noted on the booking, the cage may contain two pets but will only be charged once for the cage. If this is not pre-booked and a cage is presented with two pets, please charge for 2 pets.

### **14.2.4 Restrictions**

- a. The pet is at least 3 months old
- b. Allow 3 cats/dogs in one kennel, provided they are not older than 6 months, if from the same family and have enough space.
- c. Allow 2 cats/dogs in one kennel, provided they are not heavier than 14 kg and are used to living together.
- d. We will NOT accept pregnant live animals or animals on heat.
- e. We will NOT accept tranquilized animals.
- f. Sedated animals will not be accepted for carriage as the use of sedatives on an animal is not recommended (air pressure in the hold in flight acts as a mild sedative so may have an effect on the breathing of the animal).

TUI Airlines do NOT accept snub-nosed dogs or cats, or any cross between two snub-nosed breeds.



**Note:** This includes following breeds:

**Dogs:** Affenpinscher, American Bulldog, American Bully, Boston Terrier, Boxer, Brussels Griffin, Bulldog (all breeds), Bull Mastiff, Bull Terrier, Chinese Pug, Chow Chow, Dutch Pug, English Bulldog, English Toy Spaniel, French Bulldog, Japanese Boxer, Japanese Pug, Japanese Spaniel (Chin), Lhasa Apso, Mastiff (all breeds), Pekinese, Pug, Shar Pei, Shih Tzu, Tibetan Spaniel.

**Cats:** British shorthair, Exotic Shorthair, Himalaya, Persian flat-nosed, Scottish fold cats.

#### 14.2.5 Inventory

Maximum animals allowed per aircraft = 4

**Note:** B787 - if space is available on the day, we can exceed the quantity up to a maximum of 8.

#### 14.2.6 Documentation

Passengers are responsible to keep up to date with the European regulations for the Pet Passport scheme, this includes identification of the pet, vaccinations or specific Country requirements.

Rabies vaccination is always required before cats/dogs can be accepted on board TUI flights. The owner should retain the original documents.

#### 14.2.7 Handling procedures

Transportation must be in accordance with the IATA Live Animals Regulation (LAR). Please refer to Chapter 9, Annex C: Aircraft Specifics for loading.

##### 14.2.7.1 Acceptance

Live animals should be handled with great care at all times. Exposure to extremes of heat, cold or noise should always be avoided.

##### 14.2.7.2 Containers/Cages/Kennels

The containers are to be supplied by the passenger. When receiving the containers from the passengers, check they are in good and safe condition.

Containers must be:

- In line with the instructions published by IATA in the Live Animals Regulations Manual;
- The maximal dimensions for the container length 121 cm x width 81 cm x height 88 cm.
- The pet must be able to turn around and stand upright.

##### 14.2.7.3 Aircraft hold positions

- The position must be heated and ventilated (acclimatized and pressurized);



- b. Should not be loaded in the same hold as HUM (Human Remains);
- c. Should not be loaded in the same hold as PEM (meat), EAT (food), or PES (fish).
- d. It is recommended to always load AVIH at least 2 inches (5 cm) from the hold floor.

**Note:** Pets that are natural enemies may be loaded in the same hold provided they are not within sight of one another.

**E-Jets:** Preferred loading AVIH in Hold 1, if not enough space load AVIH in hold 2.

**B737:** Loading AVIH in Hold 1.

**B787-8:** AVIH is NOT be loaded with the following Perishable Cargo: PEM (meat), EAT (food) or PES (fish). They can however be loaded with PEF (Flowers, Vegetables & fruit). Preferred loading AVIH is in Hold 5 but hold 1 and/or 2 can be used provided 2.7.3 a, b and c is ensured.

#### 14.2.7.4 NOTOC

The aircraft Captain must always be advised when live animals are being carried in the hold.

They are noted under special cargo/load on the NOTOC.

#### 14.2.7.5 Loading & securing

- a. Should be loaded last and unloaded first, storage period on the ramp to be kept to a minimum.
- b. Shall be loaded upright and never on top of baggage
- c. Do not load directly underneath or in front of air ventilation outlets, ventilation apertures shall be left unblocked
- d. Containers should be loaded on a level surface and properly restrained in the hold to prevent movement during flight.
- e. Precautions must be taken to prevent other load from shifting and falling or leaning onto the animal container.
- f. Should not be loaded in close proximity to foodstuffs or catering equipment unless hermetically sealed.
- g. Care must be taken to ensure that the animal container is secured using suitable lashing materials, and ensuring that the air flow to the animal is not restricted/compromised.
- h. Animals are carried in the lower compartments it is advisable to open the doors at en-route stations.
- i. Animals need fresh air and sufficient light, but cannot stand draught;
- j. Care shall be taken to leave sufficient space around cages.
- k. Boxes may not be tilted to fit into aircraft hold
- l. Must not be loaded into a Unit Load Device.
- m. The animal container is either labelled or imprinted on three sides with 'this way up' and on one side with 'Live Animal' label.

B787 bulk AVIH special instructions:

- a. Ensure all cargo nets closed;
- b. Bench is approximately 5 cm (2 inch) of the ground;
- c. secure lock/ty down.

Acceptable Ambient temperature ranges for cats & dogs



## Ground Operations Western Region Annex H Live Animals

	Min °C	Min °F	Max °C	Max °F
Cat	7	45	24	75
Dog	10	50	27	80
Snub nose dog	10	50	19	66

### 14.2.7.6 Dangerous Goods Segregation

We refer to Chapter 10, Annex D - Dangerous Goods and weapons for restrictions for loading AVIH with Dangerous Goods.

**Note:** AVIH shall not be placed in a hold which also contains dry-ice (carbon dioxide)

### 14.2.7.7 Order of offload

ORDER	ITEM
1	company mail
2	company stores (non essential)
3	empty ULDs (positioning equipment)
4	commercial cargo - non perishable
5	commercial cargo – perishable
6	company stores - must go
7	live animals
8	charterers excess baggage (bicycles, sports equipment etc.)
9	AOG spares

### 14.2.7.8 Messaging

If AVIH have been booked as passenger baggage the GHA will receive a PNL showing this SSR booked.

AVI to show on LDM.

### 14.2.8 Diversions & Incidents

Should an aircraft which is carrying AVI be diverted then TUI OCC Duty Manager must be called immediately. In these circumstances, the animal(s) should only be removed from the aircraft with the prior permission of the local authority animal health inspector.

All incidents, including death, injury, sickness, and mishandling of live animals, must be reported to the TUI OCC Duty Manager immediately.



#### **14.2.9 Other Live Animal Carriage in the Hold**

All other live animals (not being domestic animals accompanied by a passenger) are booked & carried as cargo via our contracted cargo sales provider.

These bookings will be notified directly to GOC/TUI OCC & GHA by the Cargo Supplier.

Cargo documents will be delivered by the local cargo agent with the consignment

A NOTOC will be prepared by the GHA for this type of consignment to advise the Flight Crew of this consignment including any special handling instructions.

### **14.3 Domestic cats & dogs in the cabin**

#### **14.3.1 Booking procedures**

Pre-booking this service is done directly by the Customer Care or Flight Specials teams of TUI fly Belgium and TUI fly the Netherlands.

##### **14.3.2 General**

They are carried as passenger hand baggage under the Pet Travel Scheme

Pets to be accompanied by the passenger

Pets carried in the cabin of our aircraft are coded as PETC

Cats & Dogs only.

Will only be allowed to depart or arrive into the airports mentioned above in 14.1.2. 'Entry Points Belgium & Netherlands'

##### **14.3.3 Charge**

*Refer to Appendix I3 - Ancillary Sales Charges in the TAGO portal.*

##### **14.3.4 Restrictions**

- a. The pet is at least 3 months old
- b. Not allowed on long haul flights (>7 hours).
- c. Cats and dogs weighing not more than 8 kg are allowed in the cabin provided that they are carried in a suitable ("nose and paw" proof) container (a solid bag can be acceptable) which must be supplied by the passenger.
- d. Passengers travelling with more PETC booked under the same booking number can be seated to one another.
- e. If the passenger is travelling with an animal placed in a hard case, he has to be seated on a window seat and in a row that allows the case to be placed underneath the previous seat.
- f. No animals are allowed on the flight crew compartment.
- g. Pregnant live animals or animals on heat will not be accepted.
- h. Tranquilized/sedated animals will not be accepted.
- i. If from the same family, 3 cats/dogs in one suitable ("nose and paw" proof) container (a solid bag can be acceptable) are allowed under the condition that they have enough space.



#### 14.3.5 Inventory

- a. Maximum allowed per aircraft cabin are:
  - 1. B737 3 and 5 on double drop flight (e.g. Double drop between 2 destinations)
  - 2. B787 5
  - 3. E195-E2 3 and 5 on double drop flight (e.g. double drop between two destinations)

##### 14.3.5.1 Pet Travel Carrier Bag / container

- a. The pet shall remain in a sealed bag / container for the duration of the flight;
- b. Must be a nose and paw proof, closed and waterproof soft bag designed specifically for such transport;
- c. Maximum dimensions: 50x35x30cm;
- d. The animal needs to be able to stand up freely in the bag/container.

#### 14.3.6 Documentation

Passengers are responsible to keep up to date with the European regulations for the Pet Passport scheme, this includes identification, vaccination or specific Country requirements.

Rabies vaccination is always required before cats/dogs can be accepted on board TUI flights.

The owner should retain the original documents.

#### 14.3.7 Seating

- a. Must not be seated in an emergency exit seat.
- b. Must be seated at a window seat for safety reasons.
- c. Pets have to be equally divided throughout the cabin to avoid the animals interacting with one another.
- d. Must not be seated on first row.
- e. The bag/container has to be placed under the seat in front.

#### 14.3.8 Handling procedures

##### 14.3.8.1 Acceptance

Live animals should be handled with great care at all times. Exposure to extremes of heat, cold or noise should always be avoided.

##### 14.3.8.2 Diversions & Incidents

Should an aircraft be diverted the TUI OCC Duty Manager must be informed immediately and local rules and regulation for admission of animals must be followed.

In the event of an incident or accident, including death, injury, sickness, and mishandling of live animals, the event shall be immediately reported to the airline representative, the TUI OCC Duty Manager and, as required, to local authorities.

##### 14.3.8.3 NOTOC

Not required for PETC.



#### **14.3.8.4 Messaging**

If PETC have been booked as passenger hand baggage the GHA will receive a PNL showing this SSR booked.

### **14.4 Service dogs in the cabin**

#### **14.4.1 Booking procedure**

Pre-booking this service is done directly by the Customer Care or Flight Specials teams of TUI fly Belgium and TUI fly the Netherlands.

#### **14.4.2 General**

There are 4 types of assistance dogs:

- Blind guide dog
- Hearing dog
- Assistance dog (performs small tasks such as picking up things, opening doors,...)
- Medical alert dog

Per EC/ECAC regulations carriers are required to accept in cabin all 'recognized assistance dogs'. What a 'recognized assistance dog' is not specified in the regulations but is taken to mean dogs that are trained by one of the recognized training organizations

They are booked under SSR code SVAN

#### **14.4.3 Charge**

Free of Charge

#### **14.4.4 Restrictions**

Passengers cannot select a seat themselves and must call the Contact Center for TUI fly NL and Flight Specials team for TUI fly Belgium for seat allocation, and:

- a. Dogs only;
- b. No weight restriction;
- c. On a flight scheduled to take 8 hours or more, the passenger using the service dog is required to provide documentation that the dog will not need to relieve itself on the flight or that the dog can relieve itself in a way that does not create a health or sanitation issue on the flight.

#### **14.4.5 Inventory**

No restrictions for TUI fly Belgium and TUI fly the Netherlands but having more than 1 per flight is usually exceptional.

#### **14.4.6 Service Dog Travel Carrier Bag / container**

A service dog accompanying a passenger may be accepted without a bag or container.





#### 14.4.7 Documentation

Passengers are responsible to keep up to date with the European regulations for the Pet Passport scheme, this includes identification, vaccination or specific Country requirements. Rabies vaccination is always required before dogs can be accepted on board TUI flights. The owner should retain the original documents.

#### 14.4.8 Seating

Front row seat will be allocated to customer and dog (to provide as much space as possible)

The dog may not sit on an aircraft seat.

The dog must be on a lead.

The dog will be allocated the seat by the window and the adjacent seat for the customer.

No extra seat is booked for passengers travelling with service dogs. If passenger wishes to book extra seat, regular conditions apply.

Aircraft type	Row and seat
B737-800/700/MAX 8	2 E & F
E-Jet	2 E & F
B737-700/MAX 8	Bulk head are the same as in 737-800. Rule of thumb is that they are seated on the front row
B787-8	13 A & B

#### 14.4.9 Handling procedures

##### 14.4.9.1 General

A trained service animal may be carried in the cabin, free of charge, if it accompanies a passenger who is dependent upon it. The carriage of service animals comprises guidance dogs for the blind or visually impaired passengers, hearing dogs who are individually trained to alert deaf or hard of hearing handler to a variety of environmental sounds, assistance dogs for mobility impaired passengers who are individually trained to assist persons with physical disabilities that effect mobility, and medical alert dogs in case of by example diabetic or epileptic passengers.

##### 14.4.9.2 Acceptance

Service animals have to be trained and should have certificates. The owner should hold the certificate and has to provide it at check-in.

##### 14.4.9.3 Diversions

Should an aircraft be diverted the Operations Duty Manager must be informed immediately and local rules and regulation for admission of animals must be followed.



In the event of an incident or accident, including death, injury, sickness, and mishandling of live animals, the event shall be immediately reported to the airline representative, the TUI OCC Duty Manager and, as required, to local authorities.

#### **14.4.9.4 NOTOC**

Not required for SVAN.

#### **14.4.9.5 Messaging**

If SVAN have been booked as passenger hand baggage the GHA will receive a PNL showing this SSR booked.

This will also show on the PAL (Passenger Assistance List) to the PWD assistance company.

### **14.5 Emotional Support animals in the cabin**

#### **14.5.1 Booking Procedures**

Pre-booking this service is done directly by the Customer Care or Flight Specials teams of TUI fly Belgium and TUI fly the Netherlands.

#### **14.5.2 General**

- a. They are carried as passenger hand baggage under the Pet Travel Scheme
- b. Pets carried in the cabin of our aircraft are coded as SVAN, text to identify this is an emotional support dogs will show in the SSR notes.
- c. Cats & Dogs only.
- d. Will only be allowed to depart or arrive into the airports mentioned see GOM Annex H, chapter 14.1.2: '[Entry Points Belgium & Netherlands](#)'
- e. For passengers originating from the US, the following applies: If a passenger seeks to travel with an emotional support or psychiatric service dog, this is always allowed.
- f. Not allowed on TUI fly Belgium flights except MIA/SFB

#### **14.5.3 Charge**

No Charge.

#### **14.5.4 Restrictions**

For flights to/from the USA we also need to comply with the ACAA, which means we need to accept Emotional support and Psychiatric animals. Non-US carriers are only required to accept dogs.

- a. A pet travel carrier bag (if required) must be supplied by the passenger.
- b. Pet must be at least 1year old at time of flight.
- c. No weight restriction
- d. On a flight scheduled to take 8 hours or more, the passenger using the service dog is required to provide documentation that the dog will not need to relieve itself on the flight or that the dog can relieve itself in a way that does not create a health or sanitation issue on the flight.



#### **14.5.5 Inventory**

Please refer to inventory of PETC.

##### **14.5.5.1 Pet Travel Carrier Bag / container**

Please refer to information provided under PETC section.

#### **14.5.6 Documentation**

Please refer to information provided under PETC section.

The passenger shall provide current documentation (i.e. not older than one year from the date of the passengers scheduled initial a medical doctor specifically treating the passenger's mental or emotional disability (e.g. psychiatrist, psychologist, licensed clinical social worker) stating the following:

The passenger has a mental or emotional disability;

The passenger needs the emotional support or psychiatric service dog as an accommodation for air travel and/or for activity at the passenger's destination;

The individual providing the assessment is a licensed mental health professional, and the passenger is under his or her professional care; and the date and type of the mental health professional's license and the state or other jurisdiction in which it was issued.

In the case of emotional support, the passenger must have an English-language certificate from a certified doctor stating that the dog is required when flying.

#### **14.5.7 Seating**

Bulk head seating.

#### **14.5.8 Handling procedures**

##### **14.5.8.1 Acceptance**

Passenger to provide documentation as stated in section 13.5.6.

##### **14.5.8.2 Diversions & Incidents**

Should an aircraft be diverted the TUI OCC Duty Manager must be informed immediately and local rules and regulation for admission of animals must be followed.

In the event of an incident or accident, including death, injury, sickness, and mishandling of live animals, the event shall be immediately reported to the airline representative, the TUI OCC Duty Manager and, as required, to local authorities.

##### **14.5.8.3 NOTOC**

Not required for PETC.



#### **14.5.8.4 Messaging**

If PETC have been booked as passenger hand baggage the GHA will receive a PNL showing this SSR booked. The SSR note will identify that it's an Emotional Support Dog.



## 15 Annex I Aviation Security

### 15.1 General

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**CAUTION!** The following policies and procedures laid down in this chapter is considered classified information and strictly confidential. Dissemination of any information with persons without a need-to-know and third parties is prohibited.

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#### 15.1.1 Applicable Law

EU regulation no. 300/2008, no. 2015/1998 and related decisions are applicable to TUI fly Belgium and TUI fly the Netherlands.

#### 15.1.2 Key contacts

On matters relating to policy in connection with the implementation of security, the principal contact for both TUI airlines is [security@tuifly.be](mailto:security@tuifly.be).

It is recognized that every detail of local variation has not been covered in this document. In case of variations of local practice, authority for variation must be made with the TUI security department.

#### 15.1.3 Security issues

The following events, but not limited to, should be reported to the TUI security department:

- a. Refused departing passengers due to:
  - 1. Unruly behavior; or
  - 2. Invalid travel documents.
- b. Arriving inadmissible passengers;
- c. Airport and / or aircraft security breaches;
- d. Physical hold baggage identification
- e. Bomb threat
- f. Hijack threat;
- g. Any unlawful interference with an aircraft, or interference with anything that may be loaded onto an aircraft;
- h. Unauthorized access to aircraft;
- i. Any demonstration or terrorist activity that may affect airport operations;
- j. Narcotics found on board or on passengers;
- k. Problems with the issuance of airport identification cards
- l. Transfer of undeclared lithium batteries in hold baggage to cabin baggage
- m. Changes to local security regulation.

For events described under a) complete form Refused Pax form in TAGO portal.

For events described under b) complete form INAD form in TAGO portal



## 15.2 Access Control

### 15.2.1 Access to security restricted areas

Access to security restricted areas may only be granted if persons and vehicles have a legitimate reason to be there and are in possession of a valid identification card.

### 15.2.2 Airport identification card

The airport identification card shall be worn in a visible place at least whenever the holder is within all airport buildings, on the ramp, or in any other security restricted area. A person who is not displaying his card in security restricted areas other than those areas where passengers are present shall be challenged and as appropriate be reported by the ground handling agent.

TUI aircrew may access the security restricted area without an airport identification card, but with a valid aircrew identification card.

Contact the TUI OCC if a TUI aircrew identification card is found.

## 15.3 Aircraft security

### 15.3.1 Aircraft access control

Regardless of where an aircraft is parked at an airport, it has to be protected against unauthorized access. Any ground handling agent has a duty to promptly challenge any person seeking access to any part of the aircraft.

Ground handling agents must:

- a. Check the airport ID for matching the photo with the owner of the ID.
- b. The name of the current airport.
- c. The expiry date.
- d. Check the legitimate reason to be in or near the aircraft.

Entry has to be denied to persons:

- a. Who do not comply with the above mentioned conditions;
- b. When in doubt.

The commander and the local authorities have to be informed immediately when:

- a. Access authorization or the identity of a person are in doubt;
- b. A person refuses the above mentioned checking; or
- c. In case of acts endangering the aircraft.

#### 15.3.1.1 Aircraft handover

Before leaving the aircraft, the handling agent has to assure that the procedures above are strictly adhered to. When the next aircrew is not available, the ground handling agent must handover the aircraft to:

- a. Other operational TUI Group airlines staff; or
- b. TUI Group airlines or contracted engineer; or
- c. EU contracted catering company; or
- d. EU contracted cleaning company; or
- e. Contracted security service provider.



With the exception of the countries listed below, the ground handling agent cannot handover the aircraft to non-EU catering staff and cleaning staff.

Country	Limited to
Greenland	Kangerlussuaq Airport
Guernsey	-
Isle of Man	-
Jersey	-
Montenegro	-
Republic of Serbia	Belgrade Nikola Tesla
Republic of Singapore	Singapore Changi Airport
State of Israel	Ben Gurion International Airport
United States of America	-

Procedures described in chapter 4 apply in case the aircraft cannot be handed over to a person who is permitted to attend the aircraft.

Persons must be present, either anywhere on board, or on the apron within the footprint of the aircraft. The footprint is the ground area immediately around an individual aircraft profile from wingtip to wingtip and nose to tail.

#### 15.3.1.2 Challenging

In case the aircrew is not on board, the ground handling agent shall remove any persons on board that are not involved with any turn-around related services. The objective of this procedure is to ensure the aircraft is protected against unauthorised access/actions at all times.

Persons showing suspicious behaviour and/or are (seemingly) not involved with any turn-around related services on board must:

- Be challenged promptly; or
- Be removed.

#### 15.3.2 Aircraft security search

##### 15.3.2.1 When to do an aircraft cabin security search

The ground handling company will be instructed by TUI when an aircraft security search is required.

When clearly instructed and contracted, the aircraft security search shall be conducted prior departure.



#### **15.3.2.2 Scope of the aircraft external security search Aircraft holds**

Ground handling personnel tasked with the un/loading of the holds are responsible for, visually or when required physically, verifying that all holds (on larger planes also the bulk compartment) are empty before loading and no prohibited articles or suspect objects are left behind.

#### **Aircraft service panels and hatches**

Ground handling personnel tasked with toilet servicing or potable water uplift are responsible for, visually and when required physically, verifying that the toilet and potable water compartments are empty and no prohibited articles or suspect objects are left behind.

#### **15.3.2.3 Aircraft security search with other service providers on board**

Contracted service providers may be on board during an aircraft security search under the following precautions:

##### **Within the EU:**

Where an aircraft is in a SRA-CP, the aircraft security search may be performed whilst contracted service providers are on board the aircraft.

Where an aircraft is in a part other than a SRA-CP, the aircraft security search may be performed whilst contracted service providers and their items carried are on board and under supervision (in line of sight of the ground handling agent).

##### **Outside the EU**

When an aircraft is searched outside the EU, the aircraft security search may be performed whilst contracted service providers are on board provided that they and their items carried are under supervision (in line of sight of the ground handling agent).

#### **15.3.2.4 Information on the aircraft security search**

The commander has to be informed about the completion of the aircraft security search in any verbal or written form by the ground handling agent.

#### **15.3.2.5 When a prohibited article is found**

Prohibited articles, including but not limited to those listed in 14.3.2.7 shall be identified during the aircraft security search. When a prohibited article or suspicious object is found the ground handling agent must immediately:

- a. follow local escalation procedures; and
- b. inform the Commander and the TUI OCC.

(Non) suspicious object found during the aircraft security search shall be removed from the aircraft.

#### **15.3.2.6 When a suspect narcotic substance or drug is found**

It is prohibited by the applicable national laws to carry narcotic drugs in either the aircraft cabin or hold. When a suspect narcotic substance or drug is found, do not touch it and immediately:

- a. follow local escalation procedures; and
- b. inform the Commander and the TUI OCC.





- c. The appropriate authorities has to remove the narcotic substance from the aircraft

#### 15.3.2.7 List of prohibited articles during aircraft security search

- Guns, firearms and other devices that discharge projectiles – devices capable, or appearing capable, of being used to cause serious injury by discharging a projectile
- Stunning devices – devices designed specifically to stun or immobilise
- Objects with a sharp point or sharp edge – objects with a sharp point or sharp edge capable of being used to cause serious injury
- Workmen's tools – tools capable of being used either to cause serious injury or to threaten the safety of aircraft
- Explosives and incendiary substances and devices – explosives and incendiary substances and devices capable, or appearing capable, of being used to cause serious injury or to pose a threat to the safety of aircraft
- Blunt instruments – objects capable of being used to cause serious injury when used to hit
- Any other article capable of being used to cause serious injury or damage to the aircraft.

## 15.4 Protection of aircraft

### 15.4.1 General

The following table determines which security measures are mandatory when the aircraft becomes unattended i.e. no attendance overseer is in or near the aircraft.

Aircraft location	Close Cabin Doors, Cargo Doors, Service Panels and Hatches	Remove access aids	Sealing	Monitoring
EU SRA-CP	Yes	Optional	Optional	Optional
EU outside SRA-CP	Yes	Yes	Yes	No <sup>1</sup>
Outside EU	Yes	Yes	Yes	No <sup>1</sup>

**Note:** <sup>1</sup>The aircraft shall either be sealed or monitored. Aircraft monitoring is usually arranged by the company for planned layovers. In an unforeseen situation aircraft sealing is the most sensible and quickest option. When in doubt always call the appropriate operations department for guidance.

### 15.4.2 Aircraft sealing procedure

Instructions will be made available by TUI security in case sealing is required.

Where a sealing is required, all cabin doors/exits, cargo hold doors (without the use of access aids), exterior panels, hatches and the AE3 avionics bay access door(s) shall be sealed.

### 15.4.3 Sealed external doors or panels

Do not open sealed external doors or panels, unless

- The aircraft has been sealed by the ground handling company; or
- Specific approval is received by TUI OCC.



#### 15.4.4 Tampered, Broken or Missing Seal

In the event that a seal is found to have been tampered with, or is missing where a seal would have been required,

1. This must be raised as a security incident. It must be assumed there has been unlawful access to the aircraft until a satisfactory explanation can be established. The Ground handling company shall commence an investigation and consider informing the local authorities.
2. The Ground handling company shall inform the PIC as a thorough search of the aircraft must be carried out before operation.
3. If a suspect item is discovered during a search, local law enforcement must be contacted for advice.

### 15.5 Passenger handling

#### 15.5.1 Issuing the boarding card

Prior to issuing a boarding card the following checks must be completed.

- a. Passengers must have a valid ticket/booking before they are allowed to travel; and
- b. Passengers must provide valid government issued identification documents on intra-Schengen flights;
- c. Passengers must provide a passport/travel documents on all flights excepts flights under 15.5.1(b);

##### TFL-NL

Passenger boarding cards will only be issued when entry requirements till the final destination are met (consult the travel information manual).

Contact a supervisor if there is any doubt that the passenger is seeking to enter a country in which it transfers onto another non-TUI flight. If the supervisor cannot find any onward booking with the carrier the passenger must be refused, unless the passenger has the required passport/travel documents to enter the country.

##### End TFL-NL

##### JAF-BE

Passenger boarding cards will only be issued when entry requirements till the last point of arrival on a TUI fly Belgium flight are met.

##### End JAF-BE

- d. The name on all passport/travel documents must be checked against the name of the passenger on the ticket to ensure the names are an exact match; and
- e. The photos on all passport/travel documents must be checked against the passenger and must be an exact match; and
- f. On Schengen – non-Schengen flights and on non-Schengen – Schengen flights, the passport/travel documents must be checked to ensure that the passenger is eligible for entry in the destination country; and
- g. If there is any doubt that the travel document is valid to enter the destination, contact the supervisor. If the supervisor is not sure contact Customer Care. See TAGO Portal KeyContacts.  
If there is any doubt that the passenger is not the owner of the travel document, contact the supervisor. If necessary contact the local immigration department.



1. If local immigration confirms passenger is the owner, the passenger can be accepted.  
Copy the documents and fill in Appendix F2 - Refused Pax Form to be found in the TAGO Portal. Mention local immigration confirmed passenger is the owner. Send to the applicable email address as stated on the form.
2. If Immigration confirms passenger is not the owner, the passenger must be refused. Local immigration will arrest the passenger and documents will be confiscated.  
In all cases of refused passengers copy the documents and fill in Appendix F2 - Refused Pax Form to be found in the TAGO Portal. Send to the applicable email address as stated on the form.

### **15.5.2 Boarding**

Prior to permitting a passenger to board an aircraft the following checks must be completed:

- a. There is one boarding card for each passenger entering the aircraft (including infants);
- b. Each boarding card is valid for the flight and states the correct flight number, date and destination.
- c. Any passenger entering an aircraft must be in possession of valid documents conform
- d. GOM Annex I, chapter 15.5.1 (b) and (c);
- e. The name on the passport/travel documents must be checked against the name of the passenger on the boarding card to ensure the names are an exact match.
- f. The photos on all passport/travel documents must be checked against the passenger and must be an exact match.

If there is any doubt that the passenger is not the owner of the passport/travel document, a supervisor must be called. If the supervisor is satisfied the person matches the passport/travel document, they are to be cleared to board the aircraft. If the supervisor is not satisfied contact TUI OCC for guidance.

### **15.5.3 Prior departure**

Prior to aircraft departure, a check on the number of passengers must be made to ensure that the number of passengers boarded is an exact match with the number checked-in. Any missing passengers must be reported to the commander. They must either be located and boarded, or their hold baggage off-loaded; to achieve this may require a full positive baggage identification.

The ground handling company is responsible for providing the actual number of passengers on board after boarding has been completed. Provide the figures to the SCCM or commander.

### **15.5.4 Unruly passengers**

With regards to unruly passengers, only the commander or TUI OCC and security department can refuse passengers and his cabin and/or hold baggage. He can delegate this task to the ground handling company, security company and/or airport police.

#### **15.5.4.1 Zero tolerance towards unruly passengers**

TUI has a zero tolerance policy towards any unruly behavior. No unruly behavior is acceptable and appropriate measures will be taken to counter the level of aggression. The primary objective is to ensure the safety of all personnel and passengers involved.



The following measures shall be taken to empower the zero tolerance policy;

- TUI will not allow any physical, verbal assault or sexual harassment by passengers on TUI aircraft or employees acting on behalf of TUI whilst they are on duty and/or on board TUI aircraft;
- TUI will not permit a passenger to board TUI aircraft where there are reasonable grounds to believe the person's abilities are impaired by alcohol to an extent that they will present a hazard to the aircraft, to persons on board both passengers or aircrew or himself;
- All flights are non-smoking flights. Smoking is not permitted at any place or at any time on board TUI aircraft. This also applies to artificial cigarettes;
- Passengers showing signs of unacceptable unruly behaviour during boarding shall be denied boarding in the interests of flight safety;
- As per national law, the commander and cabin crew (as witnesses) can press charges against any unacceptable unruly passenger or report any unacceptable unruly behaviour at the operating base and/ or if possible also to the responsible authorities;
- Any unruly event should be reported to the TUI security department by means of the passenger disturbance report (PDR) and should include: the event, all available passenger information (at least first and last name, gender, date of birth and PNR) and exact wording of threats and any actions taken;
- When necessary, the commander shall invoke the powers of the Tokyo convention in order to ensure flight safety; and
- TUI will encourage the local competent authorities to prosecute unruly passengers, especially where there have been assaults on TUI employees.

#### **15.5.4.2 Levels of threat for unruly behavior**

The levels of threat for unruly behavior are as follows:

##### **Level 1 – Disruptive behavior (verbal)**

- The use of unacceptable language towards a crew member such as swearing or use of profane, abusive language;
- Unacceptable behaviour towards a crew member such as communicating displeasure through voice tone or rude gesture, provoking an argument or making unreasonable demands (e.g. refusal to give up on a denied request);
- A display of suspicious behaviour such as e.g. agitated or numb, distant and unresponsive behaviour (due to alcohol or drugs);
- Passenger not following crew instructions or challenging authority;
- Intentional or continued violation of a safety regulation or policy (e.g. PED usage, fasten seatbelt, cabin baggage stowage, consumption of alcohol);
- Inappropriate verbal abuse/harassment of a person due to their religion, sex, orientation, race or physical attributes.

##### **Level 2 – Physically abusive behavior**

- Physically abusive behaviour towards a crew member such as openly or aggressively hostile action that includes physical act or contact (pushing, slapping, kicking); or
- Obscene or lewd behaviour towards a crew member or passenger such as actions of an overtly sexual, lecherous or lascivious nature (grabbing); or
- Verbal threats such as threatening a crew member or another passenger with physical violence or bodily harm on board or while about to board an aircraft, or making threats in an attempt to board an aircraft; or



- Tampering with any emergency or safety equipment on board the aircraft; or
- Attempt to open a door/exit inflight;
- Deliberately damaging any part of the aircraft or any property on board the aircraft.

#### **Level 3 – Life-threatening behavior (or display of a weapon)**

- The threat, display or use of a weapon (examples of weapons are: guns, explosives, knives, chemicals, gases, flammable liquids, wires or cords, even pencils etc.); or
- Physical or sexual assault with intent to injure (violent, threatening, intimidating or disorderly behaviour);
- Actions threatening own life;  
Actions threatening the safe operation of the aircraft.

#### **Level 4 – Attempted or actual breach of the flight crew compartment**

- An attempted or unauthorized intrusion into the flight crew compartment
- A credible threat of death or serious bodily injury in an attempt to gain control of the aircraft
- The display, use or threat to use a weapon to breach the flight crew compartment
- Sabotage of or the attempt to sabotage an aircraft
- Actions that render the aircraft incapable of flight or that are likely to endanger its safety of flight
- Any attempt to unlawfully seize control of the aircraft

#### **15.5.4.3 Guidelines for dealing with unruly passengers**

Guidelines for dealing with unruly passengers are;

- a. Stay calm and try to reason with passenger and de-escalate situation
- b. Put hold baggage on stand-by
- c. The ground handling company shall in any case report any unruly behavior to the crew or TUI OCC as soon as practicable.
- d. Inform aircrew and/or company operations department with mention of passenger names and date of birth. In all cases, the Commander of the flight must be notified that passengers have been denied check-in or boarding.
- e. If required, contact airport police
- f. If required, press charges against the passenger or report to the responsible authorities.  
We will encourage the local competent authorities to prosecute unruly passengers, especially where there have been assaults on our employees or subcontractors.

#### **15.5.5 DEPO, INAD and persons in lawful custody**

Prior approval from TUI security is required before a DEPU, DEPA, ANAD and persons in lawful custody is accepted on any TUI flight. Inform the authority arranging the booking that prior approval is required from TUI security.

Prior approval from the Commander is required before boarding any DEPO, INAD and persons in lawful custody.

##### **15.5.5.1 Travel documents of INAD**

After the flight, the SCCM could hand over the travel document to the ground handling company, local immigration or station manager.



### 15.5.5.2 Security measures

INAD, DEPO and persons in lawful custody will be brought on board before all other passengers and:

- a. ANAD, DEPO and persons in lawful custody board the aircraft via the rear passenger step; and
- b. Will be seated in economy class, preferably at the rear of the aircraft, unless otherwise decided in agreement with the Commander; and
- c. Should not be seated next to any exit door or in any aisle seat.

There is a maximum number of ANAD, DEPO and persons in lawful custody allowed on board according to the type of the aircraft:

Aircraft type	Maximum number of ANAD, DEPO and persons in lawful custody allowed on board
E-Jets	2
B737	2
B787	4

Exemptions to this limit can only be granted by the TUI Security department.

**Note:** an infant is never considered INAD, DEPO or person in lawful custody.

## 15.6 Cabin baggage

### 15.6.1 Prohibited articles

Passengers shall not be permitted to carry on board an aircraft the following prohibited articles:

- a. Guns, firearms and other devices that discharge projectiles;
- b. Stunning devices;
- c. Objects with a sharp point or sharp edge;
- d. Workmen's tools;
- e. Blunt instruments;
- f. Explosives and incendiary substances and devices;
- g. Any other object, tool or device capable of being used either to cause serious injury or to threaten the aircraft safety; and
- h. A limited amount of liquids, aerosols and gels (LAGs) conform the EU security regulation.

The ground handling company shall ensure that passengers are informed of the prohibited articles before check-in is completed.

### 15.6.2 When a prohibited article is found

When a prohibited article is found call the local authorities for removal.

If an explosive or incendiary substance or device is found:

- a. On Commander's discretion, disembark the aircraft;
- b. Contact the local authorities;



- c. Contact TUI OCC and report the situation.

### 15.6.3 Transfer of undeclared lithium batteries in hold baggage to cabin baggage.

The following security measures are applicable in case undeclared lithium batteries are identified in hold baggage. These measures are only applicable for lithium batteries and can not be used for other articles.

If your stations is listed below continue to section 15.6.3.1, if not section 15.6.3.2.

Countries	Limited to
Austria	-
Belgium	-
Bulgaria	-
Canada	-
Croatia	-
Cyprus	-
Czechia	-
Denmark	-
Estonia	-
Faroe Islands, in regard to Vagar airport	-
Finland	-
France	-
Germany	-
Greece	-
Greenland, in regard to Kangerlussuaq airport	-
Guernsey	-
Hungary	-
Iceland	
Ireland	-
Isle of Man	-
Italy	-
Jersey	-
Latvia	-



Countries	Limited to
Liechtenstein	
Lithuania	-
Luxembourg	-
Malta	-
Montenegro	-
Netherlands	-
Norway	-
Poland	-
Portugal	-
Republic of Serbia	Belgrade Nikola Tesla Airport
Republic of Singapore	Singapore Changi Airport
Romania	-
Slovakia	-
Slovenia	-
Spain	-
State of Israel	Ben Gurion Airport
Sweden	-
Switzerland	-
United Kingdom	-
United States of America	-

#### 15.6.3.1 Applicable stations

At the departure airport passengers are advised by the crew that they cannot take lithium batteries in their hold baggage. Passengers that make themselves known to the aircrew are required to remove their lithium battery from the hold baggage. The lithium battery can be moved to the cabin only after successfully completing this procedure.

When instructed by the SCCM:

1. Retrieve the hold baggage which corresponds with the provided hold baggage tag number. Visual characteristics of the hold baggage provided by the passenger can aid and expedite search efforts.
2. Place the hold baggage in the air bridge or on the stairs at the foot of the cabin door.
  - a. Inform the Commander or the SCCM if the hold baggage cannot be found. Follow their instructions afterwards.





3. No person other than the passenger can open, retrieve the lithium battery and close the hold baggage.
4. Nothing can be added to the hold baggage. Nothing, besides the lithium battery, can be removed from the hold baggage.
5. The persons moving the hold baggage to the passenger and back to the aircraft hold is responsible for the integrity of the hold baggage.
6. Once the lithium battery has been retrieved by the passenger the hold baggage may be placed in the aircraft hold after specific instruction of the SCCM.
7. If for whatever reason the lithium battery is rejected follow the local airport security procedures and do not allow the device on board.
8. Raise a Safety Report in IQSMS when either a lithium battery was accepted to the cabin or rejected.

#### **15.6.3.2 Security procedures for other stations**

At the departure airport passengers are advised by the crew that they cannot take lithium batteries in their hold baggage. Passengers that make themselves known to the aircrew are required to remove their lithium battery from the hold baggage. The lithium battery can be moved to the cabin only after successfully completing this procedure.

When instructed by the SCCM:

1. Retrieve the hold baggage which corresponds with the provided hold baggage tag number. Visual characteristics of the hold baggage provided by the passenger can aid and expedite search efforts.
2. Place the hold baggage in the air bridge or on the stairs at the foot of the cabin door.
  - a. Inform the Commander or the SCCM if the hold baggage cannot be found. Follow their instructions afterwards.
3. No person other than the passenger can open, retrieve the lithium battery and close the hold baggage.
4. Nothing can be added to the hold baggage. Nothing, besides the lithium battery, can be removed from the hold baggage.
5. The persons moving the hold baggage to the passenger and back to the aircraft hold is responsible for the integrity of the hold baggage.
6. Once the lithium battery has been retrieved by the passenger the hold baggage may be placed in the aircraft hold after specific instruction of the SCCM.
7. In concert with the SCCM decide whether to rescreen or reject the lithium battery:
  - a. Take the lithium battery to the passenger/cabin baggage screening filter or if applicable gate security screening filter, in case the lithium battery has to be rescreened. Return the lithium battery to the SCCM after it has been screened conform cabin baggage standards; or
  - b. In case the lithium battery is rejected follow the local airport security procedures and do not allow the device on board.
8. Raise a Safety Report in IQSMS when either a lithium battery was accepted to the cabin or rejected.



## 15.7 Hold baggage

### 15.7.1 General

Each piece of hold baggage shall be protected against unauthorized access from the point it is accepted for carriage (including off-airport check-in) or screened, whichever is earlier up until it is loaded into the aircraft hold. 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. Screened hold baggage shall be kept under surveillance at all times (CCTV, physical presence etc.) for the following locations:

- a. Outside the EU; and
- b. outside the SRA-CP (within the EU).

Rescreen hold baggage whenever there is reason to believe the hold baggage was subject to unlawful interference.

Baggage accepted for carriage in the hold must never be placed in the aircraft cabin, including crew hold baggage.

### 15.7.2 Minimum requirements

TUI requires the following measures to be in place for all departures:

- a. All baggage tags must have a unique identification number;
- b. baggage manifest must be raised for each flight;
- c. when a flight is sub-chartered to another operator, TUI procedures and policies for baggage reconciliation will apply unless an alternate procedure is approved by the TUI security.

### 15.7.3 Prohibited articles

Passengers shall not be permitted to carry on board an aircraft the following prohibited articles:

- a. Explosives and incendiary substances and devices capable of being used to cause serious injury or to pose a threat to the safety of aircraft, including:
  1. ammunition
  2. blasting caps;
  3. detonators and fuses;
  4. mines, grenades and other explosive military stores;
  5. fireworks and other pyrotechnics;
  6. smoke-generating canisters and smoke-generating cartridges;
  7. dynamite, gunpowder and plastic explosives.

The ground handling company shall ensure that passengers are informed of the prohibited articles before check-in is completed.

### 15.7.4 Protection of hold baggage

Once hold baggage has been screened and reached the baggage make up area, it must be promptly placed in a ULD or onto a baggage trolley.



The ULD or baggage trolley must be protected against unlawful interference. Any person approaching the ULD or baggage trolley must be challenged to safeguard the hold baggage from unlawful interference.

Hold baggage must be rescreened when:

- a. it is found tampered with
- b. specific instructions are received by the airport authority or Commander.
- c. left unattended outside the EU or outside the SRA-CP (within the EU).

#### **15.7.5 Alternative to manual bingo cards**

The process of identification, and the production of a hold baggage manifest, may be achieved by either manual or automated electronic means.

#### **15.7.6 Baggage manifest**

As a minimum the baggage manifest must include the following parameters;

- a. Date and flight number
- b. Departure and destination airport
- c. Number of accompanied hold baggage
- d. Number of unaccompanied hold baggage
- e. Number of checked-in crew hold baggage
- f. Number of Company mail and materials
- g. Number of transfer hold baggage
- h. A declaration confirming all reasonable steps have been taken to ensure that hold baggage has been appropriately identified and recorded on the hold baggage manifest and that unaccompanied baggage has been appropriately screened.

The baggage manifest should be retained in the flight file after each departure for three months.

#### **15.7.7 Physical hold baggage identification procedure**

When unaccompanied hold baggage is suspected to be on board and cannot be identified by the ground handling company, the Commander shall ensure that the full 'physical hold baggage identification' procedure is conducted. The ground handling company ensures that passengers are monitored on the ramp throughout this procedure.

When it is considered necessary to conduct 'passenger and physical hold baggage identification', the following procedures must be adopted:

- a. The holds must be emptied of passenger's hold baggage and checked if nothing is left behind;
- b. Sufficient baggage handlers should be made available and all hold baggage must be placed on the tarmac in parallel rows beyond the wings of the aircraft;
- c. There should be sufficient gaps in the rows and space between them to enable the passengers to walk between the rows to identify their hold baggage.
- d. Preferably two exits will be used, one stair will be positioned at the front exit and one at the rear exit; If possible, use one set of steps for the passengers to disembark from the aircraft and another for them to re-board after identifying their hold baggage;



- e. A Cabin Crew Member shall be positioned at the top and a ground staff member at the bottom of each stair to direct passengers to / from hold baggage check and make sure they are not smoking and walking under the wing;
- f. A maximum of 10 passengers will be allowed outside the aircraft at the same time;
- g. Ground staff must ensure that the identification is carried out in an orderly manner and that when a passenger has identified his/her hold baggage, the baggage shall be loaded onto a baggage cart and/or ULD;
- h. It is important to ensure that passengers never be allowed to take any of the hold baggage identified into the cabin of the aircraft with them, neither should they be allowed to remove any item from the hold baggage and take on board the aircraft with them;
- i. In all cases where the hold baggage has not been identified after passenger/baggage identification, the baggage tag number and the name on the unidentified hold baggage should be noted and an announcement made over the public address system for the owner to come forward to identify the remaining baggage on the tarmac;
- j. Hold baggage that is not identified shall be treated as unaccompanied baggage.

### 15.7.8 Unaccompanied hold baggage

If the passenger is not on board the aircraft, the hold baggage corresponding to his boarding card or equivalent shall be considered as unaccompanied.

### 15.7.9 Appropriate security controls for unaccompanied hold baggage

Hold baggage that becomes unaccompanied baggage due to factors other than those mentioned in Annex I - 14.7.10. Factors beyond the passenger's control shall be:

- a. Rescreened as unaccompanied baggage; or
- b. Rejected.

### 15.7.10 Factors beyond the passenger's control

For the purpose of the transport of unaccompanied hold baggage, the following may be considered as factors beyond the passenger's control:

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**CAUTION! Situations where a passenger could have engineered their own removal from the flight such as, but not limited to, medical conditions or unruly behavior, shall not be considered as factors beyond the passenger's control.**

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- a. The passenger was denied boarding and he did not volunteer to give up his seat; or
- b. The passenger and/or his hold baggage was re-routed onto another flight and it was not at his request; or
- c. The baggage failed to transfer between two flights and the passenger travelled on the flight on which he was checked-in; or
- d. There was a malfunction of the baggage system, causing the baggage to miss the departing flight; or
- e. The baggage was loaded onto an aircraft other than that for which it was checked-in and if the passenger did travel on the flight on which he was checked-in; or
- f. The airline decides not to load or unload the hold baggage for operational reasons and the passenger has not influenced the decision by changing his travel itinerary i.e. he travelled on the flight on which he was checked-in.



## 15.8 Bomb threat

Any kind of bomb threat will be one of the following:

- a. Threat against the company in general;
- b. Threat against an aircraft of the company on ground; and
- c. Threat against an aircraft in flight.

Because it is practically impossible to determine if a dangerous situation really exists or if it is only an hoax, every bomb threat must be taken seriously.

**Action:** Immediately report any bomb threat to the local authorities and TUI OCC department for assessment using the emergency contact details.

**Note:** Complete the bomb threat checklist when a bomb threat is received via the telephone. It is available in the TAGO portal as Appendix F12 Bomb Threat Checklist.

## 15.9 Hijack

It is our policy that in any hijack situation, the safety of persons on the ground, passengers, crew and aircraft – in this order - shall have priority over every other consideration.

**Action:** Immediately report any hijack threat to the local authorities and TUI OCC.

## 15.10 Company Mail

### 15.10.1 Carried in the Cabin

Company mail and material transported as cabin baggage and treated as such, can only be handed over to the ground handling company by:

- a. TUI personnel only in combination with a TUI identification card; and
- b. Third party contracted companies by TUI with specific instructions provided by TUI to accept the company mail for transport.

The mail must be clearly marked:

- c. 'Company Mail'; or
- d. 'COMAIL'.

Local station procedures are to be followed for aircrew to collect company mail and carry to and on board the aircraft.

Company mail carried in the cabin must be screened to an equivalent level as cabin baggage.

### 15.10.2 Carried in the Hold

Company mail and material transported as hold baggage and treated as such, can only be handed over to the ground handling company by:

- a. TUI personnel only in combination with a TUI identification card; and
- b. Third party contracted companies by TUI with specific instructions provided by TUI to accept the company mail for transport.

Company mail carried in the hold must be screened to an equivalent level as hold baggage.



Figures of the company mail shall be included in the load sheet and/or baggage manifest accordingly.

## 15.11 Air carrier materials used for passenger and baggage processing

### General provisions

Air carrier materials which are used for the purposes of passenger and baggage processing and which could be used to compromise aviation security shall be protected (e.g. locked away) or kept under surveillance in order to prevent unauthorised access.

Self-check-in allowed for use by passengers shall be considered as authorised access to such materials.

Discarded materials which could be used to facilitate unauthorised access or move baggage into the security restricted area or onto the aircraft shall be destroyed or invalidated.

Tickets, boarding cards and baggage labels must not be left unattended in a printer unless they are currently in use or the materials are locked away.

Departure control systems and check-in systems shall be managed in such a manner as to prevent unauthorised access.

## 15.12 Cargo handling at non EU locations

### 15.12.1 General

Uplifting cargo and mail into TUI aircraft is prohibited, unless the departing station:

- a. Is listed in table below; or
- b. The departure station has a valid ACC3 status (for more information refer to 12.2); or
- c. Has received a specific approval/exemption to uplift cargo on an ad-hoc basis from TUI.

Argentine Republic
Canada
Commonwealth of Australia
Federative Republic of Brazil
Guernsey (United Kingdom)
Hong Kong, Special Administrative Region of the People's
Republic of China
Isle of Man (United Kingdom)
Japan
Jersey (United Kingdom)
New Zealand



People's Republic of China
Republic of Chile
Republic of Korea
Republic of Singapore
Republic of South Africa
State of Israel
Taiwan
United States of America

#### 15.12.2 ACC3 status

The ground handling company can review the Air cargo and mail carrier operating into the European Union from a Third Country Airport(ACC3) status on the following website (<https://ksda.ec.europa.eu>) by entering the IATA airport code of the departing station and air carrier code (OR or TB).

#### 15.12.3 Protection of cargo

The ground handling company shall have processes in place to ensure EU bound air cargo and / or mail is protected from unauthorized interference from:

- a. The point security screening or other security controls are applied; or
- b. The point of acceptance after screening or security controls have been applied, until loading.

The ground handling company shall monitor EU bound secured cargo or mail on the ramp until it is loaded into the aircraft.

Damaged or otherwise suspicious cargo and mail shall be reported to the cargo handling company.

### 15.13 Recruitment and training

#### 15.13.1 General obligations

Persons shall have successfully completed relevant training before being authorised to implement security controls unsupervised.

Initial and recurrent training records shall be kept for all persons trained for at least the duration of their contract.

#### 15.13.2 Training requirements and background

Persons being recruited to implement, or to be responsible for the implementation of, screening, access control, aircraft security search, security controls for cargo and mail or other security controls in a security restricted area shall have successfully completed a background check.



Persons being recruited to implement, or to be responsible for the implementation of, screening, access control or other security controls elsewhere than a security restricted area shall have successfully completed a background or pre-employment check. Unless otherwise specified, whether a background or pre-employment check has to be completed shall be determined by the appropriate authority in accordance with applicable national rules.

Background or pre-employment checks shall be completed before the person undergoes any security training involving access to information which is not publicly available.

#### **Within the EU**

Persons being recruited to implement, or to be responsible for the implementation of, screening, access control, aircraft security search, security controls for cargo and mail or other security controls in a security restricted area shall have successfully completed security training in accordance with EU regulation no: 300/2008, no. 2015/1998 and applicable decisions and national regulations.

#### **Outside the EU**

Persons being recruited to implement, or to be responsible for the implementation of, screening, access control, aircraft security search, security controls for cargo and mail or other security controls in a security restricted area shall have successfully completed job specific training in accordance with applicable national rules. Job specific training under 14.13.3 can be used as guidelines by the ground handling company.

#### **15.13.3 Job specific training**

The following security training described hereunder can be used as a minimum for training persons implementing security controls.

Persons performing security controls listed hereunder shall undergo recurrent training at a frequency sufficient to ensure that competencies are maintained and acquired in line with security developments.

Recurrent training shall be conducted:

- a. for competencies acquired during initial basic, specific and security awareness training, at least once every 5 years or, in cases where the competencies have not been exercised for more than 6 months, before return to security duties; and
- b. for new or extended competencies, as required to ensure that persons implementing, or responsible for implementing, security controls are promptly made aware of new threats and legal requirements by the time they have to be applied.

##### **15.13.3.1 Aircraft security search**

Training of persons implementing aircraft security searches shall result in all of the following competencies:

- a. Knowledge of the legal requirements for aircraft security searches and of elements contributing to the establishment of a robust and resilient security culture in the workplace and in the aviation domain, including, inter alia, insider threat and radicalisation;
- b. Knowledge of the configuration of the type(s) of aircraft on which the person is to implement aircraft security searches;





- c. Ability to identify prohibited articles;
- d. Ability to respond appropriately to the detection of prohibited articles;
- e. Knowledge of how prohibited articles may be concealed;
- f. Ability to implement aircraft security searches to a standard sufficient to reasonably ensure the detection of concealed prohibited articles.

In addition, where the person holds an airport identification card, training shall also result in all of the following competences:

- g. Knowledge of previous acts of unlawful interference with civil aviation, terrorist acts and current threats;
- h. Knowledge of the legal framework for aviation security;
- i. Knowledge of the objectives and organisation of aviation security, including the obligations and responsibilities of persons implementing security controls;
- j. Understanding of the configuration of the screening checkpoint and the screening process;
- k. Awareness of access control and relevant screening procedures;
- l. Knowledge of airport identification card used at the airport.

#### **15.13.3.2 Aircraft protection**

Training of persons implementing aircraft protection shall result in all of the following competencies:

- a. Knowledge of how to protect and prevent unauthorised access to aircraft and of elements contributing to the establishment of a robust and resilient security culture in the workplace and in the aviation domain, including, inter alia, insider threat and radicalisation.
- b. Knowledge of procedures for sealing aircraft, if applicable for the person to be trained;
- c. Knowledge of identification card systems used at the airport;
- d. Knowledge of procedures for challenging persons and of circumstances in which persons should be challenged or reported; and
- e. Knowledge of emergency response procedures.

In addition, where the person holds an airport identification card, training shall also result in all of the following competences:

- f. Knowledge of previous acts of unlawful interference with civil aviation, terrorist acts and current threats;
- g. Knowledge of the legal framework for aviation security;
- h. Knowledge of the objectives and organisation of aviation security, including the obligations and responsibilities of persons implementing security controls;
- i. Understanding of the configuration of the screening checkpoint and the screening process;
- j. Awareness of access control and relevant screening procedures.

#### **15.13.3.3 Baggage reconciliation**

Training of persons implementing baggage reconciliation shall result in all of the following competencies:

- a. Knowledge of previous acts of unlawful interference with civil aviation, terrorist acts and current threats;



- b. Awareness of the relevant legal requirements and knowledge of elements contributing to the establishment of a robust and resilient security culture in the workplace and in the aviation domain, including, inter alia, insider threat and radicalization;
- c. Knowledge of the objectives and organisation of aviation security, including the obligations and responsibilities of persons implementing security controls;
- d. Ability to respond appropriately to the detection of prohibited articles;
- e. Knowledge of emergency response procedures;
- f. Knowledge of passenger and baggage reconciliation requirements and techniques;
- g. Knowledge of protection requirements for air carrier materials used for passenger and baggage processing.

In addition, where the person holds an airport identification card, training shall also result in all of the following competences:

- h. Understanding of the configuration of the screening checkpoint and the screening process;
- i. Awareness of access control and relevant screening procedures;
- j. Knowledge of airport identification cards used at the airport;
- k. Knowledge of reporting procedures;
- l. Ability to respond appropriately to security related incidents.

#### **15.13.3.4 Cargo and mail**

Training of persons implementing security controls for cargo and mail other than screening shall result in all of the following competencies:

- a. Knowledge of previous acts of unlawful interference with civil aviation, terrorist acts and current threats;
- b. Awareness of the relevant legal requirements and knowledge of elements contributing to the establishment of a robust and resilient security culture in the workplace and in the aviation domain, including, inter alia, insider threat and radicalization;
- c. Knowledge of the objectives and organisation of aviation security, including the obligations and responsibilities of persons implementing security controls in the supply chain;
- d. Knowledge of procedures for challenging persons and of circumstances in which persons should be challenged or reported;
- e. Knowledge of reporting procedures;
- f. Ability to identify prohibited articles;
- g. Ability to respond appropriately to the detection of prohibited articles;
- h. Knowledge of how prohibited articles may be concealed;
- i. Knowledge of protection requirements for cargo and mail;
- j. Knowledge of transportation requirements, if applicable.

In addition, where the person holds an airport identification card, training shall also result in all of the following competences:

- k. Understanding of the configuration of the screening checkpoint and the screening process;
- l. Awareness of access control and relevant screening procedures;
- m. Knowledge of identification cards in use;
- n. Ability to respond appropriately to security related incidents.