# GROUND OPERATIONS MANUAL


Process Owner: NAM Health, Safety, Security and Environmental (HSSE)

Version 6.0 – Effective 15 JUL 25

## Table of Contents

| Brake/VHF Operator | Tractor Driver |
|---|---|
| **VHF Communication Failure** | |
| (a) Set the aircraft parking brake.<br>(b) Communicate the issue to ATC.<br>(c) Relay appropriate information received from ATC to the headset operator<br>(d) Continue to monitor the ATC frequency and maintain communications with the headset operator/tractor driver.<br>(e) Release the parking brake prior to recommencement of the towing maneuver. | (a) Stop aircraft/tractor set as soon as it is safe to do so. It is not safe to stop on an active runway.<br>(b) Apply tractor parking brake.<br>(c) Communicate the issue to the brake/VHF operator.<br>(d) Attempt to contact ATC via alternative frequency/means.<br>(e) Await assistance (e.g., from "Follow Me" vehicle) before completing the towing maneuver.<br>(f) After completion of the towing maneuver, report VHF failure to equipment maintenance and follow instructions accordingly. |

| Brake/VHF Operator | Tractor Driver |
|---|---|
| **Tractor Failure** | |
| (a) Inform ATC.<br>(b) Set the aircraft parking brake.<br>(c) Listen to VHF and wait for assistance.<br>(d) Relay information from ATC to headset operator/tractor driver. | (a) Stop aircraft/tractor set.<br>(b) Apply tractor parking brake.<br>(c) Inform the brake/VHF operator.<br>(d) Inform ATC (TWL towing with one-person operation).<br>(e) Contact supervision and equipment maintenance to advise of the situation, as required.<br>(f) Follow instructions received from headset/brake operator, as applicable.<br>(g) Listen to VHF (TWL towing with one-person operation).<br>(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. |
| **Tractor/Aircraft Separation** | |
| (a) Apply the aircraft brakes.<br>(b) As soon as the aircraft is at a standstill, apply the aircraft parking brake before releasing the pedal.<br>(c) Inform ATC.<br>(d) Relay information received from ATC to the headset operator/tractor driver, if applicable. | (a) Do not apply tractor brakes.<br>(b) Inform the brake/VHF operator of the separation.<br>(c) Follow the aircraft path attentively and stop the tractor according to the aircraft position.<br>(d) Apply the tractor parking brake.<br>(e) Confirm the aircraft parking brake is set, then chock the aircraft.<br>(f) Assess the reason for the disconnection.<br>(g) Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required<br>(h) Follow instructions to complete the towing maneuver, as applicable. |
| **Towbar/Shear Pins Failure (remains attached to the aircraft)** | |
| (a) Apply the aircraft parking brake.<br>(b) Inform ATC.<br>(c) Relay information received from ATC to the headset operator/tractor driver, if applicable. | (a) Stop the aircraft/tractor set.<br>(b) Apply the tractor parking brake.<br>(c) Inform the brake/VHF operator of the towbar/shear pin failure.<br>(d) Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required.<br>(e) Chock the aircraft and replace the towbar.<br>(f) Follow instructions to complete the towing maneuver. |
| **Pushback Tractor Fire** | |
| (a) Inform ATC and headset operator/tractor driver.<br>(b) Apply the aircraft parking brake.<br>(c) Determine the need for aircraft emergency evacuation and confirm to ATC/headset operator/tractor driver | (a) Inform the brake/VHF operator.<br>(b) Stop the aircraft/tractor set immediately.<br>(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.<br>(d) Consider disconnecting and moving the tractor a safe distance from the aircraft, if deemed safe and appropriate to do so.<br>(e) Contact supervision, equipment maintenance and emergency services to advise of the situation, as required.<br>(f) If the brake/VHF operator confirms emergency evacuation, assist in the evacuation as far as is possible/required. |

| Brake/VHF Operator | Tractor Driver |
|---|---|
| **Aircraft Fire** | |
| (a) Inform ATC and the headset operator/tractor driver.<br>(b) Apply the aircraft parking brake.<br>(c) Fight the fire with the onboard extinguisher, where possible.<br>(d) Evacuate the aircraft using onboard means, if required. | (a) Stop the aircraft/tractor set immediately.<br>(b) Inform the brake/VHF operator.<br>(c) If safe to do so, disconnect and move the tractor to a safe distance from the aircraft, where possible.<br>(d) If deemed safe to do so, the headset operator/tractor driver should maintain communication with the brake/VHF operator and follow instructions.<br>(e) Contact supervision and emergency services to advise of the situation, as required.<br>(f) If brake/VHF operator confirms emergency evacuation, assist in the evacuation as far as is possible/required. |
| **Accident with Other Aircraft or Vehicle** | |
| (a) Contact ATC stating position and nature of the accident.<br>(b) Listen to VHF and wait for assistance.<br>(c) Relay information received from ATC to headset operator/tractor driver, if applicable. | (a) Stop the aircraft/tractor set immediately.<br>(b) Apply tractor parking brake.<br>(c) Inform the brake/VHF operator.<br>(d) Contact supervision, aircraft maintenance, equipment maintenance and emergency services to advise of the situation, as required.<br>(e) Follow instructions received from the headset/brake operator and/or wait for assistance.<br>(f) Do not disconnect the tractor unless specifically instructed to do so by the operator and/or ATC.<br>(g) If disconnecting the tractor, the aircraft must be chocked. |
| **Interphone Communication Failure** | |
| 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. | |
| **Visual Contact with the Wing Walkers and/or Marshaller Is Lost (if used)** | |
| 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 recommence until visual contact is reestablished. | |

## Record and Summary of Revision(s)

| Version Number | Summary of Changes | Issue Date | Effective Date |
|---|---|---|---|
| 1.0 | First Edition | Not Issued | Not Issued |
| 2.0 | Second Edition | 01 Dec 2020 | 01 Jan 2021 |
| 3.0 | Third Edition | 15 July 2021 | 01 Aug 2021 |
| 3.1 | Third Edition with revisions | 01 Dec 2021 | 15 Dec 2021 |
| 3.2 | Third Edition consistent with revisions | 12 Jan 2022 | 20 Jan 2022 |
| 4.0 | Version 4.0 | 15 Jul 2022 | 05 Jul 2022 |
| 5.0 | Version 5.0 | 15 Jun 2023 | 15 Jun 2023 |
| 5.1 | Version 5.1 | 15 Jun 2024 | 01 JUL 2024 |
| 6.0 | Rebranding/Administrative Changes | 30 Jun 2025 | 15 JUL 2025 |

Summary of Revision V6.0:

**Rebranding**
**Table of Contents**
**Chapter 2 – Baggage Handling Procedures**
2.4.3.d – Clarification of requirements to prevent baggage from unauthorized interference
2.4.3.j – Editorial change of “should” to “shall” for the requirement of bingo sheet to accompany the ULD
**Chapter 3 – Aircraft General Safety/Servicing Operations:**
3.1.3.5 – Minor editorial changes for clarity that the Passenger Boarding Bridge (PBB) operator is the only person permitted in the bridgehead during PBB operations
3.1.3.3 – Insertion of language that stairs shall be moved out of the ERA when not in use.
3.7.1 – Insertion of language to clarify that cabin checks/searches must ensure no prohibited items are present onboard the aircraft.
**Chapter 4 – Aircraft Turn-Around:**
4.5.1.5 – Insertion of language relating to follow TSA/Airport Authority regulations for the protection of Layover/RON aircraft
4.5.1.7 – Insertion of language relating to the use of approved ULDs on the specific aircraft type in accordance to aircraft manufacturer or customer limitations
4.5.3.5 – Minor editorial change for handling of Perishable and Temperature-

| | |
|---|---|
| | Sensitive Healthcare products to prioritize reducing the waiting time during handling.<br>4.5.5.1 – Minor editorial change for clarity to ensure no prohibited items onboard the aircraft during cargo hold inspection<br>4.6.8.2 – Clarification of the positioning of Air Start Unit (ASU) to the opposite side of the aircraft from the engine being started<br>**Chapter 5 – Load Planning:**<br>5.2.1.j – Minor editorial changes for clarity information to be taken into consideration for load control. |

## Acknowledgements

(WFS) At Worldwide Flight Services (WFS) we have adopted, in full, the IATA GOM but have included additional information and industry best practices we believe will set new standards in the Ground Handling community. Changes or inclusion from the IGOM have been denoted with (WFS).

This is a living document that will continue to be updated and enhanced, all staff are encouraged to regularly review the practices as set out in the IGOM and the WFS GOM and provide feedback or recommendations for improvement.

# Introduction

**1. Purpose and Scope**

(WFS) This manual defines ground operations procedures for all WFS operations to ensure Ground Handling operations activities are safely, efficiently, and consistently accomplished. WFS has uncompromising standards of safety and security. This is underpinned by our behavior to "Do Things Right First Time and Every Time". We do the right things for the right reasons and always to a high standard.

WFS procedures reflect the minimum standards as identified by the aviation industry. Company training program will refer to this operation manual and its contents will be based in this document when describing any standard operational procedure.

**2. Applicability**

a. The WFS GOM is to be used by WFS personnel and subsidiaries as a core set of ground operations procedures accessible to all staff in a usable format in the conduct of their ground handling functions. It also applies to staff entering the aircraft for purposes such as catering, cleaning or supervision, but specifically excludes aircraft maintenance, fueling or de-icing tasks. While all relevant factors have been taken into consideration and these procedures constitute best practice, some additional information may be required:
   1. Any supplementary airline specific instructions which are required, especially pertaining to aircraft, GSE or the airline's product offering, shall be presented in the airline's GOM.
   2. Airport requirements and local Emergency Response Plan
   3. IATA Dangerous Goods Regulations (DGR) and Live Animal Regulation (LAR), Perishable Cargo Regulations (PCR), Temperature Control Regulations (TCR) and ULD Regulations
   4. Any other local or national SOP (Special Operation Procedure) as approved.

b. In the event an airline or WFS deviates from a published IGOM/GOM procedure, the variation needs to be communicated between the airline and ground service provider or vice versa by means of a standard communication channel established by both parties, the process described in section 13 should be followed.

c. If a regulatory authority mandates procedures other than those in GOM, then these shall be followed.

## 3. Manual Revisions

### 3.1 Policy

WFS conducts an annual review against the IATA IGOM to ensure that any necessary changes are incorporated as appropriate to the WFS operation.
A Review committee meets periodically to incorporate any necessary changes that may result from operational changes or Safety, Quality or Risk Management insights.

### 3.2 Manual Symbols and Markings

| | Vertical Bar in Right margin indicates procedural information that has changed in the revision. Format changes are not annotated.

**DANGER** Identifies a Personal Danger for Persons

**WARNING** Identifies a Specific Instruction Requirement

**CAUTION** Identifies a General Caution

**NOTE** Identifies pertinent information or requirements in a procedure or process

**(WFS)** Identifies a section that is WFS specific or different to the IGOM procedures

## 4. Manual Language

(WFS) The WFS GOM is only available in English. Countries may translate into local languages accordingly and shall have a procedure to keep up to date with the Master WFS GOM.

## 5. Wording Conventions

### 5.1 General

(a) May/need not/not necessary/not required: indicates that compliance is optional.
(b) Note: indicates an important point about which the manual user needs to be made aware.
(c) Should/if possible/whenever possible: indicates that compliance is considered optional, but desirable.

(d) Shall/shall/necessary/need/required: indicates that compliance is considered mandatory.
(e) Shall not/shall not: indicates that something is not allowed/permitted or is forbidden.

**6 References**

Within the WFS GOM, reference may be made to any of the following manuals published by IATA:

a) IATA Ground Operations Manual (IGOM)
b) Airport Handling Manual (AHM)
c) Dangerous Goods Regulations (DGR)
d) Live Animals Regulations (LAR)
e) Passenger Service Conference Resolution Manual (PSCRM)
f) Perishable Cargo Regulations (PCR)
g) IATA Reference Manual for Audit Program (IRM)
h) Security Management System Manual (SeMS)
i) Travel Information Manual (TIM)
j) Travel Information Manual Database (TIMATIC)
k) Unit Load Devices Regulation (ULDR)

# 1 Passenger Handling Procedures

## 1.1 Passenger Departure

### 1.1.1 Pre-Departure Activities

#### 1.1.1.1 Ticket Sales Counter

If a ticket sales counter is located at the airport, display either electronic or manual versions of:

a. Operating airline signage.
b. Dangerous goods notifications
c. Handling forms, information on passenger rights and marketing material required by the operating airline, if applicable.

#### 1.1.1.2 Passenger Pre-Flight Preparation

Prepare check-in for flights in accordance with operating airline procedures 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's name feed, e.g., 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 SSR and all passengers requesting assistance (e.g., Wheelchair assistance (WCH), Unaccompanied Minors (UM), service animals, special baggage etc.) and pre-assign a seat as per operating airline procedure 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.
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. 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.

### 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 from the local authority responsible for the airport.
        i. The local authority will issue a certificate after the calibration and deliver it to the airport authority.
        ii. A copy of the above certificate is kept at each station as a 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:
        1. Checking the airport authority calibration sticker is current (if applicable).
        2. Checking the weight indicator at the position to ensure it shows ‘0.0 kg’.
            - If the weight indicator shows otherwise, inform the relevant airport authorities department.
            - If the scale remains out of order, another check-in counter shall be requested.
        3. The periodical 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 WFS all relevant documentation, where applicable.
c. Stock boarding card and bag tag printers as per operating airline procedures.
d. Ensure adequate stock of any other tags, handling forms, information on passenger rights and marketing material required by the operating airline.
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.
g. Prepare check-in queues, stanchions, carpets, baggage gauges, podiums, etc., as per operating airline procedures.

### 1.1.3 Passenger Check-In

#### 1.1.3.1 (WFS) General

(WFS) Check-in is the complete sequence of steps which involves greeting and registration of the customer and their baggage in a DCS or manual system, the verification and validation of travel documents, i.e., passports, visas, health certificates from origin point to the destination (including any connecting points), input of API (Advance Passenger Information) data, security and dangerous goods questions, the labelling of the baggage and the issuance of one or more boarding passes. Boarding passes containing the passenger's name shall be issued for all passengers, either on paper or electronically. As a handling agent we have the responsibility of representing our customer airlines, and we may be wearing the customer airline's own uniform. It is essential, therefore, that staff remember the importance of projecting themselves in a manner that not only brings credit to WFS but also preserves or enhances the reputation of our customers; when greeting our customer airline passengers, it is absolutely vital that they are given your complete attention. This is done by making eye contact during the very first opening sentences, where possible, use the passenger's name. A passenger should not be left waiting. If the delay is unavoidable e.g., you are completing a previous transaction, give the passenger immediate attention, and apologize for the delay.

#### 1.1.3.2 Check-In Deadlines

Apply check-in deadlines as per operating airline procedures, respecting applicable passenger rights and on-time departure requirements.

##### 1.1.3.2.1 Check- Late Passenger

(WFS) If the flight is to depart on schedule, then there shall be a time after which no more passengers can be accepted. Documents must be completed, the aircraft loaded, and passengers boarded.

It is inevitable that passengers will sometimes arrive late to check-in after the specific flight closure time. Individual airlines will have their own policies concerning the acceptance of late passengers. If the airline policy allows then every effort should be made to allow a passenger to travel without causing a delay to an on-time departure.

Check-in staff should not appear casual or uninterested when presented with a late passenger, staff should not just declare unsympathetically that the flight has closed; they should endeavor to establish if it is possible to accept a passenger.

In the event that a passenger cannot be accepted, the check-in agent should continue to assist proactively by directing the passenger to the Sales &

Reservation counter where a re- booking can be made in line with the airline's procedures.

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

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

#### 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 SMS, 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 manned check-in counter in line with the operating carrier requirements for manual check-in.
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.
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.
e. Self-Service Check-In - Web/mobile/kiosk/SMS 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 DCS is in use.
    3. The passenger meets any other qualifying criteria set by the operating airline.
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.
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 in line with the operating carriers' procedures 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; receive and review any summarized flight information.

#### 1.1.3.6 (WFS) Warning and Advice To passengers

Passengers shall be warned about Dangerous goods. As most passengers do not have tickets (which used to be the main method used to provide such warnings), and indeed may well have checked in online, warning notices shall be prominently displayed at check in areas, boarding gates etc. Check-in staff should draw attention to these and ask passengers if they are carrying any items which may come into the category of Dangerous Goods so that it can be established if they are allowed or not, even if they have checked in online where they would have confirmed that they have no Dangerous Goods in their baggage or carry on.



### 1.1.4 Passenger Acceptance

#### 1.1.4.1 Requirements for Passenger Acceptance

Apply the operating airline procedures 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 showing 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.
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
f. Update passenger and baggage information and add any Special Service Requests (SSR) to the DCS if required and apply any related fees in line with the operating carrier procedures
g. If required, apply irregularity handling in line with the operating carrier procedures, 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 if applicable in line with the operating carrier procedures
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.

#### 1.1.4.2 Seating

Each passenger (except infants not occupying a separate seat) is assigned an individual seat number on each flight. Depending on the airline's seating procedure, the seat choice is offered at the time of reservation or check-in.
At the time of passenger acceptance:
a. Check if a seat has been allocated already
b. If not, allocate a passenger seat observing the passenger requests and the operating airlines procedures for seating for special categories of passengers
c. Observe seating restrictions for the emergency exit rows, refer to 1.1.4.3 in this section
The allocation of jump/crew seats may be permitted following the operating airline's procedures.

#### 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 the passenger is of the correct age and 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 reduced mobility, children and infants, unaccompanied minors or any other special passenger category are not allowed to be allocated an emergency exit row seat.

### 1.1.5 Document Required for Travel

(WFS)Travel Documents and Verification
(WFS) Immigration law holds air carriers responsible for ensuring that customers have the proper entry documents for their destination and transit points. Failure to comply with these regulations can result in large penalties and fines.
Verification of the passengers' entry documents at first point of check-in is necessary, even when the first flight is only a domestic flight segment. Additionally, if there is a domestic

stopover prior to the international segment on the ticket presented, it is still necessary for the first check-in agent to verify the travel documents.
Every international passenger requires a valid passport or other official document of identity issued by the appropriate authority. These documents establish the identity and nationality of the bearer and authorize travel outside their own country. Self-service check-in to international destinations is not allowed, unless the DCS has the capability of reading travel documents. The station will confirm with the air carrier that self-service check-in is allowed.
It is the passenger's own responsibility to ensure that all his travel documents, including passport, visas, and vaccination certificates etc., are in order. However, certain destinations require that you not only ask if the documents are valid but also visually check and verify them. To be valid for international travel, these documents shall be used within the period of validity specified (although in some cases an expired passport will be accepted as a valid entry document), contain a photograph of the holder and bear endorsements, visas, tourist cards or permits applicable to the journey.
To determine which entry documents will be needed for international travel, identify and recognize the following:

Country of embarkation
Country of destination
Transit countries
Visited countries in the past few days or more
Customer's nationality

If you have ANY doubts always consult with a Supervisor / Manager and reference the IATA Travel Information Manual (TIM) or the computerized version TIMATIC. Every person involved in customer handling activities shall have access to TIM or TIMATIC Web

#### 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.

### 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 up to 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.
9. Retrieve DCS records and review any special remarks.

***Notes:***

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.
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.
3. Consequently, airlines will seek mitigation of State penalties whenever fraud detection was not obvious nor evident (see AHM 121 for additional information on aircraft operator's responsibility and mitigation).

#### 1.1.5.3 Advance Passenger Information

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

### 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. 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 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. Conforms to the following restrictions:
      i. Certain items, because of their weight, size 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.

d. Procedures at Check-In
   1. Assess the size, weight and intended number of pieces of cabin baggage as per the operating airline procedures:
      i. Weigh cabin bags if they appear to exceed the specified weight/size limit (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.
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.
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. Verify whether the passenger has removed any items specifically prohibited in hold baggage
   2. Advise the passenger to remove any personal documents or medications, valuables and sensitive or fragile objects.
   3. Accept, with applicable charges as per operating airline procedures.
   4. Tag gate-checked bags in line with the through check-in procedures using a limited release tag, in accordance with operating airline procedures.
   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 DAA labels and processes if applicable see 1.1.6 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.

### 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 or property on board the aircraft,
      ii. is inadequately packed or
      iii. unsuitable for air carriage due to its weight, size or nature or
      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 flight number and the passenger's name.
   4. Operating airline procedures may specify a maximum single item weight, is applicable.

   ***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.
   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 or required according to operating airline procedures, 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.
   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. If applicable as per operating airline procedures:

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

### 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 the operating airline handling procedures.
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. Have to 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 may occur.

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, in line with the operating airline procedures.

For details refer to the IATA DGR and the operating airline handling procedures.

### 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.

Subject to operating airline procedures, 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.

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

A couple traveling together may have individual allowances of 2 bags weighing 32 kg and 1 bag weighing 20 kg. Pooling these allowances would enable the couple to carry 3 bags weighing no more than 84 kg in total with no individual bag weighing more than 32 kg.

***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 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 any:

1. Local legislation and/or health and safety requirements.
2. Other applicable limits for transfer baggage.
3. Specific rules that may apply as per operating airline procedures for certain items (e.g., live animal in hold (AVIH), wheelchairs (WCH), musical instruments, media equipment, large sports equipment).

c. Maximum Single Item Dimension

Each operator shall determine maximum single-item dimensions for checked baggage that considers any:

1. Local legislation and/or health and safety requirements.
2. Other applicable limits for transfer baggage.
3. Specific rules that may apply as per operating airline procedures for certain items (e.g., live animal in hold (AVIH), wheelchairs (WCH), musical instruments, media equipment, large sporting equipment).

### 1.1.6.7 Checked Baggage Allowances

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 ticket). (WFS) Anything over this figure may incur an extra baggage charge per item.

**NOTE:** Some operators procedures may combine both concepts, such as 2 pieces not weighing more than 32 kg in total or per piece.

### 1.1.6.8 Excess Baggage

In case 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.

### 1.1.6.9 Baggage Tagging

a. Remove all old tags, handling labels and baggage reconciliation (mini or stub tags).
b. Apply the 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. Subject to operating airline procedures, supplementary tags (handling tags) may be attached to baggage items, if they are not printed on the baggage tag, such as:
    1. Priority Tag–to identify priority baggage to be offloaded first and segregated as per operating airline procedures
    2. Short Connection Tag
    3. Limited Release Tag–used on fragile or unsuitably packaged items
    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 transfer point | Yes | Advise passenger to pick up baggage at the transfer point.<br>Refer to TIM/TIMATIC for country rules. |
| The passenger specifically wants his baggage at a transfer point | No | Inform the passenger about the risk of missing the connecting flight. |
| Animals in hold | Yes | Only permitted if the continuing carrier has confirmed acceptance.<br>Within permissible MCT. |

### 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 pen.
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

1. Some operators have implemented Electronic Baggage Tag in line with IATA Recommended Practice 1754. These tags have a display that shows the baggage journey and are normally set to display the current journey during the passenger self-check-in process. Whilst the display of 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.
2. Check the quality of the display, as the barcodes shall be readable.
3. Check that the baggage information displayed matches the passenger itinerary, including the baggage license plate number shown for the bag.
   i. If the details are incorrect, ask the passenger to blank their baggage tag.
   ii. After the tag is blanked, generate and attach a normal baggage label and any other identifying labels as per 1.1.6.9.
   iii. Ensure that the bag tag number(s) are "active", in the check-in system as per operating airline procedures.

c. Home Printed Baggage Tag

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

d. Fallback Baggage Tags

If in use, fallback baggage tags are issued when the baggage handling system 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. These tags have an airline code and 2-digit pier, chute or lateral indicator. When using fallback tags:

1. Generate a normal on-demand baggage tag or manual tag and affix to the baggage
2. Ensure that the appropriate airline identifier code is shown on the tag
3. Ensure that the appropriate pier/chute/lateral information is shown for the designated flight build
4. Firmly attach the fallback tag to the baggage
5. Ensure that 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 labeled to a transfer destination on the ticket.
4. Specific rules of the operating airline may apply for Live Animals In Hold (AVIH).

#### 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.

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 as per operating airline procedures.

c. Delivery At Aircraft
   1. As per operating airline procedures, the 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.

***NOTEs:***

1. Do not use the DAA procedure for valuable items (e.g.,, laptop computers, large video cameras, important documents) as such items should remain with the passenger
2. Observe local restrictions for DAA delivery at arrival stations and inform passengers accordingly.
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, if required.
2. Load as per operator instructions.

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:
   a. Where possible, retain their personal mobility aid throughout the airport,
   b. Check it in and be provided with an airport/airline wheelchair to autonomously reach the gate, where applicable,
   c. Check it in and be accepted by a dedicated agent with an airport/airline wheelchair or electric cart to reach the gate.
   d. 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. (WFS) Accepting Wheelchairs/Mobility Aids
Wheelchairs and electric scooters are considered to be mobility aids. Certain batteries used in such devices could pose a hazard to flight safety and/or cause damage to the aircraft.

There are two main types of batteries used with wheelchairs or mobility aid devices:

| Type of Battery | Description |
|---|---|
| Non-Spillable Battery | - Dry battery (including integrated battery)<br>- Gel type battery<br>- Wet (sealed) battery<br>- Lithium-ion battery |
| Spillable Battery | Wet Battery (*check operator policy) |
| * All such batteries must be hold-checked | |

1. Wheelchairs/Mobility Aids with Spillable Batteries (Only if accepted by the operating airline) The operating airline may require a pre-notification and its acceptance is subject to the operating airline approval.

i. Packing rules:
   i. Wheelchair must be loaded, stowed, secured, and unloaded while maintaining an upright position.
   ii. The battery terminals must be insulated to prevent accidental short circuit, i.e., by being enclosed within a battery container.
   iii. The battery must be securely attached to the wheelchair/mobility aid device.
   iv. The battery must be carried in a strong, rigid packaging as follows:
   v. The outside packaging must be leak-proof, impervious to battery fluid and protect against spilling by securing to pallets or by securing them in the cargo compartments using the appropriate means of tie-down such as: restraining straps, brackets, or holders.

vi. The battery terminals must be protected against short circuits.
vii. The battery must be secured upright in the packaging and be surrounded by compatible absorbent materials sufficient to absorb its total contents.
viii. The outside packaging must be marked “battery-wet-with wheelchair”.
ix. The outside packaging must be labeled with the “corrosive” label. o Must be added to the NOTOC, if applicable.

The battery must not be loaded if it is not packaged appropriately.

2. Wheelchairs/Mobility Aids with Non-Spillable Batteries/Lithium
   i. Pre-notification may be required, and acceptance is subject to operator approval.
   ii. All Battery terminals must be insulated to prevent accidental short circuits, e.g., by being enclosed within a battery container.
   iii. Battery must be securely attached to the wheel chair.
   iv. In the event that lithium batteries are removed from the mobility device and carried in the cabin, the PIC shall be notified of that fact, and provided with the seat number of the customer.

g. 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 defined animal species like cats and dogs may be accepted as pets in cabin, PETC, either securely leashed or in an approved container for carriage in the passenger cabin.
2. Live Animals in Hold (AVIH)
   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:*** Domestic animals of unusual size or wild animals, reptiles and rodents must be transported as cargo.

h. Service Animals
(WFS) Service animals are individually trained animals to perform functions to assist their handler.
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:*** Emotional support animals are not globally recognized as a service animal.

### 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 of person(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/or ammunition are carried in the aircraft hold, the procedures shall ensure the:
    1. Firearm is not loaded (there is no ammunition in the chamber or magazine) and ammunition is carried separately from the firearm.
    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 and arrival).
    4. PIC is notified prior to the commencement of the flight.

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

c. (WFS) Firearms Acceptance
A customer wishing to transport a firearm such as a sporting or competition weapon or ammunition shall surrender it at bag drop and complete a Firearms Declaration document to form an auditable trail of the item and pay the associated charge, as detailed below. Check your local and airline procedure for specific firearm declaration requirements and handling.

1. Firearms shall be declared in an unloaded condition.
2. Firearms shall be properly packed in a suitable gun bag – the bag needs to be purposely made for the carriage of firearms.
3. Firearms/ammunition are not to be carried on the flight deck or in any part of the aircraft to which customers have access.
4. Only ammunition assigned to UN0012 or UN0014 may be carried as per dangerous goods regulations.
5. Ammunition shall be securely packed (ideally in the manufacturer's container) and in quantities not exceeding 5 kg gross weight per passenger.
6. Ammunition shall NOT be carried loose in satchels or other receptacles.
7. All passengers intending to travel with firearms or ammunition shall ensure they have the required:
   i. Documentation and licenses;
   ii. Export/import licenses; and
   iii. Authorization from local and national authorities.
   iv. The firearm shall be stored in a secure area where access is strictly controlled.
   v. A record of the firearms movement shall be kept, so that at all times the whereabouts of the firearm and who has control of it is known (e.g., comments on the SI of the MVT messages).
   vi. A firearm label shall be attached to all accepted firearms.
   vii. There is generally no need to segregate sporting weapons into a separate hold from other baggage items.

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

## 1.1.7 Passenger Boarding

### 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.
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.
d. Ensure dangerous goods and prohibited articles notices are displayed at the boarding gate (for further guidance refer to current Dangerous Goods Manual).
e. Prepare required handling material such as boarding passes, bag tags and other handling forms as per operating carrier procedures.
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.
i. Ensure the boarding route to the aircraft is safe and clearly marked where possible.
j. (WFS) If passengers are required to walk across the ramp during boarding the following is required:
    1. All boarding passenger movement on the ramp shall be supervised.
    2. Walkways must be clearly defined with ramp markings or stanchions.
    3. Upon completion of boarding, all terminal doors from the building must be closed and secured.
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.

#### 1.1.7.2 Passenger Boarding Process

Passengers can be boarded by personnel in change 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.
b. Make boarding announcements as per operating airline procedures.
c. Follow operating airline procedures for passengers requiring assistance or pre-boarding.
d. Verify each passenger's identity as per the operating airlines 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 GOM 1.1.7.3.
h. Follow safety precautions when aircraft fueling is in progress or (fueling/defueling with passengers on board GOM 3.2.3) as per the operating airline GOM, state or local regulation.
i. For manual or non-automated boarding, check the flight number and date on the boarding card/token, register the security number as per operating airline procedures
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. Advise ramp staff and/or load control of any gate tagged items to be loaded as per operating airline procedures.
    2. Advise load control of any musical instruments, medical equipment or pets/service animals carried in the passenger cabin as seat baggage.
l. For Delivery At Aircraft, DAA, procedure refer to GOM 1.1.6.

***NOTE:*** For Cabin baggage acceptance at the boarding gate refer to GOM 1.1.6.

### 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 and verify documents if the missing passengers are found to be already onboard the aircraft.
b. Apply operating airline procedures and government 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.
c. In case 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.

#### 1.1.7.4 End of Boarding

Before flight closure ensure that all accepted passengers have boarded the aircraft.
Based on the operating airline procedures:

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, if required.
b. Add any additional cabin baggage tag number(s) in the DCS collected at the gate as per operating airline procedures 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 is informed about final passenger and/or baggage information, as per operating airline procedures.

#### 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.
Ensure the final checked-in count matches the boarded passenger count prior to door closure. Then prepare and board a final manifest.

### 1.1.8 Information to the Crew

#### 1.1.8.1 General

Provide the flight crew with the required documents regarding the operating airline procedures.

#### 1.1.8.2 Passenger Information List

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

PIL to the senior cabin crew member before departure or as per operating airline procedures.

#### 1.1.8.3 Other Flight Documents

Other required flight documents may include:

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

### 1.1.9 Post Flight Departure Activities

#### 1.1.9.1 Messages

Ensure all relevant messages are dispatched to the appropriate addresses, as per the operating airline procedures. 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)

#### 1.1.9.2 Flight Document Retention

Retain (electronically or in paper files) flight documents as per operating airline procedures and for a period of no less than three months unless otherwise specified.

#### 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., FIMs, excess baggage coupons) must be collected and forwarded to the respective Revenue Accounting as per operating carrier procedures.

## 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 or secured and removed from counters and baggage service offices to prevent unauthorized access and use.

#### 1.2.1.2 Printed Documents

Print material such as boarding passes, passenger lists and handling forms may have to be reprinted.
Disposal of the original documents should be according to data protection rules, as they contain passenger data.
Unauthorized persons shall not be given access to printed documents containing personal data or their contents.

#### 1.2.1.3 Counter and Area Security

a. All systems, including DCS, passenger facing counters, etc.. must be controlled to prevent unauthorized access. Follow airport procedures to prevent unauthorized access to and use of un-issued (blank) boarding passes.
b. Before leaving the counter, remove boarding passes and baggage tags from the printers or lock them.
c. Before leaving the counter, sign out, log off and lock the system.
d. 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;

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

d. (WFS) During an elevated threat or outbreak of a specific communicable disease, refer to the carrier procedures as the World Health Organization (WHO) or local health authorities may modify or add further procedures to general guidelines. The following are basic steps which must be completed in the absence of guidance from the air carrier:
    1. Contact the supervisor/manager for concurrence
    2. Contact the appropriate medical support, if available, for medical resolution
    3. If medical support is not available, deny boarding to the customer and have them obtain medical clearance in accordance with the air carrier's policy. Contact the air carrier's CRO, as applicable
    4. In all cases, ensure that employees and/or customers/passengers are using face coverings.

### 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 operating airline, flight crew and applicable authorities as per local requirements and operating airline procedures.
Apply operating 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.

### 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 the 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. 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 procedure.

### 1.3.2 Arrival

a. Prepare passenger boarding bridge, ensuring it is free of debris and positioned as per the standard height for the aircraft type.
b. (WFS) If passengers are required to walk across the ramp during disembarkation the following is required:
    1. All passenger movement on the ramp shall be supervised.
    2. Walkways must be clearly defined with ramp markings or stanchions.
    3. Upon completion of disembarkation, all access doors into the building must be closed and secured.

    ***NOTES:***

    1. If passenger handling staff are trained and authorized to operate cabin access doors, refer to GOM 4.4.2.
    2. If passenger handling staff are trained and authorized to operate the passenger boarding bridge, refer to GOM 3.1.3.5.
c. Disembark passengers in accordance with operating airline procedures.
d. Provide assistance to passengers requiring it, if not previously identified.

### 1.3.3 Transfer (Passenger Handling at Connecting Airport)

For passenger handling at the connecting airport, if applicable, and as per operating airline procedures:

a. Check the inbound/outbound connections and the number of passengers affected.
b. Check time-critical connections and inform gate staff of onward transfers.
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.

f. (WFS) Point to point transfer assistance to connecting flights shall be provided to passengers with disabilities when requested or desired in US locations (even if transferring to different carrier or terminal).

## 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, in accordance with operating airline procedures. Local government requirements shall be applied regarding security of transit passengers up to and including screening requirements.

### 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 as well as 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 (see 1.3.4.4 ).
Provide assistance to passengers who remain on board during the transit time.

### 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 through collection of transit cards or review of original boarding cards. 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 pas
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 configuration, assign passengers new seat numbers if applicable, or apply free/open seating as per operating airlines procedure.

## 1.4 Special Categories of Passengers

### 1.4.1 Unaccompanied Minors (UM)

(WFS) Airline rules on children travelling unaccompanied vary considerably. A child who travels within the ages specified by the airline who, as a result of their incapacity, are deemed unable to travel by themselves and who would therefore require the assistance of an operating crew member, would not be accepted for travel without a dedicated escort.

#### 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 UM as per operating airline procedures and do not assign seats in emergency exit rows.

#### 1.4.1.3 Acceptance Restrictions

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

a. Connecting flights.
b. Any restrictions on the maximum number of UM on a flight.

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

#### 1.4.1.5 Transfer Station Procedures

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 the case of an interline transfer, hand over the 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.

#### 1.4.1.6 Arrival Station Procedures

a. Meet, assist 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.

### 1.4.2 Infants and Children

#### 1.4.2.1 Infants

General Restrictions:

a. 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.
   ***NOTE:*** 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 with capabilities of fitting bassinets as defined per aircraft and operating carrier procedures. 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
   If the aircraft is equipped with baby bassinets, apply operating airline procedures for assignment, respecting any age and weight limitations.
d. Baby Strollers
   Apply operating airline procedures regarding checked-in or Delivery At Aircraft (DAA) service for strollers and provide information to passengers concerning the procedure, if applicable.

#### 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.
Apply operating airline procedures.

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 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.

### 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.

#### 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 Handling of Passengers Disabilities

#### 1.4.4.1 General – Passengers with Disabilities (PWD)

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 conditions.

a. The ability to provide assistance to PWDs will vary according to:
    1. Individual's needs.
    2. Aircraft type.
    3. Aircraft configuration.
b. For PWDs requiring/requesting assistance:
    1. Ask the passenger what assistance they require and how they can be helped.
    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).
    6. Ensure accurate SSR codes and any other relevant information are recorded in the DCS and PNR.
    7. Acceptance of PWDs will be as per operating airline procedures.
    8. PWDs should be allowed to pre-board.
    9. Whenever feasible, PWDs 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. Codes known as Special Service Requests (SSR) 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.

***Notes:***

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/dry cell battery)
2. WCMP–Manual power wheelchair/mobility aid
3. WCLB–Lithium battery operated wheelchair/mobility aid
4. WCBW–Wet cell battery wheelchair/mobility aid)

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 traveling either seated or on a stretcher, needing oxygen during the flight (only to be used in conjunction with SSR code MEDA). Subject to airlineand/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:*** For medical cases (MEDA). Refer to GOM 1.4.5 for specific handling details related to MEDA passengers.

#### 1.4.4.3 Seat Assignment

a. PWDs, as well as their personal care attendant and/or safety assistant shall be assigned seats in their ticketed cabin that 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 or occupy, seats where their presence could:
   1. Impede the emergency evacuation of the aircraft.
   2. Impede crews in the performance of 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 or 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 casts, 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. Arms in casts should not obstruct the aisle or emergency exits.
5. Passengers with a disability affecting only one side of their body (i.e., hemiplegics, artificial limb, arm or leg in cast, splint or brace) should be assigned seats which will best accommodate the passenger and will facilitate their mobility in cases of emergency (e.g., in an aisle seat with the unaffected side of their body towards the aisle or in seats with removeable arm rests).

***Notes:***

1. Wherever possible, groups of PWDs shall be seated in subgroups to enable a rapid flow of other passengers during an evacuation.
2. Travel by groups of PWDs shall always be subject to applicable regulatory and operating airline procedures.

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

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.

### 1.4.5 Passenger Requiring Medical Clearance

#### 1.4.5.1 General

a. No medical clearance or medical forms are required for passengers who only require special assistance in the airport or when embarking/disembarking.
b. Medical clearance is required by the airline if the passengers:
    1. Have any disease that is believed to be actively contagious/communicable.
    2. Are considered to be a potential risk to the safety or punctuality of the flight, including the possibility of diversion or unscheduled landing.
    3. Are incapable of caring for themselves and require special assistance.
    4. Have a medical condition that 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 as applicable;
   1. LEGL (Left Leg in Cast)–for passenger with a left leg in a full cast or fused knee, (only to be used in conjunction with SSR code MEDA).
   2. LEGR (Right Leg in Cast)–for passenger with a right leg in a full cast or fused knee, (only to be used in conjunction with SSR code MEDA).
   3. LEGB (Both Legs in Cast)–for passenger 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)–passengers travelling either seated or on a stretcher, needing oxygen during the flight (only to be used in conjunction with SSR Code MEDA).
   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).

#### 1.4.5.2 Medical Information Form

Each airline can use the IATA Medical Information Form (MEDIF) or use the operating airline's own form, if applicable.

## MEDIF–Attachment A

Information Sheet for Passengers Requiring Special Assistance

1. Last name / First name / Title .....
2. Passenger name record (PNR) .....
3. Proposed itinerary .....
   Airline(s), flight number(s) .....
   Class(es), date(s), segment(s) .....
4. Nature of disability .....
5. Stretcher needed onboard? ____ Yes ____ No
6. Intended escorts ____ Yes ____ No
   Name ..... Title ..... Age .....
   PNR if different .....
   Medical qualification ____ Yes ____ No Language spoken .....
7. Wheelchair needed ____ Yes ____ No
   Wheelchair categories ____ WCHR ____ WCHS ____ WCHC Own wheelchair ____ Yes ____ No
   Collapsible WCOB ____ Yes ____ No Wheelchair type ___ WCBD ___ WCBW ___ WCMP
8. Ambulance needed (to be arranged by the passenger or his/her representative)..... Yes ..... ____ No
   If yes, specify name of ambulance company, name and telephone number of contact person .....
   .....
9. Meet and assist ____ Yes ____ No
   If designated person, specify contact .....
10. Other ground arrangements needed ____ Yes ____ No
    If yes, specify .....
    Departure airport .....
    Transit airport .....
    Arrival airport .....
11. Special inflight arrangements needed ____ Yes ____ No
    If yes, specify type of arrangements (special meal, extra seat, leg rest, special seating) .....
    Specify equipment (respirator, incubator, oxygen, etc) .....
    Specify arranging company and at whose expense .....
12. Frequent traveller medical clearance (FREMEC) ____ Yes ____ No
    If yes, specify FREMEC number, issued by, expiry date .....

## MEDIF–Attachment B, Part 1

Information Sheet for Passengers Requiring Medical Clearance (to be completed or obtained from the attending physician)

1. Patient's name .....
   Date of Birth .....Gender..... Height .....Weight .....
2. Attending physician name .....
   E-mail .....
   Telephone (mobile preferred), indicate country and area code ..... Fax .....
3. Diagnosis (including date of onset of current illness, episode or accident and treatment, specify if contagious) .....
   .....
   .....

Nature and date of any recent and/or relevant surgery .....

4. Current symptoms and severity .....
   .....
   .....
5. Will a 25% to 30% reduction in the ambient partial pressure of oxygen (relative hypoxia) affect the passenger's medical condition? (Cabin pressure to be the equivalent of a fast trip to a mountain elevation of 2400 metres (8000 feet) above sea level) ____ Yes ____ No ____ Not sure
6. Additional clinical information

| | | | | |
|---|---|---|---|---|
| a. | Anemia | ____ Yes | ____ No | If yes, give recent result in grams of hemoglobin ..... |
| b. | Psychiatric and seizure disorder | ____ Yes | ____ No | If yes, see Part 2 |
| c. | Cardiac condition | ____ Yes | ____ No | If yes, see Part 2 |
| d. | Normal bladder control | ____ Yes | ____ No | If no, give mode of control..... |
| e. | Normal bowel control | ____ Yes | ____ No | |
| f. | Respiratory condition | ____ Yes | ____ No | If yes, see Part 2 |
| g. | Does the patient use oxygen at home? | ____ Yes | ____ No | If yes, specify how much..... |
| h. | Oxygen needed in flight? | ____ Yes | ____ No | If yes, specify ____ 2 LPM ____ 4 LPM ____ Other |

7. Escort

| | | | | |
|---|---|---|---|---|
| a. | Is the patient fit to travel unaccompanied? | | ____ Yes | ____ No |
| b. | If no, would a meet-and-assist (provided by the airline to embark and disembark) be sufficient? | | ____ Yes | ____ No |
| c. | If no, will the patient have a private escort to take care of his/her needs onboard? | | ____ Yes | ____ No |
| d. | If yes, who should escort the passenger? | ____ Doctor | ____ Nurse | ____ Other |
| e. | If other, is the escort fully capable to attend to all the above needs? | | ____ Yes | ____ No |

8. Mobility
   a. Able to walk without assistance ____ Yes____ No b. Wheelchair required for boarding ____ to aircraft ____ to seat
9. Medication list .....
10. Other medical information .....

## MEDIF–Attachment B, Part 2

Information Sheet for Passengers Requiring Medical Clearance (to be completed or obtained from the attending physician)

1. Cardiac condition
   a. Angina ____ Yes ____ No When was last episode? .....
      • Is the condition stable? ____ Yes ____ No
      • Functional class of the patient?
      ____ No symptoms ____ Angina with strenuous efforts ____ Angina with light efforts ____ Angina at rest
      • Can the patient walk 50 metres at a normal pace or climb 10 -12 stairs without symptoms? ____ Yes ____ No
   b. Myocardial infarction ____ Yes ____ No Date .....
      • Complications? ____ Yes ____ No If yes, give details .....
      • Stress EKG done? ____ Yes ____ No If yes, what was the result? ..... Metz
      • If angioplasty or coronary bypass,
      Can the patient walk 50 metres at normal pace or climb 10–12 stairs without symptoms? ____ Yes ____ No
   c. Cardiac failure ____ Yes ____ No When was last episode? .....
      • Is the patient controlled with medication? ____ Yes ____ No
      • Functional class of the patient?
      __ No symptoms __ Shortness of breath with strenuous efforts __ Shortness of breath with light efforts __ Shortness of breath at rest
   d. Syncope ____ Yes ____ No Last episode .....
      Investigations? ____ Yes ____ No If yes, state results .....
2. Chronic pulmonary condition ____ Yes ____ No
   a. Has the patient had recent arterial gases? ____ Yes ____ No
   b. Blood gases were taken on: ____ Room air ____ Oxygen .....LPM
      If yes, what were the results .....$pCO_2$ .....$pO_2$
      Saturation ..... Date of exam.....
   c. Does the patient retain $CO_2$? ____ Yes ____ No
   d. Has his/her condition deteriorated recently? ____ Yes ____ No
   e. Can the patient walk 50 metres at a normal pace or climb 10-12 stairs without symptoms? ____ Yes ____ No
   f. Has the patient ever taken a commercial aircraft in these same conditions? ____ Yes ____ No
      • If yes when? .....
      • Did the patient have any problems? .....
3. Psychiatric Conditions ____ Yes ____ No
   a. Is there a possibility that the patient will become agitated during flight ____ Yes ____ No
   b. Has he/she taken a commercial aircraft before ____ Yes ____ No
      • If yes, date of travel? ..... Did the patient travel ____ alone ____ escorted?
4. Seizure ____ Yes ____ No
   a. What type of seizures? .....
   b. Frequency of the seizures .....
   c. When was the last seizure? .....
   d. Are the seizures controlled by medication? ____ Yes ____ No
5. Prognosis for the trip ____ Good ____ Poor

Physician Signature ..... Date .....

**Note:** Cabin crew are not authorized to give special assistance (e.g. lifting) to particular passengers, to the detriment of their service to other passengers. Additionally, they are trained only in **first aid** and are not permitted to administer any injection, or to give medication.

**Important:** Fees, if any, relevant to the provision of the above information and for carrier-provided special equipment are to be paid by the passenger concerned.

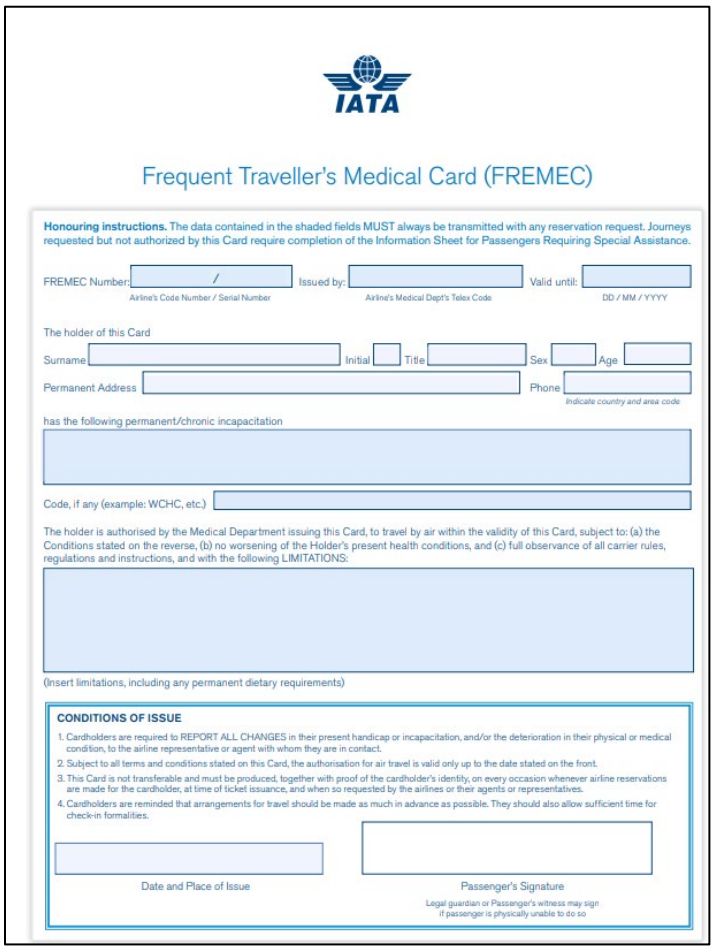
### 1.4.5.3 Frequent Traveler's Medical Card

If a passenger is a frequent airline traveler and has a stable medical condition as established by an initial medical clearance, a Frequent Traveler's Medical Card (FREMEC) may be issued by the operating airline.

A FREMEC shall be acceptable as medical clearance provided that:

a. The travel is completed within its validity.
b. The medical condition corresponds with the description provided.
c. The passenger is its rightful holder.
d. Any limitations stated thereon are observed.
e. (WFS) Refer to operating airline's own form where required and if applicable.

The IATA FREMEC form can be downloaded from the IATA Medical Manual at https://www.iata.org/en/publications/medical-manual/, or use the operating airline's own form, if applicable.



IATA

Frequent Traveller's Medical Card (FREMEC)

**Honouring instructions.** The data contained in the shaded fields MUST always be transmitted with any reservation request. Journeys requested but not authorized by this Card require completion of the Information Sheet for Passengers Requiring Special Assistance.

FREMEC Number: / Issued by: Valid until:
Airline's Code Number / Serial Number | Airline's Medical Dept's Telex Code | DD / MM / YYYY

The holder of this Card
Surname Initial Title Sex Age
Permanent Address Phone
Indicate country and area code

has the following permanent/chronic incapacitation

Code, if any (example: WCHC, etc.)

The holder is authorised by the Medical Department issuing this Card, to travel by air within the validity of this Card, subject to: (a) the Conditions stated on the reverse, (b) no worsening of the Holder's present health conditions, and (c) full observance of all carrier rules, regulations and instructions, and with the following LIMITATIONS:

(Insert limitations, including any permanent dietary requirements)

**CONDITIONS OF ISSUE**

1. Cardholders are required to REPORT ALL CHANGES in their present handicap or incapacitation, and/or the deterioration in their physical or medical condition, to the airline representative or agent with whom they are in contact.
2. Subject to all terms and conditions stated on this Card, the authorisation for air travel is valid only up to the date stated on the front.
3. This Card is not transferable and must be produced, together with proof of the cardholder's identity, on every occasion whenever airline reservations are made for the cardholder, at time of ticket issuance, and when so requested by the airlines or their agents or representatives.
4. Cardholders are reminded that arrangements for travel should be made as much in advance as possible. They should also allow sufficient time for check-in formalities.

Date and Place of Issue

Passenger's Signature
Legal guardian or Passenger's witness may sign if passenger is physically unable to do so

### 1.4.5.4 Advance Notification

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

a. Advance notification is required for the following, subject to airline acceptance and approval:
    1. Passengers traveling on a stretcher.
    2. Passengers requiring a personal portable oxygen concentrator, ventilator or respirator on board.
    3. The carriage of an incubator.

***Notes:***

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.
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/assembly, care shall be observed when handling and loading/unloading.

#### 1.4.5.5 Seating

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

a. Provide appropriate seating, as per operating airline–procedures and MEDA passenger actual needs:
b. Provide adjacent seating, as applicable, for:
    1. Personal care attendants
    2. Safety assistants
    3. Readers/interpreters in the 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.

#### 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 additional needs have been communicated via the appropriate SSR codes and entered into the DCS and PNR. Verify personal care attendant and safety assistant requirements are fulfilled, if applicable.

#### 1.4.6.2 Right of Refusal of PWD 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 for reasons related to their disability or conditions unless one of the following reasons is applicable, and in accordance with operating airline procedures.
   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 personal care attendant and/or safety assistant.
   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. Furthermore, 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.
   5. Information is required about the person'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 is in the infectious period (or does not have proper medical clearance).
   7. Stretchers may be refused as per the aircraft type or airline procedures.

c. Handling of PWD/MEDA Refusals
In the 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 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], 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 operating airline procedures and local regulations.

### 1.4.7 Stretcher Transport

If accepted by the operating airline, transport on a stretcher can be arranged provided advance notification is given for a passenger 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)
b. Verify STCR codes
c. Update status details in the check-in record.
d. 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).

### 1.4.8 Oxygen for Medical Use

Once the operating airline 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. Airline supplied oxygen during a flight (AOXY).
    2. Personal Portable oxygen concentrator (POC).
c. Seat the passenger as per operating airline procedures allowing for stowage of equipment.

### 1.4.9 Inadmissible Passengers and Deportees

#### 1.4.9.1 Inadmissible Passengers (INAD)

a. An inadmissible person (INAD) is a person who is or will be refused admission into a state by its authorities.
b. An INAD should depart on the first available flight.
c. The operating carrier should be advised by the responsible local authority about the conditions and the state of the INAD. This should be done well in advance of boarding.
d. (WFS) Advise the cabin crew and PIC of INAD persons with judicial proceedings as per the air carriers procedures.
e. All stations en route shall be advised of the INAD on board.
    ***Note:*** In general, 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 be refused at any stage.

#### 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.

   ***Notes:***
   1. The responsibility for deportees lies fully with the state(s) concerned.
   2. Deportees will be accepted for carriage only upon the request of an authority and on operating airline approval.

d. If a DEPO resists transportation or gives rise to the assumption that they will be the source of annoyance to other passengers or crew members, only accept the DEPO according to the procedures for a DEPO 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 cabin crew and PIC of DEPO passengers with judicial proceedings. As a starting point the PIC should always be informed of INAD and/or DEPO transportation whether they are with judicial proceedings or not.

g. All stations enroute shall be advised of the DEPO on board.

#### 1.4.9.3 Seating of Inadmissible Persons or Deportees

Assign INADs, DEPOs and their escorts to seats in the rear of the cabin, but not directly adjacent to exits, in accordance with operating airline procedures.

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

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

### 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 your supervisor any unruly passenger behavior you observe at check-in, in the lounge, or at the boarding gate. Put baggage of such passengers on standby.

#### 1.4.10.3 If an Unruly Passenger is Denied Carriage

If an unruly passenger is denied carriage:

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

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

If an unruly passenger is accepted for travel:

a. Inform the pilot-in-command 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.

### 1.4.11 (WFS) Armed Individuals

The General Public is restricted by the FAA and prohibited from carrying a deadly weapon including mace either concealed or unconcealed on board or in the cabin of any commercial aircraft.

a. Unloaded firearms and ammunition generally are accepted on domestic US flights only and may be checked as luggage without additional cost of it is within the customer’s free allowances.
b. General Public checked firearms guidelines for domestic travel:
    1. Customer must verbally declare the firearm unloaded.
    2. The customer must sign the “Fire Arms Unloaded Tag” or declaration and this tag must be then placed inside the luggage containing the firearm.

3. The case must be locked and crushproof and specifically manufactured to carry firearms.
4. Ammunition may be restricted or accepted only in small quantities in checked or carry-on luggage. Please refer to Airline specific and TSA procedures (US locations) at your location.

#### 1.4.11.1 (WFS) U.S Locations - Armed Officers

a. Law enforcement officials are commonly referred to as LEO. Some airlines accept weapons in the passenger cabin when the customer is required to retain a weapon in the performance of their official duties. This may also involve escorting a prisoner or dignitary. This policy may vary drastically depending on the airline/air carrier. Some airlines restrict all firearms onboard the aircraft and some may not allow any escorted prisoners.

   The pilot-in-command shall be notified prior to the commencement of the flight. The notification shall include at minimum:

   1. the seat number(s) of authorized armed person(s) when allowed by regulation.
   2. This notification can be either verbal or written.

b. Federal Air Marshals (FAM) are a branch of the Department of Homeland Security. US Air Carriers are required to carry FAMs on a first board priority basis, without charge while on official business.

   FAMs with proper photo ID are authorized to carry firearms. Notice or paperwork required for other forms of armed officials or LEO is generally not required for a Federal Air Marshal.

   FAM travelers must be treated the same as any other confirmed revenue passengers.
   Nothing must be done to call attention to them. When verifying the authenticity of credentials for an approved armed law enforcement officers, keep in mind the following:

   1. Titles may vary according to Rank (i.e., Federal Air Marshal, Special Agent in Charge)
   2. The ID should include a clear full faced picture
   3. The badge and credential numbers should correspond
   4. Comply with specific forms and paperwork required by the carrier at check in

5. FAM ID Specifics:
    i. The “Department of Homeland Security” seals will be embedded in the security laminate overlay of the ID if
    ii. The DHS hologram slightly overlaps upper left corner of photograph on the ID
    iii. “FAM” shadow is printed in light blue letters under authority verbiage
    iv. ID must contain a signature of the Federal Air Marshal
    v. ID must contain an authorizing signature of the FAA Administrator

## 1.5 Passenger Disruptions

### 1.5.1 Information and Communication to Passengers

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

a. Ensure staff are briefed for consistent delivery of information.
b. (WFS) Provide passengers with written information about their rights according to applicable regulations, upon requested or as required. In the EU under regulation (EC No 261/2004) Article 14(1) of the Regulation specifies the text of a notice which shall be displayed at check- in in a manner clearly visible to passengers. This notice should be displayed physically or electronically in as many relevant languages as possible.
c. Brief staff on the estimated time of departure, estimated time of arrival, and any provisions being offered.
d. Provide information in alternate formats to passengers with disabilities.

### 1.5.2 Delays

#### 1.5.2.1 Disruptions Known Prior/During Check-In

a. Update revised times in the DCS.
b. If applicable and as per operating airline procedures, rebook any connecting flights according to the airline's priority sequence.
c. Check the passenger and baggage through on the rebooked flight.
d. Update airport flight information display system (FIDS).
e. Arrange the needed amenities, e.g., meals, HOTAC, transportation(s), passenger assistance, lounge access, etc., according to the nature of the disruption.

#### 1.5.2.2 Disruption 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 the nature of the disruption.

#### 1.5.2.3 Disruption Upon Arrival

In case of the delayed arrival of a Flight:

a. The misconnecting passenger and baggage shall be rebooked and re-flighted accordingly.
b. Update airport FIDS.

c. Arrange the needed amenities, e.g., meals, HOTAC, transportation(s), passenger assistance, lounge access, etc., according to the nature of the disruption.

### 1.5.3 Misconnections/Cancellations/Diversions

Handle misconnections, cancellations and diversions in accordance with the operating airline's General Conditions of Carriage.

### 1.5.4 Involuntary Change of Class

Involuntary changes of class shall be handled in accordance with operating airline procedures.

### 1.5.5 Denied Boarding due to Unavailability of Seats

a. Passengers holding a confirmed reservation may be denied boarding due to a variety of reasons for example:
   1. Overbooking of the flight.
   2. Reduced aircraft seating capacity due to unserviceable equipment.
   3. Reduced weight/seat capacity due to a payload restriction.
   4. Change of aircraft type or version.

b. Apply operating airline procedures for denied boarding:
   1. If applicable, solicit volunteers and offer compensation and/or reprotection .
   2. Provide written notice, as per government regulations.
   3. Apply the airline's involuntary denied boarding procedures if insufficient volunteers are solicited.

### 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 operating airline procedures.

c. Legal time limits apply to the reporting of loss, delay, damage or pilferage of baggage, see operating airline policies 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. Mishandling baggage shall be forwarded without any charge by the fastest possible means using the services of any 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.

### 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 passengers 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 on operating airline procedures.

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 on open mishandled baggage tracing files by the department as defined by the operating airlines procedures.

### 1.5.6.8 Mishandled Mobility Aids

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

a. Document incident as per operating airlines procedures.
b. Make all possible efforts to provide a suitable equivalent loaned item or replacement, as needed and as per operating airline procedures.
c. Arrange for the repair or replacement of the item, if needed.

### 1.5.6.9 Mishandled Live Animal

Delay of or injury to 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. Since airlines and airports differ from one another, 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.

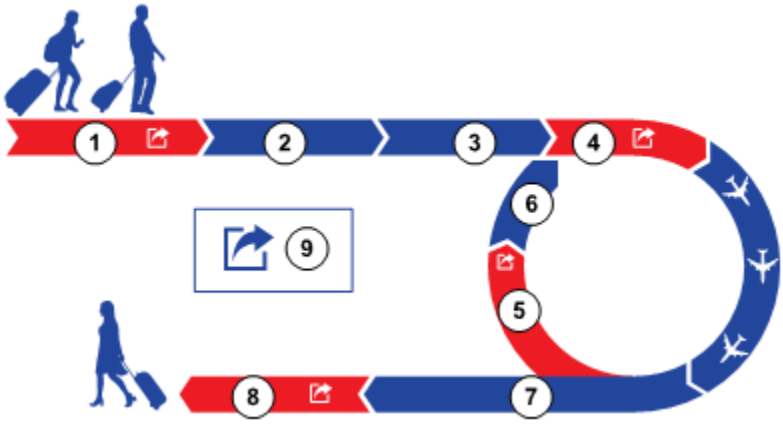
As per Resolution 753, IATA members shall maintain an accurate inventory of baggage by monitoring the acquisition and delivery of baggage.

Members shall be able to:

a. Demonstrate delivery, of baggage when custody changes
b. Demonstrate acquisition, of baggage when custody change
c. Provide an inventory of bags, upon departure of a flight
d. 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 baggage acceptance through to the return of the baggage to the passenger. In some cases, and upon specific arrangements that recognize security measures between airports of origin, transfer and arrival, transfer screening may become nonmandatory.



| NUMBER | DESCRIPTION |
|---|---|
| 1 | Departing Baggage |
| 2 | Security |
| 3 | Sort |
| 4 | Baggage Build |
| 5 | Transfer Baggage |
| 6 | Security |
| 7 | Unload |
| 8 | Arrival |
| 9 | Information Sharing |

***Note:*** *INFORMATION SHARING: Airlines should share tracking information with interline partners as needed.*

ICAO Annex 17 Standard 4.5.4 See also IATA Security Management System (SeMS) Manual, Section 6.8 Recognition of Equivalence.

## 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:

a. Passenger Baggage Acceptance–See GOM 1.1.6
b. Baggage Handling–This Chapter
c. Aircraft Loading and Unloading–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 staff depending upon the operation size and structure at the airport. Typical roles include:

a. Management staff member: Responsible for overseeing the performance of the operation, making decisions on how to operate based upon feedback from the operational staff.
b. Support staff member: Responsible for planning baggage operations and collecting metrics, including rerouting misconnection to ensure a smooth baggage operation.
c. Baggage staff member: Operational staff 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 staff member: Operational staff 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 the risks associated with baggage handling, 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 the best lifting techniques to be utilized at all times to reduce the risk of injury while handling baggage.
   3. See 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 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 as per IGOM 3.1.3.3.
g. Verify the coupling/uncoupling of baggage carts, dollies and/or trailers. Ensure nobody is working between or nearby prior to moving.

***DANGER:***

Be extra careful of 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

### 2.4.1 Planning

Depending on the size of operation of a station, it is important 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 items that are planned for departure
   4. Staff assigned to deliver baggage to/from the aircraft/staging area (refer to IGOM 4.5.6.2).
b. Review the arrival of transfer baggage for the departing flight:
   1. Determine which arrival flights have transfer baggage for the departing flight.
   2. Monitor these flights for the transfer baggage to ensure the transfer baggage can make their connections.
   3. Plan for short-connection baggage to the baggage sorting system or on a tail-to-tail basis as needed.
c. Review 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 OOG baggage point are aware of the build and/or allocated stand for delivery of items that arrive at the OOG point.
c. Ensure the signage for the flight departure is up to date (i.e., stand information is appropriately displayed).
d. Ensure the ground personnel handling the flight are aware of any special baggage items requiring processing, especially mobility aids.

### 2.4.3 Execution of Departing Baggage

a. Ensure 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 arrive at the build output, then ensure that:
   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 (WFS) and is protected from unauthorized interference until,
   - The departure of the aircraft on which the baggage has been loaded.
   - The point at which the baggage is transferred to, and accepted by, another entity for further handling.

e. Produce ULD cards (WFS) and/or “Bingo Sheet” for each flight 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 based on operating airline procedures 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 in hold
   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 BHSs 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 electronically 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 ("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 baggage is handled in an appropriate manner (e.g., positioned rather than thrown into the ULD/baggage cart).
   5. Place the baggage to one side for resolution in case the baggage is identified as not being a "Positive" passenger bag match or not loaded to the correct flight/destination.
   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. Loading order (numbered) sequence 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. Expected baggage count and received baggage to be compared to achieve a zero-baggage missed rate.
   6. (WFS)The "Bingo Sheet" shall accompany the ULD/Cart to the aircraft and when loaded, removed, made available to the air carrier and retained in accordance with the air carrier requirements.

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. (WFS) Verify the ULD is full or that partial baggage loads are secured appropriately. 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 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 an 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 operating airline procedures for treating the baggage (i.e., offloading 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 personnel 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 operating airline procedures.
c. Ensure the item is collected from the gate area to the aircraft for loading.
d. Where a passengers 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 special baggage required to be made available at the aircraft door (i.e., Wheelchairs, Mobility aids and/or Strollers):
   1. Ensure a Delivery At Aircraft (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:*** See IGOM 1.1.6.12 for DAA procedures.

### 2.4.5 Monitoring the Departing Baggage Operation

Baggage performance monitoring is a key element of 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 on the ground handling services providers and airlines involved. Metrics that may be useful include:

a. Number of bags left behind
b. Number of bags accepted late from the 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

### 2.5.1 Planning Transfer Baggage

Depending on the number of transfer baggage expected, it is important for each transfer item that a pre-planning process is put in place, to be aware:

a. Transferring baggage may arrive up to 24 hours prior to the departing flight and can also arrive close to the departure time of the departing flight.
b. Planning shall be according to connection times of the arriving feeder flights.

***Note:*** Transfer baggage planning can make a big difference to the overall performance of an airport or airline. The most common causes of baggage mishandling are in the transfer baggage process

c. Review the list of arrival flights to obtain:
    1. The number of transfer baggage arriving before the departing flight is open for build. Allocate a storage area for these early bags.
    2. The number of transfer baggage that will arrive during the time the departing flight is open for build. In consultation with other stakeholders and subject to approval by local authorities (tail-to-tail) decide if:
        i. These bags are being handled by the BHS or being delivered tail-to-tail, if applicable/operationally permissible.
        ii. Baggage personnel will be allocated to deliver the baggage rapidly to the baggage sortation system or on a tail-to-tail basis for baggage with short-connections.
        iii. If tail-to-tail operations are planned, inform the baggage hall and ramp personnel so additional loading units are made available on the ramp.
    3. The number of transfer baggage that will arrive after their departure flight has closed for build and determine:
        i. If it is possible for the departure flight to accept late baggage and to extend build time and facilities.
        ii. Identify which baggage is to be re-flighted (refer to IGOM 2.9).
d. Plan the use of GSE such as baggage carts and ULDs.
e. Mixed baggage is to be segregated for the departing flight in accordance with the airline's procedures.
f. Plan for any special handling equipment use and brief personnel on that use as needed. This may include processes and procedures for handling mobility aids, weapons, AVIH, etc.
g. For tail-to-tail transfers (in accordance with approval by local authorities):
    1. Plan the collection of inbound transfer baggage and the delivery to the departing flight.
    2. Plan handover points for the tail-to-tail drivers for the departing flight.

h. Determine the categories for the departing flight (e.g., premium vs economy baggage, onward connecting baggage containers of baggage that will be unloaded from one flight and loaded to another during a transfer stop).

### 2.5.2 Preparation for Transfer Baggage

a. Ensure the baggage handling team, know of storage locations for baggage that has arrived prior to departing flight opening. So that they can collect the transfer baggage, as necessary.
b. Dispatch the baggage team and any necessary GSE as per their allocated tasks (e.g., collection, delivery).

### 2.5.3 Execution of Transfer Baggage

a. Collect the transfer baggage from the arrival flight.
b. Deliver the baggage to the appropriate location:
    1. Baggage Handling System
        i. Deliver the baggage to the transfer baggage inject point.
        ii. Unload the baggage at the transfer baggage inject point.
        iii. Scan the baggage to record delivery to the baggage handling system.
    2. Tail-to-tail
        i. Scan the baggage at the point of collection.
        ii. Deliver the baggage to the departure aircraft.
        iii. Scan the baggage upon loading into the departing aircraft.
    3. Storage Areas
        i. Deliver the bag to the storage area.
        ii. Scan the bag to record delivery to the storage area.

### 2.5.4 Monitoring of Transfer Baggage

Transfer baggage should be monitored in accordance with Resolution 753 to record the number of bags making their connections, as applied to departing baggage.

## 2.6 Terminating Baggage

### 2.6.1 2.6.1 Planning

a. Review relevant messages (e.g., baggage manifest message (BMM), CPM, 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 for 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.
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 of Terminating Baggage

#### 2.6.3.1 Collection

a. Liaise with the ramp team for the collection of baggage according to the unload plan (e.g., CPM, LDM).
b. Verify the load collected is the appropriate load as per the unload plan/labeling of ULDs and/or baggage labeling.
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), while 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, use this when the first bag is delivered.
        ii. If no such system exists, record the flight number and time of first bag delivery manually if this is required by operating airline 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 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, the bag should be secured as per operating airline procedures.
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 processed for transfer.

#### 2.6.3.3 In the Arrivals Hall

a. If the reclaim belt is overloaded with baggage, bags should be removed from the belt and set aside in a secure manner (i.e., where they can be observed) in an area that does not present a safety risk for passengers.
b. Once all bags have been delivered to the reclaim and passengers have progressed away from the reclaim area, 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 needed will vary according to the airline and handling companies 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. This is a measure from the Airport Design Reference Manual.
   ***Note:*** 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.

c. First Bag Delivery Time
   This is the time of delivery of the first bag to the baggage reclaim belt.
d. Last Bag Delivery Time
   This is the time of delivery of the last bag to the baggage reclaim belt.
e. 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.
f. 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
g. 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) as specified by operating airline procedures.
b. Ensure any special baggage accepted for carriage that has not been pre-declared has the required documentation, as per operating airline procedures. 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.
b. Handling of Crew Baggage–see GOM 1.1.6.12
c. Handling of Firearms–see GOM 1.1.6.13

d. Handling of Sporting Goods–see GOM 1.1.6.12
e. Handling of Baggage Delivered At Aircraft (DAA)–see GOM 1.1.6.12

### 2.7.4 Handling Live Animals

a. Handling of Live Animals in Hold (AVIH) is required in accordance with operating airline procedures and IATA Live Animals Regulations (LAR). The acceptance of AVIH is also subject to respective country regulations. (see IGOM 1.1.6.12)
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 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:*** Domestic animals of unusual size, strong breed or wild animals, reptiles and rodents must be transported as cargo.

### 2.7.5 Planning Terminating Special Baggage

a. Review the incoming flight load for the number 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 terminating baggage and preparation).
b. Verify that any GSE allocated are in good working order.
c. Ensure that the arrivals ground staff meeting the aircraft are aware of any special items processing, especially mobility devices.

## 2.8 Disruption

### 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 baggage reconciliation system 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. Some BRS can fail "gracefully" where the most recent data remains available in the system and bags are reconciled against this data with changes highlighted when connectivity is restored. Training and guidance for such systems should be followed when disruption occurs. Where no graceful degradation is possible, manual processes should be adopted using bingo cards and baggage reconciliation stubs.

#### 2.8.2.2 Baggage Handling System (BHS) 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 two 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

When equipment is found to be unusable, damaged or nonfunctional during the planning phases of the operation this equipment should be flagged as unusable 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 Diversion

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:

a. Deliver the baggage to the alternative flight provided, or
b. Deliver the baggage to a reclaim allocated to the original flight so 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, procedures should be followed.

### 2.9.2 Pre-Departure Mishandling

Pre-departure 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 tag less 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 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 re-flighting (if not done automatically)
d. Follow any additional screening requirements as per local regulations

### 2.9.4 Tail to Tail Baggage (where permitted by local regulations and airline procedures)

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.
c. In the event that the passenger is not onboard at departure, then the bag may be located and removed if this aligns with airline policy.
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 BRS 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 RP 1745 and RP 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-flighting Systems

A baggage re-flighting 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-flighting, allowing bags to be allocated to a new flight automatically and sent directly to the build for that flight.

# 3 Aircraft General Safety/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 damage can endanger passengers, employees 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. If you see or cause any aircraft damage, you shall report it. Refer to the operating airline's procedures regarding reporting of aircraft damage.

(WFS) When working the ramp, all staff shall ensure that any situation of unauthorized presence in the security-restricted area is immediately reported to the appropriate security authority.

(WFS) It is the responsibility of every staff member to report any incident or near-miss affecting safety and to support and cooperate throughout any subsequent investigation. All incidents, including near misses, shall be fully investigated and reported through the WFS reporting process.

(WFS) When working on the ramp, running, horseplay and smoking are specifically prohibited.

(WFS) When working on the Ramp (Cargo or Passenger), Bag Room or in Cargo Warehouse Areas, all staff shall wear the required personal protective equipment and comply with the requirements listed below:

a. An approved reflective High-Visibility Clothing/Vest (HVC) (WFS)—Safety vests must be worn closed and free from entanglement.
b. Approved hearing protection (earmuffs or earplugs)
c. Approved protective footwear (work shoes or boots, as applicable) shall be worn at all times. Athletic, canvas, soft-soled, or open-toed shoes (such as sandals) are prohibited.
d. Tinted glasses and sunglasses shall not be worn at night or at any time when visibility is low.
e. Gloves should be worn; gloves can protect against cuts or abrasions, extremes of temperature, they can also be required for manual handling tasks where there is a possibility of injurer to the hand by sharp, pointed or abrasive objects. They may also provide extra grip.
f. When performing aircraft lavatory servicing, the wearing of protective rubber gloves, apron, and face shield is mandatory. Rubber gloves should be at least elbow length

(surgical hand gloves are unacceptable). The apron should be liquid repellent and when worn, should extend down to between the waist and knees.

g. Any other specified PPE as per local requirements

### 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 intake, 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 shall remain clear of aircraft danger areas when aircraft engines are running and/or the anti-collision lights are on.
b. In order to prevent incidents and accidents caused by aircraft engines, you shall 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. Make sure the engine intake/propeller rotation area is clear at all times when engines are running, or the engine start is about to begin.
d. It is forbidden to pass through the blast area while the engines are running.

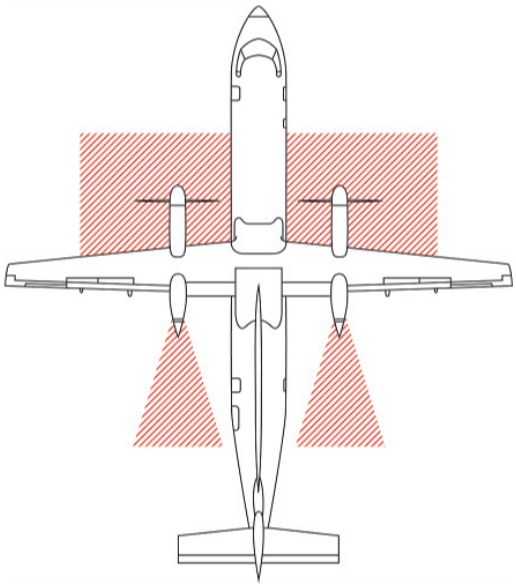
***DANGER:*** Ground personnel and/or loose equipment shall stay clear of the intake and blast areas.

***NOTE:*** (WFS) Propeller aircraft are particularly dangerous in that the propeller turning at high speed can be almost invisible to the eye. It is essential that all staff remain clear of the danger areas of the propeller(s) when the anti- collision beacon is illuminated. Staff shall not walk through propeller turning areas during the turnaround as propellers can turn in the wind at any time and cause injury.

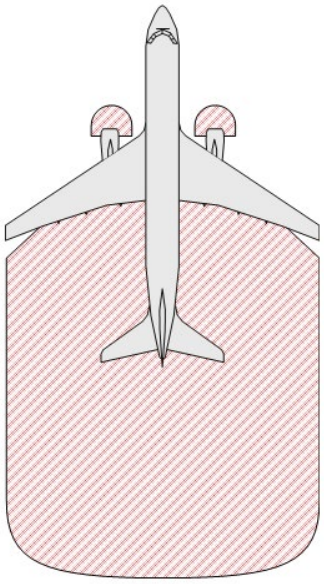
### 3.1.2.2 Engine Danger Area Diagrams

***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 the manual for each aircraft type or operating airline's GOM for applicable distances.

EXAMPLE OF ENGINE DANGER AREA - PROPELLER AIRCRAFT



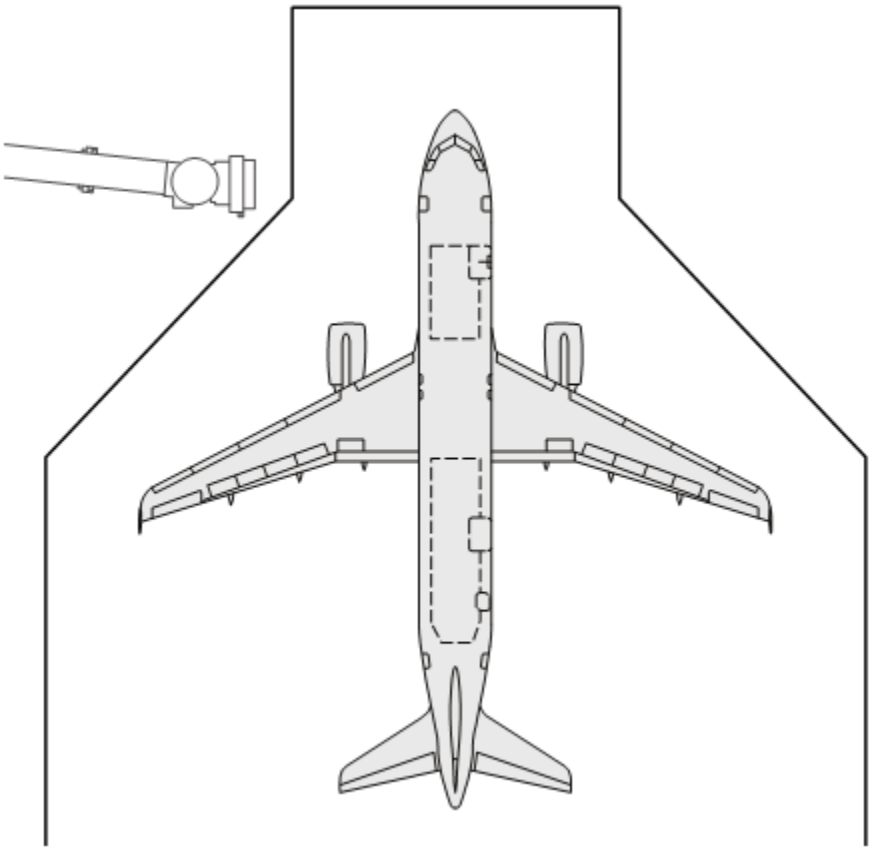
EXAMPLE OF ENGINE DANGER AREA - JET AIRCRAFT



### 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 shall establish safe parking areas, etc. The illustration below provides an example of the markings used at some locations.
b. (WFS) The ERA shall be free of obstructions (WFS defines free of obstructions as meaning ANY equipment or persons inside the ERA lines, unless it is in a painted box, approved by the airport and air carrier (i.e. fuel carts, etc.) 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

a. FOD applies to all loose objects that are a danger to the safety and integrity of aircraft or personnel. FOD, therefore, shall not be left in any area where it would pose a hazard.
b. All personnel have a responsibility to ensure the risk of damage to aircraft from FOD is minimized. All waste material shall be properly disposed of such that it does not become FOD and all FOD shall be removed and properly disposed of as soon as it is discovered.
*c.* 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.

***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.

**(WFS)** Prior to the arrival of an aircraft onto stand, the stand should be checked for any FOD (Foreign Object Debris) that is evident especially around the area to be occupied by the aircraft tires and engine intakes.
Where there may be any obstructions caused by vehicles contact the responsible person who will seek the assistance for marshalling of the aircraft or where required a stand change.

Examples of FOD:

- Plastic and paper, bags/sheets, towels
- Metal: nuts and bolts, pieces of equipment, coins, bag zippers empty oil and hydraulic fluid cans, tools and equipment
- Natural objects: rocks, pebbles and wood
- Other debris: burst ballast bags, luggage handles and luggage wheels, etc.

d. The following FOD checks shall be conducted prior to any aircraft movement and after servicing operations:
    1. Check ground equipment staging and parking areas in proximity to the area of operation.
    2. Do routine checks of ground 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 walkaround of the aircraft parking stand, removing all FOD found.
    5. Pick-up and dispose of all FOD in designated garbage bins, where provided or as per local arrangements. FOD bins should be enclosed, to avoid FOD being blown out by wind.

#### 3.1.2.5 (WFS) Fire on Ramp or Aircraft

##### 3.1.2.5.1 Fire Prevention on Ramp / GSE / Aircraft

It is WFS policy to ensure that all necessary steps are undertaken to prevent fire, in addition to being able to react, in the event of a fire incident. To that end, WFS locations are required to:

1. Keep ramp areas, warehouses and offices clean and organized.
2. All flammable materials shall be stored in appropriate storage locations, away from the ramp.
3. Prohibit smoking except in authorized areas.
4. Ensure the proper number and type of fire extinguishers are available.
5. Regularly inspect WFS facilities and ramp areas for compliance with item 1.
6. Ensure that all GSE fueling is conducted in an open area and 1) not under loading bridges or building overhangs, and 2) not within 50 feet of the terminal building or warehouse.

##### 3.1.2.5.2 Emergency Procedures and Notification

In the event of a fire on the aircraft, IMMEDIATELY notify the airport/local fire department and advise the exact location. Without jeopardizing safety, ensure that:

1. Immediately notify the flight crew or service personnel on board the aircraft either by direct contact or the flight service interphone.
2. As appropriate, evacuate the aircraft and ensure that passengers/personnel are away from the immediate danger.
3. Immediately discontinue aircraft fueling, if applicable.
4. Ensure fueling system shut off is activated, if applicable.

5. Immediately remove or turn off all GSE in the area.
6. As appropriate, utilize fire extinguishers/fire suppression to contain fire.
7. Upon the arrival of fire department personnel, comply with their request, if any, or retreat from the immediate area to a safe location.
   All appropriate fire department contacts should be listed in the station Emergency Response Plan (ERP)

#### 3.1.2.5.3 Identification and Use of Fire Extinguishers on the Ramp and GSE

It is WFS policy to ensure that aircraft servicing areas and GSE which comes in contact with the aircraft be equipped with fire extinguishers. Normally, airport authorities/air carriers are responsible for ensuring that there are fire extinguishers available at parking positions, however, station management shall notify the airport authority/air carrier in the event there is no extinguisher.

All motorized GSE, which comes in contact with the aircraft, are required to be equipped with the appropriate fire extinguisher (consult local fire code for type and size). Normally, baggage/cargo tractors will not require a fire extinguisher, however, some airport authorities and/or air carriers require this type of GSE to be equipped with fire extinguishers. In all occurrences, the station is responsible for ensuring an annual fire extinguisher check/servicing is completed as well as a monthly inspection of the fire extinguisher to ensure serviceability.

All WFS employees are required to complete OSHA Fire Safety training, which includes information on basic fire extinguisher operation.

## 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. (WFS) It is WFS policy to ensure that all personnel must be fully engaged when operating equipment, free of distractions.
   1. (WFS) A WFS Ramp Operator Permit Card will be issued to you with what you have been authorized to operate.
   2. (WFS) WFS Ramp Operator Permit Card must be on you at all times if applicable.
   3. (WFS) You must have your State / Airport Authority (as applicable) issued Driver's License on you at all times while operating GSE.

4. (WFS) Where equipped, seatbelts shall be worn by operators and passengers.

b. (WFS) GSE shall only be operated on the tarmac and/or vehicle service roads and shall not be moved or driven across the path of:
   1. Taxing aircraft or aircraft under tow/pushback
   2. Embarking and disembarking passengers on the ramp
   3. Emergency vehicles.
c. When operating any GSE, check the aircraft for possible damage in the equipment contact zone before positioning and after removal of GSE to/from the aircraft.
d. Immediately report any damage found, or where contact has taken place or is suspected to have taken place, 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.
g. (WFS) Use all safety devices fitted on GSE (e.g., proximity sensors, bumpers, handrails (when above 4 feet), stabilizers) during aircraft handling and servicing.
h. (WFS) Never attempt to start or operate any GSE/vehicle unless in the operator's position.
i. (WFS) Ensure that GSE equipment is used only as intended/designed by the manufacturer.
j. Personnel shall keep all extremities within the vehicle/GSE profile at all times while in motion.

#### 3.1.3.1.1 (WFS) Equipment Maintenance and Inspection Requirements

a. All vehicles/ equipment shall be maintained in good condition and in accordance with manufacturer requirements.
b. A preventative maintenance schedule, and maintenance records, shall be available for audit purposes. Those records will be retained for a period specified in the applicable regulations with a minimum of 6 months.
c. Prior to operation (pre-trip), the operator must perform a walk-around inspection to ensure that the vehicle is safe to operate and there are no leaking fluids. There is no requirement to document this inspection.

d. All powered GSE shall have a daily inspection completed, using the Daily Inspection Checklist. This checklist will be completed, filed and maintained for 30 days.
e. Any powered GSE identified to have some type of mechanical irregularity must be taken out of service, GSE maintenance notified via an Equipment Condition Report (ECR) completed, or Dossier (if applicable) and forwarded to GSE maintenance. GSE maintenance shall identify the resolution made and maintain the file for a minimum of 30 days.

Note – The Daily Inspection Checklist and Equipment Condition Report may be consolidated into a single document, if in coordination with the local GSE manager/shop.

#### 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, excess supplies and ensure 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 and removal, where possible.
f. Extra personnel shall not be carried on moving GSE without an approved seat (i.e., apply the no seat–no ride principle).
g. (WFS) Seat belts shall be worn at all times when operating any GSE, if fitted.
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.
(WFS) Motorized GSE that is not designed to be positioned onto the aircraft shall not be maneuvered within 2 meters of the fuselage. GSE that uses on power source for both movement of itself, and power to operate the equipment (PTO) shall be chocked or have stabilizers fully deployed (where

fitted), to prevent forward or aft movement when the equipment is left running and unattended/unmanned within the aircraft stand area.

k. Prior to movement of any GSE/Vehicles, the intended travel path shall be checked and confirmed clear of personnel, equipment or other obstacles. (WFS) Aircraft with the anti-collision light on are presumed to be under power or that movement is imminent and shall always have the right of way.
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 (WFS) whenever operating GSE inside of the ERA or 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. (WFS) Do not allow any GSE (e.g., tractors, pallet transporters, baggage/cargo carts and dollies, ladders, etc.) to move or be positioned under the fuselage. Ladders may be used to attach/remove power cables, potable water hoses or lavatory service hoses, but must be immediately removed when the attachment or removal task is completed.
p. Once motorized GSE is (WFS) parked, or 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. (WFS) Install GSE wheel chocks, in front and behind the tire. When positioning equipment to the aircraft, the GSE operator should remain at the operator’s station and have the chocks installed by the guide person. When positioning equipment away from the aircraft, the GSE operator should be at the operator’s station and have the chocks removed by the guide person.
    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 where by 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 selector for park.*

q. 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.

r. When unattended motorized GSE/vehicle is positioned in or adjacent to the ERA, other than as described in IGOM 3.1.3.2 (p):
   1. Turn off the engine. In extremely cold weather conditions where local procedures permit engines to run unattended, (WFS) must be parked outside of the ERA facing away from all aircraft when feasible.
   2. (WFS) Apply the parking brake with the gear selector in park or neutral, (if no selection for park) and deploy stabilizers and/or install wheel chocks.

s. 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. (WFS) At NO time will tug/tractor be connected to the GPU, ASU or PCA unit if connected to the aircraft. Three point connections are not allowed to prevent accidental drive aways while connected to the aircraft.

t. A No-Touch policy (i.e., GSE/PBB shall not touch the aircraft) shall be employed for all GSE/PBB types that are not equipped with self levelling sensors. The equipment shall be positioned in a way that ensures:
   1. The protective rubber bumpers do not touch the aircraft fuselage.
   2. The gap between GSE/PBB and aircraft shall not allow a person or large piece of equipment to fall through. As a guideline, a gap of 5 cm (2 in.) or two fingers should be maintained between the device and the aircraft.
   3. Check that throughout the turnaround process a clearance is maintained between the GSE and the fuselage to allow vertical movement.

u. For GSE and PBB equipped with self-levelling sensors. Continue movement until the protective rubber bumpers just touch the aircraft (but shall not be compressed against the fuselage) or the proximity sensors stop the movement.
v. All safety rails shall be fully retracted/lowered during positioning and removal, where possible.
w. 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.
x. GSE shall be parked in the designated airside equipment parking areas when not in use (WFS) and clear of the ERA during arrival/departure. After arrival and before departure, GSE shall be positioned in a manner that:
    1. Does not block emergency escape exits/slides on aircraft
    2. Allows access to the aircraft by fuel service vehicles.
    3. Allows access to the aircraft by cabin service vehicles.
    4. Does not block fuel pits.
y. Access to firefighting equipment or the fuel hydrant emergency stop switch shall not be obstructed.
    ***Note:*** *For GSE operations during adverse weather refer to IGOM 3.3 Adverse Weather Conditions.*

### 3.1.3.3 Non-Motorized Ground Support Equipment

The following precautions shall be taken when operating non-motorized GSE:

a. When parked and/or when not connected to motorized vehicles, all non-motorized GSE shall have brakes set or chocks in place, with the exception of aircraft towbars. Dollies/carts shall be connected as a chain, where possible.
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. (WFS) When towing carts and dollies do not tow more than 4 at one time or the maximum allowed by local airport authority, whichever is less. 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.
5. (WFS) Stairs shall always be positioned in a manner where it can not come in contact with the aircraft during normal settling.
6. (WFS) Stairs shall moved out of the ERA when not in use.

n. Towable air start units (ASU), PCA and GPU shall not be connected to the tow vehicle and aircraft at the same time. Before towing the unit away, the operator shall ensure the unit is disconnected from the aircraft.

***Danger:***

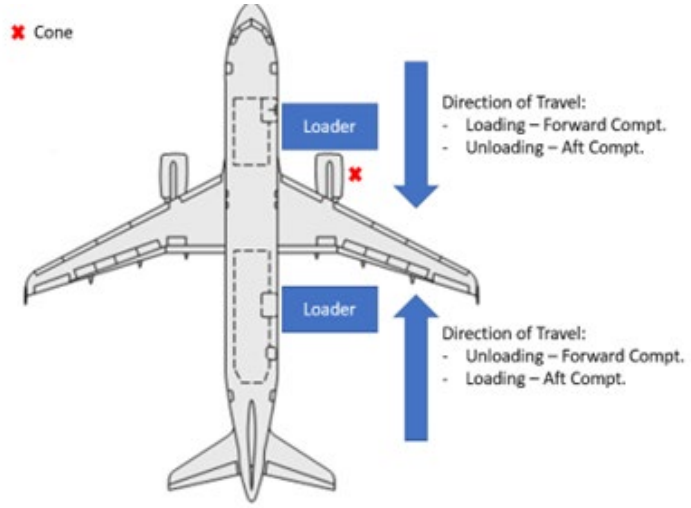
While the movement of carts and dollies by hand is very simple, it can result in injuries. Therefore, additional care shall be taken.

### 3.1.3.4 Ground Support Equipment Safety Driving and Parking Inside the Equipment Restraint Area

To verify the serviceability of GSE and test the apron surfaces, operators shall apply the following precautions when driving or parking GSE within the ERA:

a. Make one complete stop with all motorized GSE prior to entering the ERA or at (WFS) 50 feet and again a second brake check stop conducted 8 feet from the aircraft. This action shall be carried out even if there is no equipment restraint line marked on the apron.
b. GSE shall not be driven faster than 5 km/h or 3 mph (walking speed).
c. Maneuver GSE carefully to prevent personnel injury and/or aircraft damage.
d. Avoid performing sharp turns near the aircraft, particularly when towing equipment. (WFS) Care should be taken to ensure that wherever possible, GSE, specifically tugs/tractors, should be maneuvered in a manner where it is not pointed towards the aircraft and the operator is aware of the turning radius of the GSE.
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.
    2. Assisted by means of appropriate proximity sensing and warning systems and/or visual aids such as cameras and mirrors.
f. GSE that is not directly involved in the handling or servicing of the aircraft shall not be driven through or parked within the ERA.

g. Any GSE (e.g., tractors, pallet transporters, carts and dollies) shall not be driven or positioned under the aircraft fuselage unless specifically required e.g., lavatory servicing, aircraft maintenance, towbarless tractor etc.
h. Driving or parking under the aircraft wings is not permitted; see exception.
***Exception:***
*(WFS) WFS has been authorized by AMAZON, UPS and DHL to drive under the wing of B767 with tug/dolly. This ONLY applies to empty dollies being towed under the wing during the unloading/loading process. A cone shall be staged 3 ft. from the engine to prevent the equipment from coming in contact with the engine nacelle.*



### 3.1.3.5 Passenger Boarding Bridge

The operator of the 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. (WFS) Only the operator is permitted inside the bridgehead during PBB operation.

   ***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 IGOM 3.1.3.2 (t).
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.

#### 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. (WFS) Immediately clear any surface of FOD/obstacles, prior to passenger use.
b. Ensure the movement path is clear of personnel, equipment/vehicles and all other obstacles before moving the passenger stairs.
c. If passenger stairs are towed, disconnect them from the tractor and manually position them at the aircraft. Ensure the brakes are engaged once stairs are positioned to the aircraft.
d. Ensure safety rails and canopies, if any, on the passenger stair platform are fully retracted prior to positioning.
e. Move the passenger stairs slowly toward the aircraft, avoiding any aircraft sensors or protrusions, until either:
    1. Where the passenger stairs are equipped with self levelling device, continue movement until the protective bumpers just touch the aircraft, or the passenger stair proximity sensors stop the movement.
    2. When not equipped with self levelling device, maintain a gap in accordance with No-Touch policy. Refer to IGOM 3.1.3.2 (t).
    3. (WFS) If passenger stairs are towed, proceed at slow walking pace stopping 10 ft (3m) away from aircraft, disconnect from towing vehicle and then manually position at the aircraft. Ensure there is sufficient staff to maneuver the steps to their final position and to maintain absolute control. Position the top platform 6 inches (15 cm) to the right or left of the forward vertical door seal (depending on direction of door opening), top platform not to be positioned under open passenger door.
    4. (WFS) Position steps to final position with top platform approximately 4” (10 cms) below sill and buffers, and 1” (2.5 cms) from the fuselage

to allow for the movement of the aircraft unless; the equipment is fitted with spring loaded/sliding platforms or auto levelling devices.

5. (WFS) Under no circumstances shall gaps between service equipment, its sliding rails or canopies and the aircraft allow persons or equipment to fall to the ramp below or cause a person to slip or trip into the gap.

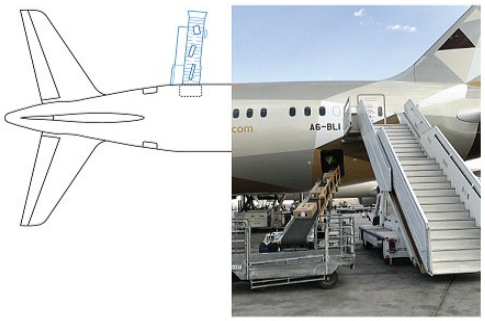
f. The controls shall only be operated from inside the driver's cabin of the passenger stairs except where equipped with external controls.
g. Maintain adequate clearance between the passenger stairs and the underside of the cabin access door, or as directed by the cabin door markings, to prevent damage.
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 nless the cabin access door is closed or a fall prevention device is in place across the door. Refer to IGOM 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 or the aircraft to a suitable position before connecting them to the tractor.

### 3.1.3.7 Belt Loader

The following precautions shall also be taken when operating a belt loader:

a. Stop operating 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. (WFS) For narrowbody aircraft less than 48" high, this may not be required
c. (WFS) Do not ride, sit or stand on a conveyor belt while it is in operation (up or down) or walk on when baggage or cargo is on the belt.
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 (WFS) or under the cargo compartment door sill 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.
   3. (WFS) The rubber bumpers on the belt loader shall never contact the aircraft. Maintain clearance of 2" to 4" between the belt loader and the aircraft at all times.
h. Once the belt loader is positioned ensure the wheels are left in straight ahead position.
   ***Caution:***
   (WFS) Using the accelerator pedal to increase the speed of the conveyor belt or the raising speed of the boom is prohibited.
i. Where clearance allows, always raise the side safety rail as soon as the belt loader is positioned. Ensure it does not touch the aircraft fuselage.
   ***Caution:***
   Care shall always be taken when working around a moving belt.
   Personnel shall remain vigilant to trap hazards while raising/lowering the safety rails. Keep hands/fingers away from the edges/ends of the belt where they may become trapped.
   Belt movement shall be stopped before any attempt to clear any obstructions.

j. The safety rail shall also be deployed when a belt loader is used to gain access to aircraft cargo holds or cargo door controls. For narrowbody aircraft less than 48" high, this may not be required.
k. (WFS) Loads should be placed on the conveyor belt at intervals ensuring a gap between each item so that the staff member unloading the conveyor has time to complete that task safely. A reasonable belt speed is desirable to facilitate this.
l. (WFS) Ensure all loads are placed centrally on the belt and any loose straps or handles cannot snag the belt, or serious damage and/or injury could occur.
m. 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.
n. 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.
o. Adjust the back of the conveyor belt correctly to avoid dropping goods from the belt.
p. The safety rail may be lowered to accommodate large items during loading and unloading. (WFS) Do not walk or stand on the conveyor when the handrail is lowered when the height from the ground is greater than 48".
q. (WFS) The conveyor belt shall only be in motion whilst transporting items. Staff securing cargo nets with feet/limbs in close proximity to the conveyor belt are to stop the belt prior to performing this operation.
r. Ensure the boom is clear of the aircraft or other obstacles before making a turn.
s. (WFS) In the event the belt loader is left positioned at the aircraft between unloading and loading, the belt loader boom shall be lowered completely, with the engine shut off.



### 3.1.3.8 Unit Load Device (ULD) 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. (WFS) Do not allow staff to ride on any platform of the ULD loader while it is being driven (unless under training).

   ***(WFS Note):*** For B757/767 main deck cargo compartments that are inaccessible via crew stairs, it is permissible for loading personnel to ride the bridge up and down, only when the loader is in the final position and loading personnel are as far away from the edge as possible and holding the safety rail during vertical movement.

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. (WFS) At no time shall loader guiderails be removed or disabled.

d. Move the ULD loader slowly toward the aircraft, avoiding any aircraft sensors or wing fairings.

e. (WFS) Adhere to Equipment Restraint Area (ERA) requirements when approaching an aircraft, move the ULD/MDL loader slowly towards the aircraft, perform 2 stops/distance brake checks and avoiding any aircraft sensors or wing canoe fairings. Within the ERA equipment should move at a walking pace and only under the direction of a guide person. If visual contact is lost with the guide person, immediately stop.

f. (WFS) Only raise the platform during final positioning and ensure the ULD loader is level with the height and angle of the cargo compartment floor.

g. (WFS) Retract or lower handrail, platforms and operator sections to ensure adequate clearance before positioning the ULD Loader, where possible.

h. Do not open/close cargo access hold doors while standing on a ULD loader. Use maintenance stairs in accordance with IGOM 3.1.3.3 (m) or a belt loader in accordance with IGOM 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.*

i. 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). (WFS) Constantly monitor the parts of the aircraft that can contact the ULD loader (e.g., edge of cargo hold opening, aircraft cargo door, control panel doors, fairings on fuselage and wings). Aircraft door access panels must be closed anytime the aircraft door is not being operated. PDU access panels must be closed any time the cargo loading system is not being actively used or whenever adjustments are being made to loader height.

j. 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 it's clear to raise/lower the ULD loader platform.

k. Ensure no one stands between the ULD loader and dollies during ULD movement and during dolly positioning.
l. Align dollies correctly to the ULD loader. Use a guide person, if required.
m. ULD loaders should not be used to transport ULDs across the ramp unless specifically designed for this purpose.
n. Move ULDs only when personnel are clear of all hazards.
o. 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. (WFS) The use of forklifts for carrying loaded cargo ULDs to and from the ULD Loader is not allowed unless they are secured to a slave deck. The use of forklifts to position ULDs onto loaders or rolling stock within the ERA is not allowed, unless approved in writing by the WFS HSSE department. When loading & unloading freighter main decks the use of a Pallet Transporter(where available) to move cargo to and from dollies should be used whenever possible.
p. 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. (WFS) Forklifts shall not be used to move heavy pallets from rolling stock onto loaders unless equipped with a manufacturer approved push-bar.
q. Whilst maneuvering ULD when it is on the ULD loader, ensure:
r. The platform(s) is clear of all personnel.
s. All (WFS) side rails are raised to prevent ULD from falling.
t. The immediate area around the ULD loader is clear of all personnel and equipment.
u. ULD is only rotated on the rear platform and when in the fully lowered position.
v. Only one ULD is rotated at a time.
w. All personnel shall keep clear of the elevating platform when it is being raised or lowered.
x. Before removal or repositioning of a ULD loader ensure any load positioned in the doorway is secured against roll out.
y. 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 door prior to ULD loader removal.
z. Whenever possible, reverse in a straight line at a walking pace, monitoring all sides for clearance.
aa. Ensure the path of the ULD loader is clear of all obstructions prior to initiating turns.

***Note:*** The ULD loader shall be positioned at a 90-degree angle to the cargo doorsill.

***Danger:***

Do not enter or place any part of the body inside the scissor area beneath the ULD loader.

### 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 doors and shutters are closed prior to raising or lowering the vehicle.
c. Any elevating equipment doors not being used for servicing at the aircraft shall be closed and latched.
d. The positioning of the elevating equipment shall allow the loading platform to be perpendicular and at the same level to the aircraft doorsill.
e. The final position of the elevating equipment shall allow for a safe working area and minimize the length of the walking surface between the aircraft and the elevating equipment while in the raised position.
f. Before accessing the platform at the front or the rear of the elevating equipment, ensure the platform is at the same level as the equipment cabin.
g. Carefully place the portable ramp/bridge on the doorsill from the platform side, as necessary.
h. Equipment (e.g., catering carts) and passengers in wheelchairs shall be pushed on and off the aircraft. Always ensure a hand-to-hand exchange. No elevating equipment is to be staged on the platform, and no loose items are to be transported on top of carts (e.g., catering equipment).
i. Continually observe and be aware of the clearance between the aircraft door and the elevating equipment platform.
j. When the servicing is finished, carefully remove the portable ramp/bridge from the platform side and stow securely. Close the cabin access door as per IGOM 4.4.2.7.
k. The passengers and/or load shall be secured properly inside the elevating equipment. Passengers shall be seated and wearing seat belts. Passengers seated in wheelchairs shall have the wheelchair secured during elevating equipment movement.
l. Visually check for any obstructions 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 walkaround to check for FOD and clearance around elevating equipment stabilizers.
p. All elevating equipment shall stop operation when the wind speed reaches 40 knots (gusting).

***DANGER:***

Do not enter or place any part of the body inside the 'scissor' area beneath the elevating equipment.

#### 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:

1. Take care to avoid sudden sharp turns, jerks and stops.
2. Prior to moving with towed load, ensure there are no personnel between or near the towed load.
3. Only transport baggage, cargo, or other items in the designated areas, if equipped.
4. Use the remote push button control (inching operation) to connect dollies, carts, or towed load, where fitted.
5. When Tractor/EBT is near the belt loader during aircraft handling, a gap of at least 1 m (3 ft.) shall be maintained.
   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.
6. 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.
7. The appropriate type of dolly shall be used according to the ULD type to transport the load.
8. 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.
9. Ensure ULD is fully transferred onto the ULD loader before moving the Tractor/EBT.
10. Ensure all the ULDs are secured on the dollies and flaps, or curtains are closed before transporting.

11. Ensure where possible dollies/carts are connected as a chain, apply brake, and insert chocks where applicable, to avoid the movement.
12. (WFS) Baggage or cargo is not allowed to be carried on the tractor/tug unless an approved rack is installed.
13. (WFS) When operating a tractor/tug in the ERA, it is WFS policy to utilize a guide person.
14. (WFS) Never allow the guide person to be in-between the tug/tractor and the GSE that it is being positioned to.

#### 3.1.3.11 ULD Transporter

The following precautions shall be taken when operating ULD transporters:

a. No personnel are allowed to sit or stand on the roller bed.
b. No personnel are allowed to walk or stand between the ULD transporter and ULD loader/dollies.
c. Position the ULD transporter at a 90-degree angle to the ULD loader/dolly to ensure safe transfer of load.
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 IGOM 3.1.3.8 for further precautions.

### 3.1.4 Fire

#### 3.1.4.1 Fire Prevention and Protection

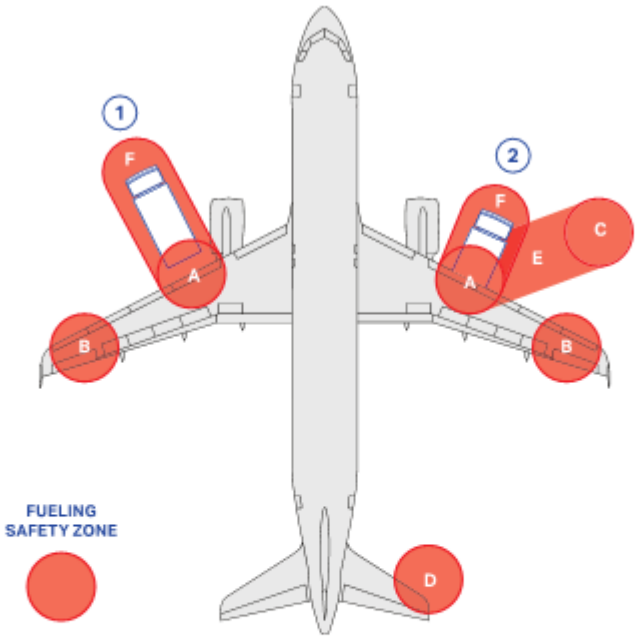
Personnel must always be vigilant for fire hazards and potential sources of fires in their areas of operation and try to mitigate or eliminate them during the operations (e.g., fueling and defueling operations, open wires, dangerous goods handling, GPU connections and use of electrical equipment).
(WFS) Refer to WFS IQSMS

## 3.2 Safety During Fueling/Defueling

### 3.2.1 Fueling Safety Zone

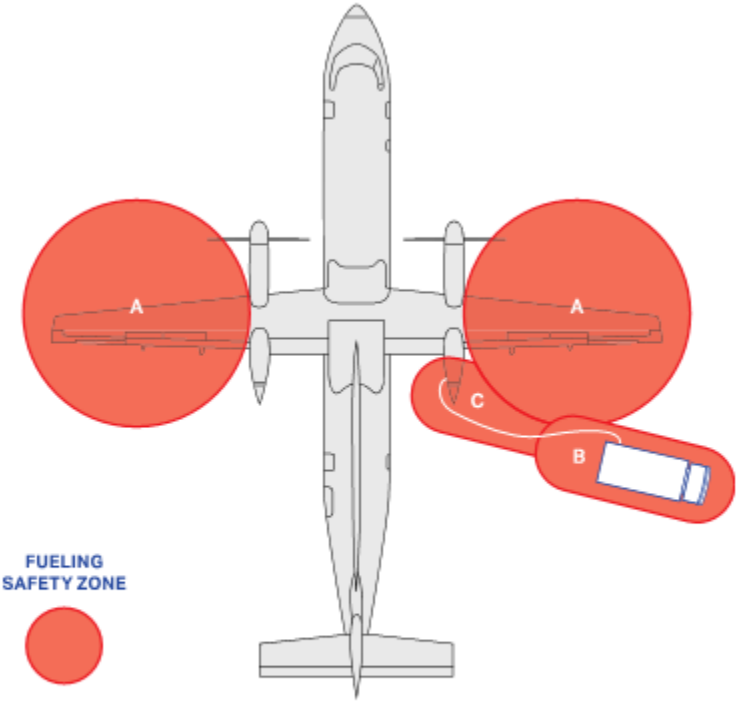
The Fueling Safety Zone (FSZ) is defined as an area of at least 3 m (10 ft) in any direction from the center point of all fuel vent exits, refueling plugs, aircraft refueling ports, fuel hydrants, fuel hoses and fueling vehicles. This distance may be increased as required by local airport or civil aviation authorities.

**EXAMPLE OF FUELING SAFETY ZONE - JET AIRCRAFT**




| REFERENCE | DESCRIPTION |
|---|---|
| A | Aircraft refueling 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 |
| 1 | Fuel Truck |
| 2 | Hydrant Dispenser |

**EXAMPLE OF FUELING SAFETY ZONE - PROPELLER AIRCRAFT**




| REFERENCE | DESCRIPTION |
|---|---|
| A | Aircraft refueling port/plug/fuel vent exit |
| B | Fuel truck or hydrant dispenser |
| C | Hoses |

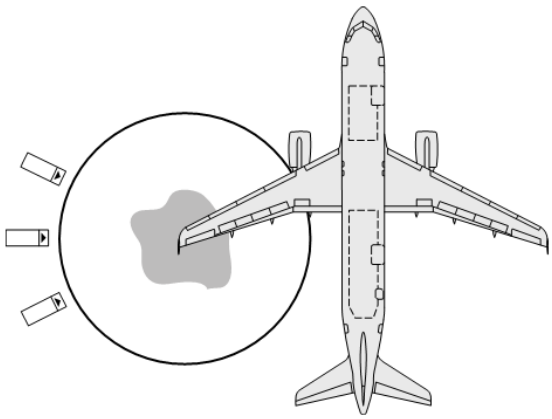
Within the FSZ, all personnel shall ensure that they:

a. Do not smoke.
b. Do not use any handheld portable electronic devices including cellphones, portable music players, portable game units or earpiece or headset.
c. Enter the FSZ only when required by your current job task/responsibility.
d. Assume that fueling is taking place anytime a fuel vehicle is on the stand during aircraft servicing and fuel hoses are connected.
e. Do not leave vehicle engines running unnecessarily.
f. Position all GSE and vehicles so they do not obstruct the fueling 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 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.



### 3.2.3 Fueling/Defueling with Passengers or Persons on Board

When fueling/defueling with passengers or persons onboard and/or during their boarding or disembarking, you shall:

a. Keep designated escape exits clear. An escape exit may be either a PBB into a terminal building, a cabin door or a passenger stair truck positioned on an open cabin door.
b. Ensure that all areas on the stand below the designated escape exits are kept free of any equipment and vehicles that would impede the deployment of an escape slide.
c. Do not hinder the escape routes of passengers on board by ensuring that passenger stairs and PBB are clear of FOD.
   (WFS) (refer to 3.1.2.4 for examples of types of (FOD))
   ***Note:*** Refer to operating airline procedures regarding fueling as well as local airport and regulatory requirements.
d. (WFS) In the event only servicing personnel are on board, the ramp supervisor or turn coordinator shall have the responsibility to ensure that all persons on board are notified that fueling has commenced. As such, if any type of evacuation from the cabin is required, they must exit through the PBB door or passenger stairs, as emergency exits may not be armed without the flight crew on board the aircraft.

## 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. If additional information is required, refer to supervisory staff.

### 3.3.2 Wintery 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 shall be taken:

a. Plan additional time for all ramp activities and take extra care when walking across apron surfaces, which can be slippery.
   (WFS) In the event that ramp level boarding/deplaning is used, the station shall ensure that designated walkways are free and clear of ice/snow and customers are not allowed to venture into areas that are not free/clear.
b. Take extra care when driving, especially when approaching the aircraft. Remember that GSE requires greater distances to stop safely on slippery surfaces.
c. Operators of potable water tankers and toilet servicing units shall be vigilant that there is no spillage or leakage that can lead to subsequent freezing. Care shall 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. In case of use of cooling/heating units and pre-conditioned air, refer to IGOM 4.1.4.2
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 in slippery apron conditions. Adjust all activities and operations on the ramp to suit the conditions at the time.

### 3.3.3 Storms–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 staff using or about to use headsets are informed of the alert.
2. Fueling 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

1. Stop fueling. Fueling hoses cannot be left attached to the aircraft during any Thunderstorm/Lighting event.
2. Discontinue aircraft communication by headset.
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. (WFS) In the event ramp level boarding/deplaning are being used, customers shall be kept inside the building or on the aircraft until the all clear is given.

**DANGER:**

**Failure to follow procedures could result in a fatal accident.**

| LEVELS | ACTION |
|---|---|
| **Amber–ALERT**<br>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. |
| **Red–STOP/SUSPEND**<br>Lightning 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. |
| **Green–ALL CLEAR**<br>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. |

The distances referred to above may vary depending on local climatic parameter.

### 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:

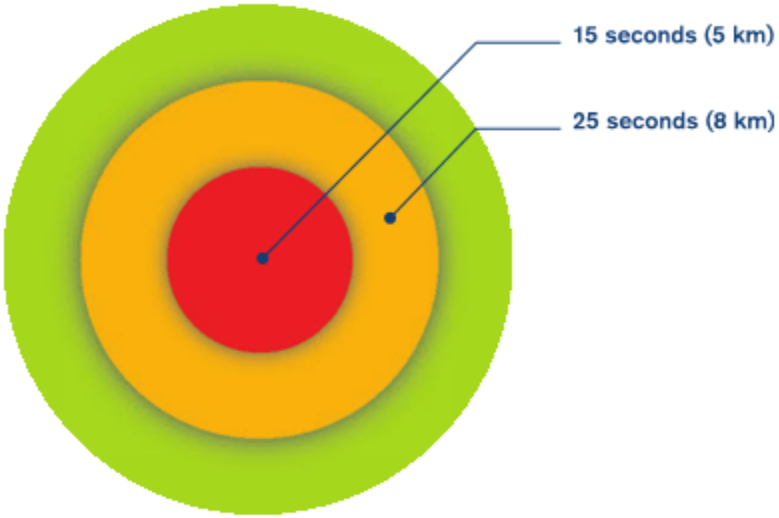
a. Use the counting method to detect/predict lightning activity. Determine the corresponding level based on the counting method diagram, see 3.3.3.3.

b. 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.
c. 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:

a. Ensure the safety of the aircraft by installing additional chocks and removing all equipment from around the aircraft.
b. Take extreme care when opening or closing any aircraft doors.
c. Make sure parking brakes are set on all parked GSE.
d. Set parking brakes and secure by additional means, if necessary, all non-motorized ramp equipment. (i.e., baggage carts and ULD dollies). (WFS) In the event ramp level boarding/deplaning are being used, customers shall be kept in the building or on the aircraft until all equipment around the aircraft is deemed secure.

e. (WFS) Close all cargo building doors, if applicable.

### 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 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.

### 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

In order to standardize "ground staff–to-ground staff" communication and/or "ground staff–to-flight crew" communication and/or flight crew-to-ground staff 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. **Marshaling Hand Signals**–to be used by ground staff, to assist the flight crew during maneuvering of the aircraft and engine starting.
c. **Technical/Servicing Hand Signals**–to be used by ground staff to communicate technical/servicing information to flight crew, and by flight crew to communicate technical/servicing information to ground staff.

***NOTE***:

1. Only use hand signals when verbal communication is not possible between the ground and flight crew
2. Make sure acknowledgement of all signals is received from flight crew

d. **Standardized Aircraft Movement Hand Signals**–to be used during the tractor/tow bar, towbarless connection/disconnection process, as well as at the start and end of the aircraft ground movement operation.
e. (WFS) Wing walking to be used by a specific guide person in direct liaison with the aircraft marshaller for arrivals and with the Headset/pushback operative.

### 3.4.2 General Conditions for Using Hand Signals

The person giving the hand signals shall:

a. Use only approved hand signals.
b. Wear a high visibility vest.
c. Maintain the same role throughout the procedure.
d. Keep in constant visual contact with the other ground staff and flight crew throughout the maneuver. 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. (WFS) The guide person shall be positioned where they have complete visual access to both the aircraft and approaching GSE as to determine distance/proximity to the aircraft, while maintaining line of sight with the GSE operator. The guide person should also be in a position to see any person, other GSE or parts of the terminal infrastructure which could come between the GSE and the aircraft. Be clear and precise so there is no mistaking the intent of the hand signal.

### 3.4.3 Specific Requirements for Using Marshalling Hand Signals

a. Do not perform aircraft marshaling unless it is permitted by the local airport authority, and you have been trained and authorized.
b. Give marshaling hand signals from a position forward of the aircraft while facing and within view of the pilot.
c. Wear a high-visibility vest.
d. Use illuminated flashlights/wands to improve the visibility of the hand signals in the following situations:
    1. Insufficient apron lighting
    2. Poor visibility
    3. Night conditions
    4. When required by local airport authorities or regulations

***CAUTION:***

To avoid any possible confusion by the flight crew, do not use guide person hand signals for equipment until all aircraft marshaling has been completed.

***NOTES:***

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.
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

The guide person must position themselves in a location to be able to judge distances as well as remain in clear view of the GSE operator while staying out of the path of moving equipment. If visual contact with the guide person(s) is lost, the GSE operator shall stop movement of the GSE immediately.

#### 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 a little aside and repeatedly moving upwards and backwards, beckoning onwards.
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 upwards towards the guide person's right. Speed of arm movement indicates rate of turn.

### 3.4.4.6 Lift

Stretch both arms toward load 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 shall correspond exactly with actual margin.

### 3.4.4.10 Stop

Arms raised and crossed over head.
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 inward, thumbs extended; move arms in towards sides.

### 3.4.4.13 Chocks Removed; Stabilizers Off

Arms down, hands closed, palms facing outward, 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


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 Tug 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 tug driver that all equipment is clear of aircraft, chocks have been removed, the aircraft brakes are off and flight crew has given clearance to commence pushback. (WFS) The headset man should also show the pushback driver the direction of the push (the direction the aircraft nose should point)
This is done by touching the nose with finger and with arm at a 90° angle to the shoulder, point in the direction that the aircraft nose needs to be turned to.

### 3.4.5.3 Negative/Hold

Hold arm straight out at 90° angle from shoulder and display hand with thumb down.
Meaning: Indicates to tug driver that aircraft is not ready for pushback and to hold position.

### 3.4.5.4 Vehicle Brakes On/Stop

Raise hand just above shoulder height with open palm and ensuring eye contact with tug driver, close into a fist. At the end of the pushback, also indicates to tug driver that aircraft brakes have been set. Tug driver should return signal to the headset operator to confirm vehicle brakes set.

### 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–Wingwalker to Headset Operator/Tug 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 Marshaling 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 fore 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

Held at sides and slightly bent at elbows, move arms downwards in 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.

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### 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

(WFS) Confirm with the Flight Deck which side of the aircraft you will clear (left or right), remove the headset jack and close the headset panel (where required) and remove the chock from the nose gear.
Move clear of the aircraft positioning forward of the nose and in line with the wing tip.
Show the REMOVE BEFORE FLIGHT flag and by-pass pin to show that it has been removed, all equipment is clear of the aircraft, and it is clear to taxi. Await acknowledgement from the crew before giving the wave off.
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 pressurized 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 fingertips 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 power:

Hold arms fully extended above head with fingertips 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.

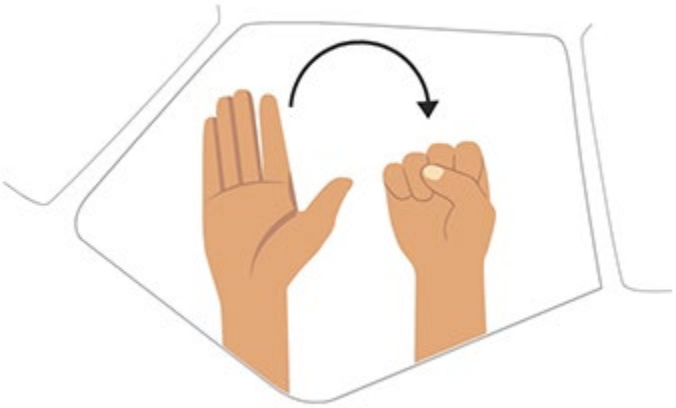
### 3.4.8.8 Open/Close Stairs

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.

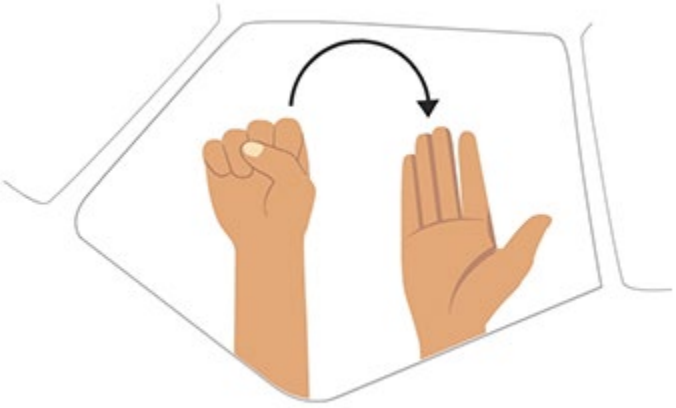
### 3.4.9 Technical/Servicing Hand Signals–Flight Crew to Ground Staff

#### 3.4.9.1 Brakes Engaged



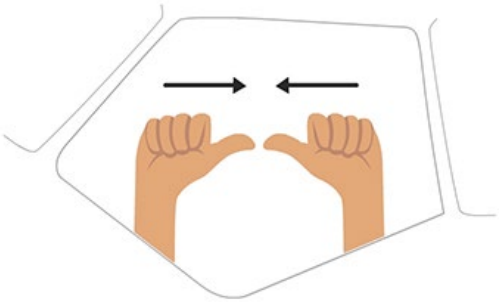
Raised arm and hand, with palm facing forward and fingers extended, horizontally in front of face; close hand into a fist.

#### 3.4.9.2 Brakes Released



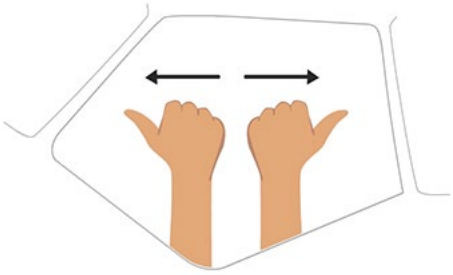
Raised arm, with fist clenched, in front of face; extend fingers to open palm facing forward.

### 3.4.9.3 Insert Wheel Chocks



Hand held in front of face, palms facing forward  with fingers closed and thumbs extended; move hand inwards.

### 3.4.9.4 Remove Wheel Chocks



Hands held in front of face, palms facing backward  with fingers closed and thumbs extended; move hands outwards.

### 3.4.9.5 Ready to Start Engine(s)

One hand raised with the appropriate number of fingers outstretched to indicates the number of the engine to be started.

### 3.4.9.6 All Clear

One hand raised with closed fingers and extended. Acknowledgement of all ground actions.

## 3.5 Toilet Servicing

### 3.5.1 Introduction

The complete procedure for servicing the aircraft toilet waste tank(s) consists of the following three steps:

a. Draining the waste tank(s)
b. Flushing of waste tank(s)
c. Adding an amount of pre-charge and/or concentrated deodorant pre-charge product, as applicable

***Caution:***

1. Toilet fluids are corrosive.
2. Prior to servicing, inspect the toilet servicing panel on the aircraft for signs of leakage.
3. If any horizontal blue streaks are observed, the blue streak shall be cleaned prior to servicing.
4. After cleaning, look again for signs of leakage.
5. Blue ice build-up at higher altitudes may influence airworthiness. In the case of a possible leak, immediately inform the airline representative, ground engineer, or advise the flight crew.

### 3.5.2 Hygiene Precautions

a. Wear heavy rubber gloves, full face protection and a protective apron against harmful waste when performing toilet servicing.
b. Do not park the toilet service unit in the same area as the water service unit or at the water filling point.

***Caution:***

Once an agent has performed toilet servicing on an aircraft, the same agent cannot perform water servicing during the same shift.

### 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. Refer to the operating airline's GOM for specific instructions per aircraft type.

a. Prior to opening a toilet service panel, check for stains around the panel.
b. Open the panel, staying clear from it, 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 and sealed to avoid contamination of the staff, equipment and floor.
e. Pull the drain valve handle to empty the waste tank(s)
f. Flush the waste tank(s) in accordance with operator requirements.
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.

***Notes:***

1. Inform aircraft maintenance or flight crew, if:
   i. Fluid leakage is observed.
   ii. The drain valve will not open, or the waste tank cannot be drained.
2. Report any spillage of waste to the supervisor

#### 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, as per operating airline policies.
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 by the operating airline.
f. Replenish the aircraft tank according to the operating airline instructions. Any deviation shall be reported to the supervisor or airline representative.
g. Airline representatives shall be informed of any issue that may affect (or may have affected) the standard of water uplifted to their aircraft, including contamination incidents, maintenance findings and test failures.

## 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 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. Certain aircraft types are exempted from this rule. (For exceptions, refer to the operating airline's GOM).
d. 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. Refer to the operating airline's GOM for specific servicing instructions.
g. When not in use, hose-ends shall be:
   1. Kept capped or;
   2. Attached to a dummy connector or;
   3. Kept in a container filled with disinfectant solution or;
   4. Treated with disinfectant before use.
h. (WFS) Remove servicing hose and wipe any residual water from around the panel.
i. (WFS) Check for possible leakage.
j. (WFS) After servicing close and latch the service panel door.
   ***NOTE:*** Inform aircraft maintenance or flight crew and supervisor if water leakage is observed.

### 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 performed and recorded as per AHM 440 7.5 and 9.1. Additionally, water samples and analyses shall be taken at each fill point and sent for microbial analysis according to customer requirements. See AHM 440 chapter 5 for more information. Any deviations from acceptable parameters in AHM 440 5.3.5 shall be reported to the air carrier, and recommended actions shall be taken.
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 or;
    4. Treated with disinfectant before use.
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. Not be positioned close to toilet servicing units at any time, particularly when toilet servicing or toilet waste disposal is taking place.

***NOTES:***

1. The water service vehicles and towed service carts should be parked in a shaded area during hot sunny weather, particularly if filled.
2. The tank shall be drained completely at least once per calendar day.

### 3.6.3.3 Water Servicing Staff

The water servicing staff shall:

a. Be dressed with clean working clothes in accordance with the 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. AHM 440 10.9.
d. (WFS) If the employee servicing potable water is not feeling well, they should not be allowed to continue servicing potable water.

### 3.6.3.4 Water Treatment Chemicals (Sanitizer)

Water uplifted to aircraft potable water tanks shall contain a low concentration of disinfectant chemical (sanitizer), of a type suitable for potable water. The most common sanitizers are based on chlorine or hydrogen peroxide. Refer to AHM 440 for details.

### 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

### 3.7.1 General

a. Aircraft Cleaning: The removal of visible dirt or particles through mechanical action, normally undertaken on a routine and frequent basis. Cleaning and disinfection can be combined into one process if disinfectants are used during the cleaning.
b. Disinfection/Sanitization/Sanitation: The procedure applies measures taken to control or kill infectious agents on a human or animal body, on a surface, on goods or in/on baggage, cargo, containers, and/or conveyances by direct exposure to chemical or physical agents.
c. Event: An event is an occurrence of suspected or confirmed communicable disease on board an aircraft, or aircraft contaminated with body fluids, or other nonstandard (uncommon) situation necessitating additional cleaning and disinfection.
d. (WFS) All aircraft cleaning shall be performed in accordance with the air carrier's documented cleaning requirements and performed by employees trained in accordance with the air carrier's documented training program. Under no circumstances will WFS employees be allowed to clean the aircraft cockpit, unless under the specific direction of an air carrier employee.
e. (WFS) When required by the air carrier, a thorough security check or search must be performed to ensure that no prohibited items are onboard before departure. All such security procedures shall be carried out by trained personnel in accordance with the air carrier's specific requirements and/or applicable TSA regulations.

### 3.7.2 Aircraft Cleaning Intervals

a. Turnaround Cleaning: Performed on aircraft while on the ground prior to departure within a defined ground time.
b. Transit Cleaning: Type of turnaround cleaning that may be performed with transit passengers on board.
c. Layover/Night-Stop Cleaning: Performed when the aircraft is on a longer predefined ground time. The cleaning does not involve removal of cabin panels and/or gallery inserts.
d. Inflight Cleaning: Performed by cabin crew while the aircraft is airborne.
e. Deep Cleaning: Performed when the aircraft is on a longer predefined ground time. The cleaning may include the removal of cabin panels and/or galley inserts. Includes cleaning performed during maintenance.

***NOTE:*** Cleaning done during aircraft maintenance is not addressed within the scope of this section.

### 3.7.3 Cleaning and Disinfection Products

#### 3.7.3.1 General

It is the airline's responsibility to ensure cleaning procedures as well as cleaning and disinfecting products used by the ground handling or cleaning company are airline-approved and based on the aircraft's Original Equipment Manufacturer (OEM) recommendations. This includes following local health organization recommendations and using proper Personal Protective Equipment (PPE).
Informed selection and correct use of products is vital in ensuring effective cleaning and disinfection of an aircraft without damaging the aircraft interior, systems and/or equipment while minimizing the likelihood of transmission of any communicable diseases.

#### 3.7.3.2 Product Selection

a. Refer to OEM guidance for the most recent recommendations.
b. Refer to local health authorities for recommendations on products effective against a contagious disease outbreak or pandemic.
c. The International Civil Aviation Organization (ICAO) Council Aviation Recovery Taskforce (CART) Takeoff Guidance recommends the use of a 70% Isopropyl Alcohol (IPA) solution as a disinfectant for the touch surfaces in the cockpit, cabin and cargo holds. Cleaning and disinfection products should comply with and be certified according to OEM standards and/or industry test standards, such as SAE International standards:
    1. AMS1452C, Disinfectant, Aircraft, General Purpose (concentrated liquid).
    2. AMS1453A Disinfectant Cleaner for Aircraft Interior General Purpose Liquid (diluted).
    3. AMS1525D Cleaner for Aircraft Exterior Metallic Surfaces, Wipe Solvent, Cold Operations.
    4. AMS1526C Cleaner for Aircraft Exterior Surfaces, Water-Miscible, Pressure-Spraying Type.

    ***NOTE:*** These standards might need to be approved by the local authorities, if applicable.

d. Consultation with OEMs before using any disinfection agents that do not comply with SAE standards is required.
e. Refer to the cleaning and disinfection product manufacturer's instructions to ensure the proper application, ventilation and PPE is used.

### 3.7.3.3 Product Use

The following recommendations are based on OEM guidelines:

a. It is important that the cleaning and disinfection liquids are used exclusively according to the product specifications and manufacturer Safety Data Sheet (SDS).
b. Use premixed cleaning and disinfection liquids where possible to avoid mixing ratio errors.
c. Special attention must be paid to the application instructions and mixing ratios (e.g., wipe on, wipe off, water rinsing, drying after cleaning).
d. Use only the allowed bottle sizes on board to minimize the risk of spilling the cleaning and disinfection solutions.
e. Do not spray cleaning and disinfection liquids in the cargo compartment. Instead, apply as per the product and/or airline application instructions (e.g., wet wipe on/off).
f. Do not allow cleaning and disinfection liquids to contact critical equipment (e.g., smoke detector, electronic door operation equipment and fire extinguishing discharge nozzle).
g. Disinfectants are flammable. Take precautions around potential sources of ignition, especially hidden sources such as electronic boxes mounted in the cargo compartment.
h. Airlines should periodically inspect the aircraft interior and cargo holds to ensure there are no long-term effects or damage over time due to frequent use of cleaning and disinfection products. If damage is observed, contact the OEM.

***CAUTION:***

1. Use of non-certified cleaning and disinfection liquids can lead to severe damage to material in the aircraft's interior.
2. Use of cleaning and disinfection liquids in the wrong mixing ratio or using the wrong application method can lead to severe damage to material in the aircraft's interior.
3. Cleaning and disinfectant solutions tend to be oxidizers. The interior of an aircraft contains many materials susceptible to damage from oxidization. Care must be exercised when using cleaning products and disinfectants.
4. Metals used in aircraft construction may corrode upon exposure to cleaning and disinfection products.
5. Safety-critical cables and wires may deteriorate upon exposure and aircraft furnishings may have their fire resistant properties reduced.
6. Some cleaning and disinfection products, such as IPA, are flammable. Care must be exercised in the aircraft interior, especially near various electric installations and boxes as these are sources of ignition.

#### 3.7.3.4 Cleaning Equipment

All equipment and materials used to clean aircraft shall be in accordance with the operating airline's requirements and approved standards.

a. Vacuum Cleaners: Aircraft-powered or battery-powered vacuum cleaners can be used for carpets, air vents, seat arm storage, seat rails, behind-the-seat storage, etc. Manual (non-electric) carpet sweepers are not an adequate substitute but may be necessary when time is limited, or a large number of passengers remain on board.

   ***CAUTION:***

   Do not unplug a vacuum cleaner by pulling on the cord. Pull from the plug.

b. Hand Brushes: For use in areas inaccessible to vacuum cleaners.
c. Chewing Gum Remover: To remove chewing gum.
d. Mops and Brooms: For cleaning floors and other hard surfaces. Must be clearly identified or color-coded for toilet cleaning and general cleaning to avoid cross-contamination (e.g., red/blue for lavatories, yellow for galleys, green for cabin). They shall be separated at all times, including during cleaning activities.
e. Towels/Cloths: According to airline requirements, there are different types for general purpose cleaning and polishing. They must be clearly identified or color coded for toilet cleaning and general cleaning (top-down approach). They shall be kept separated at all times, including during cleaning activities.
f. Absorbent Wipes: For mopping up spillages.
g. Hand Sprayers: For dispensing detergents and disinfectants.
h. Runners: For floor and/or carpet protection.
i. Soft Rolls/Wipes: For wiping up spillages.
j. Buckets: Buckets need to be checked to ensure the cleaning liquid is being replaced regularly.

### 3.7.4 Cleaning and Disinfection Tasks

#### 3.7.4.1 General

The cleaning and disinfection tasks serve as a guideline on how to provide a safe and sanitary operating environment for passengers, crew and cleaning personnel.
The tasks, as defined in the following tables, provide a framework for airlines. It is the responsibility of each airline, as per their specific assessments and needs, to:

a. Establish which tasks they deem necessary to be completed during an aircraft cleaning interval.
b. Adhere to airline specifications regarding cleaning and disinfection tasks.
c. During a pandemic, it is essential that airlines perform a risk assessment based on the regulatory requirements, airport cleaning plan, and OEM recommendations to develop mitigation plans, including amending their existing cleaning and disinfection procedures.

d. Review and update their cleaning matrices based on specific configurations of their aircraft types.
e. For cargo aircraft, clean and disinfect cabin, seating and crew rest areas in the same way as instructed in GOM 3.7.4.5 and 3.7.4.6.
f. Monitor high-contact surface areas in aircraft as much as possible; include such areas in their cleaning checklist.
g. Ensure the cleaning and disinfection products are used in the correct mixing ratio according to the application instructions and/or product SDS.
h. Ensure the correct mixing ratio is used for relevant areas as per the SDS. There might be a different mixing ratio for the same product for different areas (e.g., 1:10 for cleaning in cabin surroundings and 1:5 for lavatories and galleys).
i. Ensure the correct application method is used according to the application instructions and/or product SDS (e.g., apply with premoistened wipes or single use wetted cloths).
j. To avoid contamination on board, cleaning staff shall carry their own cleaning equipment to avoid unnecessary exchanges of cleaning items between different teams or persons.

***CAUTION:***

1. If spraying methods are used, do not spray directly into power supply panels, lighting, vents, interphone, coffeemakers or other electrical systems. Disinfectant should only be applied using a cloth in these areas.
2. Immediately inform an airline representative if any of these areas are accidentally sprayed.
3. Ensure cleaning and disinfection products are wiped off after application using a slightly moist towel, if required by the SDS. Residues of cleaning and disinfection products left on surfaces (e.g., tables) may lead to severe discoloration and permanent damage of the cabin interior.
4. Ensure a suitable cloth is used for aircraft cabin cleaning.

### 3.7.4.2 Flight Deck

| Tasks | Turn around | Layover |
|---|---|---|
| Clean and disinfect the pilot and copilot seats, including armrests, table and seat controls. | ☐ | ☐ |
| Clean and disinfect seatbelt buckles. | ☐ | ☐ |
| Clean and disinfect flight controls (e.g., control column).* | ☐ | ☐ |
| Clean and disinfect the sidewall lining and associated controls (e.g., nose wheel steering tiller, display controls, electronic flight bag).* | ☐ | ☐ |
| Clean and disinfect the instrument panel and associated controls (e.g., gear lever).* | ☐ | ☐ |
| Clean and disinfect the glareshield and associated controls (e.g., autopilot, warning/caution buttons).* | ☐ | ☐ |
| Clean and disinfect the sun visors and surrounding area.* | ☐ | ☐ |
| Clean and disinfect the overhead panel, including grips and handles.* | ☐ | ☐ |
| Clean and disinfect the central console, including engine controls, flaps, communication units, etc.* | ☐ | ☐ |
| Clean and disinfect the pilot and copilot headsets.* | ☐ | ☐ |
| Clean the inside of the windshield with the designated product.* | ☐ | ☐ |
| Clean and disinfect the cabin access door (both sides), handle and lock. | ☐ | ☐ |
| Extend, clean and disinfect the folding seats/jump seats and any associated equipment. | ☐ | ☐ |
| Clean down pedals.* | ☐ | ☐ |
| Clean floor, vacuum carpet, empty waste boxes, wipe shelves. | ☐ | ☐ |

**Caution:**

(a) Frequency of cleaning of the flight deck should account for both separation of the flight deck from the passenger compartment and frequency of crew transitions.

(b) Adhere to airline-specific procedures regarding cleaning the flight deck (e.g., the cleaning crew may only be permitted to enter the flight deck when flight crew or maintenance personnel is present).

(c) Cleaning and disinfection fluids for the flight deck can be different from fluids used in the cabin.

(d) Do not spray disinfectant directly onto panels and screens; it should be applied with cloth.

(e) Ensure liquid does not seep into controls.

(f) Any accidental adjustment of important instruments during the cleaning process must be reported to the flight crew or maintenance personnel.

(g) Buckets shall not be brought into the cockpit.

***Note:*** *Cleaning and disinfecting of areas designated with an asterisk (*) above shall be done by personnel specifically trained for flight deck cleaning.*

### 3.7.4.3 Galleys

| Tasks | Turn around | Layover |
|---|---|---|
| Clean and disinfect worktops, countertops and service table. | ☐ | ☐ |
| Clean ovens. | ☐ | ☐ |
| Clean coffeemakers. | ☐ | ☐ |
| Clean water boilers. | ☐ | ☐ |
| Clean and disinfect panels and doors. | ☐ | ☐ |
| Clean and disinfect switcher panels and handles. | ☐ | ☐ |
| Empty and clean waste compactors; add waste sac/box, if needed. | ☐ | ☐ |
| Clean and disinfect lockers/drawers. | ☐ | ☐ |
| Clean and disinfect trolley containers and storage. | ☐ | ☐ |
| Clean and disinfect collapsible trolleys. | ☐ | ☐ |
| Drain and disinfect sinks, including taps and drain plug. | ☐ | ☐ |
| Remove trash from bin compartments and clean/disinfect bin area, including flap. | ☐ | ☐ |
| Sweep, mop and disinfect floor. | ☐ | ☐ |
|  | **Caution:** Clean ovens and aluminum surfaces with detergents as per recommended standards. | |

### 3.7.4.4 Cabin Crew Seats and Service/Entry Door Lining Panels

| Tasks | Turn around | Layover |
|---|---|---|
| Clean and disinfect each attendant seat, seatbelt and surrounding location. | ☐ | ☐ |
| Clean and disinfect cabin crew intercom. | ☐ | ☐ |
| Empty and clean seat pockets. | ☐ | ☐ |
| Inspect emergency leaflets for damage and clean, disinfect or replace. | ☐ | ☐ |
| Arrange or remove and replace literature and amenities. | ☐ | ☐ |
| Clean and disinfect seat upholstery and remove any evident stains. | ☐ | ☐ |
| Clean and disinfect door frames, including door panels, sills, exit doors and emergency slide covers. | ☐ | ☐ |

### 3.7.4.5 Lavatories

| Tasks | Turn around | Layover |
|---|---|---|
| Clean mirrors and windows, if applicable, using authorized glass cleaners. | ☐ | ☐ |
| Ensure all soap dispensers are functional and refilled with liquid soap. | ☐ | ☐ |
| Clean and disinfect soap dispensers. | ☐ | ☐ |
| Clean and disinfect hand basin, handles and steel fittings. | ☐ | ☐ |
| Clean and disinfect sidewall panels and ceiling. | ☐ | ☐ |
| Clean and disinfect shelves. | ☐ | ☐ |
| Clean and disinfect diaper changing table, if available. | ☐ | ☐ |
| Clean and disinfect toilet bowl, shroud, seat and flushing mechanism (lever or button). | ☐ | ☐ |
| Empty waste bin(s) and replace waste sac, if applicable. Clean and disinfect compartment, including flap, before reinstalling bin(s). | ☐ | ☐ |
| Clean and disinfect floor. | ☐ | ☐ |
| Ensure toilet compartment is dressed and stocked with amenities required for flight. | ☐ | ☐ |
| Clean and disinfect lavatory door (both sides), including the door lock, knob/lever, grip, door grilles and coat hook(s), if applicable. | ☐ | ☐ |

**Caution:**

(a) Immediately wipe off any cleaning/disinfectant liquid spills on the surfaces to prevent damage or deterioration.
(b) Toilet cleaning shall be performed from top to bottom for hygienic reasons.
(c) Use only towels identified specifically for toilet cleaning.
(d) Do not reuse mops and towels used for toilet cleaning outside of lavatories.

### 3.7.4.6 Passenger Seating Area

***NOTE:*** The passenger seating area includes its surroundings.

| Tasks | Turn around | Layover |
|---|---|---|
| Use vacuum cleaner to remove loose particles from seats, floors, carpets and curtains after cleaning and disinfecting. | ☐ | ☐ |
| Remove headcovers and pillow covers from seats, if applicable. | ☐ | ☐ |
| Clean and disinfect cabin windows, window shades, dimmable window controls, if applicable, sidewall lining and ceiling, including air nozzles. | ☐ | ☐ |
| Clean and disinfect magazine racks. | ☐ | ☐ |
| Clean and disinfect interior and exterior of overhead bins, including handles. | ☐ | ☐ |
| Remove all waste from seat pockets, arm rests, back rest pockets, shoe bins and seat lockers, then clean and disinfect. | ☐ | ☐ |
| Remove and replace literature and amenities as needed and arrange according to airline standards. | ☐ | ☐ |
| Clean and disinfect or replace emergency leaflets. | ☐ | ☐ |
| Clean, disinfect and dry both sides of tray tables (including cocktail table, if applicable), including the locking mechanism. | ☐ | ☐ |
| For fabric seat covers, use vacuum cleaner to remove loose particles. For leather seat covers, wipe and ensure seats are dry. | ☐ | ☐ |
| Remove any visible stains on seats or request change of fabric. | ☐ | ☐ |
| Clean and disinfect seat belts and buckles. | ☐ | ☐ |
| Clean and disinfect arm rests, In-Flight Entertainment (IFE) screens and passenger control units (e.g., reading lights, air nozzles, IFE remote control, seat controls). | ☐ | ☐ |
| Clean and disinfect infant bassinets, extra seat belts and other amenities, if applicable. | ☐ | ☐ |
| Dress the passenger seat to signify clean as per airline standards. | ☐ | ☐ |
| Clean ventilation grids/grilles. | ☐ | ☐ |

**Caution:**

(a) Be careful while handling disposable bags to avoid sharp objects that may have been disposed of by passengers.

(b) If there is a chewing gum stain on the floor or seats, use gum remover to remove the stain rather than sharp objects.

(c) For some parts of the aircraft (e.g., closets, doghouse), assistance from Engineering may be requested to remove emergency equipment to enable cleaning and disinfection.

### 3.7.4.7 Crew Rest Compartments

| Tasks | Turn around | Layover |
|---|---|---|
| Dispose of waste from closets and waste boxes. | ☐ | ☐ |
| Clean and disinfect intercom and control consoles (e.g., reading lights and air nozzles). | ☐ | ☐ |
| Clean and disinfect ceiling and light switches. | ☐ | ☐ |
| Clean and disinfect beds and belts. Replace blankets and pillow covers, if applicable. Ensure enough bedding is provided for the number of crew operating. | ☐ | ☐ |
| Clean floor and cabin stairs, if applicable, and vacuum carpet. | ☐ | ☐ |

### 3.7.4.8 Cargo Hold

| Tasks | Turn around | Layover |
|---|---|---|
| Clean and disinfect cargo door surroundings and door handles for all lower deck cargo holds (FWD, AFT and Bulk), in addition to main deck cargo door for cargo aircraft. | ☐ | ☐ |
| Clean and disinfect cargo loading control (CLS) panels, including cargo joystick in ceiling and latches, if applicable. | ☐ | ☐ |
| Clean and disinfect all access panels and service access points, including cargo door control panels. | ☐ | ☐ |
| Clean and disinfect door net stanchions, net attachment fittings and tie-down points, if applicable, in bulk compartment. | ☐ | ☐ |
| Clean and disinfect light switches. | ☐ | ☐ |
| Clean and disinfect high touch areas in upper deck, if applicable (e.g., B747 cargo aircraft) and main deck (all cargo aircraft). | ☐ | ☐ |
| ⚠ | **Caution:**<br>(a) When cleaning and disinfecting the complete cargo hold, please refer to OEM guidance for further clarification of appropriate techniques to be used.<br>(b) Any aircraft where personnel have to work inside the compartment to manually load/unload, cleaning of floor areas should be considered (e.g., bulk loaded cargo holds). | |

### 3.7.5 Aircraft Cleaning and Disinfection During a Pandemic

#### 3.7.5.1 General

During a pandemic, all existing cleaning best practices are, in principle, still applicable. However, they need to be revised and amended based on the regulatory requirements, airport cleaning plan, and OEM recommendations to include new measures addressing the threat.

Based on a conducted risk assessment, each airline may implement different cleaning and disinfection schedules, techniques and products, which consider the operational circumstances and duration of the disinfecting effects of the substance(s) used.

#### 3.7.5.2 Actions Prior to Cleaning

To minimize person-generated contaminant concentrations during ground and flight operations, OEMs recommend maximizing total cabin airflow; therefore, care should be taken to avoid blocking air vents (particularly along the floor).

It is strongly recommended that operators consult with the aircraft OEM for questions specific to an aircraft type. The following are general recommendations for cabin air considerations, although and there may be exceptions for specific aircraft models:

a. The aircraft Auxiliary Power Unit (APU) should be permitted to be used at the gate/stand to enable the aircraft's air conditioning system to be operated if equivalent filtration from the external Pre-Conditioned Air (PCA) is not available.
b. If the aircraft has an air recirculation system but does not have High-Efficiency Particulate Air (HEPA) filters installed, refer to OEM documents or contact the OEM to determine the recirculation system setting.
c. It is recommended that fresh air and recirculation systems be operated to exchange the volume of cabin air before cleaning crew enter the aircraft for cleaning purposes.
    1. For those aircraft with air conditioning, run the air conditioning packs (with bleed air provided by the APU or engines) or supply air via an external PCA source for at least 10 minutes prior to the boarding process, throughout boarding and during disembarkation.
    2. For aircraft with HEPA filters, run the recirculation system to maximize flow through the filters.
    3. For those aircraft without an air conditioning system, keep the aircraft doors open during the turnaround to facilitate cabin air exchange (passenger doors, service door and cargo door) as much as practical.

***CAUTION:***

Ensure access doors are only in the open position if there is an appropriate boarding device or other equipment positioned at the door.

***NOTE:*** Ensure cleaning equipment and tools (e.g., vacuum cleaners, brushes, brooms) are clean and hygienic prior entering the aircraft cabin and between use.

### 3.7.5.3 Actions During Cleaning and Disinfection

a. Once on board, ventilation systems should be kept running while cleaning takes place.

***NOTE:*** In some cases, depending on the technique used for disinfection, regulators may recommend that the air conditioner be turned off during the disinfection operation and the passenger cabin fully ventilated after disinfection.

b. To avoid contamination on board, cleaning crew shall:
    1. Be assigned specific tasks, as much as possible.
    2. Use different cleaning materials in each task area (e.g., cloths, buckets, brushes, mops), potentially using color-coded items.
    3. Carry their own cleaning items on board to avoid unnecessary exchange of cleaning items between different teams/persons.
    4. Use new disposable gloves in each area. Disposable gloves shall not be reused in other sections of the cabin.
    5. Follow the correct sequence of cleaning; for example, from top to bottom or front to back, as relevant (e.g., toilets, galleys, floors).
c. Use disinfection product(s) as per the recommendation in GOM 3.7.3.3.
d. Clean and disinfect all defined areas as specified in GOM 3.7.4 by using approved disinfection products as defined in GOM 3.7.3.3 and appropriate cleaning materials/tools such as mopping, wiping, or any other approved methods.

### 3.7.5.4 Actions after Cleaning and Disinfection

After cleaning and disinfection, ensure cleaning crew disembark with all items for cleaning, including all garbage, and that the following provisions are followed:

a. Disposal of waste must be done in accordance with local airport authority regulations.
b. Staff disembarking the aircraft with waste materials shall wear gloves to protect themselves and dispose of gloves after the disposal process.
c. Do not obstruct the passenger boarding bridge or steps with waste bags.
d. Do not throw waste bags onto the ramp from the aircraft or steps.

e. If any amenities are to be loaded prior to departure, ensure this is done and indicated in the handover documentation.

#### 3.7.5.5 Handover Procedures

When required, a handover protocol should be established, including a record to indicate that the aircraft has been cleaned and disinfected according to the ICAO aircraft disinfection sheet or airline procedures.

***NOTE:*** For lost, found, damaged or suspicious items:

1. Do not check/open any items found as the nature of the contents is unknown and has the potential of being harmful/dangerous.
2. Any lost property found must be handed in according to local procedures.
3. Any seat or cabin interior/area found damaged must be reported, as appropriate.
4. Any suspicious item found must be immediately reported as per local procedures.

***CAUTION:***

Limit the number of personnel moving into/out of a cleaned aircraft to maintain the sterile environment prior to boarding.

### 3.7.6 Cleaning and Disinfection During an Event

#### 3.7.6.1 Suspected or Confirmed Case of Communicable Disease On Board

The following are guidelines for cleaning crew who have to clean an arriving aircraft with a suspected case of communicable disease. During an outbreak of a specific communicable disease, the World Health Organization (WHO) or the national health authorities may modify or add further procedures to these guidelines.

a. Wear PPE as recommended by the national public health authority.
   ***NOTE:*** PPE requires appropriate training before use.
b. Remove and discard gloves after cleaning or if they become soiled or damaged.
c. Use only cleaning agents and disinfectants at recommended concentrations and contact times that have been approved by OEMs.
d. Begin cleaning at the top (light and air controls) and proceed downward progressively working from clean to dirty areas.
   1. Surfaces to be cleaned include:
      i. Affected seat
      ii. Adjacent seats in the same row
      iii. Back of seats in the row in front
      iv. Light and air controls
      v. Adjacent walls and windows
      vi. Seatbacks (the plastic and/or metal part)

vii. IFE video monitor
viii. Tray tables
ix. Armrests
x. Remove seat pocket contents and replace (safety briefing card can be cleaned with approved disinfectant)

2. Clean lavatory(ies) used by the sick passenger, including:
   i. Door handle
   ii. Locking device
   iii. Faucet
   iv. Wash basin
   v. Adjacent walls
   vi. Counter
   vii. Toilet seat

***NOTE:*** In exceptional circumstances, public health authorities may require additional cleaning.

e. Disinfection of upholstery, carpets, or storage compartments is only indicated when they have been soiled by body fluids. In such cases, use an absorption agent first, if required, clean any visible soil and disinfect before vacuuming to eliminate the risk of re-aerosolization.
f. Wash hands with soap and water immediately after PPE is removed. An alcohol-based hand sanitizer may be used as an alternative if the hands are not visibly soiled.
g. Dispose of soiled material and PPE in a biohazard bag if one is available. If not, place in an intact plastic bag, seal it, and label it as biohazard.
h. Do not use compressed air. It might re-aerosolize infectious material.

### 3.7.6.2 Aircraft Contaminated with Body Fluids

When contaminated with blood, respiratory secretions, vomit, excretions and other bodily liquid (contaminants), the aircraft cabin should be disinfected by ground cleaning crew or specially qualified personnel after disembarkation.
Air Conditioning Unit (ACU) should be adjusted to ensure full ventilation is completed and then turned off. Once the air ventilation is finished:

a. Wear disposable gloves and other PPE according to local instructions.
b. Absorb the contaminant(s) into a towel or apply absorbent powder and disinfectant to the contaminants evenly.

***NOTE:*** Absorbent and disinfectant used must have been tested and approved for the interior material being cleaned.

c. Place the used towel and gloves in a biohazard or other waste bag. When using absorbent powder, remove the coagulated contaminants with portable pickup shovels and place into biohazard waste bags.
d. Clean and disinfect the contaminated area wearing new gloves. It is important to follow the application method and effective contact time as per the OEM SDS.
e. Remove gloves and clean/disinfect hands before removing other PPE in the following order:
    1. Take off protective suits (aprons) and gloves.
    2. For visibly soiled hands, wash with soap and water thoroughly.
    3. Take off goggles and facial mask/shield.
    4. Apply skin disinfection/hand sanitizer to clean hands and other parts of the body that may have been exposed to contaminants.
    5. Place all used PPE and contaminated items in a biohazard waste bag and seal the bag.
    6. Dispose of the biohazard as per local regulations.

    ***NOTE:*** When cleaning and disinfection was initially performed by cabin crew during flight, they should inform ground departments at destination to prepare for additional cleaning and/or disinfection, if need be, and disposal of biohazard.

### 3.7.7 (WFS) Security of Aircraft Cleaning and Inflight Supplies

In the event WFS provides supply/re-supply services for inflight supplies, sealed items, etc., the station shall ensure the following steps are taken, prior to boarding any items on the aircraft:

a. All items will have a visual inspection completed to ensure:
    1. Nothing contains any item that is not supposed to be in the supplies, prior to sealing (if required).
    2. If supplies are sealed upon receipt, ensure that seals are intact and match the seal numbers provided.
b. All transport vehicles have had a physical search completed of the inside portion of the vehicle, prior to supplies/carts/etc. being loaded into the vehicle.
c. All transport vehicles shall be sealed, with the seal numbers noted, prior to leaving the offsite facility and verified before loading items onto the aircraft, airside.

In the event any seals are noticed broken, these items are not allowed on the aircraft and the appropriate local authorities and WFS corporate security department shall be notified immediately.

## 3.8 NOT ASSIGNED AT THIS TIME – SEE WFS De-Ice/Anti-Ice Program

# 4 Aircraft Turn-Around

## 4.1 Aircraft Arrival

### 4.1.1 Actions Prior to Aircraft Arrival

a. (WFS) Attend a pre-flight briefing.
   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 (WFS) the stand has been checked clear of FOD and equipment by the agent responsible for the arrival, “Marshaller” shall verify that the correct aircraft has been selected for the arrival and the equipment is operational. (WFS) WFS requires the use of wing walkers for all aircraft movements. Wing walkers will be positioned approximately 1 m (3 ft) outside the path of the wingtips. Wing walkers shall maintain visual contact with the Marshaller until the aircraft has come to a complete stop. Wing walkers shall not position themselves in a vehicle service road and should be aware of vehicular traffic in the area.
f. Make sure required ground personnel are present.
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 IGOM 4.1.3 for requirements/clearance for personnel to approach the aircraft.

### 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 IGOM 3.4.7.1. Wing walkers, if required, will be positioned approximately 1 m (3 ft.) outside the path of the wingtips. Wing walkers shall maintain visual contact with the marshaller until the aircraft has come to a complete stop. See diagram in IGOM 4.1.2 for positioning of wing walker during aircraft arrival on stand.

2. While the aircraft taxies along the guide-in line, the marshaller gives the "*Continue to Taxi Straight Ahead*" signal with marshalling wands. See IGOM 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 Ri*ght (from the flight crew's point of view)" signals to correct the track of the aircraft as required. (See IGOM 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***" (see IGOM 3.4.7.6).
5. If at any time during the aircraft movement the wing walkers are unsure or identify an imminent danger, signal the marshaller with the "STOP" signal (see IGOM 3.4.7.6).
6. As the aircraft approaches the stop position, use the "Slow Down" signal, if required (see IGOM 3.4.7.3). As the nose wheel reaches the stop point, slowly cross the wands in the "**STOP**" signal (see IGOM 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). (WFS) If this is not possible, due to the position of the emergency stop button, an additional person shall be used to monitor the arrival and to give hand signals to the agent manning the button.
   3. If the emergency stop is activated, and only after verification by the ground personnel operating the guidance system that the risk is no longer there, the aircraft docking guidance system can be reactivated. If not, standard aircraft arrival procedures shall be used.

4. Wing walkers, if required, will be positioned approximately 1 m (3 ft) outside the path of the wingtips. Wing walkers shall maintain visual contact with the agent responsible for the aircraft arrival operations until the aircraft has come to a complete stop. See diagram in Figure 4.1.2 for positioning of wing walker during aircraft arrival on stand.

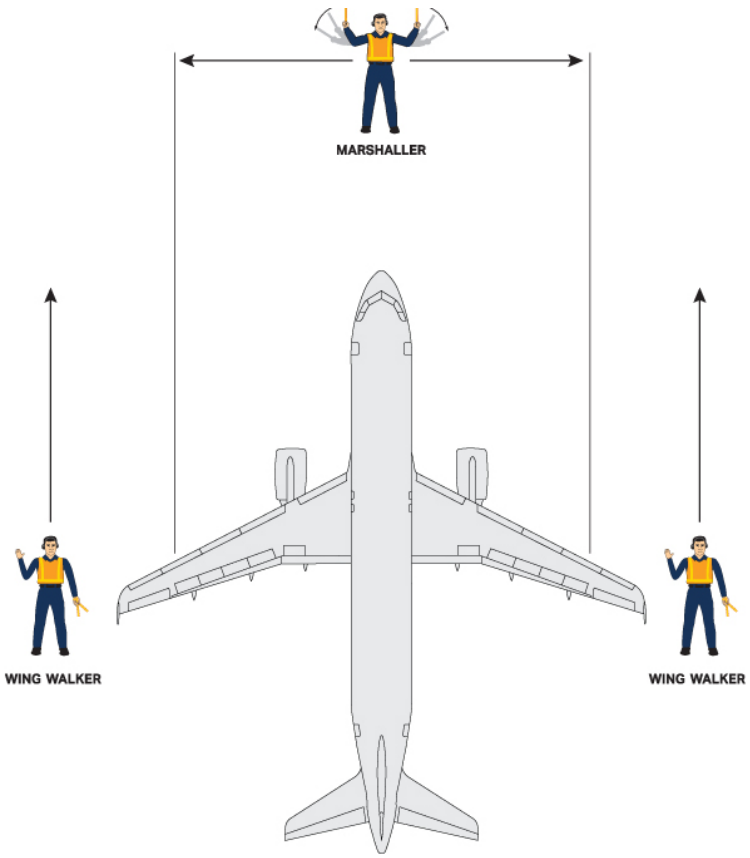



Figure 4.1.2—Wing Walker Positioning for Aircraft Arrival

### 4.1.3 Actions After Aircraft Arrival

a. Upon aircraft stopping:
   1. (WFS) The marshaller shall remain in sight of the flight crew with the stop signal displayed.
   2. (WFS) The lead marshaller will confirm with the flight deck that it is safe to position chocks and apply ground power and then give the safe to approach signal to all ground personnel by using a sweeping thumbs up signal to confirm that it is safe to approach the aircraft.

3. Position wheel chocks at the nose landing gear (NLG) wheels as per IGOM 4.2.1.
4. Position and connect the ground power unit (GPU) or fixed power unit (FPU), if required, before engine shut down in accordance with IGOM 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 IGOM 4.2.1 and verbal/visual confirmation shall be given to the flight crew.
   3. An inspection shall be carried out to confirm there is no damage to the cabin access door and surrounding area prior to positioning the passenger boarding bridge (PBB).
   4. Safety cones shall be placed in accordance with IGOM 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, (WFS) conduct a complete360° arrival walkaround to inspect for damage, paying particular attention 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.
   ***Notes:*** 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.

***Warning:***

(WFS) never approach an aircraft with anti-collision warning lights flashing unless you are carrying out a function for which you have been suitably trained and approved, and

that function is necessary for the immediate servicing of the aircraft (connecting the gpu (in-op apu) or headset operative)

***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.

### 4.1.4 Ground Support Equipment for Arriving Aircraft

#### 4.1.4.1 Ground Power Unit and Fixed Power Unit

a. It is permitted to preposition 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 the parking brake/chock for the GPU.
d. Ensure the GPU, while in operation, is positioned a minimum of 3 m (10 ft) from any fueling vehicles and aircraft fuel vent exits.
e. Fixed Power Unit (FPU) and leads shall be fully stowed/retracted during aircraft arrival as per the system design.
f. Only connect GPU(s)/FPU(s) if required/requested by the operating airline.
g. Before connecting to the aircraft, check the aircraft receptacles, lead(s) and plug(s) to ensure they are clean and undamaged, with no sign of excessive wear or electrical burning to the contacts.
h. Do not energize the GPU/FPU power output until the unit is connected to the aircraft.
i. Connect the external power sources according to operating airline procedures, including the number of supplies, required output, sockets to be used, etc. Advise the flight crew of any discrepancies.
j. Attach the power lead lanyards to the aircraft attachment point, where fitted.
k. Request approval from flight deck before turning off and disconnecting the GPU/FPU cables.
l. Turn off the GPU/FPU power output before disconnecting the cable(s).
m. Always disconnect and stow the GPU power cables BEFORE connecting a tow tractor to the GPU.

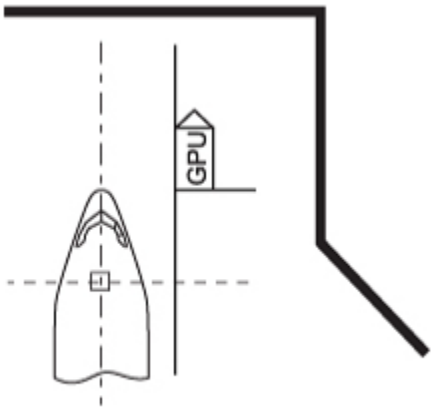



**Figure 4.1.4.1—Sample GPU positioning**

### 4.1.4.2 Cooling/Heating Units and Preconditioned Air

***Danger:***

Before supplying air from an external source, make sure at least one cabin access door is open and remains open during air unit operation, as per operating airline procedures. Make sure a motorized ground air supply unit is not near the aircraft. The engine exhaust pipe of the unit shall point away from the aircraft. Heat from the unit's exhaust can cause damage to the aircraft structure.

As part of the fuel conservation program of most airlines, preconditioned air (PCA) is required at all airports that provide on-stand PCA.
Refer to the operating airline's GOM for the location of the PCA access panel, specific flow rate and pressure requirements on the specific aircraft type. If required in accordance with operating airline procedures, inform the flight crew or engineer before connecting or disconnecting PCA to/from the aircraft.

***Note:*** *Make sure there is no blockage of the hose (WFS) by rolling the hose out fully.*

a. To connect PCA:
    1. Open the access panel.
    2. Connect the ground PCA unit to the aircraft.
    3. Start up the ground PCA unit.
    4. On the ground PCA unit, select the desired cooling or heating settings (air temperature and flow rate) and position the selector in the appropriate position.
b. To disconnect PCA:
    1. Shut down the ground PCA unit.

2. Disconnect the ground PCA unit from the aircraft.
3. Close the access panel.
4. Retract the PCA hose to the fully stowed and secured position.

## 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 weather conditions.
b. Chocks shall be kept clear of the guide-in line and in a safe area away from arriving aircraft and engine danger areas.
c. Wait for aircraft to come to a complete stop before approaching the aircraft to position chocks.
d. One designated ground personnel will immediately place chocks forward and aft of the nose gear if the aircraft type allows and according to the options listed in IGOM 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 chock placement diagram. See IGOM 4.2.2. (WFS) Chocks should be installed in accordance with the air carrier specifications, if no air carrier specifications are published, chocks should be installed no more than two inches from the tire.
h. Notify the flight crew that the chocks are inserted.

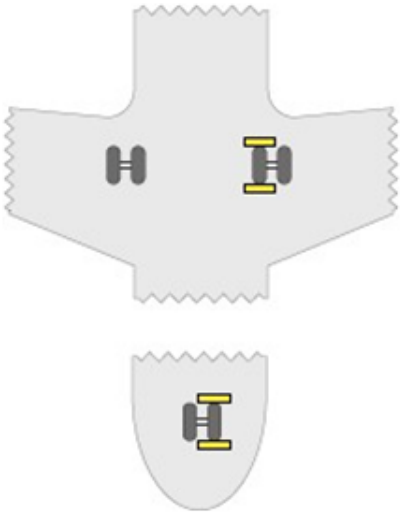
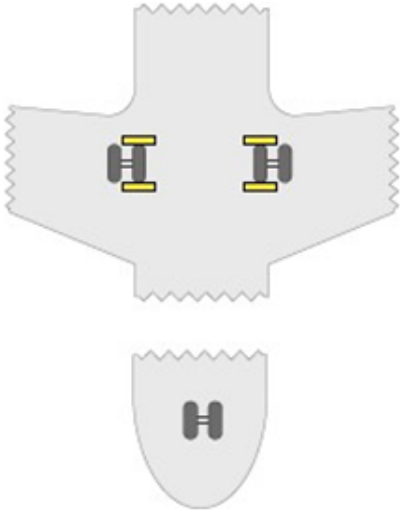
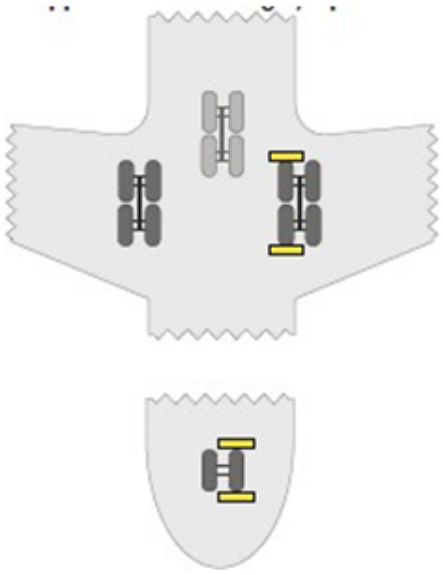
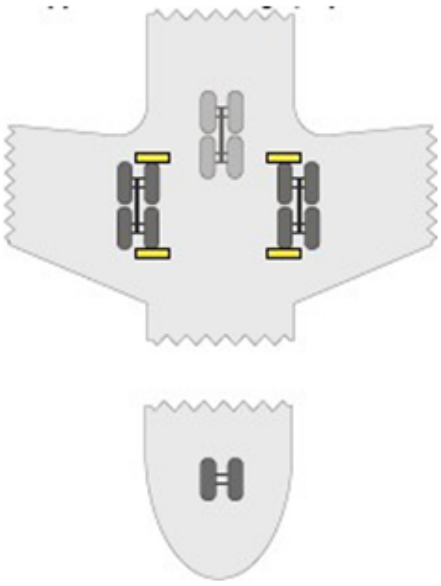
    ***Notes:***

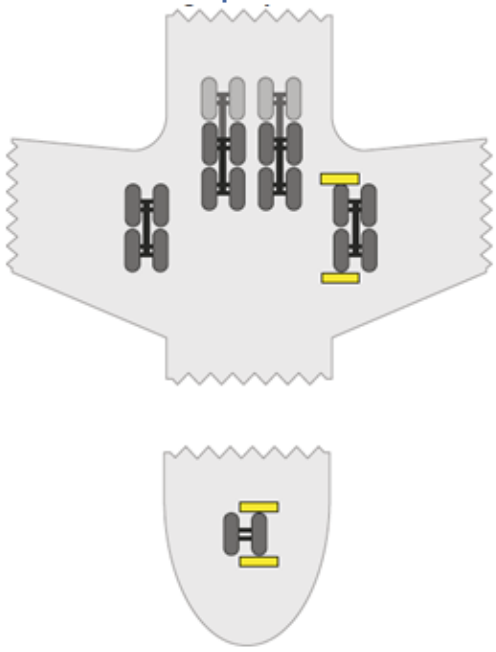
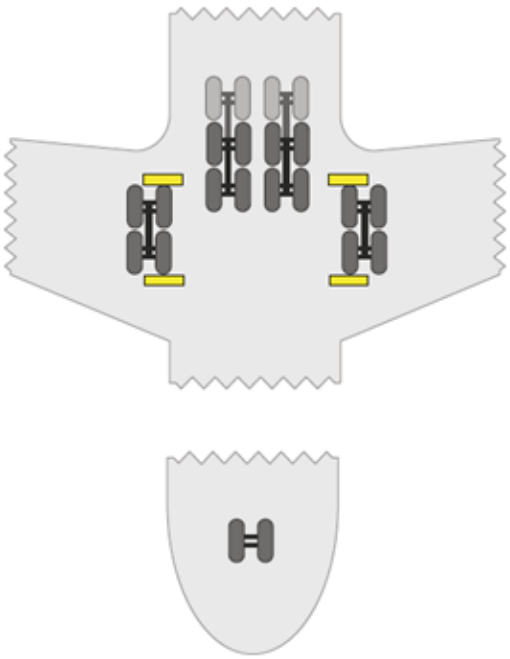
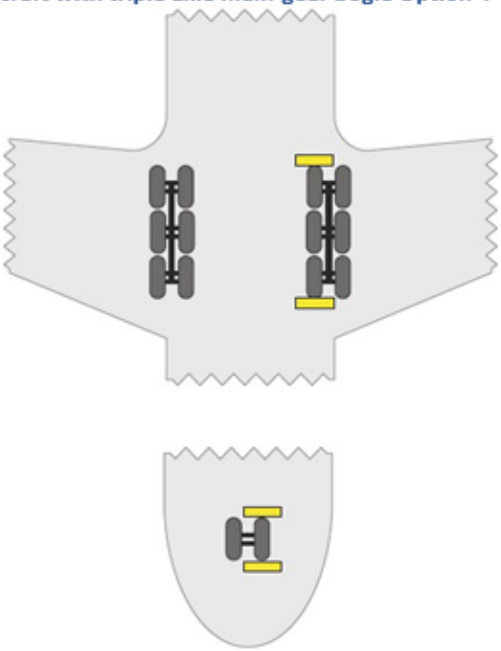
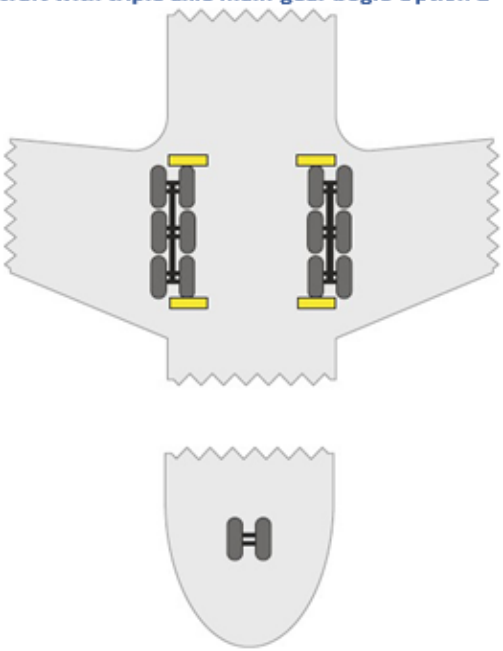
    1. If chocking in accordance with IGOM 4.2.2 Option 2 after the first main gear has been chocked, the nose gear chocks may be removed and positioned at the other main gear.
    2. When the aircraft is parked on a slope, the chock on the down-slope side should just touch the wheels and the chock on the up-slope should not touch the wheels.

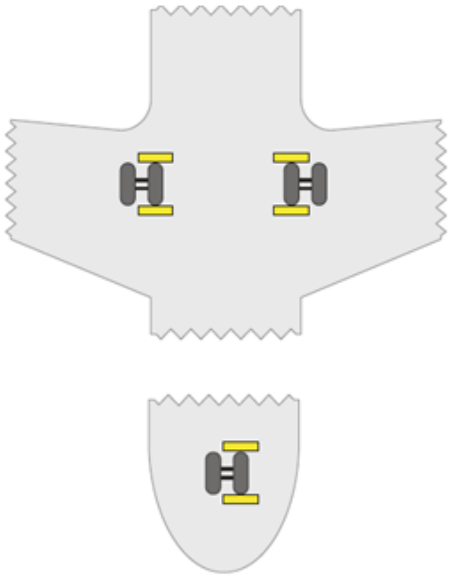
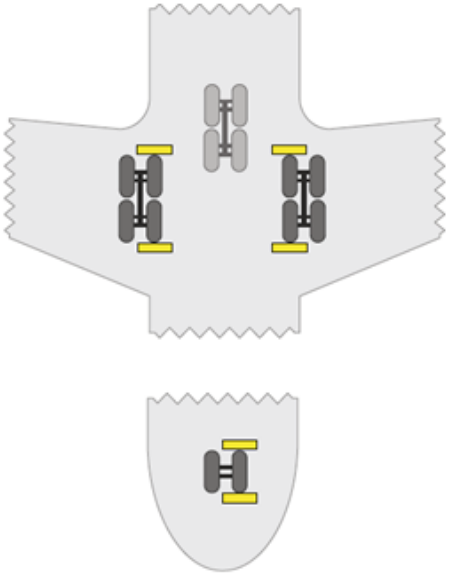
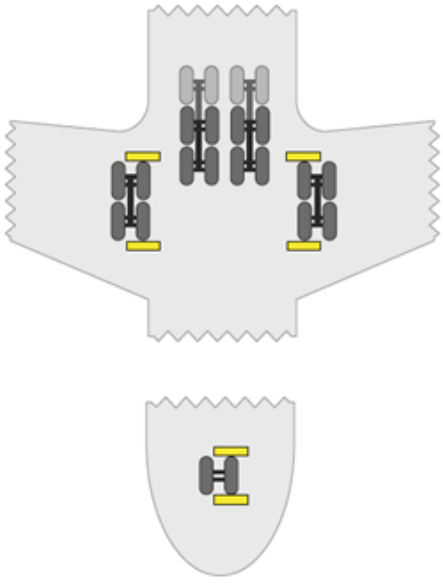
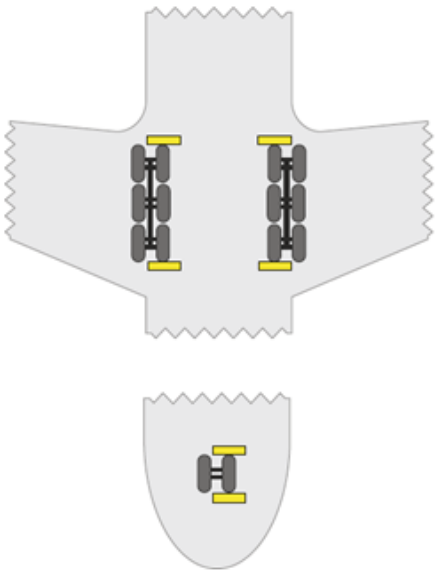
***Danger:***

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

<table>
<tr><th colspan="2">Normal Operation</th></tr>
<tr>
<td>Aircraft with single axle main-gear bogie Option 1<br>Note: No nose gear on aircraft with spray deflectors.<br>Note: Inside or outside main gear chocks are acceptable.<br>  </td>
<td>Aircraft with single axle main-gear bogie Option 2<br>Note: No nose gear on aircraft with spray deflectors.<br>Note: Inside or outside main gear chocks are acceptable.<br>  </td>
</tr>
<tr>
<td>Aircraft with double axle main-gear bogie (also applies w/center bogie) Option 1<br>  <br>Note: Inside or outside main gear chocks are acceptable</td>
<td>Aircraft with double axle main-gear bogie (also applies w/center bogie) Option 2<br>  <br>Note: Inside or outside main gear chocks are acceptable</td>
</tr>
</table>

| Normal Operation | |
|---|---|
| **Aircraft with triple axle center and body-gear bogies Option 1**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* | **Aircraft with triple axle center and body-gear bogies Option 2**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* |
| **Aircraft with triple axle main-gear bogie Option 1**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* | **Aircraft with triple axle main-gear bogie Option 2**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* |

| Parking Aircraft Out of Service/Night-Stop/High Winds | |
|---|---|
| **Aircraft with single axle main-gear bogie**<br>***Note:*** *No nose gear chocks on aircraft with spray deflectors.*<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* | **Aircraft with double axle main-gear bogie (also applies w/center bogie)**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* |
| **Aircraft with triple axle center and body-gear bogies**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* | **Aircraft with triple axle main-gear bogie**<br>  <br>***Note:*** *Inside or outside main gear chocks are acceptable* |

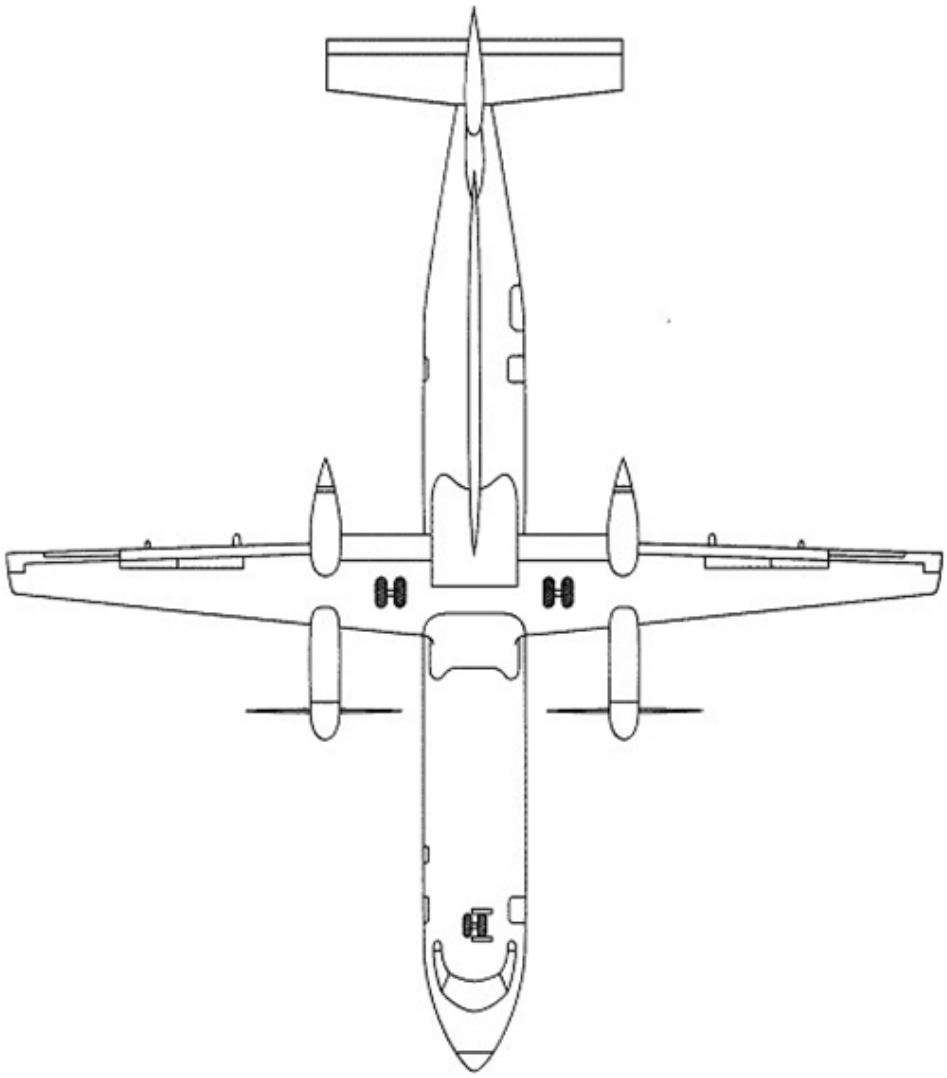
***Note:*** *Refer to the operating airline's GOM for any variations in high wind chocking conditions.*

### 4.2.3 Regional Aircraft Chocking

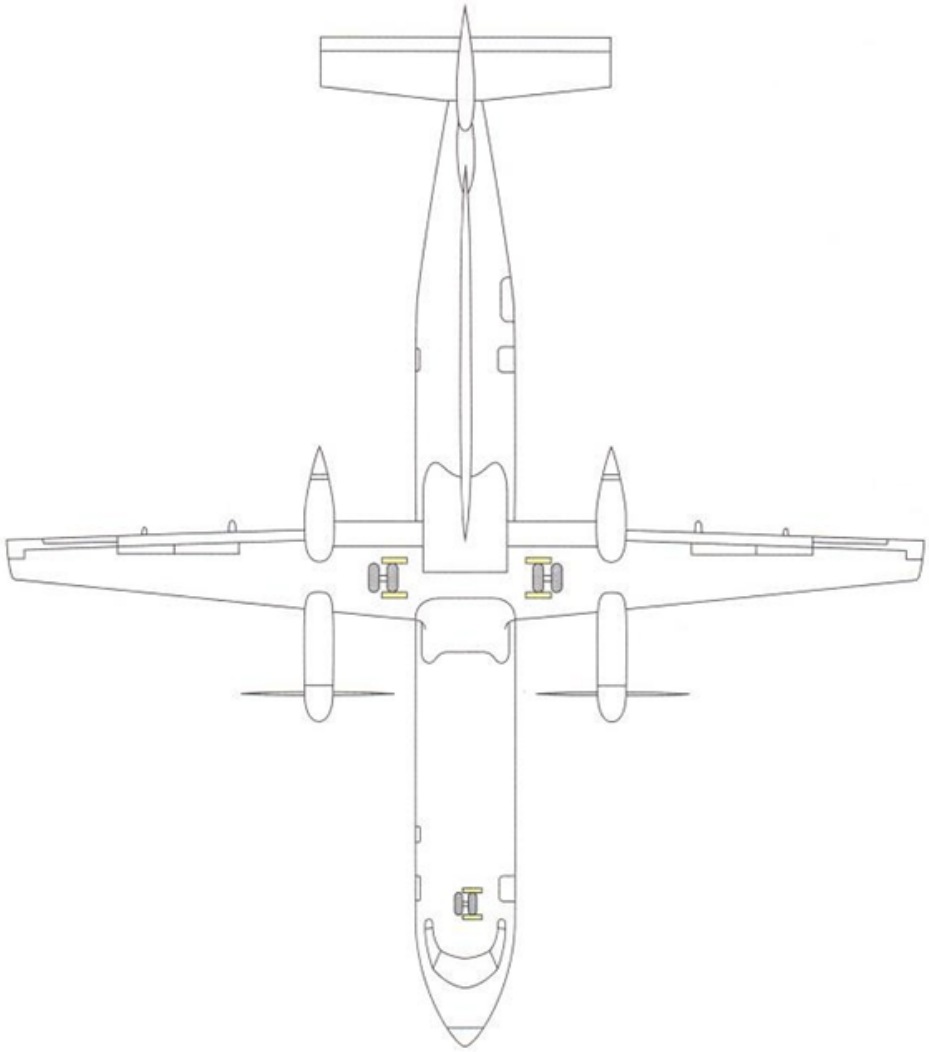
**Normal Turnaround**

**Regional Aircraft**

Place chocks forward and aft of nose gear, then secure propellers using appropriate tie-down straps.



| Parking aircraft out of service/Night0Stop/High Winds |
| --- |
| **Regional Aircraft**<br>Place chocks forward and aft of nose gear, then secure propellers using appropriate tie-down straps.<br>CRJ–only nose gear to be chocked (do not chock mains) |



## 4.3 Aircraft Coning

### 4.3.1 Safety Cone Placement and Removal

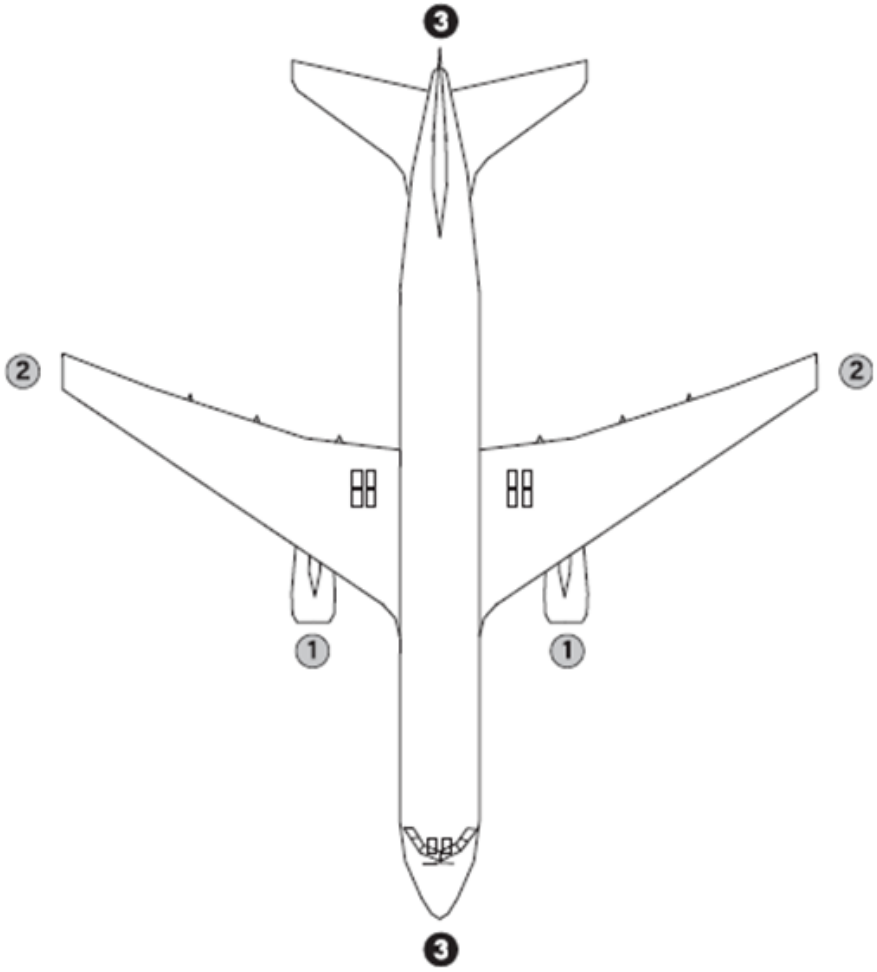
Safety cones are a caution sign for operators/drivers to maintain required safety clearances. Cones protect parts of the aircraft against collision by GSE.

a. Prior to arrival of the aircraft, make sure there are sufficient serviceable safety cones to protect the aircraft type to be handled.
b. Approach the aircraft to position cones only when all the following criteria are met:
    1. Aircraft has come to a complete stop
    2. Engines have been shut down and are spooling down (or propellers completely stopped)
    3. Anti-collision lights are switched off
    4. Aircraft has been chocked

    ***Note:*** Spooling down of an engine can be identified as follows:
        1. reduced engine noise
        2. visible fan speed reduction
        3. lack of exhaust heat or thrust plume
c. Place safety cones on the ground in accordance with the diagrams in IGOM 4.3.2 within a maximum of 1 m (3 ft.) radius outward from the point where the aircraft is being protected. Cones shall not be placed in high-wind conditions.
d. Additional safety cones may be needed as per operational requirements or local regulations. (WFS) Additional cones shall be placed at nose (when pushback is not hooked up) and tail, if the aircraft is adjacent to a VSR.
e. GSE shall 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.

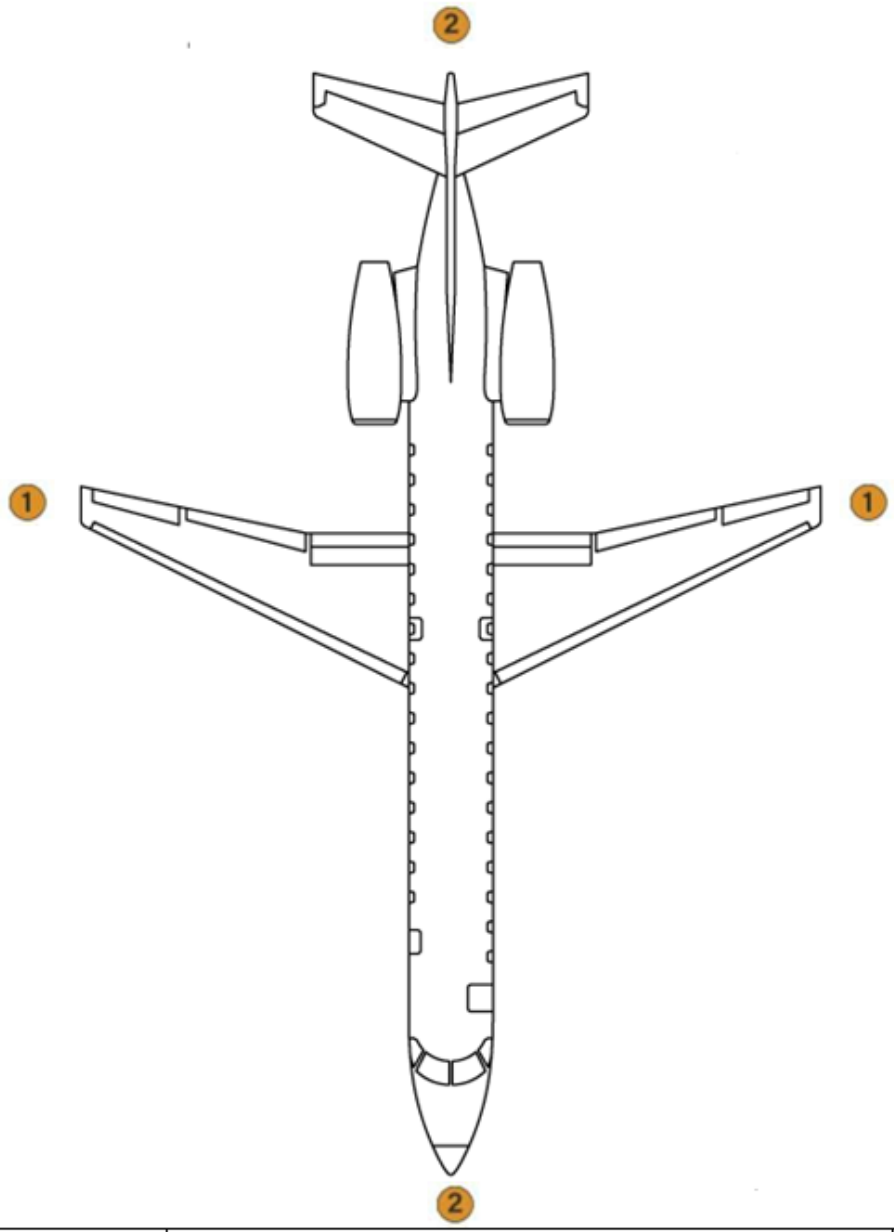
    ***Note:***
    1. In some situations, it may be necessary to reposition cones to allow GSE to be positioned. In such cases, reposition the cones to their original position when the GSE is removed.
    2. Cones shall not be placed under engines.
g. Ensure all vehicles have been removed from the ERA, except GSE required for the departure operation, e.g., ASU, GPU/FPU and pushback tractor, as applicable.
h. Remove the safety cones from around the aircraft.
i. When not in use, place the safety cones in the designated storage area.

### 4.3.2 Cone Placement for Wing-Mounted Twin Engine Jet Aircraft



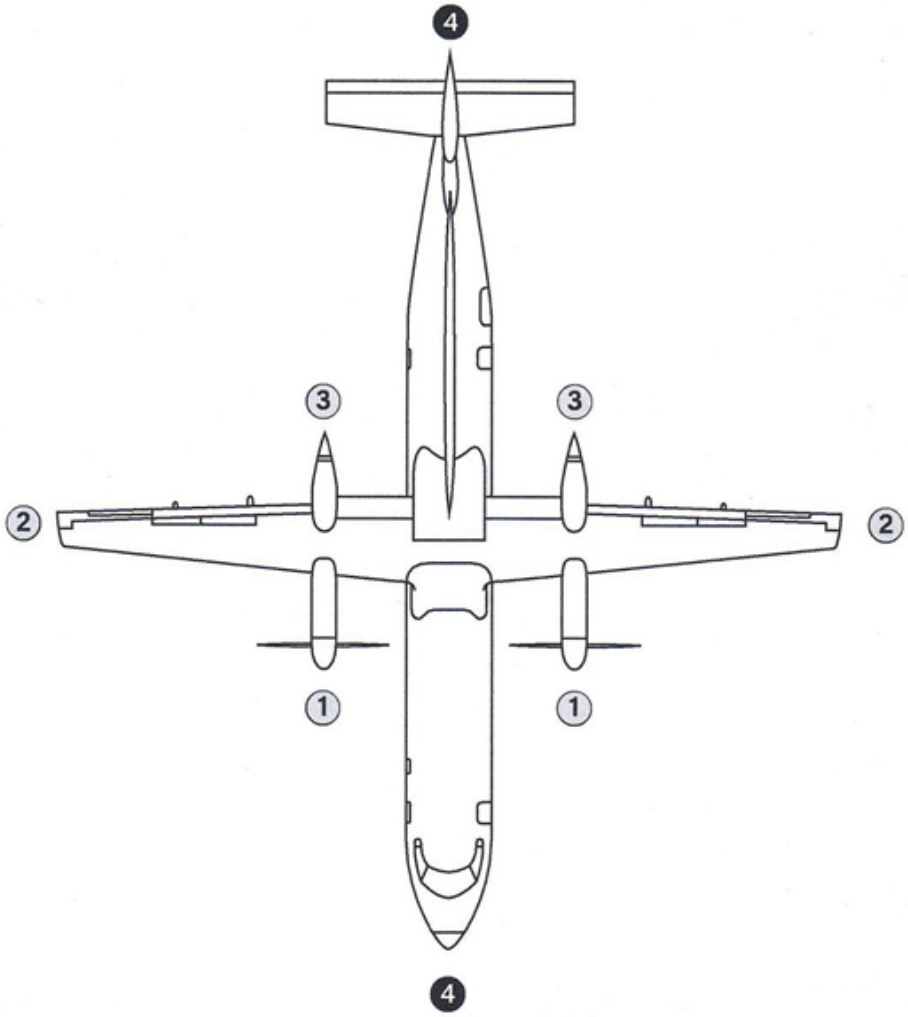

| CONE NUMBER | DESCRIPTION |
|---|---|
| 1 | Cones max. 1 m (3ft) in front of engine |
| 2 | Cones max. 1 m (3ft) from wingtip |
| 3 | Additional cones to be placed at the applicable end(s) of the aircraft where immediately adjacent to a service road. |

### 4.3.3 Cone Placement for Fuselage-Mounted Twin Engine Jet Aircraft



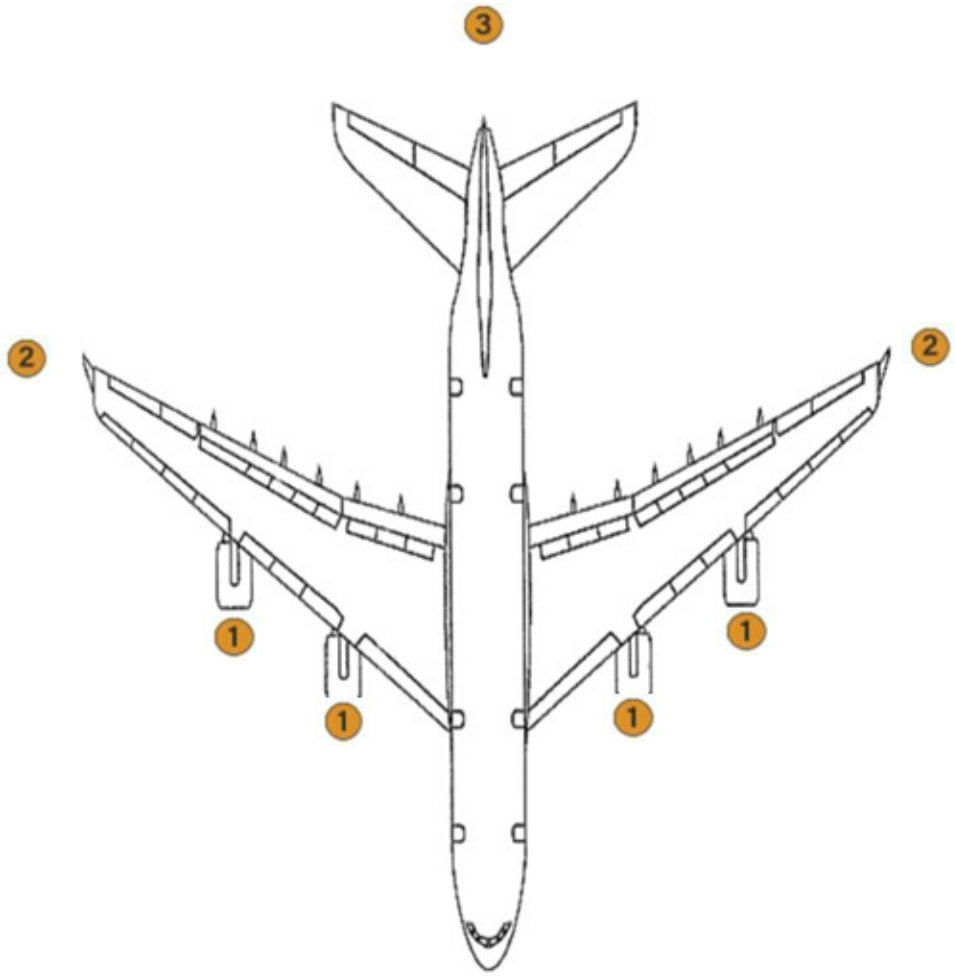

| | CONE NUMBER | DESCRIPTION | |
|---|---|---|---|
| | 1 | Cones max. 1 m from wingtip | |
| | 2 | Additional cones to be placed at the applicable end(s) of the aircraft where immediately adjacent to a service road, and always with low ground clearance (e.g. CRJ100/200/700/900/1000, ERJ-135/145. | |

### 4.3.4 Cone Placement for Wing-Mounted Twin Propeller Aircraft




| CONE NUMBER | DESCRIPTION |
|---|---|
| 1 | Cones max. 1 m in front of engine |
| 2 | Cones max. 1 m from wingtip |
| 3 | Cones max. 1 behind engine |
| 4 | Additional cones to be placed at the applicable end(s) of the aircraft where immediately adjacent to a service road, and always with low ground clearance (e.g. ATR 42/72, DHC-8, Q300/400). |

### 4.3.5 Cone Placement for Wing-Mounted Four Engine Jet Aircraft




| CONE NUMBER | DESCRIPTION |
|---|---|
| | Cones max. 1 m in front of engine |
| | Cones max. 1 m from wingtip |
| | Additional cones to be placed at the applicable end(s) of the aircraft where immediately adjacent to a service road, and always on aircraft with low ground clearance (e.g. BAe-146, Avro RJ-85/100) |

## 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.

***Caution:***

Do not operate or leave doors open in winds exceeding those indicated in the manufacturer's limitations.

***Note:*** For door operations during severe weather, refer to IGOM 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 (WFS) WFS staff or cabin crew are authorized to operate cabin access doors. (WFS) WFS staff shall follow procedures as set by the operating airline's GOM
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.

***Notes:***

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.
3. The cabin door strap installed in aircraft doors is not considered an appropriate fall prevention device.

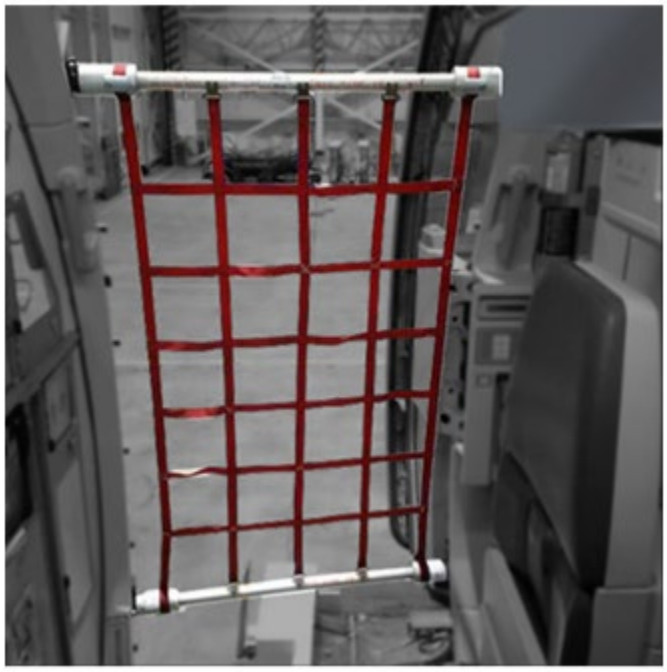


Figure 4.4.2.1—Fall Prevention Device

***Danger:***

There is a risk of falling while operating cabin access doors.

c. GSE or PBB shall be removed only after the cabin access door is closed and acknowledged by the cabin crew or by another 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 a GSE or PBB positioned at the door, personnel shall 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 Trained 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 the crew.
c. Assist cabin crew when required, with moving the door to the fully opened position and engaging the gust lock.

#### 4.4.2.3 Opening Cabin Access Doors from Inside by Authorized and Trained Ground Staff

***(WFS Note) –*** WFS personnel are NOT AUTHORIZED to operate cabin access doors from the inside of the aircraft.

#### 4.4.2.4 Opening Cabin Access Doors from Outside with Crew/Ground Staff on Board

Where there is a requirement for ground personnel to open door from outside with crew/ground personnel on board:

a. Visually inspect the cabin access door and the surrounding fuselage for signs of damage.
b. Check all indications as per aircraft type that the door is disarmed and safe to open, e.g., residual pressure warning lights or flags.
c. Knock twice on the door to indicate that the door is ready to be opened. Receive a “thumbs up” acknowledgement if required from the crew/ground personnel on board.
d. If there is no “thumbs up” or indication from the cabin that the door is disarmed, knock twice again.

e. If there is still no “thumbs up” or indication from the cabin crew/ground personnel onboard, contact the flight deck via an open cockpit window or the aircraft interphone system to seek confirmation that it is safe to open the cabin doors.

***Caution:*** If there is no confirmation that the door is disarmed or safe to open, **do not open the door**.

f. Once it is confirmed that the cabin access door is disarmed and safe to open, open the door in accordance with the instructions and markings labeled on the door, 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 the 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. When 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

***(WFS Note)*** – WFS personnel are NOT AUTHORIZED to operate cabin access doors from the inside of the aircraft.

### 4.4.2.8 Closing Cabin Access Doors from Outside with Crew/Ground Personnel on Board

a. Coordination between applicable ground personnel inside and outside the aircraft to confirm that the cabin access door will be closed, shall take place prior to closing the door.
b. Prior to closing the cabin access door from outside, the person responsible for closing the door shall:
    1. Visually inspect the exterior of cabin access door and surrounding areas for signs of damage, debris or obstructions.
    2. Retract equipment safety rails and canopy (where fitted) where necessary to close the door.
    3. Release the gust lock and move the door to the fully closed and locked position in accordance with the instructions and markings labeled on the door, and the specific instructions for the aircraft type.
    4. After the door is closed, check that the door and handle are flush with the surrounding fuselage.
    5. 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 IGOM 4.4.2.8(b-c).

#### 4.4.2.10 Reopening Cabin Access Doors

In situations where a cabin access door needs to be reopened and reclosed after initial closing (e.g., not closed properly, additional delivery of catering and/or supplies, requirement to reconnect boarding device), the following shall apply:

a. Where flight crew or other qualified personnel are in the cockpit, but they did not initiate the request to reopen the cabin access door:
   1. Seek authorization from the flight crew or other qualified personnel in the cockpit for the cabin access door to be reopened via an open cockpit window (if applicable) or use the flight interphone system.
   2. Await clearance to re-open the cabin access door. If authorization to reopen the door is not granted, do not attempt to reopen the door.
b. Follow the applicable actions/steps in the in the Opening Cabin Access Doors sections (see IGOM 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 IGOM 3.1.3.3 or a belt loader in accordance with IGOM 3.1.3.7
   ***Note:*** Not applicable to main deck cargo access 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 IGOM 4.4.3.4.

#### 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.
      i. 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.
      ii. 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 IGOM 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. (WFS) Normally, main deck cargo doors are opened and closed from inside the main deck cargo area. Where required to unlock/lock the main deck cargo access door from the outside, use main deck ULD loader in accordance with IGOM 3.1.3.8
c. Fall prevention devices 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. (WFS) Notify the air carrier immediately if the main deck door(s) safety nets are not available for use. Do not approach the main deck door area if the door is open and safety nets not installed.
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.
   ***Note:*** For main deck specific loading operations, see IGOM 4.5.3.3.

***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.

***(WFS) Note:*** For B747F nose door operation, use extreme caution even after the loader has been positioned at the aircraft.

## 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 the load message (LDM)/container pallet message (CPM)/offloading instructions report (OIR) or any other incoming messages
    2. Loaded in accordance with the corresponding loading instruction report (LIR) (see IGOM 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.

c. (WFS) A designated loading supervisor is required for all operations that are performing the loading and offloading tasks. This is to ensure that the aircraft is loaded/offloaded in accordance with procedures and instructions.

#### 4.5.1.2 Communication

When verbal communication is used, it is critical that combinations of letters and numbers are pronounced and understood by those who transmit and receive voice messages by radio or telephone, regardless of their native language. The ICAO phonetic alphabet and numbering system shall be used by all parties when involved in aircraft turnaround.

| **Alphabet** | |
|---|---|
| A | Alfa |
| B | Bravo |
| C | Charlie |
| D | Delta |
| E | Echo |
| 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 |
| 6 | SIX |
| 7 | SEV en |
| 8 | Ait |
| 9 | NIN er |
| Decimal | DAY SEE MAL |
| Hundred | HUN DRED |
| Thousand | THOU SAND |

To ensure all the load is accounted for accurately prior to departure, the parties responsible for loading and load planning shall clearly communicate and confirm:

a. Flight number
b. Aircraft registration
c. Flight leg (Destination), as applicable
d. LIR edition number
e. Load by position/compartment, including NIL-Position/Compartment(s)
f. Return load (standby load that is not loaded)
g. All commodities and sub-commodities

When communicating load figures using verbal communication between the person reporting the load and the person responsible for the load planning task, the person responsible for the load planning task shall always read back the information given according to the same guidelines above.

***Notes:***

1. The same principle will apply when the person responsible for the load planning task is verbally communicating information to the person responsible for the loading supervision task, and when loading information is verbally communicated between loading team members and loading team supervisor.
2. To further prevent miscommunication during the aircraft turnaround handling and close out reconciliation process, implementation of standard verbiage for load discrepancy communication (see Table 4.5.1.1) should be used between the person responsible for the loading supervision task and person responsible for the load planning task and between the person responsible for the loading supervisor task and loading team members.
3. Efficient communication devices (e.g., headsets, high-performance radio, phones) should be provided to relevant team members for verbal communication to avoid misunderstanding in a noisy environment.

**TABLE 4.5.1.1 – LOAD DISCREPANCY COMMUNICATION**

| 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 |

### 4.5.1.3 Actions Prior to Unloading

Prior to unloading, the person responsible for the aircraft loading supervision task shall:

a. 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.
   ***Notes:***
   1. The offloading instructions report (OIR), which is a systematic plan for unloading, Should be issued prior to aircraft arrival.
   2. For transit flights, an OIR, as defined in IGOM 5.4.1.3, may be issued.
b. Verify the arriving aircraft registration with the registration on the CPM/LDM/OIR.
c. Ensure the necessary equipment for unloading is available on the aircraft parking stand (see IGOM 4.1.1 (c)).

### 4.5.1.4 Actions During Unloading

During unloading, the person responsible for the aircraft unloading supervision task shall:

a. 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.
b. For ULD unloading:
    1. Carry out visually detectable damage checks during unloading in accordance with IGOM 4.5.9.3.
    2. Check ULD placards have been properly filled out with the correct information in accordance with IGOM 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 IGOM 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 IGOM 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 IGOM 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 IGOM 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 IGOM 4.4.3.3).
e. If irregularities are reported during the unload sequence report in accordance with operating airline procedures.
f. (WFS)If layover or overnight parking is required, the aircraft shall be properly secured in accordance with TSA regulations to prevent unauthorized access, as outlined in 49 CFR § 1544.225.

#### 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 people 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 IGOM 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 check prior to loading in accordance with IGOM 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 IGOM 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. Cross-check the ULD/bulk load against the LIR as the loading progresses to ensure the correct sequence of loading takes place in accordance with the specified timelines (e.g., where applicable, transit loads are not over-stowed for transit stations).
b. Regularly check whether loading personnel who are physically loading the aircraft encounter any loading issues and attend to any issues raised concerning loading..

   ***Notes:***

   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 IGOM 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 IGOM 5.4.3.2. 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. (WFS) Ensure that only ULDs approved for use on the specific aircraft type are loaded, in accordance with the aircraft manufacturer and operator limitations
e. 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.
f. Protect all loads from adverse weather. Special attention shall be given to live animals and/or perishables.
g. Ensure special loads are handled and loaded as per instructions provided.
h. Where applicable remove any loose plastic or any other material used to protect load from bad weather.
i. Visually inspect all loads requiring special handling to ensure they are secured against shifting. Ensure all necessary nets have been closed. See IGOM 4.5.7
j. If required, Delivery At the Aircraft (DAA) bags/items shall be loaded as per operating airline and local authority requirement. See IGOM 2.4.4
k. For tracking/reconciliation during loading see IGOM 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 IGOM 4.5.7) (WFS) A tactile check is required to reconfirm that the locks are set.
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.

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.
e. If irregularities are reported during the load sequence report in accordance with operating airline procedures
f. Ensure cargo hold access door checks are performed in accordance with IGOM 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. (WFS) If either of these are used, refer to ailine policy/procedures.

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 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 unloading/loading sequence.

### 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 hold access door.
   ***Exception:***
   For smaller aircraft see IGOM 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 the load falls out and causes 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.

(WFS) When loading has been completed, equipment operators shall move all loading equipment to the designated parking location outside of the ERA.

#### 4.5.3.2 Unit Load Device Loading and Unloading

a. For ULD loader operations, see IGOM 3.1.3.8.
b. Inspect all ULDs before loading/unloading to ensure no nets, straps or protective materials can drag or get jammed in rollers, ball mats or wheels of power drive units (PDUs).
c. Push (do not pull) ULD on/off dollies and loaders where possible.
d. ULDs on dollies or transporters shall be secured to prevent movement using locks, stops or rails, except when the load is being transferred to/from the equipment.
e. (WFS) In the event that a ULD becomes stuck during loading or unloading, immediately notify aircraft maintenance. Never use any type of prybar to assist in moving the ULD. Never raise or lower the loader to assist when a ULD becomes stuck.

***Caution:***

Do not place ULDs directly on the ramp surface.

***Danger:***

During loading/unloading operations:

1. To avoid personnel injuries (e.g., slips, trips and falls) when walking inside the cargo holds, do not step on cargo loading system components (e.g., restraints, PDUs, roller tray(s)) or sloped side walls except where dedicated step positions are provided.
2. Personnel shall remain clear of the ULD movement path at all times.
3. Moving ULDs may cause injuries to personnel.
4. Only raise locks once the ULD comes to a complete stop.

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 the 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.

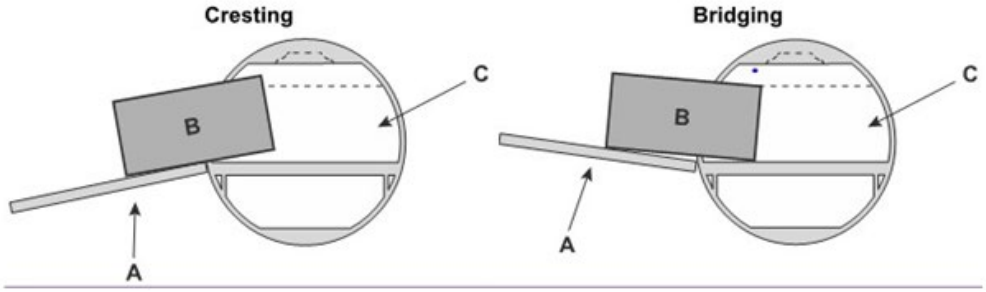
#### 4.5.3.3 Main Deck Loading of Freighter Aircraft

Observe the following additional requirements for unloading/loading of ULDs on the main deck of freighter aircraft:

a. Ensure the ULD loader is in position before removing the safety net. Install the safety net immediately after loading/unloading is finished.
b. Monitor the clearance between the aircraft and GSE while moving cargo into/out of the main deck. Keep in mind that the vertical movement of cargo aircraft during loading/unloading and fueling can be up to 70 cm (27.5 in.). Ensure the ULD loader is level with the height and angle of the cargo compartment floor. To avoid main deck cargo access door damage by strong winds, refer to the operator's GOM for high-wind condition limits.

***CAUTION:***

Avoid bridging and cresting while loading/unloading heavy cargo as this can cause damage to the aircraft or/and ULD.




| Alpha-Numeric | DESCRIPTION |
|---|---|
| A | ULD loader |
| B | Cargo |
| C | Main Deck |

***DANGER:***

To avoid serious injury during loading/unloading with a CLS and PDU in the aircraft, if applicable, do not use the outside control panel when any personnel are present inside the cargo compartment. Use only the internal control panel to keep a view of personnel in the cargo compartment. ULD locks may only be latched or released when the select switch is in “local/inside” mode.

#### 4.5.3.4 Bulk Loading and Unloading

a. Where a belt loader is used, position items on/off the belt loader see IGOM 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 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 shall be identified on the load message (LDM) or container pallet message (CPM) for arriving flights or under a NOTOC for departing flights.
   2. Comply with any special handling requirements. Be alert for special load and/or dangerous goods shipments.
   3. Always follow the orientation markings and/or special handling instructions, as applicable, while handling.
   4. Make sure packages with directional handling labels are kept in the correct orientation (e.g., THIS WAY UP).
   5. Always observe the specific instruction labels and markings (i.e., Cargo Aircraft Only (CAO), FRAGILE, TOP, THIS SIDE UP).
   6. Ensure shipments labeled “Cargo Aircraft Only” are not loaded into a passenger aircraft.
   7. Always handle fragile items with care.

b. Dangerous Goods
   1. Transportation shall be in accordance with the IATA DGR. Refer to the corresponding sections of the operator's GOM for airline specifications or restrictions.
   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, 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 Regulations (LAR). Refer to the corresponding sections of the operator's GOM for airline-specifications or restrictions.
   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

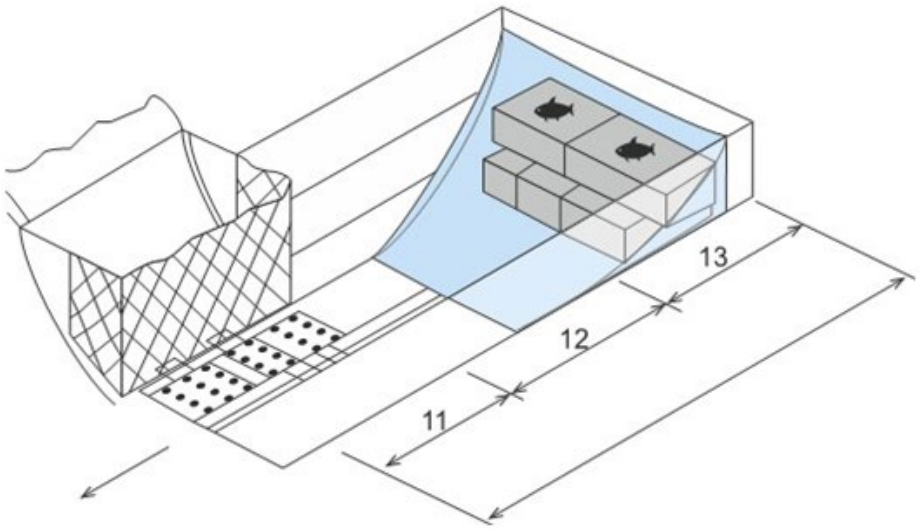
   The following types of cargo, if not subject to the IATA DGR, shall be considered as wet cargo:
   1. Liquids in watertight containers
   2. Wet materials not packed in watertight containers (e.g., fish packed in wet ice, fresh or frozen meat, casings (fresh animal guts), wet hides, skins)
   3. Goods that by their nature may produce liquid (e.g., larger live animals (usually mammals) where the presence of feces 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 fight 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 operating airline procedures.
    ii. For wet cargo in containers that are not watertight, follow operating airline procedures.




***Notes:***

1. When wet or damp, the strength of some packaging can be considerably reduced. Special attention shall be given to avoid the crushing of packages when stacking to several levels.
2. For reference regarding packing of wet cargo and temperature sensitive packaging, refer to IATA Perishable Cargo Regulations (PCR) and IATA Temperature Control Regulations (TCR).

e. Perishable and temperature-sensitive healthcare products
During transportation, loading and unloading perishable and temperature-sensitive healthcare products, ensure that they are:

1. (WFS) Handled in a way to minimize waiting time during transportation, loading, and unloading**,** by ensuring such items are:

   I. The last cargo items taken to the aircraft for loading, reducing time spent on the ramp.
   II. Prioritized during unloading and promptly moved to appropriate storage facilities (e.g., temperature-controlled warehouses or coolers).

2. Not exposed to adverse environmental conditions

***Notes:***

1. Perishables must be moved into storage (e.g., cooler, freezer) appropriate for the type, in accordance with the Perishable Cargo Regulations (PCR).
2. Pharmaceuticals must be moved into storage (e.g., cooler, freezer) appropriate for the type, in accordance with the Temperature Control Regulations (TCR).

f. Dry Ice

Dry ice (solid carbon dioxide) is used as a refrigerant for temperature sensitive health care products e.g., vaccines and other life sciences products to ensure that they are maintained at the required temperature throughout the supply chain.

1. Where dry ice is present in the cargo being loaded or unloaded from the ramp, staff must be aware of the precautions required to ensure that there is no risk of suffocation from elevated CO2 levels from sublimating dry ice.
2. Refer to airline GOM/relevant manual for requirements concerning loading and unloading of dry ice as dangerous goods and maximum permitted quantities per aircraft type.
3. 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
4. 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.
5. Cargo hold 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.

#### 4.5.4.2 Safety Precautions for an unload

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 IGOM 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.
    2. Contact the person responsible for the aircraft loading supervision task if any load has shifted and will not safely exit the door.
c. Check for incorrectly loaded ULDs (i.e., locks not raised, locks or 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 IGOM 4.4.3).
    ***Note:*** Immediately report any discrepancies (e.g., spills, unusual fumes or smells, unsecured loads/restraints, LDM/CPM discrepancies) prior to or during the unloading process to the person responsible for the aircraft loading supervision 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 the aircraft unload is complete.
    2. Prior to loading if this does not follow immediately after unloading is complete.
    3. When the aircraft was unattended between unloading and loading.
    4. When there was a change of persons responsible for the aircraft loading and/or supervision task.

b. The person undertaking the cargo hold inspection shall perform a visual check of all cargo holds to ensure:
    1. No damage to compartment floors, walls, ceiling, door frames, panels, door.
    2. **(WFS)** Check to ensure there are no prohibited items onboard the aircraft in accordance with the air carrier's specific requirements and/or applicable TSA regulations
    3. No missing, damaged or malfunctioning floor locks, load restraints or nets.
    4. No spills.
    5. No loads other than transit loads have been left on board the aircraft.
    6. Any other items that should not be present in the hold have been unloaded.
c. Prior to commencing the loading of the aircraft, the person responsible for undertaking the cargo hold inspection shall provide positive confirmation to the person responsible for the aircraft loading supervision task that the inspection has been carried out, if appropriate.
d. (WFS) Any damage or discrepancies observed shall be recorded and reported to the air carrier. The person responsible for the aircraft loading supervision task shall inform load control regarding all ULDs that have been positioned with any missing and/or inoperative locks so that load control can review and take into consideration any applicable aircraft loading restrictions in the weight and balance process.

    ***Note:*** A check shall be conducted of a hold even if on arrival the hold was reported as being empty.

e. Any items that should not be present in the hold shall be removed

#### 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 agents to escape, thereby reducing the capability to handle a fire event that may lead to specific loading limitations; therefore:

a. Any technical malfunction, damage or irregularity discovered shall be immediately reported to the supervisor, aircraft maintenance personnel and if available, the pilot-in-command (PIC). See IGOM 4.4.1.
b. Adhere to any resulting load limitations according to operating airline procedures.
c. Inform the onward station(s) of the load limitations according to the instructions of the airline representative if the defect cannot be rectified before departure.

#### 4.5.5.3 Spills in Cargo Holds

a. Spills can occur in cargo holds during unloading and/or loading as well as in flight due to:
    1. Improper packaging
    2. Damage due to mishandling prior to loading
    3. Improper loading in the compartment
b. Spills can be of liquids, gels or materials in powdered or granulated form.
c. Spills can be hazardous, corrosive, flammable, explosive, toxic, poisonous, etc. Even water can cause serious damage to electrical components and systems.
d. Spills can be corrosive to the aircraft structure. Mercury spills are particularly corrosive to the extent that the affected aircraft structure may have to be completely replaced if the spill is not cleaned up quickly.
e. It is essential that any spill is reported immediately so that corrective action can be taken.
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.

### 4.5.6 Loading

#### 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 to/from the cargo warehouse or baggage from the baggage make-up area or baggage claim area, the equipment operator shall ensure:

a. The GSE used for transportation is serviceable. For GSE operations see IGOM 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 or protective materials can drag on the ground or get jammed in rollers, ball-mats or wheels.
    3. All built-up cargo/mail/baggage is safe to move and will not shift, roll or topple.
    4. There is no damage to the load.
c. All loads are protected from adverse weather via use of tarpaulins or covered carts. Special attention shall be given to live animals and/or perishables. When using tarpaulins, all straps shall be securely fastened to the cart.

#### 4.5.6.3 Load Delivery for Departure

Depending on the location of the handover point, the person responsible for the aircraft loading supervision task or the person responsible for receiving the load shall:

a. As required by the airline and if applicable, receive all documentation, pouches and special instructions for the specific flight.
b. Carry out an inspection of all of the load to ensure:
    1. The load is correct for the departing flight(s).
    2. No damage has occurred during the transport process.
    3. There is no evidence of tampering with the load (e.g., cuts, tears to plastic foil).
    4. No nets, ropes, straps, protective materials, etc. should drag on the ground or get jammed in rollers, ball-mats or wheels while maneuvering or while being loaded onto aircraft.

5. All dollies are serviceable, and all restraints are engaged to secure the ULD on the dollies prior to the ULD being loaded onto the aircraft.

c. Immediately report any damage of the load(s), whether it is discovered when the load arrives on stand or occurs during loading.
   1. Report torn or missing baggage tags and cargo labels.
   2. Do not load unless discrepancies are corrected.
d. (WFS) All GSE and/or equipment used to handle or transport the leaking package must be isolated and removed from service and reported to the supervisor on duty as per company policy to ensure it has been properly checked and cleaned by a qualified cleaning contractor and that further or cross contamination is prevented.
e. (WFS) In the event this type of cargo is delivered to a passenger aircraft for loading, DO NOT LOAD, secure in a manner where they cannot be loaded and immediately notify the air carrier representative.
f. (WFS) In the event, cargo, mail or stores items not accepted by the air carrier are delivered to the aircraft for loading, DO NOT LOAD, secure in a manner where they cannot be loaded and immediately notify the air carrier representative.

#### 4.5.6.4 Loading Process

a. Loading shall not commence if there is no LIR (electronic or hard copy), unless otherwise specified by operating airline procedures.
b. Report any 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 to secure the ULD in applicable position, in accordance with the LIR and as per the operator's GOM.
   2. While loading ULDs:
      i. The edges are either guided by the safety rails or fit under the stops/locks/guides.
      ii. The height of the pallet allows for sufficient clearance in the door opening.
      iii. Control the speed at which ULDs are moved within the aircraft, slowing the ULD prior to reaching its allocated position to prevent crashing.
      iv. They have no protrusions or overhangs that will damage the aircraft cargo access door opening or the interior of the aircraft cargo hold.

***Notes:***

1. A tactile check shall be performed by checking the security of each lock to ensure serviceability. A systematic double-check of the restraint system and of special loads (e.g., heavy (HEA), AVIH, human remains (HUM), etc.) before departure is recommended.
2. All ULD restraints shall be raised, unless specified by the operating airline procedures.
3. ULD restraints do not have to be raised in cargo holds that are completely empty, unless otherwise specified by operating airline procedures.
4. If applicable, ensure fire barriers are installed as the hold is loaded.

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 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 IGOM 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.
   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.

   ***Notes:***

   1. Between unload and onload, compartment nets shall be secured inside aircraft compartments and not left hanging outside to avoid clips and attachment points striking the fuselage, especially during adverse weather.
   2. Ensure the ramp area is clear of all wooden and/or plastic pallets and other load related material after completion of loading or unloading.

## 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 AVIH
    3. HEA pieces weighing 150 kg (330 lb.) or more
    4. Coffins with HUM

    ***Caution:*** Do not load baggage or other shipments on top of the coffin.

    5. Dangerous goods (see IGOM 4.5.7.7)
    6. Powered mobility aids
    7. Loads that need spreading
    8. Fragile loads
b. The following loads shall not move vertically 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 GOM for load restrictions. Refer to operating airline procedures 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).

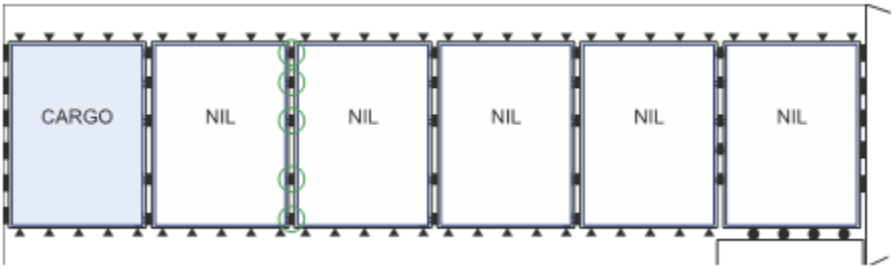
2. The battery is either adequately protected against damage by the design of the mobility aid and securely attached to the wheelchair/device, isolating the electrical circuits according to the manufacturer's instructions, or
3. Removed from the mobility aid following the manufacturer's instructions.
   ***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.

***Notes:***

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.
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. ULDs should be secured by a ULD restraint system on the compartment floor. Refer to the operator's GOM for relevant information on applicable ULD configurations, loading and restraint systems for each aircraft type. Observe the handling instructions of the operator in the case of missing or unserviceable restraints.
b. If there are empty loading positions, as a minimum, the restraints of the empty position forward or aft of the ULD shall be raised. Refer to the operator's GOM for guidance on the specific aircraft type.




c. ULD restraints do not have to be raised in cargo holds that are completely empty unless operating airline procedures state otherwise.
d. In special cases, pallets can be tied down as a floating pallet with straps to tie-down points on the aircraft structure, as per operating airline procedures.

### 4.5.7.4 Tie Down

**Definition of forces**

Properly tie-down the load on board of the aircraft to withstand the following different forces during take-off, flight and landing.

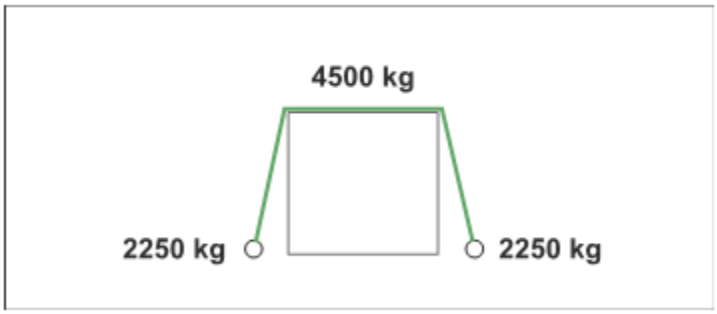
| Force | Definition |
|---|---|
| Forward | Horizontal forces effective during landing and steep angles of descent |
| Backward | Horizontal forces effective during takeoff and steep angles of climb |
| Sideward | Horizontal forces effective during rough landing, turbulence and close turns |
| Upward | Vertical forces effective during landing and heavy turbulence in flight |

Depending on the flight situation, the forces described above 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 that restrains the load against all forces.

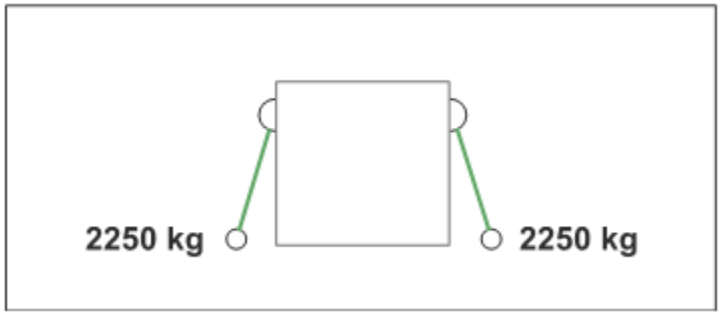
**Tie down of load with straps or ropes**

If the primary restraint of the load is done by straps, tie-down shall 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 fastens 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 to hold 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 (10000 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.



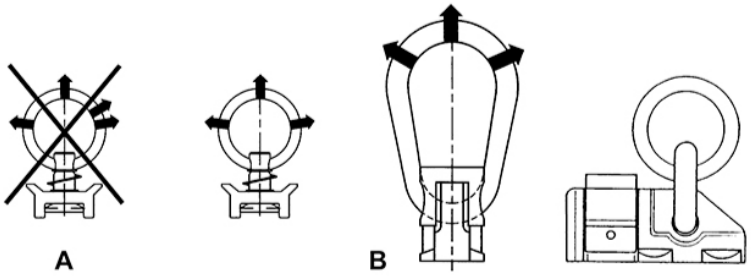

### 4.5.7.5 Use of Tie Down Material

Make sure that tie-down material is in a serviceable condition.

a. Tie-down ropes
   1. Fix tie-down ropes to the aircraft floor tacks 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 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 to tie-down tracks.

Distribute the attachment points of the tie-down rings evenly (nearly equal distances) over the length of the piece.

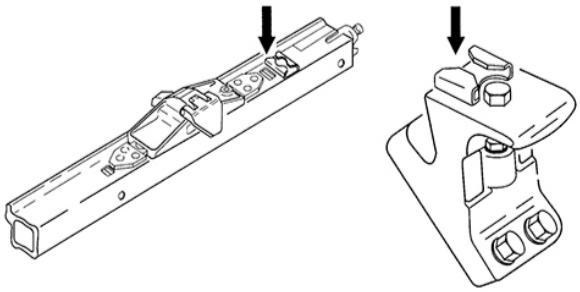
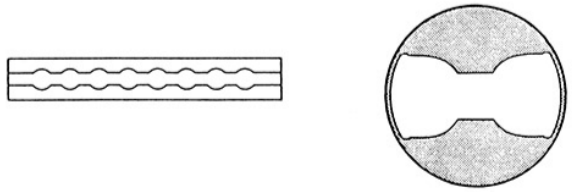
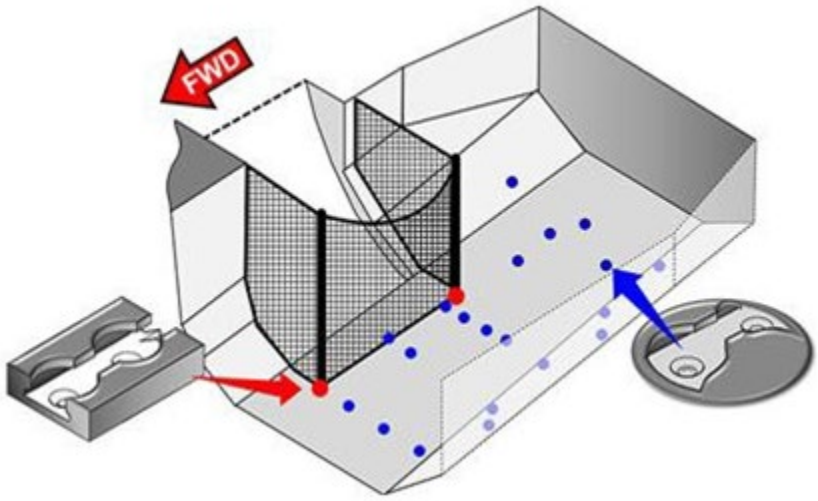


**Figure 4.5.7.5a—Example of tie-down attachment points on outboard side lock and side guide**






***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.

c. Tie-down straps

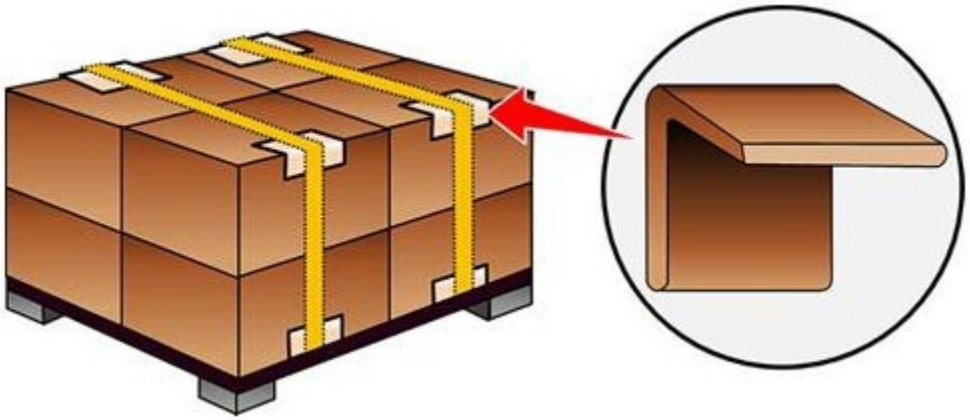
Use only certified ETSO/TSO C172 tie-down straps. Fix tie-down straps to the aircraft with their fixed tie-down rings only at dedicated tie-down points or tie-down tracks.

d. Tightening

1. Tighten the lashing strongly, but not so strong that the 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.

e. Sharp edges

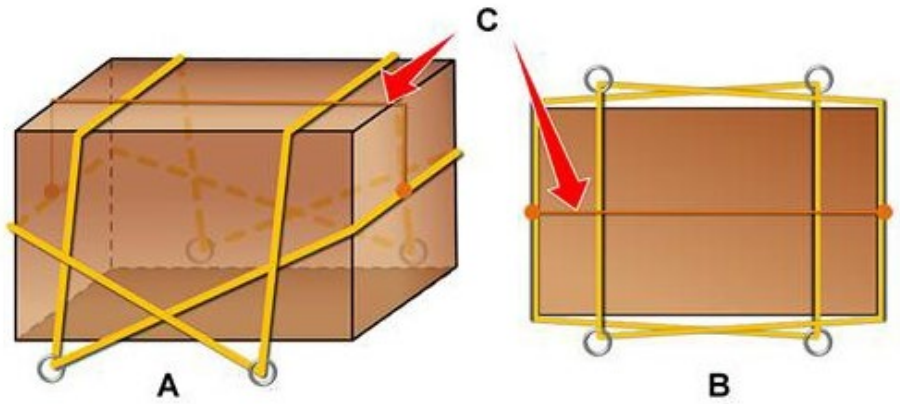
To avoid cutting or grinding tie-down ropes or tie-down straps smoothen sharp edges with a piece of soft materials (e.g., cloth, cardboard, plank or similar)



### 4.5.7.6 Standard Lashing

For standard lashing use:

a. Four tie-down rings
b. Four tie-down ropes or tie-down straps and one safety rope.
   1. Two against upward forces
   2. Two against forward forces
   3. One against backward forces
   4. One safety rope
      The safety rope prevents the tie-down ropes or tie-down straps used against forward and backward forces from sliding down.




| Alpha-Numeric | DESCRIPTION |
|---|---|
| A | Isometric View |
| B | Top View |
| C | Safety Rope |

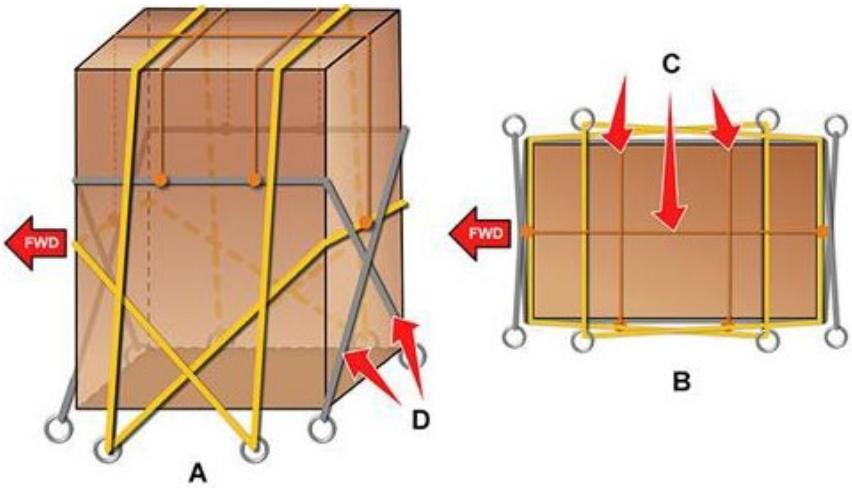
**Sideward forces**

Sideward forces are normally covered by the standard lashing for upward, forward and aft forces. The rope/straps shall be lashed close to the pieces.

***Exception:***

If a piece is more than twice as high as it is 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 with two safety ropes to prevent the additional lashing 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.

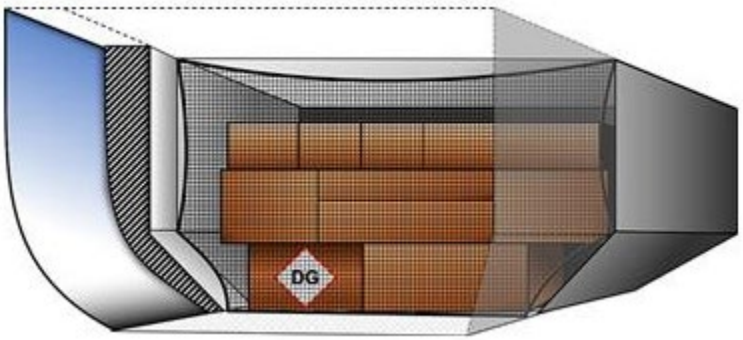
### 4.5.7.7 Securing of Dangerous Goods

a. 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.

**(WFS)** Verify that any DG on the LIR is separated and/or segregated in accordance with IATA or air carrier guidelines to prevent interaction in the event of leakage. Immediately notify load control in the event the commodities cannot be loaded in accordance to separation guidelines. Secure the loads to prevent movement that could change the orientation of packages on the aircraft.

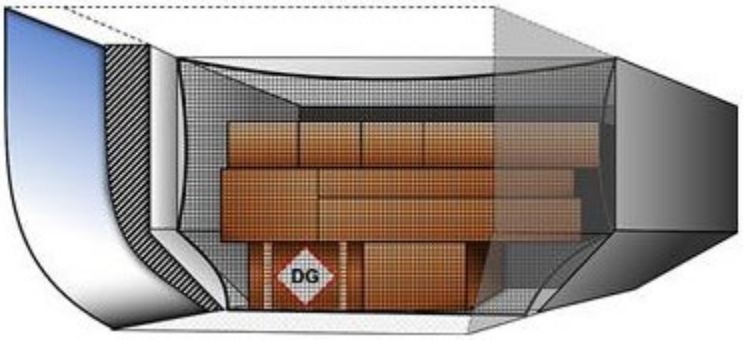
c. On a pallet, securing by tie-down is not necessary if all the load on the pallet including the dangerous goods package is secured by the pallet net
d. In a bulk compartment or a container securing by tie-down is not necessary if the package cannot move horizontally or vertically. The net section or 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:

*When the net sector in the bulk compartment or a lower deck aircraft container is volumetrically full including the entire floor area, securing by tie down is not necessary.*



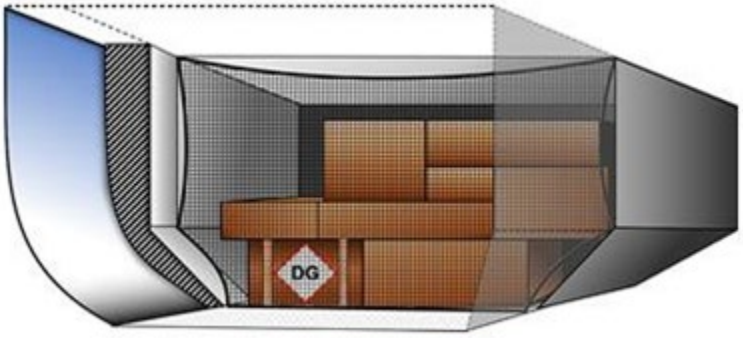

**Example 1**

*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.*




**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.*

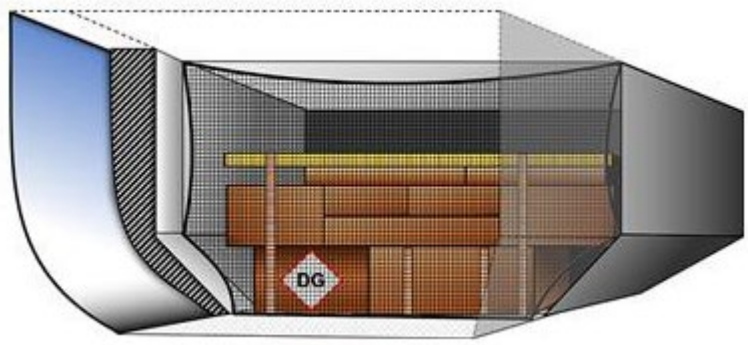



**Example 3.**

**Securing of small DG 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 Example 1), or
Put planks on top of the package (see 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.




**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.

***Caution:***

Overloading can cause damage to aircraft frames and ribs and consequently can have serious implications for the safety of the aircraft.

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.

### 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 pallet-net combinations
ULDs can be directly restrained onto the aircraft structure by the CLS. 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).

(WFS) The loading and handling of ULDs shall be carried out with extreme care to ensure in-flight safety, reliability and to maximize the useable life of the equipment. Loaded ULD shall always be stored on a suitable transfer vehicle such as:

1. Dolly
2. Slave pallet
3. Container racking
4. within a Cargo terminal ULD handling and storage system
5. on a purpose-built road vehicle or railway wagon

They can only be transferred using special-purpose equipment equipped with rollers/ ball mats or similar support/ transfer devices. Never use a forklift to transport a ULD.

### 4.5.9.2 Identification/Labelling of Unit Load Devices

Identification: Each ULD has an IATA identification code allowing proper ULD control. The first three characters identify the type of ULD. The next four or five identify the inventory number and the last two identify the airline or pool that owns the container. For example:

| Type of ULD/Container | Inventory Number | Airline/Pool |
|---|---|---|
| AKE | 12345 | 1A |

(WFS) 1st Character:
A = Certified aircraft container
D = Non-certified aircraft container
F = Non-certified aircraft pallet
N = Certified aircraft pallet net.
P = Certified aircraft pallet.
R = Thermal certified container

(WFS) 2nd Character:
Size of pallet /container base dimensions:

A = 88 x 125ins B = 88 x 108ins F = 96 x 117.75ins

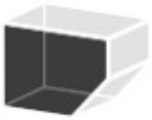
G = 96 x 238.5ins H = 96 x 359.25ins J = 96 x 480ins
K = 60.4 x 61.5ins L = 60.4 x 125ins M = 96 x 125ins

(WFS) 3rd Character:
Indicates the compatibility of the unit. For containers it shows the compatibility of the contour/shape with the aircraft envelope.

(WFS) Contours summary:

**Contour A**
Width: 2438 mm / 96 in
Height: 2438 mm / 96 in
Type: Main Deck

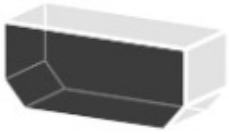
**Contour B**
Width: 2438 mm / 96 in
Height: 2438 mm / 96 in
Type: Main Deck



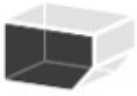
**Contour C**
Width: 2337mm / 92 in
Height: 1626 mm / 64 in
Type: Lower Deck

**Contour D**
Width: 2438 mm / 96 in
Height: 2997 mm / 118 in
Type: Main Deck

**Contour E**
Width: 2007 mm / 79 in
Height: 1626 mm / 64 in
Type: Lower Deck



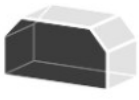
**Contour F**
Width: 4064 mm / 160 in
Height: 1626 mm / 64 in
Type: Lower Deck



**Contour G**
Width: 2007 mm / 79 in
Height: 1143 mm / 45 in
Type: Lower Deck

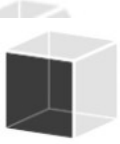
**Contour H**
Width: 2438 mm / 96 in
Height: 1143 mm / 45 in
Type: Lower Deck

**Contour J**
Width: 2438 mm / 96 in
Height: 2438 mm / 96 in
Type: Main Deck



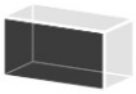
**Contour K**
Width: 3175 mm / 125 in
Height: 1626 mm / 64 in
Type: Main / Lower Deck

**Contour L**
Width: 2438 mm / 96 in
Height: 2946 mm / 116 in
Type: Main Deck

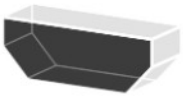


**Contour M**
Width: 2236 mm / 88 in
Height: 2286 mm / 90 in
Type: Main Deck

**Contour N**
Width: 2007 mm / 79 in
Height: 1626 mm / 64 in
Type: Lower Deck



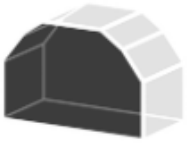
**Contour P**
Width: 3175 mm / 125 in
Height: 1626 mm / 64 in
Type: Lower Deck



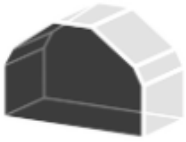
**Contour U**
Width: 4724 mm / 186 in
Height: 1626 mm / 64 in
Type: Lower Deck

**Contour V**
Width: 2438 mm / 96 in
Height: 2438 mm / 96 in
Type: Main Deck

**Contour X**
Width: 2438 mm / 96 in
Height: 2997 mm / 118 in
Type: Main Deck



**Contour Y**
Width: 3175 mm / 125 in
Height: 2083 mm / 82 in
Type: Main Deck



**Contour Z**
Width: 3175 mm / 125 in
Height: 2083 mm / 82 in
Type: Main Deck

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.

a. Each ULD tag shall be fully completed.
b. One ULD tag shall be placed in the tag holder of a container.
c. 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:
    1. ULD ID Code shown on the LIR
    2. ULD ID Code shown on the ULD identification tag
    3. ULD ID Code marked on the ULD

#### 4.5.9.3 Checking ULD Conditions on the Ramp

a. Visually Detectable Damage Check

1. Visual checks for any detectable damage to ULD components should be performed during ramp operations in to continuously monitor and verify the serviceability of a ULD to ensure only serviceable ULD is loaded aboard aircraft.

***NOTE:*** Unserviceable ULDs may be loaded onto an aircraft only when expressly allowed by the operating carrier. The ULD shall be empty, with limited load and/or other restrictions (e.g., additional tie-down) in accordance with the ULD manufacturer's documentation, such as the Component Maintenance Manual (CMM) and operating airline procedures.

2. 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

***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.

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 Aircraft Loader and in the Aircraft:
        i. Identify the presence of any protective plastic sheet put over the top of a pallet net or container, which 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.;
        iii. Check if nets and straps are properly tightened without any slack or excess
c. Unserviceable ULD;
    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:***

1. Do not touch the spill/leak from dangerous goods and immediately inform the personnel responsible for safety before moving the cargo
2. 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 chap. 11.

### 4.5.10 Transport of Cargo and Mail in Passenger Cabin

Passenger aircraft are not certified to carry cargo on passenger seats or cargo unit load devices (pallets or containers) in the passenger cabin secured on the seat tracks.
Before starting such operations, safety risk assessment shall be performed involving all the relevant operational departments (i.e., ground, cargo, cabin, flight, engineering). If required, this type of operation shall be approved by 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).

### 4.5.11 (WFS) In Plane Loading System Operation - General Operating Procedures

#### 4.5.11.1 Before ULD unloading and loading:

a. Ensure the cargo compartment door is fully opened, check door seals for any damage.
b. Ensure the loader platform is level with the floor of the cargo compartment.
   ***Note:*** Avoid bridging and cresting while loading/unloading heavy cargo as this can cause damage to the aircraft or/and ULD.
c. Open cargo loading system panel, energize the cargo loading system.
d. Lower door sill/anti-roll out latches and any applicable load latches.
e. Using the cargo system controls, carefully use the cargo loading system drive wheels/PDUs to move ULD from the aircraft onto the loader platform.
   ***Note:*** In the event that a ULD becomes stuck during loading or unloading, immediately notify aircraft maintenance. Never use any type of prybar to assist in moving the ULD
f. Use normal loader operating procedures to lower ULD and transfer to dolly/transporter.
g. As each ULD position is opened, ensure that cargo was properly locked and then lower the lock and use drive wheels/PDUs to move the ULD to the cargo door and on to the loader platform. Note – use extreme caution if it is required to turn the ULD to get it through the cargo compartment door.
h. Upon completion of unloading, inspect the cargo compartment for any damaged, missing or inoperative cargo locks. Note – if any are found, immediately notify load control and/or aircraft maintenance before any loading can commence. Ensure that all drive wheels/PDUs are functioning properly in response to input at the cargo loading system panel.
i. In accordance with the cargo load plan, position ULDs using the drive wheels/PDUs into the proper ULD position, taking care to not hit locks/end stops at high speed.
j. Lock/latch the ULD into position (as required)

k. As each position is loaded, turn off power to drive wheels/PDUs (as required) and confirm the ULD is properly locked/latched.
l. Upon completion of loading, and after ensuring all locks/latches have been erected, raise the anti-rollout/door sill locks.
m. Again, check door sill area for damages, and if found, immediately notify aircraft maintenance.
n. Lower the loader platform (using guide person) and remove the loader from the aircraft (using a guide person).
    1. Close the cargo compartment door using an approved method, deenergize the cargo loading system and close and secure compartment panel.

## 4.6 Aircraft Departure

### 4.6.1 Introduction

A departure is normally conducted with a dialogue between flight crew and ground staff personnel in charge of the departure operation via an interphone. This procedure ensures the highest level of safety during departures based on a precise exchange of information. The ground personnel in charge of the departure operation shall maintain continuous contact with the flight crew and 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:

a. Operating airline procedures
b. Aircraft type
c. Ground Support Equipment (GSE) used for the maneuver
d. Airport infrastructure
e. 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 Responsible Ground Staff Member for Departure

The responsible ground staff member is defined as the person performing the communications with the flight crew. A responsible ground staff member shall be in charge of every aircraft pushback. This function can be performed by different personnel in different roles and positions. Refer to the operating airline's GOM for the specific assignment of this duty.

The ground staff member responsible for the departure shall:

a. Be in charge of the entire pushback, once clearance to begin pushback has been given by the flight crew.
b. Ensure the pushback tractor and towbar/TWL tractor is suitable for the specific aircraft type (WFS) using the table below.

***Pushback Tug and Aircraft Compatability***
Rev 3/16/2023

| | | TMX 50 GT 1628 | GT 35 B350 ALPHA 1 TMX 150 | GT 50 B650 B500 ALPHA 3 | GT 40 GT 60 MB2 TMX 350 | GT 90 GT 100 GT 110 B 950 | B 1200 ALPHA 4 TMX 450 | B1200H | T300 | T500 T800 | TPX 200-S TPX 200-MT | TPX 500 | TPX 500 S | EXP 600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MTW Less Than 110,000 lbs. | ALL CRJ Aircraft<br>ALL ERJ Aircraft<br>B737 100/200<br>DC9-30 | Yes | Yes | Yes | Yes | No | No | No | No | No | No | No | No | No |
| MTW Less Than 330, 690 lbs. | DC9-40/50<br>MD 80<br>A318/319/320/321<br>B737 300 thru 900<br>B757<br>B767 100/200 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes, Except DC9-40/50 and MD80 | No, Except B767 | No, Except B767 | No |
| MTW Less Than 573,196 lbs. | DC 10<br>A300<br>A330<br>A340 200/300<br>A350<br>B767 200ER/300 | No | No | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| MTW Less Than 881,600 lbs. | A340 500/600<br>B747 100/200/300/400<br>B777<br>B787 | No | No | No | No | Yes | Yes | Yes | No | Yes | No | Yes | Yes | Yes |
| MTW 881,600 lbs. or Greater | A380<br>B747 -400 ERF<br>B747-800 | No | No | No | No | Yes, expept A380 | Yes, expept A380 | Yes | No | No | No | No | Yes | Yes |

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.
e. (WFS) Immediately stop pushback operation if visual contact with the wingwalker is lost. Movement shall not continue until visual contact is re-established.

### 4.6.2.2 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 responsible ground staff member for departure as defined in IGOM 4.6.2.1.

### 4.6.2.3 Wing Walker

(WFS) WFS requires wing walkers for all aircraft movements being directed by a WFS marshaller. The wing walker shall:

a. Be under the direction of the responsible ground staff member at all times.
b. Use two marshalling wands, either day wands or illuminated wands for low-visibility operations.
c. Be positioned before and during movement of the aircraft as follows, where applicable and/or permitted:
    1. Approximately 1 m (3 ft.) outboard of the wingtip and with a clear view of wingtip clearance and any potential hazards
    2. In line with the rearmost main gear wheel
    3. Able to maintain visual contact with the person responsible for pushback/towing
    4. At a safe distance from the moving aircraft/pushback tractor during the entire pushback
    5. Maintain situational awareness to avoid personal injury hazards e.g., moving equipment and vehicles, aircraft, slip, trip and fall hazards such as chocks, cones, GSE, uneven ground, spillages, etc.

    ***Note:*** See Figure 4.6.2.3 for positioning of wing walkers 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 (see IGOM 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 (see IGOM 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 (see IGOM 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.

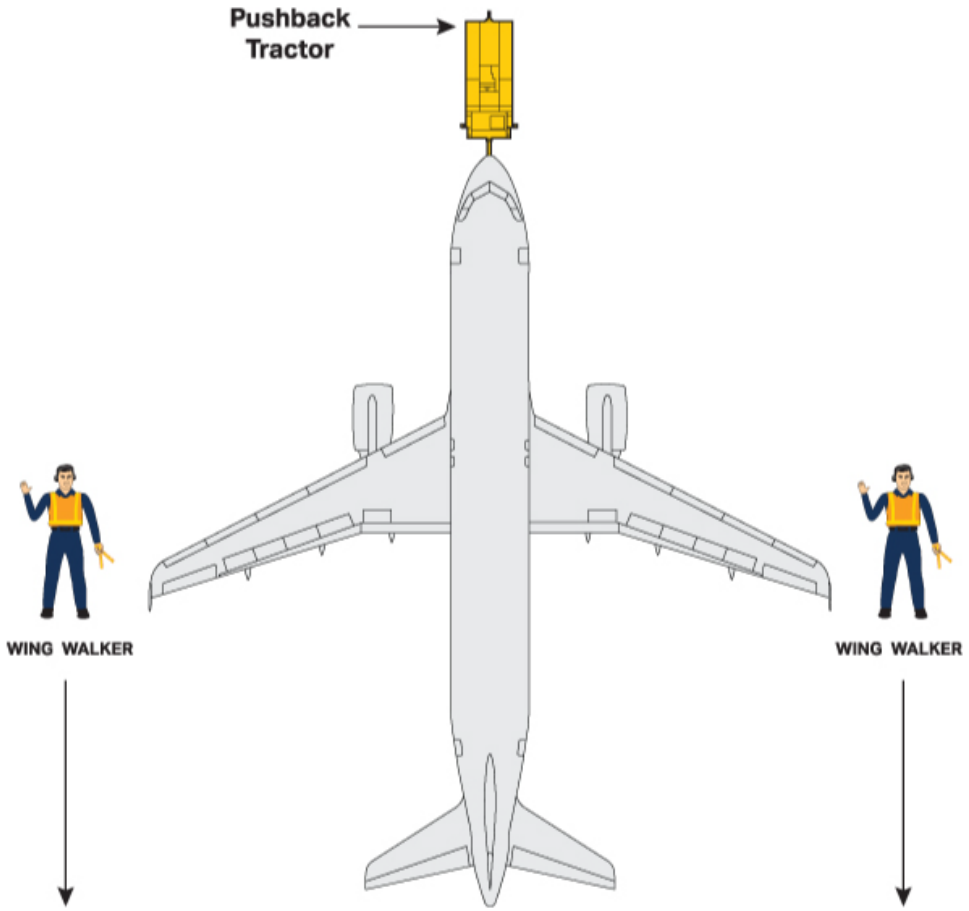



Figure 4.6.2.3—Wing Walker

Wing Walker Positioning for Aircraft Arrival

### 4.6.3 Pre Departure Activities

#### 4.6.3.1 Pre Departure Walkaround Check

The walkaround should start as soon as possible after all ground servicing activities have been completed. Walk around the entire aircraft at a normal walking pace. The check shall start as close as possible to departure time. If any part of the aircraft still has GSE engaged at the time of the check, or if GSE reengages with the aircraft after the check, the applicable area(s) shall be reinspected.

The predeparture walkaround check shall include the following:

a. The apron is clear of all FOD that may cause aircraft damage or pose a risk.
b. All GSE, including passenger boarding devices, are detached.
c. 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 hold access doors are closed and:
    1. Handles are flush with the fuselage and, where applicable, all other visible indicators confirm that doors are correctly locked.
    2. There is no visible damage on the aircraft, particularly around cabin and cargo access doors.
h. Any observed abnormalities on the aircraft (e.g., obvious damage, fluid leakage, unremoved pitot covers) are immediately brought to the attention of the flight crew, maintenance personnel and the person responsible for supervision.
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.

***Notes:***

1. In the case of the aircraft returning to the stand, the predeparture walkaround check shall be repeated.
2. It is essential to have adequate lighting when doing the walkaround check. If the lighting is insufficient, use a flashlight.

3. (WFS) As a best management practice the walkaround should include a tactile check of connection points. (touching bypass pin, towbar to aircraft, wheels retracted, towbar to pushback)

   ***Caution:***

   If any of the above conditions or actions are not met, inform the person responsible for supervision, the maintenance department and the flight crew, as this may affect the safety of the intended flight.

### 4.6.3.2 Pre Departure Table

General

Prior to aircraft movement, the responsible ground staff member (headset operator) shall ascertain that the following requirements are met/carried out:

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). | ✓ | ✓ | ✓ | ✓ | ✓ |
| The tractor and towbar combination, if applicable, are suitable for the operation, considering the aircraft type and weight as well as weather and surface conditions. | ✓ | ✓ | ✓ | ✓ | |
| The nose gear steering bypass pin is installed correctly, or the nose gear steering torque links are disconnected, if applicable, or the nose gear steering mechanisms are set as required for pushback (as applicable to the aircraft type). | ✓ | ✓ | ✓ | ✓ | |
| Communication with flight crew/brake operator and responsible ground staff member is established via an 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 personnel, 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 positioning and engine start sequence with the flight crew. | ✓ | ✓ | | | |
| 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 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. | ✓ | ✓ | | | |
| 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 predeparture table is indicated to the flight crew. | ✓ | ✓ | ✓ | ✓ | |
| A qualified brake operator is in the cockpit, where required by operating airline procedures. | | | ✓ | ✓ | |
| Cross-reference with *IGOM* | 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 IGOM 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 personnel responsible for departure should be in continuous communication with the 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 the operating airline’s GOM 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 by-pass system. Coordination with the flight deck would be required to ensure a safe depressurization and repressurization of the aircraft hydraulic system.
d. 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.
e. If using chocking option 1 (see IGOM 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.

#### 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 IGOM 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. Secure the towbar connection to the pushback tractor.
j. Raise the towbar wheels by releasing pressure on the hydraulic pump.
k. Select the Park or Neutral gear (if no selection for Park) and set the parking brake of the pushback tractor.
l. To minimize the possibility of injury, Ground handling personnel shall:
    i. Face the tractor when connecting the towbar to the tractor.
    ii. 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 (TWL)

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 IGOM 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 IGOM 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 the GPU and ASU when air start is required.
c. Check the passenger boarding devices have been retracted from the aircraft, if applicable.
d. Check that the pushback tractor and towbar are fully secured to the nose gear and the parking brake is set on the tractor.
e. For TWL tractor operation, check that equipment is fully secured to the NLG 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.

***Notes:***

1. If a chock is stuck, the responsible ground staff member removes it by tapping it with a spare chock. If this does not work, the stuck chock can be removed by moving

the aircraft after the aircraft brakes have been released, with precautions and in coordination with the responsible ground staff member for the departure.

2. Once high-wind or icy conditions have passed, any additional chocks that were added to the aircraft may be removed so that chock placement reverts to that for normal conditions.
3. If hand signals are used (i.e., the aircraft interphone system is inoperative), the person performing the hand signals shall:
    i. Display the “Set Brakes” hand signal (see IGOM 3.4.7.11).
    ii. Receive confirmation from the flight crew when they display the “Set Brakes” hand signal in response.
    iii. Remove chocks (see IGOM 3.4.9.4).

## 4.6.6 Departure Communication

### 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. If available, refer to the operating airline’s GOM; otherwise, this communication standard shall apply. The specific dialogue contained herein does not forbid the exchange of additional important information between flight crew and responsible ground staff member using non-standard phraseology (e.g., request for authorization to disconnect ground support units).

***Notes:***

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”.
3. (WFS) Only engage the TWL tractor and lift the aircraft once the passenger boarding device has been removed from the aircraft and the flight crew has requested pushback.

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### 4.6.6.2 Departure Communications Dialogue

The following dialogue is a sample communication 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 Responsible Ground Staff Member and Flight Crew | | | | |
|---|---|---|---|---|
| **Phase** | **Ground Staff** | | **Flight Crew** | |
| **Preparation** | | INFORM THE FLIGHT CREW ABOUT THE USE OF A TOWBAR OR TWL TRACTOR (if applicable) | | |
| | **Call:** | CONFIRM PARKING BRAKE SET | | |
| | | | **Reply:** | PARKING BRAKE SET |
| | | | **Call:** | CONFIRM STEERING BYPASS PIN INSERTED/NOSE WHEEL STEERING DEACTIVATED (if applicable)[1] |
| | **Reply:** | STEERING BYPASS PIN INSTALLED/NOSE WHEEL STEERING DEACTIVATED (if applicable)[1] | | |
| | | | **Call:** | CONFIRM CLEAR TO PRESSURIZE? (if applicable) |
| | **Reply:** | CLEAR TO PRESSURIZE (if applicable) | | |
| **After completion of the predeparture servicing checks** | **Call:** | PREDEPARTURE CHECKS COMPLETED | | |
| | **Call:** | ELEVATING AIRCRAFT[2] | | |
| | **Call:** | READY FOR PUSHBACK[1] | | |
| **Pushback** | | | **Reply:** | STANDBY |
| | | | **Call** | PUSHBACK APPROVED (MENTION AIRCRAFT NOSE DIRECTION, START-UP POINT, PULL FORWARD, ETC.) |
| | **Call:** | CONFIRM PARKING BRAKE RELEASED | | |
| | | | **Reply:** | PARKING BRAKE RELEASED |
| | **Call:** | COMMENCING PUSHBACK (MENTION AIRCRAFT NOSE DIRECTION, START-UP POINT, PULL FORWARD, ETC.) | | |
| **Engine start** | **Call:** | CLEAR TO START ENGINES | | |
| | | | **Reply:** | STARTING ENGINES (MENTION ENGINE START-UP SEQUENCE) |
| **Pushback completed** | **Call:** | PUSHBACK COMPLETED, SET PARKING BRAKE | | |
| | | | **Reply:** | PARKING BRAKE SET |
| **Disconnecting** | | | **Call:** | CLEAR TO DISCONNECT |
| | **Reply:** | DISCONNECTING, HOLD POSITION AND WAIT FOR HAND SIGNAL ON YOUR LEFT/FRONT/RIGHT (DISPLAY THE STEERING BYPASS PIN (IF APPLICABLE TO THE AIRCRAFT TYPE) TO THE FLIGHT CREW | | |
| | | | **Reply:** | HOLDING POSITION AND STANDING BY FOR HAND SIGNAL ON THE LEFT/FRONT/RIGHT |

1 Applicable to departures with towbar and TWL tractors

2 If required, applicable to TWL tractors

### 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 | a. Get confirmation that aircraft parking brake is set.<br>b. Get confirmation that the nose wheel steering is depressurized or advise flight crew that the steering bypass pin is inserted, if applicable.<br>c. Connect the towbar.<br>d. Connect the TWL tractor. |
| | Chock removal | a. Get confirmation from flight crew that aircraft parking brake is set.<br>b. Remove chocks. |
| | Predeparture check | Advise flight crew that the predeparture check has been completed or communicate any discrepancies. |
| Engine start | Starting engines | When requested by the flight crew, advise when the engines may be started and the start sequence. |
| | ASU | When requested by the flight crew, signal to the ASU operator to supply the required pressure. |
| Pushback and engine start | Brakes | Get confirmation that the aircraft parking brake has been released. |
| | Movement of the aircraft (pushback/pull out) | Get permission from flight crew to commence pushback. |
| | Direction of push/nose | If applicable, ask in which direction the aircraft must be pushed or in which direction the nose should point after pushback. |
| | Engine start | When requested by the flight crew, advise when the engines may be started. |
| Pushback completed and engine start completed | Towbar/TWL tractor disconnect | a. Get confirmation that the aircraft parking brake is set.<br>b. Disconnect.<br>c. Remove the steering bypass pin, if applicable. |
| | Headset removal | a. Get permission from the flight crew to disconnect the headset.<br>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.<br>b. Give the "*All Clear*" signal when the path of the aircraft is clear of all obstacles.<br>c. Get acknowledgement from the flight crew of the "*All Clear*" signal. |

#### 4.6.6.4 Departure Communications 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 IGOM 3.4.7 and 3.4.8 for the Marshaling Hand Signals for Aircraft and Technical/Servicing 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 (refer to 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), via radio is 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.

***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. (WFS) Aircraft shall always have the right of way.

***Caution:***

If the anti-collision lights are switched on unexpectedly (other than in preparation for the departure or towing operation), ground staff shall move away and remain outside the ERA. The responsible ground staff member shall check with the flight crew before resuming ground handling activities.

***Caution:***

In case of the lower anti-collision light failure, the flight crew shall inform the personnel responsible for the departure operation to inform staff involved in the operations about the imminent engine startup or aircraft movement.

#### 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.
g. At the end of the maneuver, the aircraft/pushback tractor set 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 IGOM 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 IGOM 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 (WFS), if not operating the tractor, 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 either the NLG, the responsible ground staff member shall:
   1. Stand forward of the aircraft.
   2. Follow its movements and always be in sight of the flight crew.
   3. Stay outside the engine's intake/suction area and wheel path of the aircraft during the entire pushback maneuver.
   4. Maintain sufficient clearance between the equipment and themselves throughout the pushback maneuver, where the pushback equipment is connected to the NLG.
   5. Be in continuous communication with the flight crew via the interphone system.

### 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.
   ***Notes:*** 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

***Caution:***

Care shall be taken to avoid a jackknife situation between the aircraft and the pushback vehicle due to asymmetric thrust from the aircraft (one engine running) during the transition from push to pull or vice versa. Do not exceed the manufacturer's maximum tow angles.

***Danger:***

If the aircraft overtakes/pushes the pushback vehicle, the responsible ground staff member shall ensure they stay well clear of the path of the pushback vehicle and the aircraft NLG wheels.

***Caution:***

Flight crew and aircraft maintenance personnel must be informed if the aircraft overtakes/pushes the pushback vehicle, as both the pushback vehicle and the aircraft NLG may be damaged by the incident.

To relieve torsional stresses applied to the landing gear components and tires, move the aircraft in a straight line for a few meters to ensure the nose wheels are in the straight-ahead position when completing the pushback maneuver.

***Danger:***

If the nose wheels are not in the centered position, they can turn quickly to their centered position when the steering bypass pin is removed. This can result in personnel injury and aircraft damage.

### 4.6.7.5 Maneuvering During Wintery or Slippery Conditions

During adverse weather conditions (e.g., fog, rain, ice, snow), visibility and traction will be affected. The tractor driver shall reduce and adapt vehicle speed as required by the current conditions. When maneuvering the aircraft on slippery apron surfaces, extreme caution is required to avoid losing control of the tractor due to skidding, which may also lead to jackknifing (where the tractor is pushed around by the aircraft in an uncontrolled movement). Many elements can contribute to the hazards involved (i.e., strong winds, slippery road surfaces, pavement slopes). Therefore, the following minimum precautions must be observed:

a. Avoid sudden turns, deceleration or acceleration.
b. Except when using an ASU, do not start aircraft engines unless:
    1. The condition of the pavement is such that reasonable traction is ensured.
    2. The aircraft parking brake is set.
    3. The aircraft is disconnected from the tow tractor/TWL tractor.

### 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 ATC immediately.

***Caution:***

1. The responsible for the departure (headset operator) should be positioned outside the tractor at safety distance (refer to IGOM 4.6.7.3) during:
2. Low-visibility conditions (heavy rain, fog, bad lighting)

3. Lack of sufficiently visible markings
4. Obstructions behind the pushback (e.g., GSE, light post)

## 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 and refer to the operating airline's GOM for specific engine start procedures.

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 the 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, the number of ASUs being used and their positioning.
   Note: (WFS) Headset operators should not be tasked as the ASU operator.
d. Advise the engine start sequence to the ASU operator(s) and any other ground staff.
e. (WFS) Positioning of the ASU shall be on the opposite side of the aircraft to the engine being started — no exceptions permitted.
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 at least 2 meters (6.5 feet) from the aircraft.
3. The towbar is directed away from the aircraft to simplify its removal after engine start-up (towed ASU). It could be easily removed after engine start-up, avoiding the engine danger areas.
4. 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 (see IGOM 4.6.6.2 Departure Communication Dialogue and Signals, for communication 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-up When a 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.

***Caution:***

With engine(s) above idle thrust, blast and suction effects are greater.

#### 4.6.8.4 Communication During Engine Fire

a. Engine Fire
   The flight crew normally detects an engine or APU fire and will take action using the engine/APU fire extinguishing system. However, the responsible ground staff member shall alert the flight crew immediately via the headset if flames are noticed from the engine or engine pylon. If a headset is not available, the appropriate "Fire" hand signal must be used (see IGOM 3.4.7.10).

b. Engine Tailpipe/Exhaust Fire
   If flames from the engine tailpipe are noticed during engine starting, the responsible ground staff member shall alert the flight crew immediately, as such a fire might not be detectable via temperature sensors and/or fire warning systems in the aircraft.

   ***Caution:***

   Do not fight engine fires with fire extinguishers on the ground when the flight crew is in the flight deck. The flight crew will take all necessary action.

### 4.6.9 Pushback Disconnection

#### 4.6.9.1 Pushback Tractor and Tow Bar Disconnection

a. (WFS) The responsible ground staff member will confirm the flight crew has set the parking brake,
b. (WFS) Then, lower the towbar wheels,
c. (WFS) Then, remove the tow pin securing the towbar to the tractor,
d. (WFS) Then, signal to move the tractor slightly away from towbar,
e. (WFS) Then, disconnect the towbar from the nose landing gear and reconnect to the pushback tractor,
f. (WFS) Then, move clear of the pushback tractor, in view of the driver/operator.

g. The pushback tractor driver shall check that other personnel are clear of the intended travel path and slowly drive the pushback tractor to a position in the aircraft's path and visible to the flight crew, if possible, ready for the towbar to be reconnected.
h. 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.
i. The pushback driver shall check that other staff are clear of the intended travel path and slowly drive the pushback tractor to a position visible to the flight crew until the responsible ground staff member on the interphone has disconnected and is in view of the flight crew.

***Note:*** Ensure the towbar is disconnected from the tractor before disconnecting from the aircraft (except where the towbar is specifically designed to be disconnected from the aircraft first).

#### 4.6.9.2 Tow Barless Tractor/Remote-Controlled Tractor Disconnection

a. The pushback driver shall ensure the tractor wheels are centralized and lower the aircraft nosewheel and open the tractor cradle.
b. The pushback driver shall check that other personnel are clear of the intended travel path and slowly drive the pushback tractor to a position in the aircraft's path and visible to the flight crew, ensuring that the wheel cradle is completely clear of the aircraft NLG before commencing a turn.
c. The pushback driver shall rotate the driver's seat to the direction ready to drive away, if applicable.
d. The pushback driver shall remain in a position visible to the flight crew until the responsible ground staff member on the interphone has disconnected and is in view of the flight crew.

### 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 IGOM 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/Tow Bar or Tow Barless 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 operating airline procedures differ from the recommended actions below, those shall be followed.

| Flight Crew | Tractor Driver |
|---|---|
| **Tractor Failure** | |
| a. Inform ATC.<br>b. Apply the aircraft parking brake.<br>c. Listen to VHF and wait for assistance.<br>d. Relay information from ATC to headset operator. | a. Stop aircraft/tractor set.<br>b. Apply tractor parking brake.<br>c. Inform the flight crew.<br>d. Contact supervision and equipment maintenance to advise of the situation, as required.<br>e. Follow instructions received from headset operator, as applicable.<br>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. |
| **Tractor/Aircraft Separation** | |
| a. Apply the aircraft brakes.<br>b. As soon as the aircraft is at a standstill, apply the aircraft parking brake before releasing the pedal.<br>c. Inform ATC.<br>d. Relay information received from ATC to headset operator, if applicable. | a. Do not apply tractor brakes.<br>b. Inform the flight crew of separation.<br>c. Follow the aircraft path attentively and stop the tractor according to the aircraft position.<br>d. Apply the tractor parking brake.<br>e. Confirm the aircraft parking brake is set then chock the aircraft.<br>f. Assess the reason for the separation.<br>g. Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required.<br>h. Follow instructions and/or complete pushback maneuver, as applicable. |
| **Tow Bar/Shear Pin Failure (remains attached to the aircraft)** | |
| a. Apply the aircraft parking brake.<br>b. Inform ATC.<br>c. Relay information received from ATC to headset operator, if applicable. | a. Stop aircraft/tractor set.<br>b. Apply the tractor parking brake.<br>c. Inform the flight crew of the towbar/shear pin failure.<br>d. Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required.<br>e. Chock the aircraft and replace the towbar.<br>f. Complete the pushback maneuver. |
| **Pushback Tractor Fire** | |
| a. Inform ATC and headset operator.<br>b. Apply the aircraft parking brake.<br>c. Determine the need for aircraft emergency evacuation and confirm to ATC and headset operator. | a. Inform the flight crew.<br>b. Stop aircraft/tractor set immediately.<br>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.<br>d. Consider disconnecting and moving the tractor to a safe distance from the aircraft, if deemed safe and appropriate to do so.<br>e. Contact supervision, equipment maintenance and emergency services to advise of the situation, as required.<br>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. |

| | |
|---|---|
| **Aircraft Fire** | |
| a. Inform ATC and headset operator.<br>b. Apply the aircraft parking brake.<br>c. Execute onboard emergency procedures. | a. Stop aircraft/tractor set immediately.<br>b. Inform the flight crew.<br>c. If safe to do so, disconnect and move the tractor to a safe distance from the aircraft, where possible.<br>d. If safe to do so, headset operator should maintain communication with the flight crew and follow instructions.<br>e. Contact supervision and emergency services to advise of the situation, as required.<br>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. |
| **Accident with Other Aircraft or Vehicle** | |
| a. Contact ATC stating position and nature of the accident.<br>b. Listen to VHF and wait for assistance.<br>c. Relay information received from ATC to headset operator, if applicable. | a. Stop aircraft/tractor set immediately.<br>b. Apply tractor parking brake.<br>c. Inform the flight crew.<br>d. Contact supervision, aircraft maintenance, equipment maintenance and emergency services to advise of the situation, as required.<br>e. Follow instructions received from the headset operator and/or wait for assistance.<br>f. Do not disconnect the tractor unless specifically instructed to do so by the headset operator and/or ATC.<br>g. If disconnecting the tractor, the aircraft must be chocked. |
| **Interphone Communication Failure** | |
| 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. | |
| **Visual Contact with the Wing Walkers Is Lost (if used)** | |
| 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 reestablished. | |

### 4.6.12 Reestablishing Communication After Departure

#### 4.6.12.1 Introduction

The following procedure is to be used when the responsible ground staff member or flight crew need to reestablish 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 responsible ground staff member via a company channel or ATC. If visual communication with the responsible ground staff member is still established, visual signals may be used.

#### 4.6.12.3 Initiated from the Ground

If the responsible 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 reestablish communication with the aircraft, the responsible ground staff member shall take the following precautions:

a. Make sure the responsible ground staff member has been seen by the flight crew and the intention to approach the aircraft to reestablish 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 responsible ground staff member establishing the interphone communication shall approach the aircraft.
d. Stay outside the aircraft's engine danger areas 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.

***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.

## 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 (GOM 4.6.3.2) and follow the required phases of dialogue.
c. Ensure all personnel and equipment are clear of the aircraft and 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

Aircraft powerback is not common practice; therefore, it shall only be carried out within the limitations set out by, and with the approval of, the respective local authorities. It shall be conducted based on the risk assessment process and in accordance with specific operating airline procedures at all times, taking into consideration the following recommendations:

a. Ground staff members required for Powerback (e.g., marshaller, wing walkers).
b. The air intake and blast areas of the aircraft engines are clear of personnel and obstacles, such as GSE.
c. Identifying the person in charge of the Powerback process.

d. Wired headset shall not be used for Powerback operations.
e. The ground staff members engaged in Powerback operations shall wear, in addition to their normal PPE, protective goggles.
f. If an ASU is required, check that the equipment is correctly positioned and suitable for the operation.
g. If an engine start with ASU is undertaken, communicate to confirm ASU positioning and engine start sequence with the flight crew.
h. Powerback operations shall not be conducted if any one of the following conditions exist:
    1. The airport does not authorize Powerback operations.
    2. The departure gate is not approved for Powerback operations.
    3. If any member of the ground staff is not properly protected.
    4. The entire area of the operation is not adequately illuminated.
    5. Visibility is restricted due to weather conditions.
    6. An accumulation of ice, snow, slush or any other obstruction is on the apron.
    7. Verbal agreement is not reached between the responsible ground staff member and the flight crew.

## 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.
   ***Note:*** Operational Towing is not allowed on certain aircraft types. Refer to airline's GOM.
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. Refer to the operating airline's GOM for the specific assignment of this duty.

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.

***Note:***

See IGOM 4.6.2.2 Pushback Tractor Driver for responsibilities.
See IGOM 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.

***Notes:***

1. For procedures related to incidents during towing (see IGOM 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 ground movement control (GMC).

***Note:*** The VHF operator may be positioned in the pushback tractor or on the flight deck depending on the ground staff member functions carrying out the towing maneuver.

### 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 predeparture walkaround in accordance with IGOM 4.6.3.1.
b. Carry out the requirements, as identified in the predeparture table in IGOM 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 on 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. The responsible ground staff member shall conduct a briefing with all persons involved in the aircraft movement to review and confirm how the aircraft will be maneuvered.
f. Ensure the hydraulic system pressure for aircraft braking and/or brake accumulator is within the required pressure range. Refer to the operating airline's GOM for each aircraft type for details.
g. Ensure any electrical systems required 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 the operating airline's GOM regarding landing gear safety pin responsibilities and requirements.
i. Connect the pushback tractor/equipment in accordance with the relevant instructions contained in IGOM 4.6.4.
j. Remove the wheel chocks once ready to do so in accordance with IGOM 4.6.5.

***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 the operating airline's GOM for details. | ✓ | |
| Test the means of communication between the tractor driver and brake operator. | ✓ | ✓ |
| Insert the steering bypass pin or deactivate steering as applicable to the aircraft type. | ✓ | ✓ |
| Give permission to connect the towbar and tractor or TWL tractor after applying the aircraft parking brake. | ✓ | |
| Install the landing gear safety pins, if required by operating airline procedures. | ✓ | ✓ |
| 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 or hand signals when the brake/VHF operator is present. Certain airlines may have specific requirements for their towing communications that may vary from those described below. If available, refer to the operating airline's GOM; otherwise, 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.

| Dialogue between Ground Staff and Brake/VHF Operator | | | | |
|---|---|---|---|---|
| **Phase** | **Ground Staff** | | **Brake/VHF Operator** | |
| **Predeparture check** | **Call:** | CONFIRM PARKING BRAKE SET | | |
| | | | **Reply:** | PARKING BRAKE SET |
| | | | **Call:** | CONFIRM STEERING BYPASS PIN INSERTED/NOSE WHEEL STEERING DEACTIVATED/LANDING GEAR SAFETY PINS (if applicable) |
| | **Reply:** | STEERING BYPASS PIN INSTALLED/NOSE WHEEL STEERING DEACTIVATED/LANDING GEAR SAFETY PINS (if applicable) | | |
| | | | **Call:** | CONFIRM CLEAR TO PRESSURIZE (if applicable) |
| | **Reply:** | CLEAR TO PRESSURIZE (if required) | | |
| | **Call:** | Request permission to connect the towbar and tractor or TWL tractor | | |
| | | | **Call:** | CLEAR TO CONNECT (towbar and tractor or TWL tractor) |
| | **Call:** | CONNECTING | | |
| **After completion of the predeparture check** | **Call:** | PREDEPARTURE CHECKS COMPLETED.[1] | | |
| | | | **Reply:** | ROGER |
| | **Call:** | ELEVATING AIRCRAFT (TWL tractor) | | |
| | **Call:** | READY FOR TOWING | | |
| | | | **Reply:** | STANDBY |
| **Towing** | | REQUEST TOW (company name, aircraft type) FROM (location) TO (location).[2] | | |
| | | | **Call:** | TOW APPROVED VIA (mention specific routing to be followed). |
| | **Call:** | CONFIRM PARKING BRAKE RELEASED | | |
| | | | **Reply:** | PARKING BRAKE RELEASED |
| | **Call:** | COMMENCING TOWING (mention specific routing to be followed) | | |
| **Towing completed** | **Call:** | TOWING COMPLETED, SET PARKING BRAKE | | |
| | | | **Reply:** | PARKING BRAKE SET |
| **Disconnecting** | **Call:** | AIRCRAFT CHOCKED | | |
| | | | **Call:** | CLEAR TO DISCONNECT |
| | **Reply:** | DISCONNECTING | | |
| | **Call:** | TOWBAR/TRACTOR DISCONNECTED | | |

1 Carry out a check in accordance with specifications in the predeparture table in *IGOM 4.6.3.2* that are relevant to the towing maneuver.
2 Transmission from ground staff member depends on local regulations.

***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.

***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.

### 4.9.4 Towing Maneuver

#### 4.9.4.1 General

See IGOM 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, responsible ground staff member must request assistance from a qualified weight and balance agent of the operating airline.

***Notes:*** 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, as applicable:

1. Wintery or Slippery Conditions (see IGOM 4.6.7.5)
2. Low-Visibility Conditions (see IGOM 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 |
|---|---|
| **VHF Communication Failure** | |
| (a) Set the aircraft parking brake.<br>(b) Communicate the issue to ATC.<br>(c) Relay appropriate information received from ATC to the headset operator<br>(d) Continue to monitor the ATC frequency and maintain communications with the headset operator/tractor driver.<br>(e) Release the parking brake prior to recommencement of the towing maneuver. | (a) Stop aircraft/tractor set as soon as it is safe to do so. It is not safe to stop on an active runway.<br>(b) Apply tractor parking brake.<br>(c) Communicate the issue to the brake/VHF operator.<br>(d) Attempt to contact ATC via alternative frequency/means.<br>(e) Await assistance (e.g., from "Follow Me" vehicle) before completing the towing maneuver.<br>(f) After completion of the towing maneuver, report VHF failure to equipment maintenance and follow instructions accordingly. |

| Brake/VHF Operator | Tractor Driver |
|---|---|
| **Tractor Failure** | |
| (a) Inform ATC.<br>(b) Set the aircraft parking brake.<br>(c) Listen to VHF and wait for assistance.<br>(d) Relay information from ATC to headset operator/tractor driver. | (a) Stop aircraft/tractor set.<br>(b) Apply tractor parking brake.<br>(c) Inform the brake/VHF operator.<br>(d) Inform ATC (TWL towing with one-person operation).<br>(e) Contact supervision and equipment maintenance to advise of the situation, as required.<br>(f) Follow instructions received from headset/brake operator, as applicable.<br>(g) Listen to VHF (TWL towing with one-person operation).<br>(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. |
| **Tractor/Aircraft Separation** | |
| (a) Apply the aircraft brakes.<br>(b) As soon as the aircraft is at a standstill, apply the aircraft parking brake before releasing the pedal.<br>(c) Inform ATC.<br>(d) Relay information received from ATC to the headset operator/tractor driver, if applicable. | (a) Do not apply tractor brakes.<br>(b) Inform the brake/VHF operator of the separation.<br>(c) Follow the aircraft path attentively and stop the tractor according to the aircraft position.<br>(d) Apply the tractor parking brake.<br>(e) Confirm the aircraft parking brake is set, then chock the aircraft.<br>(f) Assess the reason for the disconnection.<br>(g) Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required<br>(h) Follow instructions to complete the towing maneuver, as applicable. |
| **Towbar/Shear Pins Failure (remains attached to the aircraft)** | |
| (a) Apply the aircraft parking brake.<br>(b) Inform ATC.<br>(c) Relay information received from ATC to the headset operator/tractor driver, if applicable. | (a) Stop the aircraft/tractor set.<br>(b) Apply the tractor parking brake.<br>(c) Inform the brake/VHF operator of the towbar/shear pin failure.<br>(d) Contact supervision, equipment maintenance and aircraft maintenance to advise of the situation, as required.<br>(e) Chock the aircraft and replace the towbar.<br>(f) Follow instructions to complete the towing maneuver. |
| **Pushback Tractor Fire** | |
| (a) Inform ATC and headset operator/tractor driver.<br>(b) Apply the aircraft parking brake.<br>(c) Determine the need for aircraft emergency evacuation and confirm to ATC/headset operator/tractor driver | (a) Inform the brake/VHF operator.<br>(b) Stop the aircraft/tractor set immediately.<br>(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.<br>(d) Consider disconnecting and moving the tractor a safe distance from the aircraft, if deemed safe and appropriate to do so.<br>(e) Contact supervision, equipment maintenance and emergency services to advise of the situation, as required.<br>(f) If the brake/VHF operator confirms emergency evacuation, assist in the evacuation as far as is possible/required. |

| Brake/VHF Operator | Tractor Driver |
|---|---|
| **Aircraft Fire** | |
| (a) Inform ATC and the headset operator/tractor driver.<br>(b) Apply the aircraft parking brake.<br>(c) Fight the fire with the onboard extinguisher, where possible.<br>(d) Evacuate the aircraft using onboard means, if required. | (a) Stop the aircraft/tractor set immediately.<br>(b) Inform the brake/VHF operator.<br>(c) If safe to do so, disconnect and move the tractor to a safe distance from the aircraft, where possible.<br>(d) If deemed safe to do so, the headset operator/tractor driver should maintain communication with the brake/VHF operator and follow instructions.<br>(e) Contact supervision and emergency services to advise of the situation, as required.<br>(f) If brake/VHF operator confirms emergency evacuation, assist in the evacuation as far as is possible/required. |
| **Accident with Other Aircraft or Vehicle** | |
| (a) Contact ATC stating position and nature of the accident.<br>(b) Listen to VHF and wait for assistance.<br>(c) Relay information received from ATC to headset operator/tractor driver, if applicable. | (a) Stop the aircraft/tractor set immediately.<br>(b) Apply tractor parking brake.<br>(c) Inform the brake/VHF operator.<br>(d) Contact supervision, aircraft maintenance, equipment maintenance and emergency services to advise of the situation, as required.<br>(e) Follow instructions received from the headset/brake operator and/or wait for assistance.<br>(f) Do not disconnect the tractor unless specifically instructed to do so by the operator and/or ATC.<br>(g) If disconnecting the tractor, the aircraft must be chocked. |
| **Interphone Communication Failure** | |
| 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. | |
| **Visual Contact with the Wing Walkers and/or Marshaller Is Lost (if used)** | |
| 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 recommence 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: *"Parking Brake Set, Pressure Checked"*. | ✓ | |
| Chock the aircraft MLG. | | ✓ |
| Switch off the external anti-collision lights of the aircraft. | ✓ | |
| Inform the brake operator: *"Aircraft chocked"*. | | ✓ |
| 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 or activate steering as applicable to aircraft type | ✓ | ✓ |
| Place additional chocks, where applicable. | | ✓ |
| Inform the brake operator: *"Towbar/Tractor Disconnected"*. | | ✓ |
| Release the aircraft parking brake and inform the tractor operator: *"Parking Brake Off"* (where applicable). | ✓ | |
| 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:

a. Space between adjacent aircraft.
b. When not parked at a bay (e.g., taxiway), aircraft are parked facing into the prevailing wind.
c. Anchor points are available for high-wind conditions.
d. Processes to monitor and adjust for severe weather conditions.

***CAUTION:***

In regions with hot climates, it is preferable to park aircraft on hard surfaces such as concrete or high module asphaltic material rather than on flexible surfaces such as bituminous asphalt. This will avoid indenting those areas during long parking periods.

### 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.
2. Ensure during any non-normal operations, a robust safety risk assessment is performed, and implementation of the mitigation plan is followed.
3. Ensure timely consultation with the airport operator regarding the aircraft movement.

4. If any surface damage is observed, liaise with the airport management team as per the airport's directives.

***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.

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

The scope of this chapter is to establish standard procedures for the Load Control process that meet the minimum standards established in the *IATA Airport Handling Manual (AHM)* – Section 500 "Load Control" and the operator's requirements. 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 and recording of the loading of the aircraft and weight and balance calculation.
(WFS)The Load Planning process must ensure that all relevant instructions, information, and revisions are communicated between all responsible persons involved in the process, in a clear and timely manner.

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. Producing and transmitting required messages
    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.

### 5.1.1 (WFS) Load Control Principles

Load Control is an essential function with the purpose of ensuring that the aircraft is safely loaded within operation limits, considering both the weight and center-of-gravity parameters. To ensure flight safety, all items to be loaded into an aircraft must be precisely planned, documented and filed.

Therefore, the Load Control process shall ensure that for each flight:

a. Aircraft weight and balance condition are correct and within limits.
b. Aircraft is loaded in accordance with the specific loading instructions.
c. Information about dangerous goods and other special loads is taken into account.
d. The loadsheet reflects the actual loading of the aircraft, including last minute changes (LMC).
e. Operational messages are dispatched to relevant bodies.
f. All approved documentation is filed for retention.

### 5.1.2 (WFS) Regulatory Requirements and Operational Requirements

Load Control can be performed directly by the operator or by a third party. It can be performed locally or remotely.
Load Control may be performed manually or with a computerized Departure Control System (DCS) approved by the operator.

#### 5.1.2.1 (WFS) Operational Load Control Procedures

WFS does not maintain a specific load control/weight and balance system and as such, all operational load control activity, including procedural oversight and record retention, shall be performed in accordance with all applicable regulatory and operating airline requirements to include:

a. Training and qualification records for personnel that perform load control functions;
b. Load control documentation for each flight in accordance with requirements of the operating airline.
c. The Load Control audit trail process for each departure.
d. Weight and balance records shall be retained for a period in accordance with applicable regulations and/or requirements of the operating airline, but no less than a period of three months.

e. The operating airline will identify specific loading positions within each aircraft type for the purpose of planning and positioning the load in the aircraft.
f. The operating airline will specify requirements for presenting load information in load documents, reports and messages.
g. Forms used in the Load Control process shall be in compliance with the operating airline's Operations manual.
h. All scales (weight bridges) used for weight determination of load and clearance measuring systems shall be calibrated and/or checked at intervals determined by the operating carrier or state.

#### 5.1.2.2 (WFS) General Requirements

Load control function can be carried out by the operator or a third party.
It can be performed at any dedicated location locally at the departure airport or at a remote centralized load control facility. Load control may be performed with a system (manual or computerized) approved by the operator.
Provider shall have access to current version of Operator's manuals and other operational documents to support load control operations. Any updates and revisions to the Operators' DCS program, whether manual or computerized, shall be communicated to the Provider.
Provider is to verify that all forms and procedures used comply with Operator's operations
manual.

#### 5.1.2.3 (WFS) Business Continuity Plans (BCP)

Fallback procedures shall be contained in the Carrier's Operations Manual.

The key business critical loss areas to consider are:

a. Loss of Key Personal: Essential operational people needed to run key day-to-day processes are not necessarily managers. Consider the minimum number of staff required to perform critical functions that are essential to operational continuity and identify critical levels.
b. Denial of Access: This refers to access to operational facilities and access to resources at the airport which are required to maintain operational levels and provide essential services to our customers.
c. Loss of Systems: What will you do if there is a major power outage or major systems failure?
d. What are your manual back-ups and where are they?

#### 5.1.2.4 (WFS) Training and Qualification

In order to ensure flight safety through an acceptable level of standardization and proficiency, refer to the WFS IQSMS Chapter 5 for minimum training requirements.

## 5.2 Load Planning

### 5.2.1 Load Planning - 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. (WFS) During the pre-planning phase, gather potential passenger loads, anticipated cargo/mail/COMAT load/volume to begin planning process. The only approved source of load planning data is from the air carrier. This may be in the form of passenger booking information (air carrier reservations system/air carrier DCS), planned cargo/mail/COMAT bookings (air carrier cargo system or authorized agent), aircraft information (air carrier weight and balance system, air carrier weight and balance documentation, air carrier DCS or the air carrier flight release).

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). (WFS)Normally this includes the aircraft basic weight, planned crew members (including jump seat riders), and galley provisioning. This information is identified in the air carrier's approved weight and balance documentation or the flight release.
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. (WFS) Check the aircraft operational limitations at the departure station, arrival station or identified alternate (as required) or any other restrictions that may limit load planning such as missing and/or inoperative locks, special cargo loads, ballast requirements (deadload) or any air carrier-specific requirements. This is normally identified on the flight release or air carrier specific aircraft planning and performance manuals.
e. Calculate expected traffic load. (WFS) The reservation booking data from the air carrier and the air carrier's approved standard passenger and baggage weights are used in the calculation. This information is identified in the air carrier's weight and balance system documentation. In the event there is cargo in cabin shipments or deadload (ballast), identify the total weight planned.
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 weight (EZFW) and transmit it to flight dispatch, as applicable, for flight planning purposes. (WFS) Calculate the EZFW using the planned

operating weight, anticipated passenger and baggage weights (EIC, if applicable) and anticipated cargo/mail weights.

j. (WFS) Communicate the EZFW every time there is a significant difference from the previous calculation, as per operating airline procedures. This shall account for the cumulative weights for the following,
   - All passengers checked in, including supernumeraries and their baggage.
   - All loaded items that exceed normal allowances.
   - Checked items removed from passengers prior to boarding.
   - Non-normal cabin load items.

k. Check fuel load and distribution.
l. Perform a pre-calculation of the aircraft weight and balance to ensure that the aircraft operational limits are not exceeded. (WFS) When satisfied the preliminary information is correct, provide a preliminary LIR to ramp personnel for planning and passenger handling for any non-standard seating requirements.
m. Give consideration to aircraft ground stability to avoid tail tipping, as per operator requirements and aircraft specifications. 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. Methods to ensure ground stability include use of tables or graphs to determine the weight required in forward compartments to counteract weight to be loaded in aft compartments, or calculation of center of gravity for comparison against the applicable tipping and/or towing limit:
   1. Method 1—a scale or table determining the distribution of the loads weight-wise, showing the weight required in the forward compartments to secure ground stability and the load which can be placed in the aft compartments.
   2. Method 2—calculation of the dead load index/%mean aerodynamic cord (MAC) which shall be forward of the dead load index limit on the balance chart and transmitted on the LDM.
   3. Method 3—dynamic calculation of aircraft ground stability by using a software application that takes every movement of load into account.
n. Produce a LIR.

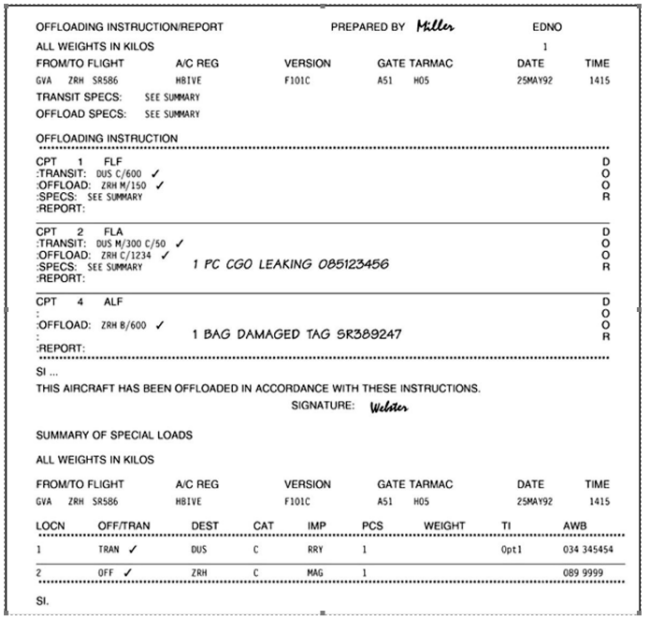
### 5.2.2 Loading Instructions Report (LIR)

a. An LIR (manual or electronic signature) shall be issued for each departing flight to ensure all safety parameters specific to each flight are adhered to.
(WFS) The LIR shall include:
   i. Load planner or controller and contact details;
   ii. Hold content instructions;
   iii. Planned baggage;
   iv. Planned cargo, mail and EIC;
   v. Mobility aids;
   vi. Priority baggage;
   vii. DAA baggage if applicable;
   viii. Crew baggage (for placement and not weight recording);
   ix. Transfer or connection baggage;
   x. Summary of Dangerous Goods/Special Loads;
   xi. Flight details, which may include date, registration, issue number, etc.;
   xii. Any other requirements of the operating airline.

b. Complete load distribution for the departing flight, using provisional data and adhering to the segregation policy, as per AHM 514 and AHM 515 and operating airline procedures..
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.
f. (WFS) Any change in the initial LIR will be immediately reported to the Dispatcher by the Ramp Loading Staff. The Dispatcher and Ramp Supervisor will immediately inform Load Controller who will make the required changes into the system and create and issue a new LIR. The new LIR will be physically delivered to the Ramp Loading Supervisor in order to complete the loading of the aircraft.
g. (WFS) when signing the LIR, it should have either a staff number or printed name so as to identify the responsible person
h. (WFS) Persons responsible for the physical loading of WFS handled aircraft and signing the Loading Instruction Report (LIR) shall be suitably trained and experienced for the task.
i. (WFS) Persons responsible for the physical loading of WFS handled aircraft shall have knowledge of aircraft hold locking/restraint systems, aircraft configurations, and In-

Plane Loading Systems, and be familiar with ramp procedures, and have knowledge and awareness of ramp safety standards.

Load Instruction example:



OFFLOADING INSTRUCTION/REPORT PREPARED BY Miller EDNO
ALL WEIGHTS IN KILOS 1

| FROM/TO FLIGHT | A/C REG | VERSION | GATE TARMAC | DATE | TIME |
|---|---|---|---|---|---|
| GVA ZRH SR586 | HBIVE | F101C | A51 H05 | 25MAY92 | 1415 |

TRANSIT SPECS: SEE SUMMARY
OFFLOAD SPECS: SEE SUMMARY

OFFLOADING INSTRUCTION

CPT 1 FLF
:TRANSIT: DUS C/600 ✓
:OFFLOAD: ZRH M/150 ✓
:SPECS: SEE SUMMARY
:REPORT:
DOOR

CPT 2 FLA
:TRANSIT: DUS M/300 C/50 ✓
:OFFLOAD: ZRH C/1234 ✓
:SPECS: SEE SUMMARY 1 PC CGO LEAKING 085123456
:REPORT:
DOOR

CPT 4 ALF
:
:OFFLOAD: ZRH B/600 ✓
: 1 BAG DAMAGED TAG SR389247
:REPORT:
DOOR

SI ...
THIS AIRCRAFT HAS BEEN OFFLOADED IN ACCORDANCE WITH THESE INSTRUCTIONS.
SIGNATURE: Webster

SUMMARY OF SPECIAL LOADS

ALL WEIGHTS IN KILOS

| FROM/TO FLIGHT | A/C REG | VERSION | GATE TARMAC | DATE | TIME |
|---|---|---|---|---|---|
| GVA ZRH SR586 | HBIVE | F101C | A51 H05 | 25MAY92 | 1415 |

| LOCN | OFF/TRAN | DEST | CAT | IMP | PCS | WEIGHT | TI | AWB |
|---|---|---|---|---|---|---|---|---|
| 1 | TRAN ✓ | DUS | C | RRY | 1 | | Opt1 | 034 345454 |
| 2 | OFF ✓ | ZRH | C | MAG | 1 | | | 089 9999 |

SI.

### 5.2.3 Off-Loading Instructions

a. Off-Loading instructions may be issued prior to aircraft arrival.
b. For transit flights, produce offloading instructions as per AHM 514 to AHM 515, where transit load, off-load and all positions are reported.
c. Consideration shall be given to ensuring aircraft stability during the unloading process and passenger disembarkation process.
d. (WFS) Refer to upline CPM and/or LDM, and include the following:
    1. Baggage details (in handling sequence and priorities required by the operating airline);
    2. Cabin Load;
    3. Containers and pallets;
    4. Cargo, mail and EIC;
    5. Mobility aids for gate delivery;
    6. Summary of DG/SL;
    7. Any relevant plain language text/instruction if required;
    8. Flight details, which may include date, registration, issue number, etc.;
    9. Any other requirements of the operating airline. Refer to AHM 514 and 515 for data elements and format.

Consideration shall be given to ensure aircraft stability during the offloading process and passenger disembarkation.

### 5.2.4 Notification to the Captain (NOTOC)

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 as soon as practical.

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 and customer/operator's dispatch or operations control center in accordance to operating carriers' procedures before the flight arrives.
For NOTOC refer to the current IATA Dangerous Goods Regulations (DGR).

#### 5.2.4.1 (WFS) Specific Instructions

a. Such notification shall include dangerous goods or other special load items that have been loaded on the aircraft at a previous departure point and that are to be carried on a subsequent flight.
b. Transit or joining NOTOC is presented to the Captain as soon as practical.
c. For changes or repositioning of transit dangerous goods or other special loads, a new NOTOC is issued.
d. A separate NOTOC shall be prepared for each station en-route. Recommended a faxed or scanned copy of original unless new additional DGs loaded if transiting through.
e. The NOTOC shall indicate the location on the aircraft where the Dangerous Good or special item was loaded.
f. The NOTOC shall contain the name and be signed by the individual who prepared the NOTOC, the loading supervisor and the Captain.
g. The signed NOTOC verifies:

1. the package was not leaking when inspected;
2. was in acceptable condition prior to loading;
3. was secured inside the ULD or on aircraft compartment floor when loaded.

h. Specifies such hold and compartment.
i. The signed NOTOC shall be retained in the flight file.
j. The person responsible for the Loadsheet is liable to decide on the loading positions. This will be reflected in the right-hand side of the NOTOC. Any change shall be agreed and communicate in advance with load controller.
k. If agreed, NOTOC shall be updated by personnel responsible for loading or loading supervision.
l. Finalized NOTOC shall be signed and delivered to PIC.

***NOTE:*** for NOTOC forms refer to AHM 381 (see example below)

#### 5.2.4.2 (WFS) Special Load – Notification To Captain

It is a mandatory requirement that Aircraft Captains shall be notified of any load of a potentially hazardous nature. They shall be advised of live animals especially as the hold ventilation and heating systems are controlled from the flight deck on some aircraft.

##### 5.2.4.2.1 (WFS) Responsibilities

The responsibility for raising the Notification of "Dangerous Goods on Board Notice" (NOTOC) is that of the Cargo Department. The NOTOC shall be delivered to the Load Control Supervisor who in turn shall ensure that copies are delivered to the aircraft Captain with the load sheet.

It is the responsibility of local handling agent management to specify the responsibilities detailed above. Such instructions shall clearly specify WHO is responsible for delivery to the aircraft.
The placement of Dangerous Goods and the declaration on the NOTOC SHALL be signed by the Load Supervisor

##### 5.2.4.2.2 (WFS) Distribution

A minimum of two copies shall be raised, according to local procedures, one shall be presented to the Captain, and one be held on file at the originating station. Other copies may be used as required.

***NOTE:*** The NOTOC shall be presented to the Captain in person and signed by the Captain at the same time as the load sheet and loading plan is reconciled.

#### 5.2.4.2.3 (WFS) Completion

There are varying formats for the NOTOC depending on whether the form is a manual or EDP version. It is mandatory, however that the following information is included as detailed in the specimen shown below.

1. Station of Loading - Completion: Self explanatory
2. Flight Number - Completion: Self explanatory
3. Date -Completion: Self explanatory
4. Prepared By - Completion: The person or office preparing the notification prior to its release to the weight and Balance Office (Load Control).
5. Station of Unloading - Completion: Station of unload for this flight (IATA three-letter Airport Code).
6. Air Waybill Number - Completion: Self explanatory
7. Proper Shipping Name - Completion: The full name as per shipper's declaration Class or Division: For Class 1, Compatibility Group
8. Completion: As per shipper's declaration
9. UN or ID Number - Completion: As per shipper's declaration
10. Subsidiary Risk - Completion: As per shipper's declaration
11. Number of Packages - Completion: Self explanatory
12. Net Quantity of Transport Index Per Packet - Completion: Net quantity per package in kilograms or liters e.g., 5kgs/4L. For RRY (Yellow Label) enter the transport index per package e.g., TI
13. Radioactive Category - Completion: Enter I, II or III according to the label on the package.
14. Packing Group - Completion: As per shipper's declaration.
15. CAO - Completion: Enter "x" for cargo aircraft only items.
16. Code - Completion: Enter Cargo IMP code
17. ULD Number - Completion: Self Explanatory
18. Posn./Compartment - Completion: Enter the loading position or Compartment number for bulk loading.
19. ICAO Emergency Response Drill Code - Completion: Enter the appropriate response drill code as shown in IATA DGR 4.2
20. Other Special Load - Completion: Optional, to be used to advise aircraft captain of any special loads not covered by mandatory requirement i.e., Flowers, Vegetables.
    ***NOTE:*** If the NOTOC is used ONLY for Other Special Load & no D.G. are carried, then the Certification that items listed in columns 1 to 12 have been accepted in accordance with the ICAO / IATA Dangerous Goods Regulations etc. 'should NOT be signed.

21. Loading Supervisors Signature - Completion: Signature of person responsible for reconciling and signing the Loading Information/ Report, In signing makes declaration shown in 25 below
22. Captains Signature - Completion: Self explanatory
23. Other Information - Completion: Optional, to be used to convey any relevant information to the captain not covered by mandatory requirement.
24. Declaration - Completion: The following declaration shall be shown on the NOTOC. The location on the NOTOC is discretionary:

**SPECIAL LOAD NOTIFICATION TO CAPTAIN**

| STATION OF LOADING (1) | FLIGHT NO.: (2) | DATE (3) | AIRCRAFT REG.: (4) | PREPARED BY: (5) |
|---|---|---|---|---|
| | | | | |

(25) DANGEROUS GOODS: THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE AIRCRAFT. ANY INCOMPATIBLE DANGEROUS GOODS LOADED IN THIS SAME ULD HAVE BEEN LOADED IN ACCORDANCE WITH THE IATA DGR SECTION 9 AND SAMPLE SEPERATION HAS BEEN ACHIEVED

| STATION OF UNLOADING (6) | AIR WAYBILL NUMBER (7) | PROPER SHIPPING NAME (8) | CLASS OR DIVISION (9) | UN OR ID NO. (10) | SUB RISK (11) | NO OF PKGS. (12) | PART QUANTITY OR TRANSPORT ISOLATED PACKED (13) | RADIO-ACTIVE MATERIAL CATEG. (14) | UN PKG GROUP (15) | CAO (X) (16) | CARGO IMP CODE (17) | LOADED | | ICAO EMERGENCY RESPONSE DRILL CODE (20) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | ULD NUMBER (18) | POSITION/ COMPARTMENT (19) | |
| | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

OTHER SPECIAL LOAD (21)

| STATION OF UNLOADING | AIR WAYBILL NUMBER | CONTENTS AND DESCRIPTION | NO OF PKGS. | QUANTITY | SUPPLEMENTARY INFORMATION | CODE | LOADING POSITION | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | ULD | POSITION |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

LOADED AS SHOWN | (22) (SIGNATURE) | CAPTAINS SIGNATURE | (23) | OTHER INFORMATION (24)

### 5.2.5 (WFS) Aircraft Supervision Task

For the task of supervision of aircraft loading and unloading refer to 4.5.1.1 Introduction.

## 5.3 Weight and Balance Calculation

### 5.3.1 Weight and Balance Calculation - General

a. The objective of the weight and balance calculation task is to ensure that a final and accurate load sheet 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.

   ***NOTES:***
   1. If a preliminary loadsheet is produced, one or more criteria may not have been finalized.
   2. The person designated with the weight and balance calculation task shall ensure all data is finalized or confirmed for manual or electronic load sheet production.

b. Loadsheet 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/loadsheet
   7. Correct passengers close out data.
   8. If containerized aircraft, ULD tare weight is added.
   9. Hold baggage weight and gate delivery items shall be added.
   10. Actual loading positions of dangerous goods and other special load indicated on the NOTOC, if applicable.
   11. Balance calculation and conditions of loaded aircraft, including LMCs, are within prescribed limits.
   12. The loadsheet shall be checked against the final LIR and other information related to the actual load.
   13. Any operator-specific requirements are adhered to, if applicable.

14. All specified documents shall be signed by means of manual or electronical identifiers.

c. Loadsheet 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 the PIC, either as a manual or digital hard copy or in ACARS format.
e. Any changes occurring after the final loadsheet has been produced must be accounted for by either producing a new edition of the loadsheet or via the documented LMC process as per operating airline procedures (WFS) which ensure that the performance, structural or loading limits are not exceeded (either hard copy document or supplemental ACARS message, as appropriate for the air carrier). All LMCs shall be communicated in accordance with the air carrier's policy as well as the provisions of 5.4.3.2.
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 using 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 be provided with relevant and requested information to prevent unsafe takeoff and/or landing.
h. (WFS) If a discrepancy is discovered after the aircraft push-back, the PIC must be informed immediately via radio or ACARS to prevent a potentially unsafe take-off, advise the load controller (if discovered by someone other than the load controller), and advise the air carrier. In the event the aircraft has become airborne, the load planner/supervisor shall immediately contact the air carrier dispatch, for communication to the flight crew, with any relevant information. All planning documents shall be preserved, and a root cause analysis be performed to understand why the error occurred.

### 5.3.2 Last Minute Changes

a. Standard procedure: The load sheet presented to the PIC shall 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 loadsheet, 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 the operator's standard operating 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 loadsheet copy already handed over remains unchanged.
d. (WFS) 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 to ensure that the aircraft is still within the air carrier's operating limits.
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 agent
    2. Time of transmission
    3. Confirmation that the flight crew has acknowledged the changes
    4. (WFS) This record must be kept in the flight file.

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 record on this form may be limited to the following:
    1. Total weight of all LMCs
    2. Total number of LCM passengers
    3. Corrected balance conditions-even if it is not allowed by the operator (e.g., "BAL not corrected")
    4. (WFS) This record shall be kept in the flight file.

#### 5.3.2.1 (WFS) Last Minute Change

If any Last Minute Changes (LMC) occurs after the completion of the final load sheet, this shall be brought to the attention of the flight crew and the LMC shall be entered on the final load sheet.

LMC includes:

i. changes to the baggage counts and/or weights;
ii. changes to the cargo, fuel, mail and EIC weights;
iii. passengers that are added or offloaded from the flight;
iv. movement of any deadload.

The maximum allowed change in the number of passengers or hold load acceptable as a LMC is specified in the operating airline's Operations Manual. If this number is exceeded, a new final load sheet shall be prepared.
If the flight crew has already been provided with a final load sheet, the LMC can be transmitted via headset or VHF. The flight crew adds LMC on the original final load sheet copy and Load Control Agent adds LMC on his copy.
If ACARS is available, the adjusted final load sheet or LMC slip may be generated and transmitted to the crew using ACARS.

### 5.3.3 Information Exchange

#### 5.3.3.1 Information Exchange - 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.
   **Note:** (WFS) If written information is given directly to the flight crew, a verbal read-back is required.
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 loadsheet is transmitted.
   3. Digitally record all verbal communications, if available.
d. A written transmission is always the recommended method. If it is necessary to use verbal communication, ensure 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
   4. This record shall form part of the flight file 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 IGOM 4.5.1.2 Communication, shall be used.
e. Written communication methods are recommended, as per IGOM 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 IGOM 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 IGOM 4.5.1
    2. To communicate to the 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 the remote load control, departure station and flight crew, either directly or indirectly, using predetermined means of communication as established by operator airline procedures.

## 5.4 Post-Departure Messages

All post-departure messages and any other relevant messages pertaining to flight handling shall be sent to the defined stations as per operating airline procedures. Such messages may include, but are not limited to:

a. Load Departure Message (LDM)
b. Container Pallet Message (CPM)
c. ULD Control Message (UCM)
d. Statistical Load Summary (SLS)

Messages shall be produced and delivered in accordance with respective AHM chapters.

A flight file for each departing flight shall be maintained in a secure location according to local regulations and/or operating airline procedures.

### 5.4.1 (WFS) Sample Message Formats

**LDM**

AB767/27.XYABC.B40/322.3/3/17
-LIS.4/0/0.5.T161.1/135.3/26.PAX/0/4.PAD/0
/4
-PBM.108/4/4.T4304.3/2340.4/834.0/1130.PAX
/2/110.PAD/0/6.SOC/0/3.AVI/3.DIP/4/2
.AVI/3.DIP/4
-CCS.9/2/0.T7530.1/2205.2/4013.4/802.PAX/2
/9.PAD/0/1.HEA/1/240
-CUR.59/5/2.T8422.2/2620.3/5500.4/302.PAX/5
/59.PAD/0/6.FRG/2/260
SI CAPT COPELAND/WINGTANKFUEL 78430 CENTERTANK FUEL 2460

**CPM**

QX SPLKKKL
.GVAKPCX 031234 CPM
KL296/03.PHBFM.1234567890AB
-11L/240/B -11R/360/C
-12L/560/BT -12R/645/B
-13L/540/B -13R/745/B/M
-21P/2456/C
-22P/3226/C
-23P/X
-31P/N
-32P/X
-33P/X
-41L/X -41R/850/C
-42L/435/B -42R/325/B
-51P/M
-53P/C
-DL/4567/C -DR/3423/C
-EL/3424/C -ER/7543/C

**ULD MESSAGING**

**MESSAGING - UCM IN - ARRIVAL FLIGHT**

Sample message

UCM ZZ123/22FEB.BBBBB.XXX IN
.AKE0000UU.AKE0000UU.AKE0000UU.AKE0000UU.AKE0000UU
.AKE00000UU.AKE00000UU.PAG00000UU.P1P00000UU SI AKE25877UU DMG
ZZ = AIRLINE CODE
BBBBB = AIRCRAFT REGISTRATION XXX = ARRIVAL STATION
UU = ULD OWNER CODE

Sample message if no containers or pallets are offloaded
UCM ZZ123/22FEB.BBBBB.XXX IN
.N
ZZ = AIRLINE CODE
BBBBB = AIRCRAFT REGISTRATION XXX = ARRIVAL STATION
UU = ULD OWNER CODE

**MESSAGING - UCM OUT - DEPARTING FLIGHT**
Sample message
UCM ZZ123/22FEB.BBBBB.XXX OUT
.AKE0000R7/YVR/B.AKE0000LX/YVR/B.AKE0000R7/YVR/B.AKE0000R7/YVR/B
.AKE00000R7/YVR/C.PAG00000R7/YVR/C.RKN13218TS/YVR/CATM ZZ = AIRLINE CODE
BBBBB = AIRCRAFT REGISTRATION XXX = DEPARTURE STATION
UU = ULD OWNER CODE

Sample message if no containers or pallets are onloaded
UCM ZZ123/22FEB.BBBBB.XXX OUT
.N
ZZ = AIRLINE CODE
BBBBB = AIRCRAFT REGISTRATION XXX = DEPARTURE STATION

MESSAGING - MVT - DEPARTING FLIGHT
Sample message Actual departure, no delay, with optional TOW, TOF, ZFW
MVT ZZ123/22FEB.BBBBB.XXX AD2109/2122 EA0825YYY PX163/47
TOF129000 TOW359522 ZFW230522
ZZ = AIRLINE CODE
BBBBB = AIRCRAFT REGISTRATION XXX = DEPARTURE STATION
YYY = ARRIVAL STATION

## 5.5 Load Control Task Responsibility

The responsibilities of persons performing the load control task may vary depending on the organizational set up. It is recommended that:

a. The same person may perform the load planning task and weight and balance calculation task. The person performing these two tasks should not combine the responsibilities with those for the aircraft loading and unloading supervision task.
b. The aircraft 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.
c. At a station where ACARS is used, finalization of the weight and balance calculation task may differ.
d. When load control processes are centralized, the person performing the aircraft loading and supervision task is charged with transmitting all final data to the remote load control center.

## 5.6 Qualification Requirements

Personnel performing Load Control tasks shall be duly qualified. Training shall 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.

(WFS) All WFS locations that perform load control activities for air carriers shall document in their local procedures for air carrier manuals, the official location/access for the manuals. For load planning activity utilizing the air carrier's weight and balance system or data derived from an online source, there is an assumption that this information is current and maintained by the carrier. For load planning activity based on hard copy or electronically distributed manuals, the WFS station shall on a recurring basis, request and confirm with the air carrier that they are using the most updated references.

The person issuing the loadsheet shall accurately reflect all received data on documents, reports and message produces for each flight, as per AHM 590.

Relevant documents shall be manually or electronically issued and signed as per regulatory requirements and operating airline procedures.

Specified documents shall be retained for a period in accordance with applicable local regulations and/or operating airline procedures, but not less than three months.

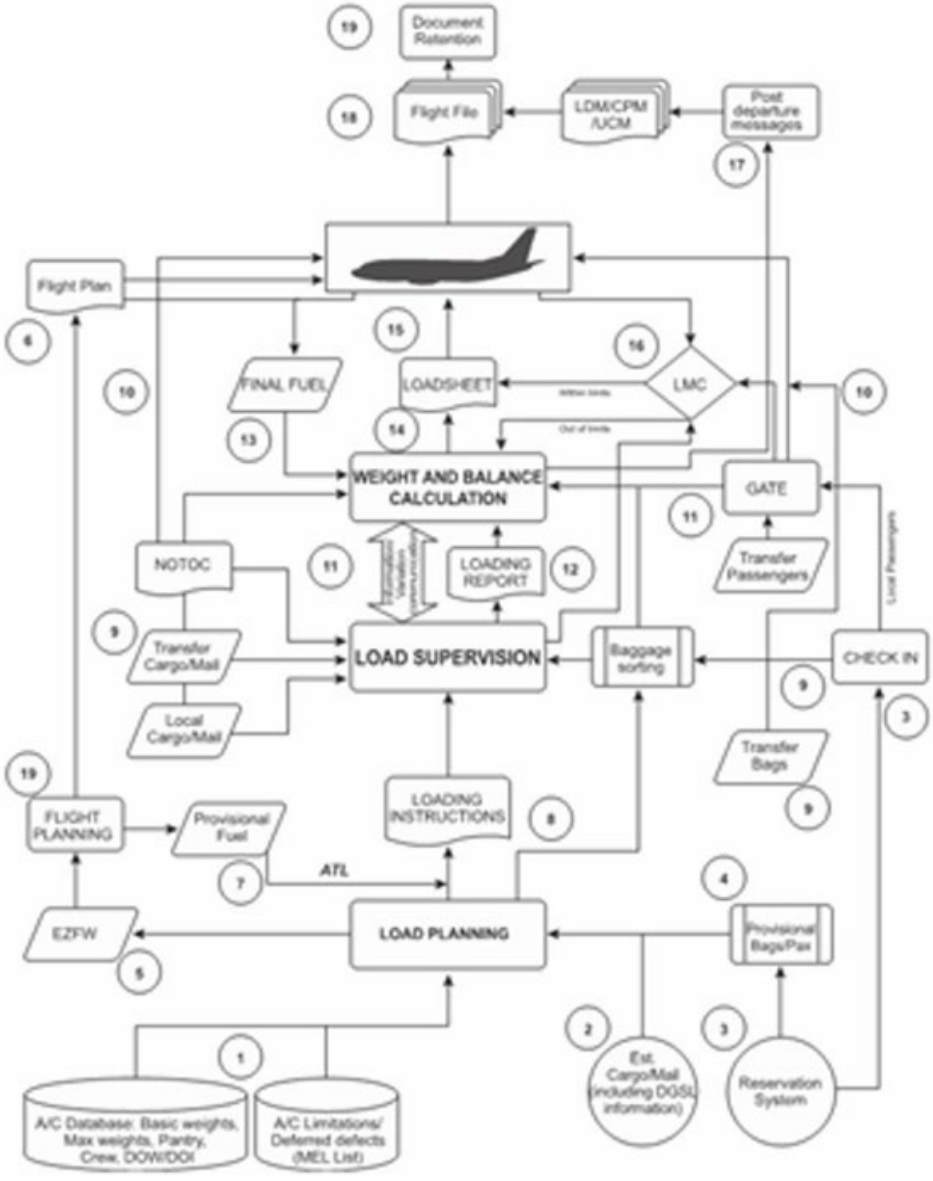
As a minimum, the documentation for each departing flight shall include:

a. Final LIR signed by the responsible person.
b. NOTOC (when applicable).
c. Fuel figures confirmation (when applicable).
d. Final loadsheet and trim sheet, including LMC, signed by the PIC.

Disposal of documents may also be subject to regulation.

## 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 bag counts) and check in (SSR). |
| 4 | Provisional passengers sorted by class and provisional bags according to operator policy 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 | Loading Instruction to Load Supervision and loading team. Segregation plan to sorting area. |
| 9 | Actual data flowing from check-in (passenger number, baggage pieces and weight, special load information), cargo and mail warehouse (special load information), transfer load. |
| 10 | Load to aircraft |
| 11 | Load info 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 (WFS) Operational Oversight

## 6.1 Introduction

Oversight is carried out at both the managerial and operational levels. Our WFS Integrated Quality and Safety Management System (IQSMS) outlines the policies, processes, procedures, performance indicators, internal audit program, lines of accountability, and ensures and monitors the availability of necessary resources for conducting operations.

An effective operational oversight structure and process help to ensure the day-to-day operations do not deviate from agreed policies and processes outlined in our WFS Integrated Quality and Safety Management System (IQSMS).
To ensure ground operational safety, all station activities, including, if applicable, those outsourced to an external third-party ground handling services provider or its subcontractors, shall be conducted under the direct oversight of the person(s) responsible for supervising all turnaround activities such as passenger handling, baggage handling, ramp handling and aircraft loading/unloading and/or load control tasks.

## 6.2 Operational Oversight Requirements

a. Supervision personnel shall be trained and qualified to perform the assigned functions.
b. Assigned individuals will provide oversight of personnel conducting, airside operations.
c. The person(s) responsible for the aircraft turnaround supervision tasks will oversee that the aircraft is handled and serviced according to this GOM or the operating airline's specific requirements.
d. These duties may be combined with another function/role.
    1. A Ramp Supervisor of Aircraft Loading/Unloading (SAL) is responsible for all loading/unloading responsibilities while a Turnaround Coordinator may also assume above and below wing oversight responsibilities.

## 6.3 Turnaround Supervision Requirements

The tables below define elements that require supervision by individuals assigned to oversee ground handling operations (both above and below wing). The below tables can be used as a guidance tool for management.
The primary task is to stop all unsafe acts.

### 6.3.1 Passenger Handling Checklist



| NO | REQUIRED ACTION DURING: *1 - CHECK-IN *2 - BOARDING *3 - TRANSFERS *4 - ARRIVALS | ✓ | REMARKS |
|---|---|---|---|
| 1 | Preparation activities are completed. **(*1,*2,*3,*4)** | | |
| 2 | Assistance for persons with disabilities (PWD) is arranged for passengers requiring the service, as appropriate. **(*1,*2,*3,*4)** | | |
| 3 | Personnel are briefed before performing tasks. **(*1,*2,*3,*4)** | | |
| 4 | Personnel are wearing the required personal protective equipment (PPE) and uniform in line with the company's standards. **(*1,*2,*3,*4)** | | |
| 5 | Facilities, including counters, desks and self-serve kiosks, are set up, as per airline or local authority requirements, as applicable. **(*1,*2,*3,*4)** | | |
| 6 | All relevant desks and airport information boards display the correct flight information. **(*1,*2,*3,*4)** | | |
| 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,*2,*3,*4)** | | |
| 8 | Prominently display dangerous goods and any other notifications, either electronically or in print versions. **(*1,*2,*3)** | | |
| 9 | Weighing scales are functioning correctly. **(*1,*4)** | | |
| 10 | Passengers are welcomed, greeted, and assisted in a professional manner. **(*1,*2,*3,*4)** | | |
| 11 | Carry out verification and acceptance of passenger documents, as applicable. **(*1,*2,*3)** | | |
| 12 | Pay attention to any signs the passenger might not be allowed to travel and monitor the watchlist. **(*1,*2,*3)** | | |
| 13 | Check with the passenger whether they have any SSRs, prioritize these as required and provide assistance, if applicable. **(*1,*2,*3,*4)** | | |
| 14 | Seats are assigned and distributed in line with the operating carrier's procedures. **(*1,*2,*3)** | | |
| 15 | Cabin baggage is assessed to ensure it conforms to the carrier's allowable size and weight dimensions, where applicable. **(*1,*2)** | | |
| 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,*2)** | | |
| 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)** | | |
| 18 | Ensure all bags, including special baggage (e.g., oversize baggage, sporting equipment, live animals (AVIH), firearms and weapons, delivery at aircraft (DAA)) are labeled, tagged and handled correctly. **(*1,*2)** | | |
| 19 | Hand boarding passes, baggage receipts, and other travel documents to the passenger and direct or guide them on to the next steps. **(*1,*2)** | | |
| 20 | Communicate any relevant information, including disruptions and/or delays, to passengers immediately and at regular intervals. **(*1,*2,*3,*4)** | | |
| 21 | Passengers are directed according to the flight gate and/or local immigration requirements, as applicable. **(*1,*2,*3,*4)** | | |

### 6.3.1 Passenger Handling Checklist (Continued)



| NO | REQUIRED ACTION DURING:<br>***1 - CHECK-IN *2 - BOARDING *3 - TRANSFERS *4 - ARRIVALS** | ✓ | REMARKS |
|---|---|---|---|
| 22 | Boarding/disembarkation routes to/from aircraft and/or passenger buses and/or passenger boarding bridges (PBB) are safe and clearly marked, where possible. Note: Passengers must be supervised on the ramp at all times. **(*2,*4)** | | |
| 23 | All gate areas and access doors are secured to prevent unauthorized access when not in use. **(*2,*4)** | | |
| 24 | Preboarding and priority boarding apply in line with the operating airline's procedures. **(*2)** | | |
| 25 | Once clearance is received, board/disembark passengers as per the airline boarding sequence. **(*2,*4)** | | |
| 26 | During the boarding process, boarding passes and travel documents are checked as required and each passenger is reconciled against the DCS. **(*2)** | | |
| 27 | Accept all standby passengers (revenue, non-revenue) and standby bags as per the airline's priority listing. **(*1,*2)** | | |
| 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,*2)** | | |
| 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. **(*2)** | | |
| 30 | Provide final passenger numbers and departure documents to cabin and/or flight crew, as required. **(*2)** | | |
| 31 | Cabin access doors are closed before removal of passenger boarding devices. **(*2)** | | |
| 32 | All relevant messages are dispatched to the appropriate addresses, as per operating airline procedures. **(*1,*2,*3,*4)** | | |
| 33 | All stationary and passenger information are kept under surveillance and removed from counters to prevent unauthorized access and use, whenever possible. **(*1,*2,*3,*4)** | | |
| 34 | The DCS and other systems are locked when not in use to prevent unauthorized access. **(*1,*2,*3,*4)** | | |

### 6.3.2 Baggage Handling Checklist



| NO | REQUIRED ACTION DURING:<br>***1 - Arrival-Terminating *2 - Arrival-Transfer* 3 - Departure-Joining* 4 - Departure-Transfer** | ✓ | REMARKS |
|---|---|---|---|
| 1 | Planning activities are completed for requirements for expected baggage for arriving/departing flights, including:<br>-Parking stands for on-time delivery of bags<br>-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).<br>-Staff and equipment allocation and positioning (e.g., unit load devices (ULDs)/baggage carts).<br>**(*1,*2,*3,*4)** | | |
| 2 | All staff correctly wearing appropriate PPE (see AHM 462). **(*1,*2,*3,*4)** | | |
| 3 | Staff aware of storage locations for bags that will arrive before opening of corresponding departure flights. **(*2)** | | |
| 4 | Staff briefing conducted and staff aware of any baggage requiring special handling (e.g., firearms, mobility aids, strollers, oversized items). **(*1,*2,*3,*4)** | | |
| 5 | Equipment (e.g., ULDs, dollies, baggage carts) available and serviceable upon collection prior to use. **(*1,*2,*3,*4)** | | |
| 6 | Systems and hardware available and usable (e.g., baggage reconciliation system (BRS) serviceable and logged in, scanners charged) and assigned to correct flight. **(*1,*2,*3,*4)** | | |
| 7 | Required documentation available (e.g., ULD cards, bingo cards) and marked up for correct flight. **(*2,*3,*4)** | | |
| 8 | Working areas and equipment clear of obstacles and refuse that can cause foreign object damage (FOD), old baggage labels. **(*1,*2,*3,*4)** | | |
| 9 | ULD/dollies/baggage carts checked for serviceability and set up to accept baggage. Brakes engaged on dollies/baggage carts. ULDs secured using restraints. **(*1,*2,*3,*4)** | | |
| 10 | Unserviceable equipment reported and removed from service. **(*1,*2,*3,*4)** | | |
| 11 | Baggage build area organized for planned baggage category segregation. **(*3,*4)** | | |
| 12 | Baggage sent to correct injection/transfer/arrival points. **(*1,*2,*3,*4)** | | |
| 13 | Bags injected/delivered/ transferred in accordance with segregation requirements (e.g., priority bags before economy, short transfer bags before long transfer). **(*1,*2,*3,*4)** | | |
| 14 | Staff follow manual handling requirements and, where applicable, use lifting aids. **(*1,*2,*3,*4)** | | |
| 15 | Flight details visually checked on all bag tags (flight number, date, destination). **(*2,*3,*4)** | | |
| 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 as not being a positive passenger-matched bag or loaded onto the incorrect flight/destination, place the baggage to one side for resolution. **(*3,*4)** | | |
| 17 | Bag tag peel-off portions placed only on bingo cards, where manual reconciliation used. **(*3,*4)** | | |
| 18 | Baggage is handled in an appropriate manner (e.g., positioned and not thrown). **(*1,*2,*3,*4)** | | |
| 19 | Each bag processed individually (i.e., no scanning or removal of tags from multiple bags before loading into ULD/baggage cart). **(*3,*4)** | | |

### 6.3.2 Baggage Handling Checklist (Continued)



| NO | REQUIRED ACTION DURING:<br>***1 - Arrival-Terminating *2 - Arrival-Transfer* 3 - Departure-Joining* 4 - Departure-Transfer** | ✓ | REMARKS |
|---|---|---|---|
| 20 | ULDs/baggage carts correctly utilized (e.g., proper use of available volume, larger/heavier items nearer to the base). **(*2,*3,*4)** | | |
| 21 | Correct departure baggage category segregation. **(*3,*4)** | | |
| 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. **(*1,*2,*3,*4)** | | |
| 23 | Special baggage handled/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). **(*1,*2,*3,*4)** | | |
| 24 | Final checked-in bag figure reconciled against bags received. **(*3,*4)** | | |
| 25 | Number of ULDs used reconciled against the baggage plan/flight summary before being released to the aircraft. **(*1,*3,*4)** | | |
| 26 | Loads secured prior to transportation using appropriate locks, stops, rails, curtains and straps. **(*1,*2,*3,*4)** | | |
| 27 | Canopies/covers secured before baggage carts dispatched in wet weather. **(*1,*2,*3,*4)** | | |
| 28 | ULD cards and bulk load cards secured to each ULD/baggage cart before leaving baggage build up area. **(*3,*4)** | | |
| 29 | Unloaded ULDs/baggage carts checked to ensure no remaining items inside. **(*1,*2)** | | |
| 30 | First/last bag times recorded in accordance with local procedures and customer airline requirements. **(*1,*2)** | | |
| 31 | Arrival carousel deactivated and secured upon completion of baggage delivery. **(*1,*2)** | | |
| 32 | Any damaged baggage segregated, and supervisory personnel notified. **(*1,*2,*3,*4)** | | |

### 6.3.3 Ramp Handling Checklist



| NO | REQUIRED ACTION DURING:<br>*1 - Arrival*2 - Departure | ✓ | REMARKS |
|---|---|---|---|
| 1 | Preflight briefing conducted regarding flight requirement(s) and services, as needed. **(*1)** | | |
| 2 | Pre-arrival and pre-departure checks ensuring that the parking position and intended path of aircraft are free of FOD and/or obstacles. **(*1,*2)** | | |
| 3 | Personnel are available and wearing PPE (see AHM 462). **(*1,*2)** | | |
| 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)). **(*1,*2)** | | |
| 5 | Personnel shall check the GSE assigned prior to initial use. **(*1,*2)** | | |
| 6 | The aircraft guidance system is activated and/or marshaller(s)/wing walkers correctly positioned, as applicable. **(*1,*2)** | | |
| 7 | Personnel shall remain outside the ERA while the aircraft anti-collision lights are switched on unless specifically required by the arrival/departure procedure. **(*1,*2)** | | |
| 8 | Aircraft chocked and coned as per requirements. (*1,*2) | | |
| 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. **(*1,*2)** | | |
| 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, at correct approach/removal speed). **(*1,*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). **(*1,*2)** | | |
| 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). **(*1,*2)** | | |
| 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). **(*1,*2)** | | |
| 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). Note: All holds shall be opened and inspected even if empty. **(*1,*2)** | | |
| 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). **(*1,*2)** | | |
| 16 | Cargo holds are inspected after unloading/prior to loading to check for damage and ensure empty other than documented transit load items.<br>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. **(*1,*2)** | | |
| 17 | Check ULDs and bulk loads for condition (e.g., damage, leakage) prior to/after transportation and prior to loading. **(*1,*2)** | | |
| 18 | Aircraft cabin access door operation is performed by an authorized and qualified person. **(*1,*2)** | | |

### 6.3.3 Ramp Handling Checklist (Continued)



| NO | REQUIRED ACTION DURING:<br>*1 - Arrival*2 - Departure | ✓ | REMARKS |
|---|---|---|---|
| 19 | Passenger walkways are clear of obstacles and free of undesired contaminated substances. **(*1,*2)** | | |
| 20 | Passenger movement is supervised when passengers walk on the ramp (e.g., between aircraft and bus/terminal). **(*1,*2)** | | |
| 21 | Fueling vehicle is correctly positioned and escape route is not obstructed when fuel tanker/bowser is used. **(*2)** | | |
| 22 | Fuel safety zone procedures/restrictions are followed. **(*2)** | | |
| 23 | Safety precautions for fueling with passengers on board or boarding are adhered to, as applicable. **(*2)** | | |
| 24 | The person responsible for the loading supervision task is in possession of the latest edition of the LIR prior to commencement of loading. **(*2)** | | |
| 25 | Final load information is communicated/confirmed to load control with all deviations noted. **(*2)** | | |
| 26 | Final load information (e.g., Loadsheet/Notice to Captain–NOTOC) is provided to flight crew, as required. **(*2)** | | |
| 27 | Aircraft ground movement preparation activities correctly carried out (e.g., connection of pushback/towing equipment, communication with flight crew established). **(*2)** | | |
| 28 | Departure sequences conducted as required (e.g., GPU, air start unit (ASU), pushback, engine start, personnel/equipment positioning). **(*2)** | | |
| 29 | Post-departure activities are conducted as required with appropriate document retention. **(*2)** | | |

## 6.4 (WFS) Incident Notification and Immediate Actions

### 6.4.1 General

In the event of an incident or accident, the work must stop, the scene must be frozen and isolated, and the event shall be immediately reported to the

1. WFS manager and
2. line management airline representative and, as required, to local authorities.

All Incidents, Accidents and Near-Misses are reported in accordance with the Pulse system requirements, identified in the WFS Integrated Quality and Safety Management System (IQSMS).

### 6.4.2 (WFS) Airside Safety Investigation Procedure

All Incidents, Accidents and Near-Misses are investigated in accordance with the Pulse system requirements, identified in the WFS Integrated Quality and Safety Management System (IQSMS).

### 6.4.3 (WFS) Monitoring Procedures

All Safety, Quality and Operational Inspections and Audits are conducted in accordance with the Pulse system requirements, identified in the WFS Integrated Quality and Safety Management System (IQSMS).

### 6.4.4 (WFS) Emergency Response Procedures

All emergency response activity, procedures and air carrier coordination is conducted in accordance with the guidance contained in the WFS Integrated Quality and Safety Management System (IQSMS).

## 6.5 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<br>(a) Thunderstorm, lightning<br>(b) Low visibility<br>(c) Snow/ice conditions<br>(d) High/strong winds, gusts<br>(e) Heavy rains, flooding<br>(f) Sandstorms<br>(g) Extreme temperature (hot/cold)<br>(h) Other | | |
| | Acknowledge notification of adverse weather | | |
| | Identify the threat and actions for the following:<br>(a) Personnel and passengers, including PWD/PRM<br>(b) Arriving aircraft<br>(c) Parked aircraft, vehicles and GSE<br>(d) Baggage handling<br>(e) Cabin equipment<br>(f) Catering and ramp handling<br>(g) Departure<br>(h) Exterior cleaning<br>(i) Interior cleaning<br>(j) Load control and flight operations<br>(k) Marshaling<br>(l) Moving of aircraft<br>(m) Passenger services<br>(n) Ramp fueling/defueling operations<br>(o) Ramp services<br>(p) Ramp to flight deck communications<br>(q) Toilet services<br>(r) Towing cargo and baggage<br>(s) ULDs and bulk loading/unloading of baggage and cargo | | |
| | Activate the Severe Weather Plan<br>(a) Communicate to all affected parties<br>(b) Meet with ground ops personnel, GSE and maintenance personnel<br>(c) Outline forecast, actions and review resources<br>(d) Notify dispatch, passenger services and planning groups that operations might be interrupted<br>(e) Continue to monitor and communicate the weather situation | | |
| | Take actions according to established procedures | | |
| | Check staff conduct, behavior and operational practices (e.g., PPE) | | |
| | Ensure compliance with local regulations | | |

# 7 (WFS) Dangerous Goods

## 7.1 Definition

Dangerous goods are formally defined as “articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods, or which are classified according to the regulations.
Dangerous goods are commodities that possess potentially dangerous characteristics. These characteristics will not make their transport by air dangerous, provided that suitable precautions are taken. Dangerous goods consist not only of obvious substances such as acids, explosives and poisons, but also include less apparent articles like magnets, refrigerants and some everyday household items such as bleaches, aerosols and perfumes.
Internationally agreed-upon rules ensure the safe transportation of dangerous goods by air. The International Civil Aviation Organization (ICAO) publishes these as the Technical Instructions for the Safe Transport of Dangerous Goods by Air.
The IATA Dangerous Goods Regulations (abbreviated DGR in this training workbook) are based on Annex 1.8 to the Chicago Convention on International Civil Aviation. They include all the requirements of Annex 18 and the latest ICAO Technical Instructions.
The IATA Dangerous Goods Regulations are recognized by ICAO as the field document for the transport of dangerous goods by air.
No part of air transport is more important than safety, and this emphasizes the need to have detailed and precise regulations for the preparation, acceptance and carriage of a wide range of chemicals and other dangerous articles and substances.

***NOTE:*** The words dangerous and hazardous, as used in the DGR, and in this training workbook, have the same meaning.

The ICAO Technical Instructions require that Function7.3 personnel be familiar with the general philosophy of the Regulations, the marking and labeling requirements, recognition of undeclared dangerous goods, storage and loading procedures, the Special Load—Notification to Captain (NOTOC), provisions applicable to passengers and crew and emergency procedures, including reporting of dangerous goods incidents or accidents.
This chapter complies with the requirements of the ICAO Technical Instructions in relation to dangerous goods. It does not qualify employees or agents to accept articles or substances declared as dangerous goods by the sender. Only those employees or agents who have successfully completed an approved dangerous goods acceptance course can accept declared dangerous goods.

## 7.2 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 shall 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 markings or labels are seen on items not declared as containing Dangerous Goods it is often an indication that they do contain such goods.

Undeclared Dangerous Goods shall not be loaded on an aircraft and reporting procedures shall be implemented

| Class 1 – Explosives | | |
|---|---|---|
|   | Division 1.1 **REX:** Articles and substances having a mass explosion hazard | THESE EXPLOSIVES ARE NORMALLY FORBIDDEN FOR CARRIAGE BY AIR e.g. TNT, Dynamite or Torpedoes |
|   | Division 1.2 **REX:** Articles and substances having a projection hazard not a mass explosion hazard | |
|   | Division 1.3 **REX** (RCX, RGX) when permitted: Articles and substances having a fire or minor blast hazard but not mass explosion | |
|   | Division 1.4 **REX:** Articles and substances having no significant hazards in the event of initiation or ignition | |
|   | Division 1.5 **REX**: Very insensitive substances which have a mass explosion hazard | |
|   | Division 1.6 **REX**: Extremely insensitive articles which do not have a mass explosion hazard | |
| | RXB<br>RXC<br>RXD<br>RXE<br>RXG | Compatibility Group Assignment according to DGR Table 3.1.A e.g. Distress signals, Fuse igniters |
| **Note:** Goods of Class 1 are assigned to one of six divisions AND to one of 13 compatibility groups which identify the kinds of explosive articles and substances that are deemed compatible. | | |
|   | RXS | Articles and substances, which present no significant hazard. Effect from accidental functioning is confined within the package. |

| Class 2 – Gases | | |
|---|---|---|
|  | Division 2.1 Flammable Gas **RFG** | |
| | Any gas which, when mixed with air in certain proportion, forms a flammable mixture. | e.g. Butane, Hydrogen, Propane, Acetylene, Lighters |
|  | Division 2.2 Non-Flammable Gas, Non-Toxic Gas **RNG, RCL** | |
| | Any non-flammable, non-toxic gas or low-temperature liquefied gas. | e.g. Carbon dioxide Neon, Fire extinguisher, liquefied Nitrogen or Helium. |
|  | Division 2.3 Toxic Gas **RPG** | |
| | Gases known to be toxic or corrosive to humans and known to pose a health risk | Toxic gases are forbidden for carriage by air; almost without exception.<br>*(Some are permitted, e.g. Aerosols of low toxicity, Tear gas devices).* |

| Class 3 – Flammable Liquid | | |
|---|---|---|
|  | There are no sub-classes within Class 3 **RFL** | |
| | Any liquid having a closed cup flash point of 60.°C or below (*DGR Appendix A)* | e.g. Paint, Alcohols, some Adhesives, Acetone, Petrol, Engine, internal combustion, flammable liquid powered |

| Class 4 – Flammable Solid | | |
|---|---|---|
|  | Division 4.1 Flammable Solid **RFS** | |
| | Any solid material which is readily combustible, or may cause or contribute to fire through friction | e.g. Matche, Sulphur, Celluloid, Nitronaphthalene.<br>***NOTE:*** *Some are self-reactive* |
|  | Division 4.2 Spontaneously Combustible **RSC** | |
| | Such substances are liable to spontaneous heating or to heating up in contact with air and then liable to catch fire. | e.g. White or Yellow phosphorus, Magnesium diamide. |
|  | Division 4.3 Dangerous when Wet **RFW** | |
| | Substance which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gasses | e.g. calcium carbide, Sodium phosphide |

| Class 5 – Oxidizing substances and Organic Peroxides | | |
|---|---|---|
|  | **Division 5.1 Oxidizers ROX** | |
| | A substance that yields oxygen readily to stimulate the combustion of other material. | e.g. Ammonium nitrate fertilizer, Calcium chlorate |
|  | **Division 5.2 Organic Peroxides ROP** | |
| | An organic material (liquid or solid) that can be ignited readily by external flame and then burns with an accelerating rate; some substances react dangerously with others | e.g. tert-Burtyl hydroperoxide, as listed in Appendix C of the DGR, hardeners for fiberglass repair kits. |

| Class 6 - Toxic (Poisonous) and Infectious substances | | |
|---|---|---|
|  | **Division 6.1 Toxic substances RPB** | |
| | Liquids or solids which are dangerous if inhaled, swallowed or absorbed through the skin | e.g. Arsenic, Nicotine, Cyanide, Pesticides, Strychnine. Some are totally forbidden, e.g. Bromoacetone |
|  | **Division 6.2 Infectious substance RIS** | |
| | Substances which are known or reasonably expected to contain pathogens and cause disease in humans or in animals | e.g. Virus, Bacteria, such as HIV (AIDS), Rabies, some diagnostic specimens and biological products and Medical and Clinical waste. |

| Class 7 Radioactive Material | | |
|---|---|---|
|  | RRW<br>Radioactive materials with low radiation level on the package surface. No transport index indicated | e.g. Radionuclide or isotopes for medical or industrial purpose, such as Cobalt 60, Caesium 131 and Iodine 132 |
|  | RRY<br>Radiation level higher than Category 1 and a transport index not exceeding I | |
|  | RRY<br>Radiation level higher than Category II and / or a transport index exceeding 1 but not more than 10 | |
|  | RRY (Fissile)<br>Criticality Safety Index | Criticality Safety Index labels shall be used in addition to the appropriate radioactive labels to provide control over accumulation of packages or overpacks containing fissile material |

| | | |
|---|---|---|
| **Class 8 – Corrosives RCM** | | |
|  | A liquid Solid that will cause severe damage when in contact with living tissue or in the case of leakage will materially damage or even destroy other goods or the means of transport | e.g. Battery acids, mercury, Sulphuric acid, Bleaches |
| **Class 9 – Miscellaneous Dangerous Goods RMD** | | |
| Miscellaneous Dangerous Goods<br>**RMD** | Any substance, which presents a danger during air transportation that, is not covered by other classes. These include Aviation regulated solid or liquid substances with anaesthetic, noxious or similar properties which could cause extreme annoyance or a discomfort to crew member so as to prevent the correct performance of assigned duties. | e.g. Asbestos, Engine, internal combustion, Consumer commodity |
| Carbon Dioxide<br>Solid/Dry Ice<br>**ICE**<br>  | Carbon Dioxide, solid (dry ice) has a temperature of –79°C. On sublimation it produces a gas heavier than air, which in an enclosed area and in larger quantities can Rafts lead to suffocation. | |
| Lithium Batteries*<br>**RLI/RLM**<br>  | Lithium metal and lithium ion batteries when improperly packaged or when handled that the potential to generate a dangerous evolution of heat. | e.g. Lithium ion batteries, Lithium metal batteries |

| Handling Labels | | |
|---|---|---|
| **Lithium Batteries Mark** | | |
|  | * Place for UN number(s)<br>** Place for telephone number for additional information | Shall be affixed to packages of lithium batteries when required by the applicable packing instruction. |
| **Excepted Quantity Package Mark** | | |
|  | * Place for name of shipper or consignee, if not shown elsewhere on the package<br>** Place for class or, when assigned, the division number(s) | Marking may be affixed to any package(s) containing dangerous goods in excepted quantities. |
| **Limited Quantity Package Mark** | | |
|  | This marking is used on packages that have been prepared in accordance with the limited quantities provisions. The mark will be in addition to the hazard labels required for that shipment. | Packages of dangerous goods shipped under the Limited Quantity provisions of Subsection 2.7, shall be marked with the Limited Quantities mark |
| Keep Away from Heat | | |
|  | Handling label for self-reactive substances in Division 4.1 and Div 5.2 organic peroxides. | Shall be used in addition to the applicable hazard label |

| Handling Labels cont. | | |
|---|---|---|
| **Radioactive Material Excepted Package (RRE)** | | |
|  | Handling label for all Excepted Packages of Radioactive Material | Marking be affixed to any package(s) of Radioactive Material Excepted Packages |
| **Environmentally Hazardous Substances** | | |
|  | Handling label for environmentally hazardous substances | Marking be affixed to any package(s) of environmentally hazardous substances with a net quantity of over 5L or 5Kg used in addition to the class 9 label. |

| TABLE 9.3.D Separation of Radioactive Material - Passenger and Cargo Aircraft | | |
|---|---|---|
| Total Sum of TI | Minimum Distance | |
| | metres | ft. in. |
| 0.1 to 1.0 | 0.30 | 1'0" |
| 1.1 to 2.0 | 0.50 | 1'8" |
| 2.1 to 3.0 | 0.70 | 2'4" |
| 3.1 to 4.0 | 0.85 | 2'10" |
| 4.1 to 5.0 | 1.00 | 3'4" |
| 5.1 to 6.0 | 1.15 | 3'10" |
| 6.1 to 7.0 | 1.30 | 4'4" |
| 7.1 to 8.0 | 1.45 | 4'9" |
| 8.1 to 9.0 | 1.55 | 5'1" |
| 9.1 to 10.0 | 1.65 | 5'5" |
| 10.1 to 11.0 | 1.75 | 5'9" |
| 11.1 to 12.0 | 1.85 | 6' 1" |
| 12.1 to 13.0 | 1.95 | 6'5" |
| 13.1 to 14.0 | 2.05 | 6'9" |
| 14.1 to 15.0 | 2.15 | 7' 1" |
| 15.1 to 16.0 | 2.25 | 7'5" |
| 16.1 to 17.0 | 2.35 | 7'9" |
| 17.1 to 18.0 | 2.45 | 8'1" |
| 18.1 to 20.0 | 2.60 | 8'6" |
| 20.1 to 25.0 | 2.90 | 9'6" |
| 25.1 to 30.0 | 3.20 | 10'6" |
| 30.1 to 35.0 | 3.50 | 11'6" |
| 35.1 to 40.0 | 3.75 | 12'4" |
| 40.1 to 45.0 | 4.00 | 13' 1" |
| 45.1 to 50.0 | 4.25 | 13'11" |

If more than one package, overpack or freight container is placed in the aircraft, the minimum separation distance for each individual package, overpack or freight container shall be determined in accordance with the above table, on the basis of the sum of the transport indices of the individual packages, overpacks or freight containers.

Alternatively, if the packages, overpacks or freight containers are separated into groups, minimum distance from each group to the nearest inside surface of the partitions or floors of the flight deck or other areas occupied by personnel is the distance applicable to the sum of the transport indices within the individual groups, provided that each group is separated from each other group by at least three times the distance applicable to the one that has the larger sum of transport indices.