



PC-24
THE CRYSTAL CLASS

Aircraft Recovery Manual

Document Number 02509

Issue 001 Revision 00: December 17, 2021

This document contains recommended information for the recovery of the PC-24 aircraft.
The information contained herein is advisory.
This document is not authority approved.

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Front matter data - List of effective data modules

All DMC are preceded with PC-24-A but for clarity this has been left out

C = Changed data module

N = New data module

Data module code (DMC)	Document title	N/C	Issue date
A00-00-0001-00A-00SA-A	Front matter data - List of effective data modules	N	17.12.2021
A00-00-0001-00A-018A-A	Front matter data - Introduction	N	17.12.2021
A07-00-0000-00A-030A-A	Aircraft dimensions - Technical data	N	17.12.2021
A07-40-0018-00A-012A-A	Hazardous areas - General warnings and cautions and related safety data	N	17.12.2021
A07-40-0000-00A-125A-A	General and quick reference checklist for aircraft recovery	N	17.12.2021
A07-40-0000-00A-028A-A	Planning for aircraft recovery - General	N	17.12.2021
A07-40-0003-00A-100A-A	Preparation before moving the aircraft - Operation	N	17.12.2021
E24-30-0000-00A-500A-A	Batteries - Disconnect, remove and disassemble procedures	N	17.12.2021
A07-40-0009-00A-311A-A	Aircraft damage - Visual examination without special equipment	N	17.12.2021
A07-40-0012-00A-346A-A	Terrain consideration - Other check	N	17.12.2021
A12-10-0001-01A-221A-A	Fuel - Defuel and drain fuel	N	17.12.2021
A07-40-0006-00A-100A-A	Moving the aircraft - Operation	N	17.12.2021
A06-40-0000-00A-030A-A	Door clearances and clear opening dimensions - Technical data	N	17.12.2021
E26-00-0001-00A-040A-A	Fire protection - Description	N	17.12.2021
E26-20-0000-00A-913A-A	Engine fire extinguishing - General maintenance procedure	N	17.12.2021
E24-00-0001-00A-913A-A	Electrical power disconnect - General maintenance procedure	N	17.12.2021
A07-40-0024-00A-012A-A	Fire related safety issues - General warnings and cautions and related safety data	N	17.12.2021
E28-00-0000-01A-040A-A	Fuel - Description	N	17.12.2021
E53-20-0000-00A-030A-A	Emergency break-in zones - Technical data	N	17.12.2021
A07-40-0030-00A-100A-A	Towing the aircraft - Operation	N	17.12.2021
A07-40-0030-00A-174A-A	Aircraft - Towing	N	17.12.2021

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Front matter data - Introduction

1 Scope of the manual

Pilatus Aircraft Ltd. have prepared the ARM to help an Airport Authority, a Fixed Base Operator (FBO), and / or an aircraft recovery crew if an accident or incident occurs with the PC-24 business jet.

No aircraft recovery will be the same as other recovery operations because of:

- The accident or the incident itself
- The location of the aircraft
- The amount of aid that is available locally
- The weather conditions when the accident/incident occurred. Also, the effects of the weather before and after the accident/incident
- The number of persons that are available to help with the recovery.

Send your questions and comments to www.pilatus-aircraft.com

2 Statement of liability

This manual is intended to be used by Aircraft Crash Recovery crews involved in the recovery of the Pilatus Aircraft Ltd PC-24 business jet after an accident or incident. It is also intended to help those persons planning for the unlikely event that will require recovery actions. The actions described in this manual are intended as recommendations only, as to how aircraft recovery tasks should be carried out. Any omission of a task or an action, or omission to a task or action, shall not be interpreted as an admission of liability by Pilatus Aircraft Ltd or any of its sub-groups of affiliates or related entities.

3 Copyright and legal statement

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4 General

The Aircraft Recovery Manual (ARM) contains the recommended information for safe recovery of the PC-24 aircraft.

The ARM is written under the assumption that the users of this manual have had previous aircraft recovery experience and are familiar with basic jet aircraft systems common to aircraft of this type. Therefore this document does not contain basic information that is considered prerequisite training.

The ARM is not an authority approved document.

The pilot in command of the aircraft is responsible to make sure that recovery procedures are carried out correctly.

5 Purpose

The purpose of the ARM is to provide FBOs with the information necessary to perform essential and safe recovery procedures and assumes that recovery personnel have a good knowledge of aircraft systems and the associated hazards.

6 Warnings, cautions, notes

Warnings, cautions and notes are used to stress important items in the text. Warnings and Cautions come immediately before the text to which they refer. Notes are put after the text to which they refer. The warnings, cautions and notes are used as follows:

- **WARNING:** Gives details of materials, processes, procedures or limits which must be followed to avoid injury to personnel
- **CAUTION:** Gives details of methods or procedures which must be followed to avoid damage to equipment
- **NOTE:** Used to give necessary or additional information which make the task easier for personnel.

7 Punctuation in measurement units

In this ARM the decimal fraction is shown by a point (.) in the Imperial/US units of weight and measurement, and by a comma in metric units. Values in excess of one thousand are separated by a comma (,).

8 Publications revision request

If operators have suggestions for improvements to the content of the manual or errors are found, please submit the proposed changes to "publications@pilatus-aircraft.com".

SECTION 1
Aircraft Information
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Aircraft dimensions - Technical data

1 Model designation

The PC-24 is a business jet made by Pilatus Aircraft Ltd. The PC-24 aircraft is a low-wing monoplane with a pressurized cabin that can be operated by either one or two pilots. The PC-24 has two Williams International FJ44-4A-QPM turbofan engines in nacelles attached to the rear fuselage.

2 Aircraft dimensions

The basic dimensions of the aircraft are given in [Fig. 1-1-1](#).

3 Doors and access

There are three main access doors on the PC-24, refer to [Fig. 1-1-2](#). The passenger / crew door in the forward left-hand fuselage in front of the left-hand wing and two emergency exit doors, one each side of the fuselage above the wings. There are also several access doors.

The access doors are as follows:

- Left nose door
- Ground equipment compartment door
- Cargo door
- External power door
- Left engine oil door
- Rear fuselage access door
- Right nose door
- Toilet service door
- Refuel / Defuel door
- Battery access door
- Right engine oil door.

4 Composite materials

Composite materials, such as carbon woven fabric and glass woven fabric, are used in the fairings, shrouds, access doors, and floorboards of the PC-24 aircraft. The location of the composite materials is shown in [Fig. 1-1-3](#), [Fig. 1-1-4](#), and [Fig. 1-1-5](#).

5 Hazardous fluids

The PC-24 aircraft uses the hazardous fluids that follow:

- Fuel (Wings, fuel tube, and engines)
- Hydraulic oil (Hydraulic reservoir, hydraulic tubes, main wheel brake assemblies)
- Compressor oil (Air conditioning compressor)
- Refrigerant (Air conditioning system).

6 Interior configurations

There are currently five standard cabin configurations. The standard cabin configurations are as follows:

- Standard cabin configuration, EX8s-2 (6+2), refer to [Fig. 1-1-6](#)
- Standard cabin configuration, EX6s-1, refer to [Fig. 1-1-7](#)
- Standard cabin configuration, EX6s-COM-2s, refer to [Fig. 1-1-8](#)
- Standard cabin configuration, EX-8S-1 (Double club), refer to [Fig. 1-1-9](#)
- Standard cabin configuration, COM-10s-1, refer to [Fig. 1-1-10](#).

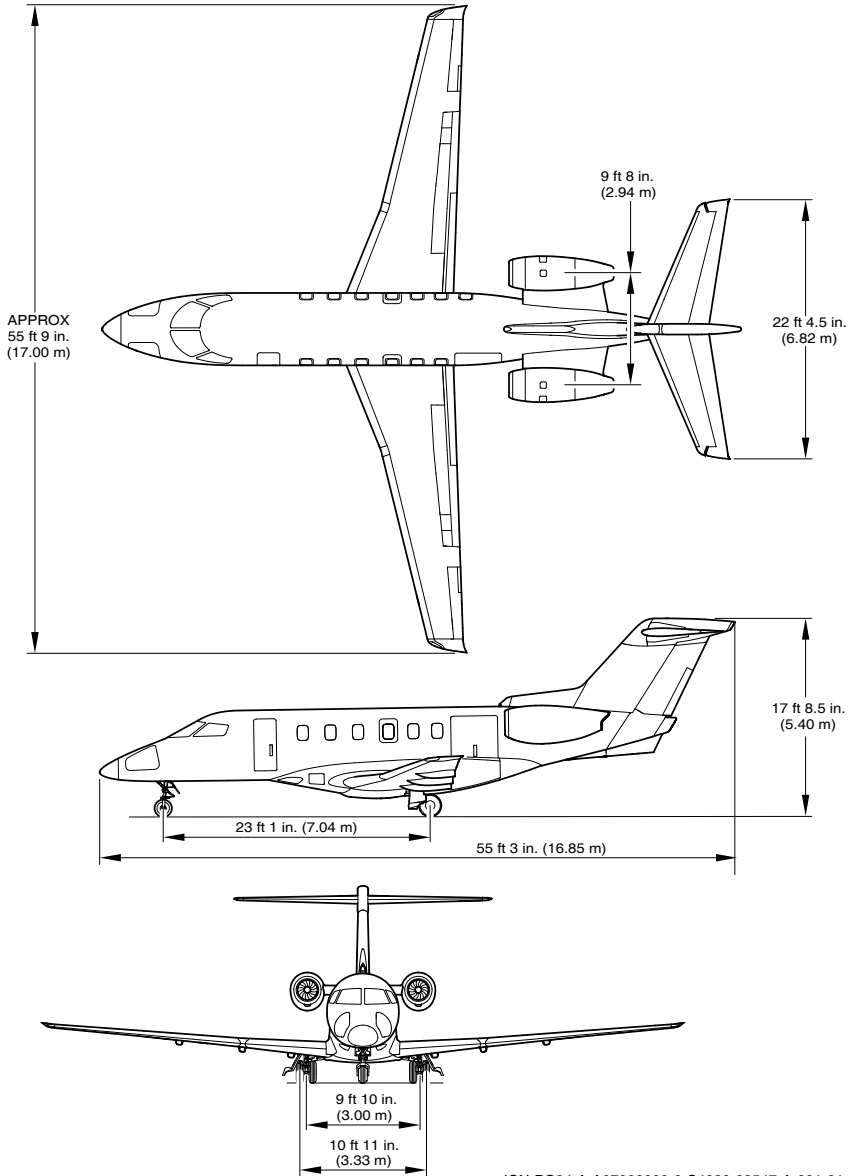
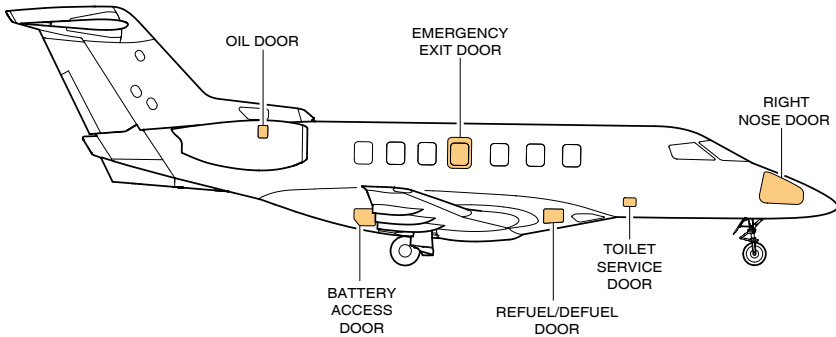
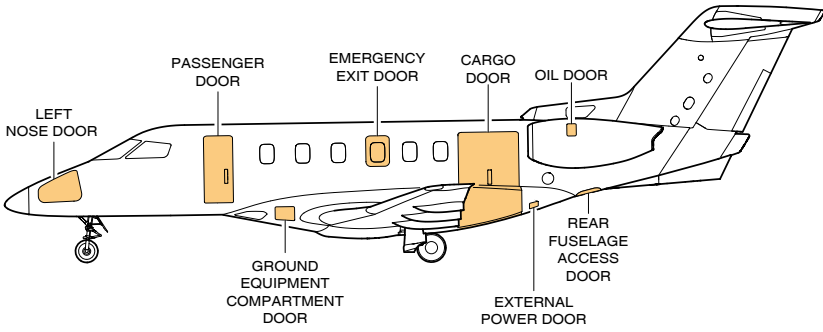


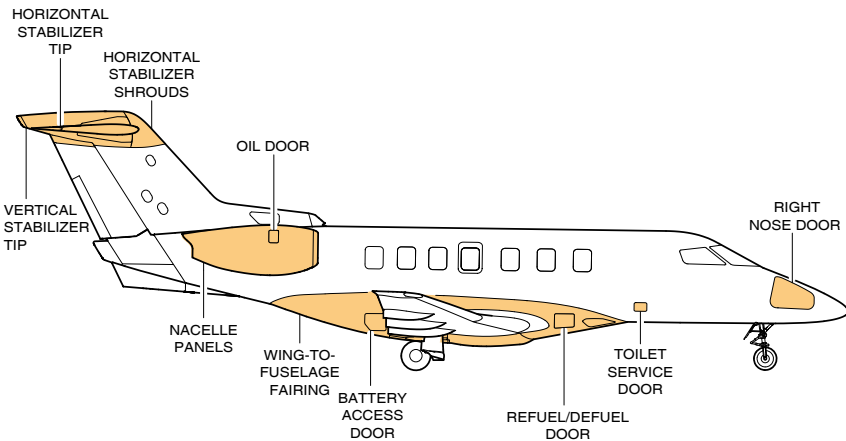
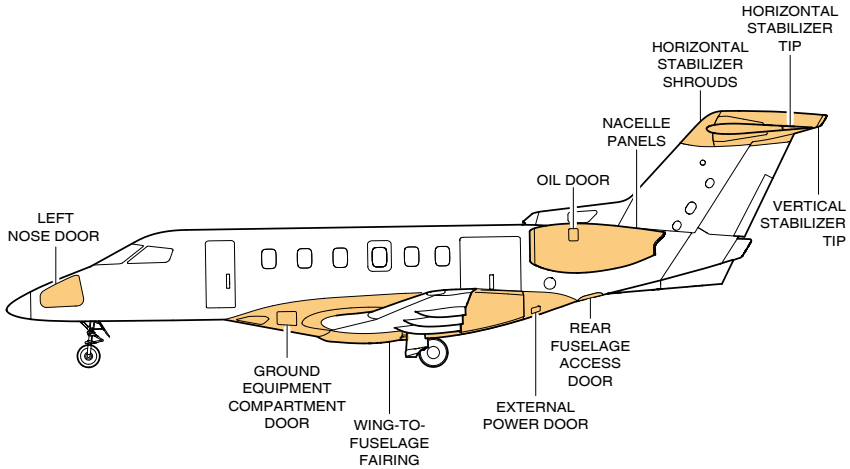
Figure 1-1-1: Aircraft dimensions



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Figure 1-1-2: Doors and access doors / panels

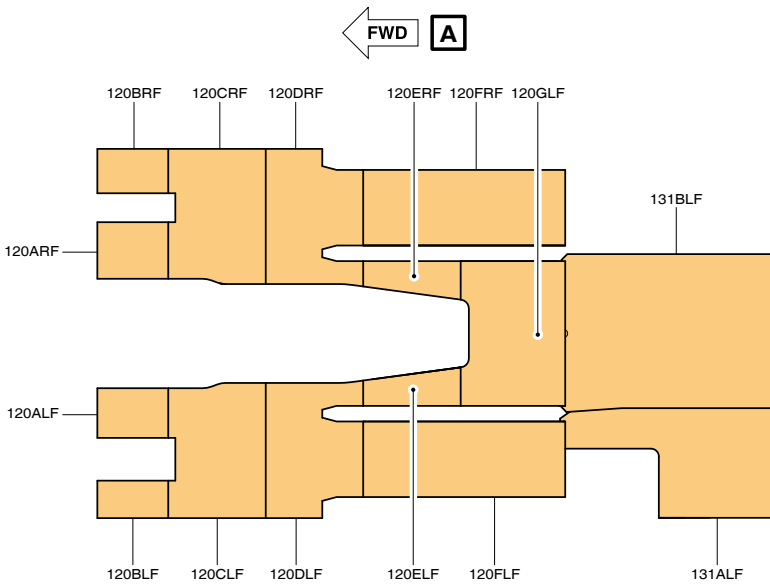
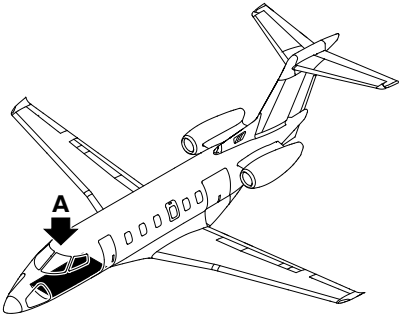
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Figure 1-1-3: Composite components

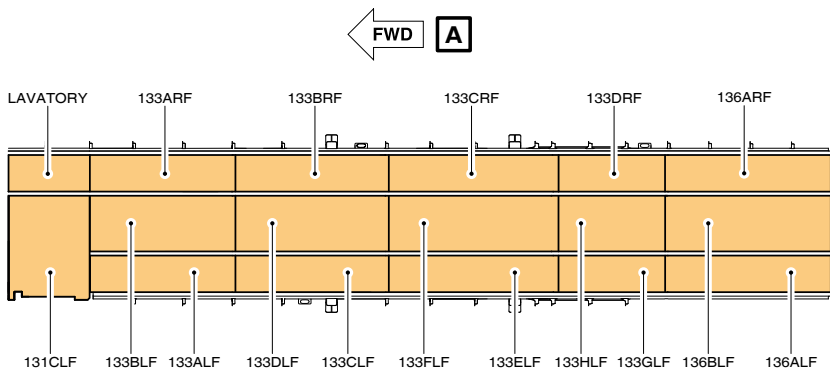
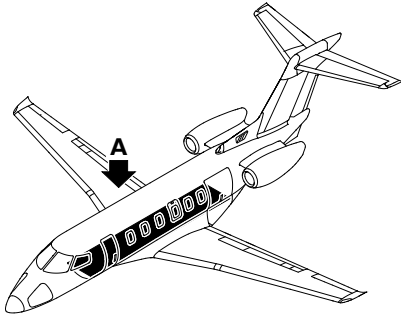
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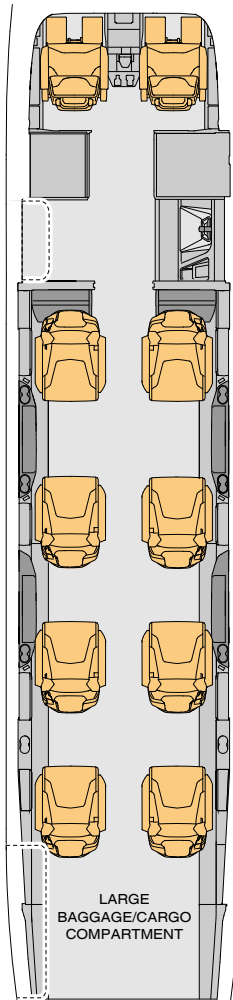
Figure 1-1-4: Aircraft floorboards - Flight compartment

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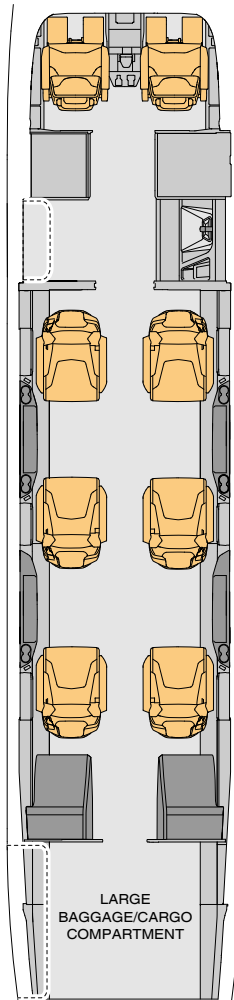
Figure 1-1-5: Aircraft floorboards - Passenger compartment



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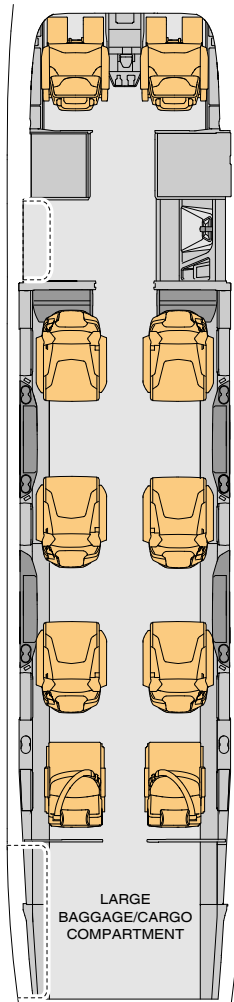
Figure 1-1-6: Standard cabin configuration - EX8s2 (6+2)

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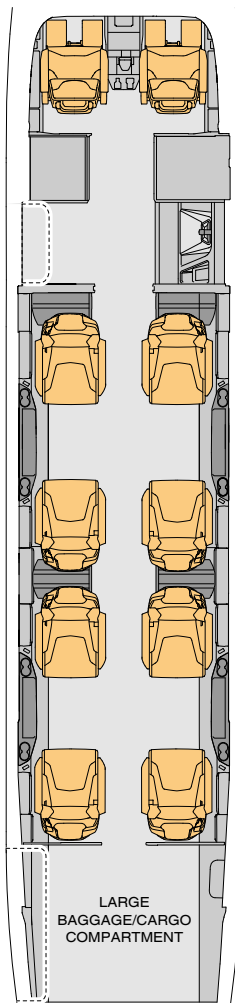
Figure 1-1-7: Standard cabin configuration - EX6s-1



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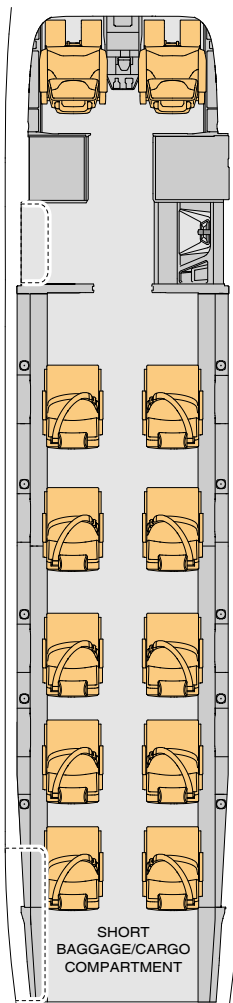
Figure 1-1-8: Standard cabin configuration - EX-6s-COM-2s

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Figure 1-1-9: Standard cabin configuration - EX8s-1 (double club)



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Figure 1-1-10: Standard cabin configuration - COM-10S-1

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Hazardous areas - General warnings and cautions and related safety data

This data module gives the information on the hazardous areas of the PC-24 aircraft.

WARNING

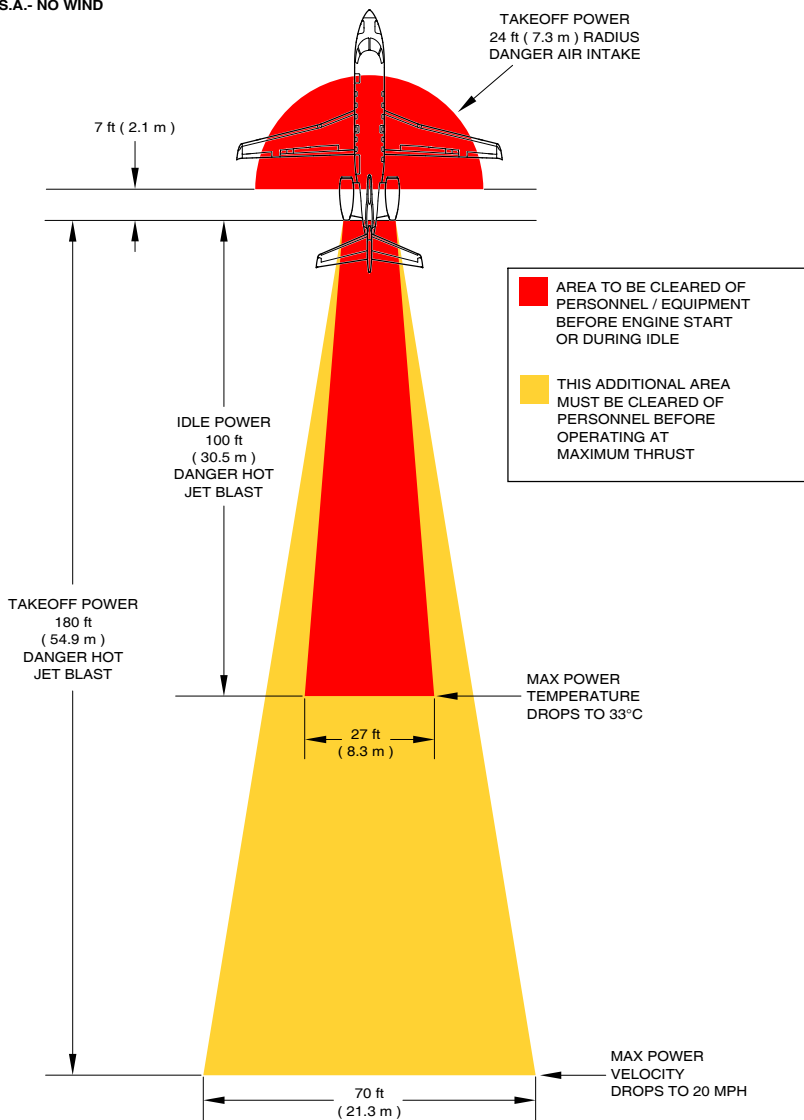
PERSONNEL MUST KEEP AWAY FROM THE AIRCRAFT WHEN THE POWER PLANT IS OPERATED. THIS WILL HELP PREVENT DEATH OR INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

The hazardous areas when the engines are in operation are given in [Fig. 1-2-1](#).

Section 1 - Aircraft Information

Hazardous areas - General warnings and cautions and related safety data

**AIRCRAFT STATIC-SEA LEVEL
I.S.A.- NO WIND**



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Figure 1-2-1: Hazardous areas

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SECTION 2

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General and quick reference checklist for aircraft recovery

1 Quick Reference Guide

The team leader of the recovery operation can use the quick reference guide that follows as a checklist for the recovery team to refer to.

2 Checklist

2.1 Weight and balance

Do the weight and balance

Find the weight and balance of the aircraft to make an estimate of the limits to jack and tow the aircraft.

Note

The weight and balance may have to be calculated more than once during the recovery procedure.

Record the quantity and location of the cargo and the fuel to calculate the weight and balance.

2.2 Initial data

Get the initial data about the incident.

Set up an interface with the Investigator-in-Charge (IIC), the local authorities, the representative of Pilatus Aircraft Ltd., and the owner agent or representative.

Tell the recovery crew surveyor to make a full estimate of the site as quickly as possible. The type of accident site can have an effect on the aircraft removal.

Make a note of the slope of the terrain, the ground cover (trees, grass, rock) and the distance from the runway, the taxiway, and the apron.

Make an analysis of the ground condition to calculate the bearing area necessary to lift and move the aircraft.

Choose suitable personnel (as well as recovery team members) and make an estimate of the necessary equipment and related manuals.

Note

Before you do this step, the IIC must be at the site.

Get accommodation, transportation, work visa (where necessary), and money for the recovery team.

At the site, speak to the local airport authorities, the regulatory authorities, and the national investigation authorities.

Get the data on the items that follow:

- Local environment
- Climate
- Terrain structure
- Communications
- Local regulations for the defueling of the aircraft.

2.3 Set up

Make a detailed aircraft recovery plan (use a general recovery plan).

Get permission from the local and national authorities to continue with the recovery operation. It is necessary for the different authorities to find the cause(s) of an aircraft accident. You must know and obey the regulatory authority regulations and the laws of the country in which the accident occurs.

Move personnel and equipment to the recovery site.

Refer to the recovery plan and, if necessary, prepare hangar and / or parking space for the aircraft. Refer to [Aircraft dimensions - Technical data](#) for the aircraft dimensions.

Make sure that cranes are locally available. Also, make sure that other heavy equipment, building materials, and access roads are available. If you think they may be necessary, some of the operators may be members of an organization that shares technical facilities, service and recovery equipment (recovery kits).

If components are removed from the aircraft for recovery purposes, the center of gravity weight and balance location must be re-calculated before the aircraft is moved.

You must obey the applicable local regulations about defueling. If possible, remove all health risk payload (fuel, dangerous materials, catering, oxygen, squibs, galley and lavatory disposal, and water) from the aircraft.

If possible, remove the baggage, cargo, and flyaway kit.

If required, remove primary components as necessary.

Prepare to tether, lift, and move the aircraft. If available, install the protective covers to the pitot static probes, angle of attack sensors, ice detector (optional), and engines

Complete the aircraft damage report when the aircraft recovery is completed. The damage report is written by the Pilatus Aircraft Ltd. investigation team, or a technical support / engineering team that is specially assembled for the task.

Planning for aircraft recovery - General

1 General

CAUTION

THE SPECIAL PROBLEMS THAT ARE RELATED TO AN AIRCRAFT RECOVERY OPERATION MAKE IT NECESSARY FOR ONE APPROVED PERSON TO DIRECT ALL OF THE OPERATION.

1.1

Refer to the International Civil Aviation Organization (ICAO) document 9137-AN/898, Airport Services Manual, Part 5, "Removal Of Disabled Aircraft" as an aid for aircraft recovery.

1.2

The document gives the procedures to use for the recovery and / or the removal of a disabled aircraft. Some advanced procedures that are necessary are as follows:

1.2.1

When you have to move an aircraft that cannot taxi or be towed with an approved tow bar or tow bridle, use other recovery procedures. The aircraft may be lifted with pneumatic bags or cranes and moved on a trailer or dollies.

1.2.2

Advance planning is important to make sure that the equipment and persons with the skills to do a recovery operation are available when necessary.

1.2.3

Prepare a full "Aircraft Recovery Plan" which may be started as soon as an accident occurs and at the request of the Investigator-in-Charge (IIC).

1.2.4

Make sure to have the necessary emergency procedures. Give to the applicable personnel the task they are responsible for.

1.2.5

Note

It is recommended that a copy of the Aircraft Recovery Manual is included in the "Aircraft Recovery Plan" for the airport.

Tell all major users of the airport about the airport management policies that apply to the removal of disabled aircraft. Include the applicable parts of the Aircraft Recovery Manual in the airport procedure.

2 Aircraft Recovery Plan

The aircraft recovery plan includes:

2.1

The guidelines for the fast removal of a disabled aircraft from the airport operational areas as well as the precautions to prevent secondary damage to the aircraft.

2.2

Detailed grid maps for use during the recovery operations. The maps must show the topography of the airport site, approaches, and adjacent areas. They must also show roads, ditches, gates, ground conditions, and other factors that could have an effect on the aircraft recovery operations.

2.3

Details about access roads to all parts of the airport that are near overhead power lines or bridges, specially those roads necessary for heavy equipment such as cranes.

2.4

Pilatus's data on the PC-24 aircraft that use the airport. For aircraft recovery, the important data is weight and balance, lifting and moving, and weight reduction figures.

2.5

Note

If not available, try to get aircraft recovery kits from other airports as quickly as possible. The ICAO "Airport Service Manual", Part 5, gives a worldwide list of aircraft kits.

The type and location of heavy or specialized equipment and the time necessary to get the equipment to the airport. Equipment to defuel the aircraft must be available to move to all areas or location. Because of the dimensions of the PC-24, cranes and slings can be used to lift the aircraft. The availability of cranes should be included in the recovery plan.

2.6

Sources of personnel with different skills, ranging from laborers to aircraft mechanics.

2.7

The requirement for food, clothes, and shelter for the recovery crew.

2.8

Flexible procedures for communications, security, and safety for the recovery operation, that are applicable for the site.

2.9

An active inventory of local salvage equipment that is available to the airport. The operator can get aircraft removal equipment and crews through contracts with airport owners, military airfields, or aeronautical industries near the airport.

2.10

Note

An agreement must be received from the IIC or the senior official of the investigation team, before the airport owner can move a disabled aircraft.

Airport rules must make sure of the items that follow:

- The airport owner's right to close all or part of the airport as necessary.
- The limits of liabilities and penalties for violations.

2.11

Contracts / agreements between aircraft operators and fixed base operators must give each of them the capability to move the types of aircraft they use or those which they service. The movement must include minimum risk of damage to the aircraft and to the airport. The contracts / arrangements can be with a single operator, a co-operative procedure with the airport authorities or a joint procedure by more than one operator at the applicable airport. It is recommended that the operators put their removal equipment together because of:

- The logistics and time saving advantages of recovery kits that they own together.
- The economic advantages to single operator (they can buy fewer kits).
- The improvements that come with more equipment because a larger number of operators are together.

2.12

The contracts / agreements must record the fixed base operator's procedures and capacity to do non-routine aircraft repairs on runways.

2.13

Procedures and agreements for airports used jointly by civil and military aviation.

2.14

Note

It is recommended that the PC-24 aircraft is moved with a tractor / trailer with a bed of equally low height. This decreases the height the recovery team must lift a damaged aircraft.

In the procedures for recovery equipment, look carefully at the items that follow:

- The full system to lift and move the aircraft.
- The mixture of recovery system components and the support equipment necessary to move dangerous materials. Also other equipment such as cranes, dollies, and flatbed trucks.
- The availability of winch-equipped heavy equipment (for example, a bulldozer or tractor).

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Preparation before moving the aircraft - Operation

1 Aircraft structure examination

WARNING

MAKE SURE THAT THE STRUCTURE OF THE DAMAGED AIRCRAFT CAN HOLD ITS WEIGHT BEFORE YOU LOWER IT ONTO THE LANDING GEAR FROM TRESTLES OR JACKS. IF YOU DO NOT DO THIS, YOU CAN CAUSE INJURY TO PERSONNEL OR MORE DAMAGE TO THE AIRCRAFT.

Do an examination of the aircraft structure before it comes off the trestles or jacks to make sure it is sufficiently strong to tow the aircraft on the landing gear. Lower the landing gear only if:

- The Investigator-In-Charge (IIC) agrees
- It is safe
- No more damage will occur.

2 Jacking weights

CAUTION

DO NOT REMOVE FUEL, CARGO, OR THE ENGINES IF THEY KEEP THE AIRCRAFT'S CENTER OF GRAVITY. THIS WILL PREVENT AN OVERLOAD AT THE JACKING POINT.

The maximum weight of the aircraft on jacks is as follows:

1

Note

The weights given are for an undamaged aircraft. The damage caused by an accident may cause lower maximum permitted loads at the jacking points. It is safer to put the aircraft onto trestles (assembled on-site) if there is structural damage.

The maximum permitted weight of the aircraft is 18,400 lb (8,345 kg).

2 The maximum vertical jacking loads for each jack location are as follows:

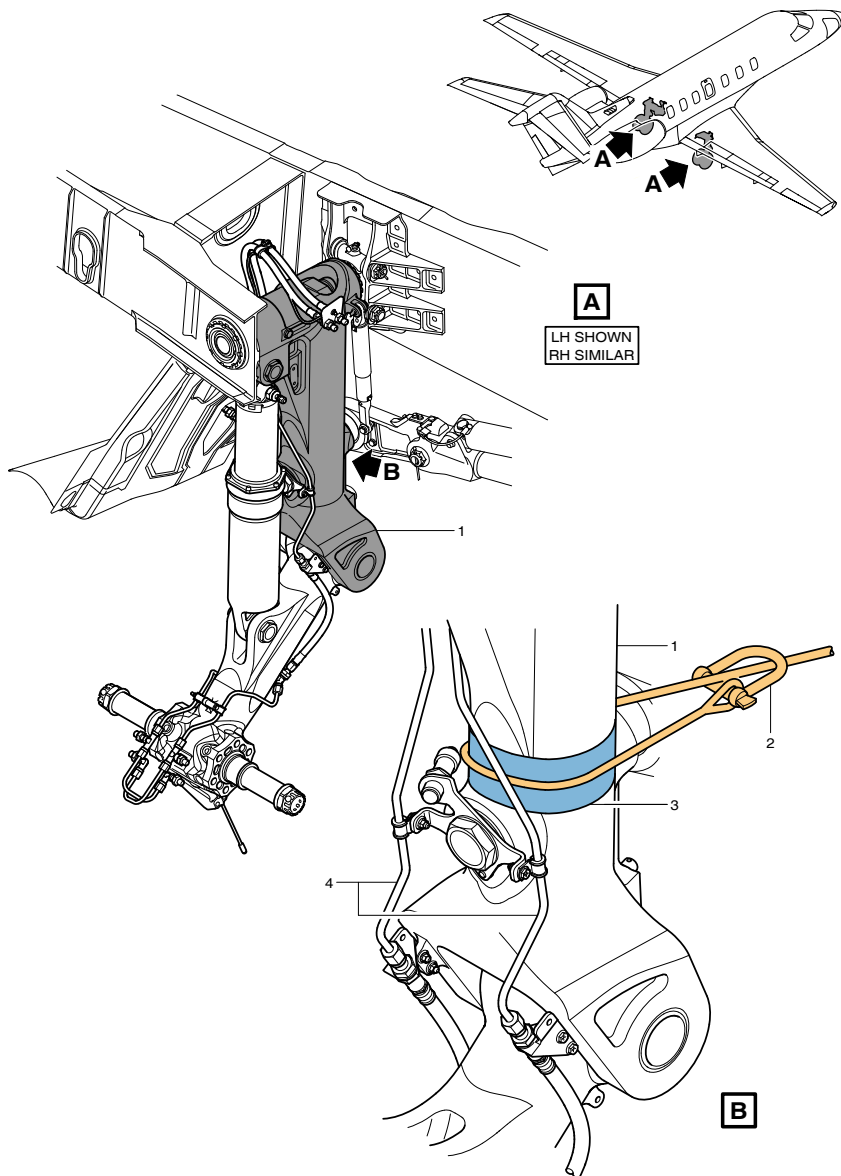
- Nose jacking point - 3353.4 lb (1512 kg)
- Each wing jacking point - 11464 lb (5200 kg).

3 Aircraft debogging

Table 2-2-1-1: Tools and Support Equipment

Tool / Equipment	Recommended Pilatus Part
Shovel	Local supply
Towing bridle	Local supply
Tractor	Local supply
Hand tow bar	Local supply
Planks	Local supply
Wheel chocks	Local supply

- 1 Use the shovel and remove as much material as possible from around the bogged landing gear.
- 2 Install the towing bridle to the LH and RH MLG leg (Figure 2-2-1-1 [1]) with a shackle (Figure 2-2-1-1 [2]). Refer to Fig. 2-2-1-1.
- 3 Use protection (Figure 2-2-1-1 [3]) on the MLG legs to protect them.
- 4 Make sure that the towing bridle does not damage the aircraft hydraulic brake hoses (Figure 2-2-1-1 [4]).
- 5 Connect the towing bridle to the tractor.
- 6 Install the hand tow bar on the NLG tow point.
- 7 If necessary, in the flight compartment release the park brake.
- 8 Put the planks in position at the rear of the main wheels.
- 9 Make sure that personnel are available with wheel chocks to stop the aircraft if necessary.
- 10 Tow the aircraft backward at a constant speed with no sudden movements. Steer the NLG with the hand tow bar.
- 11 As the main wheels goes onto the planks, monitor the position of the planks and make sure that they will not lift and touch the wings or fuselage.
- 12 When the aircraft is at the final position, in the flight compartment set the park brake to ON and install the wheel chocks.
- 13 Disconnect the towing bridle from the tractor.
- 14 Disconnect the towing bridle from the LH and RH MLG leg (Figure 2-2-1-1 [1]).
- 15 Remove the hand tow bar from the NLG tow point.
- 16 Clean the mud, sand, or other contaminants from the wheels wells, flaps and landing gear.
- 17 Do an examination of the MLG and the NLG in accordance with the Aircraft Maintenance Manual (AMM) at the earliest opportunity.



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Figure 2-2-1-1: Towing bridle install - Tow forward

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Batteries - Disconnect, remove and disassemble procedures

1 Prepare to disconnect the aircraft batteries

WARNING

BE CAREFUL WHEN YOU MOVE THE BATTERY. THE BATTERY IS HEAVY AND CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

Note

A minimum of two people is recommended for this procedure.

Make sure that the electrical power is disconnected. Refer to [Electrical power disconnect - General maintenance procedure](#).

2 Identify the aircraft batteries

Note

Two types of battery can be installed in the PC-24. The same type of battery is installed in the two locations.

Find and identify batteries 1 and 2 as follows ([Fig. 2-2-2-1](#)):

- 1 Open the left nose door.
- 2 Open the battery door in the right wing fairing.
- 3 Identify which type of battery is installed:
 - Nickel Cadmium (Ni-Cad)
 - Lithium Ion (Li-Ion).

3 Nickel cadmium batteries

Note

This procedure is the same for battery 1 and battery 2.

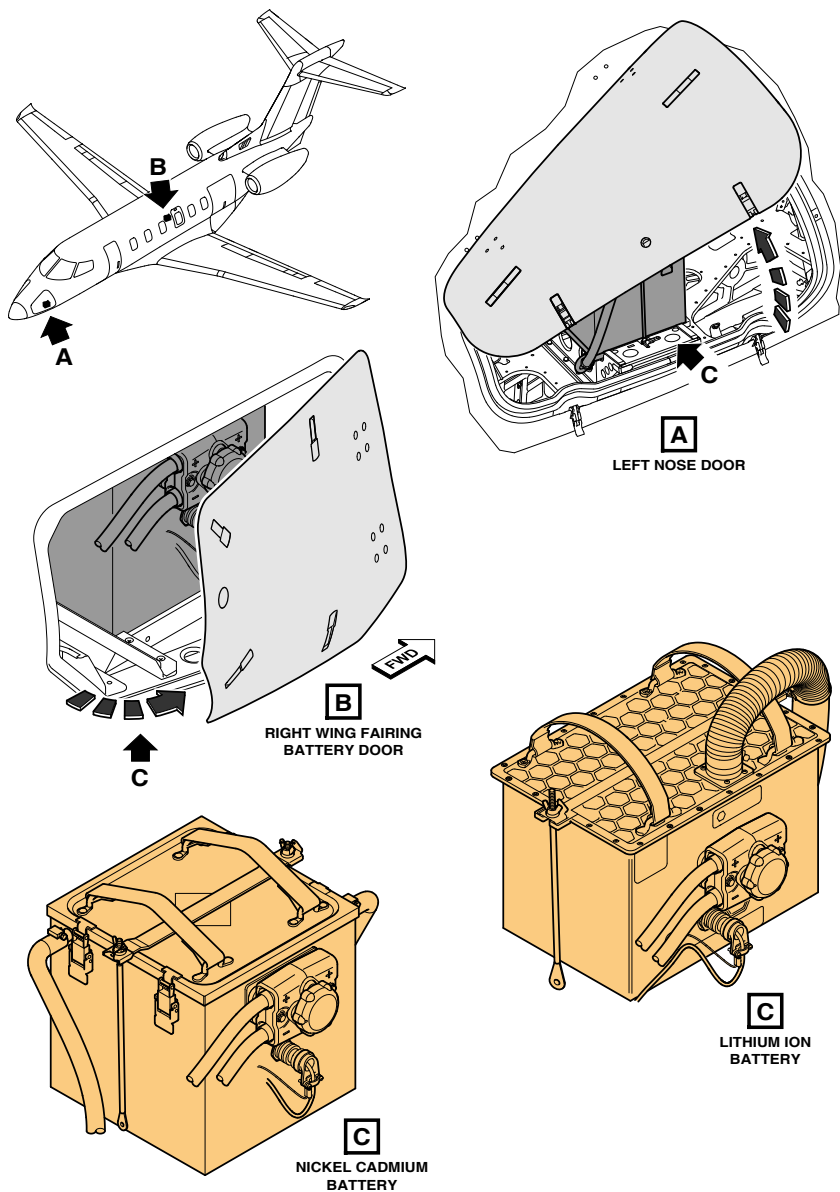
- 1 Disconnect the Ni-Cad batteries as follows:
 - 1.1 Turn the knob counterclockwise to disconnect the electrical connector (Figure 2-2-2-2 [3]) from the battery (Figure 2-2-2-2 [1]).
 - 1.2 Disconnect the electrical connector (Figure 2-2-2-2 [4]) from the battery.
 - 1.3 If the battery heater belt (Figure 2-2-2-2 [5]) is installed, remove and discard the cable tie and disconnect the electrical connectors (Figure 2-2-2-2 [6]).
 - 1.4 Loosen the hose clamps and remove the two hoses and two clamps (Figure 2-2-2-2 [2]) from the battery.
 - 1.5 Install protective covers on the battery electrical receptacles and vent ports.
- 2 Remove Ni-Cad batteries as follows:
 - 2.1 For battery 1 (Figure 2-2-2-3 [1]) and battery 2 (Figure 2-2-2-3 [2]), do the steps that follow:
 - Remove and discard the lockwire from the two wing nuts (Figure 2-2-2-3 [5])
 - Loosen the two wing nuts (Figure 2-2-2-3 [5])
 - Make sure that the two plates (Figure 2-2-2-3 [4]) disengage from the battery
 - Move the two tie rods (Figure 2-2-2-3 [3]) away from the battery.
 - 2.2 For battery 1 (Figure 2-2-2-3 [1]), remove the outboard tie rod (Figure 2-2-2-3 [7]) as follows:
 - Remove the quick release pin (Figure 2-2-2-3 [6])
 - Remove the screw (Figure 2-2-2-3 [9]) and pin assembly (Figure 2-2-2-3 [9]).
 - 2.3 Carefully remove the battery from the aircraft.
 - 2.4 Do a check of the battery mounting tray and the adjacent area for signs of electrolyte spillage.

4 Lithium ion batteries

Note

This procedure is the same for battery 1 and battery 2.

- 1 Disconnect Li-Ion batteries as follows:
 - 1.1 Turn the knob counterclockwise and carefully disconnect the electrical connector (Figure 2-2-2-4 [3]) from the battery.
 - 1.2 Remove and discard the lockwire from the screw (Figure 2-2-2-4 [5]) and the receptacle.
 - 1.3 Remove the screw (Figure 2-2-2-4 [5]), the washer (Figure 2-2-2-4 [6]), and the two bonding leads (Figure 2-2-2-4 [7] and Figure 2-2-2-4 [8]) from the battery.
 - 1.4 Disconnect the electrical connector (Figure 2-2-2-4 [4]) from the battery.
 - 1.5 Loosen the hose clamp (Figure 2-2-2-4 [1]) and remove the hose (Figure 2-2-2-4 [2]) from the battery.
 - 1.6 Install protective covers on the battery electrical receptacles and vent port.
- 2 Remove Li-Ion batteries as follows:
 - 2.1 Remove and discard the lockwire from the two wing nuts (Figure 2-2-2-5 [2] and Figure 2-2-2-5 [8]).
 - 2.2 Remove the items that follow from the tie rod (Figure 2-2-2-5 [6]) that secures the hose (Figure 2-2-2-5 [7]):
 - wing nut (Figure 2-2-2-5 [2])
 - washer (Figure 2-2-2-5 [3])
 - bush (Figure 2-2-2-5 [4])
 - plate (Figure 2-2-2-5 [5]).
 - 2.3 Move the hose (Figure 2-2-2-5 [7]), the plate (Figure 2-2-2-5 [5]), and the tie rod (Figure 2-2-2-5 [6]) away from the battery (Figure 2-2-2-5 [1]).
 - 2.4 Loosen the wing nut (Figure 2-2-2-5 [8]), disengage the plate (Figure 2-2-2-5 [9]), and move the tie rod (Figure 2-2-2-5 [10]) away from the battery (Figure 2-2-2-5 [1]).
 - 2.5 Carefully remove the battery from the aircraft.
 - 2.6 Do a check of the battery mounting tray and the adjacent area for signs of electrolyte spillage.



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Figure 2-2-2-1: Batteries 1 and 2 - Location

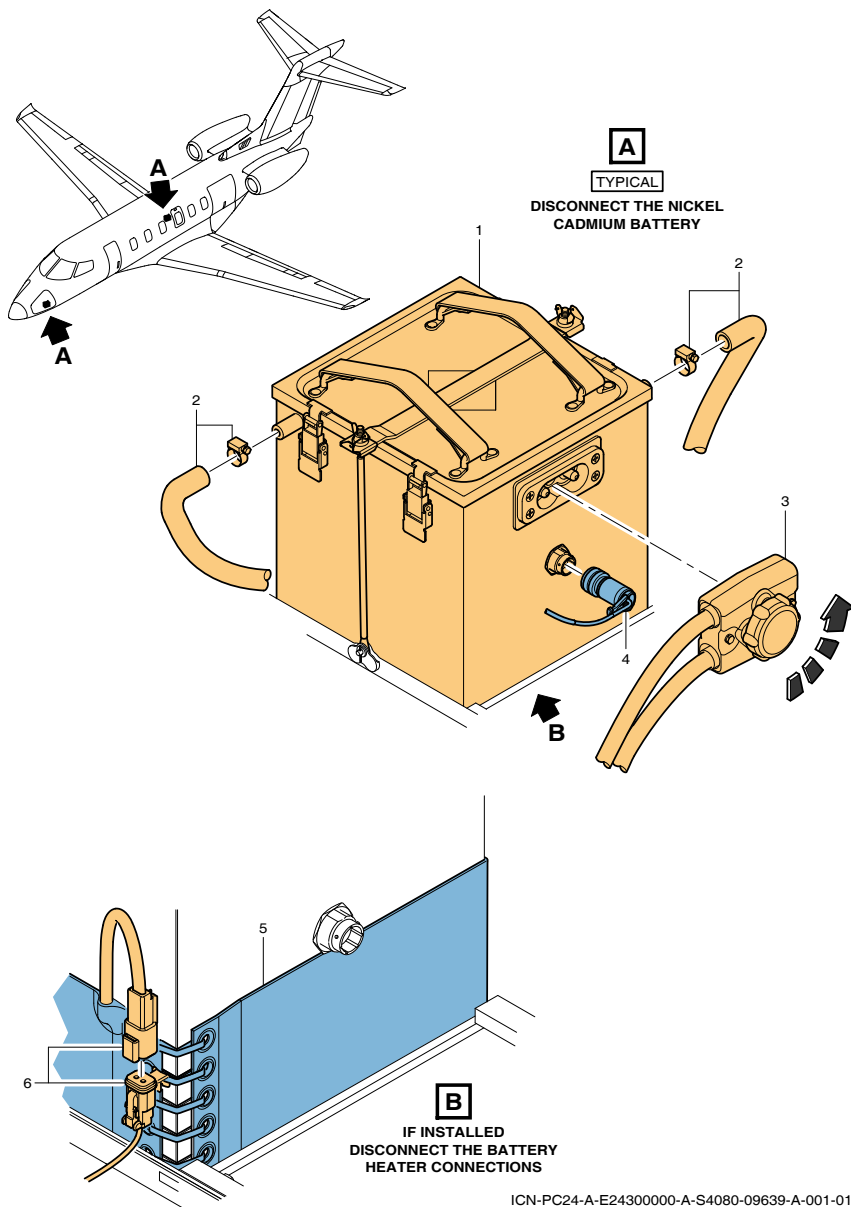
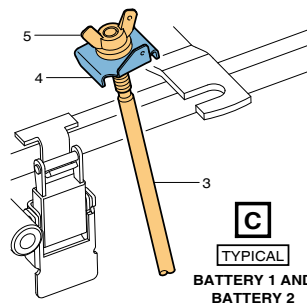
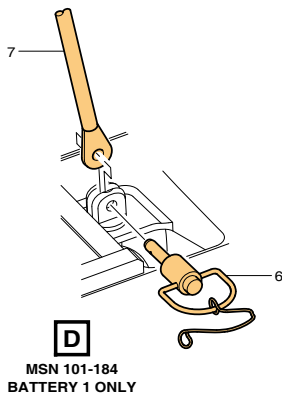
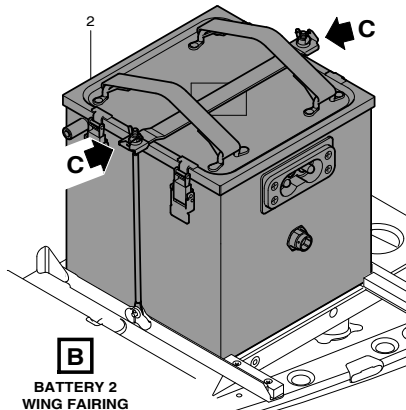
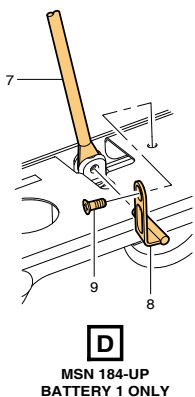
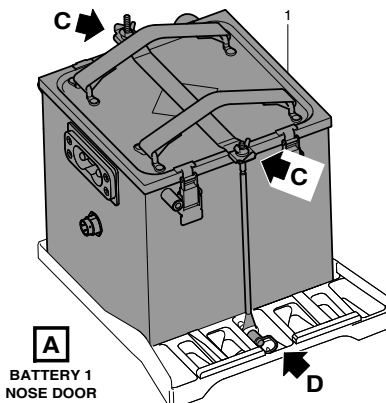
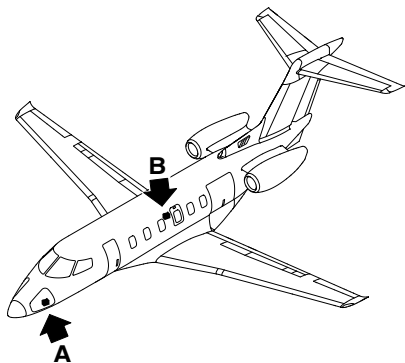


Figure 2-2-2-2: Batteries 1 and 2 - Disconnect Ni-Cad batteries

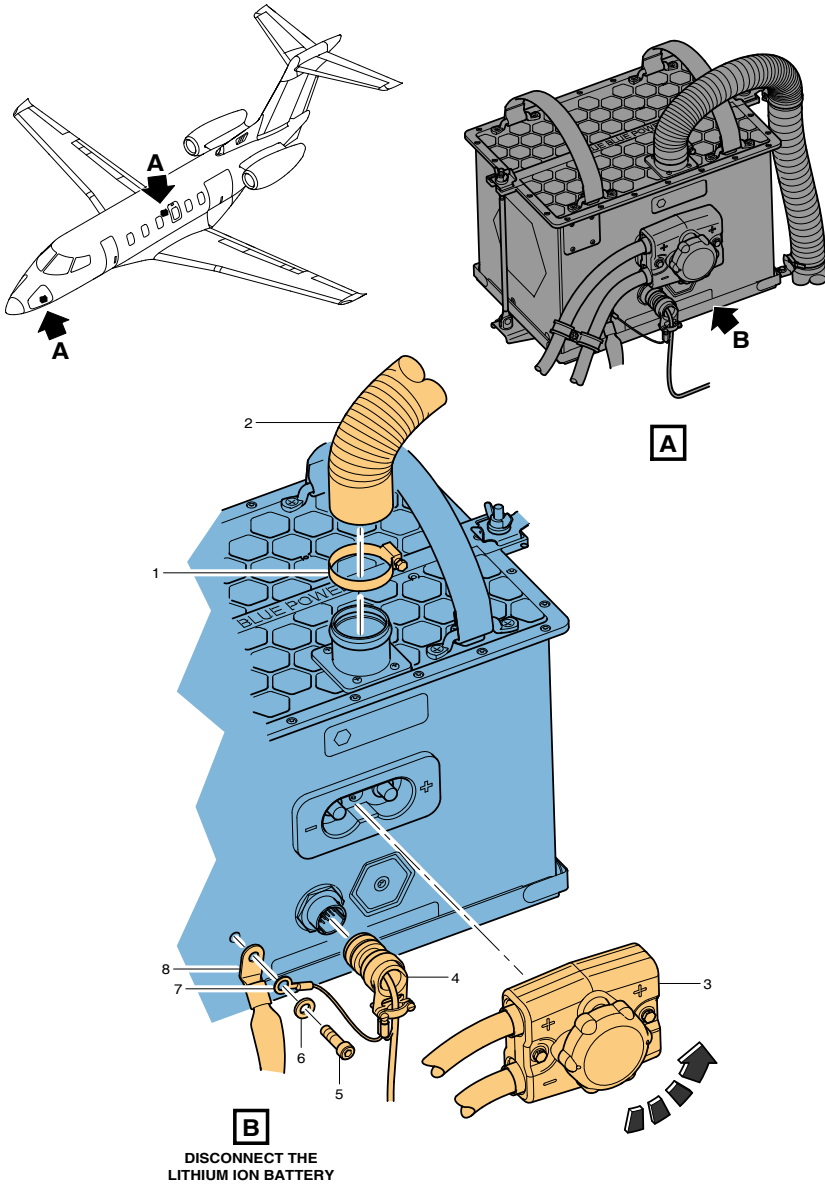
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Figure 2-2-2-3: Batteries 1 and 2 - Remove Ni-Cad batteries

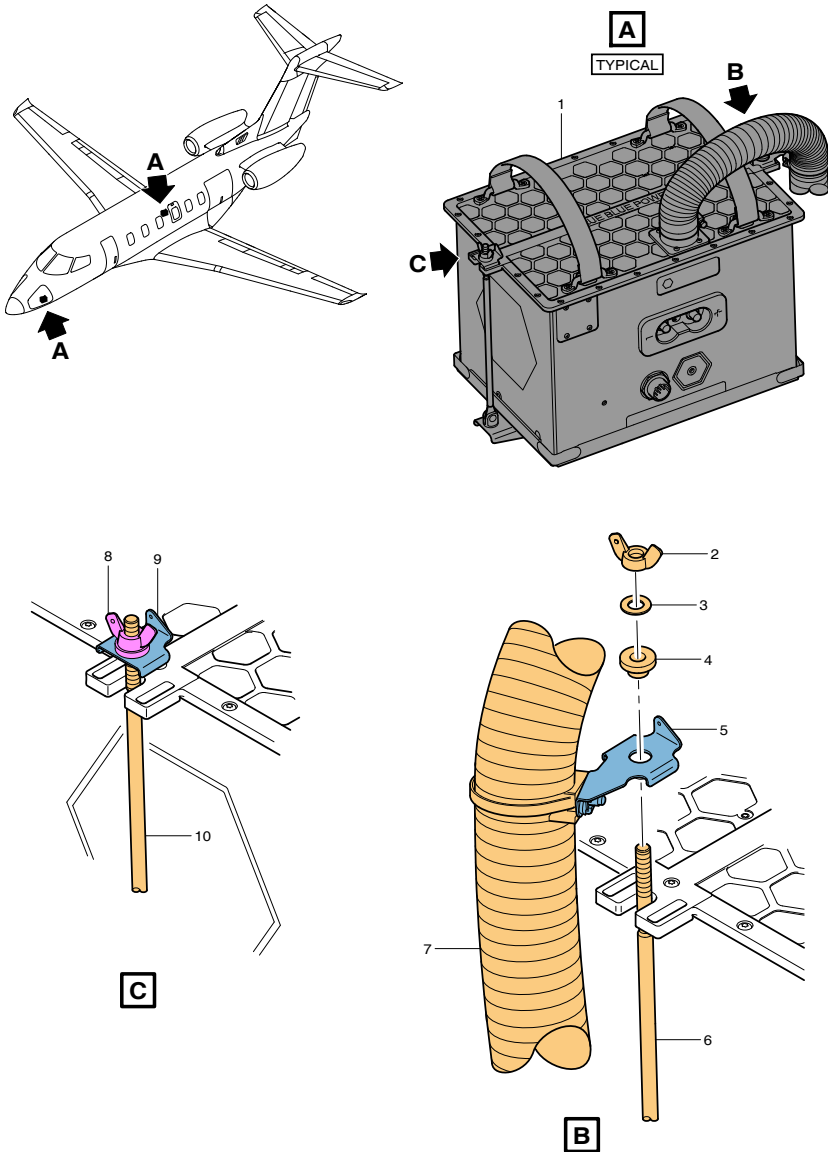
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Figure 2-2-2-4: Batteries 1 and 2 - Disconnect Li-Ion batteries

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Figure 2-2-2-5: Batteries 1 and 2 - Remove Li-Ion batteries

Aircraft damage - Visual examination without special equipment

1 Safe for maintenance

Make sure that the aircraft is safe for maintenance. Refer to [Batteries - Disconnect, remove and disassemble procedures](#) and [Fuel - Defuel and drain fuel](#).

2 Examine the aircraft for damage

Examine the aircraft for damage as follows:

- 1 Examine how the accident occurred. This will aid you to make an estimate of the damage that occurred to the aircraft.
- 2 After you examine the obvious damage, examine the structural condition of the aircraft.
- 3 Look for possible damage to other areas of the aircraft. The signs that follow give an indication of other damage:

- Bulges in the wing or fuselage skins, at structural joints, or heavy fittings, give an indication of internal damage.
- Rivets, bolts, or fasteners of all types that are tilted, cut, or loose also give an indication of damage.

- | |
|---|
| Note |
| A careful examination may not be possible if the aircraft landing gear is not deployed correctly. |

Torn, cracked, or buckled fairings and other non-structural parts are causes for you to carefully examine the aircraft structure below these parts. You must think that damage to the structure below these parts is possible until your examination shows differently.

- 4 Make a list of missing or unserviceable items as you examine the aircraft and estimate the damage.

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Terrain consideration - Other check

1 Assess the terrain

Get an experienced civil engineer or earthworks contractor to make an assessment of the terrain surface conditions, bearing loads and areas. The type of terrain, the weather conditions, and the structural damage to the aircraft are additional factors to think about when you need to find the bearing area necessary to lift and move the aircraft.

2 Assess the route

CAUTION

YOU CAN CAUSE ADDITIONAL STRUCTURAL DAMAGE TO THE AIRCRAFT IF YOU MOVE IT OVER ROUGH TERRAIN.

Make an estimate of the general terrain to find the best route to tow the aircraft.

- 1 If necessary, grade the proposed tow route to give a smooth surface for the aircraft and the tow vehicles.
- 2 Make an estimate of how hard and smooth the surface is. You will also need to think about the effect of rain and drainage on the load-bearing capacity of the terrain.
- 3 Find the safe bearing load and surface area of the terrain. Make sure that the terrain has the same condition for a depth of 8 in (20.3 cm). The force necessary to tow the aircraft changes as a function of the strength of the terrain.

3 Lifting the aircraft

The type of terrain dictates the applicable procedure to lift the aircraft:

- 1 For jacks, refer to [Fig. 2-2-4-1](#).
- 2 For pneumatic bags, refer to [Fig. 2-2-4-2](#).
- 3 For mobile cranes and slings, refer to [Fig. 2-2-4-3](#).

Ground conditions are one of the primary factors in aircraft recovery operations. The ground conditions have an effect on the decisions whether to tow the aircraft or to shore the aircraft. From the assessment of the terrain conditions, the recovery team makes decisions about reinforcement of the terrain and the shoring base.

4 California Bearing Ratio (CBR)

The California Bearing Ratio (CBR) is known as the standard for different ground conditions.

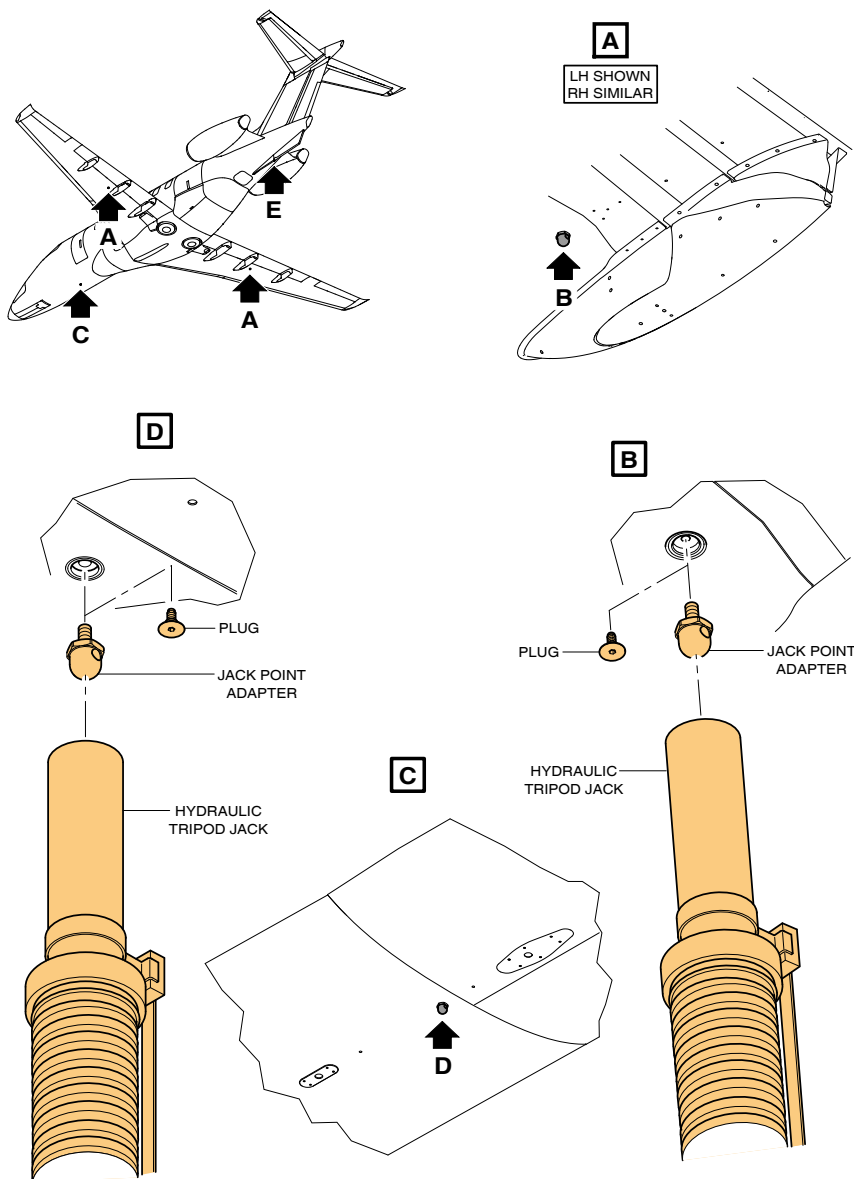
For the related bearing strengths of different ground conditions, refer to [Table 2-2-4-1](#).

Table 2-2-4-1: Safe bearing loads

Surface type	Safe bearing load
Slate or rock	230 psi
Concrete	156 psi
Hard pan and gravel	138 psi
Small sand and gravel	100 psi
Gravel, coarse sand, or medium clay	62 psi
Loose sand and gravel mixture	42 psi
Medium stiff clay	35 psi

Table 2-2-4-1: Safe bearing loads (continued from previous page)

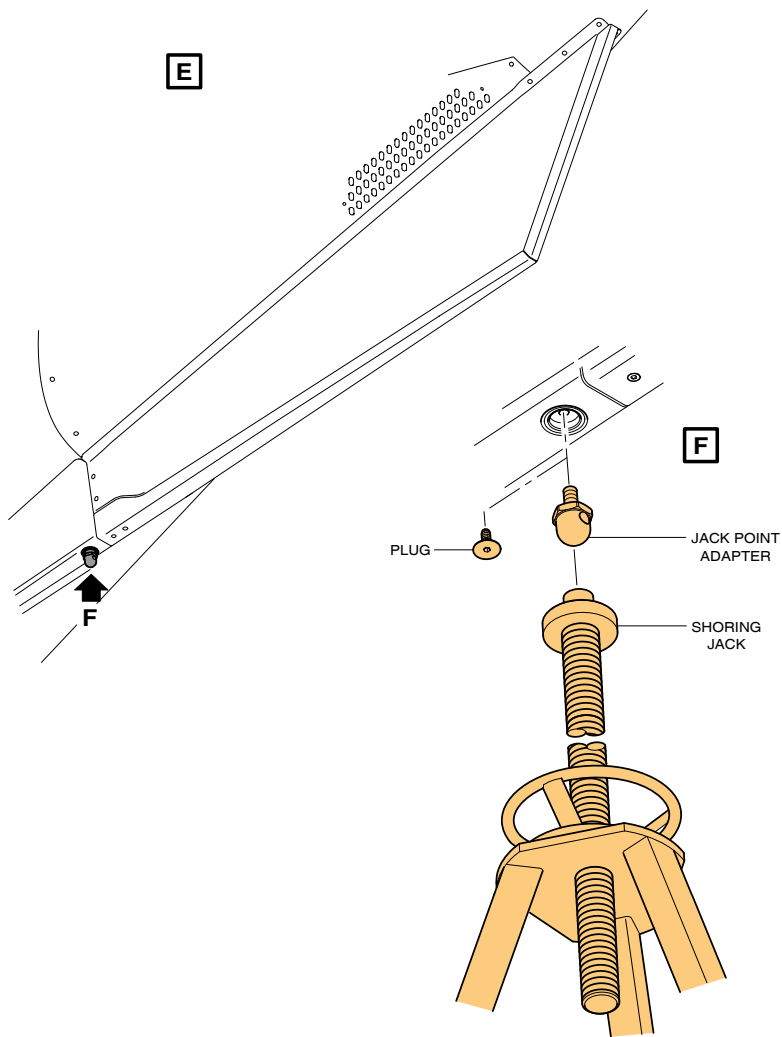
Loose sand	30 psi
Soft clay or earth	15.5 psi



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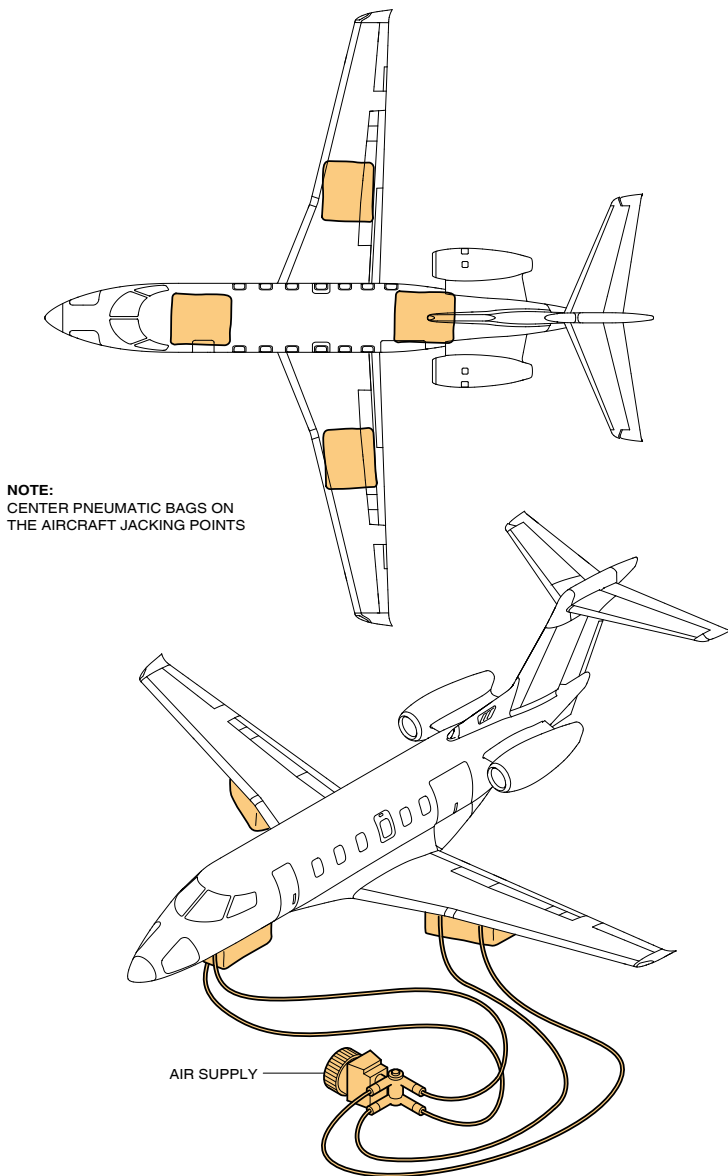
Figure 2-2-4-1: Aircraft Jacking (Sheet 1 of 2)

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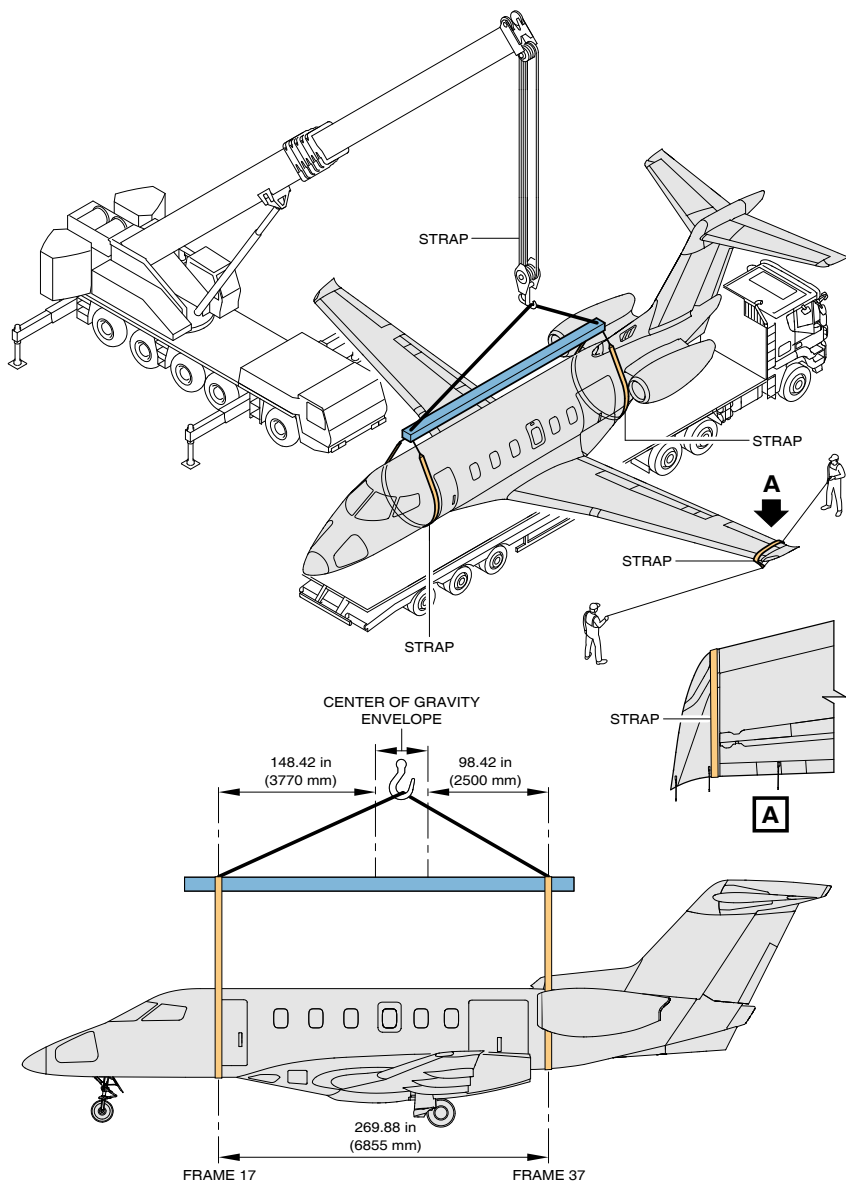
Figure 2-2-4-1: Aircraft Jacking (Sheet 2 of 2)



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Figure 2-2-4-2: Lifting with pneumatic bags

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Figure 2-2-4-3: Aircraft recovery with crane and slings

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Fuel - Defuel and drain fuel

1 Safety

WARNING

MAKE SURE THAT THERE ARE NO SPARKS OR FLAMES AROUND THE WORK AREA. THE MIXTURE OF AIR AND FUEL CAN CAUSE AN EXPLOSION. AN EXPLOSION CAN CAUSE DEATH OR INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING

PUT ON PROTECTIVE CLOTHING AND SAFETY GOGGLES BEFORE YOU DO WORK WITH FUEL. FUEL IS POISONOUS.

Obey these safety precautions for all defuelling operations:

- Conduct defuelling operations in an approved area.
- Do not do maintenance work which will cause a source of ignition near open fuel tanks or fuelling equipment
- Put the defuelling equipment in a position from which it can be easily moved in an emergency
- Do not remove the aircraft ground until the defuelling operations are complete.
- Do not remove the defuelling vehicle ground from the aircraft until defuelling operations are completed.

2 Defuel the aircraft with the aircraft pumps

Table 2-2-5-1: Defuel with booster pumps

	Gallons (Litres)	Lb (Kg)
Total fuel quantity	895 (3,389)	5,999.8 (2,721)
Removable (usable) fuel quantity (max)	890 (3,369)	5,964 (2,705)
Remaining usable fuel quantity	12.87 (48.72)	85 (39)
Undrainable fuel quantity	1.33 (5.03)	8.8 (4)
Time required to defuel from max fuel quantity	approximately 90 minutes	

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Defuel the aircraft with the aircraft pumps as follows:

- 1 Make sure that the defuel vehicle has the capacity to take the amount of fuel to be removed.
- 2 Connect external power.
- 3 In the cockpit, set the GPU switch to ON.
- 4 Connect the ground lead to the aircraft ground point on the nose landing gear (Figure 2-2-5-1 [1]).
- 5 Make sure that the defuel vehicle is grounded.
- 6 Open the Refuel door.
- 7 Connect the fuel hose bonding lead (Figure 2-2-5-2 [4]) to the pressure refuel adaptor ground point (Figure 2-2-5-2 [2]).
- 8 Remove the cap (Figure 2-2-5-2 [5]) from the pressure defuel adaptor (Figure 2-2-5-2 [1]).
- 9 Connect the fuel nozzle (Figure 2-2-5-2 [7]) to the pressure defuel adaptor (Figure 2-2-5-2 [1]).
- 10 Open the valve (Figure 2-2-5-2 [6]) on the fuel nozzle (Figure 2-2-5-2 [7]).
- 11 On the refuel/defuel panel (Figure 2-2-5-2 [3]) open the PWR-REFUEL/DEFUEL switch guard.
- 12 Set the PWR-REFUEL/DEFUEL switch to ON.

Note

During the fuel system boot the FAIL light (red) will be on.

Wait approximately one minute for the fuel system to boot.

Note

The DEFUEL switch must be pulled out before it can be moved to a new position.

Move the DEFUEL switch to A/C PUMP.

- 15 Within five seconds, hold the INC/DEC switch in "DEC" position until "MIN" is flashing in the PRESELECT FUEL QTY display.
- 16 The LH and RH A/C pumps start automatically.
- 17 On the refuel/defuel panel (Figure 2-2-5-2 [3]) make sure that the LH, RH and TOTAL fuel quantities decrease.
- 18 When the LH or RH fuel quantity is less than half the PRESELECT QTY, the applicable A/C pump stops.
- 19 When the defuel is completed, the TOTAL display flashes COMPLETE followed by the total fuel quantity.
- 20 Close the valve (Figure 2-2-5-2 [6]) on the refuel/defuel nozzle (Figure 2-2-5-2 [7]).

Note

The DEFUEL switch must be pulled out before it can be moved to a new position.

On the refuel/defuel panel (Figure 2-2-5-2 [3]), set the DEFUEL switch to OFF.

- 22 Set the PWR-REFUEL/DEFUEL switch to OFF.
- 23 Close the PWR-REFUEL/DEFUEL switch guard.
- 24 Disconnect the fuel nozzle (Figure 2-2-5-2 [6]) from the pressure defuel adaptor (Figure 2-2-5-2 [1]).
- 25 Install the cap (Figure 2-2-5-2 [5]) on the pressure refuel adaptor (Figure 2-2-5-2 [1]).
- 26 Disconnect the fuel hose bonding lead (Figure 2-2-5-2 [4]) from the pressure refuel adaptor ground point (Figure 2-2-5-2 [2]).
- 27 Close the Refuel door.
- 28 In the cockpit, set the GPU switch to OFF.
- 29 Disconnect external power. Refer to [Electrical power disconnect - General maintenance procedure](#).
- 30 Disconnect the ground lead from the aircraft ground point on the nose landing gear (Figure 2-2-5-1 [1]).
- 31 If necessary, drain the unusable fuel, do the Alternative defuel procedure.

3 Defuel the aircraft with suction

Note

Aircraft with the suction defuel option installed will have SUCTION shown on the REFUEL/DEFUEL panel.

Table 2-2-5-2: Defuel with suction

	Gallons (Litres)	Lb (Kg)
Total fuel quantity	895 (3,389)	5,999.8 (2,721)
Removable (usable) fuel quantity (max)	890 (3,369)	5,964 (2,705)
Remaining usable fuel quantity	49 (189)	330 (150)
Undrainable fuel quantity	1.33 (5.03)	8.8 (4)
Time required to defuel from max fuel quantity	approximately 30 minutes	

Defuel the aircraft by suction as follows (optional):

- 1 Open the Refuel door.
- 2 Connect the ground lead to the aircraft ground point on the nose landing gear (Figure 2-2-5-1 [1]).
- 3 Make sure that the defuel vehicle is grounded.
- 4 Connect the fuel hose bonding lead (Figure 2-2-5-2 [4]) to the pressure refuel adaptor ground point (Figure 2-2-5-2 [2]).
- 5 Remove the cap (Figure 2-2-5-2 [5]) from the pressure refuel/defuel adaptor (Figure 2-2-5-2 [1]).
- 6 Connect the defuel nozzle (Figure 2-2-5-2 [7]) to the pressure refuel/defuel adaptor (Figure 2-2-5-2 [1]).
- 7 Open the valve (Figure 2-2-5-2 [6]) on the defuel nozzle (Figure 2-2-5-2 [7]).
- 8 On the refuel/defuel panel (Figure 2-2-5-2 [3]), open the PWR-REFUEL/DEFUEL switch guard.
- 9 Set the PWR - REFUEL/DEFUEL switch to ON

Note

During the fuel system boot the FAIL light (red) will be on.

Wait approximately one minute for the fuel system to boot.

- 11 Within five seconds, hold the INC/DEC switch in "DEC" position until "MIN" is flashing in the PRESELECT FUEL QTY display.

Note

The DEFUEL switch must be pulled out before it can be moved to a new position.

Set the DEFUEL switch to SUCTION.

Note

The minimum defuel suction pressure is -10 psig (-0.69 bar).

Start the pump on the defuel vehicle.

- 14 On the refuel/defuel panel (Figure 2-2-5-2 [3]), make sure the LH, RH, and TOTAL fuel quantities decrease.
- 15 Make sure the LH and RH REFUEL VALVE CLOSED lights (green) are OFF.
- 16 When the LH or RH fuel quantity is less than half the PRESELECT QTY, the LH or RH suction defuel stops automatically.
- 17 When the defuel is completed, the TOTAL display flashes COMPLETE followed by the total fuel quantity.

Note

The DEFUEL switch must be pulled out before it can be moved to a new position.

Set the DEFUEL switch to OFF.

- 19 Set the PWR - REFUEL/DEFUEL switch to OFF.
- 20 Close the PWR - REFUEL/DEFUEL toggle-switch guard.
- 21 Stop the pump on the defuel vehicle.
- 22 Close the valve (Figure 2-2-5-2 [6]) on the fuel nozzle (Figure 2-2-5-2 [7]).
- 23 Disconnect the fuel hose (Figure 2-2-5-2 [7]) from the pressure refuel/defuel adaptor (Figure 2-2-5-2 [1]).
- 24 Install the cap (Figure 2-2-5-2 [5]) on the pressure refuel/defuel adaptor (Figure 2-2-5-2 [1]).
- 25 Disconnect the fuel hose bonding lead (Figure 2-2-5-2 [4]) from the pressure refuel/defuel adaptor ground point (Figure 2-2-5-2 [2]).
- 26 Close the Refuel door.
- 27 Disconnect the ground lead from the aircraft ground point on the nose landing gear (Figure 2-2-5-1 [1]).
- 28 If necessary, drain the unusable fuel, do the step that follows.

4 Drain the unusable fuel

Table 2-2-5-3: Tools and Support Equipment

Tool / Equipment	Recommended Pilatus Part
Waste fuel container	Local supply
Continuous fuel drain tool	Local supply
Bonding lead	Local supply

Drain the unusable fuel as follows:

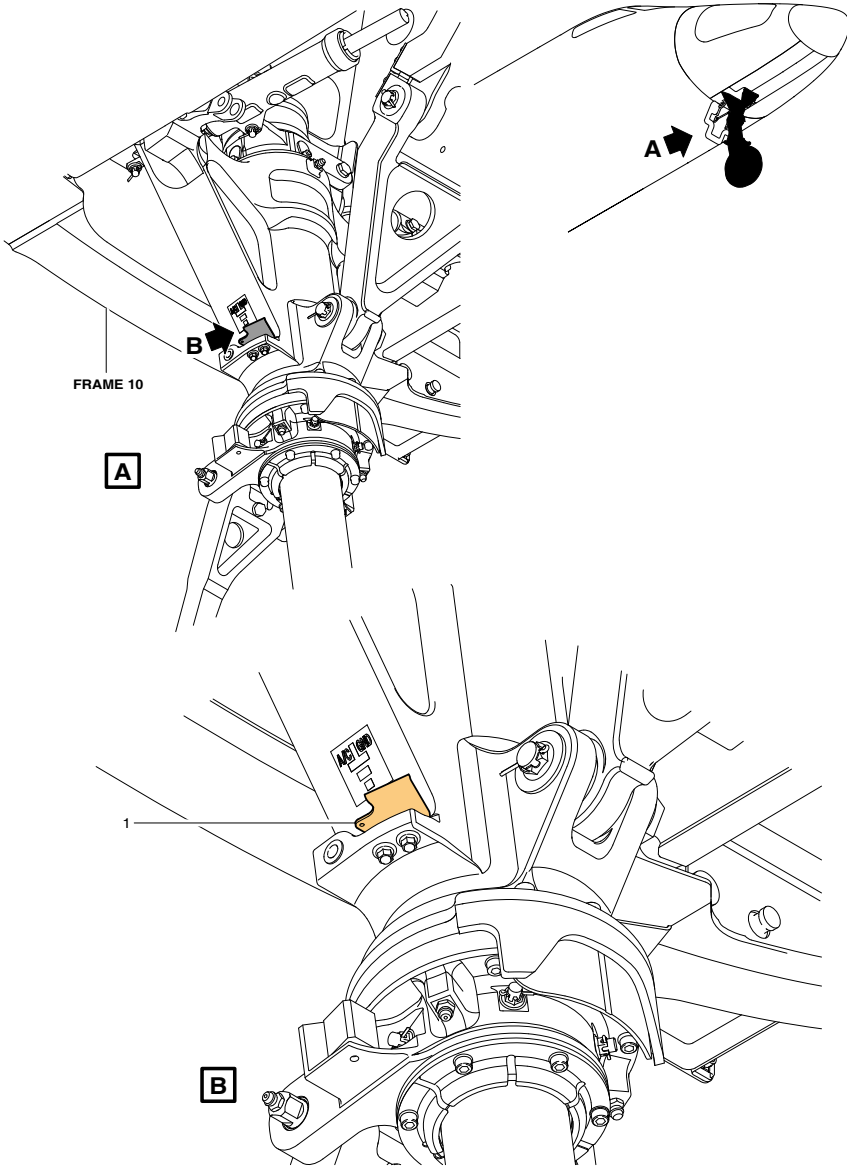
- 1 Put a waste fuel container (Figure 2-2-5-3 [3]) in position under the applicable drain valve (Figure 2-2-5-3 [1]). The waste fuel container capacity must be a minimum of:
 - Defueled with aircraft pump, MSN 101-230 Pre-SB 42-016: 10 gal (37.9 l)
 - Defueled with aircraft pump, MSN 101-230 Post-SB 42-016, and MSN 231-UP: 12.7 gal (48 l)
 - Defueled by suction: 49.4 gal (187 l).
- 2 Connect a bonding lead from the waste fuel container (Figure 2-2-5-3 [3]) to the aircraft.
- 3 Install the continuous fuel drain tool (Figure 2-2-5-3 [2]) in the fuel drain (Figure 2-2-5-3 [1]).
- 4 Drain the fuel from the LH and RH wing.
- 5 Remove the continuous fuel drain tool (Figure 2-2-5-3 [2]) from the fuel drain (Figure 2-2-5-3 [1]).
- 6 Disconnect the bonding lead from the waste fuel container (Figure 2-2-5-3 [3]) and the aircraft.
- 7 Discard the waste fuel in accordance with local regulations.

5 Alternative defuel procedure

If there is no access to the single refuel / defuel point, or the single refuel / defuel point is damaged, do the steps that follow:

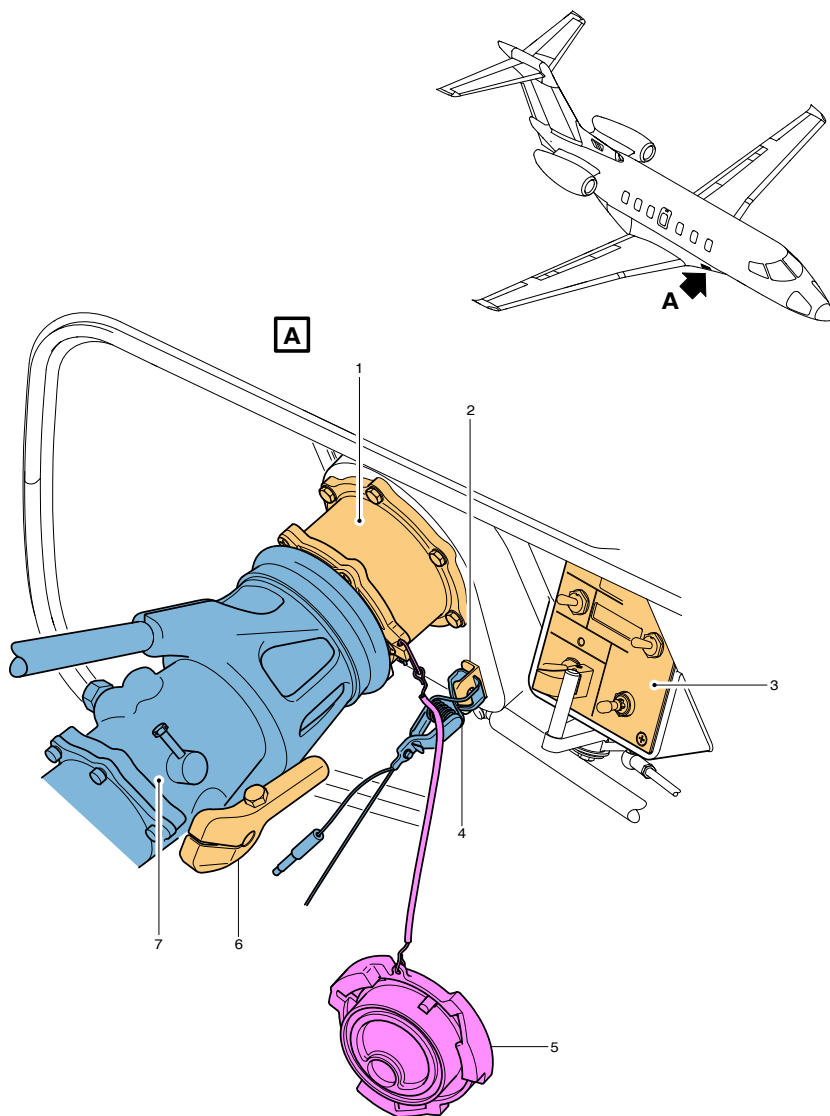
- 1 Obey the fuel safety precautions.
- 2 Make sure that the aircraft is on the landing gear or is safely trestled and supported.
- 3 Energise the aircraft electrical system.
- 4 Put the aircraft into the "Safe maintenance mode".
- 5 Remove the LH and RH FWD lower skin panels ([Figure 2-2-5-4 \[1\]](#) and [Figure 2-2-5-4 \[2\]](#)).
- 6 Make sure that this mechanical CB is CLOSED
 - Left wing fairing
 - PNL 3311
 - \perp B3
 - Boost pump L
- 7 Remove the slider shroud nut ([Figure 2-2-5-4 \[12\]](#)) from the slider shroud ([Figure 2-2-5-4 \[3\]](#)).
- 8 Move the slider shroud ([Figure 2-2-5-4 \[3\]](#)) onto the fuel pipe sufficiently to get access to the two O-ring seals ([Figure 2-2-5-4 \[6\]](#)).
- 9 Remove the coupling ([Figure 2-2-5-4 \[9\]](#)).
- 10 Move the sleeve ([Figure 2-2-5-4 \[8\]](#)) onto the fuel pipe sufficiently to get access to the two O-ring seals ([Figure 2-2-5-4 \[7\]](#))[Figure 2-2-5-4 \[7\]](#).
- 11 Move the ferrule ([Figure 2-2-5-4 \[4\]](#)) a small distance away from the ferrule ([Figure 2-2-5-4 \[11\]](#)) until it is possible to remove the O-ring seals ([Figure 2-2-5-4 \[6\]](#)) and the sleeve ([Figure 2-2-5-4 \[8\]](#)).
- 12 Remove and discard the O-ring seals ([Figure 2-2-5-4 \[6\]](#) and [Figure 2-2-5-4 \[7\]](#)).
- 13 Remove the sleeve ([Figure 2-2-5-4 \[8\]](#)).
- 14 Install a blanking cap on the fuel pipe ([Figure 2-2-5-4 \[10\]](#)).
- 15 Make sure that the defuel vehicle is grounded.
- 16 Connect the defuel hose to the fuel pipe ([Figure 2-2-5-4 \[5\]](#)).
- 17 Ground the defuel hose to the fuel pipe ([Figure 2-2-5-4 \[5\]](#)).
- 18 On the fuel synoptic page, set the left (right) fuel pump to ON.
- 19 In the flight compartment, monitor the applicable fuel gauge.
- 20 When the applicable fuel gauge gets to minimum fuel, set the left (right) fuel pump to OFF.
- 21 Disconnect the defuel hose from the fuel pipe ([Figure 2-2-5-4 \[5\]](#)).
- 22 Disconnect the defuel pipe ground wire from the fuel pipe ([Figure 2-2-5-4 \[5\]](#)).

- 23 Install a blanking cap on the fuel pipe ([Figure 2-2-5-4 \[5\]](#)).
- 24 Do Step 8 thru 23 for the other fuel feed pipe.
- 25 De-energize the aircraft electrical system. Refer to [Electrical power disconnect - General maintenance procedure](#).
- 26 Install the LH and RH FWD lower skin panels ([Figure 2-2-5-4 \[1\]](#) and [Figure 2-2-5-4 \[2\]](#)).



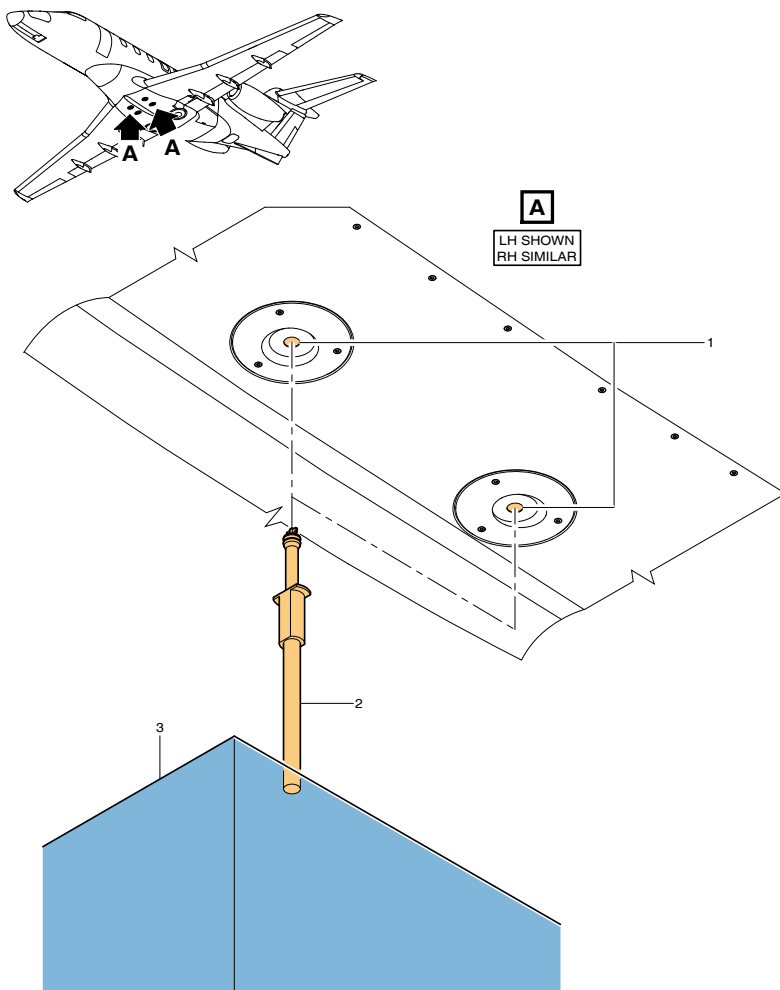
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Figure 2-2-5-1: Fuel - Aircraft ground point on nose landing gear



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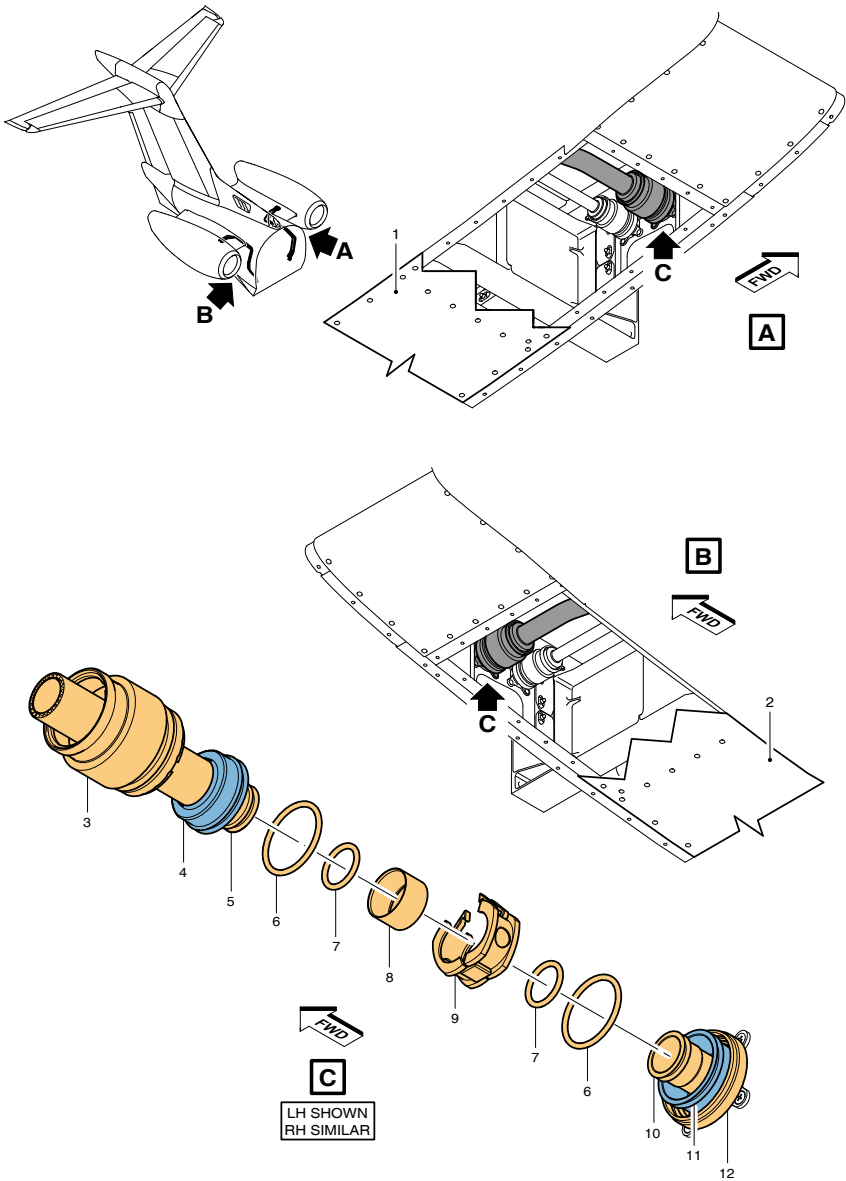
Figure 2-2-5-2: Fuel - Defuel



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Figure 2-2-5-3: Fuel - Defuel - Drain unusable fuel

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Figure 2-2-5-4: Fuel - Defuel - Alternative procedure

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Moving the aircraft - Operation

1 Set-up

WARNING

IF YOU REMOVE AN ENGINE, MAKE SURE THAT THE AIRCRAFT IS STABLE. IF IT IS NOT STABLE, THE AIRCRAFT CAN FALL AND CAUSE INJURY OR DEATH TO PERSONNEL AND DAMAGE TO THE AIRCRAFT.

CAUTION

THIS PROCEDURE CAN ONLY BE DONE AFTER ALL CARGO / BAGGAGE IS REMOVED, THERE ARE NO PASSENGERS OR CREW INSIDE THE AIRCRAFT, AND ALL USABLE AND NON-USABLE FUEL IS REMOVED. IF THERE ARE PERSONS, BAGGAGE AND FUEL ABOARD THE AIRCRAFT THE CENTRE OF GRAVITY WILL BE EFFECTED AND SERIOUS DAMAGE TO THE AIRCRAFT CAN OCCUR.

1

Note

This procedure is only applicable if the landing gear cannot be deployed.

This data module gives the procedures to move the aircraft after an aircraft mishap.

2 Before you start the recovery operation do the steps that follow:

- 2.1 Obey all the relevant safety precautions and local regulations.
- 2.2 Remove the aircraft batteries as quickly as possible, refer to [Batteries - Disconnect, remove and disassemble procedures](#). If it is not possible to remove the batteries, disconnect and insulate the battery connectors.
- 2.3 Close the oxygen bottle valve.
- 2.4 If necessary, defuel the damaged aircraft to increase the speed of the recovery operation, refer to [Fuel - Defuel and drain fuel](#).
- 2.5 If necessary, remove the engines to keep the center of gravity within the approved envelope. Make sure the aircraft is level before you release the load on the yokes.

2 Procedure

CAUTION

WHEN THE AIRBAGS ARE INFLATED, DO NOT INFLATE THE BAG UNDER THE REAR FUSELAGE AT THE SAME TIME. THE POSITION UNDER THE REAR FUSELAGE IS NOT LOAD BEARING AND SHOULD ONLY BE USED FOR SUPPORT / BALANCING. IF TOO MUCH LOAD IS PLACED ON THE AIRBAG AT THE REAR POSITION DAMAGE TO THE AIRCRAFT WILL OCCUR.

Move the aircraft as follows, refer to [Fig. 2-3-1-1](#):

1

Note

Make sure there are no protrusions on the aircraft that could puncture the pneumatic bags before you put them into position.

If necessary, position the pneumatic bags, refer to [Fig. 2-3-1-2](#), as follows:

- Under the forward fuselage centered on the nose jacking point.
- Under the left wing between the inboard and middle flap hinges, between rib 7 and rib 8 and aligned with the auxiliary rear spar.
- Under the right wing between the inboard and middle flap hinges, between rib 7 and rib 8 and aligned with the auxiliary rear spar.
- Under the rear fuselage.

2 Inflate the air bags at the positions that follow:

- Nose jacking point
- Left wing jacking point
- Right wing jacking point.

If necessary, inflate the airbag under the rear fuselage after the inflation of the other three, to stop the aircraft tipping backwards. The rear fuselage position is not load bearing.

3 It is recommended that the aircraft is debogged at this time. Use of a crane and slings can cause further damage to the aircraft.

4

Note

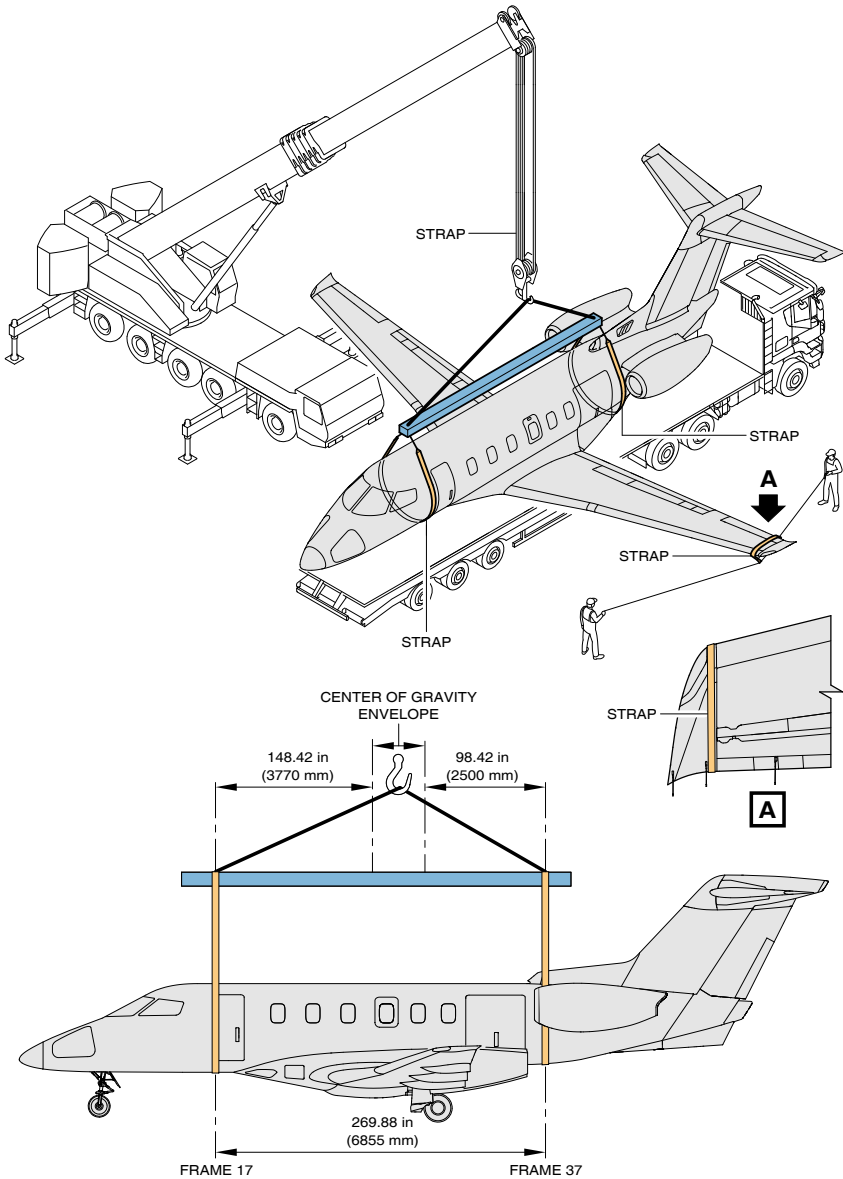
The use of crane and slings to move the aircraft should only be considered as a last resort.

If necessary, prepare the aircraft for recovery with a crane and slings. Refer to [Fig. 2-3-1-1](#).

5 Lift the aircraft and put it onto the low-loader.

6 Carefully move the aircraft to the designated maintenance area.

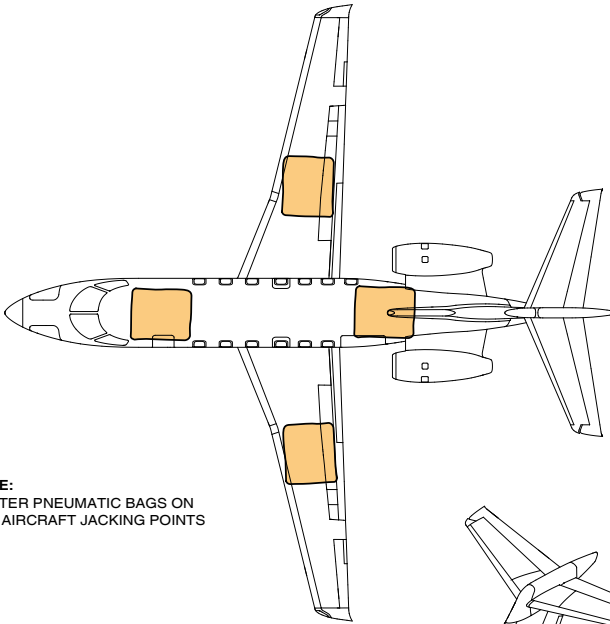
7 Lift the aircraft and put it onto the trestles.



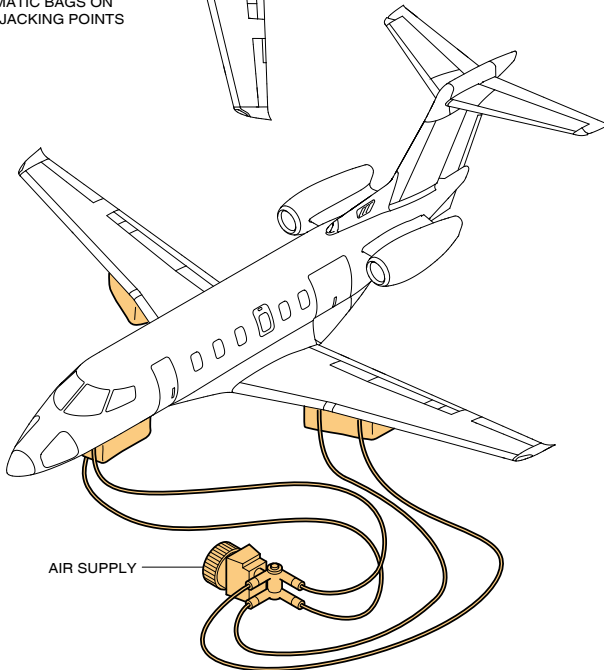
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Figure 2-3-1-1: Aircraft recovery with crane and slings

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NOTE:
CENTER PNEUMATIC BAGS ON
THE AIRCRAFT JACKING POINTS



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Figure 2-3-1-2: Lifting with pneumatic bags

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SECTION 3
Emergency Information
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Door clearances and clear opening dimensions - Technical data	3-1-1
1 Passenger / crew door	3-1-1
2 Emergency exit door	3-1-1
3 Cargo Door	3-1-2
4 Service doors and panels	3-1-3

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Door clearances and clear opening dimensions - Technical data

1 Passenger / crew door

WARNING

BE CAREFUL WHEN YOU OPEN THE PASSENGER / CREW DOOR. MAKE SURE THAT THE AIRCRAFT CABIN IS DE-PRESSURIZED. IF THE AIRCRAFT CABIN IS PRESSURIZED WHEN YOU OPERATE THE DOOR MECHANISM, THE DOOR CAN OPEN SUDDENLY. THIS CAN CAUSE INJURY OR DEATH TO PERSONNEL.

The passenger / crew door is located on the left side of the fuselage, aft of the flight compartment and can be opened from both inside and outside the aircraft. The door serves as a type 1 Emergency Exit.

The dimensions of the passenger / crew door are as follows:

- Height - 53.9 in (1367.4 mm)
- Width - 25.2 in (640 mm)
- Height of door sill - 39.17 in (995 mm).

To open the passenger / crew door from the outside, do the steps that follow:

- Push the locking tab to release the handle, this should also release the residual cabin pressure
- Pull out and down on the door handle to its stop
- Pull the door open
- Let the passenger / crew door open to the full open position.

The passenger / crew door is stabilized by two telescopic struts, one on either side of the stairs.

Note

The two passenger / crew door telescopic struts will stop the door at the correct position.

2 Emergency exit door

There are two emergency exit doors in the passenger cabin, approximately in the center of the cabin sidewalls, one over each wing. The emergency exit doors are plug-type doors.

The dimensions of the emergency exit door are as follows:

- Height - 26.8 in (680 mm)
- Width - 19 in (490 mm).

To open the emergency exit doors from the outside, do the steps that follow:

- Push the red release push pad. Make sure you control the emergency exit door as it opens.
- Push the emergency exit door into the aircraft
- Turn the emergency exit door clockwise 90 degrees and remove from the aircraft
- Discard the emergency exit door and make sure you do not obstruct the evacuation route.

3 Cargo Door

WARNING

BE CAREFUL WHEN YOU OPEN THE CARGO DOOR. MAKE SURE THAT THE AIRCRAFT CABIN IS DE-PRESSURIZED. IF THE AIRCRAFT CABIN IS PRESSURIZED WHEN YOU OPERATE THE DOOR MECHANISM, THE DOOR CAN OPEN SUDDENLY. THIS CAN CAUSE INJURY OR DEATH TO PERSONNEL.

The cargo door is located on the left side of the fuselage, forward of the rear pressure bulkhead. It cannot be opened from inside the aircraft and may be blocked by cargo or cargo nets. The cargo door opens up.

The dimensions of the cargo door are as follows;

- Height - 51 in (1300 mm)
- Width - 49 in (1240 mm)
- Height of door sill - 39.17 in (995 mm).

To open the cargo door, do the steps that follow:

- Push the locking tab to release the handle and also release the residual cabin pressure
- Pull the door handle out and down to the stop
- Pull the door open
- Let the cargo door open to the full open position.

4 Service doors and panels

The service doors and panels give access to the equipment and systems inside the fuselage. The service doors and panels are made from composite material. The service doors and panels are as follows:

- Left nose door - battery 1
- Right nose door - oxygen bottle
- Refuel / defuel door - pressure defueling, fuel quantity indication
- Battery access door - battery 2
- Left engine oil door - oil tank
- Right engine oil door - oil tank
- External power door - ground power connection
- Rear fuselage access door - bleed air ducts, vapor cooling system
- Ground equipment compartment door
- Toilet service door.

Note

If you open a locked door without a key, the door will be damaged and you must replace the door before the next flight.

The nose doors, the battery access door, the rear fuselage access door, and the ground equipment compartment door are usually locked. In an emergency you can open the access doors as follows:

- If the doors are unlocked:
 - Open each latch with a large screwdriver:
 - Put the blade of the screwdriver into the slot of the latch
 - Lever the latch out of the slot towards the closest edge of the door. Some force may be required.
- If the doors are locked:
 - If you have a key, unlock the door. You can then open the door
 - If you do not have a key, find the side of the door with no catches or hinges. Insert the blade of a large screwdriver between the door and the frame. Use the screwdriver to force the door open.

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SECTION 4

Fire Extinguishing

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Fire protection - Description

1 Fire-fighting

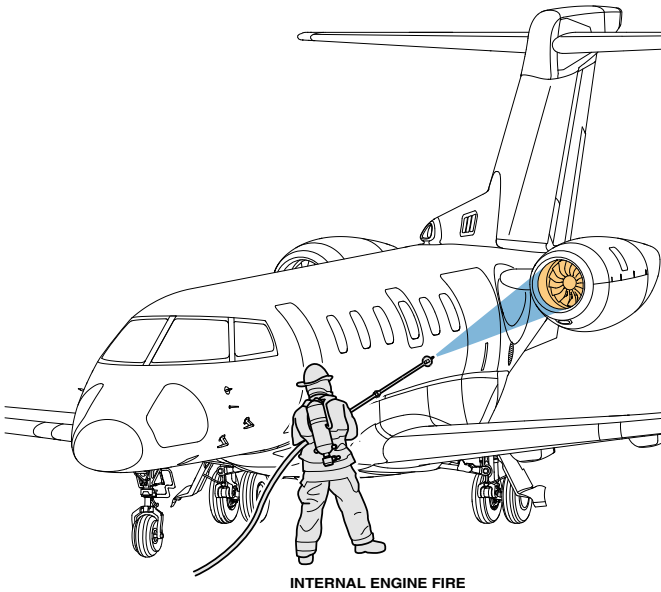
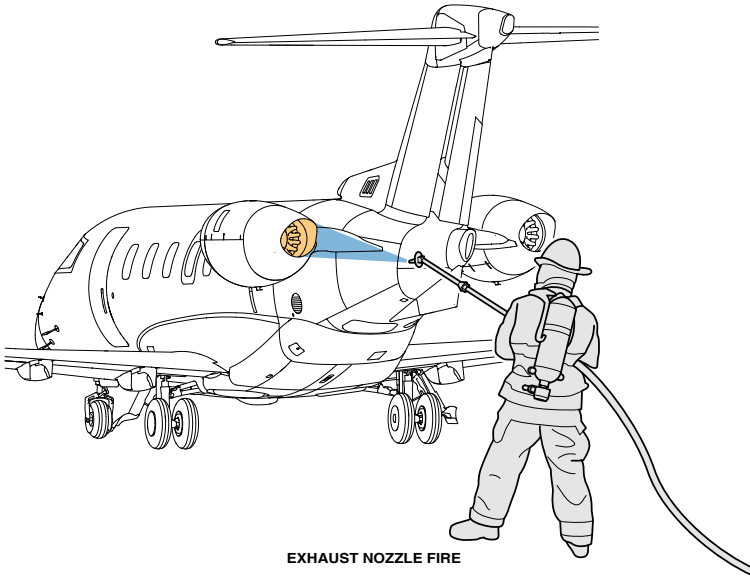
The classes used for fire-fighting are as follows:

- For brake and wheel fires, use water
- For all other parts of the aircraft, use class B or C fire extinguishers.

Table 4-1-1: Aerodrome category for rescue and fire fighting

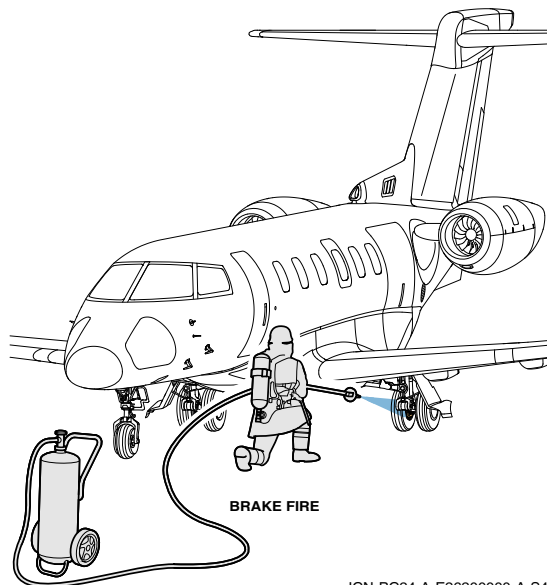
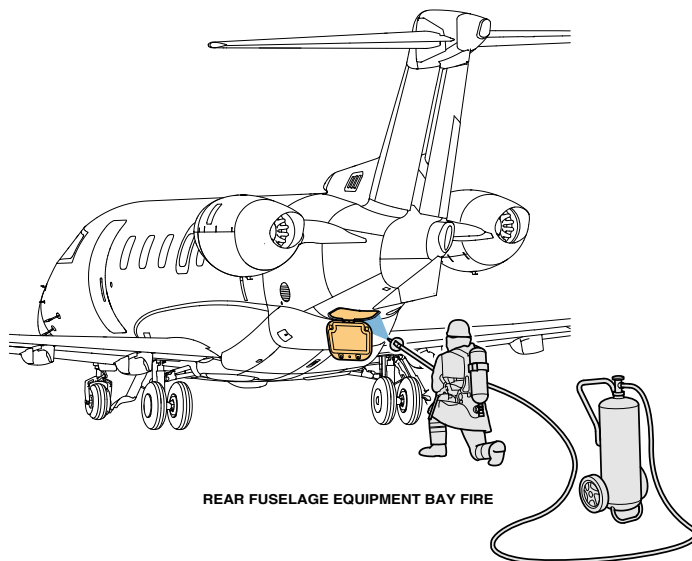
	Category	Regulation
International Civil Aviation Organization (ICAO)	4	ICAO Annex 14–Aerodromes
Federal Aviation Administration (FAA)	A	FAR 139.315
Transport Canada (TC)	4	CAR 303 Subpart 3

Use the correct equipment to do typical fire-fighting. Refer to [Fig. 4-1-1](#).



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Figure 4-1-1: Fire fighting (Sheet 1 of 2)



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Figure 4-1-1: Fire fighting (Sheet 2 of 2)

2 On-board fire-fighting equipment

2.1 General

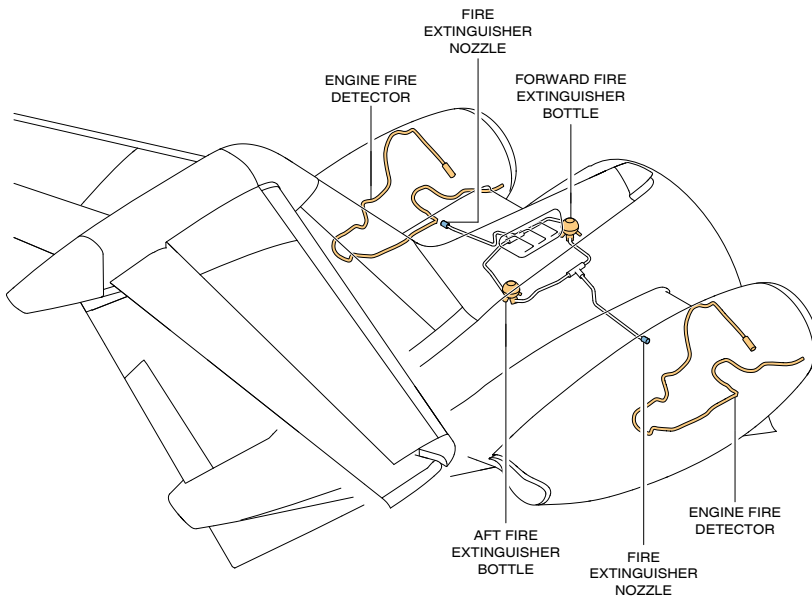
The PC-24 has a crew-operated fire-fighting system that supplies fire extinguishant to the engines through a distribution system controlled from the flight compartment. There are also two portable fire extinguishers on the aircraft.

2.2 Engine fire extinguishing system

WARNING

MAKE SURE THAT YOU DISCONNECT THE ELECTRICAL POWER TO THE ENGINE FIRE-EXTINGUISHER BOTTLES. THE EXTINGUISHER BOTTLES HAVE PYROTECHNIC SQUIBS. IF YOU DO NOT DISCONNECT THE ELECTRICAL POWER, THERE CAN BE AN EXPLOSION. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

The engine fire-extinguishing system (Fig. 4-1-2) has two spherical fire bottles located in the rear fuselage. The bottles are pressurized with dry nitrogen at a pressure of 600 ±25 psi (4 137 ±172 kPa) to push the Halon through the associated plumbing to discharge through the nozzle into the engine nacelle. There are two pyrotechnic squibs on each bottle, to discharge and propel the Halon. Each fire extinguishing bottle has two independent discharge paths and associated plumbing that delivers the extinguishant to a nozzle in the firewall of each engine nacelle. This gives a “dual shot” extinguishing capability which is initially armed as part of the engine isolation procedure. The arming procedure is done when either of the two engine isolate switches in the flight compartment is pushed. Once armed, the forward fire extinguisher bottle is discharged when the fire extinguisher switch is pushed by a crew member in the flight compartment. Thirty seconds after the forward fire extinguisher bottle is discharged, the UMS arms the rear fire extinguisher bottle so that it is ready if the first discharge does not extinguish the fire.



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Figure 4-1-2: Fire protection - Engine fire extinguishing system

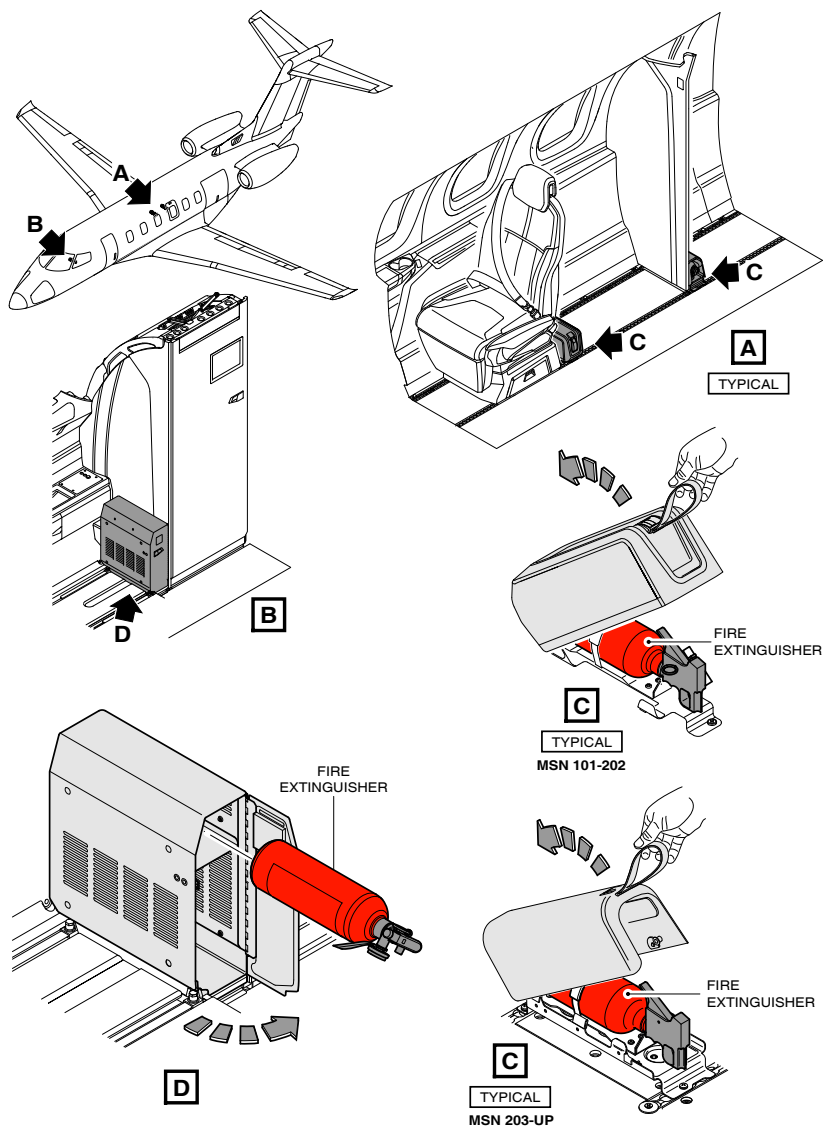
2.3 Portable fire extinguishers

There are two portable fire extinguishers (Fig. 4-1-3). One is in the flight compartment, in the storage box behind the copilot seat. The other is in the cabin, close to the rear dividing wall on the right hand side. Depending on the aircraft configuration, it may be installed behind the dividing wall or behind the seat in front.

The two portable fire extinguishers are the same. There are two types. The type that is installed depends on the country of operation:

- Standard: 3.3 lb (1.5 kg) of Halon 1211
- HAFEX: 3.5 lb (1.6 kg) of Halotron BrX. This type can be used in countries where Halon 1211 is banned.

Section 4 - Fire Extinguishing On-board fire-fighting equipment



ICN-PC24-A-E2600000-A-S4080-09704-A-001-01

Figure 4-1-3: Fire protection - Portable fire extinguishers

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Engine fire extinguishing - General maintenance procedure

WARNING

DO NOT PUSH THE FIRE EXTINGUISHER SWITCH. THE EXTINGUISHER BOTTLES HAVE PYROTECHNIC SQUIBS. IF YOU PUSH THE SWITCH, THERE CAN BE AN EXPLOSION. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

WARNING

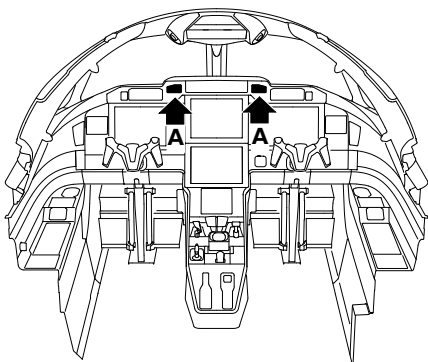
DO NOT PUSH THE ENGINE ISOLATION SWITCH MORE THAN ONE TIME. THIS WILL REVERSE THE ISOLATION PROCESS.

Note

The engine isolation process closes the applicable fuel shutoff valve and the bleed-air shutoff valve, and enables the engine fire extinguisher.

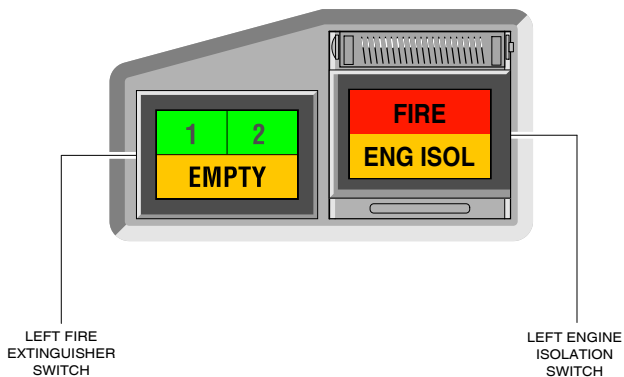
1 Procedure

- 1 In the flight compartment, lift the guards and push the L ENG ISOL and R ENG ISOL switches ([Fig. 4-2-1](#)) to shut down and isolate the engines.
- 2 Make sure that the two switches show the amber ENG ISOL caption.
- 3 Do the electrical power disconnect procedure. Refer to [Electrical power disconnect - General maintenance procedure](#).
- 4 Use applicable equipment to fight an engine fire ([Fig. 4-2-2](#)).



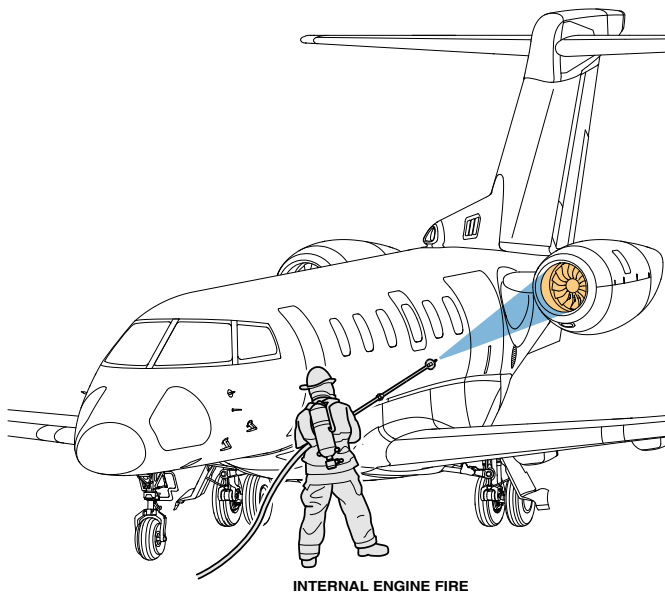
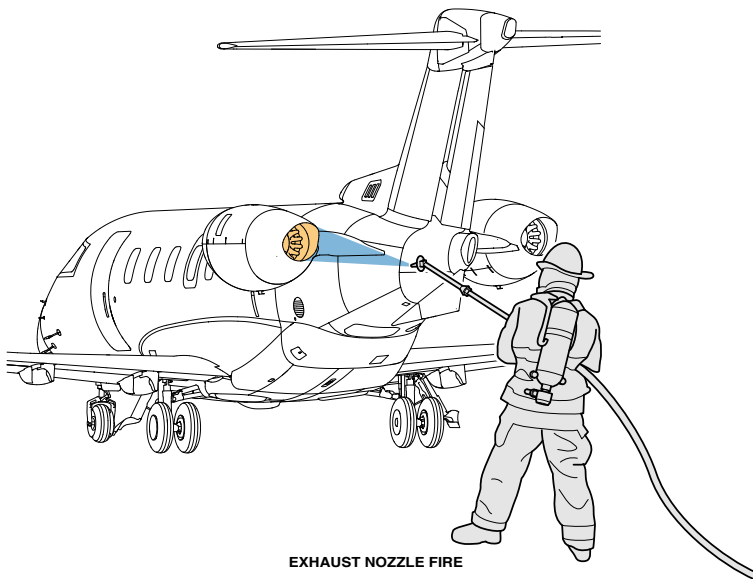
A

LH SHOWN
RH SIMILAR



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Figure 4-2-1: Engine isolation



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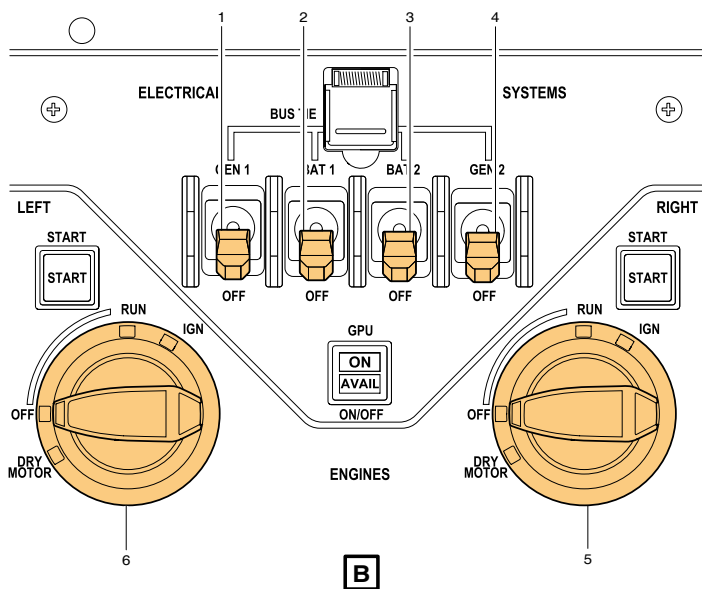
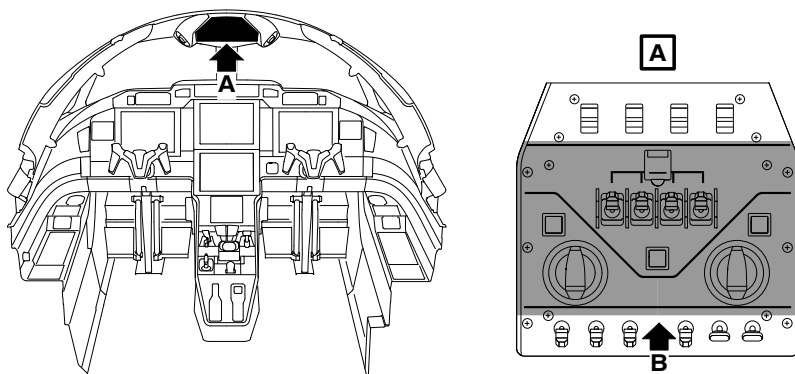
Figure 4-2-2: Engine fire extinguishing

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Electrical power disconnect - General maintenance procedure

1 Procedure

- 1 In the flight compartment, set the switches on the overhead panel as follows:
 - ENGINES, LEFT (Figure 4-3-1 [6]) and RIGHT (Figure 4-3-1 [5]) - OFF
 - GEN 1 (Figure 4-3-1 [1]) - OFF
 - GEN 2 (Figure 4-3-1 [4]) - OFF
 - BAT 1 (Figure 4-3-1 [2]) - OFF
 - BAT 2 (Figure 4-3-1 [3]) - OFF.
- 2 If necessary, disconnect and remove the batteries. Refer to **Batteries - Disconnect, remove and disassemble procedures** Batteries - Disconnect, remove and disassemble procedures.



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Figure 4-3-1: Electrical power disconnect

Fire related safety issues - General warnings and cautions and related safety data

1 Pyrotechnic squibs

WARNING

MAKE SURE THAT YOU DISCONNECT THE ELECTRICAL POWER TO THE ENGINE FIRE-EXTINGUISHER BOTTLES. THE EXTINGUISHER BOTTLES HAVE PYROTECHNIC SQUIBS. IF YOU DO NOT DISCONNECT THE ELECTRICAL POWER, THERE CAN BE AN EXPLOSION. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

Do not push the fire extinguisher pushbuttons if ground personnel are within 10 m of the rear fuselage or engines.

2 Flammable fluids and gasses

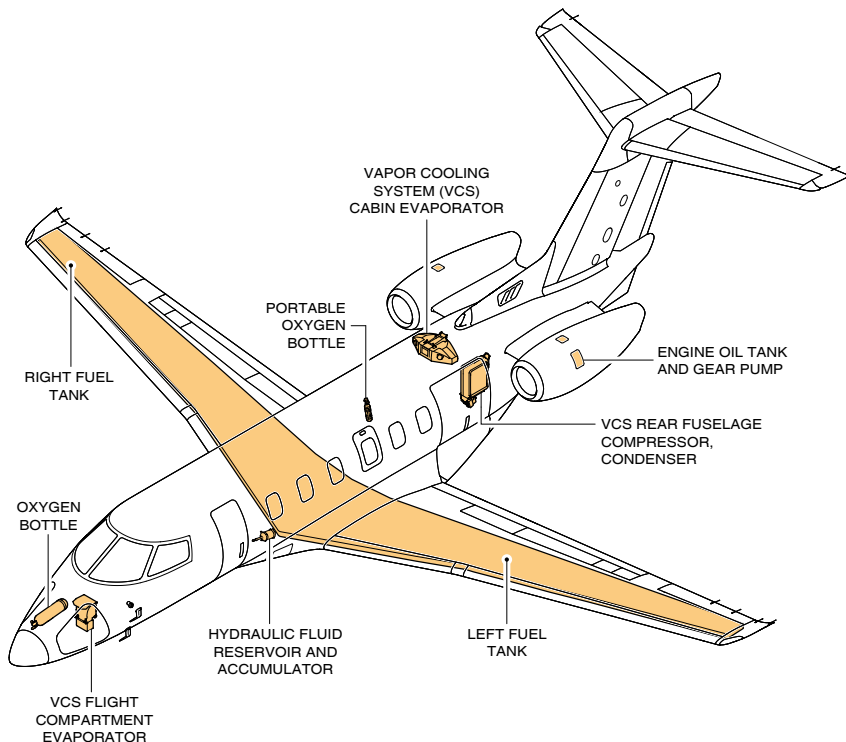
Table 4-4-1 contains a list of all flammable fluids and gases carried on the aircraft. The table also gives the specifications or commercial grades and capacities. The locations of the reservoirs and tanks are shown in Fig. 4-4-1.

Table 4-4-1: Flammable fluids and gases

	Capacity			Specification
	Cubic feet	US gallons	Litres	
Fuel	-	894	3,389	Jet A (ASTM-D1655-17) Jet A1 (ASTM-D1655-17) JP-8 (MIL-DTL-83133 Rev.J) TS-1 (GOST 10277-13)
Engine oil	-	2.83	10.69	Mobil Jet II (MIL-L-23699) Mobil 254 (MIL-L-23699)
Brake system hydraulic oil	-	1.14	4.33	Castrol Brayco Micronic 881 (MIL-PRF-87257)
Gaseous oxygen (1)	77 (standard) or 115 (option)	-	2,180 (standard) or 3,256 (option)	Aviator's oxygen (MIL-PRO- 27210)
Gaseous oxygen (option) (2)	7.15	-	202.4	Therapeutic oxygen
Vapor cooling system refrigerant	3.80	-	108	R-134A (3)

Note

1. The oxygen cylinder is located in the nose compartment, for use by aircrew and passengers in an emergency. Two sizes are available.
2. A portable oxygen cylinder may be installed in the passenger compartment, for the treatment of passengers in a medical emergency.
3. Includes a small amount (0,236 l) of lubricant RL 100H mixed with the refrigerant.



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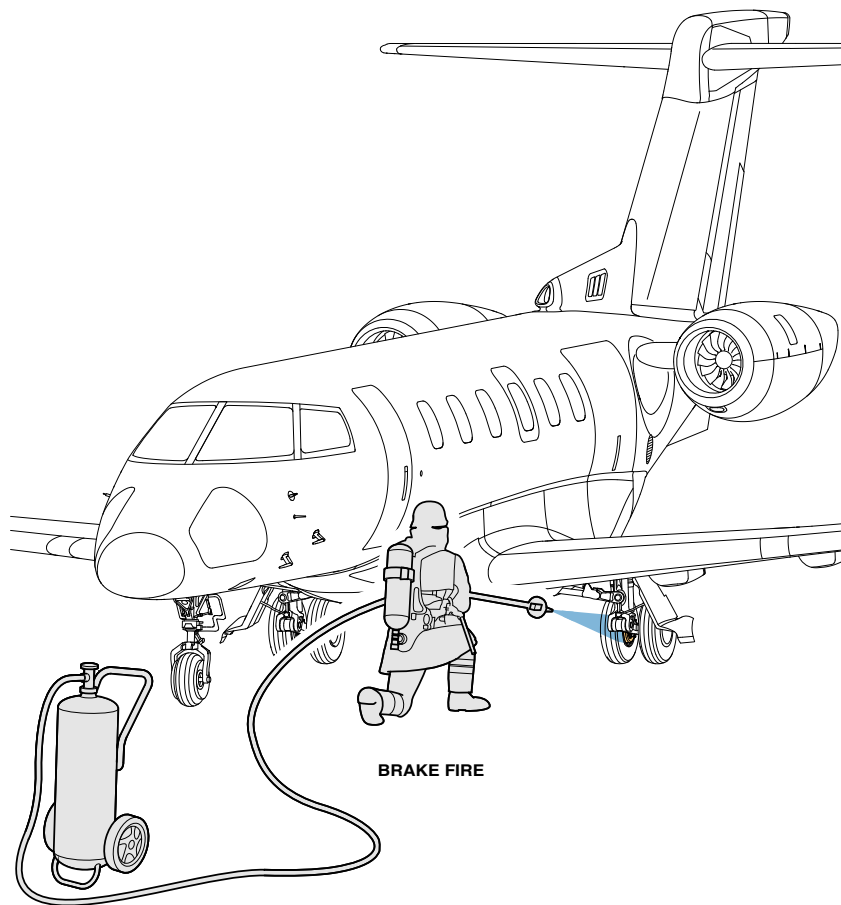
Figure 4-4-1: Fire related safety issues - Flammable fluids and gasses

3 Tires

WARNING

DO NOT APPROACH HOT TIRES FROM THE SIDES. HOT TIRES CAN EXPLODE AND CAUSE INJURIES TO PERSONS. APPROACH HOT TIRES FROM THE FRONT OR REAR ONLY. IF YOU DO NOT DO THIS, YOU CAN SUFFER INJURIES.

If the wheels on the aircraft become hot (for example, because of hard braking or under-inflation), there is a possibility that the fusible plugs can melt. This will release the tire pressure quickly. It is important for persons not to approach the wheels from the sides. Approach suspected hot wheel assemblies from the front or rear to prevent injury if a tire explosion occurs. Refer to [Fig. 4-4-2](#).



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Figure 4-4-2: Fire related safety issues - Tires

4 Composite material fire precautions

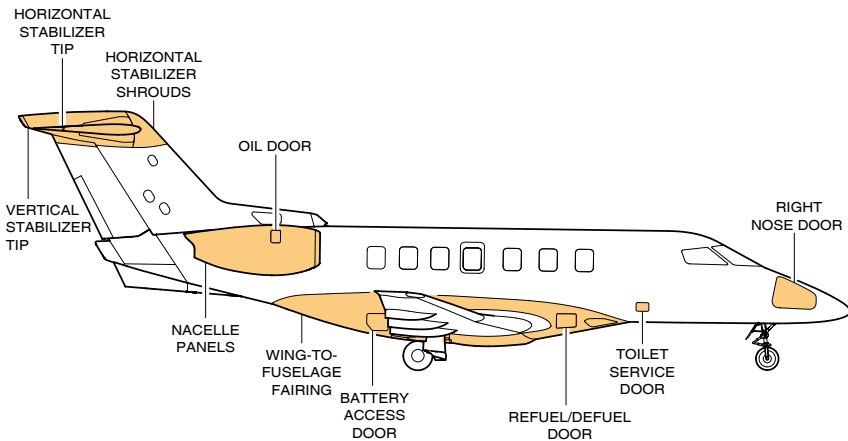
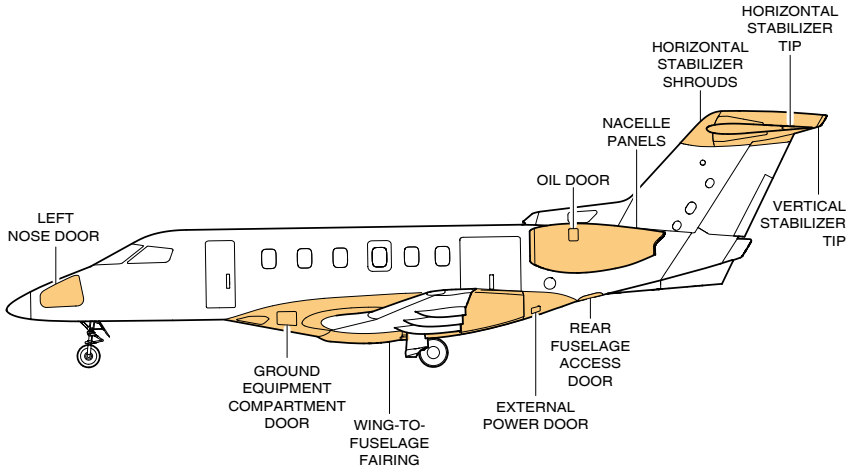
WARNING

YOU MUST WEAR THE CORRECT PROTECTIVE EQUIPMENT (DISPOSABLE PAPER COVERALLS, HEAVY BOOTS, THICK LEATHER GLOVES, GOGGLES, AND A DUST MASK). ABRASIVE DUST CAN GET IN YOUR LUNGS OR ON YOUR SKIN AND CAUSE INJURY OR SKIN IRRITATION. DO NOT INHALE DUST. WHEN AUTHORIZED, MAKE THE AREA MOIST TO PREVENT AIRBORNE DUST AND FIBERS. OBEY YOUR LOCAL REGULATIONS WHEN YOU COLLECT AND DISCARD ANY FRAGMENTS AND UNWANTED MATERIALS.

4.1 General

Composite materials are used in the PC-24. These materials are made of layers of fibres bonded together by resins, epoxies and phenols. Components made of composite materials are shown in [Fig. 4-4-3](#).

Section 4 - Fire Extinguishing Composite material fire precautions



ICN-PC24-A-A07000000-A-S4080-09603-A-001-01

Figure 4-4-3: Fire related safety issues - Composite components

4.2 Dangerous effects of free fibers

If an aircraft fire occurs, the bonding agents (resins, epoxies and phenols) can break down. This releases dangerous gases into the air. Fire fighters and other personnel must avoid the downwind area of the fire, specially when they do not use self-contained breathing equipment. Not only dangerous gases are hazardous, but the fire also releases small particles of free fibers.

When the fire is extinguished and the structure becomes cool, the bonding agents stop the release of these free fibers. However, the released free fibers continue to be dangerous and can become a long term problem. This is because of the conditions that follow:

- When the free fibers come in contact with fire, the fibers tend to break into shorter lengths and smaller diameters. This makes the free fibers light and easily airborne. The free fibers also absorb pyrolytic acid. This poisonous material is picked up from the burned materials. The smoke from the fire can carry the free fibers and send the contamination over a large area
- Without correct protection, personnel can breathe in the free fibers and the free fibers can bond to a person's respiratory system. The free fibers can also move to other internal organs and cause damage. The free fibers are very stable and there is no deterioration of the fibers in the body
- The free fibers will burn the eyes
- The ends of the fibers are very sharp. This will let them pass through clothing and skin. If you rub the affected area, you can cause dermatitis and medical treatment will be necessary.

4.3 Control of free fibers

As soon as the fire fighting and medical work is complete, take steps to limit the spread of free fibers. This is important when you move the damaged aircraft.

Treat the components that can release free fibers as follows:

- Keep the materials wet with Aqueous Fire Fighting Foam (AFFF) or water. With the AFFF, wet the materials every six hours
- Light oil, clear liquid furniture wax, polyacrylic acid or strippable paint, are all good materials to contain free fibers. These liquids are not considered to be a problem to future investigations
- Move the damaged aircraft the minimum distance possible and keep it on paved surface when possible. This will make the removal of the contamination more efficient.

All personnel that work in the free fiber contaminated area must wear disposable paper coveralls, heavy boots, thick leather gloves, goggles, and a dust mask. Paper coveralls and dust masks must be discarded when they leave the contaminated area.

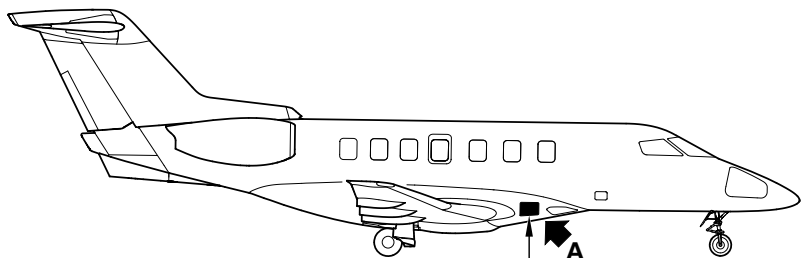
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Fuel - Description

1 Fuel system general layout

The PC-24 has a wet wing structure. The two main tanks are in the outboard wing sections (Fig. 4-5-1).

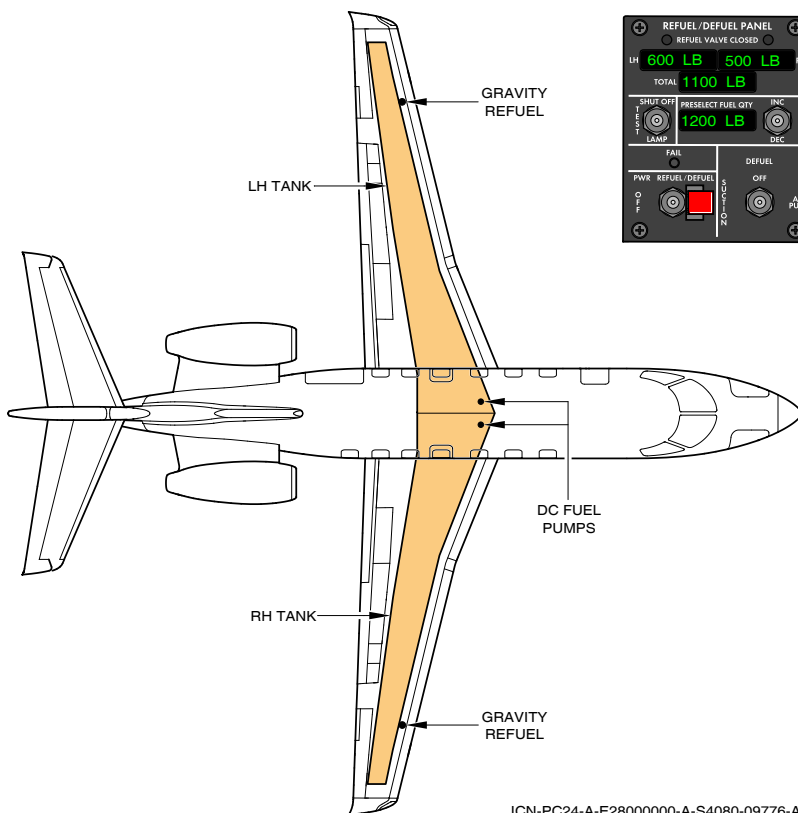
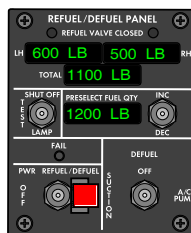
Section 4 - Fire Extinguishing Fuel system general layout



PRESSURE
REFUEL / DEFUEL



PRESSURE REFUEL/DEFUEL
CONTROL PANEL



ICN-PC24-A-E28000000-A-S4080-09776-A-001-01

Figure 4-5-1: Fuel - Description

PC24-A-E28-00-0000-01A-040A-A

2 Control, monitor, display

If the aircraft batteries are installed and operating, fuel quantity indication is shown on the refuel panel (Fig. 4-5-1) when it is switched ON.

If the aircraft electrical power is connected, fuel system indication can be shown in the cockpit as follows. Refer to Fig. 4-5-2.

The engine isolation switches (L ENG ISOL, R ENG ISOL) are used to shut down and isolate the engines.

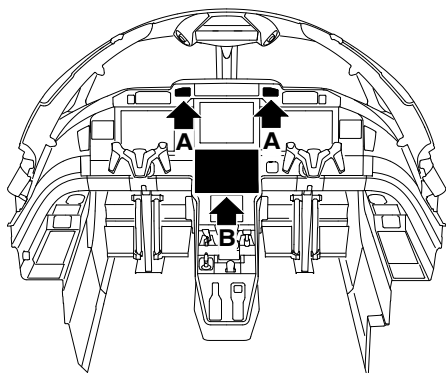
The fuel system summary shows the information that follows:

- Total fuel quantity
- Fuel that remains in the left tank
- Fuel that remains in the right tank.

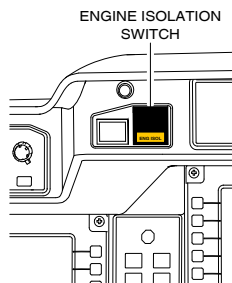
The fuel synoptic page shows the information that follows:

- Total fuel quantity
- Fuel that remains in the left tank
- Fuel that remains in the right tank
- Fuel system components operation state
 - Green = operating
 - White = off
- Softkeys for control of fuel system operations.

If required for defuelling, fuel transfer can be controlled by the softkeys adjacent to the controls shown on the synoptic page.

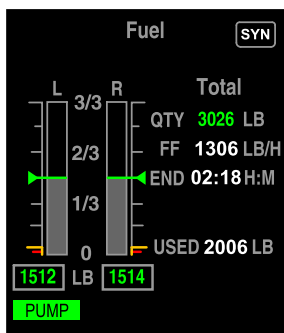


A
LH SHOWN
RH SIMILAR



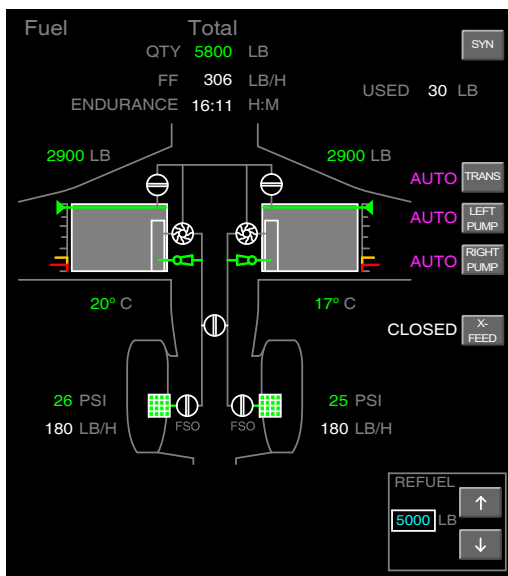
B

FUEL SYSTEM SUMMARY



B

FUEL SYSTEM SYNOPTIC PAGE



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Figure 4-5-2: Fuel - Indication

Emergency break-in zones - Technical data

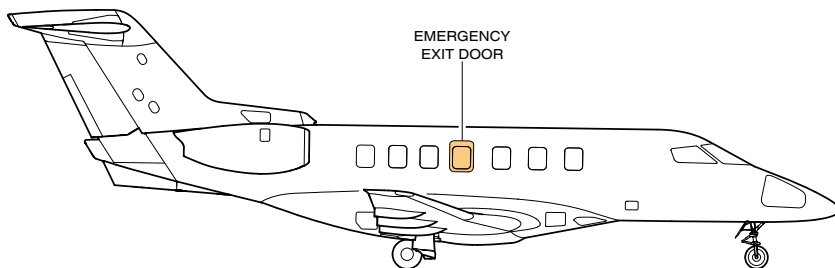
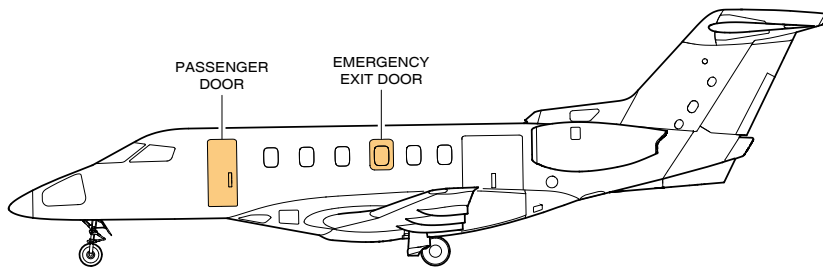
1 General

The PC-24 has no emergency break-in zones. There is a very low risk that all of the existing access points are blocked or unusable. Emergency access is available at the locations that follow.

2 **Emergency access to the passenger compartment and flight compartment**

Emergency access to the passenger compartment and flight compartment is available at the locations that follow. For details of clearances and opening instructions refer to **Door clearances and clear opening dimensions - Technical data** [Door clearances and clear opening dimensions - Technical data](#).

- Passenger / crew door
- Emergency exit door over the left wing
- Emergency exit door over the right wing.



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Figure 4-6-1: Emergency access

3 Windshields and windows

The windshields and windows are not to be used for emergency access.

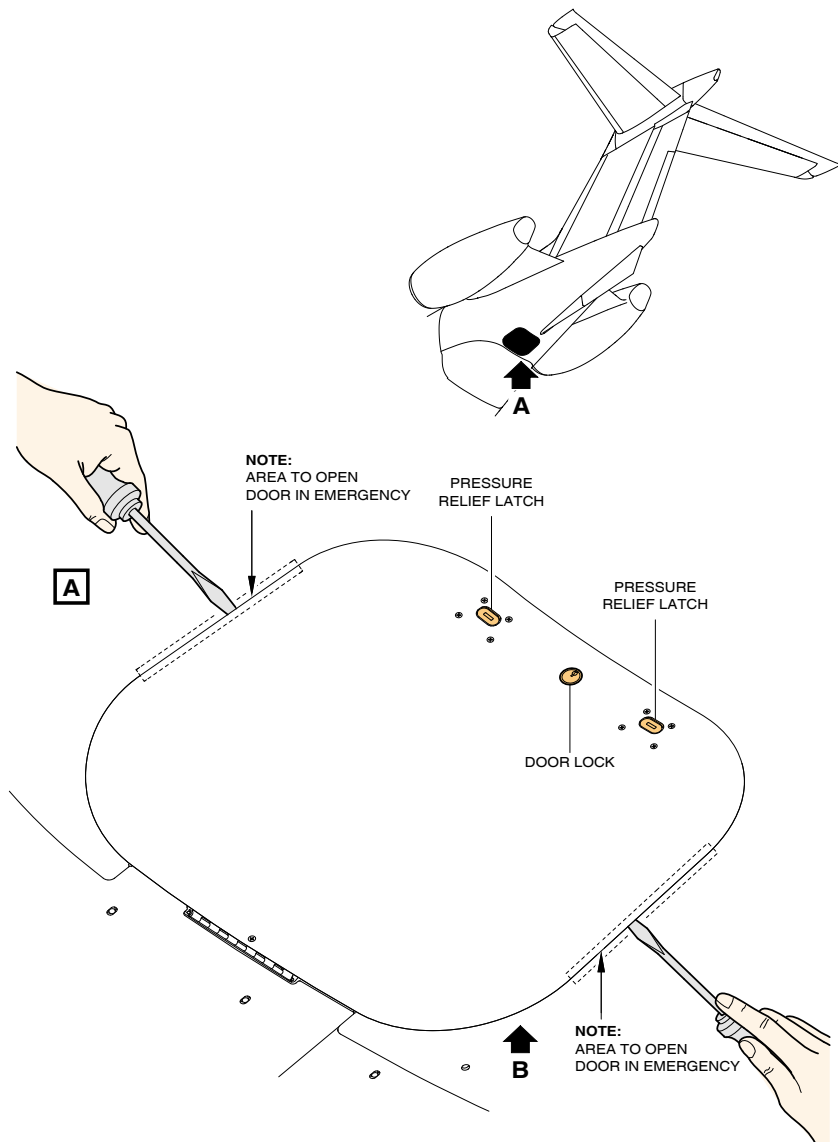
The flight compartment has two windshields and two side windows. The passenger compartment has five windows on the left side and six windows on the right side. There is one additional window on each side, in the overwing emergency exit door. The windows are permanently attached to the aircraft structure.

- The windshields and side windows are multi-layered transparencies with a heating system for anti-ice and de-fog functions
- Each passenger compartment window is constructed of two bonded transparencies with a silicone edge seal.

4 Rear fuselage access door

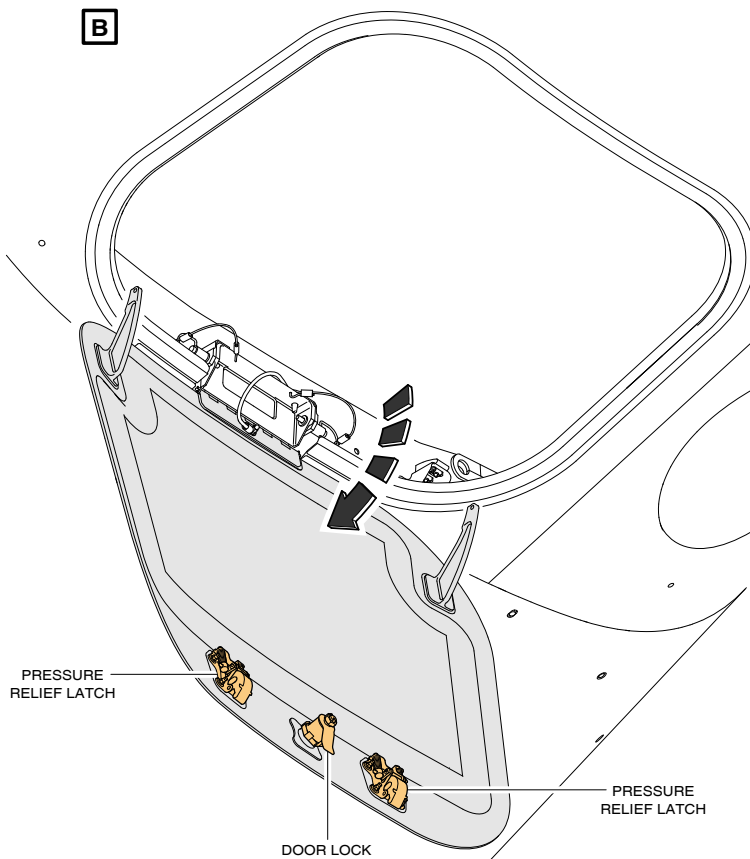
The rear fuselage access door may be locked. You can open it in an emergency as follows:

- If the rear fuselage access door is unlocked:
 - Open the two pressure latches as follows:
 - Put the blade of a large screwdriver into the slot of the latch
 - Lever the latch out of the slot towards the aft edge of the door. You may need to use force
 - If the door is not locked, it will open
- If the rear fuselage access door is locked:
 - If you have a key, unlock the door. You can then open the door
 - If you do not have a key, find a side of the door with no catches or hinges. Insert the blade of the large screwdriver between the door and the frame. Use the screwdriver to force the door open.
 - On one of the side edges of the door, put the blade of a large screwdriver in between the door and the frame
 - Use the screwdriver as a lever to force the door open. This step will damage the door so that it cannot be used.



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Figure 4-6-2: Rear fuselage access door (Sheet 1 of 2)



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Figure 4-6-2: Rear fuselage access door (Sheet 2 of 2)

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SECTION 5
Ground Safety
Table of Contents

Subject	Page
Towing the aircraft - Operation	5-1-1
1 Procedure	5-1-1
Aircraft - Towing	5-2-1
1 Safety precautions	5-2-1
2 Tow the aircraft with a tow bar	5-2-2
3 Tow the aircraft after an incident	5-2-3

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Towing the aircraft - Operation

CAUTION

IF THE CREW / PASSENGER DOOR IS OPEN WHILE THE AIRCRAFT IS MOVED, MAKE SURE THAT BOTH OF THE DOOR TELESCOPIC STRUTS ARE INSTALLED AND CONNECTED. IF YOU DO NOT DO THIS YOU CAN CAUSE DAMAGE TO THE CREW / PASSENGER DOOR.

1 Procedure

When it is not possible to use the engines to move the aircraft, the aircraft must be pushed or towed. Attach the tow bar to the Nose Landing Gear (NLG). Aircraft motion is controlled and stopped by the towing vehicle, use of the wheel brakes could cause the nose wheel to lift off the ground.

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Aircraft - Towing

1 Safety precautions

WARNING

ONLY TOW THE AIRCRAFT ON FIRM GROUND. THIS WILL HELP PREVENT INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT OR AIRCRAFT.

CAUTION

DO NOT USE THE AIRCRAFT BRAKES DURING TOWING. YOU CAN CAUSE DAMAGE TO THE AIRCRAFT STRUCTURE IF THE AIRCRAFT BRAKES ARE USED.

CAUTION

DO NOT TURN THE NOSE LANDING GEAR TO AN ANGLE MORE THAN THE LIMIT SHOWN ON THE NOSE LANDING GEAR PLACARD. YOU CAN CAUSE DAMAGE TO THE NOSE LANDING GEAR IF THE ANGLE IS MORE THAN THE LIMIT.

Note

Five persons are recommended for this procedure.

Obey the safety precautions that follow before the aircraft is towed:

- One person at each wing tip
 - One person in the pilot seat to operate the aircraft brakes
 - One person to operate the vehicle used to tow the aircraft
 - One person in control of the operation to tow the aircraft
 - One person at the aircraft tail (optional).
- 1 Make sure that all personnel are qualified to do towing operations and know the safety precautions.
 - 2 Make sure that the tow vehicle and the related equipment are correct for the aircraft.
 - 3 Make sure that the direction in which the aircraft is to be towed is clear of objects.
 - 4 On the overhead control panel, set the NAV switch to the ON position.
 - 5 When the aircraft is towed at night, make sure that all personnel have a light to give the necessary indications.
 - 6 Disconnect the ground cable from the aircraft.
 - 7 Disconnect the Ground Power Unit (GPU) from the aircraft.
 - 8 If necessary, in the flight compartment, remove the gust lock from the flight controls.
 - 9 Close the passenger door and the cargo door.
 - 10 Obey these safety precautions when the aircraft is towed:
 - Make sure that the personnel are at their correct positions.
 - Make sure that the person in control of the operation can see the personnel at all times.
 - Tow the aircraft at walking pace.
 - Make sure that the NLG does not turn to an angle more than the limit shown on the NLG leg placard (Fig. 5-2-1).

2 Tow the aircraft with a tow bar

Table 5-2-1: Tools and Support Equipment

Tool / Equipment	Recommended Pilatus Part
Wheel chocks	Local supply
Multi head tow bar	Local supply
Tow bar attachment head	Local supply

Tow the aircraft with a tow bar as follows:

- 1 If necessary, energize the aircraft electrical system.
- 2 Make sure that the pressure of the park / emergency brake system is a minimum of 2,800 pound per square-inch (Gauge) (psi(g)) (193 bar).
- 3 Make sure that the electrical system is de-energized. Refer to [Electrical power disconnect - General maintenance procedure](#).
- 4 If necessary, put the wheel chocks in front of and behind the nose wheel ([Figure 5-2-1 \[4\]](#)).
- 5 Install the multi head tow bar ([Figure 5-2-1 \[5\]](#)) with the tow bar attachment head ([Figure 5-2-1 \[1\]](#)) on the NLG fork assembly ([Figure 5-2-1 \[2\]](#)).
- 6 Install the pin ([Figure 5-2-1 \[3\]](#)) into the multi head tow bar ([Figure 5-2-1 \[5\]](#)).
- 7 Connect the multi head tow bar ([Figure 5-2-1 \[5\]](#)) to the tow vehicle.
- 8 Remove the wheel chocks from the nose wheel ([Figure 5-2-1 \[4\]](#)).
- 9 In the flight compartment, disengage the PARK/EMER BRAKE handle.
- 10 Move the aircraft to the new location.
- 11 Put wheel chocks in front of and behind the nose wheel ([Figure 5-2-1 \[4\]](#)).
- 12 In the flight compartment, engage the PARK/EMER BRAKE handle.
- 13 Disconnect the multi head tow bar ([Figure 5-2-1 \[5\]](#)) from the tow vehicle.
- 14 Remove the pin ([Figure 5-2-1 \[3\]](#)) from the multi head tow bar ([Figure 5-2-1 \[5\]](#)).
- 15 Remove the multi head tow bar ([Figure 5-2-1 \[5\]](#)) from the NLG fork assembly ([Figure 5-2-1 \[2\]](#)).

3 Tow the aircraft after an incident

Note

This procedure is only applicable if the NLG towing point is damaged.

If the aircraft is not damaged and can be towed normally, refer to [Tow the aircraft with a tow bar](#).

Table 5-2-2: Tools and Support Equipment

Tool / Equipment	Recommended Pilatus Part
Towing tractor	Local supply
Towing bridle	Local supply
Shackle and bolt	Local supply

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- 1 If necessary, debog the aircraft. Refer to [Preparation before moving the aircraft - Operation](#).
- 2 To tow the aircraft forward do Step 2.1
To tow the aircraft backward do Step 2.2
 - 2.1 Tow the aircraft forward as follows. Refer to [Fig. 5-2-3](#):
 - 2.1.1 Put the towing bridle around the LH and RH MLG lower end fittings and secure. If necessary, install protective pads to protect the brake lines and the surface finish.
 - 2.1.2 Connect the towing bridle to the towing tractor.
 - 2.1.3 Make sure the towing route is clear of obstructions.
 - 2.1.4 Tow the aircraft forward to the necessary position.
Make sure that the towing line does not foul the NLG
 - 2.1.5 Put chocks at the main wheels.
 - 2.1.6 Disconnect the towing tractor from the towing bridle.
 - 2.1.7 Disconnect the towing bridle from the LH and RH MLG main fittings.

2.2 Tow the aircraft backwards as follows. Refer to [Fig. 5-2-4](#):

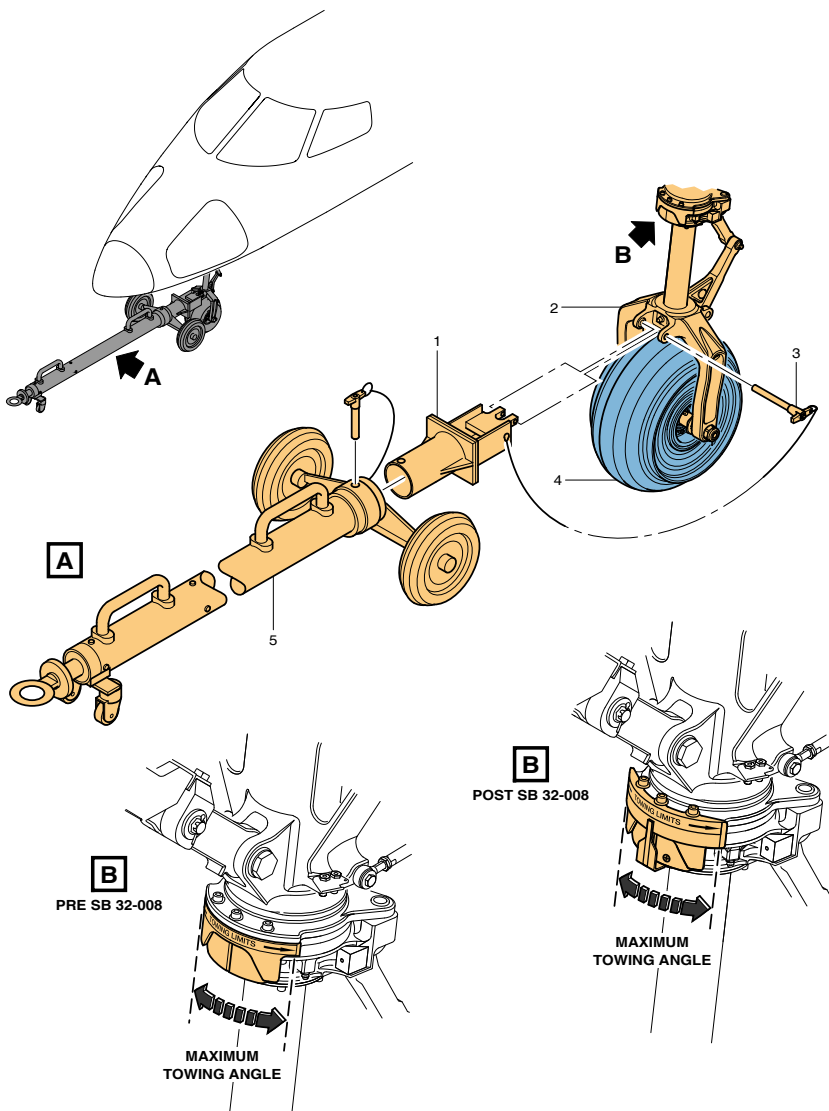
2.2.1

Note

The towing devices should only be used on flat firm ground (aircraft is not bogged down).

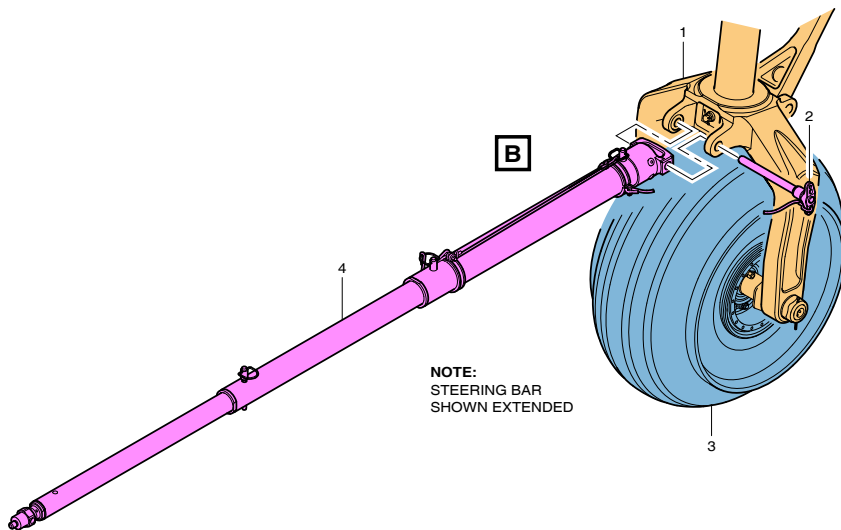
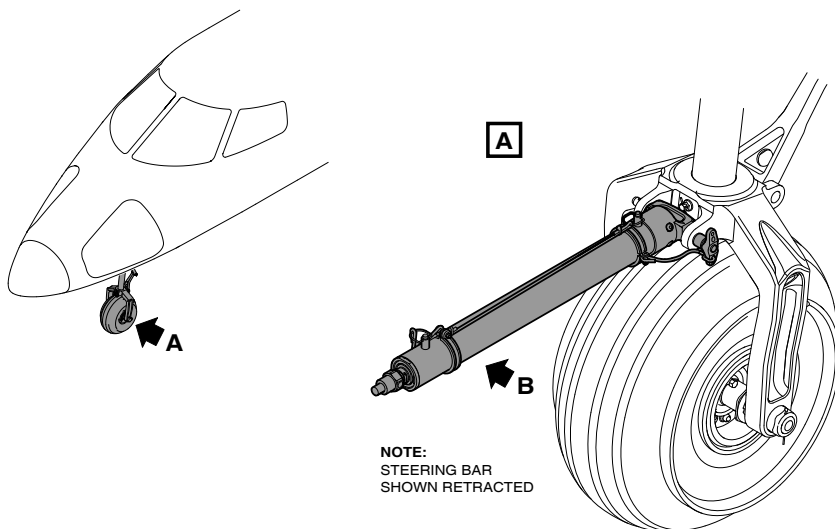
Use a shackle and bolt ([Figure 5-2-4 \[2\]](#)) to connect the towing bridle to the LH and RH MLG jacking and towing device ([Figure 5-2-4 \[1\]](#)).

- 2.2.2 Connect the towing bridle to the towing tractor.
- 2.2.3 Make sure the towing route is clear of obstructions
- 2.2.4 Tow the aircraft backward to the necessary position.
- 2.2.5 Put chocks at the main wheels.
- 2.2.6 Disconnect the towing tractor from the towing bridle.
- 2.2.7 Disconnect the towing bridle from the LH and RH MLG jacking and towing devices ([Figure 5-2-4 \[1\]](#)).



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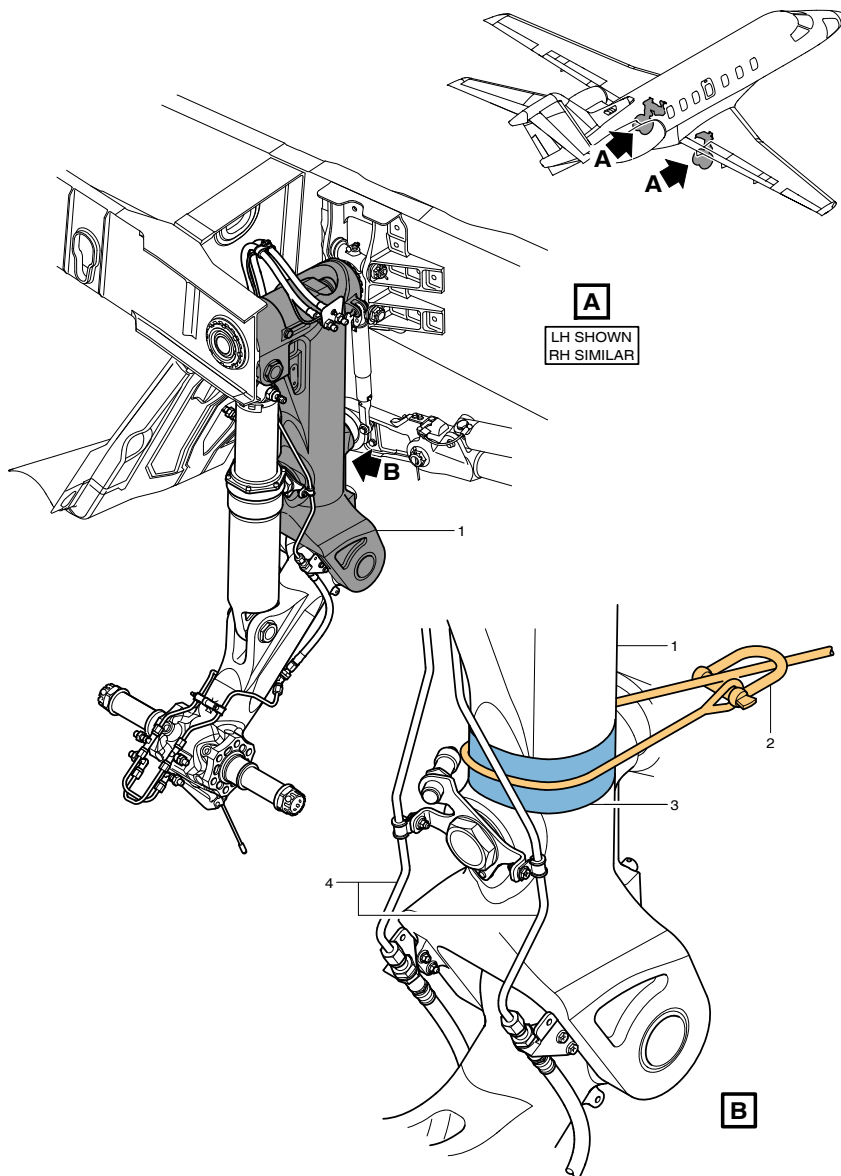
Figure 5-2-1: Towing the aircraft



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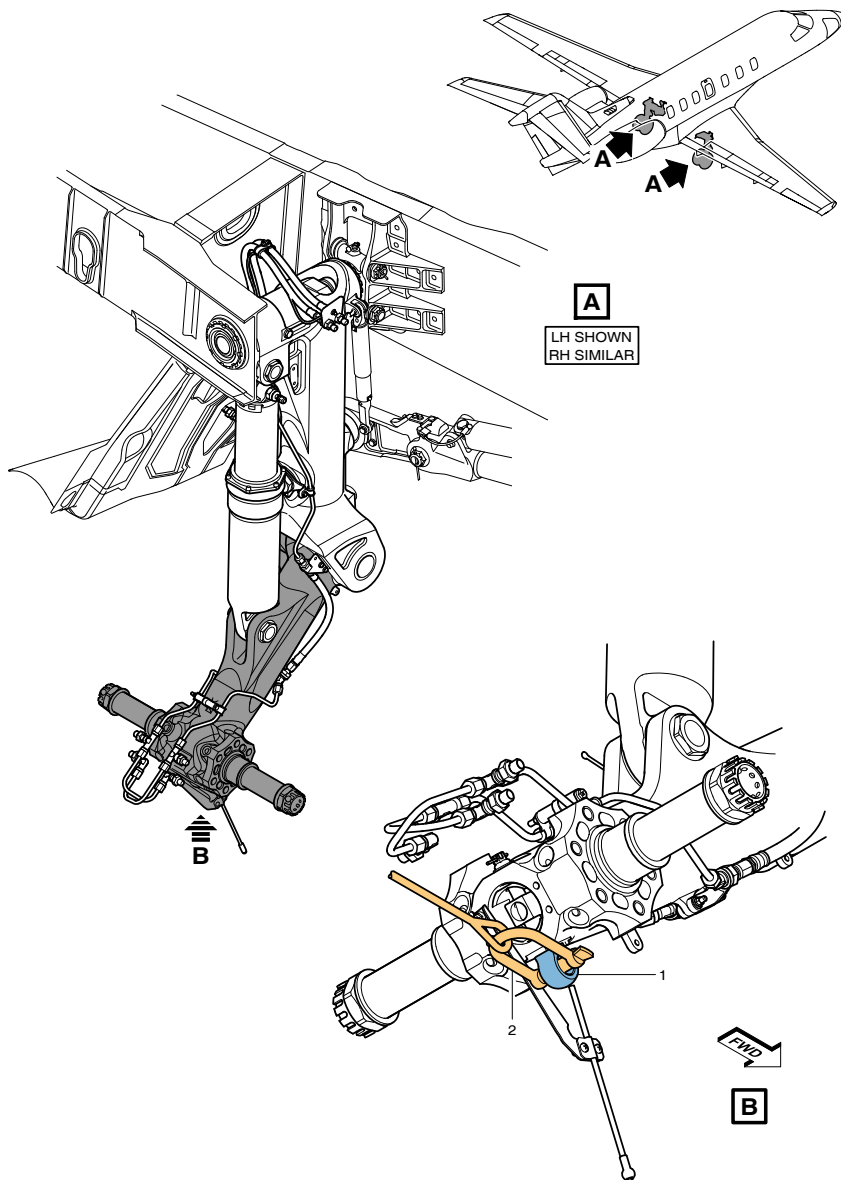
Figure 5-2-2: Towing with the steering bar

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Figure 5-2-3: Towing bridle install - Tow forward



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Figure 5-2-4: Towing bridle install - Tow backward