PILATUS

PC-24
THE CRYSTAL CLASS

Ground Servicing Guide

Document Number 02484
Issue 002 Revision 03: Nov 12/2024

This document contains recommended information for Fixed Base Operators when servicing the PC-24 aircraft.
The information contained herein is advisory.
In the event of any contradictions, the AFM and AMM shall prevail over this document.
This document is not authority approved.

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SECTION FM

Front Matter

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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
A15-12-0001-00A-00SA-A	List of Effective Data Modules	C	12.11.2024
A15-12-0001-00A-003B-A	Log of Revisions	C	08.11.2024
A15-12-0001-00A-018A-A	Introduction		31.01.2023
A15-12-0001-00A-030A-A	Aircraft Classification Number		30.11.2020
A15-10-0005-00A-174A-A	Towing		31.01.2023
A15-10-0002-00A-170A-A	Parking		31.01.2023
A15-10-0001-00A-170A-A	Mooring		29.04.2020
A15-00-0200-00A-160A-A	Cargo - Loading/Unloading procedure		26.01.2021
A15-10-0006-00A-234A-A	Ground Power Unit - Facility requirements associated with servicing	N	08.11.2024
A15-12-0001-00A-210A-A	Inflate Tires		31.01.2023
A15-12-0006-00A-922A-A	Stone guard - Change	N	31.01.2023
A15-12-0010-00A-221A-A	Fuel - Defuel and Drain Fuel		31.01.2023
A15-12-0011-00A-211A-A	Refuel		29.04.2020
A15-12-0020-00A-210A-A	Engine oil - Fill	N	08.11.2024
A15-12-0050-01A-250A-A	Windows - Clean, check and apply rain repellent		31.01.2023
A15-12-0051-00A-254A-A	Exterior - Clean		31.01.2023
A15-12-0051-00A-254B-A	Exterior - Clean with water	N	08.11.2024
A15-12-0056-00A-254A-A	Interior - Clean		29.04.2020
A15-12-0060-00A-226A-A	Waste / Water System Servicing		29.04.2020
A15-12-0060-00A-251A-A	Waste / Water System - Clean with chemical agent		31.01.2023
A15-12-0071-00A-260A-A	Cold Weather Procedures (Deicing / Anti-Icing)		13.05.2020
A15-12-0081-00A-281A-A	Unpaved runway conditions - Scheduled inspection		16.02.2021

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Log of Revisions

Revision number and Date	Data Module Code	Description
Issue 001 Revision 00 Dated May 14/2020	ALL	PC-24 Ground Servicing Guide Initial Issue.
Issue 002 Revision 00 Dated Nov 30/2020	A15-12-0001-00 A-030A-A	ACN - Technical data added
	A15-12-0050-01 A-250A-A	Windows-Clean replaced with Windows-Clean and apply rain repellent.
Issue 002 Revision 01 Dated Feb 16/2021	A15-12-0081-00 A-281A-A	Clarification and editorial changes.
	A15-10-0005-00 A-174A-A	Clarification and editorial changes.
	A15-00-0200-00 A-160A-A	Clarification and editorial changes.
	A15-12-0051-00 A-254A-A	Clarification and editorial changes.
	A15-10-0002-00 A-170A-A	Clarification and editorial changes.
	A15-12-0060-00 A-251A-A	Waste / Water System - Clean with chemical agent added
Issue 002 Revision 02 Dated Feb 15/2023	A15-10-0002-00 A-170A-A	Note added for lithium ion battery, Figure 10 added for lithium ion battery 2 cover
	A15-10-0005-00 A-174A-A	Include fixed and quick release stone guard
	A15-12-0001-00 A-018A-A	Danger areas updated
	A15-12-0001-00 A-210A-A	Updated to include tire markings and minor editorial changes
	A15-12-0010-00 A-221A-A	Editorial updates to figures
	A15-12-0050-01 A-250A-A	Alternative rain repellent for MPG windows; interval table added
	A15-12-0051-00 A-254A-A	Note updated, Figure 5
	A15-12-0060-00 A-251A-A	View reference updated, Figure 5
Issue 002 Revision 03 Dated Nov 12/2024	A15-10-0006-00 A-234A-A	New data module
	A15-12-0006-00 A-922A-A	New data module
	A15-12-0020-00 A-210A-A	New data module
	A15-12-0051-00 A-254B-A	New data module

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SECTION 0
Introduction
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Introduction

1 Copyright and Legal Statement

2 General

The Ground Servicing Guide (GSG) contains the recommended information for Fixed Base Operators (FBO) when servicing the PC-24 aircraft.

The GSG is written under the assumption that the users of this guide have had previous multi-engine jet aircraft 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.

It is the responsibility of the aircraft owner and the operator to make sure all servicing is done by qualified servicing personnel.

This GSG is not an authority approved document.

The pilot in command is responsible to make sure that the servicing procedures have been carried out correctly.

3 Purpose

The purpose of the GSG is to provide FBOs with the information necessary to perform essential servicing and assumes that the servicing personnel are not type rated but have a good knowledge and skill level of aircraft systems.

The GSG provides the flight crew of the aircraft with a general guidance of requirements for FBO servicing. This is a requirement during the handling and servicing of the aircraft while away from their normal operating base / station. All servicing tasks must be guided by and supervised by the flight crew.

Included in the GSG are procedures designed to increase the level of dispatch capability. In all cases, the goal of the material presented is to allow further dispatch of the aircraft to its next destination in a safe and efficient manner.

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CAUTION

To prevent damage to the aircraft or equipment while away from home base / station, the flight crew must supervise the service personnel at all times during the handling and servicing of the aircraft.

CAUTION

If electrical power is required, only the flight crew can energize the electrical system. The flight crew must supervise the service personnel at all times during the servicing.

CAUTION

If there is a problem during a procedure that could affect the safe operation or dispatch of the aircraft, stop the procedure and advise the home base / station of the condition.

4 Aircraft Dimensions

For general information, the aircraft dimensions are shown in Fig. 0-1-1 and the turning radii are shown in Fig. 0-1-2.

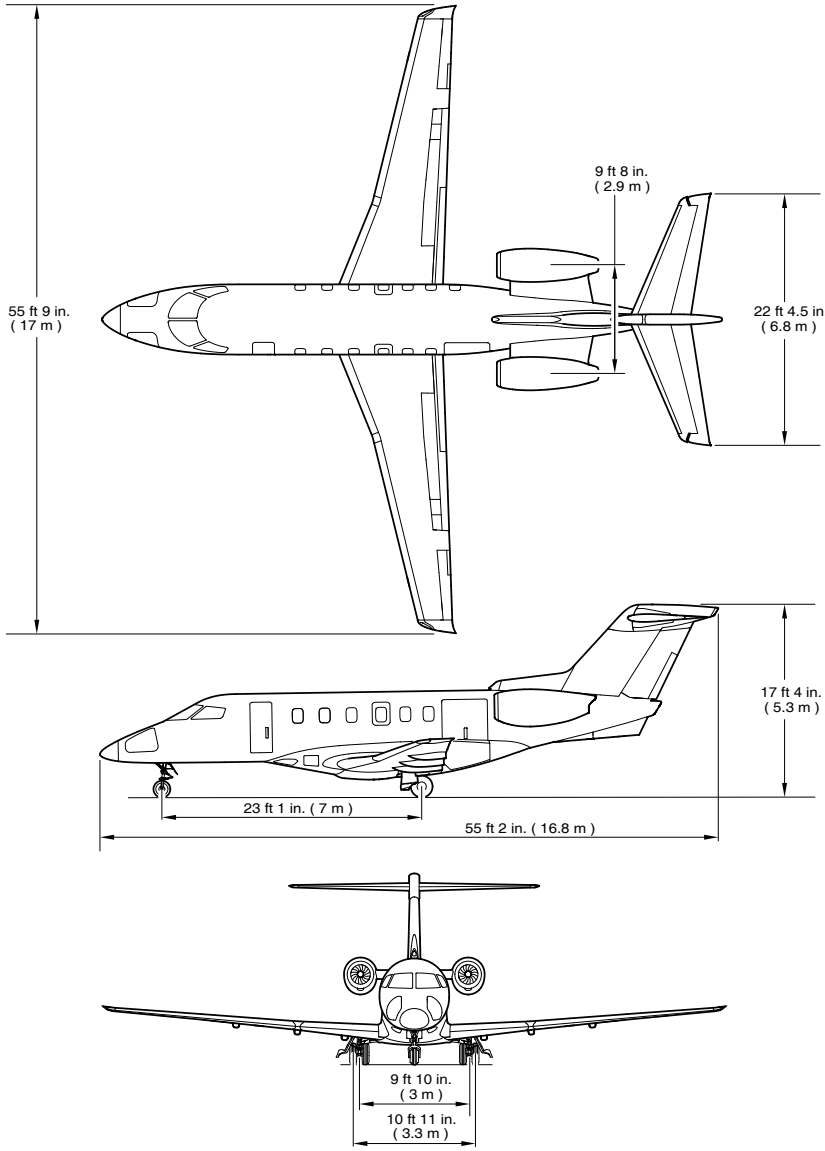
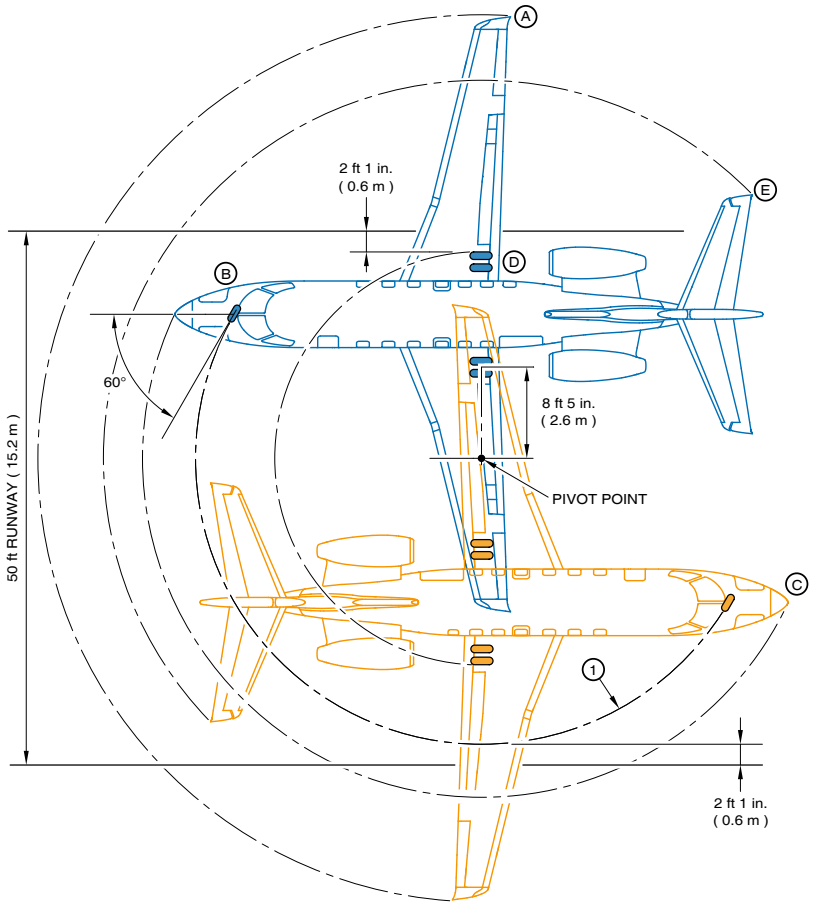


Figure 0-1-1: Airplane Three View and Dimensions



1	A MINIMUM TAXIING SURFACE WIDTH OF 50 ft (15.2 m) AND DIFFERENTIAL BRAKING ARE REQUIRED TO COMPLETE A MINIMUM RADIUS 180 DEGREE TURN AS SHOWN
A	WING TIP RADIUS = 41 ft 4 in. (12.6 m)
B	NOSEWHEEL RADIUS = 26 ft 7 in. (8.1 m)
C	NOSE RADOME RADIUS 31 ft 6 in. (9.6 m)
D	OUTSIDE MAIN GEAR RADIUS = 19 ft 5 in. (5.9 m)
E	HORIZONTAL STABILIZER RADIUS = 35 ft 5 in. (10.8 m)

Figure 0-1-2: Airplane Ground Turning Clearance - NWS With Differential Braking

5 Danger Areas

When the engines are running, there are danger areas forward and aft of the engine nacelles (Fig. 0-1-3):

- The forward danger area is from the engine intakes. Any loose equipment in this area can be pulled into the engine by suction.
- The aft danger area is from the jet exhaust of the engines. Personnel can be burned by the hot jet exhaust and / or pushed to the ground. Any equipment or loose objects in the area can be pushed into the air and cause injury and / or damage.

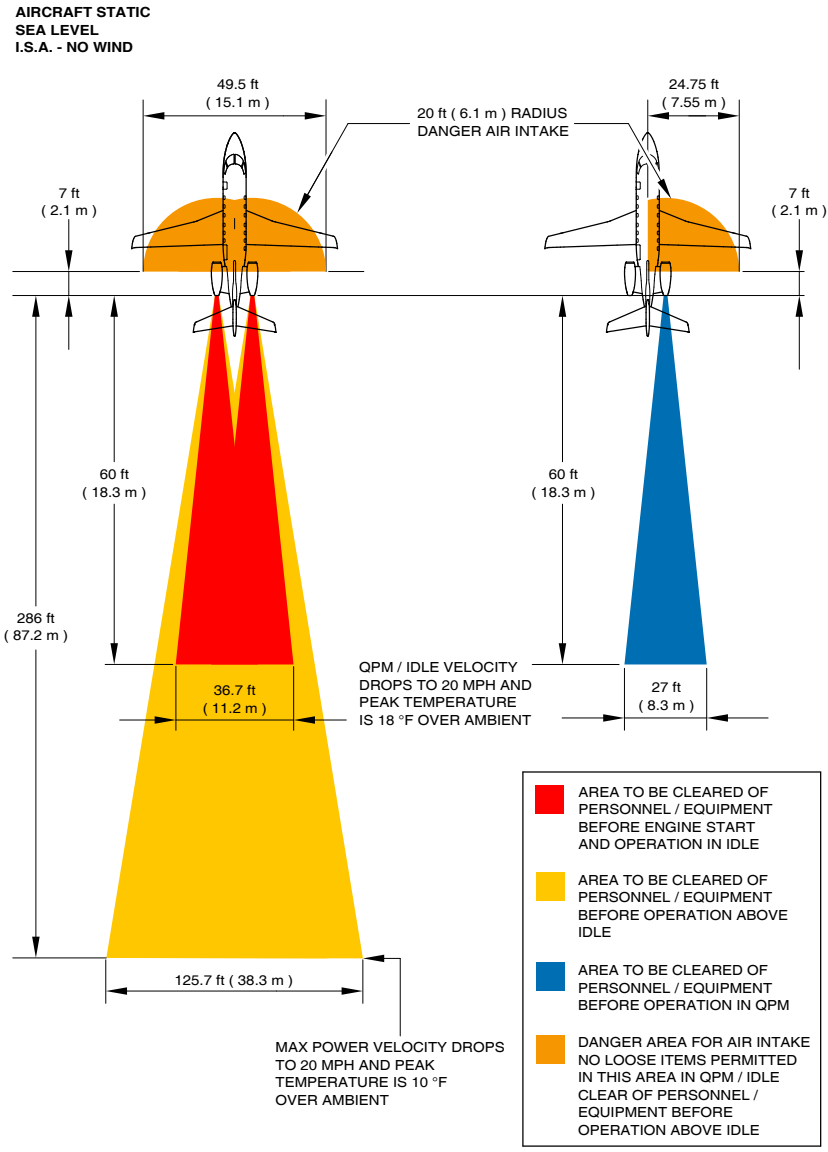


Figure 0-1-3: Danger Areas

6 Runway Guidelines

Note

A wet runway is defined as a runway which the surface is covered with:

- Water, or a related substance, in a layer less than 1/8 in (3 mm) in depth
- Sufficient moisture to give a reflective appearance, but without any significant area of standing water.

The following surfaces are can be used for takeoff and landing:

Table 0-1-1: Runway guidelines

Description	Aircraft	Surface
Approved takeoff and landing surfaces	All aircraft	Dry and wet paved runways
		Contaminated paved runways (refer to AFM Supplement 02442 "Contaminated Runway Operation")
	With gravel kit factory option installed	Prepared dirt-sand-gravel runways, dry and wet (refer to AFM Supplement 02444 "Dirt-Sand-Gravel Runway Operation")
		Grass runways, dry and wet (refer to AFM Supplement 02473 "Grass Runway Operation")
Non-authority approved takeoff and landing surfaces	All aircraft	Narrow runways (refer to AFM Supplement 02457 "Narrow Runway Operation")
	With gravel kit factory option installed	Prepared compact snow-gravel mix runways (refer to AFM Information Leaflet 02482 "Compact Snow Gravel Mix Runway Operation")

7 Weight Guidelines

WARNING

DO NOT EXCEED THE MAXIMUM TAKEOFF WEIGHT. THE PILOT IN COMMAND MUST MAKE SURE THAT THE AIRCRAFT IS CORRECTLY LOADED BEFORE TAKEOFF.

Make sure that the aircraft does not exceed these maximum weights:

Table 0-1-2: Weight limits for aircraft MSN 101-130 Pre-SB 42-002

Description	Weight lb (kg)
Maximum ramp weight	17,750 lb (8,050 kg)
Maximum takeoff weight	17,650 lb (8,005 kg)
Maximum landing weight	16,250 lb (7,370 kg)
Maximum zero fuel weight	13,448 lb (6,100 kg)

Table 0-1-3: Weight limits for aircraft MSN 101-130 Post-SB 42-002, and MSN 131-UP

Description	Weight lb (kg)
Maximum ramp weight	18,400 lb (8,345 kg)
Maximum takeoff weight	18,300 lb (8,300 kg)
Maximum landing weight	16,900 lb (7,665 kg)
Maximum zero fuel weight	14,220 lb (6,450 kg)

8 Revisions to the Ground Servicing Guide

8.1 Revision Schedule

From time to time, as new information becomes available for the PC-24 aircraft, Pilatus Aircraft Ltd. will issue revised information and instructions to the latest registered owner or operator of the aircraft. This keeps the contents of the GSG current. This information may relate to, but is not limited to, approved aircraft modifications or improved knowledge, operating techniques or other guidance acquired through in-service experience.

8.2 Revision Service

8.2.1 Obtaining Revision Services

For information on obtaining revision services for publications applicable to the Pilatus PC-24 aircraft, contact Pilatus Aircraft Ltd. using the following contact information:

Mailing Address:	Pilatus Aircraft Ltd. Dept. EZD P.O. Box 992, CH 6371 Stans, Switzerland
Email Address:	publications@pilatus-aircraft.com

Aircraft Classification Number

1 Aircraft Classification Number

Aircraft Classification Number (ACN) expresses the relative effect of an aircraft on a pavement for a specific standard subgrade strength.

Aircraft can operate without restrictions on a certain pavement if both following conditions are fulfilled:

- ACN is equal to or lower than the Pavement Classification Number (PCN), and
- Main gear tyre pressure is below the tyre pressure limit.

For more information, refer to Determination of Allowed Operation on Runway.

2 Pavement Type Code

Pavement Type Code expresses the bearing strength of a pavement for unrestricted operation

Pavement Type Code consists of five quantities.

Pavement Type Code	
Pavement Classification Number (PCN)	A number expressing the bearing strength of a pavement for unrestricted operation
Pavement Type	F (Flexible pavement, for example asphalt) R (Rigid pavement, for example concrete)
Subgrade Strength	A (high subgrade strength) B (medium subgrade strength) C (low subgrade strength) D (ultra low subgrade strength)
Tyre Pressure Limit	W (no tyre pressure limit) X (tyre pressure limited to 218 psi) Y (tyre pressure limited to 145 psi) Z (tyre pressure limited to 73 psi) **Note** The PC-24 nose and main gear tyres have a service pressure of 58 respectively 73 psi (loaded). Therefore the PC-24 will never be tyre pressure limited.
PCN Evaluation Method	T (technical evaluation) U (using aircraft experience)

An example of a Pavement Type Code is: PCN 20 / F / C / Y / T.

3 Determination of Allowed Operation on Runway

To determine if an aircraft can operate without restrictions on a pavement, do as follows:

1 From the Pavement Type Code, determine the:

- Pavement Classification Number (PCN)
- Pavement Type
- Subgrade Strength
- Tyre Pressure Limit
- PCN Evaluation Method.

2 Determine the Aircraft Classification Number (ACN) as follows:

- Determine the maximum operating weight of the aircraft
- Depending on the pavement type, go to the appropriate chart Fig. 0-2-1 or Fig. 0-2-2.
- Navigate to the weight on the horizontal axis
- Navigate upwards to the appropriate Subgrade Strength line
- Navigate to the left to the vertical axis to find the ACN.

3 Determine the main gear tyre pressure

4 Aircraft can operate without restrictions on the pavement if the ACN is equal to or lower than the PCN, and, the main gear tyre pressure is below the tyre pressure limit.

5 If the ACN is higher than the PCN, either reduce the aircraft operating weight until the ACN is equal to or lower than the PCN, or, contact the airport authorities for a possible exemption.

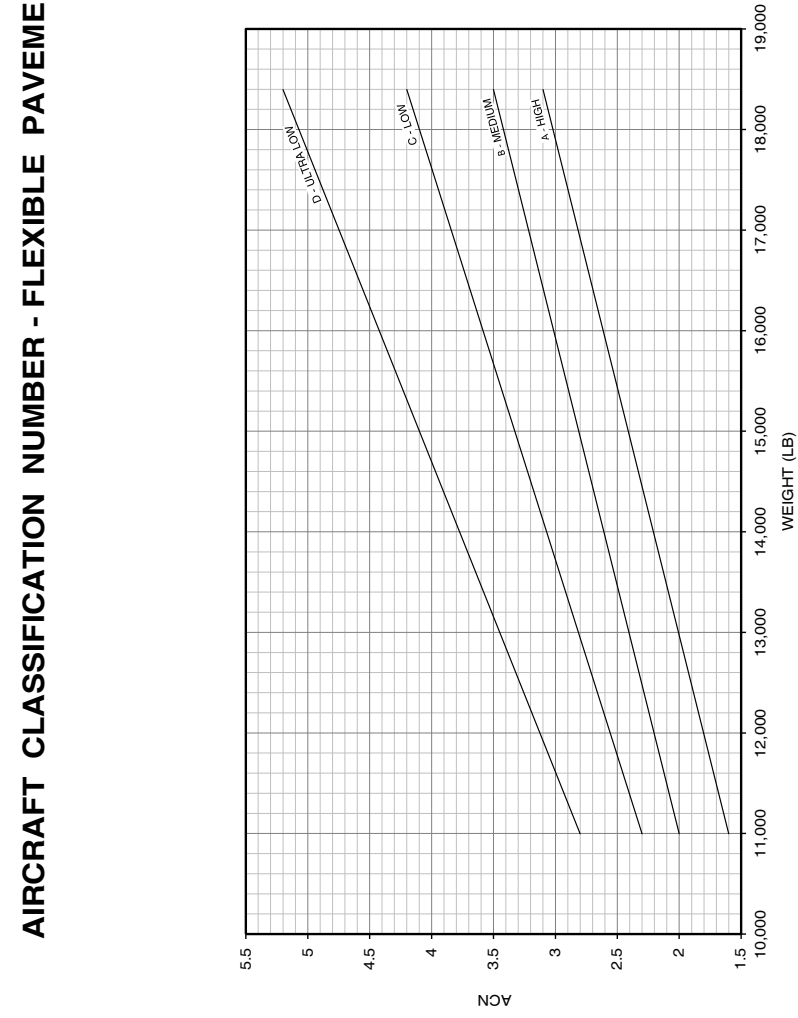


Figure 0-2-1: Aircraft Classification Number - Flexible Pavement

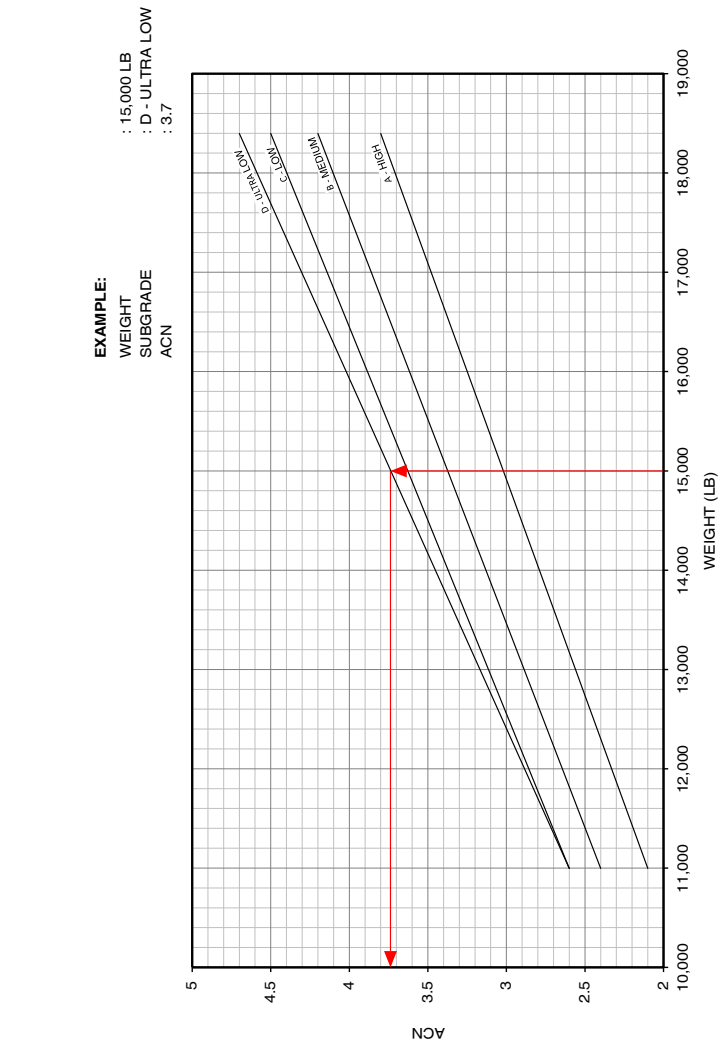


Figure 0-2-2: Aircraft Classification Number - Rigid Pavement

3.1 Example

The example below describes how to determine if an aircraft can operate without restrictions on a pavement given the following conditions:

- Pavement Type Code for a paved runway = PCN 20 / R / D / Y / T
- Aircraft weight = 15,000 lb
- Main gear tyre pressure = 73 psi.

To determine if an aircraft can operate without restrictions on the pavement, do as follows:

1 Pavement Type Code says that the Pavement Classification Number is 20, for a rigid pavement (R), with ultra low subgrade strength (D), with 145 psi tyre pressure limit (Y) and the method of PCN evaluation is a technical evaluation (T)

2 Determine the ACN as follows:

- The aircraft operating weight is given: 15,000 lb
- Go to Fig. 0-2-2, navigate to Weight = 15,000 lb on the horizontal axis, navigate upwards to the "D - ULTRA LOW" subgrade strength line, and then navigate to the left to the vertical axis to find the Aircraft Classification Number.

  The result: ACN is: 3.7.

3 The main gear tyre pressure is given: 73 psi

4 ACN of 3.7 is lower than the given PCN of 20. The main gear tyre pressure of 73 psi is below the tyre pressure limit of 145 psi. This means that the aircraft can operate without restrictions on the pavement.

3.2 PC24 ACN

To determine the ACN for the PC24

Maximum Take Off Weight (MTOW) - 18,260 lb (8.282 Kg).

Loaded tire pressure - 73 psig (5 bar).

Flexible Pavement Sub-grades, CBR%				**Rigid Pavement Sub-grades, k (lb/in³)**			
High	Medium	Low	Very low	High	Medium	Low	Very low
A	B	C	D	A	B	C	D
15	10	6	3	553	295	147	74
ACN				ACN			
3.1	3.5	4.2	5.2	3.8	4.2	4.5	4.7

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SECTION 1
Ground Handling
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Towing

1 Preliminary Requirements and Safety Conditions

WARNING

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

WARNING

OBEY THE TOWING VEHICLE MANUFACTURER'S INSTRUCTIONS BEFORE YOU TOW WITH A TOWBAR-LESS TUG.

CAUTION

FOR AIRCRAFT MSN 101-130 PRE-SB 42-002 THE WEIGHT OF THE TOWBAR-LESS TUG MUST NOT BE MORE THAN 5,225 POUNDS (2,370 KILOGRAMS).

FOR AIRCRAFT MSN 101-130 POST-SB 42-002 AND MSN 131-UP THE WEIGHT OF THE TOWBAR-LESS TUG MUST NOT BE MORE THAN 5,379 POUNDS (2,440 KILOGRAMS).

IF THE WEIGHT OF THE TOWBAR-LESS TUG IS MORE THAN THESE VALUES, AND THE TOWBAR-LESS TUG SUDDENLY BRAKES, THIS CAN CAUSE DAMAGE TO THE AIRCRAFT.

CAUTION

DO NOT TOW THE AIRCRAFT WITH A TOWBARLESS TUG IF THE FIXED STONE GUARD IS INSTALLED. A TOWBARLESS TUG CAN DAMAGE THE FIXED STONE GUARD.

CAUTION

DO NOT USE THE AIRCRAFT BRAKES DURING TOWING. USING THE AIRCRAFT BRAKES CAN CAUSE DAMAGE TO THE AIRCRAFT STRUCTURE.

CAUTION

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

Note

A minimum of five persons is recommended for this procedure.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Multi-head tow bar	990.00.00.904 Local supply
Tow bar attachment-head	990.00.00.943 Local supply
Wheel chocks	990.00.00.909 Local supply

3 Towing Guidelines

Make sure there are sufficient personnel to move the aircraft. If necessary use one person:

- At each wing tip
- In the pilot seat to operate the aircraft brakes
- To operate the vehicle used to tow the aircraft
- At the aircraft tail (in control of the operation to tow the aircraft).

Make sure that:

- All personnel are competent to do towing operations and know the safety precautions
- If you use a towbarless tug to move an aircraft with the quick release stone guard installed, make sure the quick release stone guard is removed.
- The tow vehicle and the related equipment are suitable for the aircraft
- The route that the aircraft is to be towed is clear of objects
- The passenger door and the cargo door are closed
- The gust lock is removed from the flight controls in the flight compartment
- The brake pressure is sufficient.

Note

A tow bar or towing equipment that fits correctly can be used. Care must be taken to make sure that it has sufficient towing weight / capacity.

When the aircraft is towed, make sure that:

- Personnel are in position
- The person in control of the operation can see the personnel at all times
- You release the parking brake
- You tow the aircraft slowly
- The Nose Landing Gear (NLG) does not turn to an angle that is more than the limits shown on the NLG leg placard, see Fig. 1-1-1.

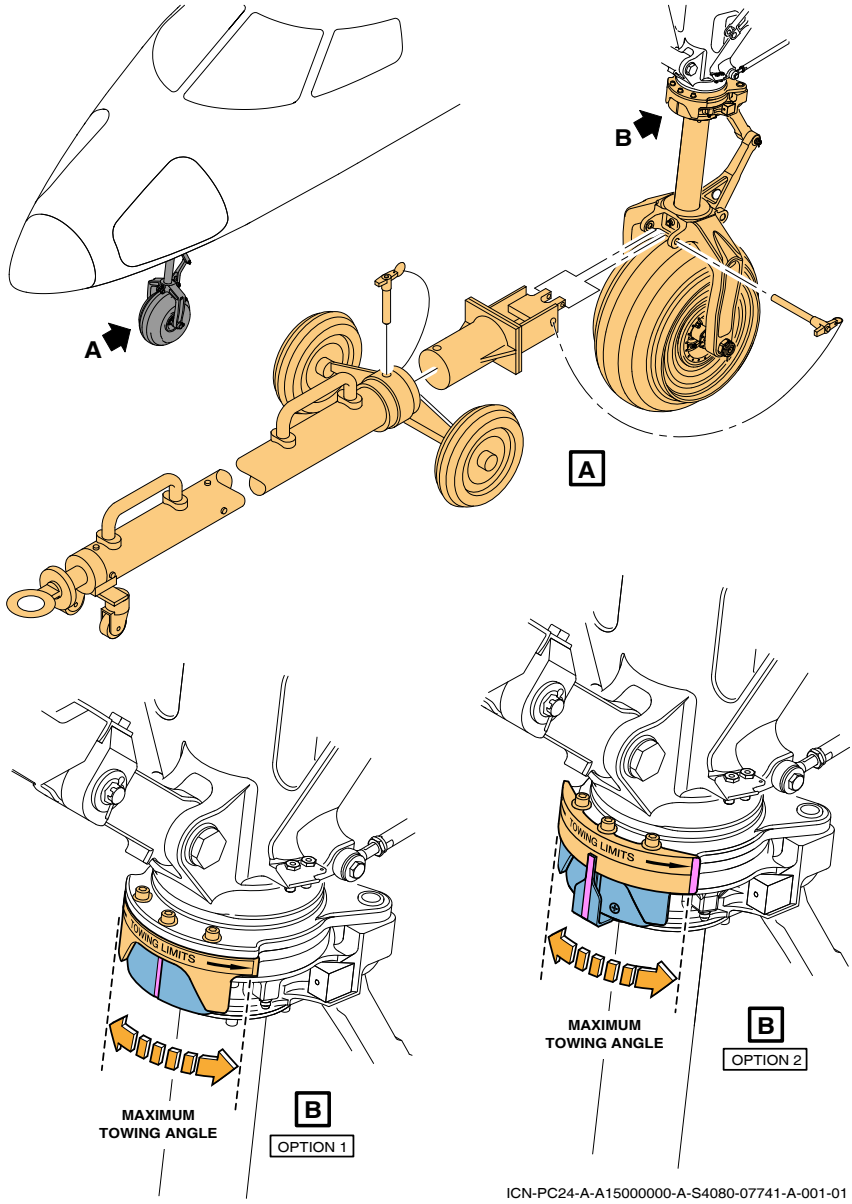

Figure 1-1-1: Towing the Aircraft

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Parking

1 Preliminary Requirements and Safety Conditions

WARNING

WHEN WORKING AT HEIGHT USE A SERVICEABLE PLATFORM OF THE CORRECT TYPE AND HEIGHT. MAKE SURE THAT THE PLATFORM IS STABLE. IF THE PLATFORM IS NOT STABLE, PERSONNEL CAN FALL, THIS CAN CAUSE DEATH OR INJURY TO PERSONNEL.

CAUTION

TAKE CARE WHEN YOU INSTALL THE PITOT STATIC PROBE COVERS. THE GAP OF 0.39 INCH (10 MILLIMETER) IS NECESSARY TO PREVENT WATER INGRESS. WATER INGRESS CAN CAUSE DAMAGE THE PITOT STATIC PROBES.

CAUTION

TAKE CARE WHEN YOU INSTALL THE VAPOR COOLING SYSTEM COVERS AND THE ECS OUTLET COVER. THE VAPOR COOLING SYSTEM AND ECS OUTLET LOUVER VANES CAN BE EASILY DAMAGED.

CAUTION

DO NOT PARK THE AIRCRAFT IN DIRECT SUNLIGHT DURING VERY HOT WEATHER CONDITIONS. IF THE AIRCRAFT IS PARKED IN THESE CONDITIONS, USE THE WINDSHIELD COVERS TO GIVE PROTECTION TO THE AIRCRAFT. THIS WILL HELP PREVENT DAMAGE TO EQUIPMENT.

Do this if the aircraft:

- Has to stay outdoors for a long period
- Has to stay outdoors at night
- Is exposed to strong wind or snow.

2 Recommended Support Equipment

All the covers and equipment for parking are contained in the ground equipment compartment.

3 Parking Guidelines

Select a parking location:

- On a hard, level surface
- If possible, not in direct sunlight
- Point the nose into the wind.

When the aircraft is in the correct parking location:

- Move the nose wheel to the center position
- Move the rudder to the neutral position
- Engage the parking brake
- Put wheel chocks in front of and behind the nose and main wheels
- Release the parking brake
- Make sure the electrical system is de-energized
- The flight control Gust Lock is set by the Flight Crew
- Install the tail strut at the position in Fig. 1-2-1
- Install a lock-pin in each over-wing emergency exit at the positions shown in Fig. 1-2-2
- Close and lock the passenger door and the cargo door
- Make sure all access panels and doors are closed
- If a ground point is available, connect a ground cable to the nose landing gear ground point
- Install the aircraft covers at the positions shown in Fig. 1-2-3 thru Fig. 1-2-8
- Install the cockpit cover or the windshield inside covers as applicable, refer to Fig. 1-2-9 and Fig. 1-2-10.

Moor the aircraft:

- When the winds are strong
- It will not be moved for a long time.

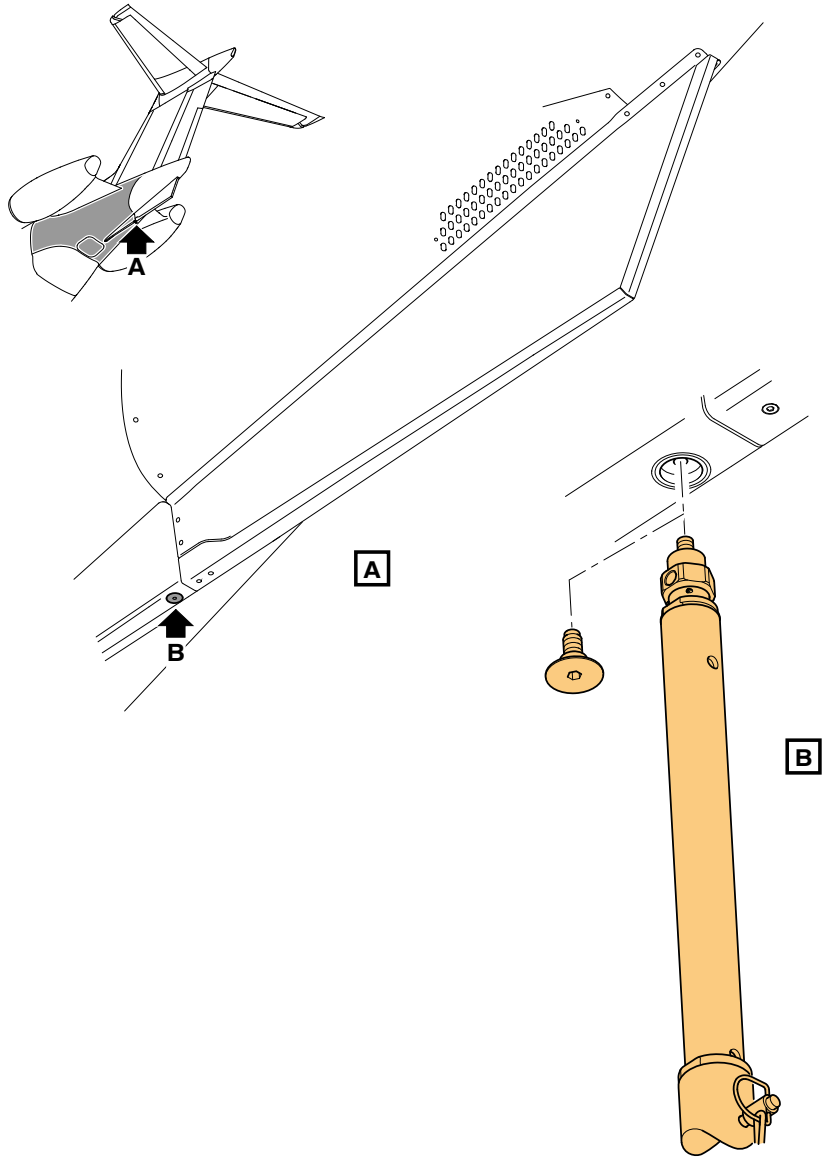

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Figure 1-2-1: Parking - Tail Strut

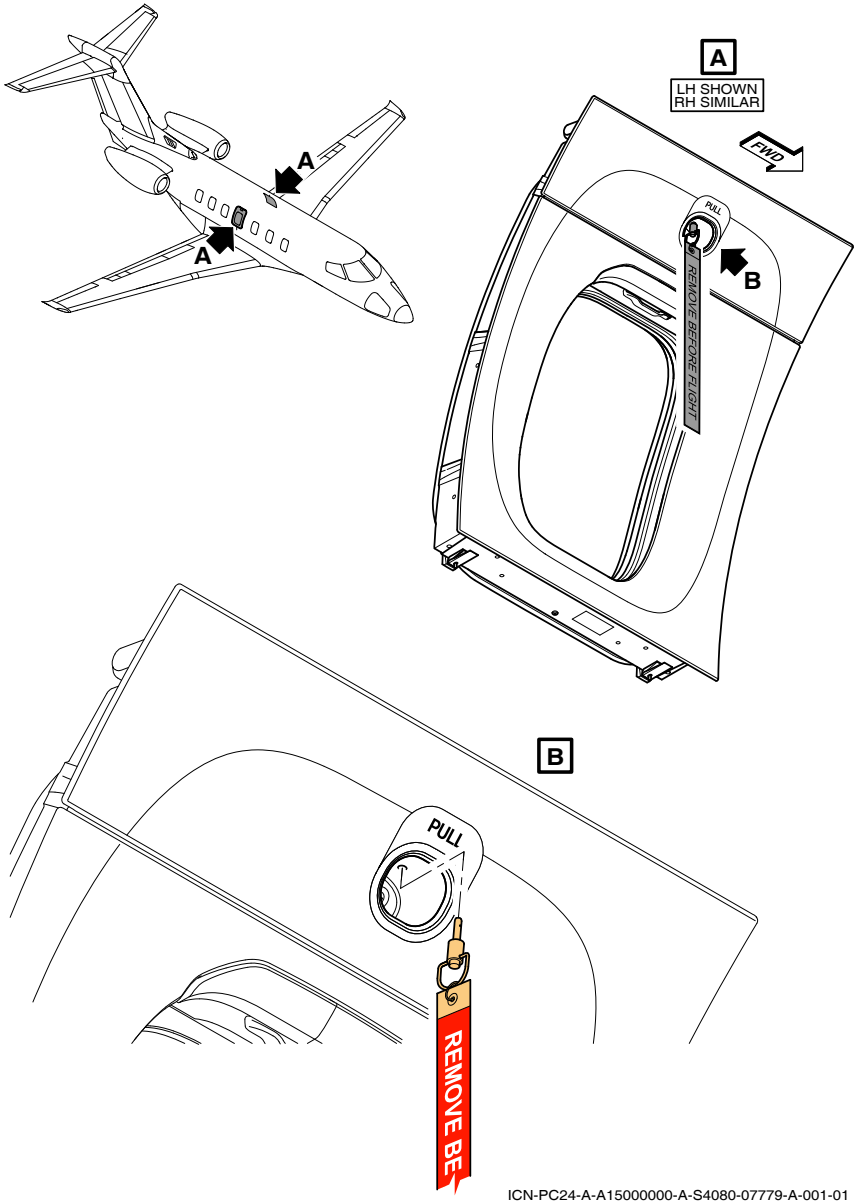

Figure 1-2-2: Parking - Emergency Exit Lock-Pin

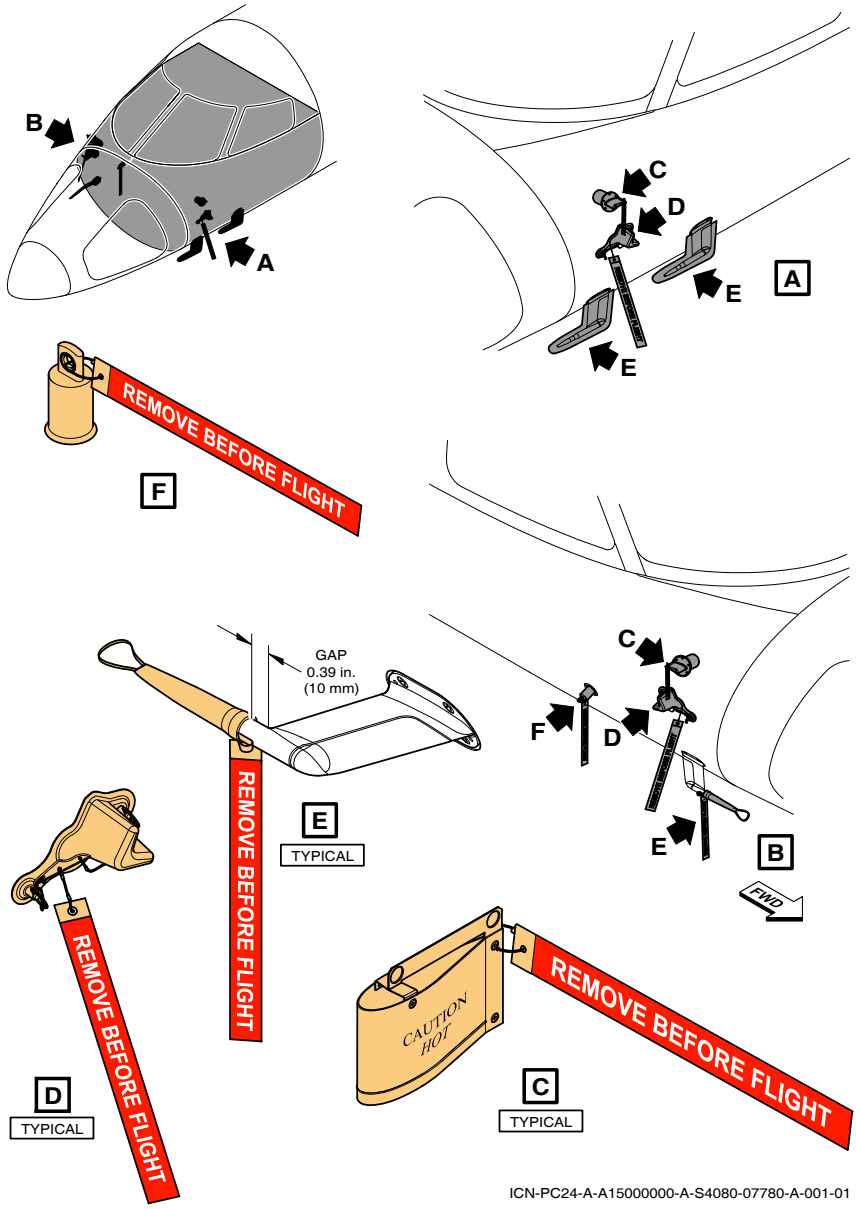

Figure 1-2-3: Parking - Air Data Probe Covers

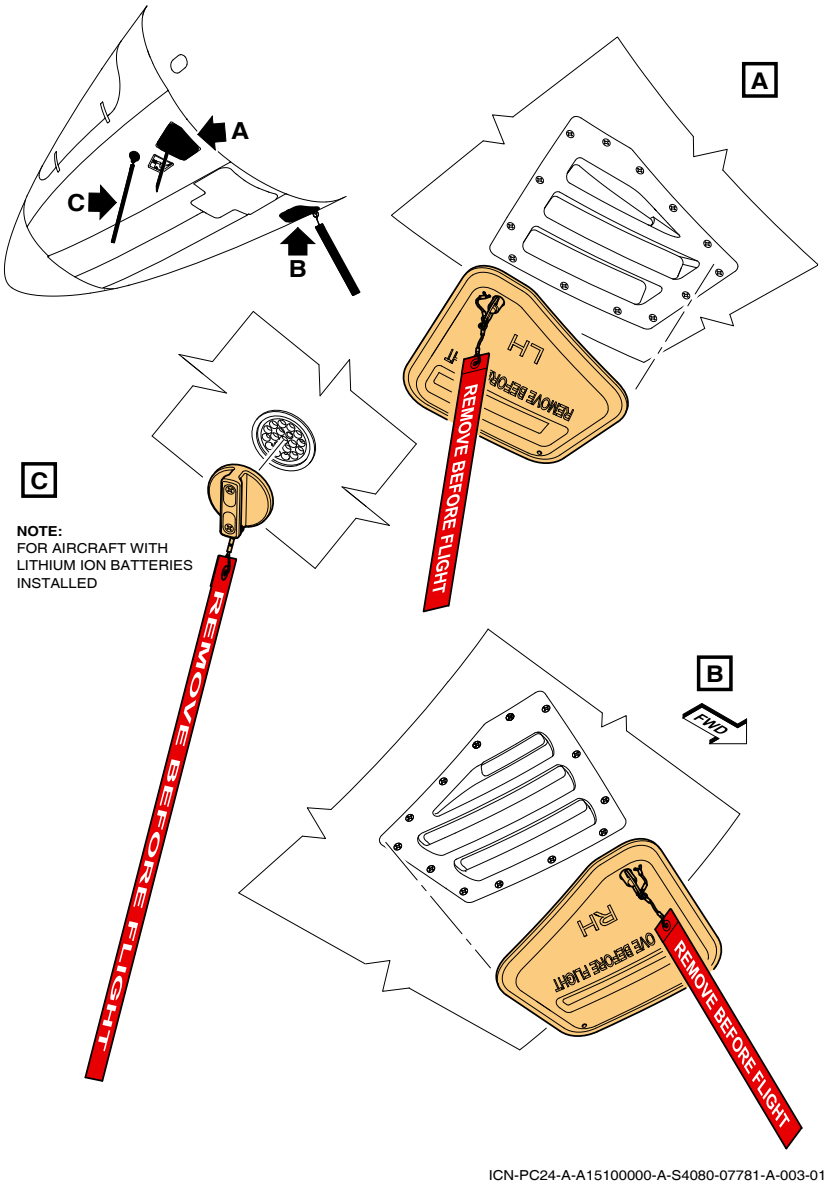

Figure 1-2-4: Parking - Nose Covers

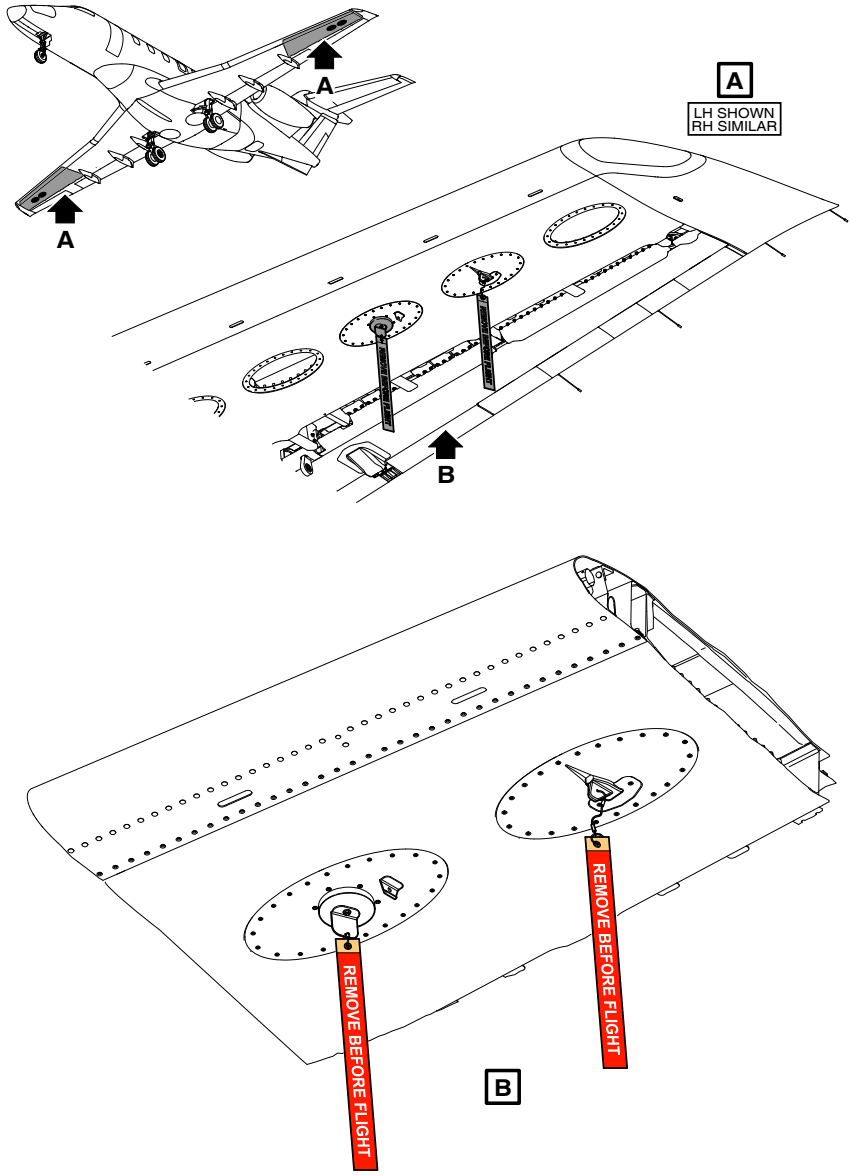

Figure 1-2-5: Parking - Wing Covers

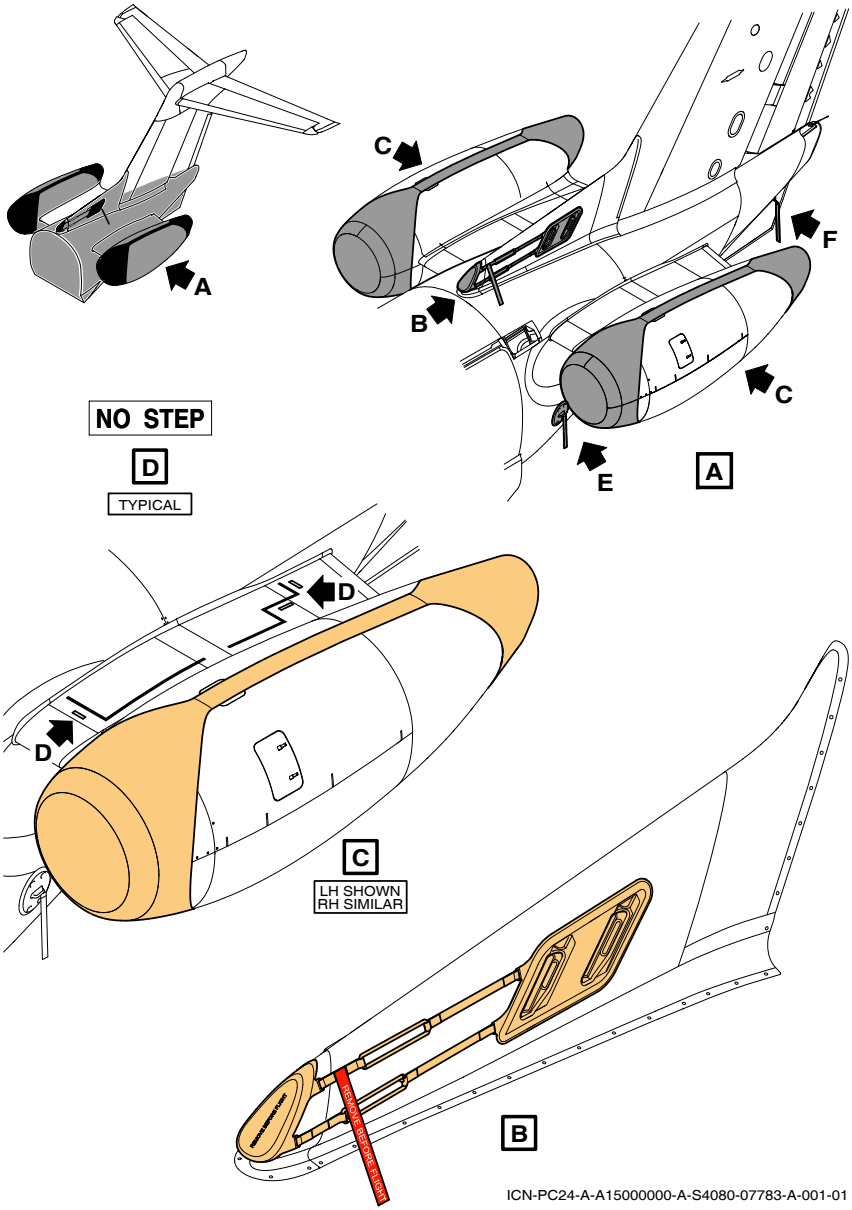

Figure 1-2-6: Parking - Upper Rear Fuselage Covers

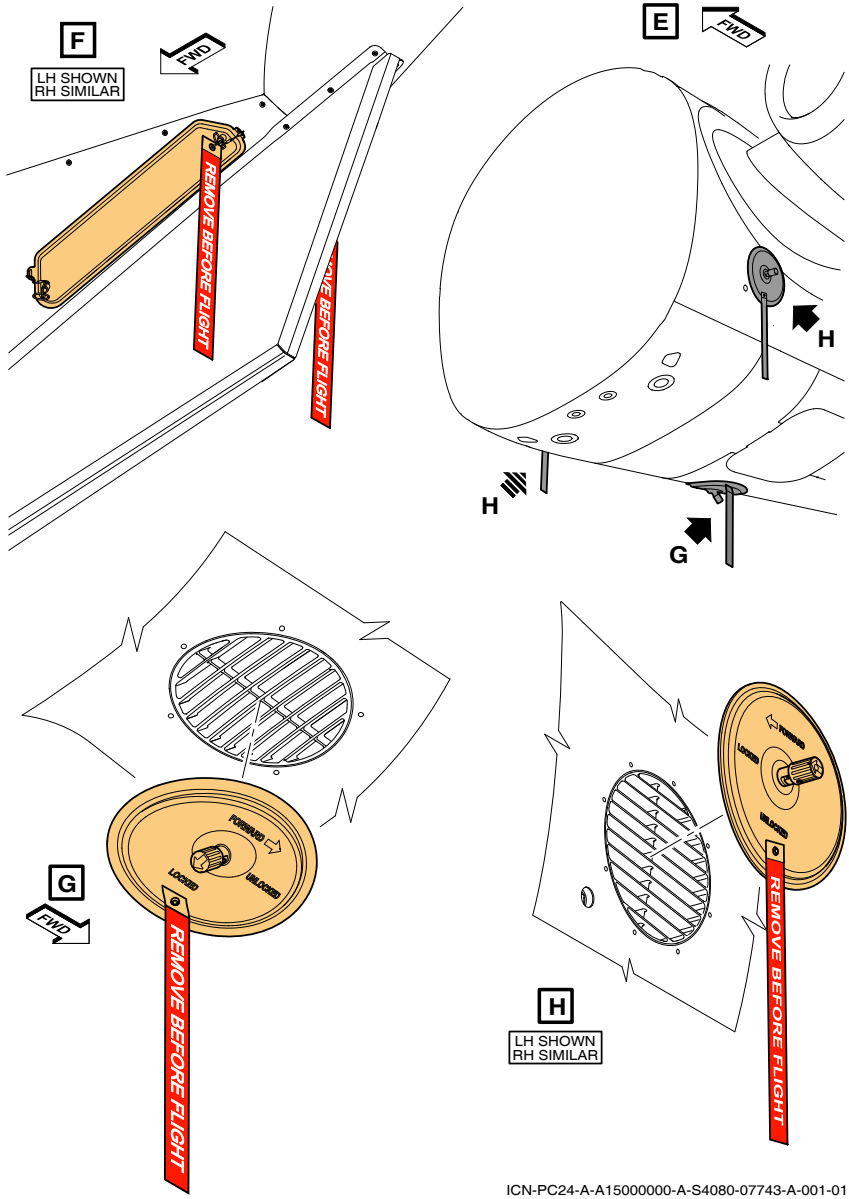

Figure 1-2-7: Parking - Lower Rear Fuselage Covers

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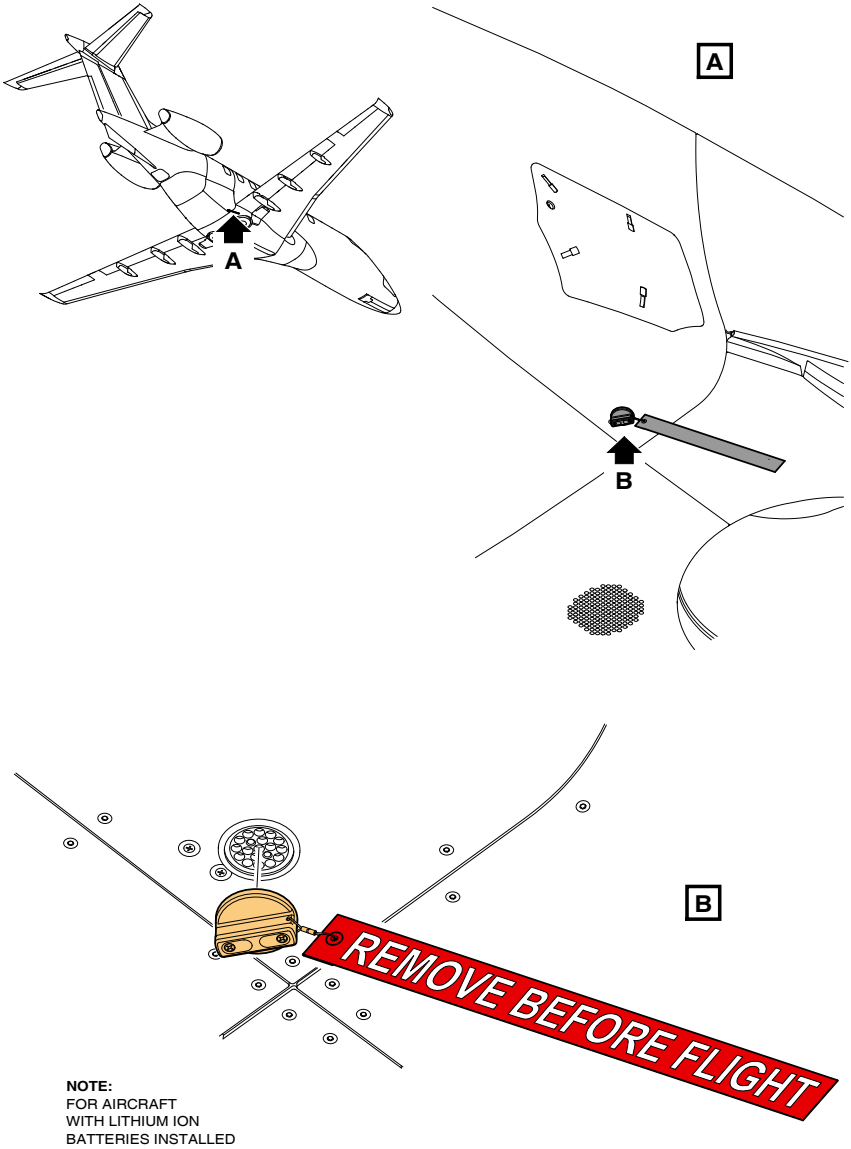

Figure 1-2-8: Parking - Lithium Ion Battery 2 - Vent cover

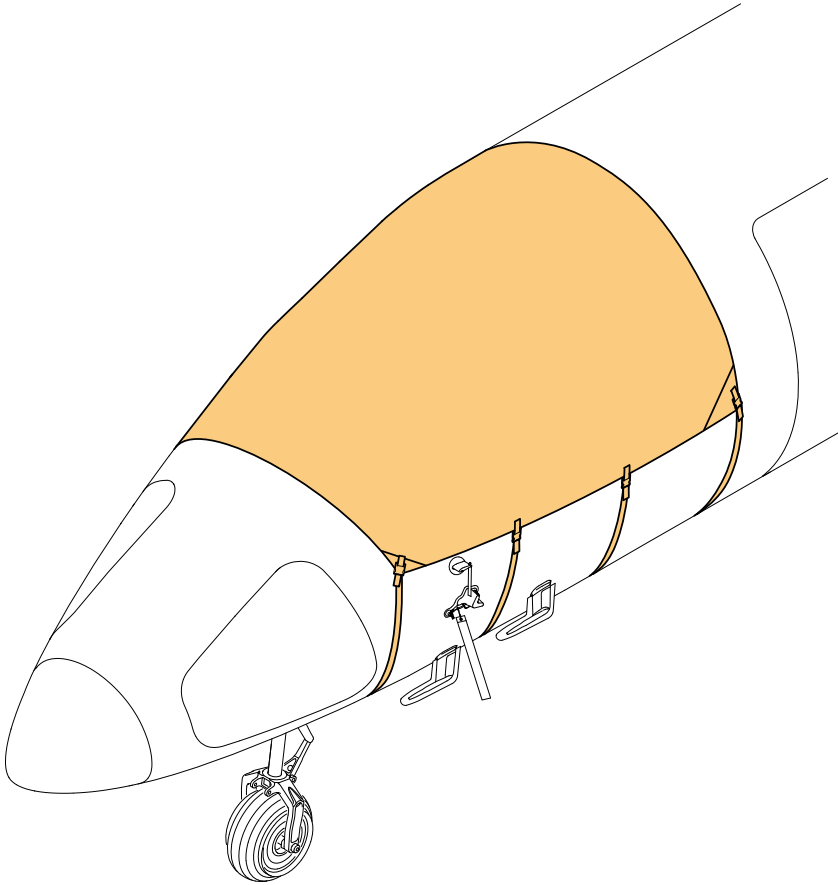

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Figure 1-2-9: Parking - Cockpit Cover

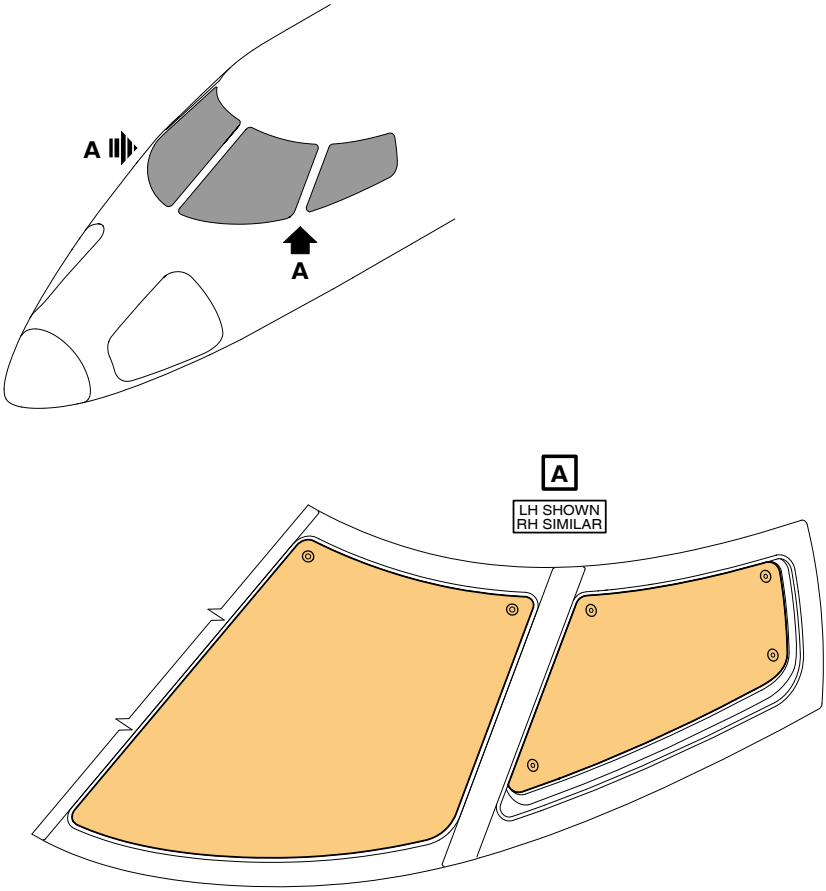

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Figure 1-2-10: Parking - Windhield inside covers

Mooring

1 Preliminary Requirements and Safety Conditions

CAUTION

Do not use the nose landing gear to moor the aircraft. This can cause damage to the aircraft.

CAUTION

Make sure that the rope is tight when it is attached to the aircraft and to the ground mooring points. This will help prevent damage to equipment.

CAUTION

Only use spike pickets approved for use on fine soil.

Only use screw pickets approved for use on clay soil or rock surfaces.

Moor the aircraft:

- If it is exposed to strong wind or snow
- If necessary after parking.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Jack Point Adaptors	513.07.24.010
Jack Point Lugs	513.07.24.006
Mooring blocks (minimum 400 lb (181 kg))	Local supply
Rope (minimum diameter 0.75 in (20 mm)	Local supply
Screw Picket	Local supply
Spike Picket	Local supply

3 Mooring Guidelines

Follow the guidelines in the parking procedure and park the aircraft in a suitable mooring location.

Fig. 1-3-1 shows the location of the mooring points on the aircraft.

The aircraft mooring points are:

- One on the centerline aft of the nose landing gear
- One below each wing.

Fig. 1-3-2 shows the tie-down areas. Create the six tie-down points in the tie-down area:

- On a hard surface, use six mounting blocks
- On a fine type soil, use six spike pickets
- On a clay type soil or rock surface, use six screw pickets.

Moor the aircraft as follows:

- Remove and keep the three plugs
- Install the three jack-point adaptors and jack-point lugs
- Attach rope between each jack-point lug and the tie-down points.

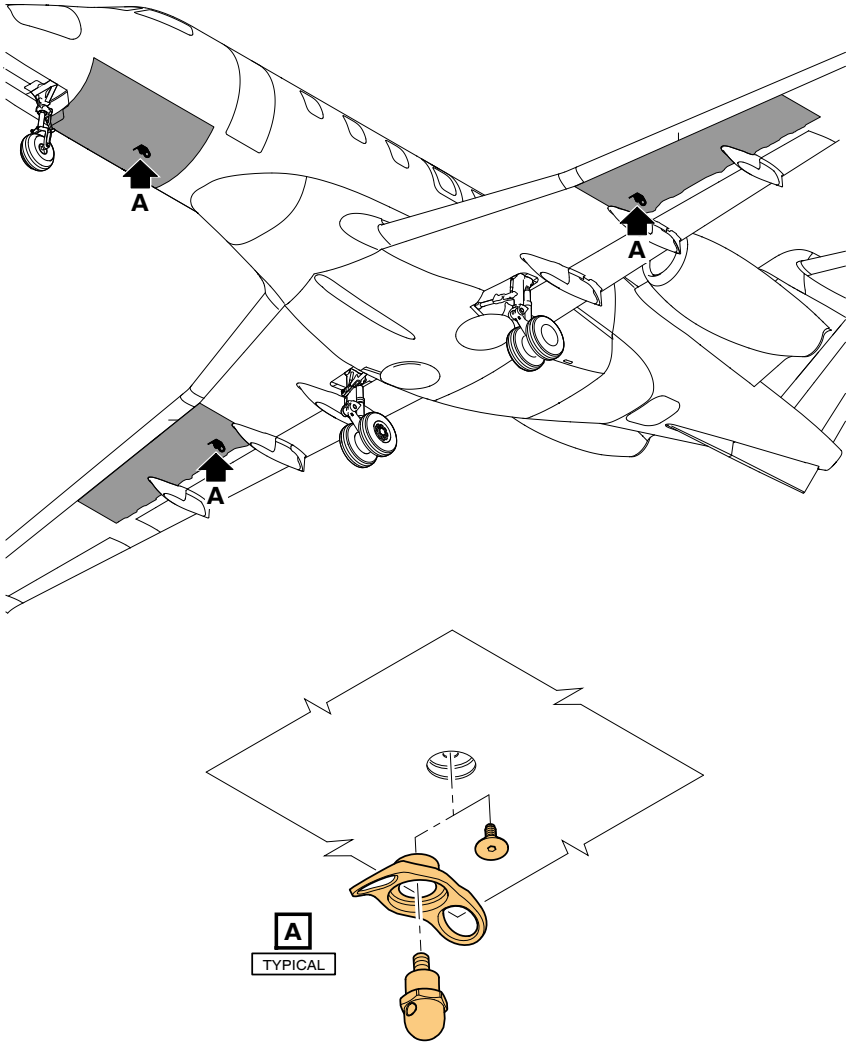

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Figure 1-3-1: Mooring - Tie-Down Points

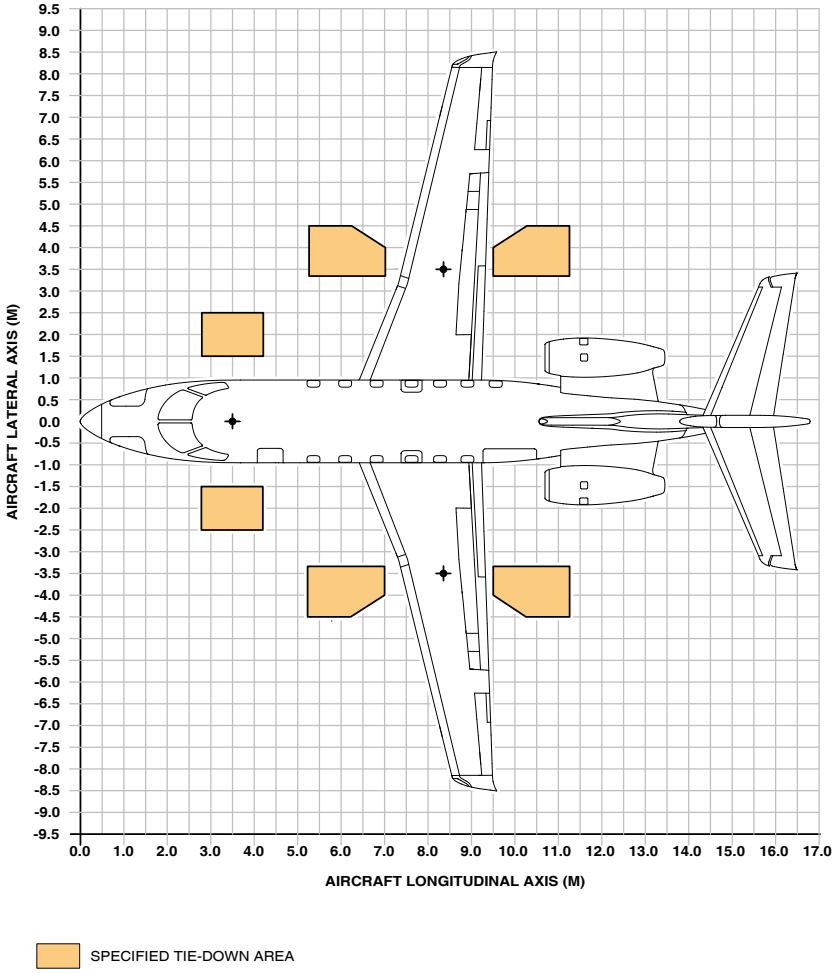

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Figure 1-3-2: Mooring - Tie-Down Areas

Cargo - Loading/Unloading procedure

1 General

CAUTION

MAKE SURE THE TAIL STRUT IS IN POSITION BEFORE YOU LOAD OR UNLOAD THE CARGO. IF THE TAIL STRUT IS NOT INSTALLED, DAMAGE TO THE AIRCRAFT CAN OCCUR.

Cargo is any item that has a mass of between 66 lb (30 kg) and 771.6 lb (350 kg). All cargo must be correctly attached to the seat rails with the straps and components supplied in the cargo tie-down kit.

1.1 Cargo Tie-Down Configuration

It is the responsibility of the operator to make sure the cargo is contained in a suitable container or stiff packaging (strength and stiffness) for the purpose of aviation transportation.

Typical cargo tie-down configurations are shown in Fig. 1-4-1.

Cargo can be positioned in the area between the emergency exit windows in the cabin and the rear pressure bulkhead and to a maximum height of 47.2 in (1,200 mm). The maximum total weight for cargo in this area is 2,500 lb (1,134 kg). The clearance dimensions between cargo and the baggage restraint system are shown Fig. 1-4-2.

The cargo must not obstruct the emergency exits and also be positioned at a safe distance from the baggage restraint system, if installed. When cargo is combined with a baggage restraint system there must be a minimum separation distance between the forward beam on the baggage restraint system and the cargo. The minimum separation distance for a:

- Large baggage restraint system and cargo is 9.8 in (250 mm)
- Small baggage restraint system and cargo is 7.5 in (190 mm).

The long tie-down straps must be positioned forward to aft, with the forward part of the strap as close as possible to the cargo item. The aft part of the strap must be positioned to give an angle between 10 and 20 degrees, as shown in Fig. 1-4-3.

1.2 Select the Cargo Tie-Down Configuration

Cargo must be symmetrically positioned in relation to the central axis of the aircraft and must not exceed the dimensions of the track fittings.

Note

Be careful when you load large items of baggage or cargo. The cargo door opening is 47.2 in (1,200 mm) by 47.2 in (1,200 mm). Baggage and cargo that is larger than the door opening size may still be carried on the aircraft however, care must be taken when you load and secure it.

Note

The maximum floor width is 45.5 in (1,156 mm).
There must be clearance between the cargo, the interior trim and the doors.
There must be sufficient clearance between the top of the cargo and the interior trim to allow the tie-down straps to be installed.
There must be a minimum clearance of 3.9 in (100 mm) between cargo and the Vapor Cycle System (VCS) inlet.

The maximum weight for each item of cargo is given in Table 1-4-1.

Table 1-4-1: Maximum Cargo Weight

Configuration Type	Maximum Weight
Side (Outboard)	385.8 lb (175 kg)
Middle (Inboard)	440.9 lb (200 kg)
Full Width	771.6 lb (350 kg)

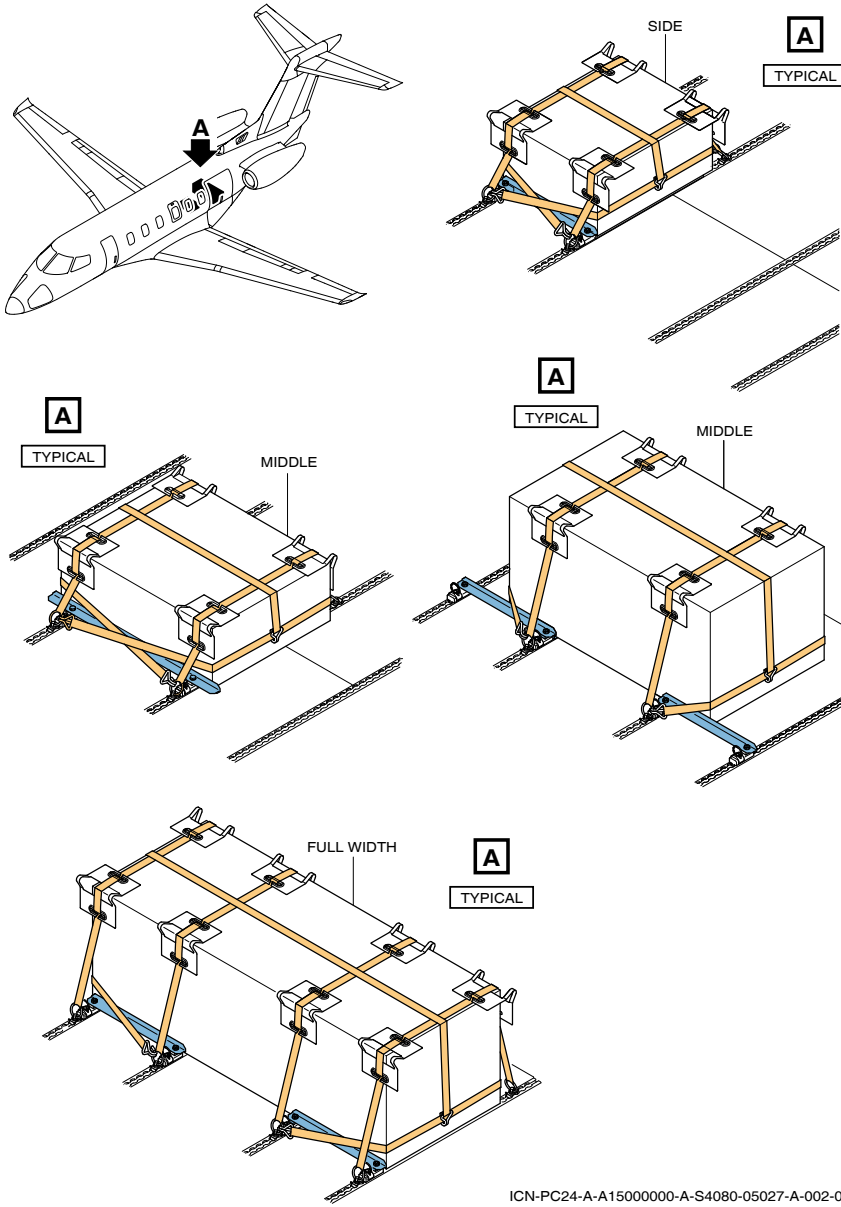

Figure 1-4-1: Cargo Tie-Down Kit Configurations

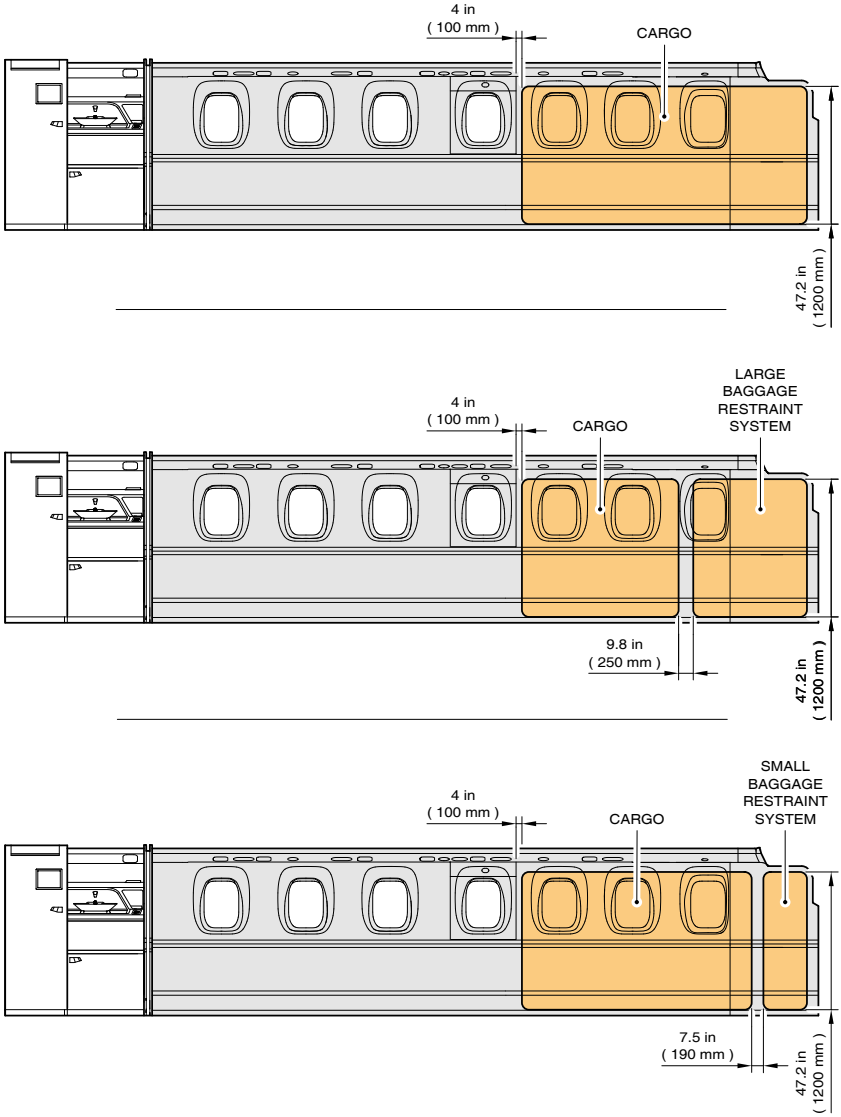

Figure 1-4-2: Cargo / Baggage Clearance

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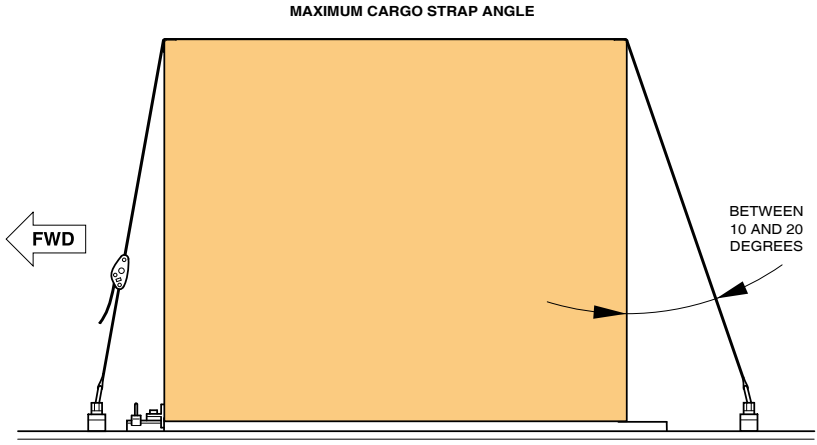

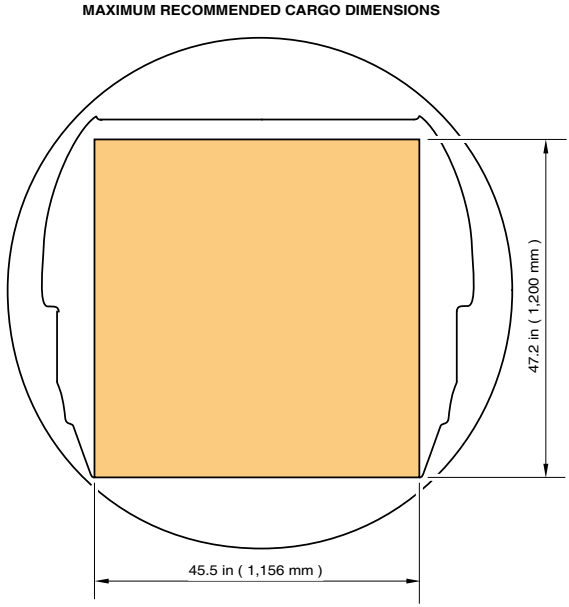

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Figure 1-4-3: Maximum Cargo Dimensions and Strap Angle

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Ground Power Unit - Facility requirements associated with servicing

CAUTION

BE CAREFUL WHEN YOU DO WORK ON THE ELECTRICAL SYSTEM OR A SYSTEM THAT USES ELECTRICAL POWER. MAKE SURE THAT IT IS SAFE BEFORE YOU APPLY ELECTRICAL POWER TO THE AIRCRAFT OR ENERGIZE THE AIRCRAFT ELECTRICAL SYSTEMS. ELECTRICAL POWER CAN CAUSE DEATH OR INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

1 Ground power unit

A Ground Power Unit (GPU), 28.5 Volt Direct Current (Vdc) is used to start the aircraft engines and to provide electrical power for servicing procedures.

The requirements for a GPU for use with the Pilatus PC-24 are given in Table 1-5-1.

Table 1-5-1: Ground power unit - Requirements

Description	Requirement
Voltage	25.0 - 29.5 Vdc
Load capacity	1,200 Amps (A) Initial Start Surge 450 A Continuous
Minimum volts for start	24.0 Vdc
Minimum voltage to charge batteries	28.0 Vdc
Maximum voltage to charge batteries	29.5 Vdc
Minimum Outside Air Temperature (OAT) for GPU start	-65.2 ° Fahrenheit (F) (-54 °Celsius (C))

Connection of a GPU is permitted only when GPU voltage is greater than the battery voltage.

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SECTION 2
Aircraft Servicing
Table of Contents

Inflate Tires

1 Preliminary Requirements and Safety Conditions

WARNING

DO NOT POINT A COMPRESSED GAS OUTLET AT YOUR BODY OR AT OTHER PERSONNEL. THE COMPRESSED GAS CAN CAUSE INJURY TO PERSONNEL.

WARNING

DO NOT FILL A TIRE THAT IS DAMAGED. YOU CAN CAUSE AN EXPLOSION WHICH CAN KILL OR CAUSE AN INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING

BE CAREFUL WHEN YOU PRESSURIZE THE TIRES:

- **DO NOT PRESSURIZE THE TIRES TO MORE THAN THE SPECIFIED PRESSURE**
- **DO NOT PRESSURIZE THE PRESSURE TOO FAST, THE TIRES CAN BECOME HOT.**

THESE CONDITIONS CAN CAUSE AN EXPLOSION WHICH CAN CAUSE DEATH OR INJURY TO PERSONNEL AND/OR DAMAGE TO THE EQUIPMENT.

WARNING

SLOWLY RELEASE COMPRESSED GAS PRESSURE. IF YOU RELEASE THE PRESSURE TOO FAST, YOU CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

CAUTION

DO NOT SERVICE A HOT TIRE. WAIT UNTIL THE TIRE IS COLD. THIS COULD RESULT IN LOW PRESSURE WHEN THE TIRE COOLS TO AMBIENT TEMPERATURE. THE INFLATION PRESSURE WILL DECREASE AS THE TIRE COOLS.

Note

It is permitted to inflate tires with air at locations where dry nitrogen is not available. However, in the next 15 hours of aircraft operation, tires on braked wheels must have the air removed. The tires must then be inflated with dry nitrogen that does not contain more than 5% oxygen by volume.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Nitrogen cart Nitrogen, dry, minimum 97% purity	Local supply
Tire inflating gun	Local supply or 513.12.21.043

3 Tire Inflation Guidelines

Check and inflate the tires as follows:

1 Remove the cap from the inflation valve.

2 Connect a tire inflating gun to the inflation valve, check the tire pressure:

- For the nose wheel tire, make sure the pressure is between 58.0 and 61.0 psig (4.0 and 4.2 bar)
- For the main wheel tires, make sure the pressure is between 73.0 and 76.5 psig (5.0 and 5.24 bar).

3 Disconnect the tire inflating gun.

4 Install the cap on the inflation valve.

5 A leak from the tire and wheel assembly is only shown when you can see a decrease in pressure on a pressure gauge.

Note

If the ambient temperature decrease, between the last servicing of the tire and the coldest expected operation of the tire, is more than 59 °F (15 °C) it is recommended that the tire pressure is increased by the value given in the following table.

Table 2-1-1: Ambient Temperature - Tire Pressure

Ambient Temperature Decreased by:	Increase Standard Tire Pressure by:	
	Nose Wheel Tire	Main Wheel Tire
59 °F (15 °C)	3.0 psig (0.21 bar)	4.0 psig (0.28 bar)
68 °F (20 °C)	4.0 psig (0.28 bar)	5.0 psig (0.34 bar)
77 °F (25 °C)	5.0 psig (0.34 bar)	7.0 psig (0.48 bar)
86 °F (30 °C)	6.0 psig (0.41 bar)	8.0 psig (0.55 bar)
95 °F (35 °C)	7.0 psig (0.48 bar)	9.0 psig (0.62 bar)
104 °F (40 °C)	8.0 psig (0.55 bar)	11.0 psig (0.76 bar)
113 °F (45 °C)	9.0 psig (0.62 bar)	12.0 psig (0.83 bar)
122 °F (50 °C)	10.0 psig (0.69 bar)	13.0 psig (0.90 bar)

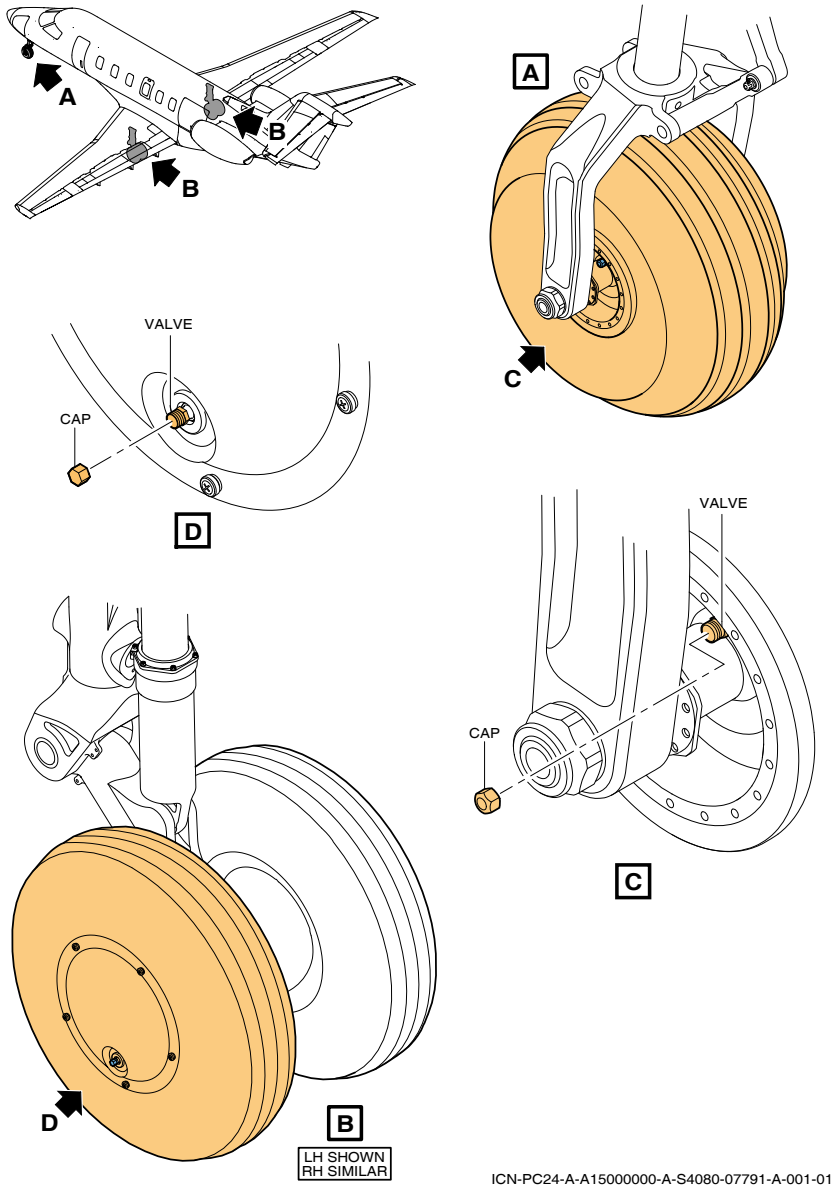

Figure 2-1-1: Tires - Fill

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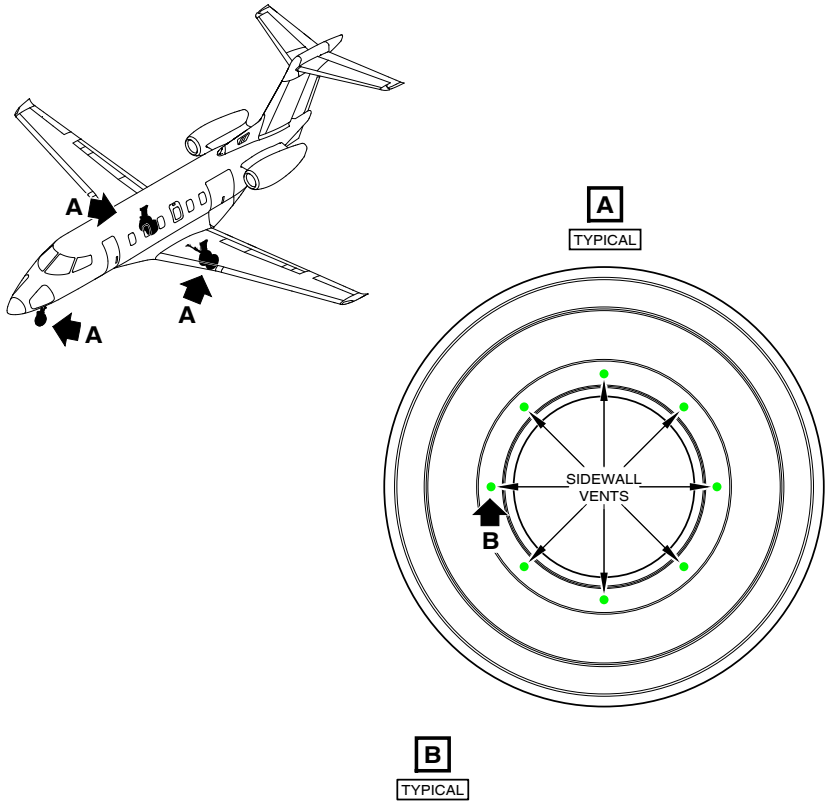
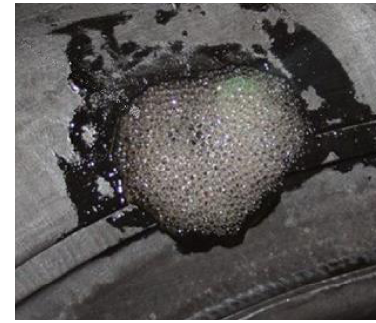
4 Tire markings

Green paint dots are applied to new tires. The dots show the location of vent holes. Leakage from the vent holes is permitted. Refer to Fig. 2-1-2, views A and B.



DRY TIRE, VENT HOLE AND MARKING



WET TIRE, SOAP SOLUTION OR LEAK DETECTION COMPOUND APPLIED. AIR ESCAPING

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Figure 2-1-2: Tires - Markings

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Stone guard - Change

1 Preliminary Requirements and Safety Conditions

Not applicable

2 Tools and Support Equipment

Not applicable

3 Main Procedure

This procedure contains the procedures that follow:

- Remove the Quick-Release Stone Guard, Remove the Quick-Release Stone Guard
- Install the Quick-Release Stone Guard, Install the Quick-Release Stone Guard.

3.1 Remove the Quick-Release Stone Guard

1 Push on the buttons (Figure 2-2-1 [6]) and remove the two quick-release pins (Figure 2-2-1 [2]) from the two top holders (Figure 2-2-1 [1]).

2 Disengage the quick-release stone guard (Figure 2-2-1 [3]) from the two top holders (Figure 2-2-1 [1]).

3 Lift the quick-release stone guard (Figure 2-2-1 [3]) and remove it from the two bottom holders (Figure 2-2-1 [4]).

3.2 Install the Quick-Release Stone Guard

1 Put the quick-release stone guard (Figure 2-2-1 [3]) in position on the two bottom holders (Figure 2-2-1 [4]).

2 Engage the quick-release stone guard (Figure 2-2-1 [3]) in the two top holders (Figure 2-2-1 [1]).

3 Push on the buttons (Figure 2-2-1 [6]) and install the two quick-release pins (Figure 2-2-1 [2]).

4 Make sure that you can see the locking pins (Figure 2-2-1 [5]) at the ends of the two quick-release pins (Figure 2-2-1 [2]).

4 Requirements after Job Completion

1 Remove all the equipment, tools and materials from the work area. Make sure that the work area is clean.

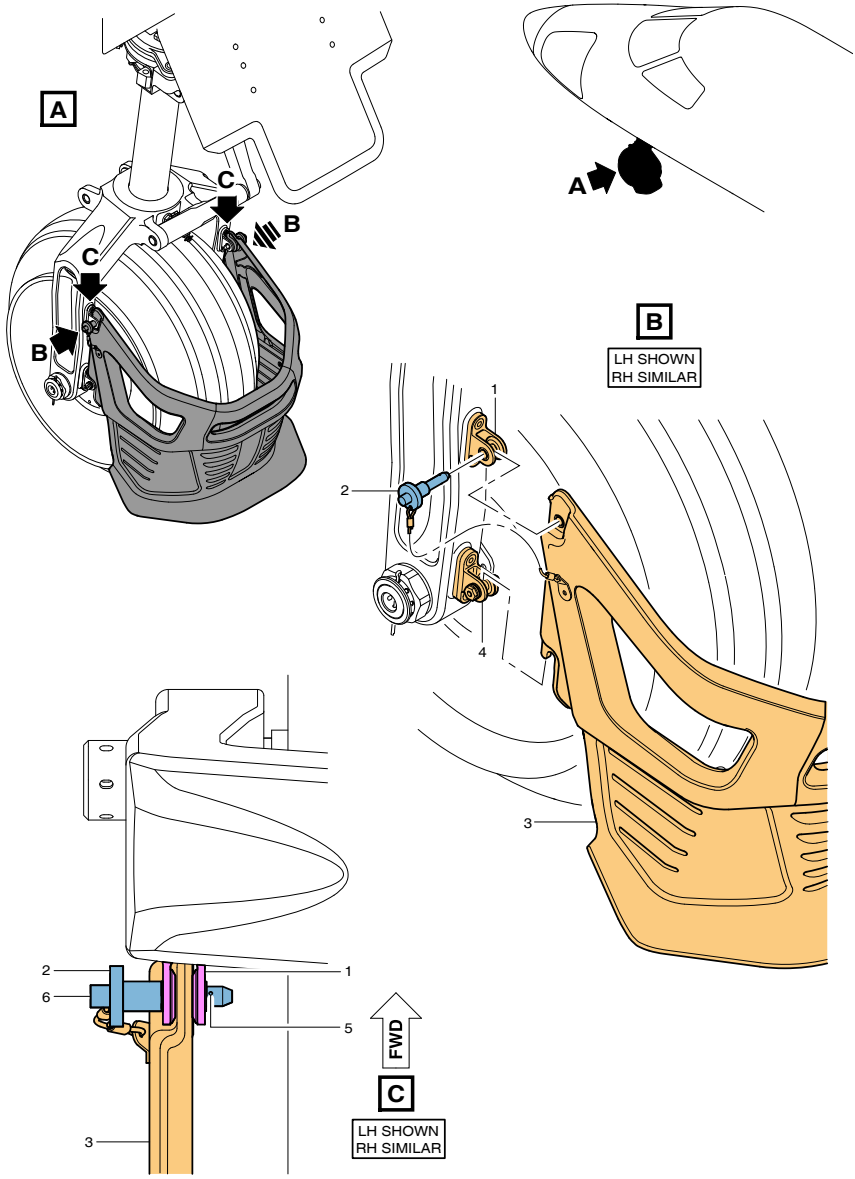

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Figure 2-2-1: Quick-release stone guard - Remove and install

Fuel - Defuel and Drain Fuel

1 Preliminary Requirements and Safety Conditions

CAUTION

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

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Fuel drain tool	990.00.00.940 or Local supply

3 Defuel with Aircraft Pumps or by Suction

Fig. 2-3-1 and Fig. 2-3-2 show the refuel / defuel compartments with the refuel panel and placards.

Note

Do not use the aircraft batteries as the electrical power source for the fuel booster pumps. When defueling with the fuel booster pumps, connect ground power then on the overhead panel, select GPU ON.

1 Connect a Ground Power Unit (GPU) to the aircraft and energise the electrical system.

2

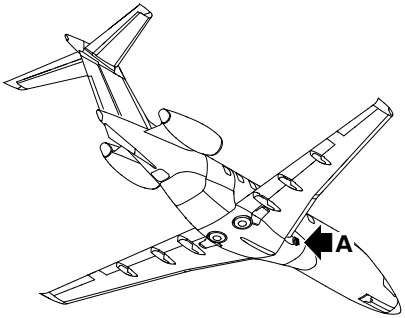
Note

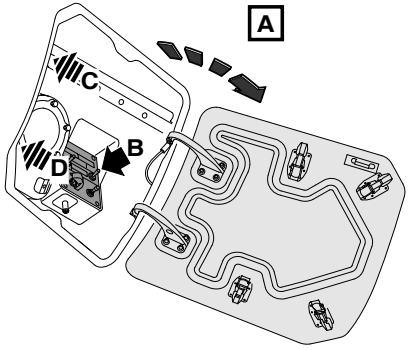
Make sure that the fuel vehicle has the capacity to take the amount of fuel to be removed.

Note

During the fuel system boot the FAIL light (red) will be on for approximately one minute.

Follow the instructions given on the placard in the refuel / defuel compartment.





C

TYPICAL

PREPARATION

1. GROUND AIRCRAFT WITH THE FUELING TANKER AT NOSE LANDING GEAR BONDING POINT
2. CONNECT REFUEL/DEFUEL NOZZLE
3. CONNECT REFUEL/DEFUEL HOSE BONDING CABLE TO REFUEL WELL BONDING POINT
4. PROCEED TO REFUEL OR DEFUEL AS REQUIRED

REFUEL PROCEDURE

1. SET "PWR-REFUEL/DEFUEL" SWITCH TO "ON"
2. WAIT FOR THE SYSTEM TO BOOT UP (APPROX. ONE MINUTE)
3. PERFORM LAMP TEST
4. PRESELECT FUEL QUANTITY
5. START REFUELLING
6. PERFORM REFUEL SHUT OFF TEST, CONFIRM REFUEL VALVES CLOSED (GREEN LIGHT) AND FUEL FLOW STOPPED
   CAUTION. ABORT REFUELLING IF FAIL LIGHT IS ON
7. WHEN REFUELLING INDICATES "COMPLETE", SET "PWR-REFUEL/DEFUEL" SWITCH TO "OFF"
8. DISCONNECT REFUELLING NOZZLE AND BONDING CABLES

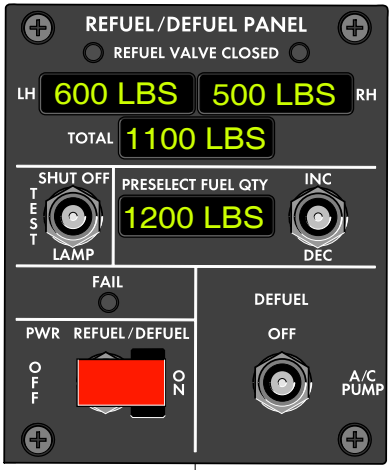
D

TYPICAL

DEFUEL PROCEDURE (A/C PUMP)

1. SET "PWR-REFUEL/DEFUEL" SWITCH TO "ON"
2. WAIT FOR THE SYSTEM TO BOOT UP (APPROX. ONE MINUTE)
3. SET "DEFUEL" SWITCH TO "A/C PUMPS"
   GROUND POWER IS MANDATORY FOR "A/C PUMPS" DEFUEL
4. PERFORM LAMP TEST AND PRESELECT FUEL QUANTITY
5. START DEFUEL
   CAUTION: ABORT DEFUELING IF FAIL LIGHT IS ON
6. WHEN DEFUELING INDICATES "COMPLETE", SET "PWR-REFUEL/DEFUEL" SWITCH TO "OFF"
7. DISCONNECT REFUELING NOZZLE AND BONDING CABLES

B



REFUEL / DEFUEL PANEL

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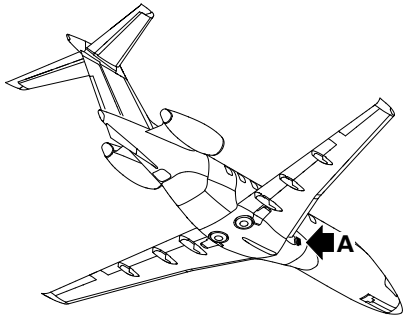
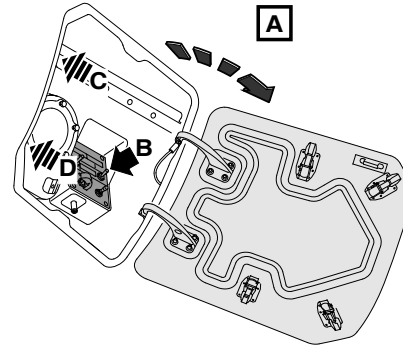
Figure 2-3-1: Refuel / Defuel Compartment





C

TYPICAL

PREPARATION

1. GROUND AIRCRAFT WITH THE FUELING TANKER AT NOSE LANDING GEAR BONDING POINT
2. CONNECT REFUEL/DEFUEL NOZZLE
3. CONNECT REFUEL/DEFUEL HOSE BONDING CABLE TO REFUEL WELL BONDING POINT
4. PROCEED TO REFUEL OR DEFUEL AS REQUIRED

REFUEL PROCEDURE

1. SET "PWR-REFUEL/DEFUEL" SWITCH TO "ON"
2. WAIT FOR THE SYSTEM TO BOOT UP (APPROX. ONE MINUTE)
3. PERFORM LAMP TEST
4. PRESELECT FUEL QUANTITY
5. START REFUELLING
6. PERFORM REFUEL SHUT OFF TEST, CONFIRM REFUEL VALVES CLOSED (GREEN LIGHT) AND FUEL FLOW STOPPED
   CAUTION. ABORT REFUELLING IF FAIL LIGHT IS ON
7. WHEN REFUELLING INDICATES "COMPLETE", SET "PWR-REFUEL/DEFUEL" SWITCH TO "OFF"
8. DISCONNECT REFUELLING NOZZLE AND BONDING CABLES

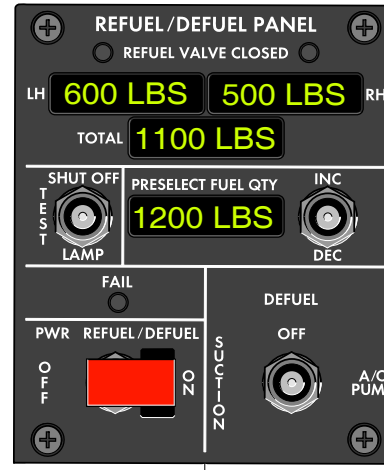
D

TYPICAL

DEFUEL PROCEDURE

1. SET "PWR-REFUEL/DEFUEL" SWITCH TO "ON"
2. WAIT FOR THE SYSTEM TO BOOT UP (APPROX. ONE MINUTE)
3. SET "DEFUEL" SWITCH TO "SUCTION" OR "A/C PUMPS"
   GROUND POWER IS MANDATORY FOR "A/C PUMPS" DEFUEL
4. PERFORM LAMP TEST AND PRESELECT FUEL QUANTITY
5. START DEFUEL
   CAUTION: ABORT DEFUELING IF FAIL LIGHT IS ON
6. WHEN DEFUELING INDICATES "COMPLETE", SET "PWR-REFUEL/DEFUEL" SWITCH TO "OFF"
7. DISCONNECT REFUELING NOZZLE AND BONDING CABLES

B



REFUEL / DEFUEL PANEL

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Figure 2-3-2: Refuel / Defuel Compartment with Suction Option

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4 Drain Fuel

1 Put a waste fuel container in position under the applicable drain valve. The waste fuel container capacity must be a minimum of 10 gallons (38 liters).

2 Connect a bonding lead from the waste fuel container to the aircraft.

3 Install the fuel drain tool in a drain valve and drain the fuel from the left and right wing.

4 Remove the fuel drain tool from the fuel drain.

5 Disconnect the bonding lead from the waste fuel container and the aircraft.

6 Discard waste fuel in accordance with local regulations.

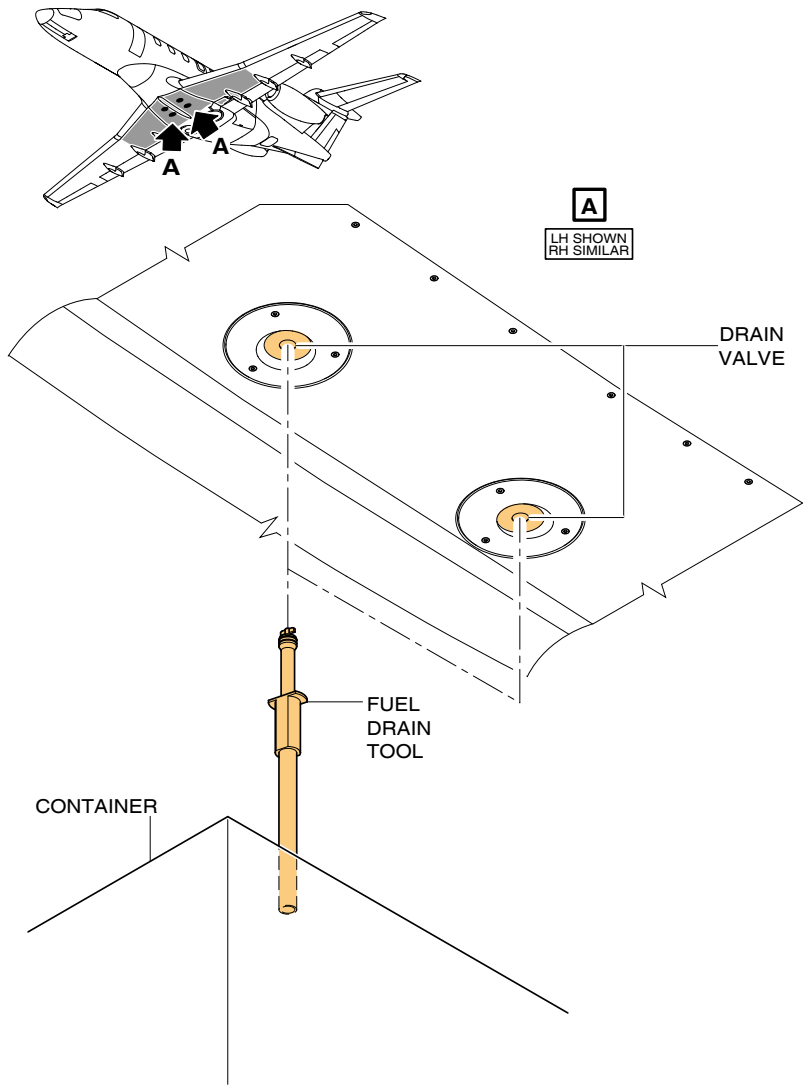

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Figure 2-3-3: Fuel Drain Tool

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Refuel

1 Preliminary Requirements and Safety Conditions

CAUTION

Do not use more than 60 pound per square inch (4.1 bar) at the fueling nozzle. Pressures more than 60 pound per square inch (4.1 bar) can cause damage to the fueling system components.

CAUTION

TS-1 fuels are not permitted with Quiet Power Mode operation.

TS-1 fuels are permitted only when the engine is operated at or above idle.

CAUTION

Make sure the NACA vents are clear before you start to refuel the aircraft. The NACA vents allows air to move in or out of the tanks.

Note

The aircraft is normally refueled under pressure, but gravity refueling can be used if pressure refueling is not possible.

Make sure that the correct fire-fighting equipment and personnel are available at all times.

Conduct fueling operations in an approved area.

Put the fueling equipment in a position from which it can be easily moved in an emergency.

Do not disconnect the ground cable from the aircraft until the fueling operations are complete.

Do not remove the fuel vehicle ground cable from the aircraft until fueling operations are completed.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Fuel tank drain reservoir	513.12.24.002 or Local supply

3 Refueling Guidelines

The information that follows gives guidance on:

- Pressure refueling
- Gravity refueling
- Draining water from the fuel tanks.

The approved fuel grades are:

- Jet A (ASTM-D1655-17)
- Jet A-1 (ATSM-D1655-17)
- JP-8 (MIL-DTL-83133 Rev. J)
- TS-1 (GOST 10277-86).

Fig. 2-4-1 shows the location of the refueling points, Fig. 2-4-2 shows the refuel / defuel panel.

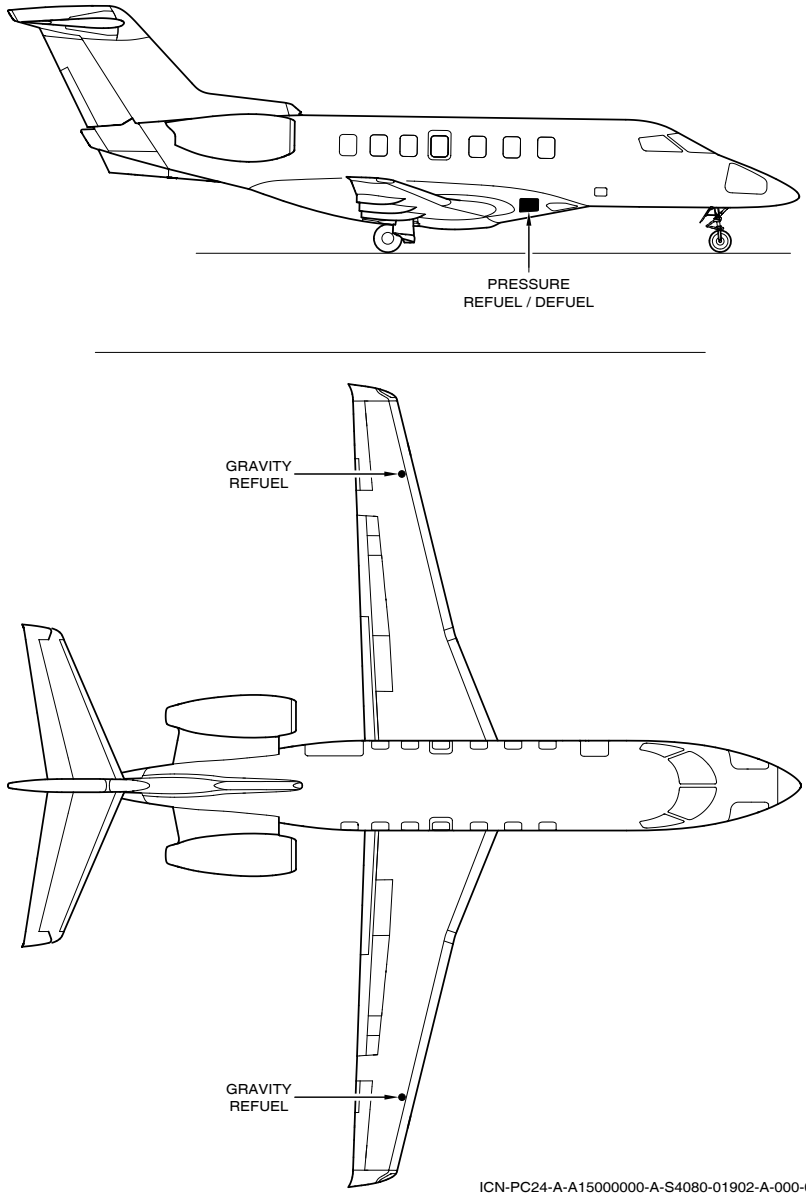

Figure 2-4-1: Fuel System - Refueling Points

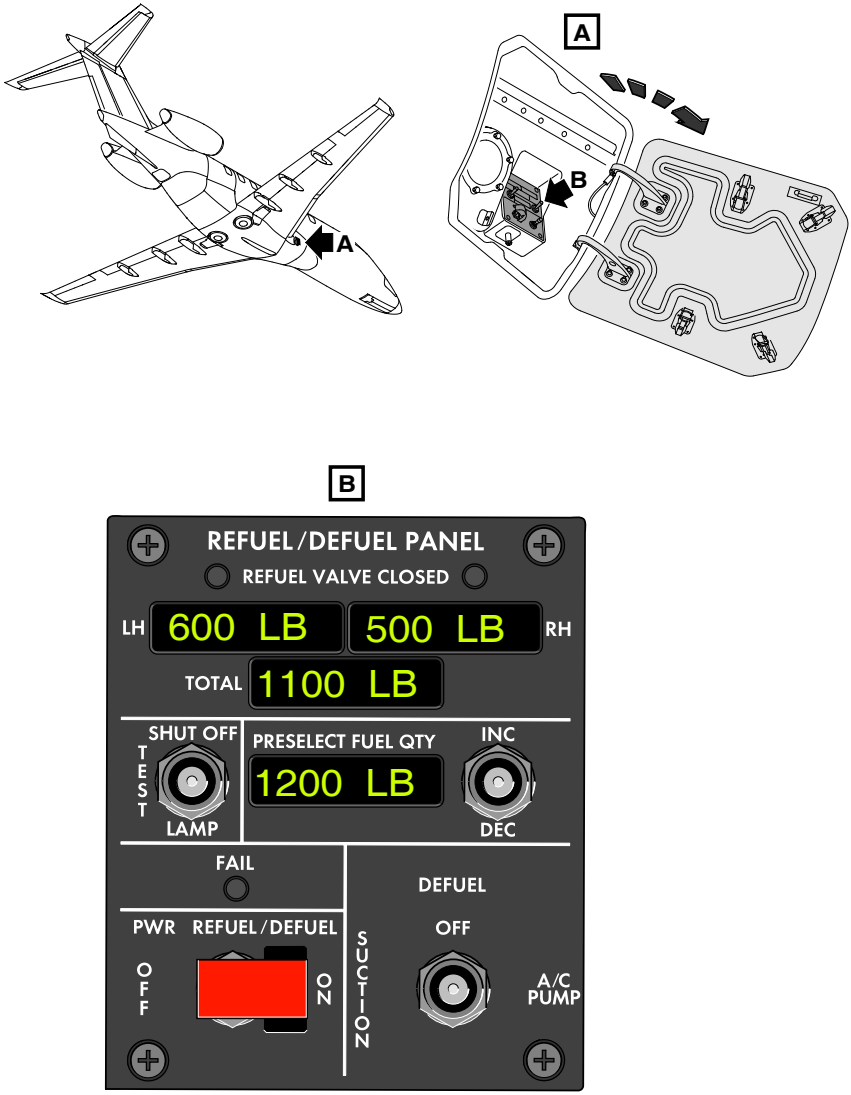

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Figure 2-4-2: Refuel / Defuel Panel

3.1 Pressure Refueling

Follow the instructions given on the placards in the refuel panel compartment.

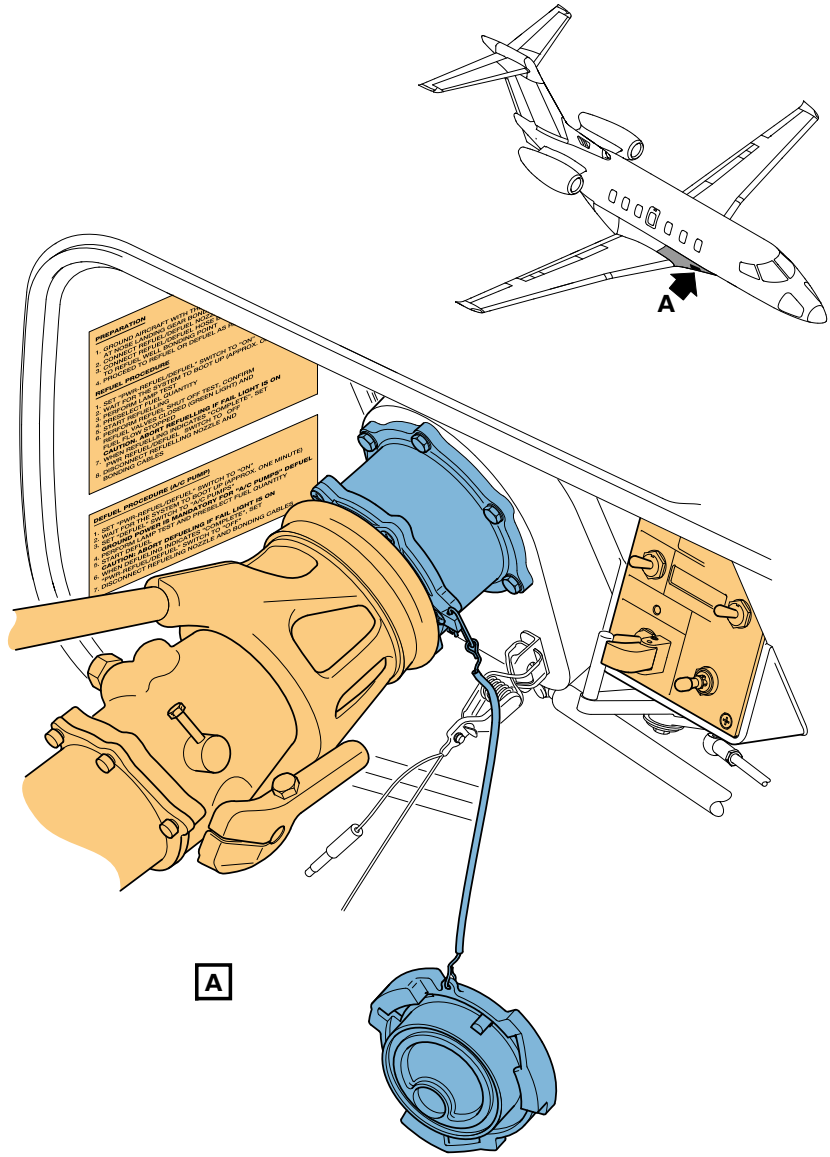

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Figure 2-4-3: Fuel - Refuel by Pressure

3.2 Gravity Refueling

CAUTION

Be careful when you work near the wing leading edges. The wing leading edges are easily damaged.

Note

This procedure is the same for the left and right fuel tanks.

1 Connect the fueling vehicle ground lead to the aircraft ground point on the nose landing gear.

2 Connect the refuel nozzle bonding lead to the bonding point on the lower wing surface.

3 Remove the filler cap.

4 On the fueling vehicle, set the necessary fuel quantity.

5 Put the refuel nozzle in the refuel filler opening.

6 Fill the tank with the necessary fuel.

7 Remove the refuel nozzle from the refuel filler opening.

8 Install the filler cap.

9 Disconnect the refuel nozzle bonding lead from the bonding point on the lower wing surface.

10 Disconnect the fueling vehicle ground lead from the aircraft ground point on the nose landing gear.

11 Check the fuel quantity in each tank using one of these options:

- In the flight deck, on the summary page or the FUEL synoptic page
- On the refuel panel.

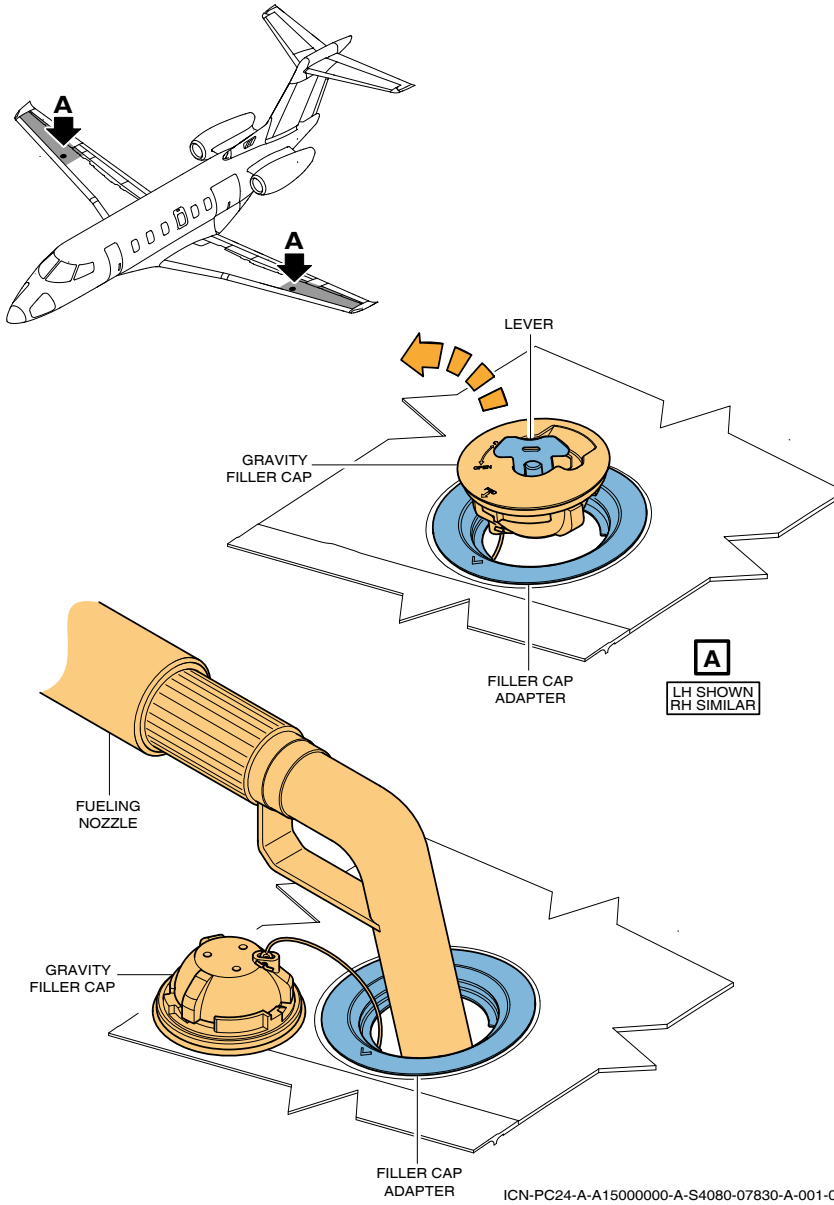

Figure 2-4-4: Fuel - Refuel by Gravity

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3.3 Drain Water

CAUTION

Do not start the engines if a large amount of contamination is found during the drain water procedure.

Note

This procedure is the same for the four drain valves. The two forward drain valves drain the left and right collector tanks. The two aft drain valves drain the left and right main fuel tanks.

Fig. 2-4-5 shows a typical drain valve.

1 Do not move the aircraft for a minimum of 15 minutes.

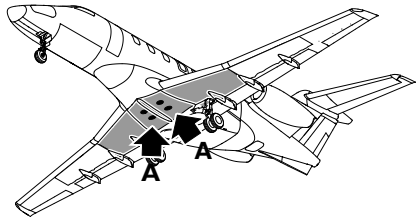
2 Connect a fuel tank drain reservoir to the drain valve.

3 Drain a minimum of 0.44 pint (0.25 liter) of fuel from the drain valve.

4 Disconnect the fuel tank drain reservoir.

5 Examine the fuel sample, make sure that there is no contamination.

6 Discard waste fuel in accordance with local regulations.



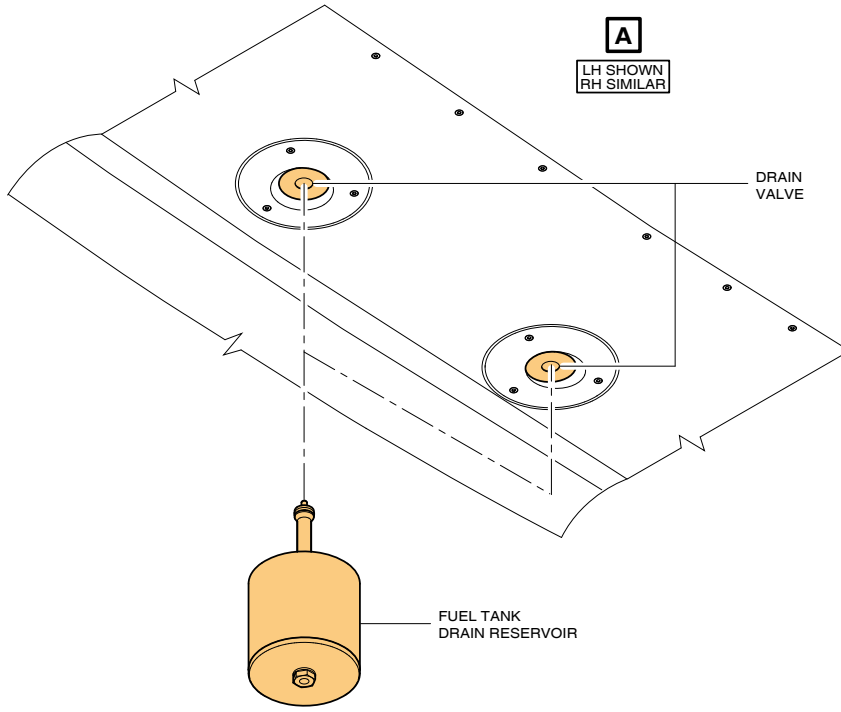


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Figure 2-4-5: Fuel - Drain Water

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Engine oil - Fill

1 Preliminary Requirements and Safety Conditions

WARNING

DO NOT TOUCH THE ENGINE SURFACES IMMEDIATELY AFTER ENGINE OPERATION. THE ENGINE SURFACES ARE HOT. THIS CAN CAUSE DEATH OR INJURY TO PERSONNEL.

WARNING

ENGINE OIL IS TOXIC. PROTECTIVE CLOTHING MUST BE WORN WHEN HANDLING ENGINE OIL. IF ENGINE OIL COMES IN CONTACT WITH THE SKIN IT MUST BE WASHED OFF IMMEDIATELY. CONTACT WITH ENGINE OIL CAN CAUSE SEVERE INJURY AND IRRITATION.

WARNING

WAIT FOR A MINIMUM OF FIVE MINUTES AFTER ENGINE SHUT-DOWN BEFORE THE ENGINE OIL FILL CAP IS REMOVED. THIS WILL AVOID A SUDDEN RELEASE OF PRESSURE FROM THE ENGINE OIL TANK. A SUDDEN RELEASE OF PRESSURE CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

CAUTION

DO NOT LET ENGINE OIL CONTAMINATE THE EXTERNAL ENGINE COMPONENTS. REMOVE ANY ENGINE OIL SPILLS IMMEDIATELY. ENGINE OIL CAN DAMAGE SURFACE PROTECTION AND RUBBER COMPONENTS.

CAUTION

ONLY USE CLEAN CONTAINERS AND EQUIPMENT TO HANDLE ENGINE OIL. THE ENGINE OIL WILL BREAK DOWN IF IT IS CONTAMINATED WITH OTHER CHEMICALS. CONTAMINATED OIL CAN DAMAGE THE ENGINE.

CAUTION

ONLY USE OIL THAT HAS ONLY BEEN STORED IN THE MANUFACTURER'S CONTAINER. OIL CAN REACT WITH THE MATERIALS USED IN OTHER CONTAINERS AND BECOME CONTAMINATED. CONTAMINATED OIL CAN DAMAGE THE ENGINE.

CAUTION

DO NOT PUT USED OIL BACK INTO THE SYSTEM. USED OIL CAN CAUSE DAMAGE TO THE ENGINE.

Note

It is the operator’s responsibility to provide applicable training in this procedure.

Note
The procedure to fill the LH and RH engine oil tanks is the same.

The approved engine oils are as follows:

- Mobil Jet II
- Mobil 254.

It is permitted to mix the approved oils above, when necessary, because of normal oil consumption.

2 Recommended Support Equipment

Equipment	Pilatus Part Number
Absorbent paper	Local supply
“DO NOT OPERATE THE ENGINES” placard	Local supply
Funnel	Local supply
Ladder	Local supply
Servicing platform (if available)	Local supply

3 Job set-up

1 If necessary, let the engine cool.

2 Make sure that the aircraft electrical system is de-energized.

3 Put a “DO NOT OPERATE THE ENGINES” placard in the cockpit.

4 Put a ladder or servicing platform in position next to the applicable LH/RH engine nacelle. Refer to Fig. 2-5-1, views A and B.

4 Do a check of the engine oil level

1 Open the applicable LH/RH oil door on the engine nacelle.

2 Do a visual check of the engine oil level in the sight glass. Refer to Fig. 2-5-1, view D.

3 If the oil level is:

- On the add oil mark Figure 2-5-1 [4]
- Below the add oil mark Figure 2-5-1 [4]
- Not visible in the sight glass

continue this procedure at **Fill the engine with oil**.

4 If the oil level is between the add oil mark Figure 2-5-1 [4] and the full oil mark Figure 2-5-1 [3], it is not necessary to fill the engine with oil. Continue this procedure at **Close up**.

5 Fill the engine with oil

1

Note
The oil filler cap is retained by a cable.

Press down and turn the oil filler cap Figure 2-5-1 [1] anticlockwise to open.

2 Remove the oil filler cap Figure 2-5-1 [1] from the top of the oil tank Figure 2-5-1 [2].

3 If available put a clean funnel in the oil tank filler neck Figure 2-5-1 [5].

4 Carefully put the approved oil in the oil tank in small quantities so that the level does not go above the full oil mark Figure 2-5-1 [3].

Record the quantity of oil put in the oil tank.

5 Let the oil level settle before more oil is put in the oil tank.

6 If the oil level settles above the full oil mark Figure 2-5-1 [3] on the sight glass, the engine will not be damaged, but there is a risk of oil overflow from the top of the oil tank Figure 2-5-1 [2].

Flight crew are to check for oil overflow at the next maintenance opportunity.

7 If necessary, remove the funnel from the top of the oil tank Figure 2-5-1 [5].

8 Put the oil filler cap Figure 2-5-1 [1] on the top of the oil tank Figure 2-5-1 [2].

9 Press down on the oil filler cap Figure 2-5-1 [1] and turn it clockwise to close.

10 Make sure that the filler cap Figure 2-5-1 [1] is correctly closed. Refer to Fig. 2-5-1, view F.

Red band must not be visible

Blue marks must be aligned

Pins on the filler cap Figure 2-5-1 [1] must be correctly located in the top of the oil tank Figure 2-5-1 [2].

The pilot must make sure that this step is done correctly.

11 Clean any spilt oil with absorbent paper.

12 Dispose of any contaminated material in accordance with local regulations.

13 Make sure that the work area is clean and clear of tools and equipment.

6 Close up

1 Close the applicable LH/RH oil door on the engine nacelle. Refer to Fig. 2-5-1, views A and B.

Flight crew must make sure that all access panels are closed correctly.

2 Remove ladder or servicing platform from next to the applicable LH/RH engine nacelle.

3 Remove all placards used in this procedure.

4 Inform flight crew of the quantity of oil put in the oil tank.

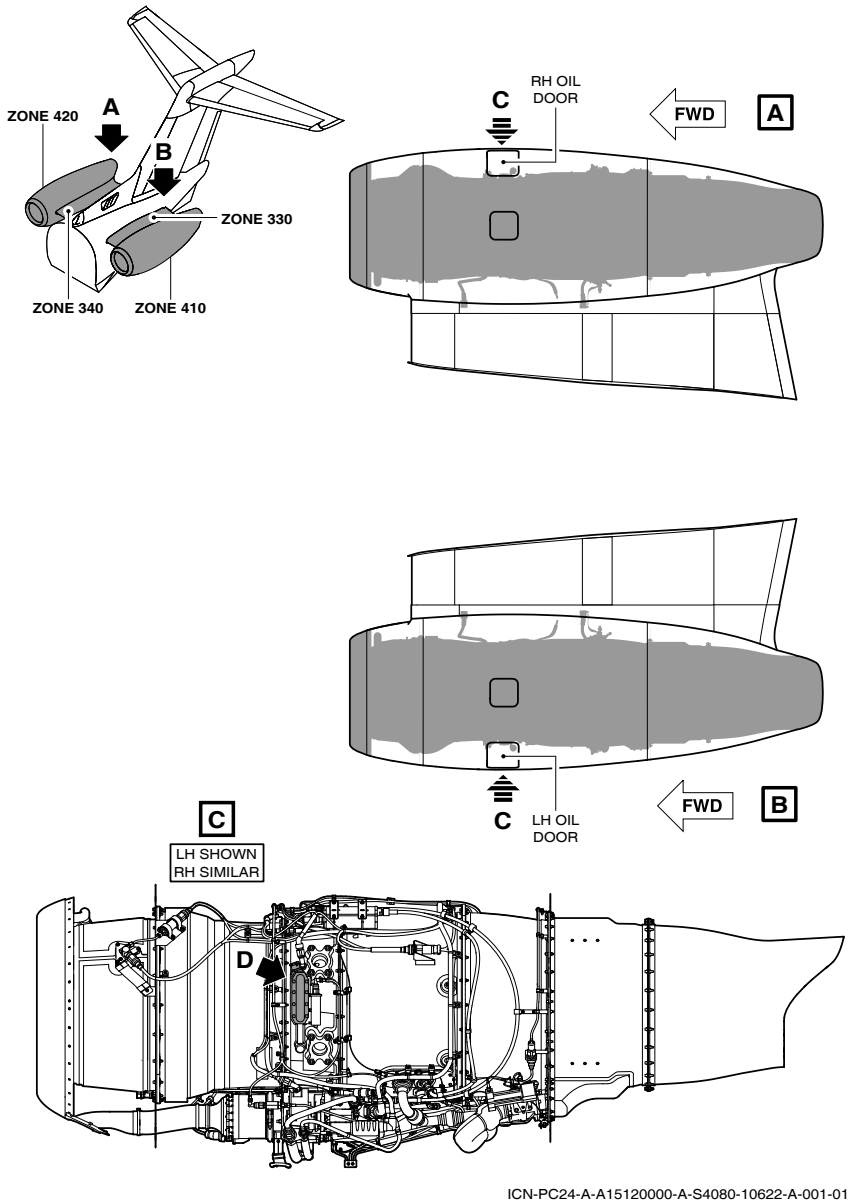

Figure 2-5-1: Engine oil - Fill (Sheet 1 of 2)

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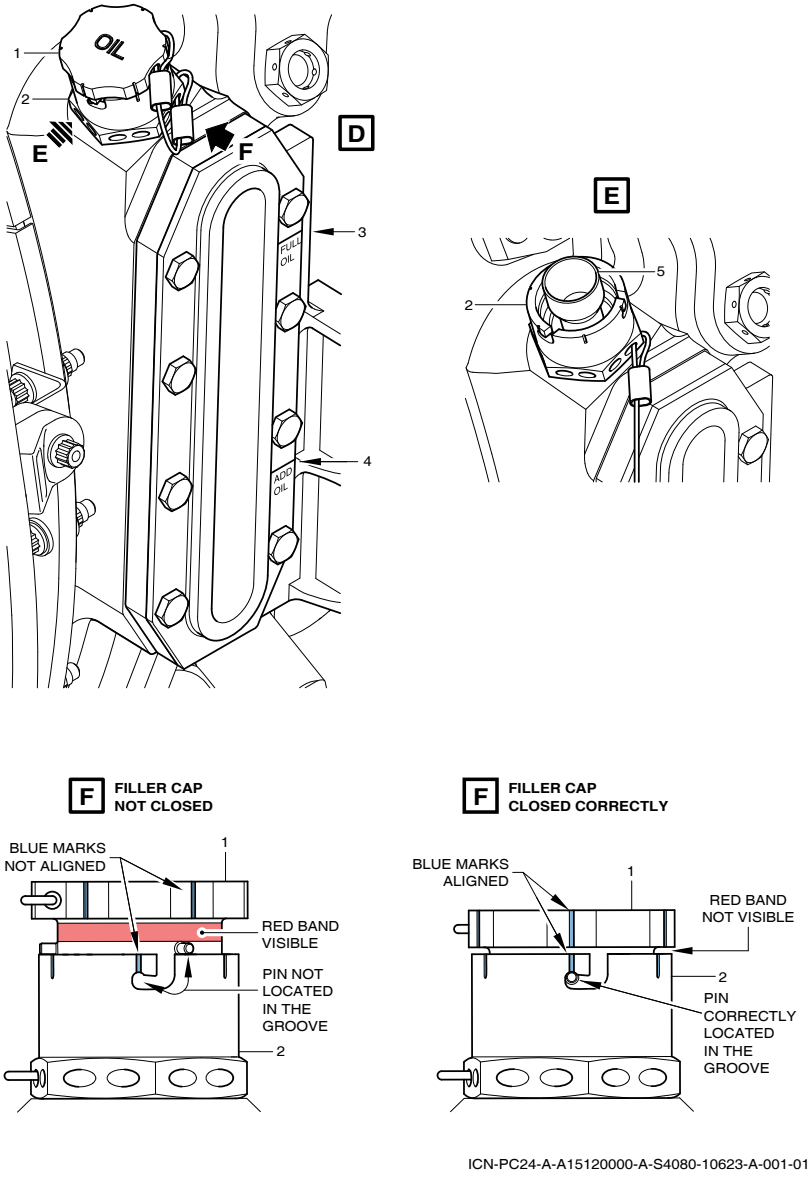

Figure 2-5-1: Engine oil - Fill (Sheet 2 of 2)

Windows - Clean, check and apply rain repellent

1 Preliminary Requirements and Safety Conditions

CAUTION

REMOVE OR COVER WRIST-WATCHES, RINGS AND OTHER METAL OBJECTS THAT MAY CAUSE SCRATCHES BEFORE CLEANING OR APPLYING TREATMENT TO THE WINDSHIELDS AND WINDOWS.

CAUTION

DO NOT RUB OR WIPE A DRY OR DIRTY WINDSHIELD OR WINDOW. IF YOU RUB OR WIPE A DRY OR DIRTY WINDSHIELD OR WINDOW, YOU CAN CAUSE SCRATCHES. ALWAYS BLOW, FLUSH OR WASH DUST AND DIRT FROM THE SURFACE BEFORE YOU CLEAN OR APPLY TREATMENT TO IT.

CAUTION

ALL SPONGES AND CHAMOIS LEATHERS MUST BE CLEAN AND WITHOUT PARTICLES BEFORE YOU CLEAN OR TREAT THE WINDSHIELD OR WINDOWS.

CAUTION

DO NOT CLEAN OR APPLY TREATMENT TO THE WINDSHIELD OR WINDOWS:

- **IN DUSTY OR SANDY CONDITIONS**
- **IN STRONG OR DIRECT SUNLIGHT.**

CAUTION

DO NOT USE WATER THAT IS PRESSURIZED. THIS CAN CAUSE SCRATCHES.

CAUTION

DO NOT USE CLEANING AGENTS THAT ARE NOT LISTED. CLEANING AGENTS THAT ARE NOT LISTED CAN CAUSE DAMAGE TO THE WINDOW ACRYLIC PANES AND THE WINDOW SEALS, AND CAN AFFECT THE RAIN-REPELLENT PERFORMANCE OF THE WINDSHIELDS.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Chamois leather	Local supply
Isopropyl (Isopropanol)	Local supply
Light soap (dish washing)	Local supply
Sponge	Local supply
Water	Local supply
Deionized water	Local supply
Masking tape	Local supply

Equipment	Recommended Pilatus Part Number
Polishing slurry	Local supply
Master kit, Surfex 100 (MPG windshields)	Local supply
Surface activation concentrate / surface preparation solution	Local supply
Surface Seal DSS4040 (PPG and MPG windshields)	Local supply
Surface Seal Quick Application Kit DSS4200 (PPG windshields)	Local supply
500 ml Spray bottle	Local supply
Buffing solvent	Local supply
Paper wipes	Local supply
Felt pads (PPG windshields)	Local supply
Gauze pads	Local supply
Applicator pads (PPG windshields, quick application kit)	Local supply
Coating solution / rain repellent	Local supply
Orbital sander (PPG windshields)	Local supply
Windshield label (MPG windshields)	Local supply
Heat Blankets (PPG and MPG windshield)	Local supply
Protective film (PPG and MPG windshields)	Local supply
Heat blankets (PPG and MPG windshields)	Local supply
VAC power supply	Local supply

3 Cleaning Guidelines

Note

The cockpit windows, consisting of the windshields and side windows, incorporate an outer glass surface with antistatic coating and rain repellent treatment. The inside consists of a acrylic surface. The cabin windows outer and inner surface incorporate acrylic surfaces. The following procedures consider the constrains for each of these surfaces.

These procedures give guidelines for cleaning the exterior and interior surfaces of the cockpit and cabin windows.

3.1 Clean the Exterior Surfaces

CAUTION

CLEANING AGENTS THAT ARE NOT LISTED CAN AFFECT THE RAIN-REPELLENT PERFORMANCE OF THE WINDSHIELDS.

1 Flush the exterior surface of the windows with clean fresh water. Loosen dirt, sand or mud if necessary. Do this with the tips of your fingers, and in the direction of the water flow.

2 Make sure that there are no abrasive particles on the transparency, especially in the corners of the windows.

3 With a sponge moist with: clean water or a mixture of 50% clean water and 50% isopropanol or a weak soap solution, clean the windows.

4 Flush the surface thoroughly with clean fresh water and dry with a clean moist chamois leather.

3.2 Clean the Interior Surfaces

CAUTION

DO NOT USE CLEANING AGENTS THAT ARE NOT LISTED. CLEANING AGENTS THAT ARE NOT LISTED CAN CAUSE DAMAGE TO THE WINDSHIELDS AND WINDOWS.

With a chamois leather moist with clean water or a weak soap solution, clean the interior windows.

4 Rain Repellent

CAUTION

THE AIRCRAFT CAN HAVE TWO DIFFERENT TYPES OF WINDSHIELDS INSTALLED AND IT IS IMPORTANT THAT THE CORRECT RAIN REPELLENT IS APPLIED. INCORRECT RAIN REPELLENTS ARE NOT APPROVED BY PILATUS.

These procedures give guidelines for applying rain repellent treatment to the windshields.

4.1 Rain repellent coating inspection intervals

The durability of the:

- Repellent type
- Aircraft use
- Operating conditions.

The operator must make sure that the correct recommended inspection interval is used for the type of rain repellent, aircraft use and operating conditions. Refer to Table 2-6-1.

Table 2-6-1: Rain repellent inspection interval

Rain Repellent Type	Recommended Inspection Interval
Master kit, surfex 100 (MPG windshields only)	6 months / 300 flight hours
Master kit, surface Seal DSS4040, DSS4040X, or DS4040G heat cure (both (MPG and PPG windshields)	12 months / 600 flight hours
Master kit, surface Seal DSS4040, DSS4040X, or DS4040G non heat cure (both (MPG and PPG windshields)	6 months / 300 flight hours
Quick application, surface seal DSS4200 (both MPG and PPG windshields)	1 month / 50 flight hours

Note

The intervals in this table are recommended and, based on experience, can be changed to adapt to local operating conditions.

4.2 Check the condition of the rain repellent coating

1 Make sure the windshield is clean as given in Cleaning Guidelines. Clean with Isopropanol and paper wipes. Wipe windshield fully dry with clean paper wipes.

2 Spray the windshield with Deionized water).

3 If the water “beads up” in even sized droplets and runs off the windshield in straight clear lines or contain only little droplets, the condition of the rain repellent coating is satisfactory. Refer to Fig. 2-6-1 and Fig. 2-6-2.

4 If the water “beads up” in randomly sized droplets, appears patchy, and the run off lines are curved and contain large droplets then it is necessary to reapply the rain repellent coating. Refer to Fig. 2-6-3.

Figure 2-6-1: Windshields - Rain repellent (good condition)

Figure 2-6-2: Windshields - Rain repellent (satisfactory condition)

Figure 2-6-3: Windshields - Rain repellent (unsatisfactory condition)

4.3 Apply the rain repellent coating

Note
Each new windshield and cockpit side window is supplied with rain repellent applied. This application procedure is applicable to windshields only. If the operator thinks it is necessary, this procedure can be used on the cockpit side windows

The conditions that follow are applicable to all rain repellent application procedures:

- Ambient temperature must be between 41 and 68 °F (5 and 30 °C)
- Protect the windshield from direct sun light, rain, snow and all other sources of possible contamination
- Sufficient ventilation is necessary to remove all airborne solvent vapor
- Make sure the windshield heating is off and surfaces are not hot.

If the aircraft has MPG windshields fitted do Apply Masterkit, Surfex 100 rain repellent coating to the MPG windshields or Apply Masterkit Surface Seal Kit rain repellent coating to the MPG windshields.

If the aircraft has PPG windshields fitted do Apply Masterkit Surface Seal Kit rain repellent coating to the PPG windshields or Apply the surface seal, quick application kit coating to the PPG windshields.

4.3.1 Apply Masterkit, Surfex 100 rain repellent coating to the MPG windshields

WARNING

BE CAREFUL WHEN YOU USE THE HOT SOLUTION. THE HOT SOLUTION CAN CAUSE INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

WARNING

PUT ON PROTECTIVE CLOTHING, GLOVES, PROTECTIVE GOGGLES AND A RESPIRATOR BEFORE YOU APPLY RAIN REPELLENT. THIS WILL HELP PREVENT DEATH OR INJURY TO PERSONNEL.

CAUTION

DO NOT LET ISOPROPANOL TOUCH THE WEATHER SEAL. ISOPROPANOL CAN CAUSE DAMAGE TO THE WEATHER SEAL.

CAUTION

THE FLIGHT COMPARTMENT WINDOWS HAVE AN ANTISTATIC LAYER ON THE OUTER SURFACE. POLISH THE WINDOWS EVENLY A MAXIMUM OF TWO TIMES. IF THE WINDOWS ARE POLISHED TOO MUCH THE ANTISTATIC LAYER CAN BE DAMAGED.

CAUTION

DO NOT USE OTHER SOLVENT OR ABRASIVE MATERIAL. IT CAN CAUSE DAMAGE TO THE WINDSHIELD AND / OR AIRCRAFT STRUCTURE.

Note

Only Masterkit, Surfex 100 repellent and Masterkit Surface Seal Kit are approved for use on MPG windshields.

For the MPG windows use the Masterkit, Surfex 100, refer to:

- https://www.boeingdistribution.com/
- https://aeroval.com/ref/287834/7137/
- https://www.globalparts.aero
- https://www.sealdynamics.com

1 Clean the windshield as follows:

1.1 Make sure the windshield is clean as given in Cleaning Guidelines.

1.2 Apply masking tape to the edges of the windshield, the weather seal and 0.25 in (6.0 mm) of the glass.

1.3 Make sure that the masking tape gives a water tight seal.

1.4 Use paper wipes and clean the windshield surface with isopropanol.

1.5 Put deionized water in a bottle.

1.6 Put on a new pair of disposable gloves and use paper wipes to apply a layer of polishing slurry to the windshield.

1.7 Use paper wipes and polish the glass surface of the windshield with short, circular movements evenly and maximum of two times.

1.8 If the surface becomes dry during polishing, apply more polishing slurry or spray with deionized water.

1.9 Continue to polish the glass surface of the windshield until a thin layer of polishing slurry can be seen on all of the glass surface.

1.10 Spray deionized water to rinse the windshield glass surface, start at the top and go down.

1.11 Use clean paper wipes to fully dry the windshield glass surface.

1.12 Do step 10 and step 11 again as necessary until all of the polishing slurry has been removed.

1.13 Discard the used paper wipes, and the disposable gloves.

1.14 Apply the surface activation solution as follows:

1.14.1 Use a new pair of disposable gloves.

1.14.2 Prepare a 500 ml bottle of hot deionized water at a temperature between 131 and 149 °F (55 and 65 °C).

1.14.3 Add approximately 0.84 fl. oz (25 ml) of surface activation concentrate to the hot deionized water. A correctly filled 500 ml bottle will give a concentration of approximately 5%.

1.14.4 Close and shake the 500 ml bottle.

1.14.5 Record the concentration of the surface activation solution on the label of the 500 ml bottle.

1.14.6 Attach a nozzle to the 500 ml bottle and start to spray the solution from the top. Spray sufficient solution on the windshield so that it flows continuously over the windshield glass surface.

1.14.7 Do step 14.6 a minimum of three times.

1.14.8 Use deionized water to remove all the remaining surface activation solution from the windshield glass surface.

1.14.9 Use clean paper wipes and fully dry the windshield glass surface.

1.14.10 Discard the used paper wipes and the disposable gloves in a disposable bag.

2

Note

It is necessary to do this step in less than 10 minute to prevent contamination.

Apply the rain repellent as follows:

2.1 Use a new pair of disposable gloves.

2.2 Apply a small amount of rain repellent onto a paper towel.

2.3 Apply the rain repellent to the windshield glass surface with short, circular movements.

2.4 Let the applied layer of rain repellent dry for approximately 10 min.

2.5 Use paper wipes to remove the unwanted rain repellent from the windshield glass surface. Change the paper wipes frequently.

2.6 Apply buffing solvent as necessary to a dry paper towel and remove all the remaining unwanted rain repellent.

2.7 Spray the windshield glass surface with deionized water and clean with a dry paper towel.

2.8 Discard the used paper towel, the paper wipes, and the disposable gloves.

2.9 Attach a windshield label inside the flight compartment adjacent to the windshield with the date that the rain repellent was applied.

2.10 Remove the masking tape from around the edges of the windshield.

3 Remove all the equipment, tools, and materials from the work area. Make sure that the work area is clean.

4 Do a check of the windshield rain repellent. Do Check the condition of the rain repellent coating

4.3.2 Apply Masterkit Surface Seal Kit rain repellent coating to the MPG windshields

WARNING

PUT ON PROTECTIVE CLOTHING, GLOVES, PROTECTIVE GOGGLES AND A RESPIRATOR BEFORE YOU APPLY RAIN REPELLENT. THIS WILL HELP PREVENT DEATH OR INJURY TO PERSONNEL.

WARNING

DO NOT TOUCH THE HEATING BLANKET WHEN IT IS ON. THE HEATING BLANKET GETS HOT. HOT SURFACES CAN CAUSE INJURY TO PERSONNEL.

CAUTION

DO NOT LET ISOPROPANOL TOUCH THE WEATHER SEAL. ISOPROPANOL CAN CAUSE DAMAGE TO THE WEATHER SEAL.

CAUTION

THE FLIGHT COMPARTMENT WINDOWS HAVE AN ANTISTATIC LAYER ON THE OUTER SURFACE. POLISH THE WINDOWS EVENLY AND A MAXIMUM OF TWO TIMES. IF THE WINDOWS ARE POLISHED TOO MUCH THE ANTISTATIC LAYER CAN BE DAMAGED.

CAUTION

DO NOT USE OTHER SOLVENT OR ABRASIVE MATERIAL. IT CAN CAUSE DAMAGED TO THE WINDSHIELD AND / OR AIRCRAFT STRUCTURE.

Note

Only Masterkit, Surfex 100 repellent and Masterkit Surface Seal Kit are approved for use on MPG windshields.

Note

For more information there is a product manual in the master kit, surface seal. For training on the procedure there is a product video in the master kit.

Note

The heating blanket temperature is pre-set for the necessary curing temperature.

Note

Pilatus Aircraft Ltd. recommend you heat cure the windshield. If you do not heat cure the windshield the recommended rain repellent inspection interval is reduced. The recommended inspection interval is given in Rain repellent coating inspection intervals.

1 Clean the windshield as follows:

1.1 Make sure the windshield is clean as given in Cleaning Guidelines.

1.2 Apply masking tape to the edges of the windshield, the weather seal and 0.25 in (6.0 mm) of the glass. Make sure that the masking tape gives a water tight seal.

1.3 Put on a new pair of disposable gloves.

1.4 Shake the bottle of polishing slurry to mix the contents.

1.5 Use paper wipes to apply a layer of polishing slurry to the windshield.

1.6 Use paper wipes to polish the glass surface of the windshield with short, circular movements.

1.7 If the surface becomes dry during polishing, apply more polishing slurry or spray with de-ionized water.

1.8 Use clean paper wipes to remove the polishing residue from the windshield glass surface and the taped edges.

1.9 Discard the used paper wipes and the disposable gloves in a disposable bag.

1.10 Put on a new pair of disposable gloves.

1.11 Fill the spray bottle with clean de-ionized water.

1.12 Spray the de-ionized water to rinse the windshield glass surface.

1.13 Use clean paper wipes to fully dry the windshield glass surface, start at the center and clean to the taped edges. Do not clean the taped edges.

1.14 Do step 1.12 and 1.13 again as necessary until all of the polishing slurry has been removed.

1.15 Use clean paper wipes to clean the taped edge areas. Do not wipe to the center of the windshield glass surface.

1.16 Discard the used paper wipes and the disposable gloves in a disposable bag.

2 Prepare the windshield as follows:

2.1 Use a new pair of disposable gloves.

2.2 Prepare the surface preparation solution, refer to the product manual in the master kit, surface seal.

2.3 Put approximately 1/4 of the surface preparation solution on to some gauze pads to make them moist. Do not let the surface preparation solution drip from the gauze pads.

2.4 Use the gauze pads and apply the surface preparation solution to the windshield glass surface as follows:

2.4.1 Start at the center of windshield glass surface.

2.4.2 Apply a thin film of the surface preparation solution in straight line strokes.

2.4.3 Overlap the straight line strokes.

2.4.4 If necessary, apply more surface preparation solution to make the gauze pads moist.

2.4.5 Apply from the center to the edges. Do not apply to the taped edges.

2.4.6 Apply a thin film of the surface preparation solution around the edges.

2.4.7 Discard the gauze pads.

2.4.8 Do not use the gauze pads used at the edges to apply the surface preparation solution to the center.

2.4.9 Immediately remove excess surface preparation solution with dry gauze pads.

2.4.10 Let the applied layer of surface preparation solution dry for a minimum of 5 min.

2.4.11 Do 2.4 again to apply a second layer of surface preparation solution, master kit.

3

Note

It is necessary to apply the surface preparation solution and the rain repellent in less than 15 minutes after the clean step. If the application takes more than 15 minutes it will cause the windshield to stain.

Apply the master kit, rain repellent coating solution, master kit as follows:

3.1 Use a new pair of disposable gloves.

3.2 Prepare the coating solution, master kit, refer to the product manual in the master kit, surface seal.

3.3 Put approximately 1/3 of the coating solution, master kit on to some gauze pads to make them moist. Do not let the coating solution, master kit drip from the gauze pads.

3.4 Use the gauze pads to apply the coating solution, master kit to the windshield glass surface as follows:

3.4.1 Start at the center of windshield glass surface.

3.4.2 Apply a thin film of the coating solution, master kit with short, circular movements.

3.4.3 If necessary, apply more coating solution, master kit to make the gauze pads moist.

3.4.4 Apply from the center to the edges.

3.4.5 Apply a thin film of the coating solution, master kit with short, circular movements around the edges. Do not apply to the taped edges.

3.4.6 Discard the gauze pads.

3.4.7 Do not use the gauze pads used at the edges to apply to the coating solution, master kit to the center.

3.4.8 Let the applied layer of coating solution, master kit dry for a minimum of 5 minutes.

3.5 Do step 3.1.4 again to apply a second layer of coating solution, master kit.

3.6 Discard the used paper wipes, and the disposable gloves.

3.7 If no heat curing will be done, do the steps that follow:

3.7.1 Use a new pair of disposable gloves.

3.7.2 Use clean paper wipes to wipe off the unwanted haze and residue of the coating solution, master kit.

3.7.3 Use as many clean paper wipes as necessary until all the haze and residue has been removed.

3.7.4 Wash the windshield with deionized water and dry it with clean paper towels

3.7.5 Discard the used paper wipes, and the disposable gloves.

4 Heat cure the windshield as follows:

4.1 Carefully put a sheet of protective film from the curing kit, surface seal in position on the windshield.

4.2 Make sure that the protective film aligns to the edges of the windshield.

4.3 Secure the protective film with masking tape to the four corners of the windshield.

4.4 Put the heating blanket from the curing kit, surface seal in position on the windshield.

4.5 Secure the heating blanket with masking tape to the windshield.

4.6 Connect the heating blanket to a suitable VAC power supply.

4.7 Keep the heating blanket on the windshield for minimum 2 hours or 8 hours for best performance.

4.8 Disconnect the VAC power supply from the heating blanket.

4.9 Let temperature of heating blanket decrease for 10 min.

4.10 Make sure that the heating blanket is not too hot.

4.11 Remove the masking tape and the heating blanket from the windshield.

4.12 Remove the masking tape and the protective film from the windshield.

4.13 Put the heating blanket and protective film in the curing kit, surface seal.

5 Remove all the equipment, tools, and materials from the work area. Make sure that the work area is clean.

6 Do a check of the windshield rain repellent. Do Check the condition of the rain repellent coating

4.3.3 Apply Masterkit Surface Seal Kit rain repellent coating to the PPG windshields

WARNING

PUT ON PROTECTIVE CLOTHING, GLOVES, PROTECTIVE GOGGLES AND A RESPIRATOR BEFORE YOU APPLY RAIN REPELLENT. THIS WILL HELP PREVENT DEATH OR INJURY TO PERSONNEL.

WARNING

DO NOT TOUCH THE HEATING BLANKET WHEN IT IS ON. THE HEATING BLANKET GETS HOT. HOT SURFACES CAN CAUSE INJURY TO PERSONNEL.

CAUTION

DO NOT LET ISOPROPANOL TOUCH THE WEATHER SEAL. ISOPROPANOL CAN CAUSE DAMAGE TO THE WEATHER SEAL.

CAUTION

THE FLIGHT COMPARTMENT WINDOWS HAVE AN ANTISTATIC LAYER ON THE OUTER SURFACE. POLISH THE WINDOWS EVENLY AND A MAXIMUM OF TWO TIMES. IF THE WINDOWS ARE POLISHED TOO MUCH THE ANTISTATIC LAYER CAN BE DAMAGED.

CAUTION

DO NOT USE OTHER SOLVENT OR ABRASIVE MATERIAL. IT CAN CAUSE DAMAGED TO THE WINDSHIELD AND / OR AIRCRAFT STRUCTURE.

Note

Only the Master kit, surface seal rain repellent and the Quick application kit, surface seal is approved for the PPG windows.

Note

For more information there is a product manual in the master kit, surface seal or the quick application kit, surface seal. For training on the procedure there is a product video in the master kit.

Note

The heating blanket temperature is pre-set for the necessary curing temperature.

Note

Pilatus Aircraft Ltd. recommend you heat cure the windshield. If you do not heat cure the windshield the recommended rain repellent inspection interval is reduced. The recommended inspection interval is given in Rain repellent coating inspection intervals.

1 Polish the windshield as follows:

1.1 Make sure the windshield is clean as given in Cleaning Guidelines.

1.2 Apply masking tape to the edges of the windshield, the weather seal and 0.25 in (6.0 mm) of the glass. Make sure that the masking tape gives a water tight seal.

1.3 Put on a new pair of disposable gloves.

1.4 Shake the bottle of polishing slurry to mix the contents.

1.5 Apply approximately 0.67 fl. oz (20 ml) of the polishing slurry to a clean felt pad on the orbital sander.

1.6

Note
The weight of the orbital sander gives sufficient polishing force.

Carefully use the orbital sander to polish the windshield glass surface as follows:

1.6.1 Apply the polishing slurry for a maximum of 2 times in a vertical direction at rate of 1 ft (30cm) between 2 and 3 sec. Do not let the polishing slurry dry.

1.6.2 Apply the polishing slurry for a maximum of 2 times in a horizontal direction at rate of 1 ft (30cm) between 2 and 3 sec. Do not let the polishing slurry dry.

1.6.3 If the surface becomes dry during polishing, apply more polishing slurry to the felt pad.

1.6.4 Use clean paper wipes to remove the polishing residue from the windshield glass surface and the taped edges.

1.6.5 Discard the used paper wipes, and the disposable gloves.

1.6.6 Put on a new pair of disposable gloves.

1.6.7 Spray deionized water to rinse the windshield glass surface.

1.6.8 Use clean paper wipes to fully dry the windshield glass surface, start at the center and clean to the taped edges. Do not clean the taped edges.

1.6.9 Do step 1.6.7 and 1.6.8 again until all of the polishing slurry has been removed.

1.6.10 Use clean paper wipes to clean the taped edge areas. Do not wipe to the center of the windshield glass surface.

1.6.11 Discard the used paper wipes, and the disposable gloves.

2 Prepare the windshield as follows:

2.1 Use a new pair of disposable gloves.

2.2 Prepare the surface preparation solution, refer to the product manual in the master kit, surface seal.

2.3 Put approximately 1/4 of the surface preparation solution on to some gauze pads to make them moist. Do not let the surface preparation solution drip from the gauze pads.

2.4 Use the gauze pads and apply the surface preparation solution to the windshield glass surface as follows:

2.4.1 Start at the center of windshield glass surface.

2.4.2 Apply a thin film of the surface preparation solution in straight line strokes.

2.4.3 Overlap the straight line strokes.

2.4.4 If necessary, apply more surface preparation solution to make the gauze pads moist.

2.4.5 Apply from the center to the edges. Do not apply to the taped edges.

2.4.6 Apply a thin film of the surface preparation solution around the edges.

2.4.7 Discard the gauze pads.

2.4.8 Do not use the gauze pads used at the edges to apply the surface preparation solution to the center.

2.4.9 Immediately remove excess surface preparation solution with dry gauze pads.

2.4.10 Let the applied layer of surface preparation solution dry for a minimum of 5 min.

2.4.11 Do step 2.4 again to apply a second layer of surface preparation solution, master kit.

3

Note

It is necessary to apply the surface preparation solution and the rain repellent in less than 15 minutes after the clean step. If the application takes more than 15 minutes it will cause the windshield to stain.

Apply the rain repellent coating solution, master kit as follows:

3.1 Use a new pair of disposable gloves.

3.2 Prepare the coating solution, master kit, refer to the product manual in the master kit, surface seal.

3.3 Put approximately 1/3 of the coating solution, master kit on to some gauze pads to make them moist. Do not let the coating solution, master kit drip from the gauze pads.

3.4 Use the gauze pads to apply the coating solution, master kit to the windshield glass surface as follows:

3.4.1 Start at the center of windshield glass surface.

3.4.2 Apply a thin film of the coating solution, master kit with short, circular movements.

3.4.3 If necessary, apply more coating solution, master kit to make the gauze pads moist.

3.4.4 Apply from the center to the edges.

3.4.5 Apply a thin film of the coating solution, master kit with short, circular movements around the edges. Do not apply to the taped edges.

3.4.6 Discard the gauze pads.

3.4.7 Do not use the gauze pads used at the edges to apply to the coating solution, master kit to the center.

3.4.8 Let the applied layer of coating solution, master kit dry for a minimum of 5 minutes.

3.5 Do step 3.1.4 again to apply a second layer of coating solution, master kit.

3.6 Discard the used paper wipes, and the disposable gloves.

3.7 If no heat curing will be done, do the steps that follow:

3.7.1 Use a new pair of disposable gloves.

3.7.2 Use clean paper wipes to wipe off the unwanted haze and residue of the coating solution, master kit.

3.7.3 Use as many clean paper wipes as necessary until all the haze and residue has been removed.

3.7.4 Wash the windshield with deionized water and dry it with clean paper towels

3.7.5 Discard the used paper wipes, and the disposable gloves.

4 Heat cure the windshield as follows:

4.1 Carefully put a sheet of protective film from the curing kit, surface seal in position on the windshield.

4.2 Make sure that the protective film aligns to the edges of the windshield.

4.3 Secure the protective film with masking tape to the four corners of the windshield.

4.4 Put the heating blanket from the curing kit, surface seal in position on the windshield.

4.5 Secure the heating blanket with masking tape to the windshield.

4.6 Connect the heating blanket to a suitable VAC power supply.

4.7 Keep the heating blanket on the windshield for minimum 2 hours or 8 hours for best performance.

4.8 Disconnect the VAC power supply from the heating blanket.

4.9 Let temperature of heating blanket decrease for 10 min.

4.10 Make sure that the heating blanket is not too hot.

4.11 Remove the masking tape and the heating blanket from the windshield.

4.12 Remove the masking tape and the protective film from the windshield.

4.13 Put the heating blanket and protective film in the curing kit, surface seal.

5 Remove all the equipment, tools, and materials from the work area. Make sure that the work area is clean.

6 Do a check of the windshield rain repellent. Do Check the condition of the rain repellent coating

4.3.4 Apply the surface seal, quick application kit coating to the PPG windshields

WARNING

PUT ON PROTECTIVE CLOTHING, GLOVES, PROTECTIVE GOGGLES AND A RESPIRATOR BEFORE YOU APPLY RAIN REPELLENT. THIS WILL HELP PREVENT DEATH OR INJURY TO PERSONNEL.

CAUTION

DO NOT LET ISOPROPANOL TOUCH THE WEATHER SEAL. ISOPROPANOL CAN CAUSE DAMAGE TO THE WEATHER SEAL.

CAUTION

THE FLIGHT COMPARTMENT WINDOWS HAVE AN ANTISTATIC LAYER ON THE OUTER SURFACE. POLISH THE WINDOWS EVENLY AND A MAXIMUM OF TWO TIMES. IF THE WINDOWS ARE POLISHED TOO MUCH THE ANTISTATIC LAYER CAN BE DAMAGED.

CAUTION

DO NOT USE OTHER SOLVENT OR ABRASIVE MATERIAL. IT CAN CAUSE DAMAGED TO THE WINDSHIELD AND / OR AIRCRAFT STRUCTURE.

Note

Only the Master kit, surface seal rain repellent and the Quick application kit, surface seal is approved for the PPG windows.

Note

For more information there is a product manual in the master kit, surface seal or the quick application kit, surface seal. For training on the procedure there is a product video in the master kit.

Note

Pilatus Aircraft Ltd. recommend you heat cure the windshield. If you do not heat cure the windshield the recommended rain repellent inspection interval is reduced. The recommended inspection interval is given in Rain repellent coating inspection intervals.

1 Prepare the windshield as follows:

1.1 Make sure the windshield is clean as given in Cleaning Guidelines.

1.2 Put on a new pair of disposable gloves.

1.3 Prepare the coating solution, quick application kit, refer to the product manual in the quick application kit, surface seal.

2 Apply the coating solution, quick application kit as follows:

2.1 Apply some of the coating solution, quick application kit, to the applicator pads.

2.2 Start at the center of windshield glass surface.

2.3 Apply the coating solution, quick application kit in fast circular strokes.

2.4 Overlap the circular strokes.

2.5 If necessary, apply more coating solution, quick application kit to make the applicator pads moist.

2.6 Apply from the center to the edges.

2.7 Continue to apply the coating solution, quick application kit until the windshield glass surface repels the coating solution.

3 Do step 2 again to apply four to six more layers of the coating solution, quick application kit to the windshield glass surface.

4 Use clean paper wipes to fully dry the windshield glass surface, start at the center and dry to the edges.

5 Discard the used applicator pads and the disposable gloves.

6 Remove all the equipment, tools, and materials from the work area. Make sure that the work area is clean.

7 Do a check of the windshield rain repellent. Do Check the condition of the rain repellent coating.

Exterior - Clean

1 Preliminary Requirements and Safety Conditions

WARNING

BE CAREFUL WHEN YOU USE THE CONSUMABLE MATERIALS. OBEY THE MANUFACTURER´S HEALTH AND SAFETY INSTRUCTIONS AND ALL THE APPLICABLE LOCAL INSTRUCTIONS. CONSUMABLE MATERIALS CAN BE DANGEROUS AND CAN CAUSE DEATH OR INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

CAUTION

DO NOT LET THE AIRCRAFT TIRES STAY FOR A LONG TIME IN THE SOAP SOLUTION. THE SOAP SOLUTION CAN CAUSE DAMAGE TO THE TIRES.

CAUTION

MAKE SURE THAT THE WATER USED TO CLEAN THE AIRCRAFT IS FREE FROM CONTAMINATION. IF THE WATER HAS CONTAMINATION IT CAN CAUSE CORROSION OR DAMAGE TO THE EXTERNAL SURFACE OF THE AIRCRAFT.

CAUTION

DO NOT USE HIGH PRESSURE WATER TO CLEAN THE EXTERNAL SURFACE OF THE AIRCRAFT. HIGH PRESSURE WATER CAN CAUSE DAMAGE TO THE EXTERNAL SURFACE OF THE AIRCRAFT.

CAUTION

MAKE SURE TO FLUSH THE AIRCRAFT SURFACES IN THE DIRECTION OF THE AIRFLOW, FROM NOSE TO TAIL. DO NOT POINT THE HOSE AT VENTS OR OPENINGS IN THE AIRCRAFT STRUCTURE. THIS WILL PREVENT WATER FROM GOING INTO THE AIRCRAFT.

CAUTION

TAKE CARE WHEN YOU CLEAN THE WING LEADING EDGE. YOU MUST MAKE SURE THAT YOU DO NOT SCRATCH THE WING LEADING EDGE.

CAUTION

DO NOT CLEAN THE WING LEADING EDGE WITH THE SOFT BRISTLED BRUSH. THIS CAN CAUSE DAMAGE TO THE WING LEADING EDGE.

CAUTION

DO NOT LET THE WATER GO INTO THE PITOT-STATIC PROBES. WATER CAN CAUSE A BLOCKAGE IN THE PITOT SYSTEM.

Note

In hot climates, it is recommended not to clean the aircraft during the hottest hours of the day.

2 Recommended Support Equipment

Tool / Equipment	Recommended Pilatus Part
Aircraft polish	Nushine II S
Clean water	Local supply
Cleaner	Zero V.O.C. Degreaser XE3-G
Cleaner	Hard Surface Cleaner Concentrate XG5
Cleaner	Spray and Shine XC11
Cleaning solvent	Diestone DLS
Ground power unit, 28 VDC	Local supply
Hose with nozzle attachment	Local supply
Lint-free cleaning cloth	Local supply
Soap solution	Aero-Klene No. 1002
Soft bristled brush	Local supply
Spray bottle	Local supply

3 Cleaning Guidelines

The following procedures give guidelines for:

- Preparing the aircraft for cleaning
- Cleaning the exterior
- Cleaning the wing leading edge
- Cleaning with chemical agents
- Requirements after job completion.

Note

to prevent corrosion, it is very important to regularly clean the aircraft. Based on the environmental conditions in which the aircraft operates, different wash intervals are recommended.

Recommended intervals for the aircraft exterior wash are given in Table 2-7-1

Table 2-7-1: Aircraft exterior wash intervals

	Aircraft in hanger	Aircraft exterior wash intervals
Severe environment	Yes	2 weeks
	No	1 week
Moderate environment	Yes	2 months
	No	1 month
Mild environment	Yes	6 months

Table 2-7-1: Aircraft exterior wash intervals (continued from previous page)

	Aircraft in hanger	Aircraft exterior wash intervals
	No	3 months

It is recommended that the water quality is within the specification that follows:

Element	Requirement
Chloride concentration	Less than 250 mg / l
pH value	6.5 - 8.5

3.1 Prepare the Aircraft

1 Flight Crew or authorized trained personnel, set the flaps to 33°.

2 Install the covers on these items:

- Engines (Fig. 2-7-1)
- Environmental Control System (ECS) intake (Fig. 2-7-1)
- Vapor Cooling System (VCS) outlets (Fig. 2-7-2)
- Ice detectors (Fig. 2-7-3)
- Angle of Attack (AOA) sensors (Fig. 2-7-3)
- Pitot-static probes (Fig. 2-7-3)
- Outside Air Temperature (OAT) sensor (Fig. 2-7-3)
- Nose covers (Fig. 2-7-4)
- Battery 2 vent (Fig. 2-7-5).

3 Make sure that all the access panels and doors are closed.

3.2 Cleaning the Exterior

CAUTION

DO NOT CLEAN THE WING LEADING EDGE WITH THE SOFT BRISTLED BRUSH. THIS CAN CAUSE DAMAGE TO THE WING LEADING EDGE.

1 Flush the aircraft surface and landing gear with clean water.

2 Apply the soap solution to an area between 43 to 54 square feet (4 to 5 square meters), then clean it with the soft bristled brush.

3 Flush the area with clean water.

4 If necessary, repeat this process a maximum of three times, until the surface is clean.

5 Flush the aircraft tires with clean water and then, if necessary, move the aircraft to a dry area.

3.3 Cleaning the Wing Leading Edge

1 Use a lint-free cleaning cloth moist with the cleaning solvent to carefully clean the wing leading edge.

2 Clean a small area of the wing leading edge at a time by rubbing the surface in the direction of the curve of the wing leading edge.

3 Replace the lint-free cleaning cloth frequently to make sure that dirt does not get back onto the surface.

4 Before the cleaning solvent dries, dry the surface of the wing leading edge with a new lint-free cleaning cloth.

5 If necessary, apply aircraft polish to the cleaned surfaces.

3.4 Cleaning with a Chemical Agent

1 Prepare the cleaner solution as follows:

- For very dirty areas, use a mixture of one part of cleaner (Zero V.O.C. Degreaser XE3-G) to 10 parts of clean water
- For less dirty areas, use a mixture of one part of cleaner (Hard Surface Cleaner Concentrate XG5) or (Spray and Shine XC11) to 20 parts of clean water.

2 Use a spray bottle to apply the cleaner solution.

3 Spray the applicable cleaner solution directly onto the surface and remove it with a lint-free cleaning cloth.

3.5 Requirements after Job Completion

1

Note

It is the operator's responsibility to provide applicable training in this inspection procedure.

Note

It is the operator's responsibility to make sure that an inspection of the Corrosion Preventative Compound is done frequently / after every wash.

Do an inspection of the Corrosion Preventative Compound (CPC) application as follows. Refer to Fig. 2-7-6 for typical CPC application:

1.1 Make sure that the aircraft is dry.

1.2 Make sure that the drain holes in the structure are clean and clear of dirt and debris.

1.3 Flight Crew or authorized trained personnel, open the ground spoiler and the multi-function spoiler surfaces.

1.4 As required, do a corrosion and CPC inspection in the areas that follow:

- Main landing gear assy and door installation
- MLG bolts and doors
- Nose landing gear assy and door installation
- NLG bolts and doors
- Passenger door skins (external)
- Cargo door skin (external)
- Emergency exit door skin (external)
- Nose and cockpit skin (external)
- Cabin skin (external)
- Rear fuselage skin (external)
- Horizontal stabilizer skin (external)
- Elevator skin (external)
- Rudder skin (external)
- Wing skins (external)
- Wing trailing edges
- Flaps and flap mechanisms
- Ground spoilers and spoiler mechanisms
- Multi-function spoilers and spoiler mechanisms.

1.5 If corrosion or damaged CPC is found, contact your service centre. The corrosion or damaged CPC must be repaired / restored according to PC-24 Aircraft Maintenance Manual.

2 Remove the covers from these items:

- Engines (Fig. 2-7-1)
- Environmental Control System (ECS) intake (Fig. 2-7-1)
- Vapor Cooling System (VCS) outlets (Fig. 2-7-2)
- Ice detectors (Fig. 2-7-3)
- Angle of Attack (AOA) sensors (Fig. 2-7-3)
- Pitot-static probes (Fig. 2-7-3)
- Outside Air Temperature (OAT) sensor (Fig. 2-7-3)
- Nose covers (Fig. 2-7-4)
- Battery 2 vent (Fig. 2-7-5).

3 Flight Crew or authorized trained personnel, set the flaps to 0°.

4 Flight Crew or authorized trained personnel, close the ground spoiler and the multi-function spoiler surfaces.

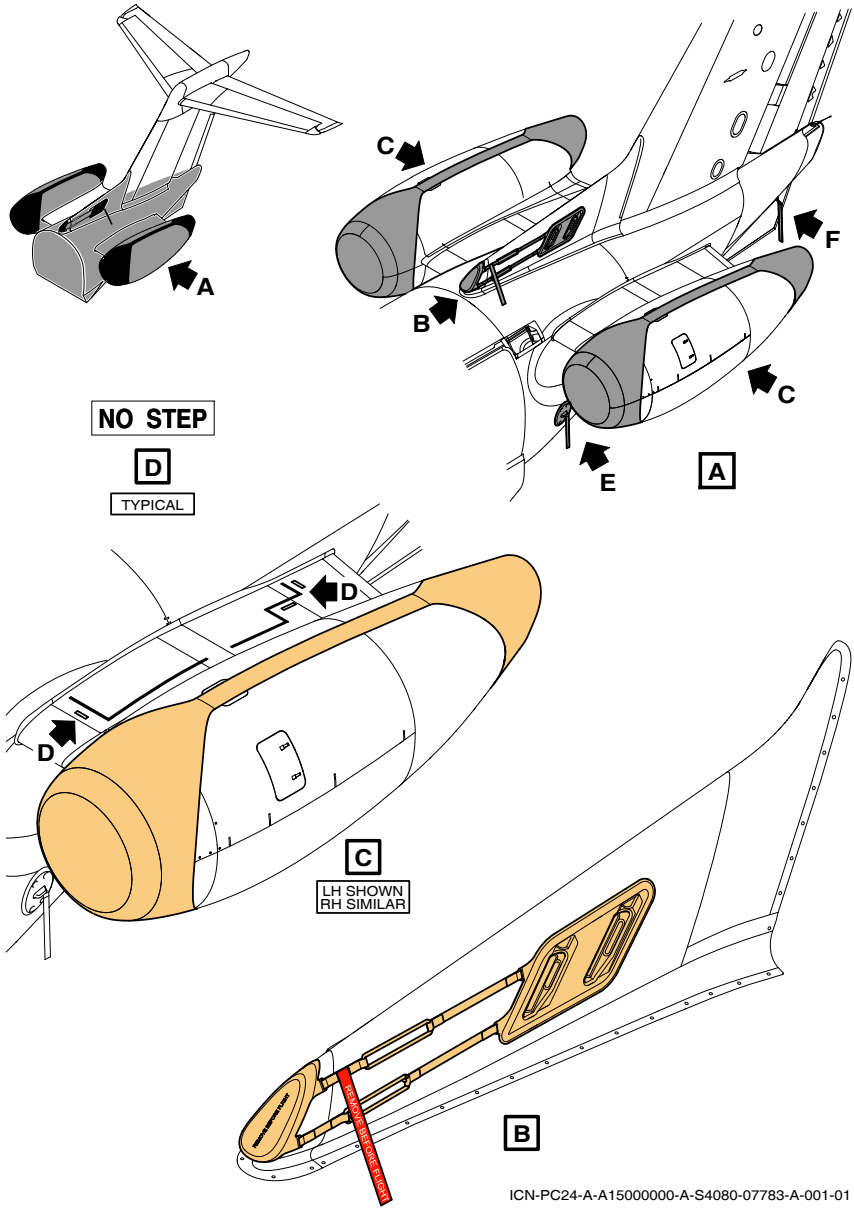

Figure 2-7-1: Parking - Upper Rear Fuselage Covers

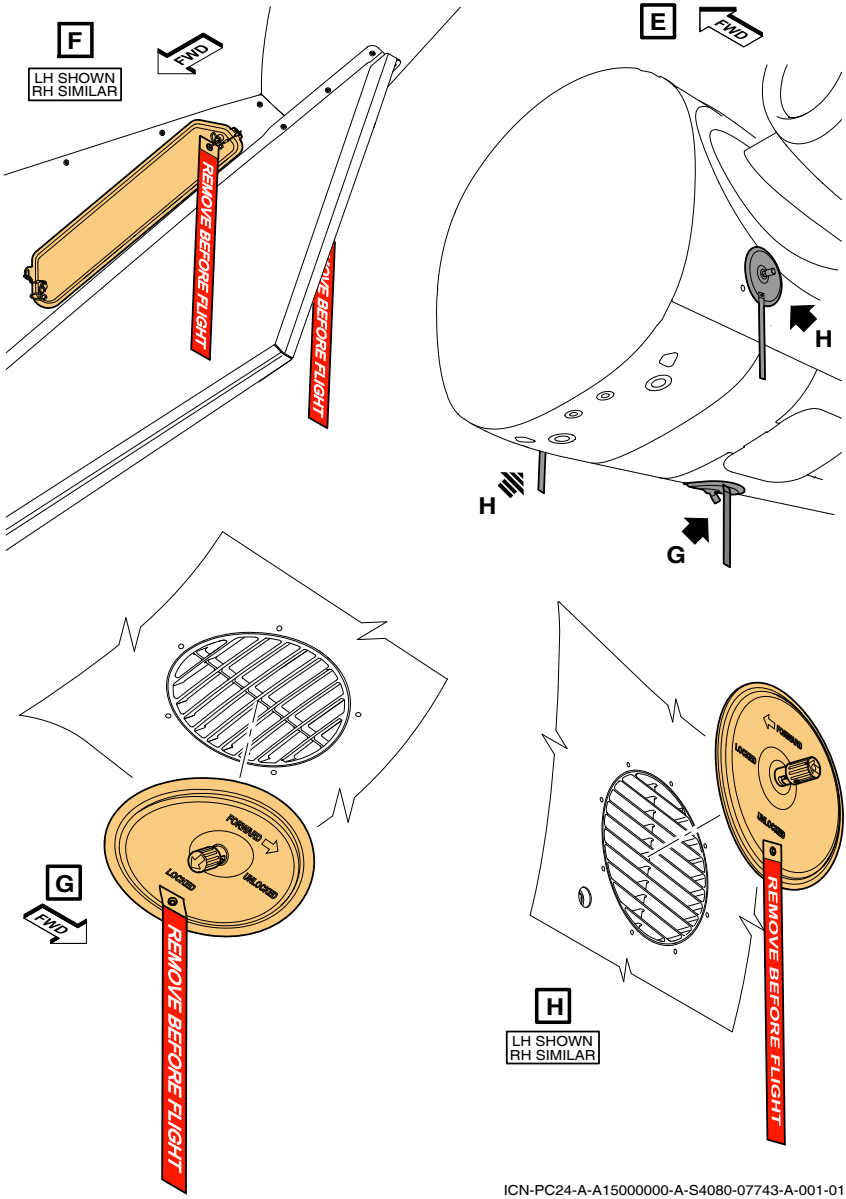

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Figure 2-7-2: Parking - Lower Rear Fuselage Covers

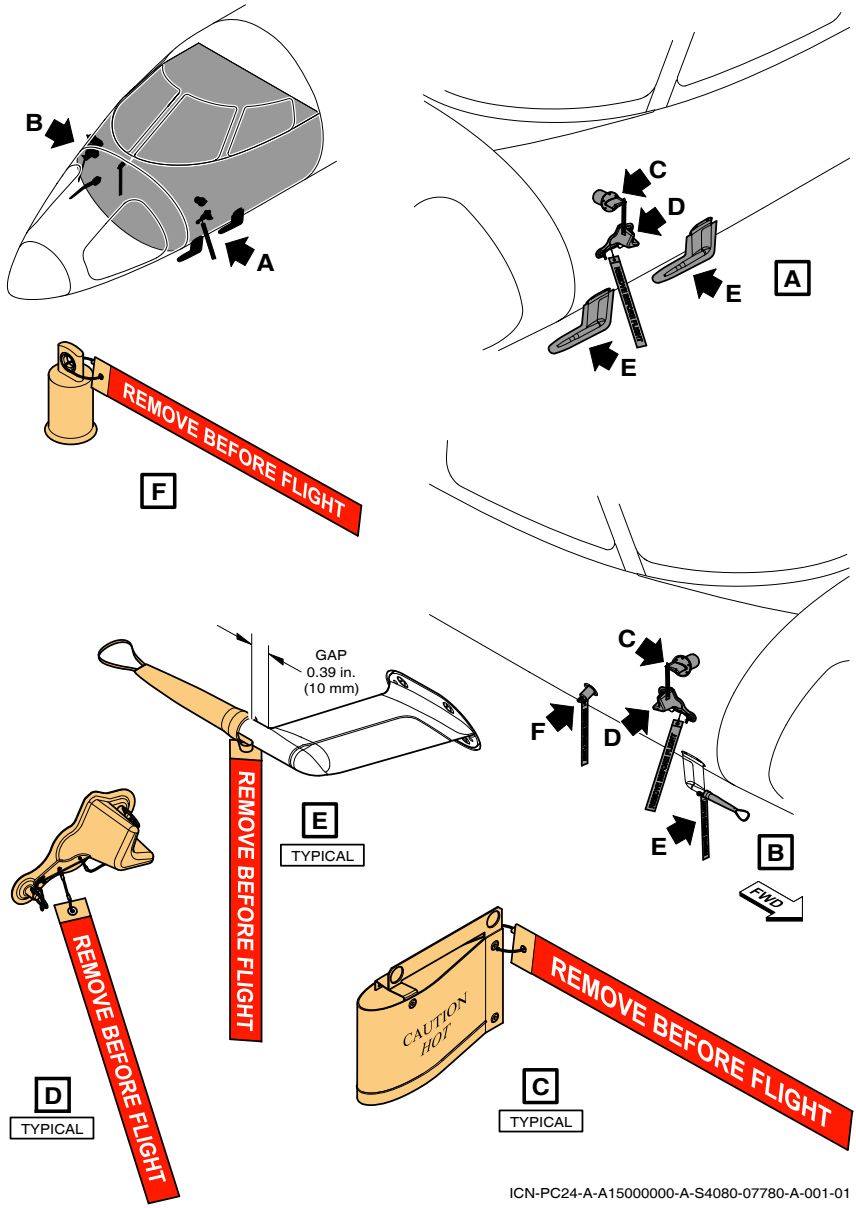

Figure 2-7-3: Parking - Air Data Probe Covers

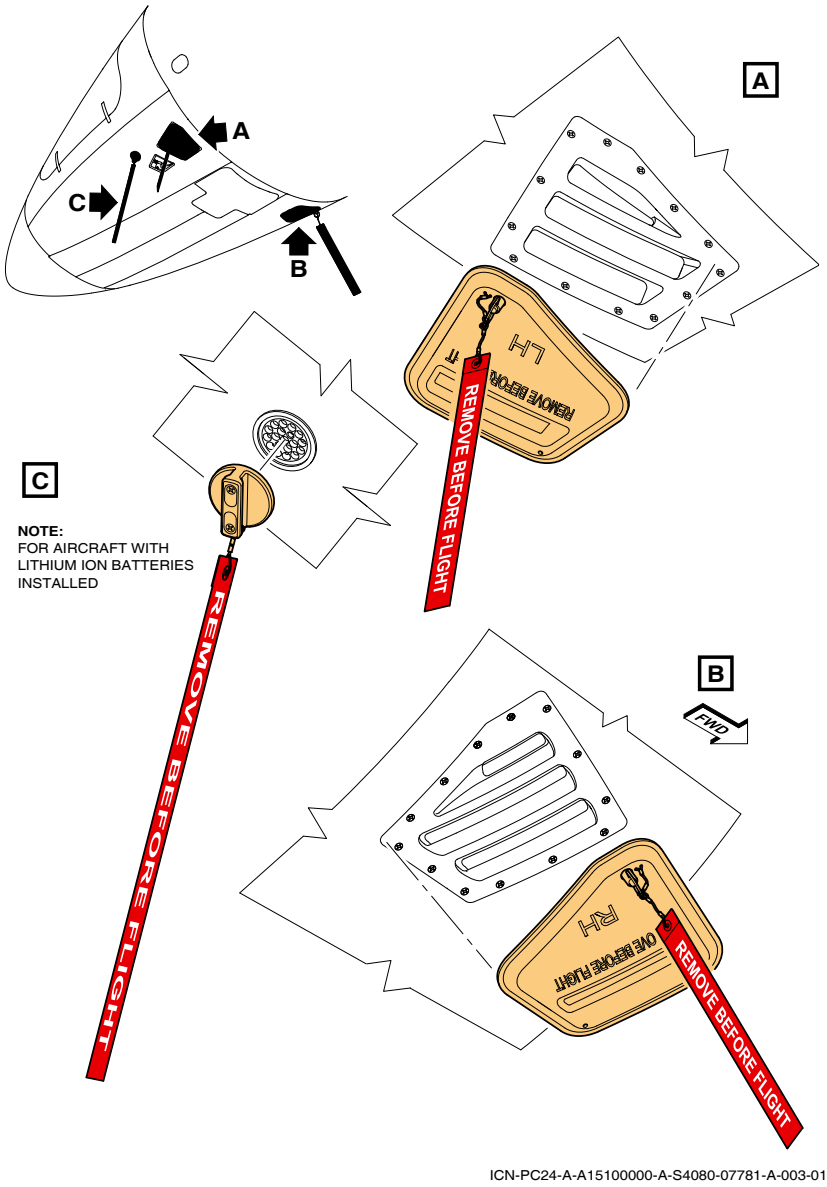

Figure 2-7-4: Parking - Nose Covers

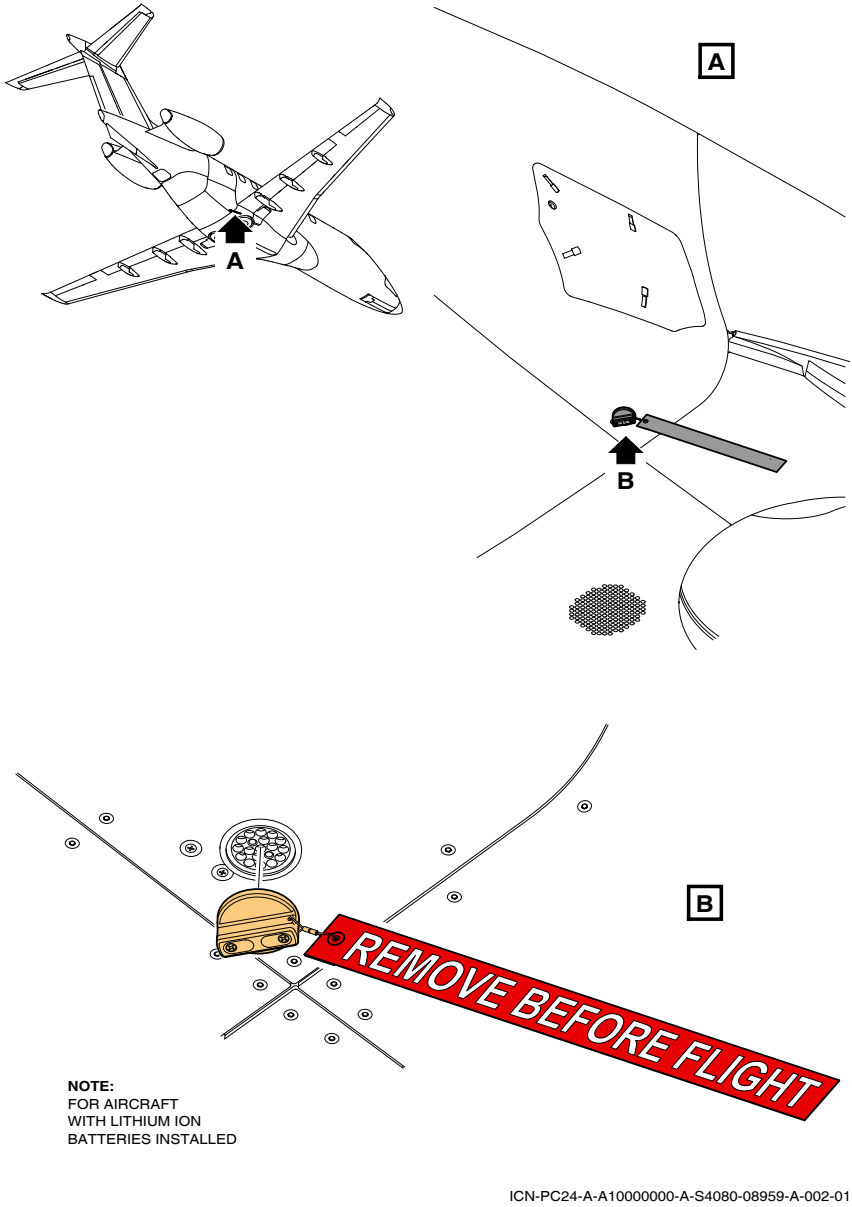

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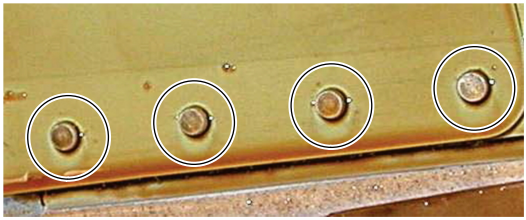
Figure 2-7-5: Parking - Lithium Ion Battery 2 - Vent cover



ACCEPTABLE

CPC ARDROX AV 40 INSPECTION WITH A UV LIGHT

Figure 2-7-6: Corrosion preventive compound around rivets and fasteners - Acceptable

Exterior - Clean with water

CAUTION

MAKE SURE THAT THE WATER USED TO CLEAN THE AIRCRAFT IS FREE FROM CONTAMINATION. IF THE WATER HAS CONTAMINATION IT CAN CAUSE CORROSION OR DAMAGE TO THE EXTERNAL SURFACE OF THE AIRCRAFT.

CAUTION

DO NOT USE HIGH PRESSURE WATER TO CLEAN THE EXTERNAL SURFACE OF THE AIRCRAFT. HIGH PRESSURE WATER CAN CAUSE DAMAGE TO THE EXTERNAL SURFACE.

CAUTION

MAKE SURE THAT YOU FLUSH THE AIRCRAFT CAREFULLY. DO NOT POINT THE WATER HOSE AT VENTS OR OPENINGS IN THE AIRCRAFT STRUCTURE. THIS WILL PREVENT WATER INGRESS INTO THE AIRCRAFT.

CAUTION

DO NOT LET WATER GO INTO THE PITOT PROBES OR THE STATIC VENTS. WATER CAN CAUSE A BLOCKAGE IN THE PITOT STATIC SYSTEM.

CAUTION

DO NOT SPRAY THE FLIGHT CONTROLS WITH WATER:

- **IF THE AMBIENT TEMPERATURE IS LESS THAN 32 DEGREES FAHRENHEIT (0 DEGREES CELCIUS)**
- **IF THE AIRCRAFT IS TO BE MOVED TO AN AREA WHERE THE AMBIENT TEMPERATURE IS LESS THAN 32 DEGREES FAHRENHEIT (0 DEGREES CELCIUS)**

IF YOU DO NOT DO THIS, THE WATER CAN FREEZE AND PREVENT MOVEMENT OF THE FLIGHT CONTROLS.

CAUTION

DO NOT SPRAY TOO MUCH WATER ON BEARINGS, FITTINGS, CONTROL CABLES OR ELECTRICAL CONNECTORS. THE WATER CAN REMOVE LUBRICATION AND/OR CORROSION PREVENTATIVE FROM THE COMPONENTS.

Note

This procedure is not an alternative for the procedure to clean the aircraft external surfaces.

Note

In hot climates, it is not recommended to clean the aircraft during the hottest hours of the day.

1 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Soft bristled brush	Local supply
Cleaning cloth	Local supply
Hose with nozzle attachment	Local supply
Spray bottle	Local supply

2 Recommended Supplies

Equipment	Recommended Pilatus Part Number
Corrosion preventative compound (CPC)	908.18.12.086
Clean water	Local supply
Lint-free cleaning cloth	904.49.73.016, Local supply

3 Cleaning Guidelines

CAUTION

MAKE SURE THAT THE WATER QUALITY FOR THE AIRCRAFT EXTERIOR CLEANING IS AS SPECIFIED BY PILATUS AIRCRAFT LTD. IF IT IS NOT, THE WATER CAN CAUSE CORROSION OR DAMAGE TO THE EXTERNAL SURFACE OF THE AIRCRAFT.

The procedures that follow give guidelines to:

- Prepare the aircraft
- Rinse the surface of the aircraft with water
- Requirements after job completion.

The water quality is recommended to be in the following specification:

Element	Requirement
Chloride concentration	Less than 250 mg / l
pH value	6.5 - 8.5

3.1 Prepare the Aircraft

CAUTION

DO NOT USE ADHESIVE TAPE TO COVER THE STATIC PORTS. IF YOU DO, RESIDUAL ADHESIVE CAN STAY ON THE STATIC PORT, ATTRACT CONTAMINATION AND CAUSE INCORRECT STATIC PRESSURE FOR AIRCRAFT SYSTEMS.

1 Flight crew or authorized trained personnel - set the flaps to 33°.

2 Install the aft fuselage covers on the items that follow. Refer to Fig. 2-8-1:

- Engine intake and exhaust Figure 2-8-1 [2]
- Dorsal fin cover Figure 2-8-1 [1]

3 Install the cockpit covers on the items that follow. Refer to Fig. 2-8-2:

- Ice detector (if installed) Figure 2-8-2 [3]
- Angle of attack sensors Figure 2-8-2 [4]
- Pitot probes Figure 2-8-2 [5]
- Outside air temperature cover Figure 2-8-2 [6].

4 Make sure that all access panels, doors and windows are closed.

5 The aircraft can be divided into five sections. Refer to Fig. 2-8-3:

- Section 1 - The front fuselage
- Section 2 - The wings and center fuselage
- Section 3 - The rear fuselage
- Section 4 - The tail and control surfaces
- Section 5 - The landing gear.

3.2 Rinse the surface of the aircraft with water

CAUTION

MAKE SURE THAT THE DE-ICE FLUID RESIDUE DOES NOT GET INTO CAVITIES OR CAUSE A BLOCKAGE IN THE DRAIN HOLES. DE-ICE FLUID RESIDUE THAT HAS COLLECTED IN CAVITIES AND BLOCKED DRAIN HOLES CAN CAUSE DAMAGE TO THE AIRCRAFT.

CAUTION

MAKE SURE THAT DE-ICE FLUID RESIDUE IS NOT FLUSHED TO OTHER PARTS OF THE AIRCRAFT. THE DE-ICE FLUID RESIDUE CAN CAUSE DAMAGE TO THE AIRCRAFT EQUIPMENT AND SYSTEMS.

CAUTION

MAKE SURE THAT THE AIRCRAFT TIRES DO NOT STAY IN PUDDLES OF CONTAMINATED WATER. AFTER THE RINSE PROCEDURE HAS BEEN DONE MOVE THE AIRCRAFT TO A DRY AREA. IF YOU DO NOT DO THIS DAMAGE TO THE TIRES CAN OCCUR.

To rinse the aircraft, start with the landing gear and rinse each section in an upward direction. Refer to Fig. 2-8-3.

Use a hose and clean water to rinse the aircraft surface as necessary.

Make sure that the areas that follow are free from contamination:

1 Landing gear

2 Landing gear bays

3 Landing gear doors

4 Flaps

5 Any other areas exposed to runway contamination.

Flush the aircraft tires with clean water.

If necessary, during cold weather operations, rinse the aircraft again to remove unwanted de-ice fluid residue, use a soft bristle brush if needed.

If necessary, during cold weather operations, use a spray bottle with water and a cleaning cloth in areas that are hard to reach with the brush.

Flight crew or authorized trained personnel, if necessary, move the aircraft to a dry area.

Flight crew or authorized trained personnel, apply CPC as necessary.

3.3 Requirements after Job Completion

1 Remove the cockpit covers from the items that follow. Refer to Fig. 2-8-2:

- Ice detector (if installed) Figure 2-8-2 [3]
- Angle of attack sensors Figure 2-8-2 [4]
- Pitot probes Figure 2-8-2 [5]
- Ooutside air temperature cover Figure 2-8-2 [6].

2 Remove the aft fuselage covers from the items that follow. Refer to Fig. 2-8-1:

- Engine intake and exhaust Figure 2-8-1 [2]
- Dorsal fin cover Figure 2-8-1 [1]

3 Flight crew or authorized trained personnel - set the flaps to 0°.

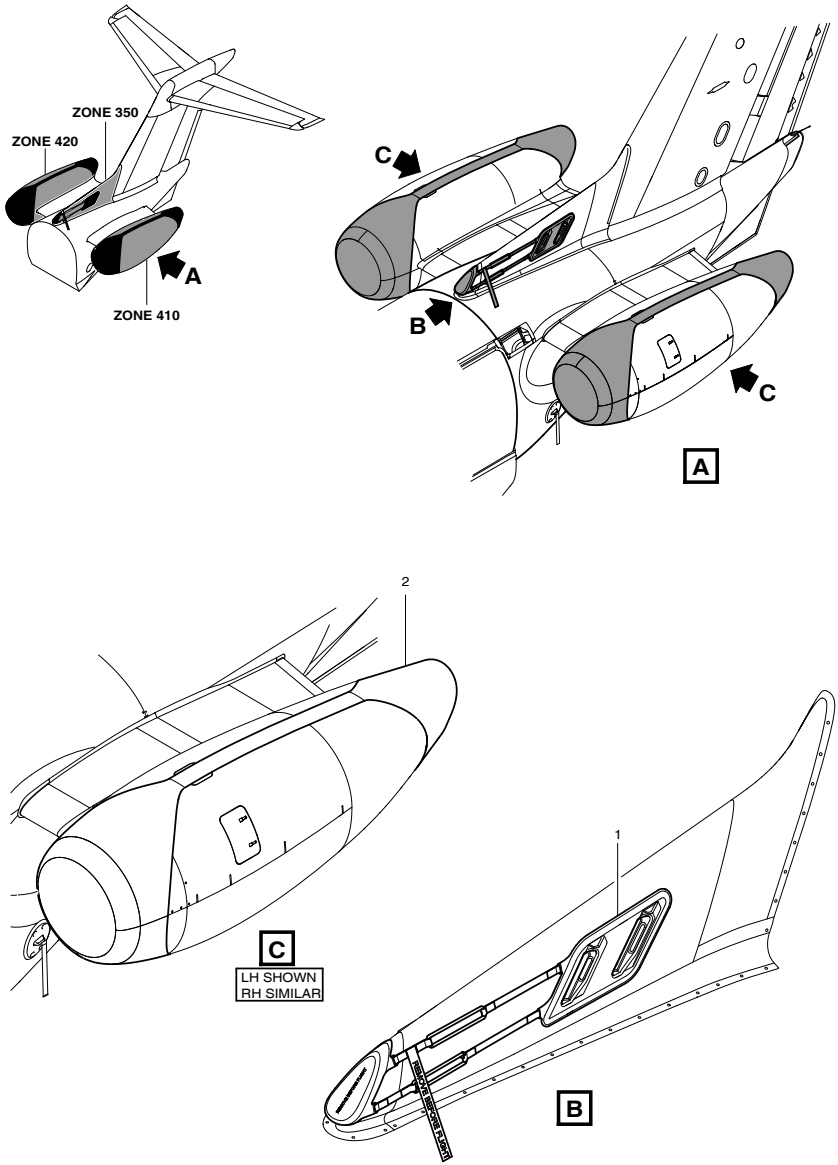


Figure 2-8-1: Water rinse - Exterior covers, aft

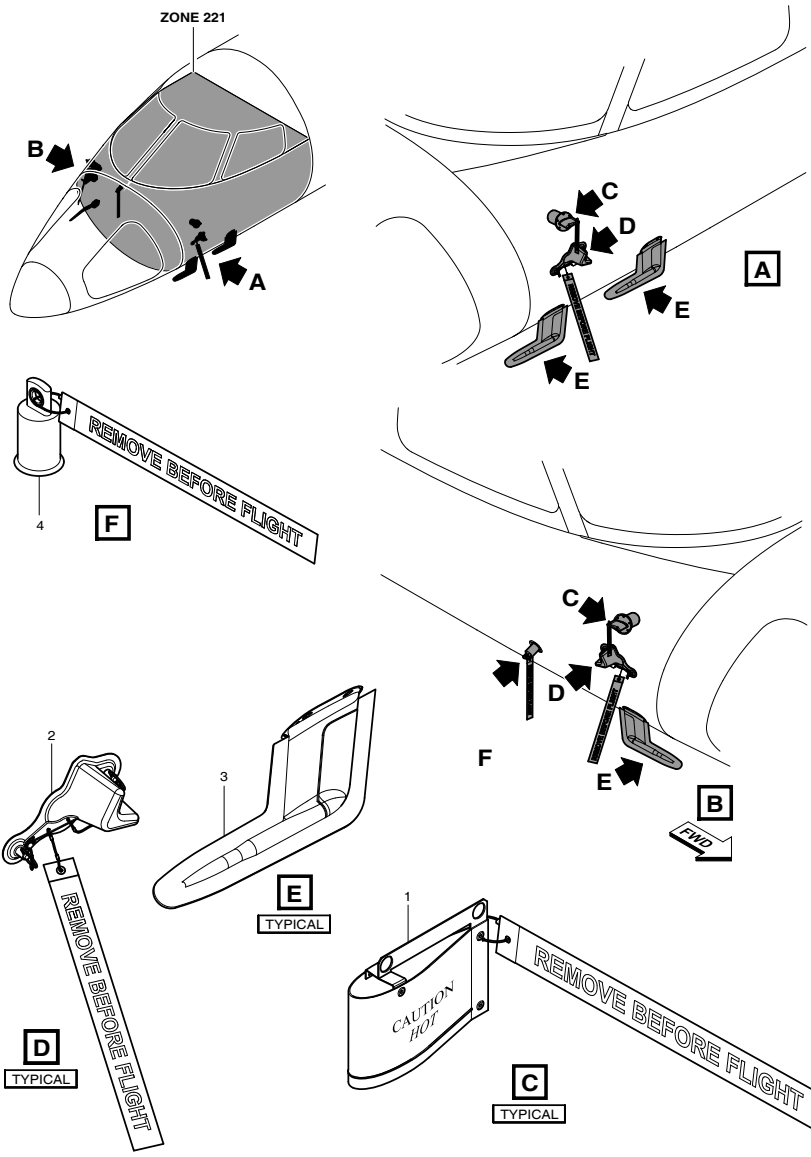


Figure 2-8-2: Water rinse - Exterior covers, cockpit

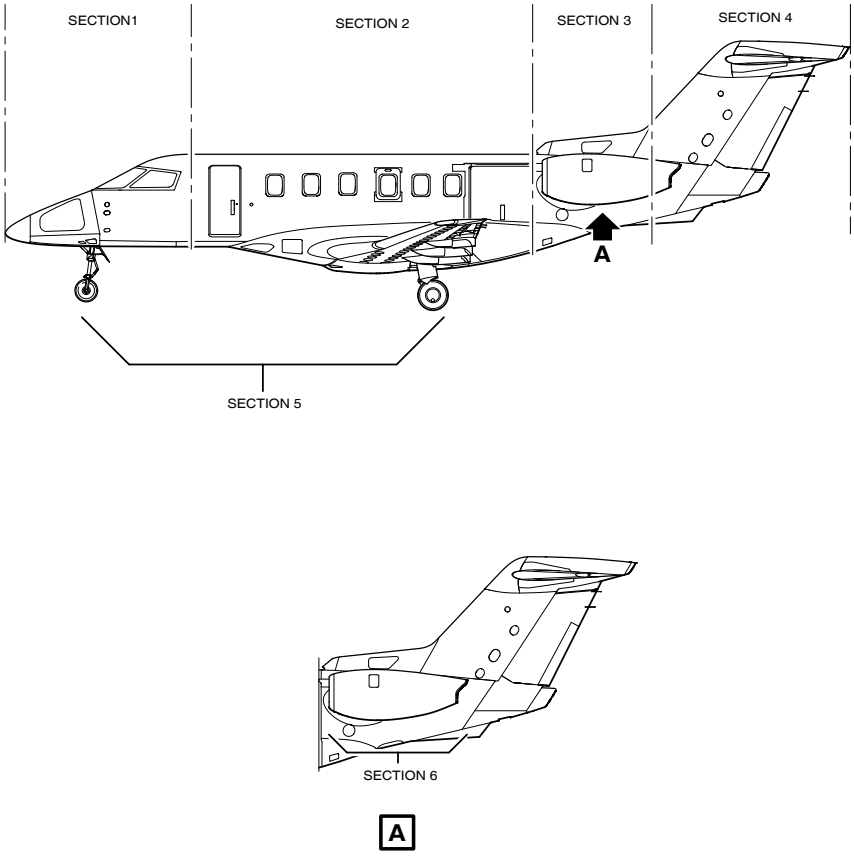


Figure 2-8-3: Exterior aircraft zones

Interior - Clean

1 Preliminary Requirements and Safety Conditions

WARNING

BE CAREFUL WHEN YOU USE THE CONSUMABLE MATERIALS. OBEY THE MANUFACTURER'S HEALTH AND SAFETY INSTRUCTIONS.

CAUTION

Do not clean fabric surfaces with a soap solution or water. This can inhibit the properties of the fireblock treatment applied to the fabric.

CAUTION

Do not let the water and soap solution go behind the aircraft interior surfaces.

CAUTION

Do not clean the instrument panel with water or the soap solution. This can damage the display screen anti-glare coating.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part
Vacuum cleaner	Local supply
Sponge	Local supply
Absorbent paper	Local supply
Clean water	Local supply
Soap solution	AERO-KLENE No. 1002
Soft bristle brush	Local supply
Lint-free cleaning cloth	Local supply

3 Cleaning Guidelines

These procedures give guidelines for cleaning the interior surfaces of the cabin and flight deck.

3.1 Cabin

1 Use a vacuum cleaner to clean:

- Seats
- Floor
- Seat tracks. If the seat track is covered by a carpet, clean where you can get access.

2 With a sponge moist with a weak soap solution, do a test on a non-visible area of each surface to be cleaned.

Note

If there is noticeable damage to any of the test areas (fading, discoloration or staining) do not clean the remaining area of the damaged surface.

3 Where necessary:

- With a sponge moist with the weak soap solution, clean the interior surfaces
- With a sponge moist with the clean water, wipe the interior surfaces
- Carefully dry the interior surfaces with absorbent paper.

3.2 Flight Deck

CAUTION

Before you clean the display screen, remove all rings and jewelry. The display screen is easily damaged.

CAUTION

Do not apply pressure to the display screen. This will prevent damage to the display screen.

1 With a clean soft bristle brush, carefully remove dust, sand or grit from the flight deck.

2 If necessary, use a vacuum cleaner to carefully clean the:

- Glareshield
- Center console
- Side console
- Seats
- Floor.

3 With a clean, dry lint-free cleaning cloth, clean the display units.

Waste / Water System Servicing

1 Preliminary Requirements and Safety Conditions

WARNING

PUT ON PROTECTIVE CLOTHING, PROTECTIVE GOGGLES, AND GLOVED BEFORE YOU DO WORK ON THE WATER AND WASTE SYSTEM. THIS WILL HELP PREVENT INJURY OR DEATH.

CAUTION

Do not deploy or operate the toilet when the cabin temperature is less than 36 °Fahrenheit (2 °Celsius). If you deploy or operate the toilet when the cabin temperature is less than 36 °Fahrenheit (2 °Celsius) damage can occur to the toilet components.

2 Main Procedure

This procedure contains these sections:

- Drain the waste tank
- Fill the water tank using a funnel
- Drain the water tank.

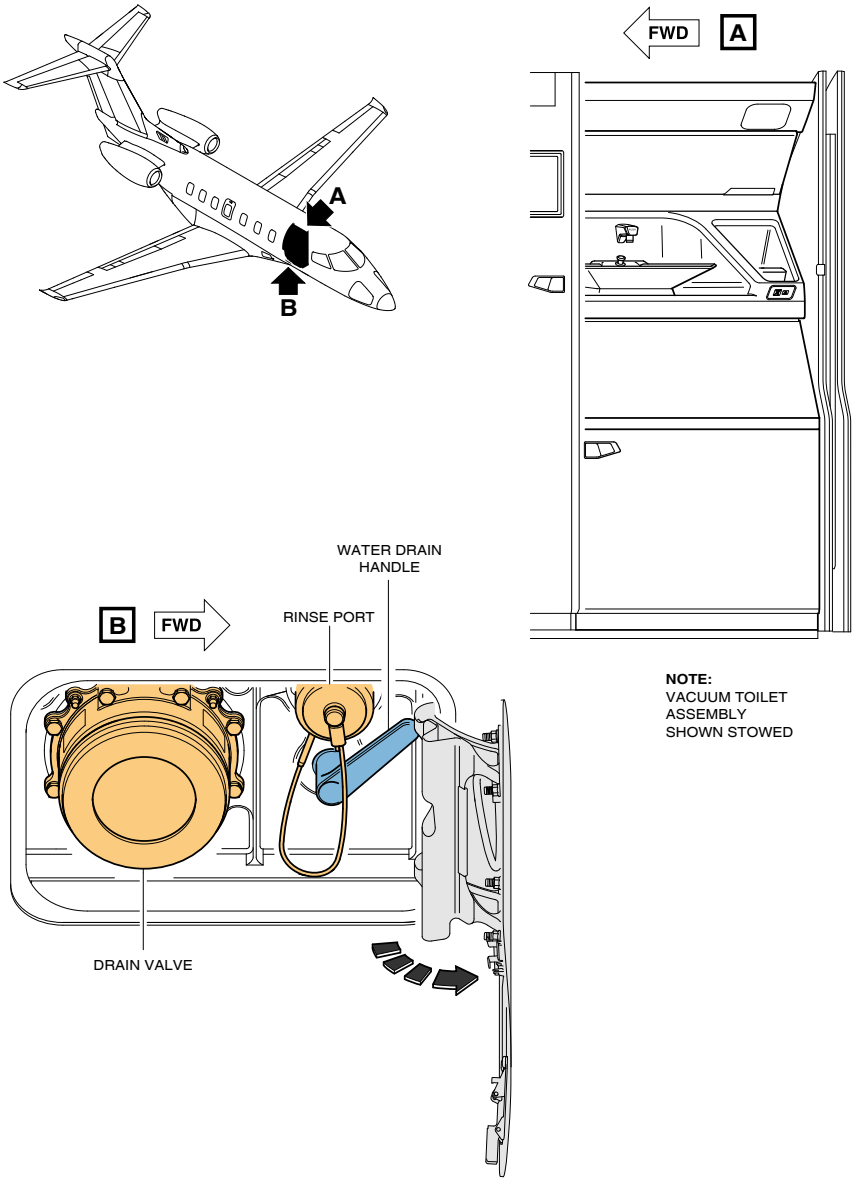


Figure 2-10-1: Vacuum Waste System - Component Location

2.1 Drain the Waste Tank

1 De-energise the electrical system.

2 Open the vacuum waste system panel door, Fig. 2-10-1 shows the location of the waste system panel.

3 Follow the instructions given on the placard on the vacuum waste panel door.

4 Close the vacuum waste system panel.

2.2 Fill the Water Tank using a Funnel

1 De-energise the electrical system.

2 Open the toilet service panel (Figure 2-10-2 [1]).

3 Remove the funnel (Figure 2-10-2 [4]) from the rear face of the toilet service panel (Figure 2-10-2 [1]).

4 Remove the filler cap (Figure 2-10-2 [5]) from the water tank (Figure 2-10-2 [3]).

5 Put the funnel (Figure 2-10-2 [4]) in the water tank (Figure 2-10-2 [3]).

6

Note
The maximum capacity of the water tank is 2 Gallon (7.5 Liter).

Carefully fill the water tank (Figure 2-10-2 [3]).

7 Remove the funnel (Figure 2-10-2 [4]) from the water tank (Figure 2-10-2 [3]).

8 Install the filler cap (Figure 2-10-2 [5]) on the water tank (Figure 2-10-2 [3]).

9 Install the funnel (Figure 2-10-2 [4]) on the rear face of the toilet service panel (Figure 2-10-2 [1]).

10 Close the toilet service panel (Figure 2-10-2 [1]).

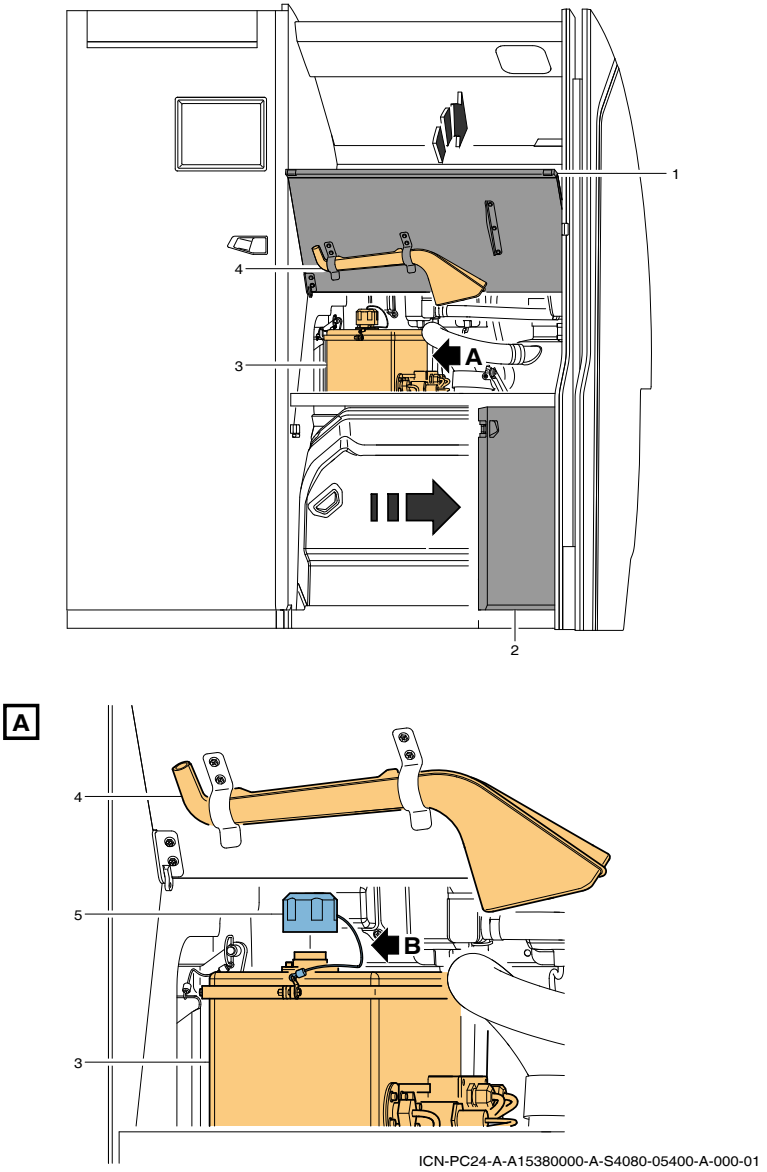


Figure 2-10-2: Water tank - Fill using the funnel (Sheet 1 of 2)

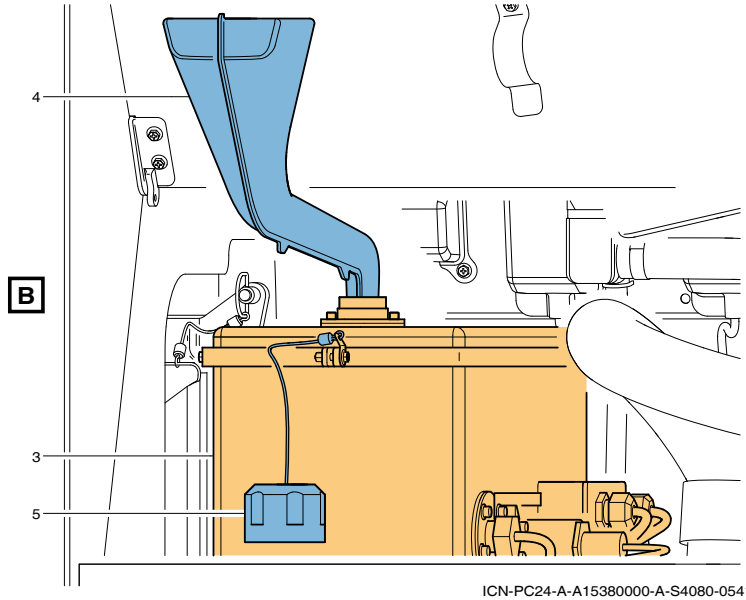


Figure 2-10-2: Water tank - Fill using the funnel (Sheet 2 of 2)

2.3 Drain the Water Tank

1 De-energise the electrical system.

2 Open the vacuum waste system panel door.

3 Put a container with a minimum capacity of 2 Gallon (7.5 Liter) under the water drain outlet (Figure 2-10-3 [2]).

4 Make sure that the water drain outlet (Figure 2-10-3 [2]) is clear.

5 Move the water drain handle (Figure 2-10-3 [1]) to the open position.

6 Make sure that the water drains into the container.

7 When the flow of water from the water drain outlet (Figure 2-10-3 [2]) stops, move the water drain handle (Figure 2-10-3 [1]) to the closed position.

8 Remove the container from under the water drain outlet (Figure 2-10-3 [2]).

9 Close the vacuum waste system panel door.

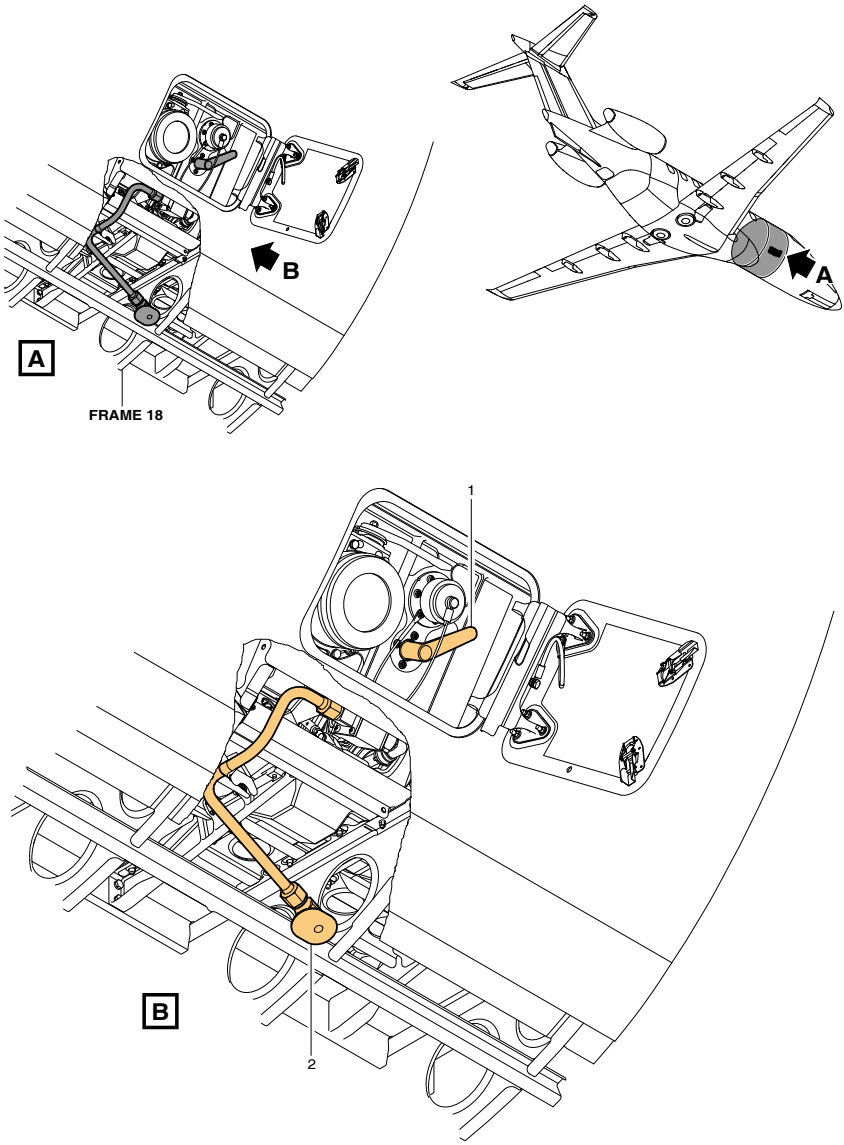


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Figure 2-10-3: Water tank - Drain

Waste / Water System - Clean with chemical agent

1 Preliminary Requirements and Safety Conditions

WARNING

BE CAREFUL WHEN YOU DO WORK ON THE ELECTRICAL SYSTEM OR A SYSTEM THAT USES THE ELECTRICAL POWER. MAKE SURE THAT IT IS SAFE BEFORE YOU APPLY ELECTRICAL POWER TO THE AIRCRAFT OR ENERGIZE THE AIRCRAFT ELECTRICAL SYSTEMS. THE ELECTRICAL POWER CAN CAUSE DEATH OR INJURY TO PERSONNEL AND CAUSE DAMAGE TO EQUIPMENT.

WARNING

BE CAREFUL WHEN YOU USE THE CONSUMABLE MATERIALS. OBEY THE MANUFACTURER´S HEALTH AND SAFETY INSTRUCTIONS AND ALL THE APPLICABLE LOCAL INSTRUCTIONS. CONSUMABLE MATERIALS CAN BE DANGEROUS AND CAN CAUSE DEATH OR INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING

USE PERSONAL PROTECTIVE EQUIPMENT WHEN CLEANING THE WASTE SYSTEM. USE GLOVES, APRON, AND A FACE SHIELD. CLEAN HANDS USING SANITIZER WHEN DONE CLEANING THE WASTE SYSTEM, OR COMING INTO CONTACT WITH SEWAGE. IF YOU DO NOT WEAR PROTECTIVE EQUIPMENT INJURY TO PERSONNEL CAN OCCUR.

WARNING

DO NOT MIX WATER SYSTEM DISINFECTANT WITH VACUUM WASTE SYSTEM CLEANING PRODUCTS. MAKE SURE YOU RINSE AND EMPTY THE WATER TANK AND DRAIN THE WASTE TANK BEFORE CLEANING THE INTERIOR OF THE VACUUM WASTE SYSTEM. IF YOU MIX THE CLEANING PRODUCTS OR DO NOT DRAIN AND RINSE THE WATER TANK PROPERLY, INJURY TO PERSONNEL CAN OCCUR.

WARNING

CHLORINE DIOXIDE GAS CAN BE PRODUCED BY THE WATER SYSTEM DISINFECTANT. THE GAS IS POISONOUS. PUT ON A RESPIRATOR AND GOGGLES. WHEN THE DISINFECTANT SOLUTION IS MIXED, IT CAN PRODUCE CHLORINE DIOXIDE GAS. CHLORINE DIOXIDE GAS CAN CAUSE INJURIES TO PERSONNEL IF INHALED.

WARNING

WATER SYSTEM IS NOT POTABLE WATER. DO NOT DRINK THE WATER FROM THE WATER SYSTEM. IF YOU DRINK FROM THE WATER SYSTEM INJURY TO PERSONNEL CAN OCCUR.

WARNING

COMPONENTS WHICH HAVE BEEN IN CONTACT WITH SEWAGE ARE A HEALTH HAZARD. WASH THE PARTS WITH SOAP, HOT WATER AND SANITIZER. IF COMPONENTS ARE NOT PROPERLY WASHED INJURY TO PERSONNEL CAN OCCUR.

WARNING

COMPONENTS WHICH HAVE BEEN IN CONTACT WITH SEWAGE ARE A HEALTH HAZARD. DO NOT WASH WATER SYSTEM COMPONENTS WITH THE SAME EQUIPMENT USED TO CLEAN THE WASTE SYSTEM. IF COMPONENTS ARE NOT PROPERLY WASHED INJURY TO PERSONNEL CAN OCCUR.

WARNING

FAILURE TO CLEAN THE WATER SYSTEM AND/OR DRAIN WATER AND WASTE SYSTEM BEFORE STORAGE CAN RESULT IN THE GROWTH OF BIOHAZARDS WHICH CAN CAUSE INJURY TO PERSONNEL.

CAUTION

DO NOT DEPLOY OR OPERATE THE TOILET WHEN THE CABIN TEMPERATURE IS LESS THAN 36 °FAHRENHEIT (2 °CELSIUS). IF YOU DEPLOY OR OPERATE THE TOILET WHEN THE CABIN TEMPERATURE IS LESS THAN 36 °FAHRENHEIT (2 °CELSIUS) DAMAGE CAN OCCUR TO THE TOILET COMPONENTS.

CAUTION

FAILURE TO DRAIN THE WATER AND/OR WASTE SYSTEMS BEFORE STORAGE IN FREEZING TEMPERATURES CAN CAUSE BURST DAMAGE IF THE SYSTEM FREEZES.

CAUTION

PROTECT ELECTRICAL CONNECTORS FROM LIQUIDS AND CLEANING FLUIDS TO PREVENT DAMAGE TO THE AIRCRAFT.

CAUTION

THE COMPANIES THAT MAKE THE CLEANING MATERIALS CAN CHANGE THE FORMULATION. ALWAYS FOLLOW THE INSTRUCTIONS GIVEN ON THE CONTAINER. THE INSTRUCTIONS TO MIX AND USE THE CLEANING MATERIALS, GIVEN ON OR PROVIDED WITH THE CONTAINER, SHOULD BE USED INSTEAD OF THE INSTRUCTIONS GIVEN IN THIS PROCEDURE.

CAUTION

DO NOT GET TOILET SYSTEM CLEANER ON THE STRUCTURE OF THE AIRPLANE, THE TOILET SYSTEM CLEANER IS AN ACID. IT CAN CAUSE DAMAGE TO THE AIRCRAFT STRUCTURE.

Note

Cleaning is recommended to reduce odors, discoloration, and scale buildup, even if the vacuum waste system is not used.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Acetic acid (vinegar)	Local supply
Antimicrobial soap	Local supply
Apron	Local supply
Citric acid	Local supply
Goggles	Local supply
Face shield	Local supply
Lint free cleaning cloth	Local supply
Water system disinfectant	Local supply
Gloves (latex / nitrile)	Local supply
Crushed ice	Local supply
Isopropyl alcohol	Local supply
Sanitizer	Local supply
Potable water	Local supply
Cleaning cloth (general)	Local supply
Brush (non metallic)	Local supply
Compressor (air - 10 psi)	Local supply

3 Main Procedure

This procedure contains these sections:

- Clean the external components of the water and waste system
- Clean and disinfect the water system
- Clean the inside of the vacuum waste system.

3.1 Clean the external components of the water and waste system

De-energise the electrical system (only trained personnel).

Drain the waste tank.

Drain the water tank.

Open the toilet door (Figure 2-11-1 [1]).

Push the toilet release (Figure 2-11-1 [3]).

Pull the toilet (Figure 2-11-1 [2]) into the service position.

Open the toilet service panel (Figure 2-11-1 [11]).

Clean the external components of the waste system, where access is available, as follows:

1 Use fresh hot water, antimicrobial soap and a brush (non metallic) to clean the external surfaces of the:

- Waste tank (Figure 2-11-1 [17])
- Waste hose (Figure 2-11-1 [18])
- Waste drain pipe (Figure 2-11-1 [19])
- Toilet bowl (Figure 2-11-1 [6])
- Toilet fairing (Figure 2-11-1 [2])
- Toilet lid (Figure 2-11-1 [4])
- Toilet seat (Figure 2-11-1 [5])
- Water drain pipe (Figure 2-11-1 [16])
- Vacuum pipes (Figure 2-11-1 [20]).

2 Use a clean cleaning cloth (general) to dry the external surfaces of the:

- Waste tank (Figure 2-11-1 [17])
- Waste hose (Figure 2-11-1 [18])
- Waste drain pipe (Figure 2-11-1 [19])
- Toilet bowl (Figure 2-11-1 [6])
- Toilet fairing (Figure 2-11-1 [2])
- Toilet lid (Figure 2-11-1 [4])
- Toilet seat (Figure 2-11-1 [5])
- Water drain pipe (Figure 2-11-1 [16])
- Vacuum pipes (Figure 2-11-1 [20]).

3 Apply sanitizer to the external surfaces of the:

- Waste tank (Figure 2-11-1 [17])
- Waste hose (Figure 2-11-1 [18])
- Waste drain pipe (Figure 2-11-1 [19])
- Toilet bowl (Figure 2-11-1 [6])
- Toilet fairing (Figure 2-11-1 [2])
- Toilet lid (Figure 2-11-1 [4])
- Toilet seat (Figure 2-11-1 [5])
- Water drain pipe (Figure 2-11-1 [16])
- Vacuum pipes (Figure 2-11-1 [20]).

4 Let the sanitizer dry for fifteen minutes.

Clean the external components of the water system, where access is available, as follows:

1 Use fresh hot water, antimicrobial soap and a brush (non metallic) to clean the external surfaces of the:

- Water tank assembly (Figure 2-11-1 [23])
- Water pump (Figure 2-11-1 [22])
- Accumulator (Figure 2-11-1 [25])
- Faucet (Figure 2-11-1 [12])
- Sink unit (Figure 2-11-1 [13])
- Water pipes (Figure 2-11-1 [21]).

2 Use a clean cleaning cloth (general) to dry the external surfaces of the:

- Water tank assembly (Figure 2-11-1 [23])
- Water pump (Figure 2-11-1 [22])
- Accumulator (Figure 2-11-1 [25])
- Faucet (Figure 2-11-1 [12])
- Sink unit (Figure 2-11-1 [13])
- Water pipes (Figure 2-11-1 [21]).

3 Apply sanitizer to the external surfaces of the:

- Water tank assembly (Figure 2-11-1 [23])
- Water pump (Figure 2-11-1 [22])
- Accumulator (Figure 2-11-1 [25])
- Faucet (Figure 2-11-1 [12])
- Sink unit (Figure 2-11-1 [13])
- Water pipes (Figure 2-11-1 [21]).

4 Let the sanitizer dry for fifteen minutes.

Use a clean cleaning cloth (general) made moist with isopropyl alcohol to clean the:

- Electrical connectors
- Wires
- Waste tank level sensors.

Push the toilet (Figure 2-11-1 [2]) into the stowed / closed position.

Close the toilet door (Figure 2-11-1 [1]).

3.2 Clean and disinfect the water system

Note
The water tank has a capacity of 2.0 US gallons (7.5 liters).

Energize the electrical system (only trained personnel).

Make approximately 2.5 US gallons (gal) (9.4 L) of water system disinfectant solution as follows:

1 Mix eight parts water system disinfectant with one part citric acid by volume.

2 Dilute the solution with water to a 100 parts per million (ppm) concentration.

3 Mix the solution well and wait for five minutes.

Depressurize the water system.

Connect the ground service cart.

Make sure that the EMPTY WATER TANK LED (Figure 2-11-1 [10]) comes on when you push the CHECK TOILET (Figure 2-11-1 [7]) button.

Put the disinfectant solution in the water tank (Figure 2-11-1 [23]).

Press on the faucet (Figure 2-11-1 [12]) until you smell the disinfectant solution.

Use the flush switch (Figure 2-11-1 [8]) to flush the toilet until you smell the disinfectant solution.

Put the remaining disinfectant solution in the water tank (Figure 2-11-1 [23]).

Wait one hour.

Drain the water system.

Drain the waste tank.

Fill the water tank (Figure 2-11-1 [23]) with clean water.

Press on the faucet (Figure 2-11-1 [12]) to rinse out the disinfectant solution.

Use the flush switch (Figure 2-11-1 [8]) to flush the toilet and rinse out the disinfectant solution.

Drain the waste tank.

Drain the water system.

Make sure that the EMPTY WATER TANK LED (Figure 2-11-1 [10]) comes on when you push the CHECK TOILET (Figure 2-11-1 [7]) button.

3.3 Clean the inside of the vacuum waste system

Drain the waste tank.

Put 0.53 gal (2 L) of water in the water tank (Figure 2-11-1 [23]).

Clean the inner surface of the toilet bowl (Figure 2-11-1 [6]) with antimicrobial soap.

Clean the surface of the VWS with a lint free cleaning cloth.

Rinse the toilet bowl (Figure 2-11-1 [6]) with clean water.

If necessary, clean the toilet bowl (Figure 2-11-1 [6]) with acetic acid (vinegar) and a brush (non metallic).

Put 1.06 gal (4 L) of water in the toilet bowl (Figure 2-11-1 [6]).

Put 4.41 lb (2 kg) of crushed ice in the toilet bowl (Figure 2-11-1 [6]).

Use the flush switch (Figure 2-11-1 [8]) to flush the toilet three times. Do this step again until the ice is flushed.

If necessary, use 0.26 gal (1 L) of warm water to flush remaining crushed ice.

Drain the waste tank.

Put 1.06 gal (4 L) of acetic acid (vinegar) in the toilet bowl (Figure 2-11-1 [6]).

Keep the acetic acid in the toilet bowl (Figure 2-11-1 [6]) for 15 minutes.

Clean the toilet bowl (Figure 2-11-1 [6]) with a brush (non metallic).

Put 4.41 lb (2 kg) of crushed ice in the toilet bowl (Figure 2-11-1 [6]).

Use the flush switch (Figure 2-11-1 [8]) to flush the toilet three times. Do this step again until the ice is flushed.

If necessary, use 0.26 gal (1 L) of warm water to flush remaining crushed ice.

Make sure that the sink drain (Figure 2-11-1 [14]) is open.

Press the faucet (Figure 2-11-1 [12]) until the WASTE TANK 100% FULL LED (Figure 2-11-1 [9]) comes on when you push the CHECK TOILET (Figure 2-11-1 [7]) button.

Note
The longer you wait, the more effective the cleaning solution will be.

Wait a minimum of 1 hour.

Drain the waste tank.

Use the flush switch (Figure 2-11-1 [8]) to flush the toilet a minimum of three times to rinse the waste water system.

Drain the water system.

Drain the waste tank.

4 Return to service

If necessary de-energize the electrical system (only trained personnel).

If necessary fill the water tank.

Make sure that the water tank cap is installed.

If available, install the drain valve cover.

Make sure that the water drain valve is closed.

Remove all the equipment, tools, and materials from the work area. Make sure that the work area is clean.

Close the ground service panel.

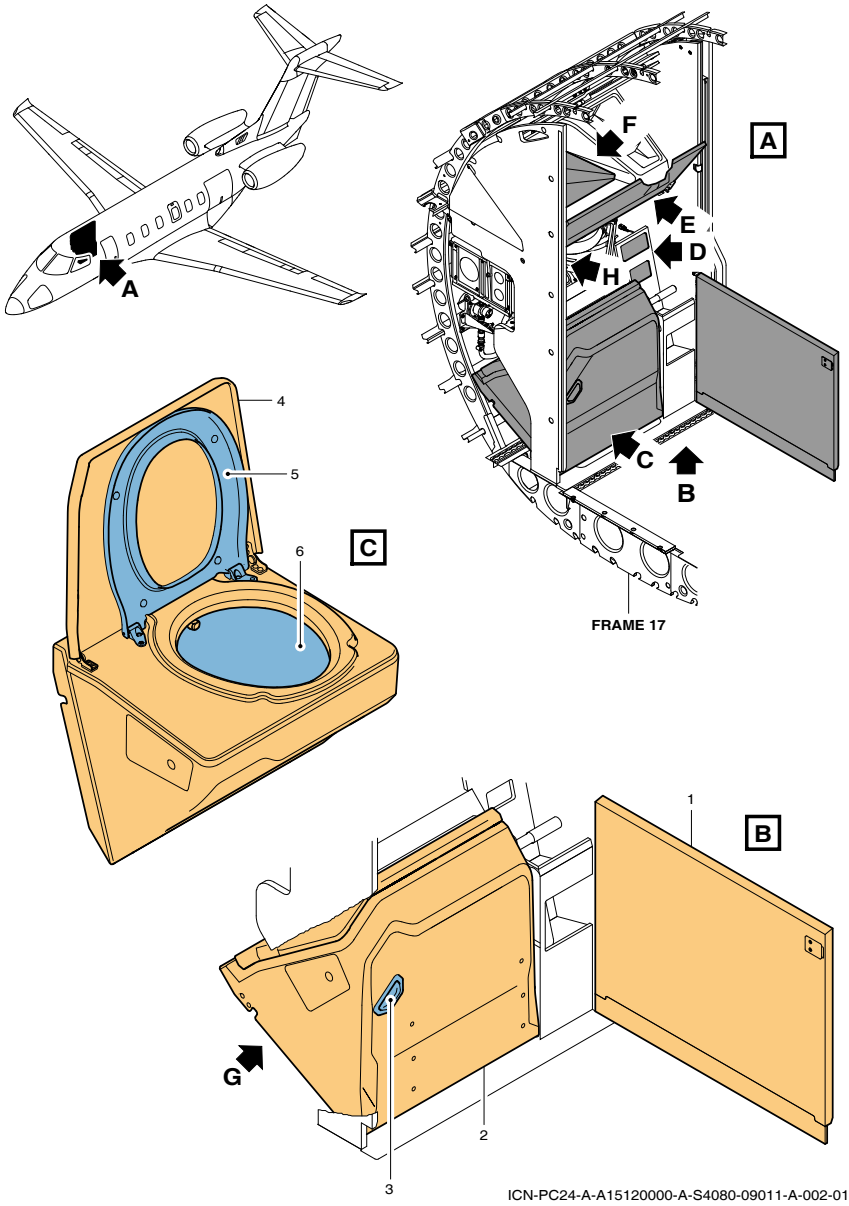

Figure 2-11-1: Water and waste system - Clean (Sheet 1 of 4)

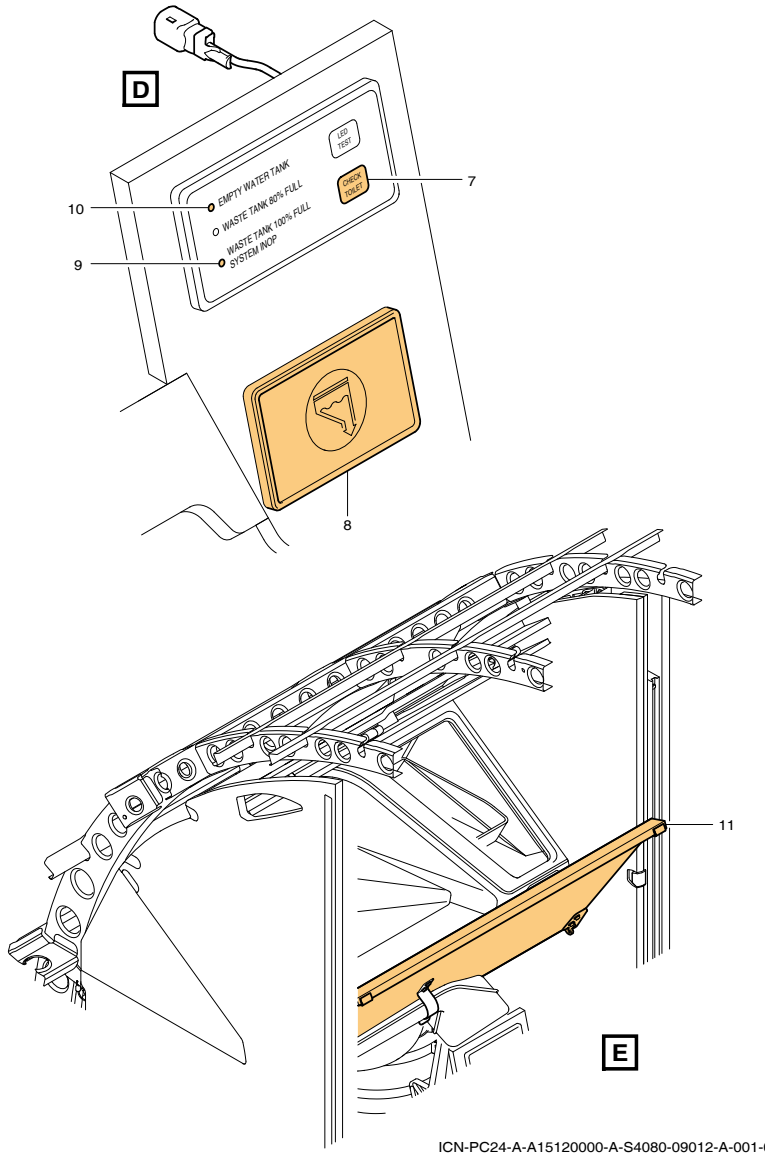

Figure 2-11-1: Water and waste system - Clean (Sheet 2 of 4)

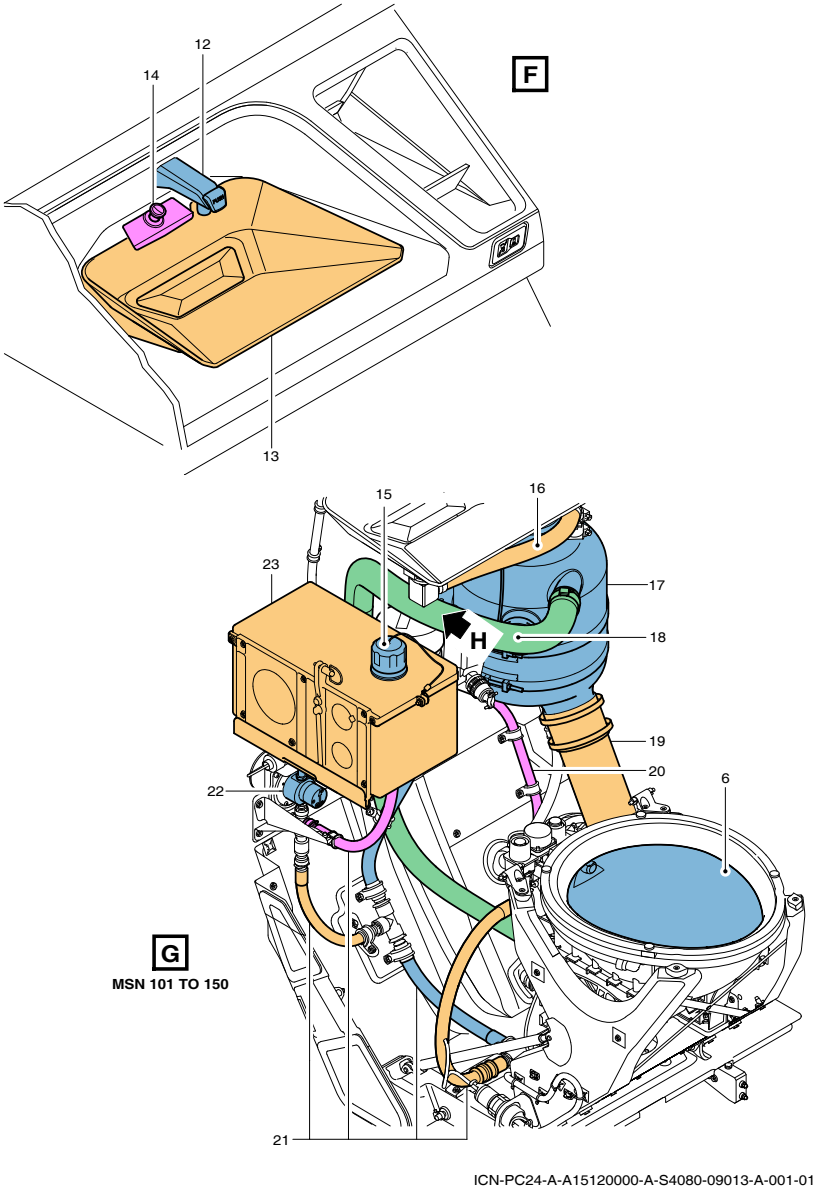

Figure 2-11-1: Water and waste system - Clean (Sheet 3 of 4)

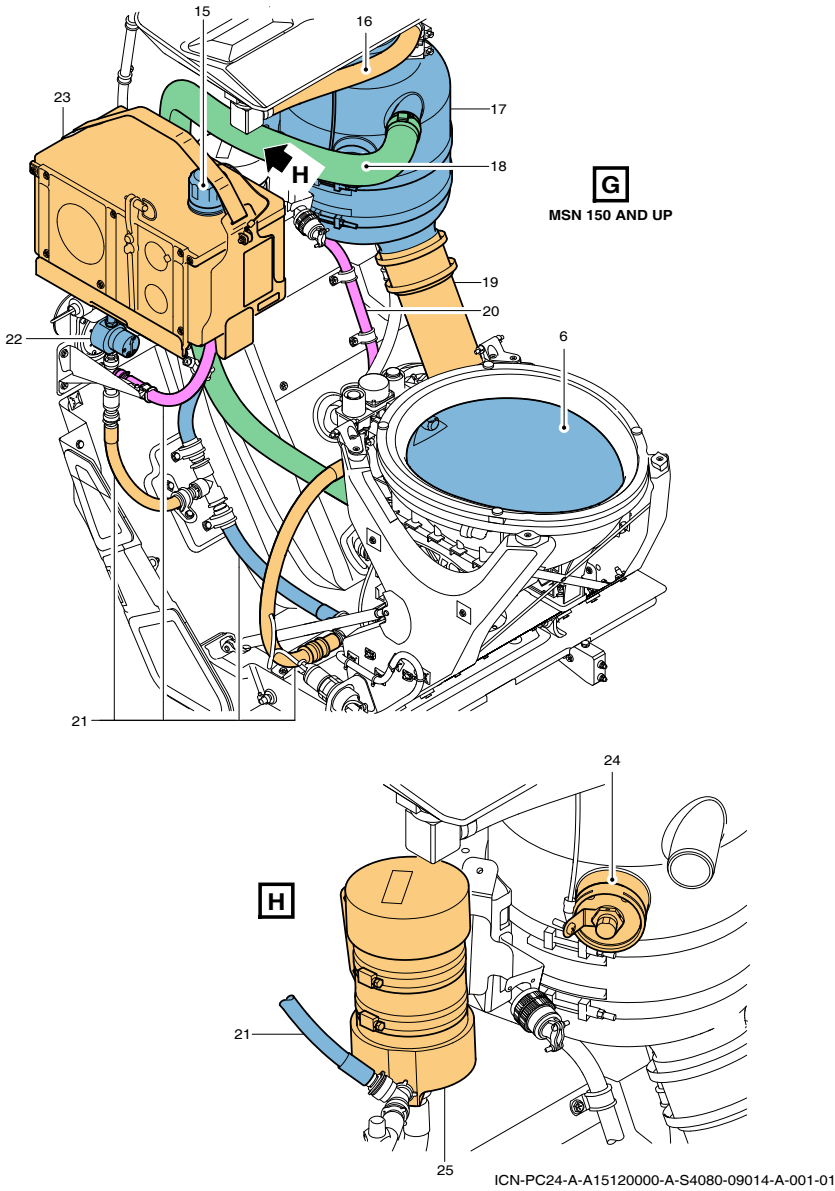

Figure 2-11-1: Water and waste system - Clean (Sheet 4 of 4)

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Cold Weather Procedures (Deicing / Anti-Icing)

1 Preliminary Requirements and Safety Conditions

WARNING

THE DEICING AND ANTI-ICING PROCEDURES MUST BE DONE BY PERSONS THAT ARE FULLY TRAINED, QUALIFIED AND APPROVED IN THE USE OF DEICING / ANTI-ICING FLUIDS AND THE EQUIPMENT.

WARNING

THE PILOT IN COMMAND, WITH ASSISTANCE FROM THE GROUND CREW, MUST MAKE SURE ALL CRITICAL SURFACES ARE FREE FROM ICE, SNOW AND FROST FORMATIONS BEFORE TAKEOFF.

2 General

Icing condition can exist when the Outside Air Temperature (OAT) on the ground or Total Air Temperature (TAT) during flight, is less than 50 °F (10 °C), and visible moisture in any form is present.

The aircraft must not takeoff with frost on these critical areas:

- Wing leading edge and upper surface
- Windshield.

The aircraft must not takeoff with ice, snow or slush on these critical areas:

- Wing leading edge and upper surface
- Flight control surfaces (including hinged gaps)
- Horizontal stabilizer
- Vertical stabilizer
- Engine inlets
- Engine pylons
- Fuselage upper surface
- Windshield
- Air data probes (pitot-static probes, Angle of Attack (AOA) sensors, ice detector, Outside Air Temperature (OAT) sensor)
- Upper fuselage surface between the nose and windshield
- Landing gear.

2.1 Deicing Methods

In clear weather, it may be possible to manually remove all contamination to allow a safe takeoff and flight. Deicing fluids can also be used to quickly melt and remove frost or other ice formations.

Spraying deicing or anti-icing fluids can quickly remove frost and prevent ice formation on the aircraft.

2.1.1 Manual

The manual method of deicing can be used to remove dry snow and large amounts of wet snow. Brooms, brushes, ropes, squeegees or other tools can be used to remove large snow deposits. You must be careful not to damage the aircraft surface when using this method.

2.1.2 Fluids

There are four standard aircraft deicing and anti-icing fluids; type I, II, III and IV.

Type I deicing fluid can be used to quickly melt and remove frost or other ice formations. As these are the thinnest of the fluids types, as airflow increases over the surface they will shear and blow off at low speeds. Type I fluid has a very limited Holdover Time (HOT). Type I fluid is usually dyed orange.

Type II and IV anti-icing fluids prevent snow, ice or frost contamination from adhering to the aircraft surfaces. These fluids are thicker and remain on the aircraft surface longer. They have a longer HOT and will not shear and blow off the surface until the aircraft attains a higher airspeed (approximately 100 knots). When the fluid shears from the surface it leaves only a thin film of fluid that will have a small impact on the performance. Type II fluid is clear and type IV fluid is dyed green.

Type III anti-icing fluid is thicker and has a longer HOT than type I fluid. It will shear and blow off at a lower speed than the type II and IV fluids. Type III fluid is usually dyed a bright yellow.

2.2 Inspections

It is recommended that operators who use Type II, III or IV anti-icing fluids do periodic visual inspections for anti-icing fluid residues.

A visual inspections for fluid residue must be done in these locations:

- Along the wing rear spar area with flaps extended
- Around the perimeter of the aileron surface and around the aileron tab
- Gaps around the elevator and elevator tab
- Gaps around the rudder and rudder tab.

Any identified residues must be removed by cleaning with warm water or an approved fluid.

The operator must determine the frequency of the visual inspections as follows:

- Based on the found residues in previous visual inspections
- After a maximum of three applications of Type II, III or IV anti-icing fluids.

If the aircraft is washed, or if Type I fluid is used for deicing, the frequency of the visual inspections may be reduced.

2.3 Before Engine Start

It is recommended that deicing / anti-icing is done with the engines shutdown to minimize deicing fluid ingestion into the engines and bleed air ducting.

2.3.1 Deicing Equipment

CAUTION

Be careful when you remove contamination manually. This can damage the aircraft surface or components.

CAUTION

The aircraft must sprayed from the front. Spraying from the rear can force fluid into aerodynamically quiet areas from where it may not be able to drain.

Tool / Equipment	Recommended Pilatus Part
Broom	Local supply
Brush	Local supply
Squeegee	Local supply
Mop	Local supply
Bucket	Local supply
Clean water	Local supply
Deicing fluid	AMS1424 Type I
Deicing / Anti-icing fluid	AMS1428 Type II, III and IV

2.3.2 Deicing

CAUTION

When ice, snow or slush is removed from the aircraft surface, care must be taken to prevent entry and accumulation of ice, snow or slush into intakes or control surface hinge areas.

Note

Deicing and anti-icing fluid may splash onto heated surfaces such as air data probes and engine nacelles which can produce significant vapor.

Note

The forward area of the aircraft must be free of fluid residues prior to departure. Deicing and anti-icing fluid can flow back onto the windshield during taxi or take-off.

Note

If fluid runs onto the windshield during application, it must be removed prior to taxi and take-off. Deicing and anti-icing fluid can be removed by rinsing with approved cleaner and a clean lint-free cloth.

Note

Under no circumstances should deicing and anti-icing fluid be applied directly to the:

- Air data probes
- Windshield and windows
- Air intakes
- Engine inlets
- Brakes
- Wheels.

Dry, powdery snow can be removed by sweeping with a brush or broom. Heavy, wet snow can be removed by combination of:

- Squeegees and brooms
- Heated water
- Solutions of heated water and deicing / anti-icing fluids.

Remove the contamination from the wings and stabilizers by sweeping in the aft and inboard direction starting at the leading-edge tip.

Deicing / Anti-icing fluids can be used to quickly remove frost and assist in the melting and removal of snow.

Deicing / Anti-icing fluids can be applied with a mop or brush from a bucket to melt ice to the extent that it can be removed by manual means.

Portable spray equipment such as pressurized containers with spray wands and hand pumps attached to a supply tank can be used to apply deicing / anti-icing fluids.

Mobile ground support equipment with the capability of heating deicing fluid and dispensing large quantities of fluid at high pressures can be used. This type of equipment with the fluid temperature limited to 160 °F (70 °C) can be used to deice the aircraft.

Fig. 2-12-1 shows a flowchart with the recommended deicing steps before the aircraft can takeoff.

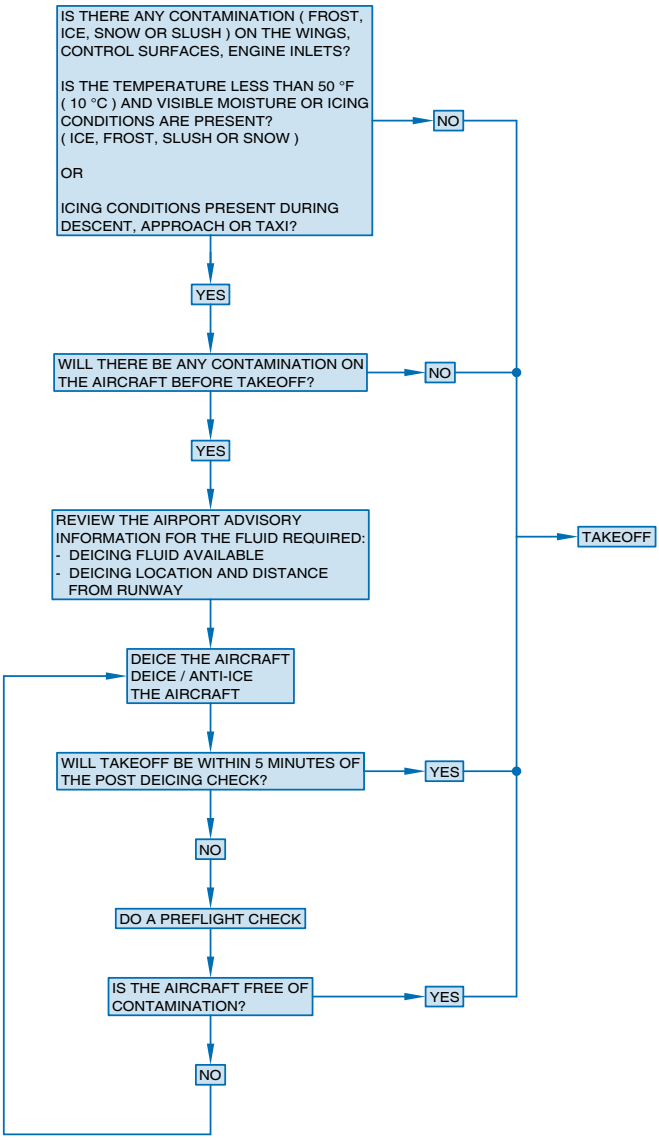


Figure 2-12-1: Deicing / Anti-icing Flowchart

2.3.3 Deicing / Anti-icing the Wings, Stabilizers and Fuselage

Note

Deicing / anti-icing can be done as a one or two step process. Step one is to deice the aircraft and step two, if necessary, is to anti-ice the aircraft before takeoff.

The one step process applies heated deicing fluid to remove contamination and also provide some anti-icing protection.

The two step process first applies the heated deicing fluid to remove contamination. The second step applies the anti-icing fluid to the critical surfaces. The second step must be done before refreezing occurs.

Fig. 2-12-2 shows the areas essential for deicing and Fig. 2-12-3 shows the areas essential for spraying anti-icing fluid.

1 Manually remove all contamination from the aircraft structure.

2 If there is ice accumulation present in the control surface cavities, spray deicing fluid from the top of the wing.

3 Deice the stabilizers surfaces in a similar manner to the wing.

4 The area adjacent to the elevator balance horns and the horizontal stabilizer should be thoroughly inspected.

5 Deice the fuselage from the top centerline then outboard and downwards.

6 If necessary, use type I deicing fluid to aid the removal of the contamination. Apply the deicing fluid:

- In an even layer
- With the spray direction from the front to the rear
- Symmetrically on both sides of the aircraft
- Start on the left wing, from the leading edge tip then inboard and rearward
- On the stabilizers, from the leading edge tip then inboard and rearward
- On the right wing, from the leading edge tip then inboard and rearward
- On the fuselage, from the top centerline then outboard.

7 Remove any deicing fluid from the windshield and nose area in front of the windshield.

8 If necessary, apply the anti-icing fluid:

- In an even layer
- With the spray direction from the front to the rear
- Symmetrically on both sides of the aircraft
- Start on the left wing, from the leading edge tip then inboard and rearward
- On the stabilizers, from the leading edge tip then inboard and rearward
- On the right wing, from the leading edge tip then inboard and rearward.

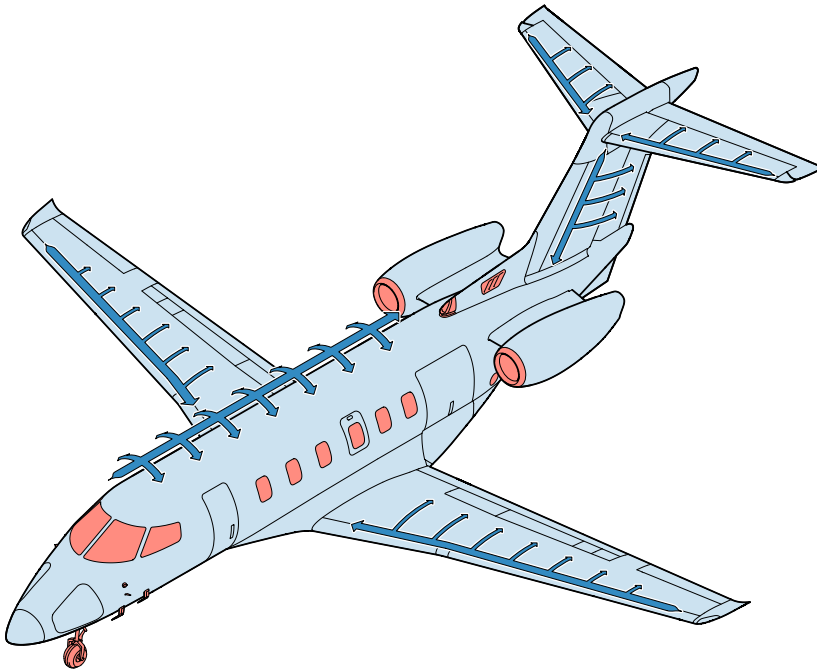
2.3.4 Deicing / Anti-icing the Landing Gear

CAUTION

The application of deicing / anti-icing fluid in the landing gear must be kept to a minimum. Deicing / anti-icing fluid must not be directed onto the brakes and wheels.

1 With a brush, remove the build-up of slush, ice or the accumulation of blown snow from the landing gear.

2 Where contamination deposits have bonded to surfaces, these can be removed by spraying with deicing / anti-icing fluid.



AVOID DIRECT SPRAYING OF DEICING FLUID ON THE FOLLOWING AREAS :		
ENGINE INLETS	**BRAKES**	**RAM AIR INLETS**
WINDSHIELD	**WHEELS**	**PITOT - STATIC PROBES**
CABIN WINDOWS	**ICE DETECTORS**	**AOA SENSORS**

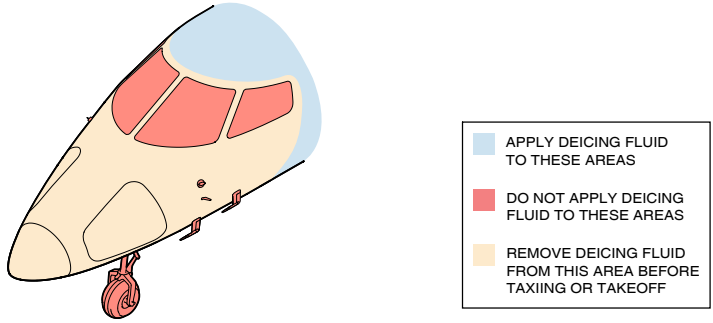
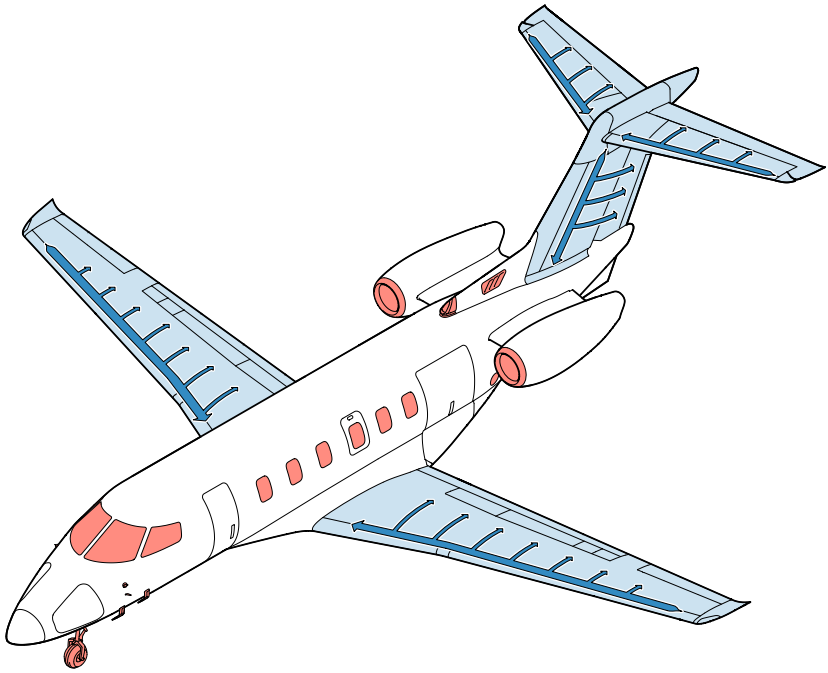


Figure 2-12-2: Essential Aircraft Deicing Areas



AVOID DIRECT SPRAYING OF DEICING FLUID ON THE FOLLOWING AREAS :		
ENGINE INLETS	**BRAKES**	**RAM AIR INLETS**
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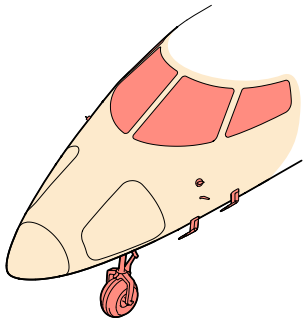
CABIN WINDOWS	**ICE DETECTORS**	**AOA SENSORS**



APPLY
DEICING / ANTI - ICING
FLUID TO THESE AREAS

DO NOT APPLY
DEICING / ANTI - ICING
FLUID TO THESE AREAS

REMOVE
DEICING / ANTI - ICING
FLUID FROM THIS AREA
BEFORE TAXIING OR
TAKEOFF

Figure 2-12-3: Essential Aircraft Deicing And Anti-icing Areas

2.3.5 Post Deicing Inspection

After deicing / anti-icing a visual inspection, for contamination, must be done at these locations:

- Air data probes
- Wing leading edges, upper and lower surfaces, spoilers, aileron surfaces including the wing seals
- Horizontal stabilizer leading edges, upper and lower surfaces, elevator surfaces particularly at the balance horns
- Vertical stabilizer and rudder side surfaces
- Flaps
- Upper fuselage
- Fuel tank and vents
- Landing gear.

2.3.6 Pre Takeoff Check

After the deicing / anti-icing procedure and before takeoff, the pilot in command must do a pre takeoff check to make sure all critical surfaces are free of contamination.

1 Visually examine these critical areas, make sure there is no frost on the:
   - Wing leading edge and upper surface
   - Windshield.

2 Do a check to make sure the:
   - Flaps fully extend and retract
   - Flight controls, operate smoothly through their full range of movement.

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Unpaved runway conditions - Scheduled inspection

1 Main Procedure

This procedure has these sections:

- Scheduled Inspection every 10 Flights Scheduled Inspection every 10 Flights
- Scheduled Inspection every 100 Flights Scheduled Inspection every 100 Flights.

1.1 Scheduled Inspection every 10 Flights

CAUTION

LOOSE PROTECTIVE FOIL IS A FOD RISK. LOOSE PROTECTIVE FOIL CAN BREAK OFF AND CAUSE DAMAGE TO ENGINES AND AIRCRAFT COMPONENTS.

Every 10 flights to and from unpaved runway conditions, the operator is recommended to examine the following zones for Foreign Object Debris (FOD) contamination and / or damage:

- The nose landing-gear bay (Figure 2-13-1 [1]) and the nose landing gear (Figure 2-13-1 [6])
- The left and right main landing-gear bay (Figure 2-13-1 [3]) and the left and right main landing-gear (Figure 2-13-1 [5])
- The tire of the nose landing-gear (Figure 2-13-1 [6])
- The tires, brakes and brake lines of the left and right main landing-gear (Figure 2-13-1 [5])
- The flap mechanism fairings (Figure 2-13-1 [2]) (after extension of the flaps to 33°)
- Examine the protective foil (if installed) on the items that follow:

  1 Radar altimeter antennas (Figure 2-13-2 [1] and Figure 2-13-2 [3]) for:
    - Cleanliness
    - Delamination
    - General wear
    - Loose or missing pieces.

  2 Keel beam (Figure 2-13-2 [2]) for:
    - Cleanliness
    - Delamination
    - General wear
    - Loose or missing pieces.

  3 Fuel drain mast (Figure 2-13-2 [4]) for:
    - Cleanliness
    - Delamination
    - General wear
    - Loose or missing pieces.

  4 Inboard main flap section (Figure 2-13-2 [5]) for:
    - Cleanliness
    - Delamination
    - General wear
    - Loose or missing pieces.

If contaminated, clean the affected area. If damage or loose items are found repair / replace / remove as necessary or contact an authorized Pilatus service center.

1.2 Scheduled Inspection every 100 Flights

Every 100 flights to and from unpaved runway conditions, the operator is recommended to remove the MLG belly fairings and examine the following zones for FOD contamination and / or damage:

- The zone near the MLG belly fairings Figure 2-13-1 [4]
- The MLG belly fairings.

If contaminated, clean the affected area. If damage is found repair / replace as necessary or contact an authorized Pilatus service center.

2 Requirements after Job Completion

1 Remove all the equipment, tools and materials from the work area. Make sure that the work area is clean.

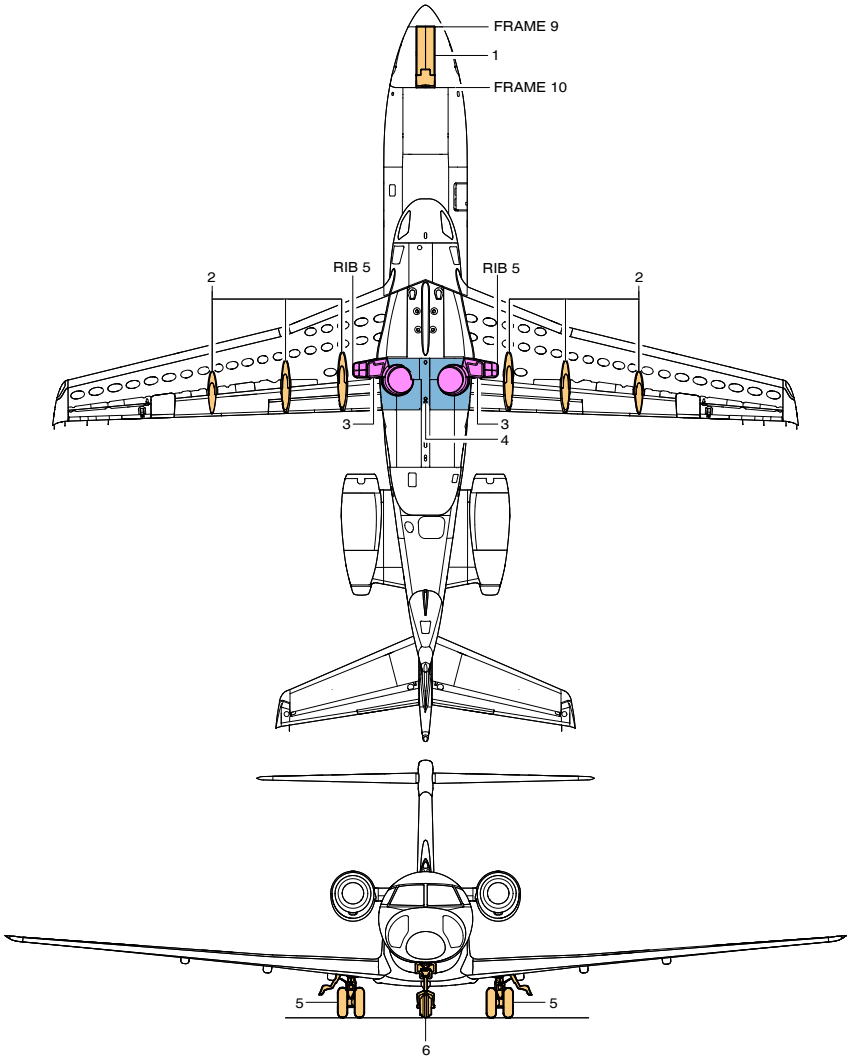
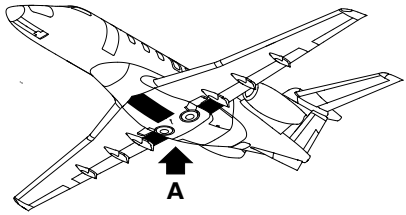


Figure 2-13-1: Unpaved runway conditions - Scheduled inspection zones



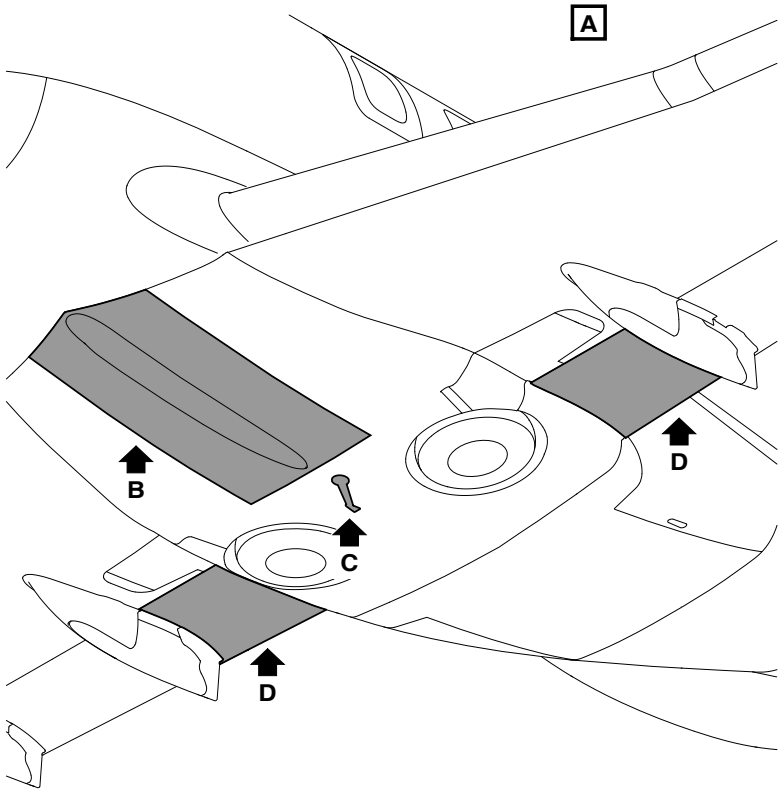


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Figure 2-13-2: Unpaved runway conditions - Protective foil inspection (Sheet 1 of 4)

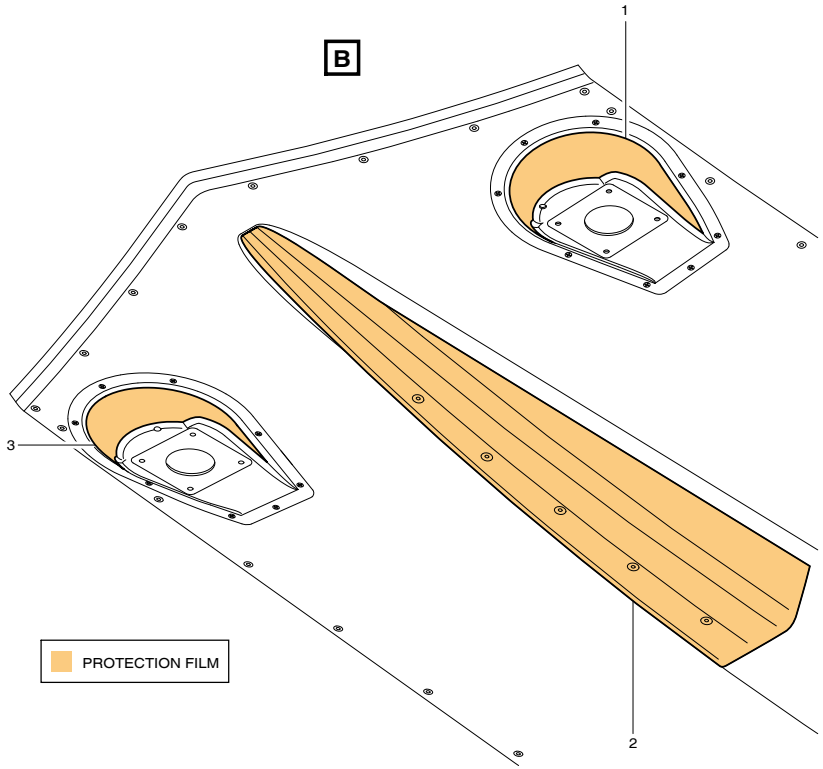

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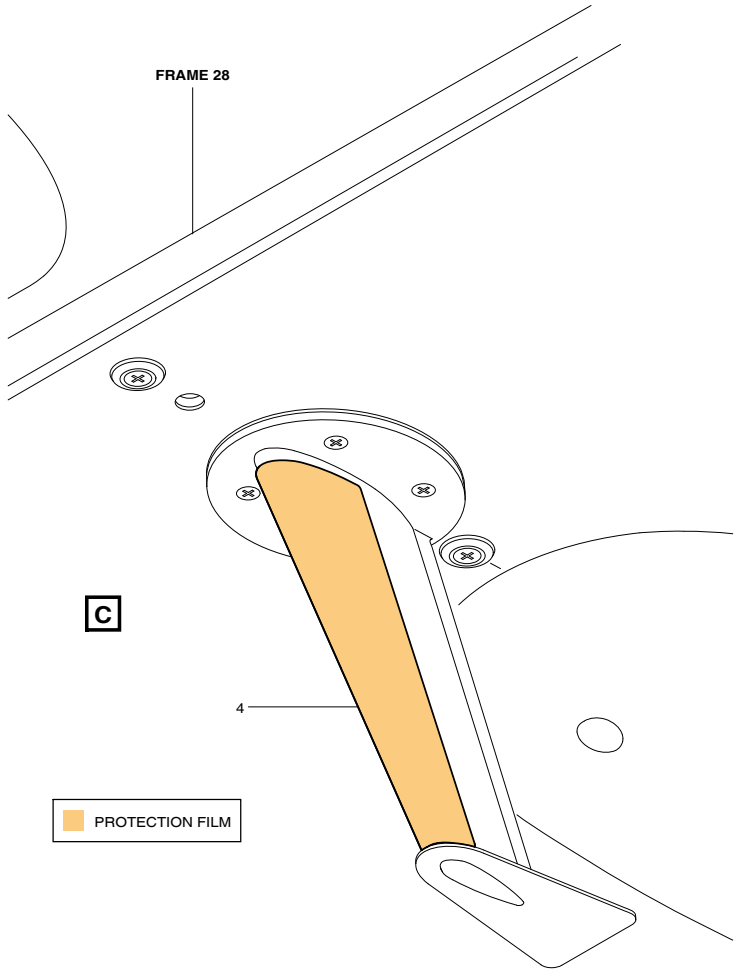
Figure 2-13-2: Unpaved runway conditions - Protective foil inspection (Sheet 2 of 4)



NOTE:
ADF ANTENNA
SHOWN INSTALLED
- OPTIONAL EQUIPMENT

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Figure 2-13-2: Unpaved runway conditions - Protective foil inspection (Sheet 3 of 4)

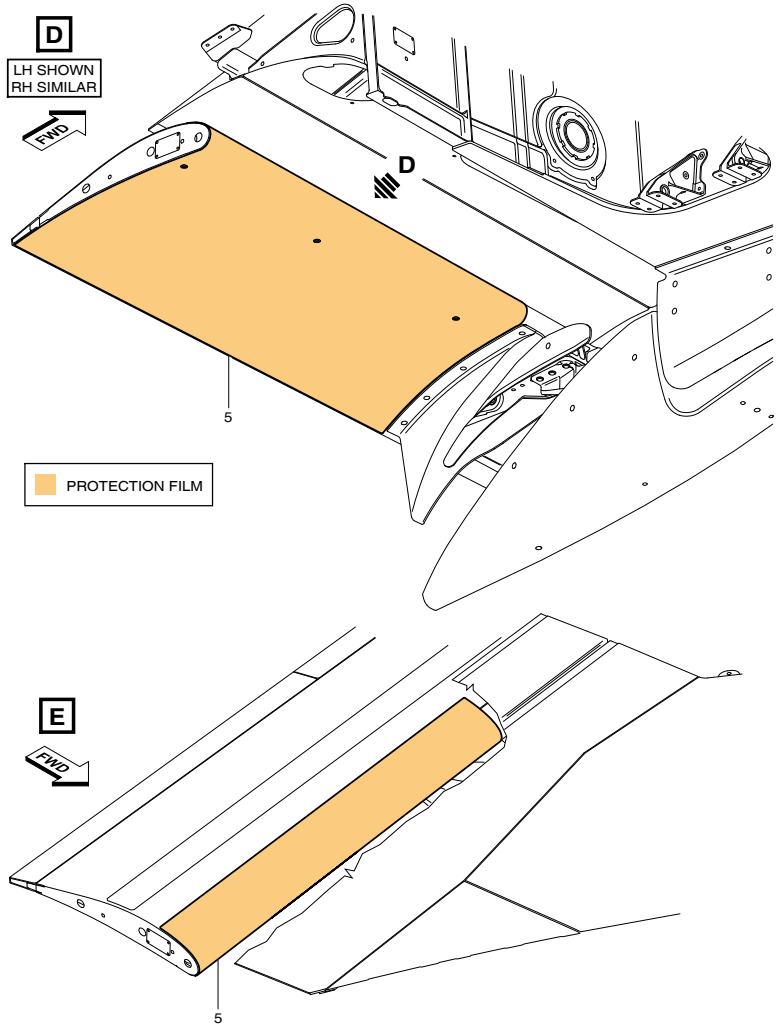

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Figure 2-13-2: Unpaved runway conditions - Protective foil inspection (Sheet 4 of 4)