PC-12

Ground Servicing Guide

Document Number 02527
Issue 001 Revision 02: Oct 10,2024

This document contains recommended information for Fixed Base Operators when servicing the PC-12 aircraft.
The information contained herein is advisory.
In the event of any contradictions, the Pilots Operating Handbook (POH) and FOCA Approved Airplane Flight Manual shall prevail over this document.
This document is not authority approved.

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SECTION FM

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List of Effective Data Modules

All DMC are preceded with 12-C 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
A15-00-0000-00A-002A-A	List of Effective Data Modules	C	10.10.2024
A15-00-0000-01A-003A-A	Log of Revisions	C	10.10.2024
A15-00-0102-00A-018A-A	Introduction		19.12.2022
A15-00-0106-00A-030A-A	Aircraft Classification Number		19.12.2022
A15-20-0802-01A-174A-A	Towing		19.12.2022
A15-20-0802-02A-170A-A	Parking	C	09.10.2024
A15-20-0803-01A-173A-A	Mooring		19.12.2022
A15-20-0811-00A-160A-A	Cargo - Loading/Unloading procedure		19.12.2022
A15-20-0806-01A-210A-A	Inflate Tires		19.12.2022
A15-20-0806-02A-221A-A	Fuel - Defuel and Drain Fuel		01.05.2023
A15-20-0806-03A-211A-A	Refuel		19.12.2022
A15-20-0807-01A-250A-A	Windows - Clean and Check		19.12.2022
A15-20-0807-02A-254A-A	Exterior - Clean		19.12.2022
A15-20-0807-02A-254B-A	Exterior - Clean With Water	N	10.10.2024
A15-20-0807-03A-254A-A	Interior - Clean		19.12.2022
A15-20-0807-04A-226A-A	Waste / Water System Servicing		19.12.2022
A15-20-0807-06A-260A-A	Cold Weather Procedures (Deicing / Anti-Icing)		19.12.2022

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Log of Revisions

Revision number and Date	Date Module Code	Description
Issue 001 Revision 00 Dated Dec 19/2022	ALL	PC-12 Ground Servicing Guide Initial Issue.
Issue 001 Revision 01 Dated May 01/2023	PC12-A-A15-20-0806-02-A-221-A-A	Aircraft fuel - Defuel and drain fuel, updated for user applicability.
Issue 001 Revision 02 Dated Oct 10/2024	PC12-A-A15-20-0802-02-A-170-A-A PC12-A-A15-20-0807-02-A-254-B-A	Aircraft Parking - Handling, updated for alternative linked intake / exhaust blanks added Exterior - Clean with water, 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-12 aircraft.

The GSG is written under the assumption that the users of this guide have previous aircraft experience and are familiar with basic aircraft systems common to aircraft of this type. This document does not contain basic information considered pre-requisite training.

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

The GSG is not an authority approved document.

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

3 Purpose

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.

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.

The purpose of the GSG is to provide FBOs with the information necessary to perform essential servicing of the PC-12 aircraft, and assumes that servicing personnel are not type-rated but have a good knowledge and skill level of aircraft systems.

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The GSG gives the flight crew with general guidance of requirements for FBO servicing. This is a requirement during the handling and the servicing of the aircraft while away from the 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.

4 Revisions

4.1 Revision Schedule

As new information becomes available for the PC-12 aircraft, Pilatus Aircraft Ltd. will issue revised information and instructions to keep the contents of the GSG current. This information may relate to, but is not limited to, approved modifications or improved knowledge, operating techniques or other guidance acquired through in-service experience.

4.2 Revision Service

For information on obtaining revision services for publications applicable to the Pilatus PC-12 aircraft, contact Pilatus Aircraft Ltd. as follows:

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

5 Aircraft Dimensions

For general information, the aircraft dimensions are shown in Fig. 0-1-1.

The turning radii are shown in Fig. 0-1-2 and Fig. 0-1-3.

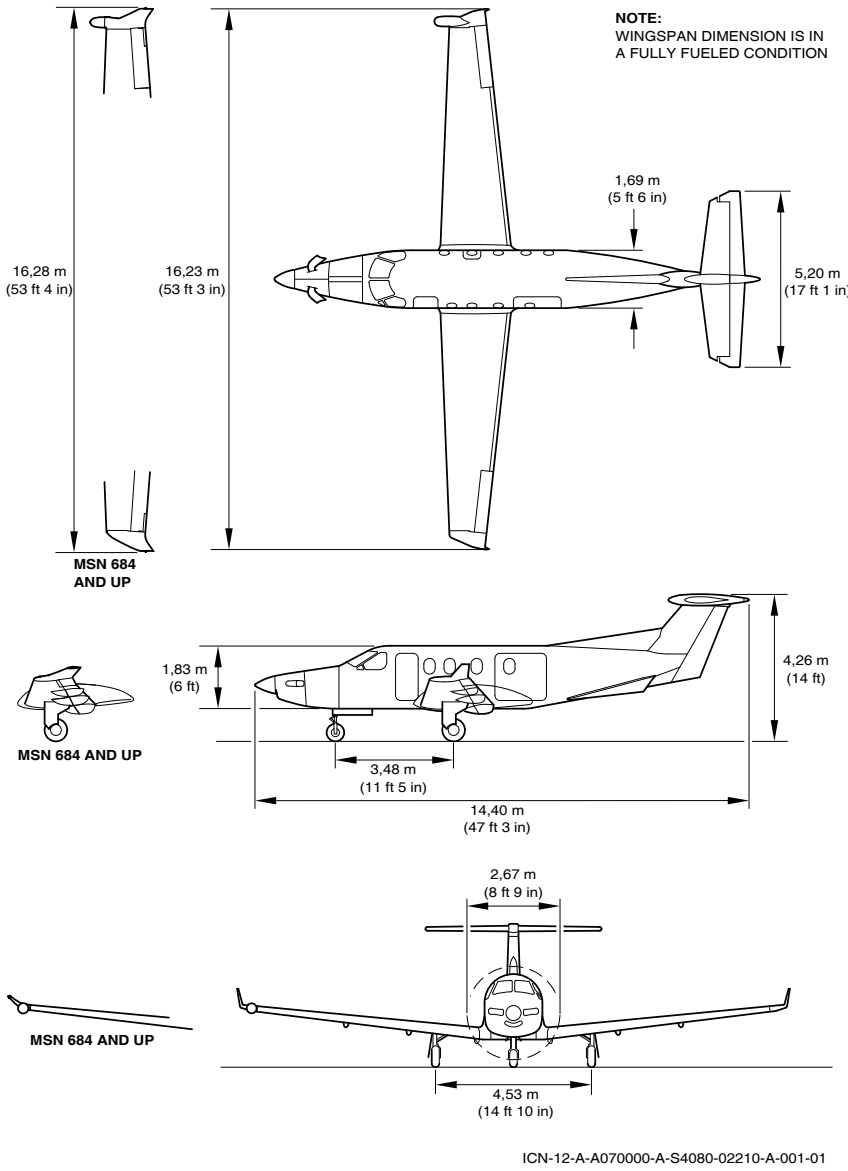
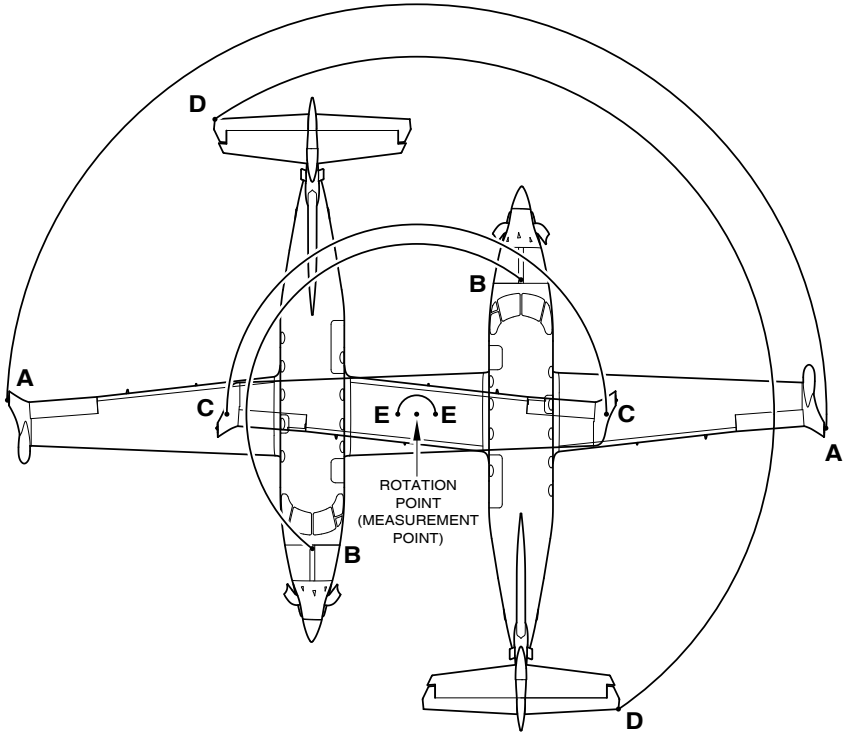


Figure 0-1-1: Aircraft Dimensions



NOTE: Ground turning radius using nosewheel steering, inside brake and partial power.		
A. WING TIP RADIUS	35' 7"	10,864 m
B. NOSEWHEEL RADIUS	14' 10"	4,513 m
C. OUTSIDE MAIN GEAR RADIUS	16' 6"	5,03 m
D. TAIL RADIUS	31' 1"	9,475 m
E. INSIDE MAIN GEAR RADIUS	19.5"	0,5 m

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Figure 0-1-2: Aircraft Ground Turning Clearance - NWS and Braking

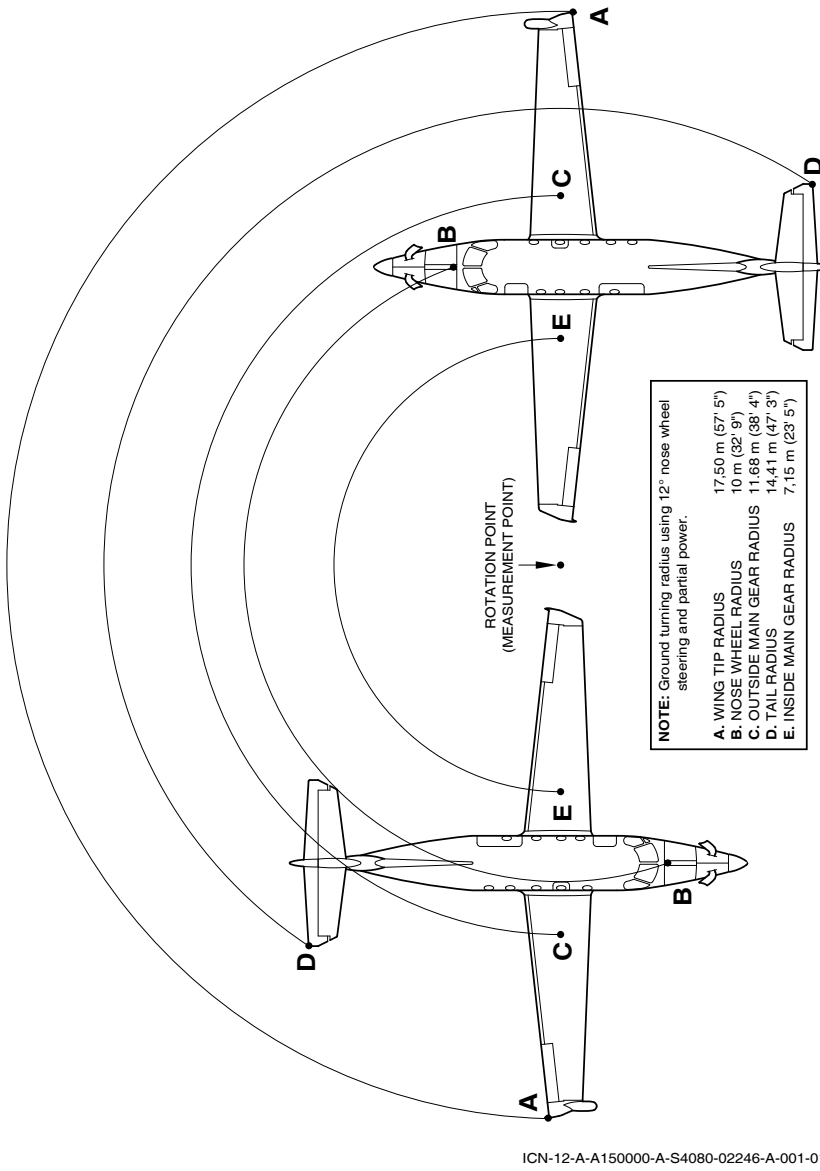

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Figure 0-1-3: Aircraft Ground Turning Clearance - NWS Only (No Braking)

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6 Danger and Hazard Areas

Refer to Fig. 0-1-4 thru Fig. 0-1-7.

When the engine is running, there are danger areas from:

- The propeller
- The engine exhausts
- The propeller wash
- The engine air intake
- The pitot probes and static ports
- The high intensity strobe lights.

7 Runway Guidelines

Note

A wet runway is defined as a runway that has a surface covered with:

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

The following surfaces can be used for take-off and landing:

Table 0-1-1: Runway Guidelines

Description	Aircraft	Surface
Approved take-off and landing surfaces	All aircraft	Dry and wet paved runways
		Prepared dirt-sand-gravel runways, dry and wet (refer to the Pilots Operating Handbook Section 10)
		Grass runways, dry and wet (refer to the Pilots Operating Handbook Section 10)
Non-authority approved take-off and landing surfaces	All aircraft	Narrow runways
		Prepared compacted snow-gravel mix runways, dry and wet (refer to the Pilots Operating Handbook Section 10)

8 Weight Guidelines

WARNING

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

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

Table 0-1-2: Weight Limits MSN 101 - 160 Pre SB 04-001

Description	Weight kg (lb)
Maximum ramp weight	4120 (9083)
Maximum take-off weight	4100 (9039)
Maximum landing weight	4100 (9039)
Maximum zero fuel weight	3700 (8160)

Table 0-1-3: Weight Limits MSN 161 - 544, 546 - 683 and MSN 101 - 160 Post SB 04-001

Description	Weight kg (lb)
Maximum ramp weight	4520 (9965)
Maximum take-off weight	4500 (9921)
Maximum landing weight	4500 (9921)
Maximum zero fuel weight	4100 (9039)

Table 0-1-4: Weight Limits MSN 545, 684 - 888, 1001 and Up

Description	Weight kg (lb)
Maximum ramp weight	4760 (10495)
Maximum take-off weight	4740 (10450)
Maximum landing weight	4500 (9921)
Maximum zero fuel weight	4100 (9039)

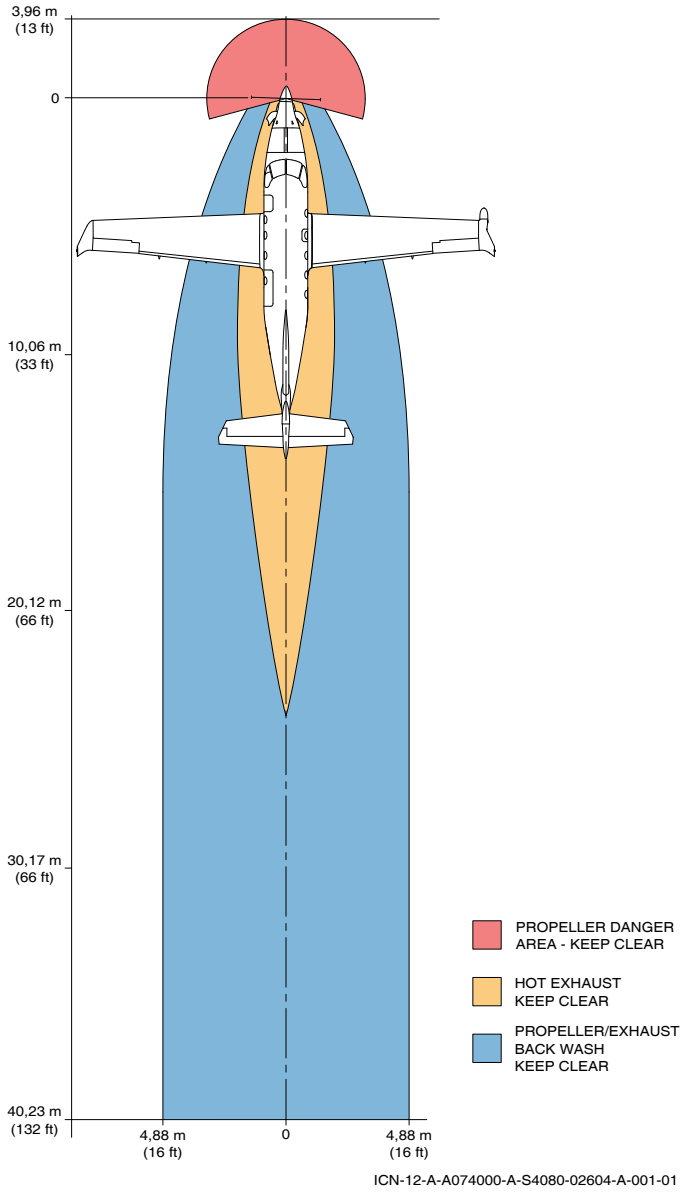

Figure 0-1-4: Hazard Areas - Engine Operating

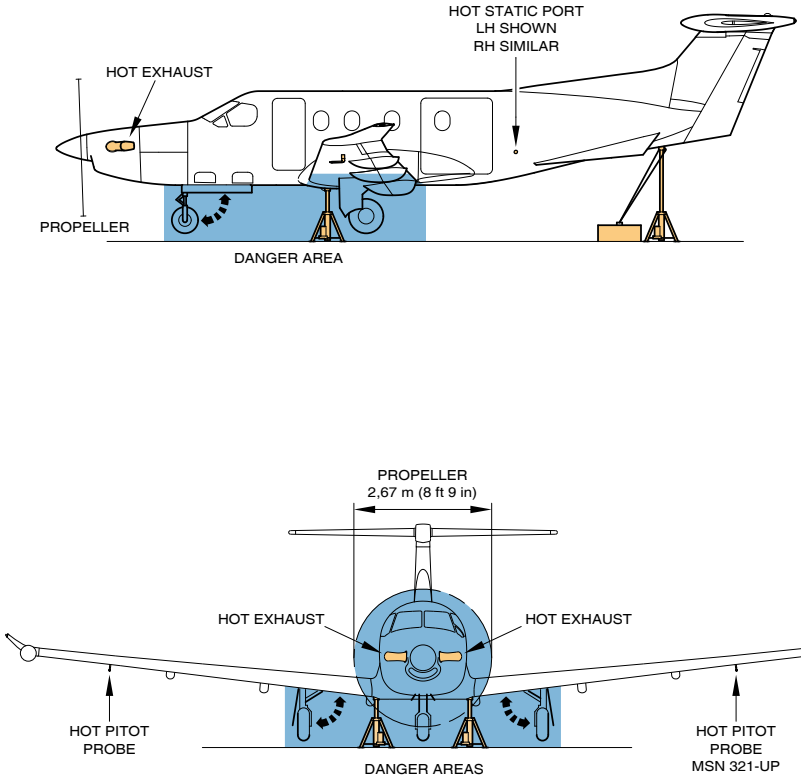

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Figure 0-1-5: Danger Zones

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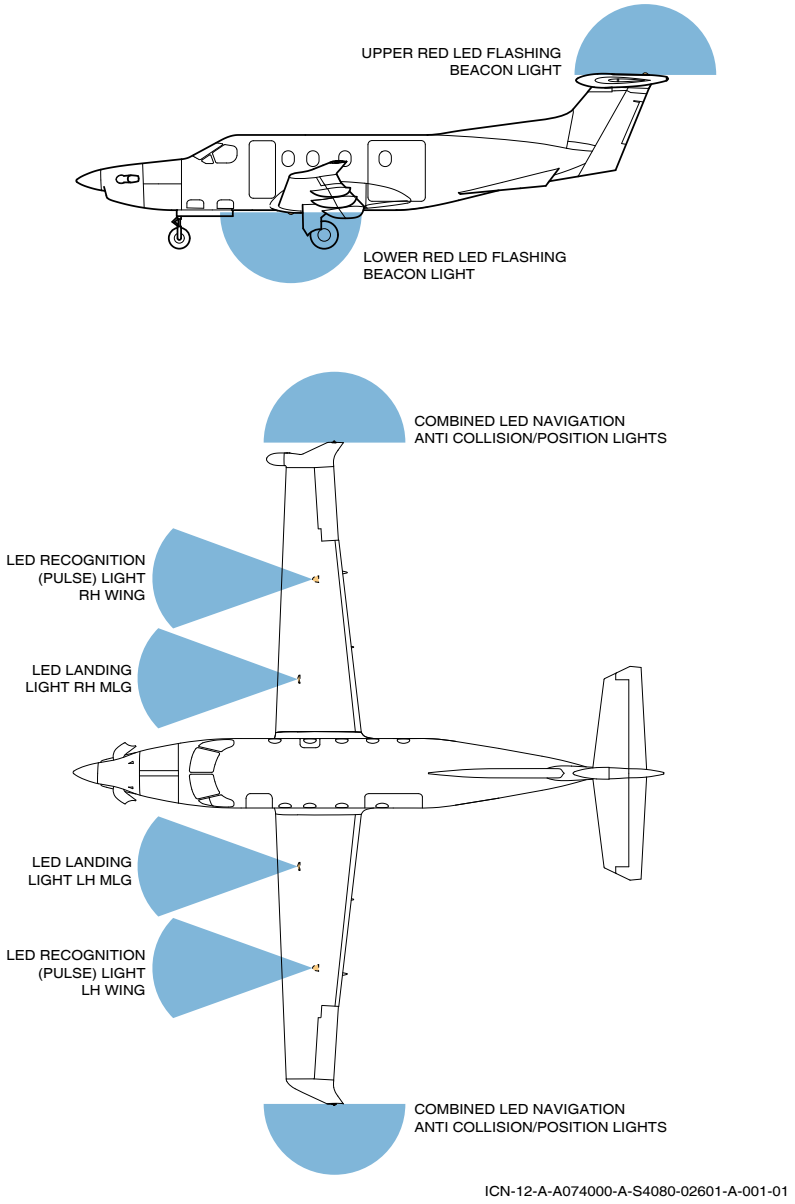


Figure 0-1-6: High Intensity Lights

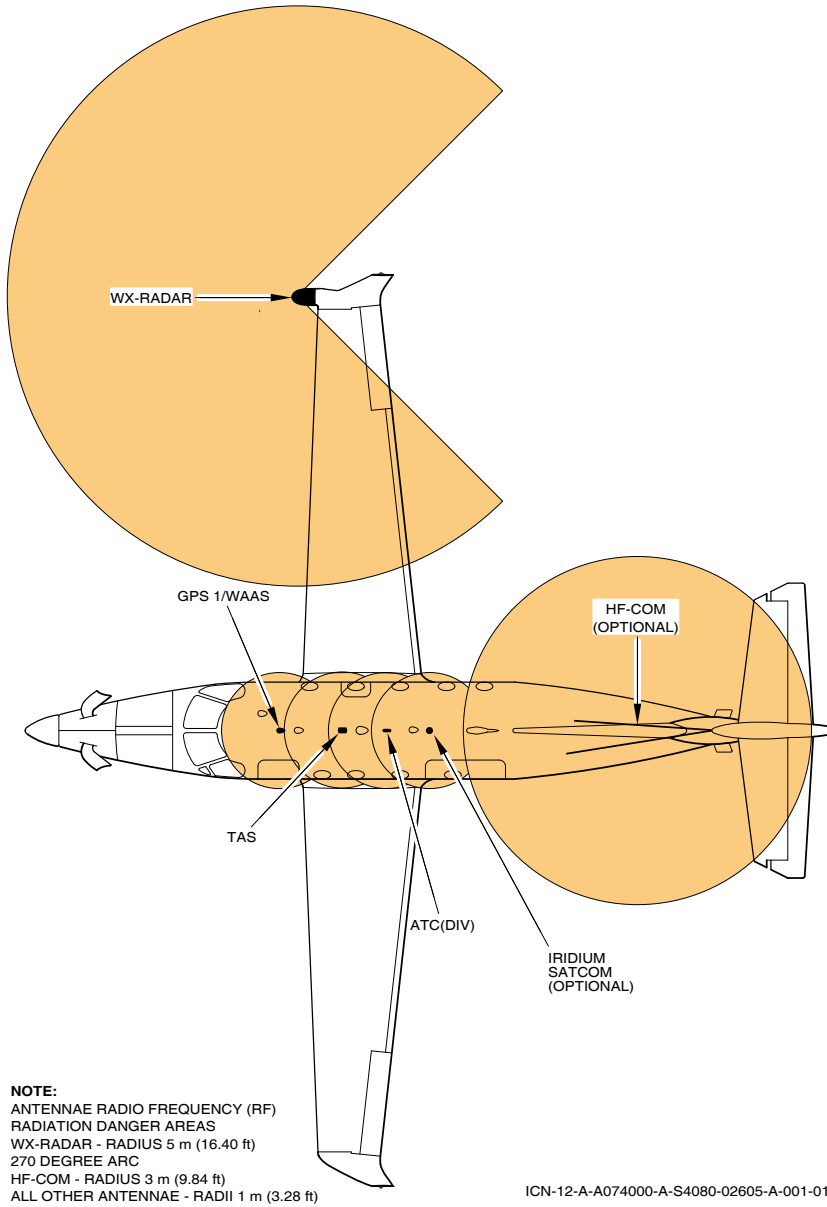
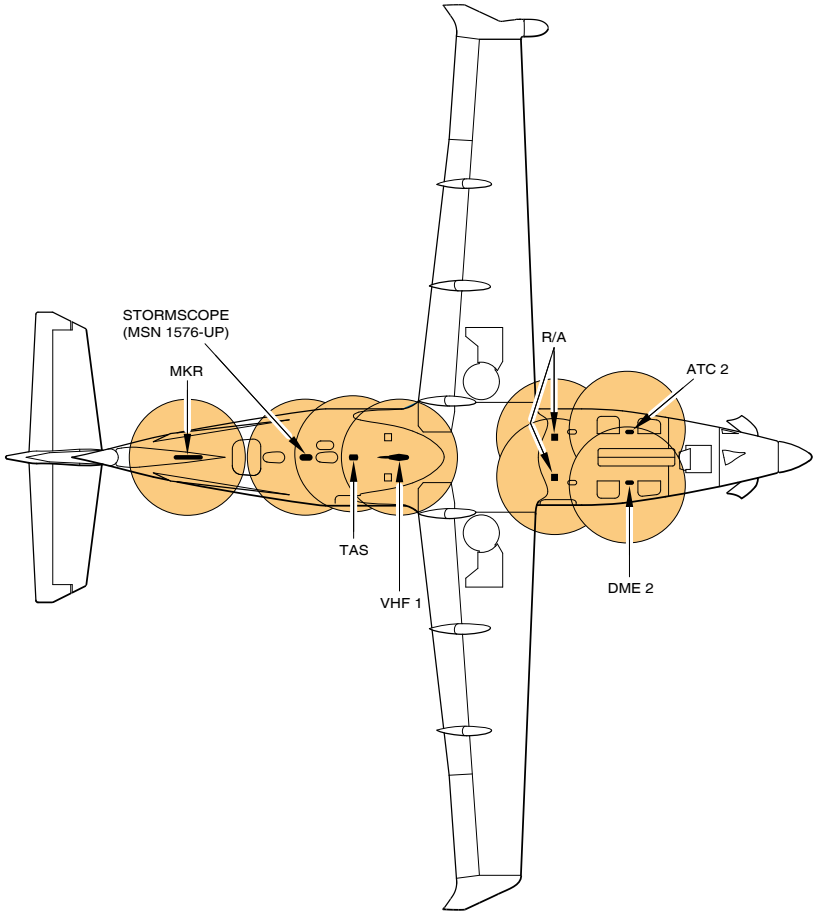


Figure 0-1-7: Typical Antenna Hazard Areas (Sheet 1 of 4)



NOTE:
ANTENNAE RADIO FREQUENCY (RF) RADIATION DANGER AREAS
ANTENNAE - RADII 1 m (3.28 ft)

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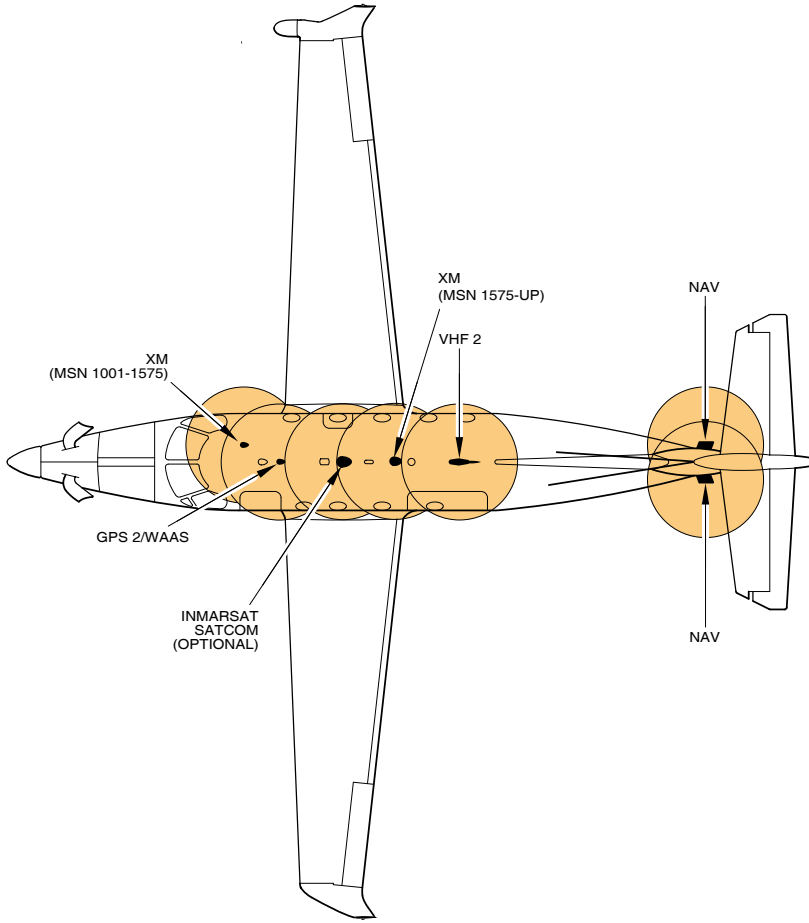
Figure 0-1-7: Typical Antenna Hazard Areas (Sheet 2 of 4)



NOTE:
ANTENNAE RADIO FREQUENCY (RF) RADIATION DANGER AREAS
ANTENNAE - RADII 1 m (3.28 ft)

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Figure 0-1-7: Typical Antenna Hazard Areas (Sheet 3 of 4)

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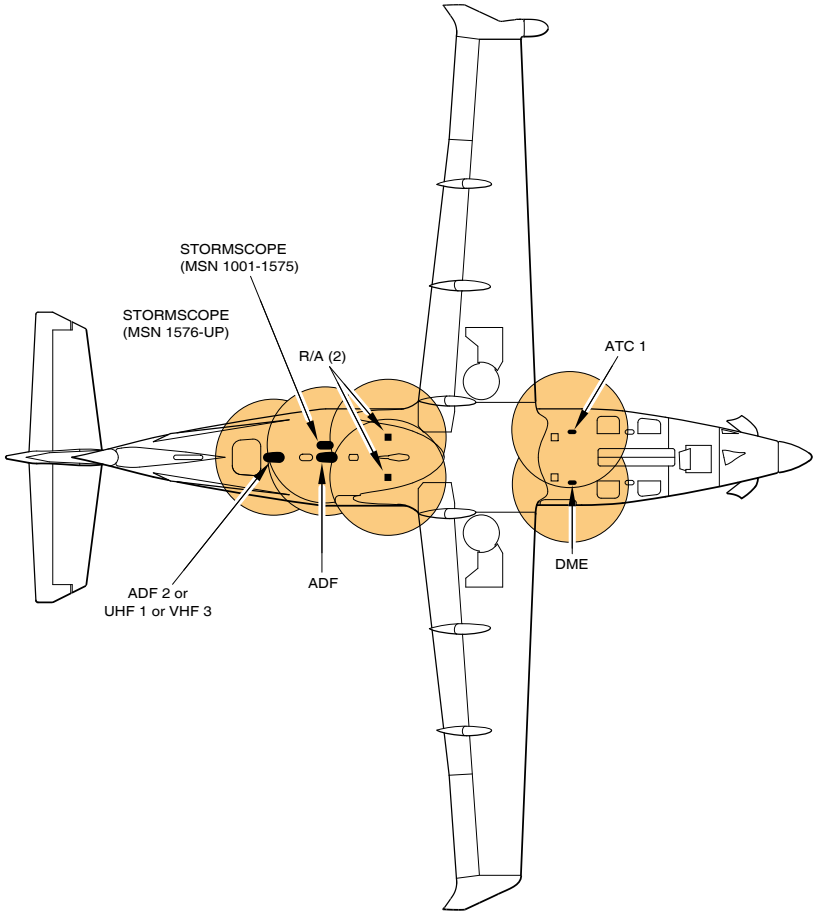

NOTE:
ANTENNAE RADIO FREQUENCY (RF) RADIATION DANGER AREAS
ANTENNAE - RADIUS 1 m (3.28 ft)

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Figure 0-1-7: Typical Antenna Hazard Areas (Sheet 4 of 4)

Aircraft Classification Number

1 Aircraft Classification Number

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

Aircraft can operate without restrictions on a certain pavement if both of the following conditions are true:

- The ACN is equal to or lower than the Pavement Classification Number (PCN)
- The main wheel tire pressure is below the tire pressure limit.

2 Pavement Type Code

The Pavement Type Code expresses the bearing strength of a pavement for unrestricted operation. The Pavement Type Code has these values:

Pavement Type Code	
Pavement Classification Number (PCN)	A number expressing the bearing strength of a pavement for unrestricted operation
Pavement type	F (Flexible pavement, e.g. asphalt) R (Rigid pavement, e.g. concrete)
Subgrade strength	A (high subgrade strength) B (medium subgrade strength) C (low subgrade strength) D (ultra low subgrade strength)
Tire pressure limit	W (no tire pressure limit) X (tire pressure limited to 218 psi) Y (tire pressure limited to 145 psi) Z (tire pressure limited to 73 psi) **Note** The PC-12 nose and main wheel tires have a service pressure of 60 psi (nose wheel), 55 psi (PC-12 main wheel) or 60 psi (PC-12/45 and PC-12/47 main wheel). Therefore PC-12 aircraft will never be tire 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.

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3 Determination of Allowed Operation on the Runway

To determine if an aircraft can operate without restrictions on a pavement:

1 From the Pavement Type Code, determine the:

- Pavement Classification Number (PCN)
- Pavement type
- Subgrade strength
- Tire pressure limit
- PCN evaluation method.

2 Determine the Aircraft Classification Number (ACN):

- Determine the maximum operating weight of the aircraft
- Select the applicable chart according to the pavement type
- Find the weight on the horizontal axis
- Find the intersection with the applicable Subgrade strength line
- On the vertical axis find the applicable ACN.

3 Determine the main wheel tire pressure.

4 The aircraft can operate without restrictions on the pavement if the ACN is equal to, or lower than the PCN and the main wheel tire pressure is below the tire 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.

3.1 Example

This example shows how to find if an aircraft can operate without restrictions on the pavement that follows:

- Pavement Type Code for a paved runway = PCN 20 / F/ D / Y / T
- Aircraft weight = 9000 lb
- Main wheel tire pressure = 60 psi.

1 The Pavement Type Code gives:
   - A PCN of 20 for a flexible pavement (F)
   - Ultra low subgrade strength (D)
   - 145 psi tire pressure limit (Y)
   - PCN evaluation is technical (T).

2 Find the ACN:
   - The aircraft operating weight is given as 9000 lb
   - From the chart Fig. 0-2-1 find 9000 lb on the horizontal axis
   - Find the intersection on the D - ULTRA LOW line
   - Look on the vertical axis to find the ACN. In this case the ACN is 3.27.

3 The main wheel tire pressure is given as 60 psi.

4 The ACN of 3.27 is lower than the given PCN of 20. The main wheel tire pressure is below the tire pressure limit of 145 psi.

5 The aircraft can operate without restrictions on the pavement.

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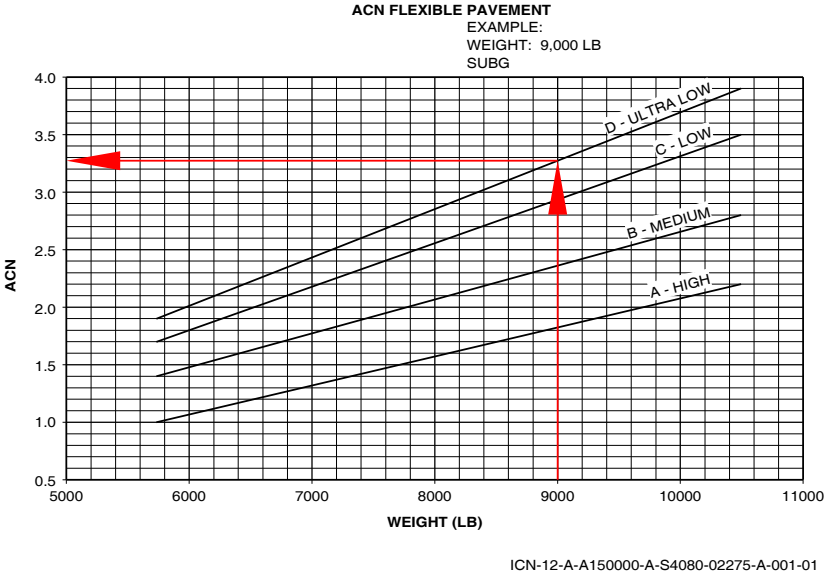

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Figure 0-2-1: Aircraft Classification Number - Flexible Pavement

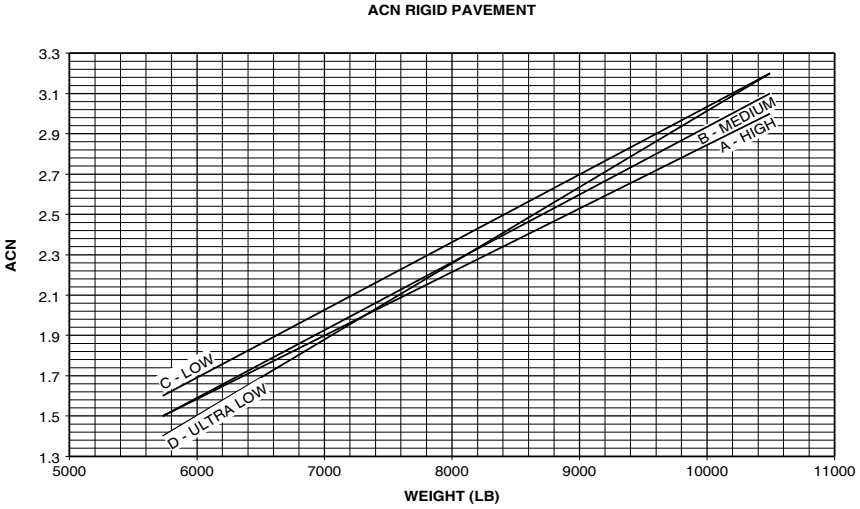

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Figure 0-2-2: Aircraft Classification Number - Rigid Pavement

SECTION 1
Ground Handling
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Towing

1 Preliminary Requirements and Safety Precautions

WARNING

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

WARNING

IF YOU USE A TOWBAR-LESS TOW VEHICLE, OBEY THE VEHICLE MANUFACTURER'S INSTRUCTIONS TO PREVENT DAMAGE TO THE AIRCRAFT AND THE TOW VEHICLE.

WARNING

IF YOU LIFT THE NOSEWHEEL TO MOVE THE AIRCRAFT, DO NOT LIFT THE NOSEWHEEL MORE THAN 75 MM (2.95 IN). IF YOU LIFT THE NOSEWHEEL HIGHER YOU CAN CAUSE DAMAGE TO THE NOSE LANDING GEAR AND/OR THE AIRCRAFT.

CAUTION

DO NOT USE THE AIRCRAFT BRAKES DURING THE TOW OPERATION. IF YOU USE THE AIRCRAFT BRAKES YOU CAN DAMAGE THE AIRCRAFT STRUCTURE.

CAUTION

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

Note

Do not use the steering bar/tail stand to tow the aircraft. The steering bar/tail stand is for steering only when the aircraft is moved by hand.

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

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The PC-12 aircraft has a steering bar/tail stand installed in the rear fuselage, refer to Fig. 1-1-1.

3 Tow Guidelines

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

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

Make sure that:

- All personnel are competent to do the tow operation and know the safety precautions
- The tow vehicle and related equipment are suitable for the aircraft
- The tow route is clear of objects
- The passenger door and the cargo door are closed.

Note

A tow bar or towing equipment that fits correctly can be used. Make sure that it has sufficient towing weight/capacity.

Note

You can lift the nosewheel to tow the aircraft. If you lift the nosewheel, do not lift it more than 75 mm (2.95 in).

When the aircraft is towed, make sure that:

- Personnel are in position
- The person in control can see the personnel at all times
- The parking brake is released
- You tow the aircraft slowly
- The NLG does not turn to an angle more than the limits shown on the NLG placard.

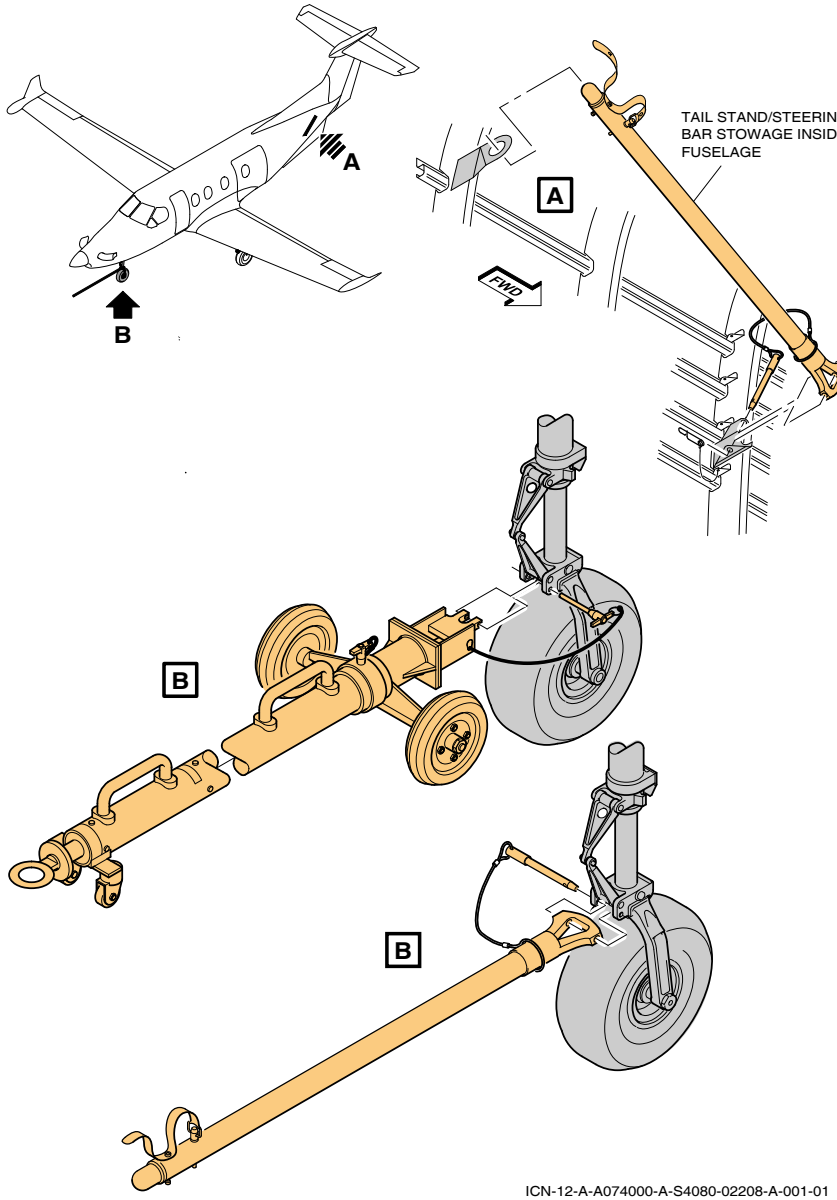

Figure 1-1-1: Tow the Aircraft

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Parking

1 Preliminary Requirements and Safety Conditions

CAUTION

DO NOT PARK THE AIRCRAFT IN DIRECT SUNLIGHT IN 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.

CAUTION

IF THE AIRCRAFT IS PARKED FOR A LONG PERIOD OF TIME WITH TEMPERATURES BELOW FREEZING, APPLY APPROXIMATELY 59 CC (2 OZ) OF ISOPROPYL ALCOHOL TO THE OUTER DIAMETER OF THE BRAKE ASSEMBLY WITH A SPRAY BOTTLE. APPLY THE ALCOHOL WHEN THE BRAKE ASSEMBLY IS SUFFICIENTLY COOL TO TOUCH BUT BEFORE IT IS COLD.

CAUTION

MAKE SURE THAT THE NOSEWHEEL IS CENTERED AND THE RUDDER IS IN THE NEUTRAL POSITION WHEN YOU PARK THE AIRCRAFT.

2 Recommended Support Equipment

All the covers and equipment for parking are stowed on the aircraft in the covers and blanks bag in the baggage compartment.

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3 Parking Guidelines

Select a parking location:

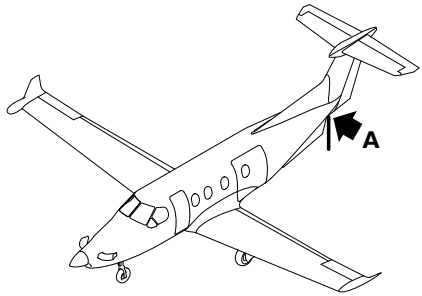
- On a hard, level surface
- If possible, not in direct sunlight
- With the aircraft nose into wind.

When the aircraft is in the correct parking location:

- Move the nosewheel to the center position
- Make sure that the rudder is in the neutral position. If necessary, move the nosewheel until the rudder is centered
- Set the parking brake to on
- Put wheel chocks in front of and behind the nose and main wheels
- Set the parking brake to off
- Make sure that the aircraft electrical system is de-energized
- The flight crew engage the flight control gust lock
- Install the tail strut, refer to Fig. 1-2-1
- Install the lock pin in the overwing emergency exit
- Close the passenger door and the cargo door. Lock the passenger door and the cargo door
- Make sure that all access panels and doors are closed
- Connect a ground cable to the Nose Landing Gear (NLG) ground point if a ground cable is available
- Install the aircraft covers, refer to Fig. 1-2-2, Fig. 1-2-3 or Fig. 1-2-4

Moor the aircraft:

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



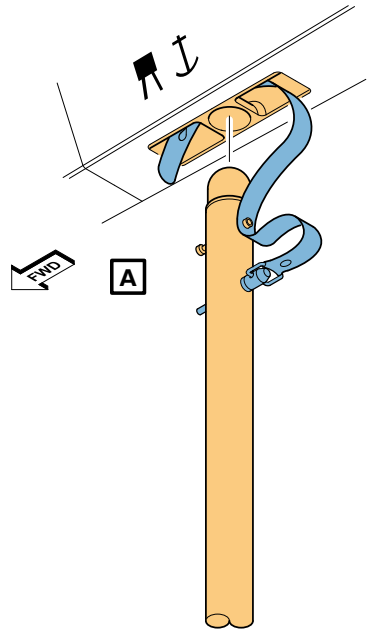


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Figure 1-2-1: Install the Tail Stand

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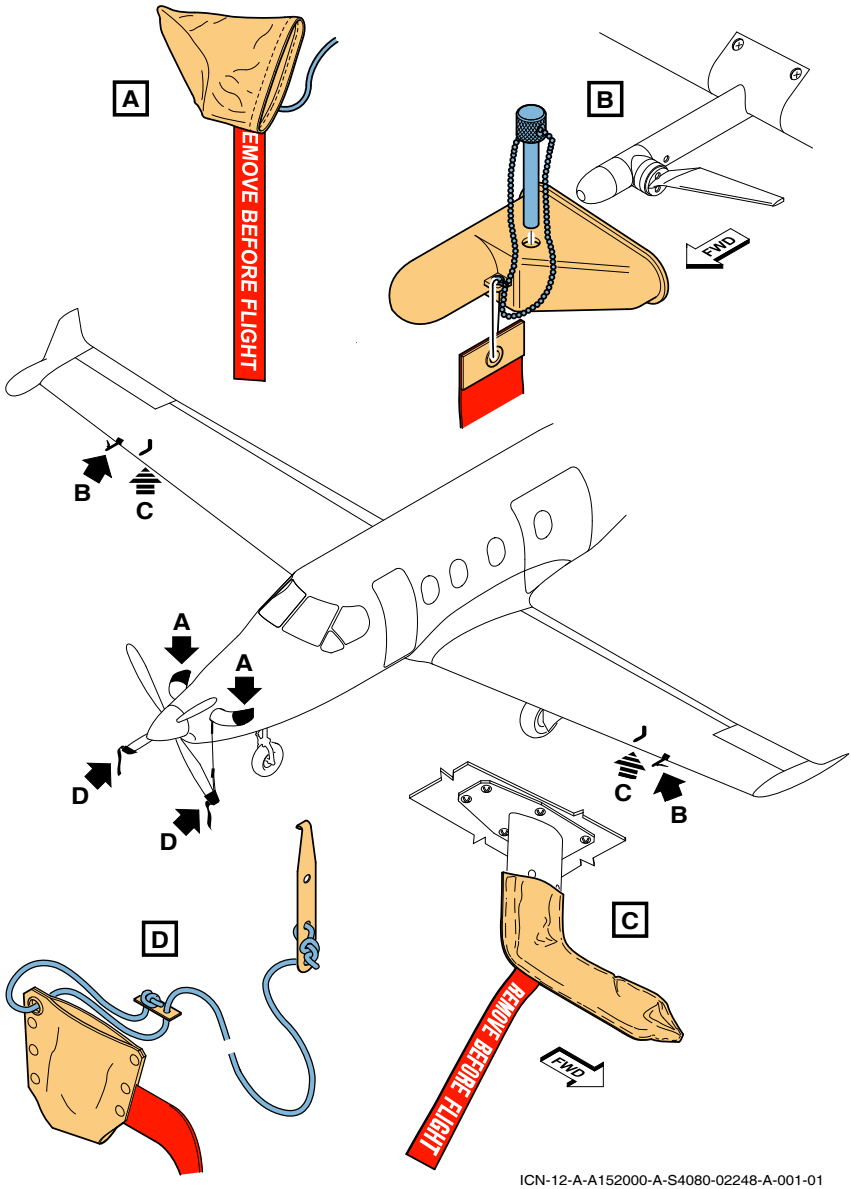

Figure 1-2-2: Install Blanks and Covers (Original Equipment) (Sheet 1 of 2)

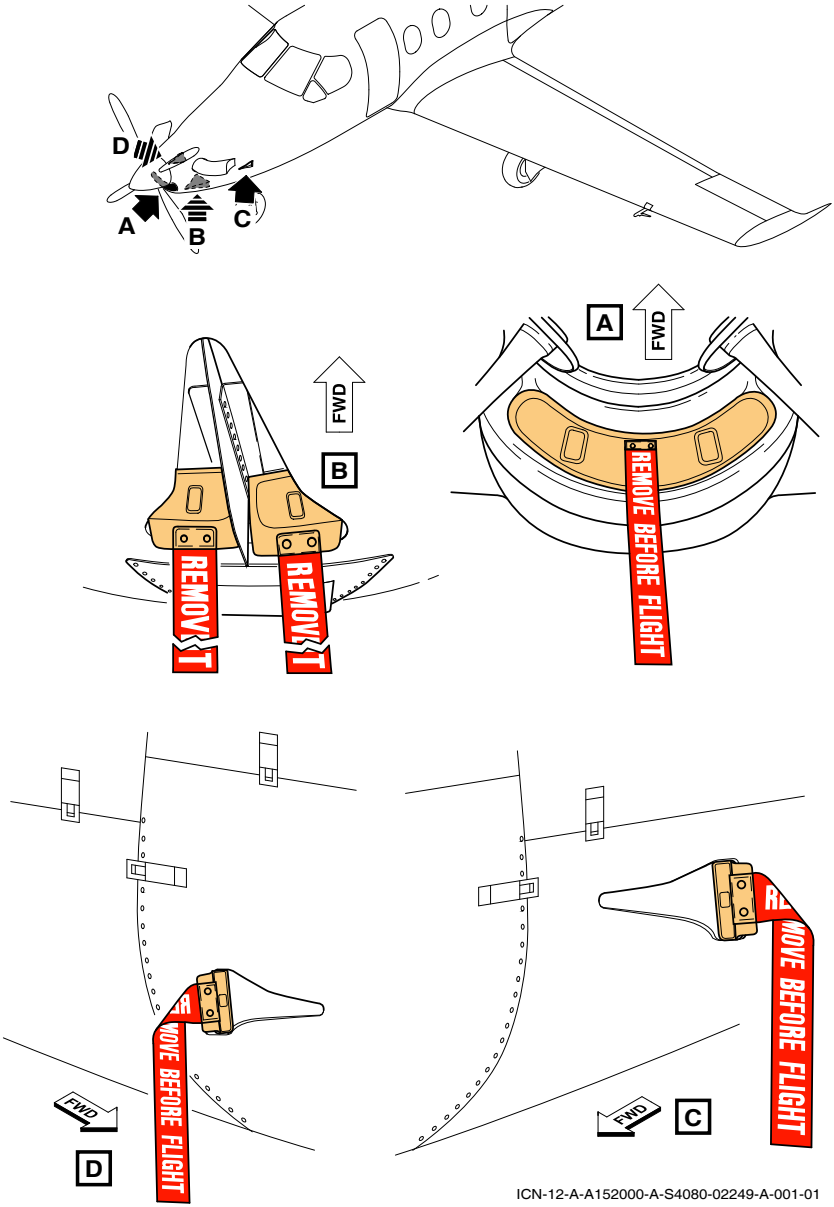

Figure 1-2-2: Install Blanks and Covers (Original Equipment) (Sheet 2 of 2)

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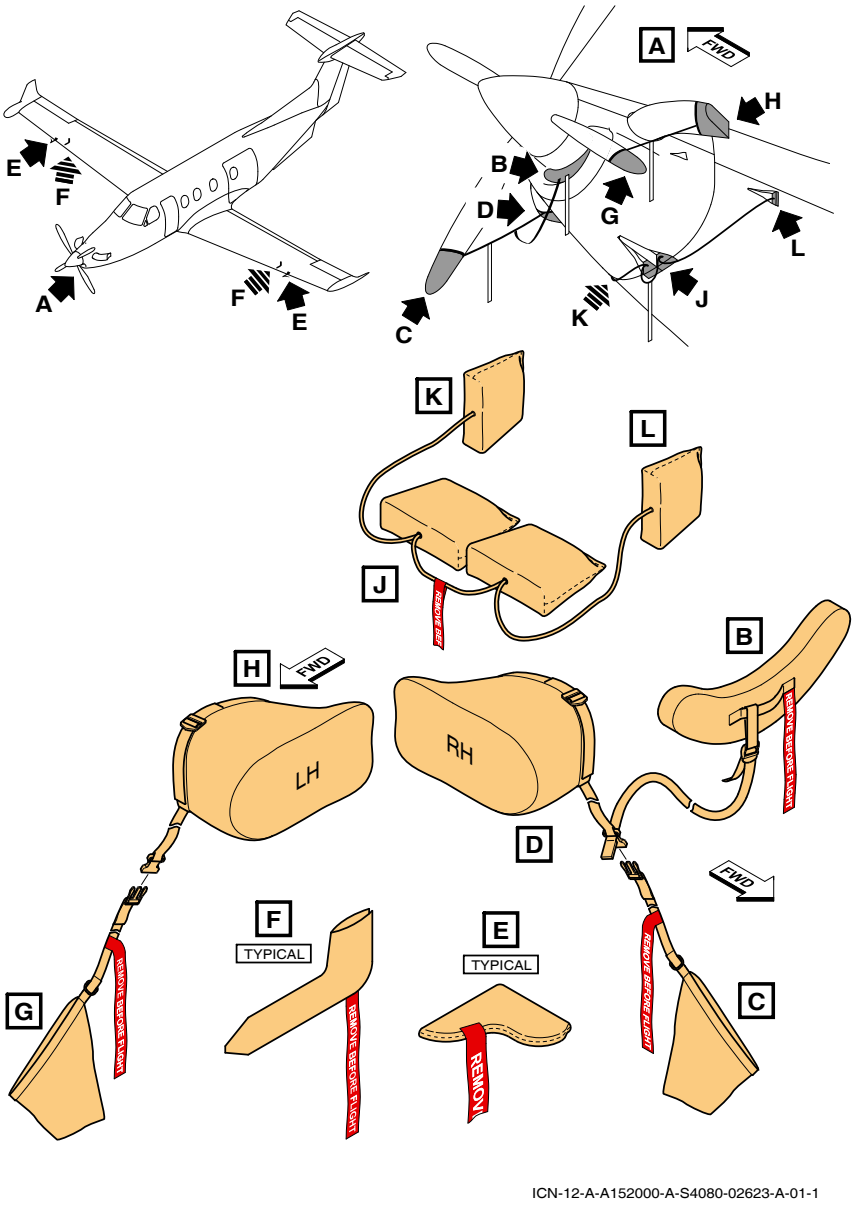

Figure 1-2-3: Install Blanks and Covers (New Standard)

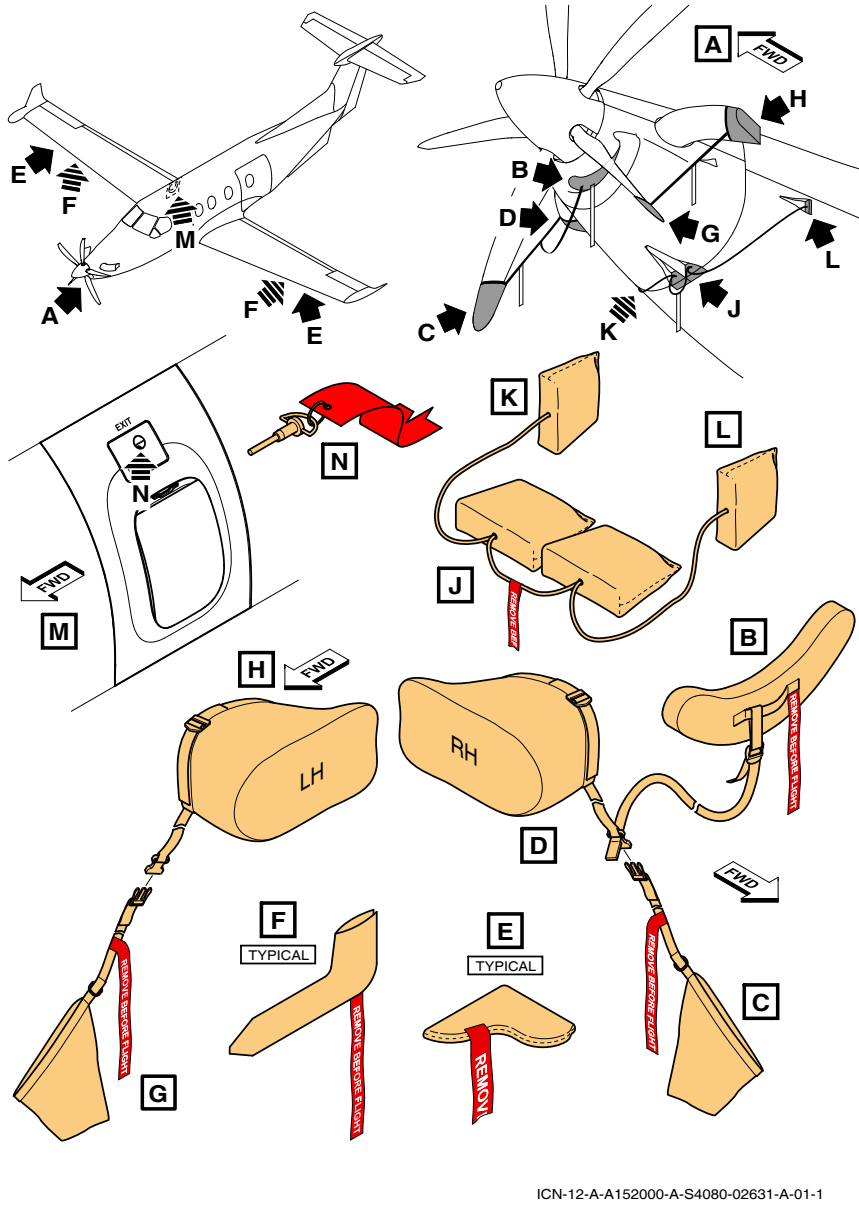

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Figure 1-2-4: Blanks and Covers - Five-Bladed Propeller

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Mooring

1 Preliminary Requirements and Safety Conditions

CAUTION

MAKE SURE THAT THE ROPE IS TIGHT WHEN IT IS ATTACHED TO THE AIRCRAFT AND THE GROUND MOORING POINTS. THIS WILL HELP TO PREVENT DAMAGE TO EQUIPMENT.

CAUTION

USE ONLY SPIKE PICKETS APPROVED FOR USE ON FINE SOIL. USE ONLY SCREW PICKETS APPROVED FOR USE ON CLAY SOIL OR ROCK SURFACES. IF YOU USE UNSUITABLE PICKETS, THE PICKETS CAN PULL OUT OF THE GROUND, LOOSEN THE GROUND MOORING ROPES, THE AIRCRAFT CAN THEN MOVE AND BE DAMAGED.

CAUTION

MAKE SURE THAT THE PROPELLER RESTRAINT IS INSTALLED TO PREVENT POSSIBLE ENGINE DAMAGE DUE TO WINDMILLING WITH ZERO OIL PRESSURE.

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
Mooring blocks (minimum 91 kg [200 lb] each)	Local supply
Rope (20 mm [0.75 in] diameter)	Local supply
Spike picket	Local supply
Screw picket	Local supply

3 Mooring Guidelines

Follow the guide lines to park the aircraft in a suitable mooring location.

The mooring points are shown in Fig. 1-3-1. The four mooring points on the aircraft are:

- The nose landing gear leg
- The rear jack point
- The left and the right wing.

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If necessary, make the tie-down points in the mooring area:

- On a hard surface, use the mooring blocks
- On a fine soil base, use the spike pickets
- On a clay soil or rock surface, use the screw pickets.

Note

For the wing tie-down points, the tie-down ropes are to be at an angle of approximately 45°, at the tail tie-down point a maximum angle of 25° to the ground.

Moor the aircraft, refer to Fig. 1-3-1:

1 Attach the ropes to the wing tie-down points and the ground tie-down points.

Note

Use bowline knots, square knots or locked slip knots. Do not use plain slip knots.

2 For the nose landing gear leg, wind the rope around the leg once, then attach the rope to the tie-down points.

3 Attach the ropes to the tail jack point and the ground tie-down points.

4 If required, install the tail strut, refer to Fig. 1-3-2.

5 If not installed, install the propeller boots on the propeller blades.

6 Attach the propeller boot cover to the nose landing gear to prevent the engine wind-milling.

7 If not installed, install the aircraft covers and blanks.

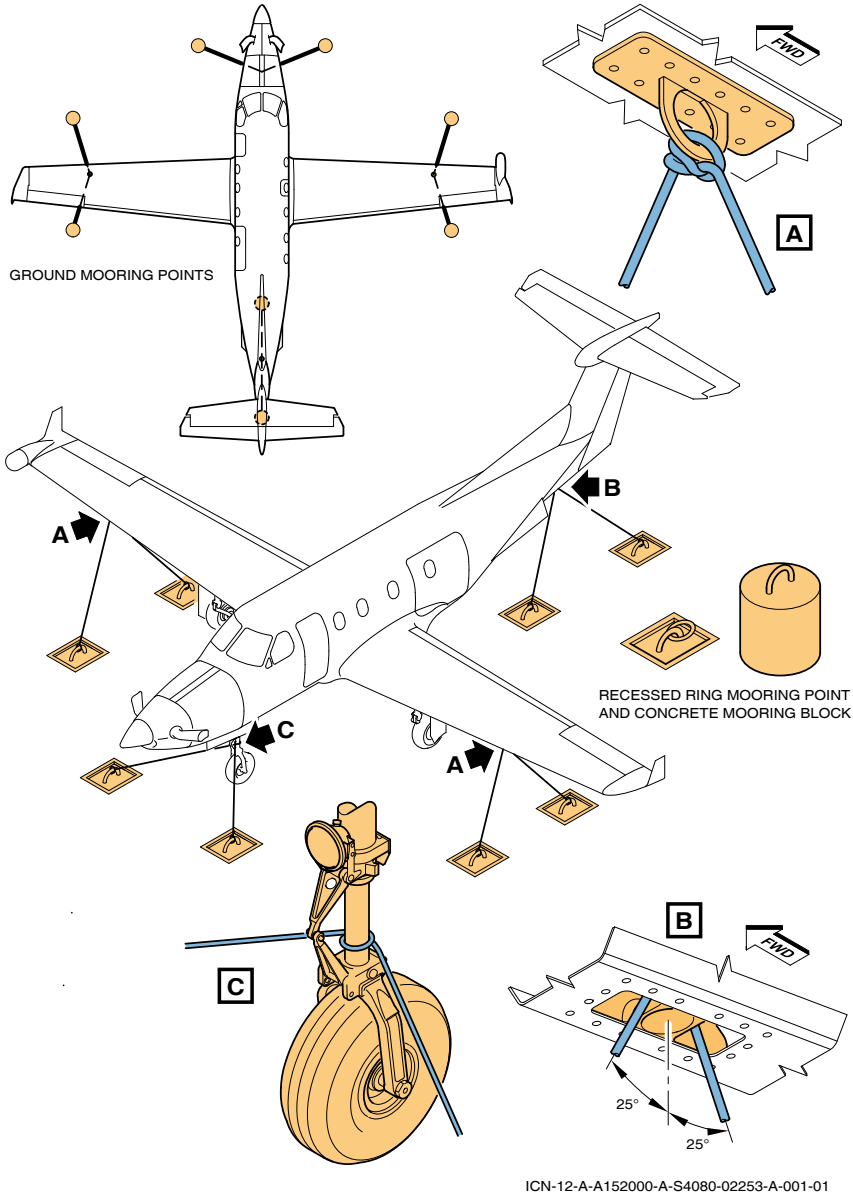

Figure 1-3-1: Aircraft Mooring

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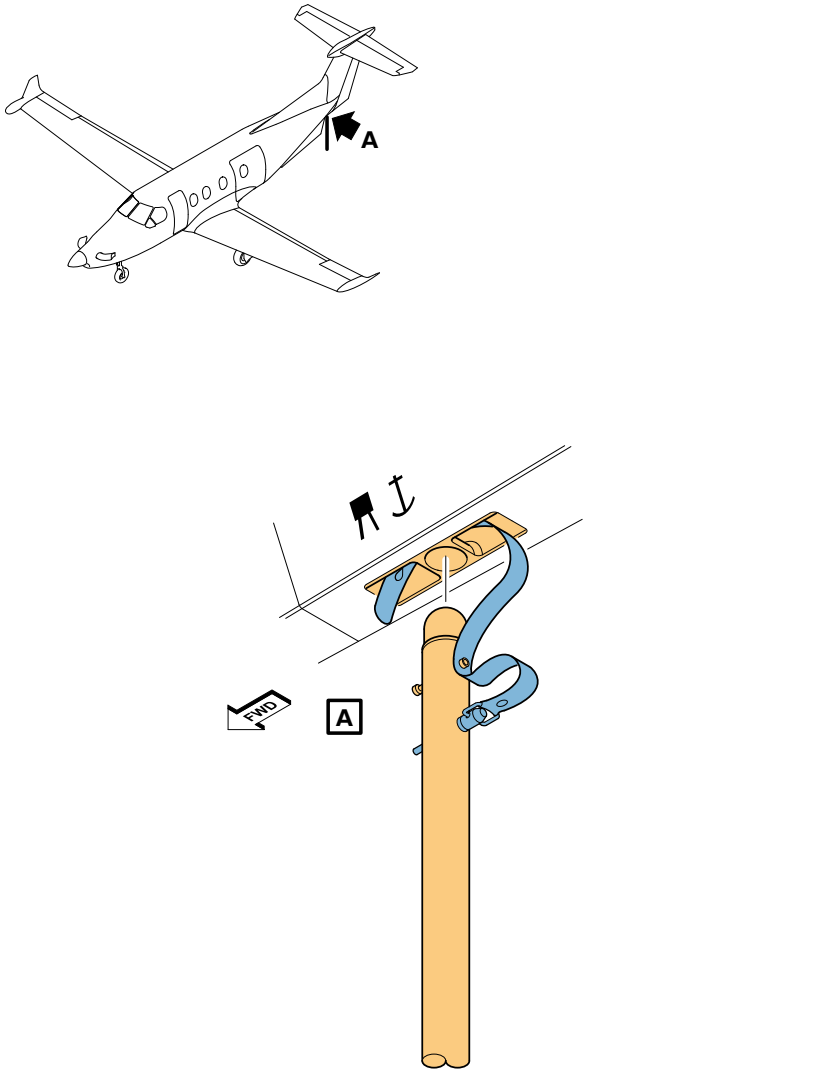

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Figure 1-3-2: Install the Tail Stand

Cargo - Loading/Unloading procedure

1 General

CAUTION

BEFORE YOU LOAD OR UNLOAD CARGO, MAKE SURE THAT THE AIRCRAFT TAIL STRUT IS INSTALLED. IF IT IS NOT, YOU CAN CAUSE DAMAGE TO THE AIRCRAFT.

The following information is intended as a guide only. Refer to the Pilot Operating Handbook (POH) Section 2 for seating and cargo limitations. The pilot in command must refer to the appropriate moment charts, loading form and the Center of Gravity (CG) envelope to make sure that the aircraft is correctly loaded.

The fuel load may be limited by maximum weight. Load fuel equally in the left and the right wing fuel tanks.

Make sure that you do not load more than the maximum limits for the floor and the seat rails. The limits are given on a placard on the forward and the rear cargo door frames.

Cargo with a weight less than 30 kg (66 lb) may be stowed aft of the cargo net. Heavier cargo must be secured in the passenger compartment area with tie-down straps that are attached to the seat rail anchor points.

1.1 Hazardous Materials

The PC-12 aircraft does not have special protection against the effects of leakage of hazardous materials. If hazardous materials are to be carried operators must consider protection against leakage.

All personnel involved in loading/unloading cargo should be trained in the handling, storage, loading and unloading of hazardous materials if such materials are to be carried.

Information and regulations for the air transportation of hazardous materials is given by:

- Code of Federal Regulations (CFR) Title 49
- International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air.

1.2 Restrain the Cargo

Refer to Fig. 1-4-1 and Fig. 1-4-2.

Install the restraint bars and the load carrier assemblies on the aircraft. If there is more than one cargo item, put the heavier items forward of the lighter items.

Put the cargo in the passenger compartment and make sure that the cargo is firmly against the restraint bars.

Install straps on the seat rails to restrain the cargo:

- The strap orientation must be fore-aft. Do not install the straps diagonally
- Install the front strap fitting as close as possible to the restraint bar
- Install the rear strap fitting to give a strap angle of between 10° and 20°, see Fig. 1-4-1
- If necessary, install additional straps laterally to straddle the center two seat rails.

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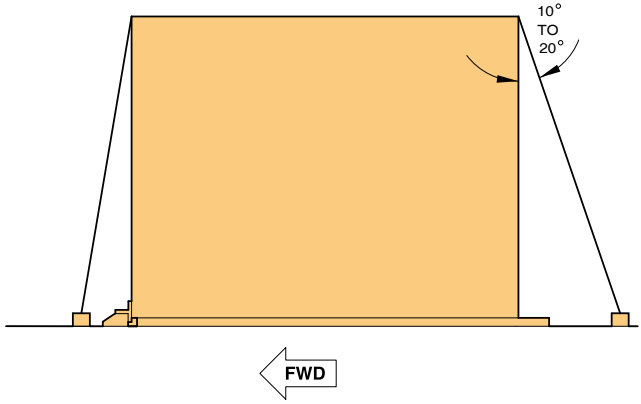

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Figure 1-4-1: Fore-Aft Strap Angles

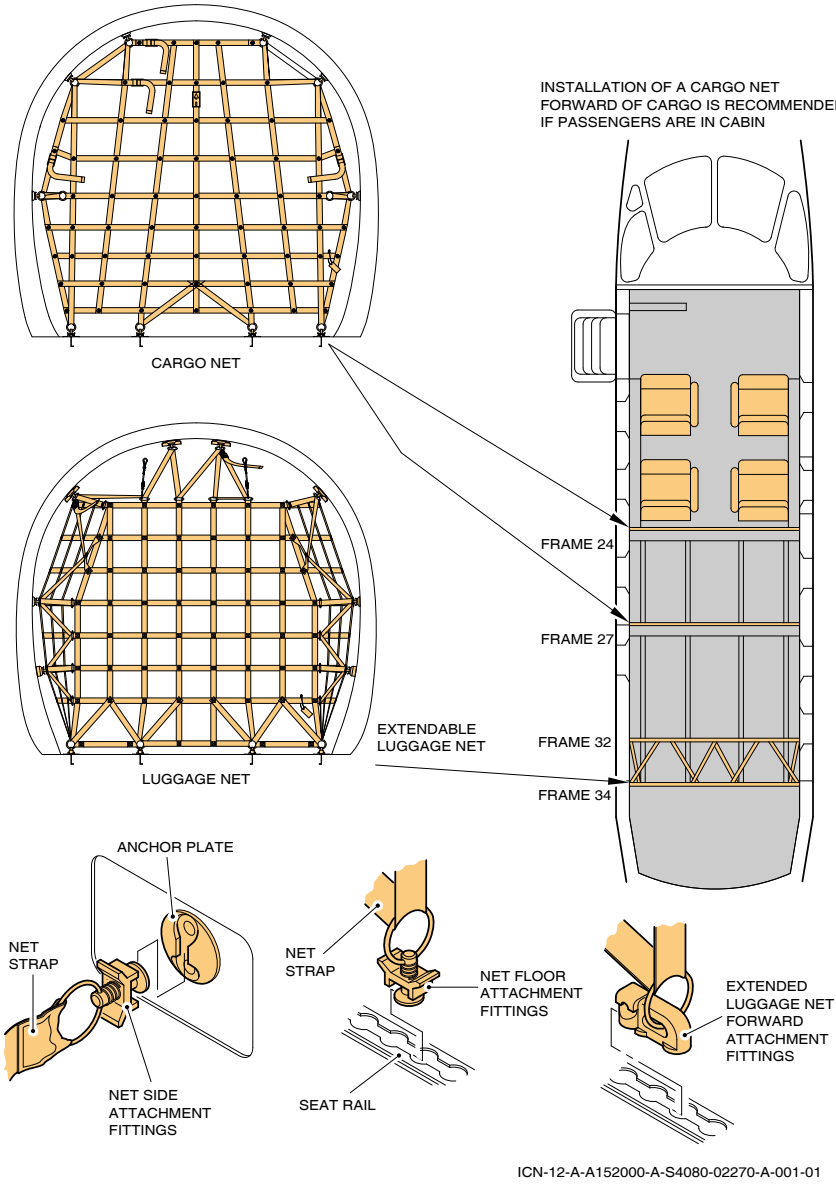

Figure 1-4-2: Cargo and Luggage Restraint Installation

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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 PERSONS. 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/OR DAMAGE TO EQUIPMENT.

WARNING

DO NOT PRESSURIZE THE TIRE TO MORE THAN THE SPECIFIED PRESSURE. YOU CAN CAUSE AN EXPLOSION WHICH CAN KILL OR INJURE PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING

DO NOT INCREASE THE TIRE PRESSURE TOO FAST. THE TIRE CAN BECOME HOT AND CAUSE AN EXPLOSION. THIS CAN KILL OR CAUSE AN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING

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

WARNING

WHEN YOU INFLATE THE TIRE, APPROACH THE TIRE FROM THE FRONT OR THE REAR ONLY. A TIRE CAN EXPLODE WHICH CAN KILL OR CAUSE AN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

Note

Do not service a hot tire. Wait until the tire is at ambient pressure.

Note

Do not identify a tire as leaking on the rate of bubbles from the tire vent holes. A leaking tire/wheel assembly is determined by the pressure loss, as measured with a calibrated gauge, over a period of time.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Tire / strut service gauge	903.70.32.911 or local supply
Nitrogen cart with booster	990.00.00.702 or local supply

3 Guidelines for Tire Inflation

Note

It is permitted to inflate tires with air if dry nitrogen is not available. The air must be removed within the next 15 flying hours and the tire inflated with dry nitrogen that does not contain more than 5% oxygen by volume.

Check and inflate the tires:

1 Connect the tire/strut service gauge to the nitrogen cart.

2 Remove the cap from the tire inflation valve.

3 Connect the tire/strut service gauge to the tire inflation valve.

4 Check the tire pressure:

- **Aircraft with maximum take-off weight of 4100 Kg** main wheel tire pressure = 3,8 +0,2 bar (55 +3 psi)
- **Aircraft with maximum take-off weight of 4500 Kg** main wheel tire pressure = 4,1 +0,2 bar (60 +3 psi)

  Note

  Tire pressure placards are installed on the outer face of the MLG doors.

- Nose wheel tire pressure = 4,1 +0,2 bar (60 +3 psi).

5 If necessary, inflate the tire to the correct pressure:

5.1 Slowly operate the compressed nitrogen supply and pressurize the tire to the correct pressure.

5.2 Let the temperature of the nitrogen in the tire become stable.

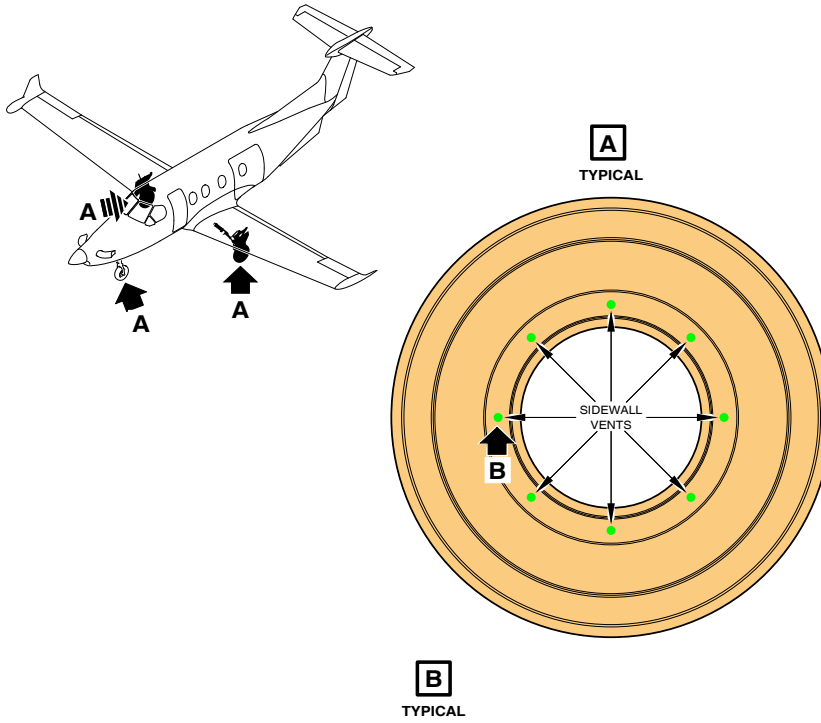
6 Disconnect the tire/strut service gauge from the tire inflation valve.

7 Install the cap on the tire inflation valve.

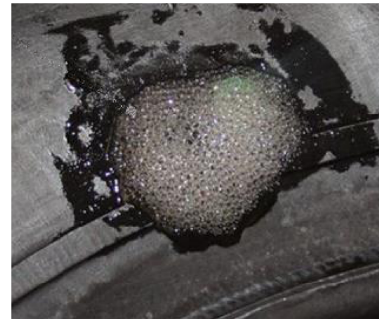
8 Use soap solution to make sure that there are no leaks from the wheel assembly.

Note

The tire has vent holes in the sidewall, refer to Fig. 2-1-1. It is normal to see bubbles from the vent holes.



DRY TIRE, VENT HOLE AND MARKING



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

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Figure 2-1-1: Tire Sidewall Vent Holes

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Fuel - Defuel and Drain Fuel

1 Preliminary Requirements and Safety Conditions

WARNING

BE CAREFUL WHEN YOU DO MAINTENANCE ON THE FUEL SYSTEM. THE MIXTURE OF FUEL AND AIR IS DANGEROUS. IF SPARKS AND FLAMES OCCUR NEAR THE MIXTURE OF FUEL AND AIR, AN EXPLOSION CAN OCCUR. THE EXPLOSION CAN CAUSE INJURY OR DEATH TO PERSONNEL AND/OR DAMAGE TO THE EQUIPMENT.

WARNING

BE CAREFUL WHEN YOU DO MAINTENANCE ON THE FUEL SYSTEM. FUEL IS DANGEROUS AND CAN CAUSE INJURY TO PERSONNEL.

- IF YOU GET AIRCRAFT FUEL IN YOUR EYES, YOU MUST FLUSH YOUR EYES WITH CLEAN WATER AND SEEK MEDICAL HELP IMMEDIATELY.

- IF YOU GET AIRCRAFT FUEL ON YOUR SKIN, YOU MUST REMOVE ALL PROTECTIVE CLOTHING SOAKED IN FUEL, FLUSH YOUR SKIN WITH CLEAN WATER AND USE SOAP AND WATER TO CLEAN YOUR SKIN.

WARNING

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

The defueling task is a time consuming procedure, the fuel flow per drain valve is 140 liters per hour. Must make sure you have sufficient time to do the task.

Obey these safety precautions when you defuel the aircraft:

- Put the defuel equipment in a position from which it can be easily moved in an emergency
- Do not remove the ground from the aircraft until the defuel operation is complete
- Do not remove the defuel vehicle ground from the aircraft until the defuel operation is complete.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Defuel container	Local supply
Defuel vehicle	Local supply

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3 Defuel the aircraft at the wing drain valves

1 Connect a ground lead to the nose landing gear (NLG) ground point Figure 2-2-1 [1].

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

3 Move the defuel vehicle to the correct position to defuel the aircraft.

4 Connect the defuel vehicle ground to the NLG ground point Figure 2-2-1 [1].

5 Put defuel containers Figure 2-2-1 [2] under the left and right wing inboard drain valves Figure 2-2-1 [3].

6 Connect a grounding lead between the two defuel containers Figure 2-2-1 [2] and the defuel vehicle ground.

7

Note
The fuel flow per drain valve is approximately 140 liters per hour.

Open the left and right wing inboard drain valves Figure 2-2-1 [3] and drain the fuel from the left and right wing tanks as necessary.

8 Make sure that fuel flows into the defuel containers Figure 2-2-1 [2].

9 If necessary, operate the defuel vehicle and remove the fuel from the two defuel containers Figure 2-2-1 [2].

10 Close the left and right wing inboard drain valve Figure 2-2-1 [3] when the necessary fuel has been drained.

11 Operate the defuel vehicle to remove the fuel from the defuel containers Figure 2-2-1 [2].

12 Make sure that the left and right wing inboard drain valves Figure 2-2-1 [3] do not leak fuel.

13 Disconnect the defuel containers Figure 2-2-1 [2] from the defuel vehicle ground.

14 Remove the defuel vehicle ground from the nose landing gear Figure 2-2-1 [1].

15 Move the defuel vehicle away from the area.

16 Dispose of any residual fuel in accordance with the local regulations.

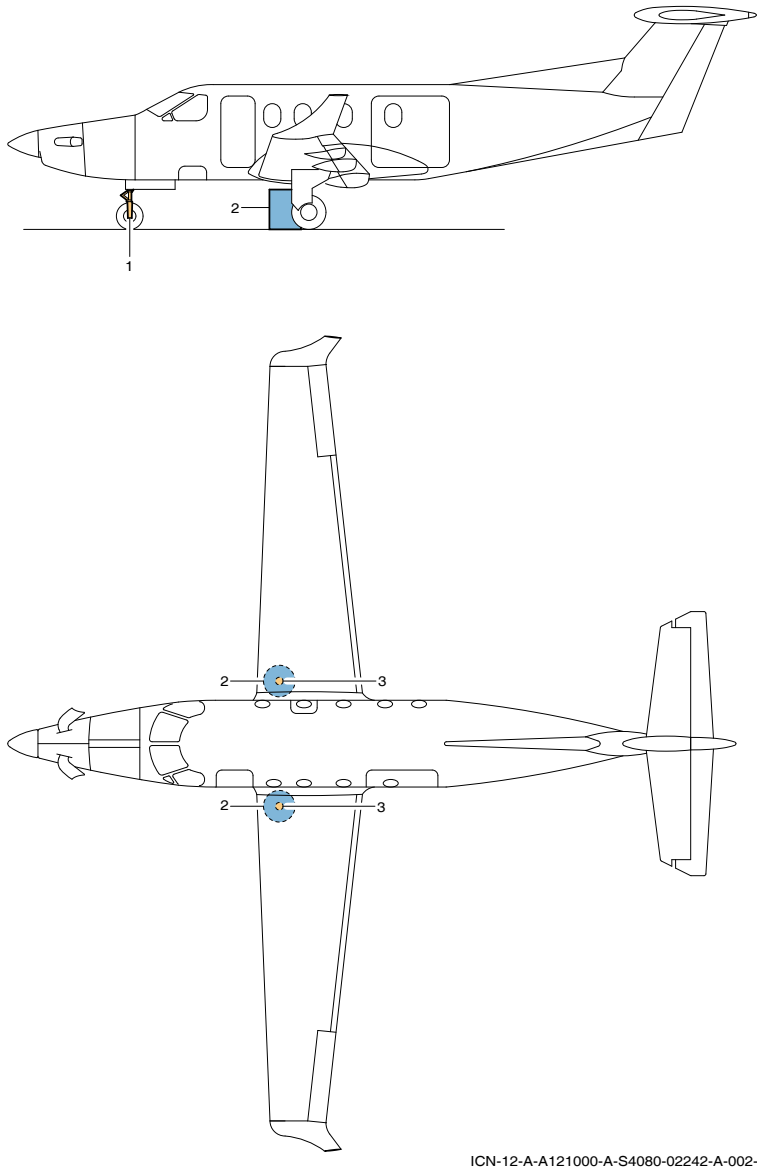

Figure 2-2-1: Defuel and Drain Fuel

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Refuel

1 Preliminary Requirements and Safety Conditions

WARNING

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

WARNING

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

WARNING

BE CAREFUL WHEN YOU DO MAINTENANCE ON THE FUEL SYSTEM. FUEL IS DANGEROUS AND CAN CAUSE INJURY TO PERSONNEL.

- IF YOU GET AIRCRAFT FUEL IN YOUR EYES, YOU MUST FLUSH YOUR EYES WITH CLEAN WATER AND SEEK MEDICAL HELP IMMEDIATELY.

- IF YOU GET AIRCRAFT FUEL ON YOUR SKIN, YOU MUST REMOVE ALL PROTECTIVE CLOTHING SOAKED IN FUEL, FLUSH YOUR SKIN WITH CLEAN WATER AND USE SOAP AND WATER TO CLEAN YOUR SKIN.

Obey these safety precautions when you refuel the aircraft:

- Do not do work that could cause a source of ignition near open fuel tanks or fuelling equipment
- Put the refuel equipment in a position from which it can be easily moved in an emergency
- Do not remove the ground from the aircraft until the refuel operation is complete
- Do not remove the refuel vehicle ground from the aircraft until the refuel operation is complete.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Refuel vehicle	Local supply

3 Refuel the Aircraft

1 Connect a ground lead Figure 2-3-1 [3] to the nose landing gear ground point and a ground point.

2 De-energize the aircraft electrical system.

3 Make sure that the refuel vehicle has the correct fuel.

4 Move the refuel vehicle into position to refuel the aircraft,

5 Connect the refuel vehicle ground to the nose landing gear ground point.

6 Ground the refuel hose to the left wing ground point Figure 2-3-1 [2].

7 Remove the fuel tank cap Figure 2-3-1 [1] from the left wing.

8 Put the refuel hose into the wing fuel tank to fill the wing tank.

Note
If necessary add anti-icing additive to the fuel as you fill the wing tank.

8.1 Calculate the quantity of anti-icing additive needed for the quantity of fuel to be added. Refer to the Pilot Operating Handbook, Section 2 - Limitations for the correct additive-to-fuel ratio.

8.2 Obey the manufacturer’s instructions and prepare the additive container.

9 Pull the trigger of the refuel nozzle to make sure of full fuel flow and then lock the trigger in place. Make sure that the fuel flow is between 30 and 60 gallons per minute.

10 Start the additive flow immediately after fuel flow starts. Make sure that the additive is directed into the fuel stream.

11 If necessary, regulate the additive flow rate to make sure that the additive and the fuel mix completely.

12 Stop the additive flow before you stop the fuel flow. Make sure that the correct quantity of additive has been added.

13 Stop the fuel flow when the correct amount of fuel is added.

14 Remove the refuel hose from the left wing tank.

15 Install the left wing fuel tank cap Figure 2-3-1 [1].

16 Remove the refuel hose ground from the left wing ground point Figure 2-3-1 [2].

17 Do **step 6** thru **step 16** again for the right wing tank.

18 Disconnect the refuel vehicle ground from the nose landing gear ground point.

19 Move the refuel vehicle away from the area.

20 On the Over Head Panel (OHP) set the BAT switch(es) to ON.

21 Make sure that the correct fuel quantity is shown on the Engine Indicating System (EIS).

22 Set the BAT switch(es) to OFF.

23 Disconnect the ground lead Figure 2-3-1 [3] from the nose landing gear ground point.

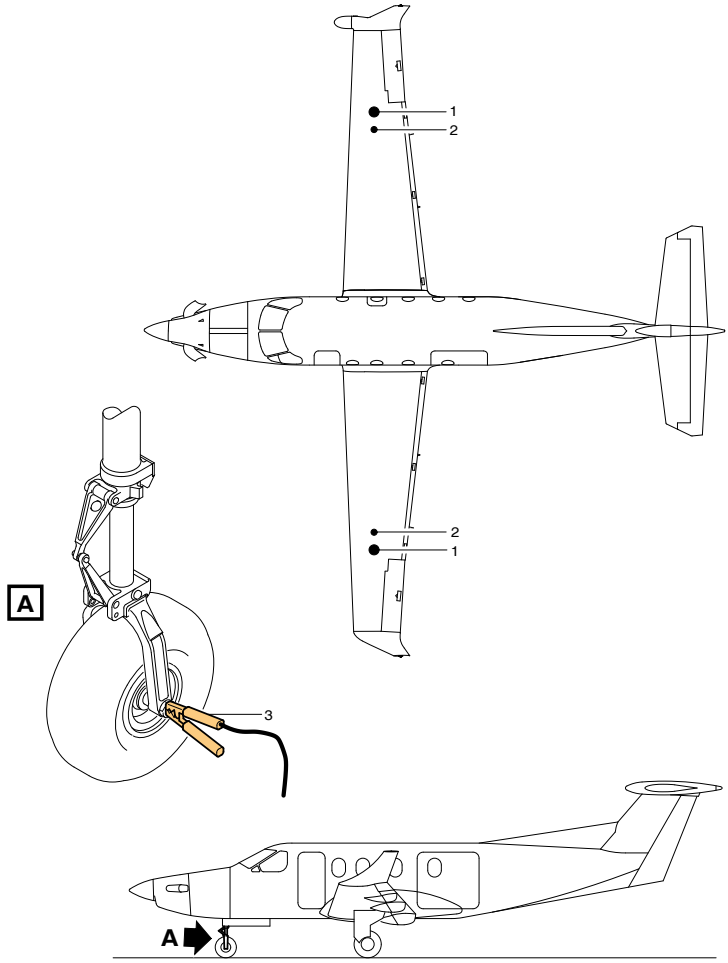

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Figure 2-3-1: Refuel

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Windows - Clean and Check

1 Preliminary Requirements and Safety Conditions

CAUTION

BE CAREFUL WHEN YOU DO WORK ON OR NEAR THE WINDSHIELD AND/OR WINDOWS. SCRATCHES AND/OR OTHER DAMAGE TO THE TRANSPARENCY CAN OCCUR. DO NOT PUT TOOLS, SHARP OBJECTS OR OTHER OBJECTS ONTO THE TRANSPARENCY. REMOVE LOOSE ITEMS (SUCH AS WRIST-WATCHES, RINGS OR CLOTHING) THAT CAN CAUSE SCRATCHES OR DAMAGE TO THE TRANSPARENCY.

CAUTION

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

CAUTION

THE AIRCRAFT WINDOWS CAN EASILY BE DAMAGED. MAKE SURE THAT ALL CLEANING MATERIALS ARE FREE FROM DIRT AND CONTAMINATION.

CAUTION

DO NOT CLEAN THE WINDSHIELD OR WINDOWS IN DUSTY OR SANDY CONDITIONS OR IN STRONG OR DIRECT SUNLIGHT. DUST AND GRIT CAN SCRATCH THE TRANSPARENCY.

CAUTION

SOLVENTS AND FUELS WILL CAUSE DAMAGE TO THE WINDOWS. MAKE SURE THAT YOU DO NOT USE SOLVENTS OR FUEL ON THE WINDOWS.

CAUTION

DO NOT USE CLEANING AGENTS THAT ARE NOT RECOMMENDED. IF YOU DO, YOU CAN CAUSE DAMAGE TO THE WINDSHIELDS AND WINDOWS.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Work platform	Local supply
Spray bottle	Local supply

3 Recommended Supplies

Supply item	Recommended Pilatus Part Number
Chamois leather	Local supply
Sponge	Local supply
Clean water	Local supply
Soap solution	Local supply

4 Cleaning Guidelines

Note

The flight compartment windows, consisting of the windshields and side windows, have an outer glass surface with anti-static coating. The inner surface is acrylic.

Note

The passenger compartment windows have an acrylic outer and inner surface.

These procedures give guidelines to clean the exterior and interior surfaces of the flight compartment and the passenger compartment windows.

4.1 Clean the Exterior Surfaces

1 Use clean fresh water to flush the exterior surface of the window. Loosen dirt, sand or mud as necessary 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 window surface, especially in the corners of the window.

3 Make a clean sponge moist with clean water or a mixture of clean water and weak soap solution. Use the moist sponge to clean the window surface.

4 Flush thoroughly the window surface with clean fresh water.

5 Dry the window surface with a clean moist chamois leather.

4.2 Clean the Interior Surfaces

CAUTION

DO NOT USE CLEANING AGENTS THAT ARE NOT RECOMMENDED. IF YOU DO, YOU CAN CAUSE DAMAGE TO THE WINDSHIELDS AND WINDOWS.

1 Make a clean chamois leather moist with clean water or a mixture of clean water and weak soap solution.

2 Use the moist chamois leather to clean the window surface.

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 IN THE SOAP SOLUTION FOR A LONG TIME. THE SOAP SOLUTION CAN CAUSE DAMAGE TO THE TIRES.

CAUTION

DO NOT ALLOW THE HEAVY DUTY CLEANER TO COME INTO CONTACT WITH ACRYLIC GLASSES I.E. THE COCKPIT OR CABIN WINDOWS. THE CLEANER MAY CAUSE A STRESS CRAZING EFFECT OF THE ACRYLIC GLASS.

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 SURFACE IN THE DIRECTION OF THE AIRFLOW, FROM NOSE TO TAIL. 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.

Note

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

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2 Recommended Support Equipment

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

3 Recommended Supplies

Supply	Recommended Pilatus Part Number
Clean water	Local supply
Lint-free cleaning cloth	Local supply
Soap solution	Local supply
Cleaner	Extreme Simple Green cleaner
Alkaline cleaner	Local supply

4 Cleaning Guidelines

The procedures that follow give guidelines to:

- Prepare the aircraft
- Clean the exterior
- Clean with chemical agents
- 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

4.1 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 40°.

2 Install the covers for:

- The engine intake
- The engine exhaust stubs
- The angle of attack sensors
- The static ports
- The pitot probes.

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

4.2 Clean the Exterior

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

2 Apply the soap solution to a small area.

3 Use the soft bristled brush to clean the area with the soap solution.

4 Flush the area with clean water.

5 Do **step 1** thru **step 4** again until all the aircraft exterior surface is clean.

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

4.3 Clean with a Chemical Agent

CAUTION

DO NOT USE CLEANING AGENTS THAT ARE NOT RECOMMENDED. IF YOU DO, YOU CAN CAUSE DAMAGE TO THE WINDSHIELDS AND WINDOWS.

CAUTION

WHEN YOU CLEAN VERY DIRTY AREAS, DO NOT USE EXCESSIVE PRESSURE. IF YOU DO, YOU CAN DAMAGE THE PAINT TOP COAT.

1 Use a spray bottle to apply the cleaner (example - Extreme Simple Green cleaner) directly onto the surface.

2 Leave the cleaner on the surface for a maximum of three minutes.

3 Use the soft bristled brush to clean the surface.

4 Flush the area with clean water.

5 If necessary, do **steps 1** thru **step 4** again until all the aircraft exterior surface is clean.

4.4 Requirements after Job Completion

1 Remove the covers from:

- The engine intake
- The engine exhaust stubs
- The angle of attack sensors
- The static ports
- The pitot probes.

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

3 Clean the aircraft windows.

4.5 Recommended procedures

Equipment	Recommended Pilatus Part Number
Grease	908.20.02.065 Local supply (Aeroshell 33)
Grease gun	904.21.02.103 904.21.02.104 904.21.02.102 904.21.02.702 904.21.02.110 Local supply

Note

It is the operators responsibility to provide applicable training in this procedure.

After the aircraft has been washed, if the applicable equipment and supplies are available, it is recommended to lubricate the Main Landing Gear (MLG) and Nose Landing Gear (NLG) as follows:

1 Lubricate the MLG with an applicable grease gun and grease at the two fittings Figure 2-5-1 [1] and Figure 2-5-1 [2].

2 Lubricate the NLG with an applicable grease gun and grease at the five fittings Figure 2-5-2 [1], Figure 2-5-2 [2], Figure 2-5-2 [3], Figure 2-5-2 [4], and Figure 2-5-2 [5].

If the applicable equipment is not available, it is recommended to lubricate the MLG and NLG on return to your service centre. Refer to the Aircraft Maintenance Manual.

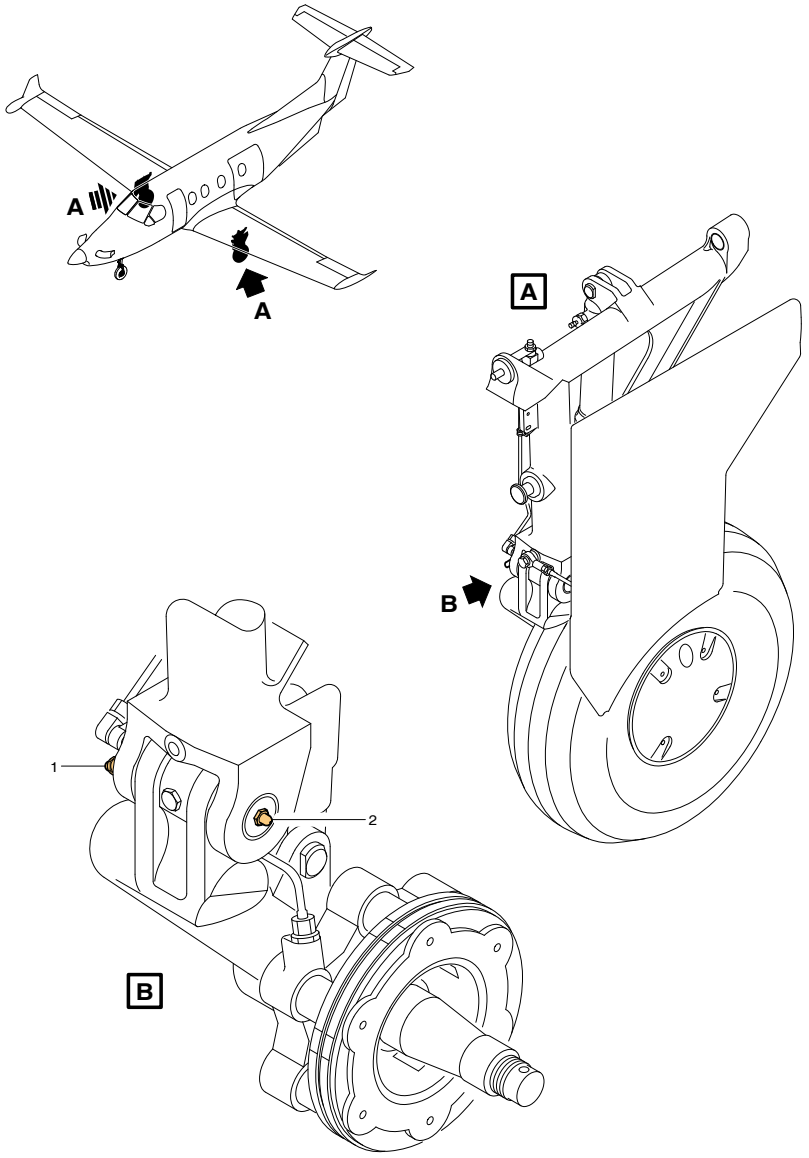

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Figure 2-5-1: MLG - Servicing

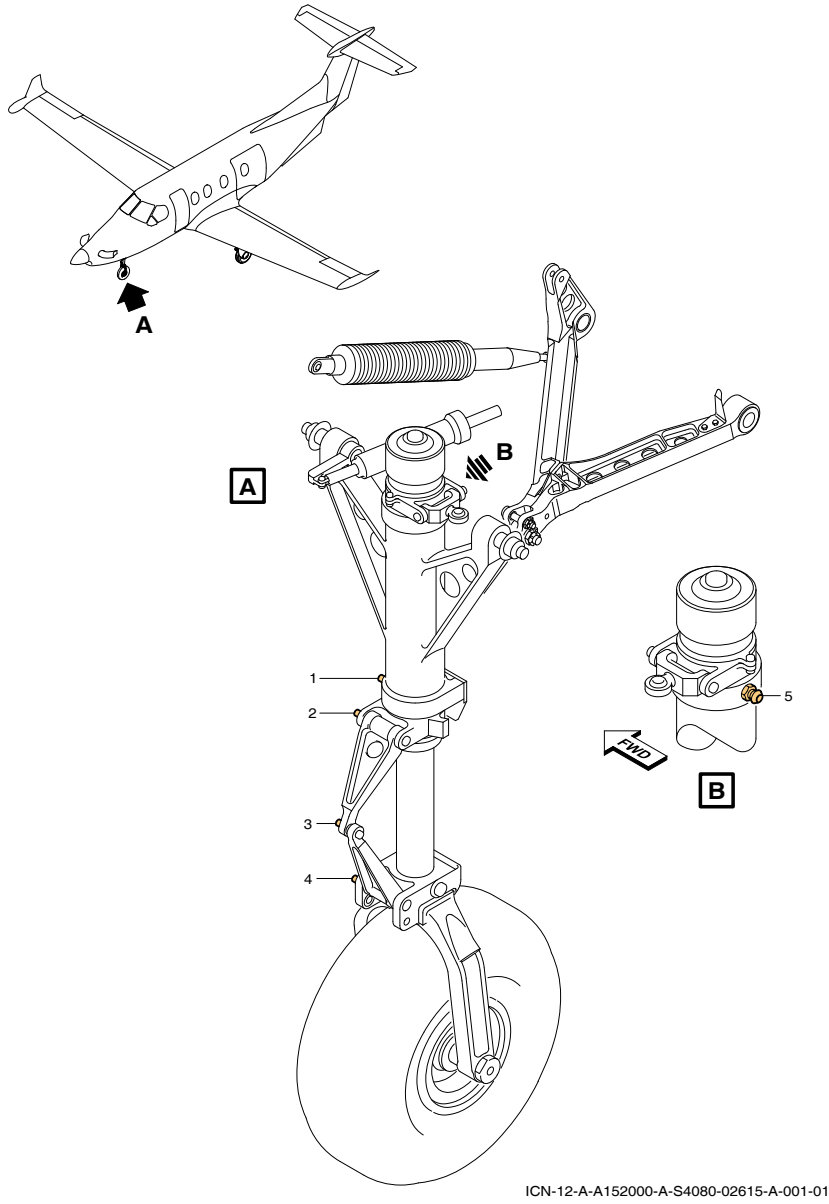

Figure 2-5-2: NLG - Servicing

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Exterior - Clean With Water

1 Preliminary Requirements and Safety Conditions

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

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

2 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

3 Recommended Supplies

Supply	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

4 Cleaning Guidelines

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

4.1 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 40°.

2 Install the covers for:

- The engine intake
- The engine exhaust stubs
- The angle of attack sensors
- The static ports
- The pitot probes.

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

4 The aircraft can be divided into five sections. Refer to Fig. 2-6-1:

- 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.

4.2 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.

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.

To flush the aircraft, start with the landing gear and rinse each section in an upward direction.

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

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During cold weather operations make sure that the areas that follow are free from contamination:

1 Landing gear

2 Landing gear bays

3 Flaps

4 Any other areas exposed to runway contamination.

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

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

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

4.3 Requirements after Job Completion

1 Remove the covers from:

- The engine intake
- The engine exhaust stubs
- The angle of attack sensors
- The static ports
- The pitot probes.

Stow all the covers on the aircraft.

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

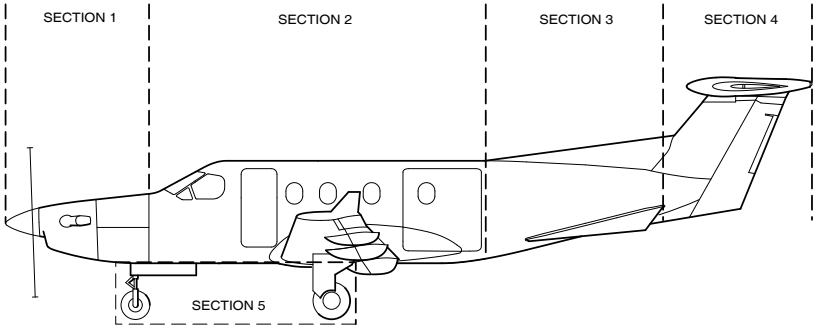

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Figure 2-6-1: Aircraft washing sections

Interior - Clean

1 Preliminary Requirements and Safety Conditions

CAUTION

DO NOT CLEAN FABRIC SURFACES WITH A SOAP SOLUTION OR WATER. THIS CAN INHIBIT THE PROPERTIES OF THE FIREBLOCK TREATMENT ON THE FABRIC.

CAUTION

DO NOT LET SOAP SOLUTION OR WATER GO BEHIND THE AIRCRAFT INTERIOR SURFACES. IF SOAP SOLUTION OR WATER GETS BEHIND INTERIOR SURFACES IT CAN CAUSE DAMAGE/CORROSION TO ELECTRICAL COMPONENTS/CIRCUITS AND/OR THE AIRCRAFT STRUCTURE.

CAUTION

DO NOT CLEAN THE INSTRUMENT PANEL WITH WATER OR THE SOAP SOLUTION. THIS CAN DAMAGE THE INSTRUMENT ANTI-GLARE COATING.

2 Recommended Support Equipment

Equipment	Recommended Pilatus Part Number
Vacuum cleaner	Local supply
Sponge	Local supply
Soft bristle brush	Local supply

3 Recommended Materials

Material	Recommended Pilatus Part Number
Absorbent paper	Local supply
Clean water	Local supply
Soap solution	Local supply
Lint-free cleaning cloth	Local supply

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4 Cleaning Guidelines

These procedures give guidelines to clean the passenger compartment and the flight compartment.

4.1 Passenger Compartment

1 Use a vacuum cleaner to clean:

- The passenger seats
- The floor
- The seat tracks.

2 Make a sponge moist with weak soap solution.

3 Do a test on a non-visible area of each surface to be cleaned with the moist sponge.

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.

4 Where necessary:

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

4.2 Flight Compartment

CAUTION

REMOVE ALL RINGS AND JEWELLERY BEFORE YOU CLEAN THE INSTRUMENTS. THE INSTRUMENTS CAN EASILY BE DAMAGED BY RINGS AND JEWELLERY.

1 Use a clean, soft bristle brush to remove dust, sand or grit from the flight compartment.

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

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

3 Use a clean, lint-free cloth to clean the instruments.

Waste / Water System Servicing

1 Preliminary Requirements and Safety Conditions

WARNING

PUT ON PROTECTIVE CLOTHING, PROTECTIVE GOGGLES AND GLOVES BEFORE YOU DO WORK ON THE WATER/WASTE SYSTEM. THIS WILL HELP TO PREVENT INJURY.

2 Recommended Materials

Material	Pilatus Part No.
Clean flush fluid CFF-001 or CFF-003	Local supply
Clean flush powder CFP-006	Local supply
Clean flush powder CFP-004 (pre-measured powder sachet)	Local supply
Clean flush antifreeze CFA-002	Local supply
Ammonia free disinfectant	Local supply

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3 Drain the Waste Tank

1 De-energize the aircraft electrical system.

2 Fully open the toilet doors.

3 Remove the side panels Figure 2-8-1 [4] and Figure 2-8-1 [7] from the top of the toilet.

Note

The side panels are attached with hook and loop fasteners.

4 Disconnect the toilet pump switch electrical connector Figure 2-8-1 [5] and the toilet light switch electrical connector Figure 2-8-1 [6].

5 Lift the toilet seat assembly Figure 2-8-1 [1] and disconnect the toilet pump electrical connector Figure 2-8-1 [2].

6 Lift the toilet seat assembly Figure 2-8-1 [1] up approximately 6 inches and tilt it backwards approximately 100 degrees. Rest the assembly on the cabinet seal at the rear of the toilet cabinet.

7 Put the cap firmly onto the collector tank. The cap is stowed inside the toilet cabinet.

8 Carefully remove the collector tank Figure 2-8-1 [3] from the toilet compartment.

9 Remove the collector tank Figure 2-8-1 [3] from the aircraft.

10 Empty the collector tank according to local regulations. Rinse the collector tank as necessary.

11 Pre-charge the collector tank with approximately one pint of water and two ounces of Clean flush fluid (or a half tablespoon of Clean flush powder or one pre-measured sachet of Clean flush powder).

Note

In freezing weather conditions, add Clean flush anti-freeze to the pre-charge mixture.

12 Carefully install the collector tank Figure 2-8-1 [3] in the toilet compartment.

13 Remove the cap from the collector tank and stow it inside the toilet cabinet.

14 Fill the flush reservoir with water to the Fill to Here line.

15 Add two ounces of Clean flush fluid (or a half tablespoon of Clean flush powder or one pre-measured sachet of Clean flush powder) to the flush reservoir.

Note

In freezing weather conditions, add Clean flush anti-freeze to the mixture.

16 Connect the toilet pump electrical connector Figure 2-8-1 [2] and install the toilet seat assembly Figure 2-8-1 [1].

17 Connect the toilet pump switch electrical connector Figure 2-8-1 [5] and the toilet light switch electrical connector Figure 2-8-1 [6].

18 Install the side panels Figure 2-8-1 [4] and Figure 2-8-1 [7] on the top of the toilet.

19 Use the disinfectant to clean the toilet seat assembly.

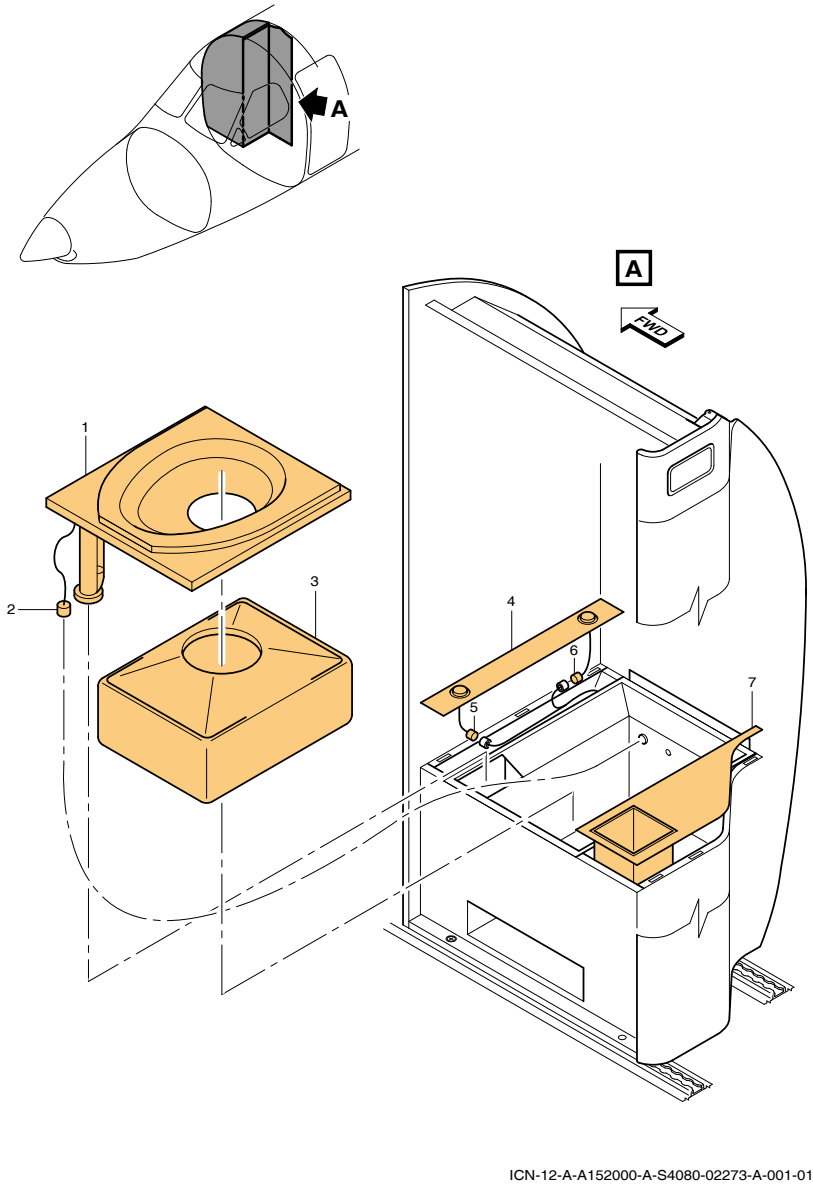

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Figure 2-8-1: Toilet Waste Tank

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Cold Weather Procedures (Deicing / Anti-Icing)

1 General

Icing conditions can exist when the outside air temperature on the ground or Total Air Temperature (TAT) during flight is +10 °C (50 °F) or colder, and visible moisture in any form is present.

The aircraft must not take-off with frost, snow or ice on these critical areas:

- The wing leading edge
- The wing upper surface
- The flight control surfaces (including hinge gaps)
- The horizontal stabilizer
- The vertical stabilizer
- The engine intake
- The fuselage upper surface
- The windshields
- The air data probes (pitot static probes, Angle of Attack [AoA] sensors, Outside Air Temperature [OAT] probe)
- The upper fuselage surface between the aircraft nose and the windshield
- The landing gear.

2 Deicing Methods

Deicing fluids can be used to quickly melt and remove frost or other ice formations.

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

In clear weather it may be possible to manually remove contamination.

2.1 Manual

Manual 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 you do this.

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2.2 Fluids

There are four standard aircraft deicing and anti-icing fluids:

- 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, as airflow increases over the surface, the fluid is easily blown off the surface. 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, remain on the surface longer and have a longer HOT. 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 the surface at a lower speed than Type II and Type IV fluids. Type III fluid is usually dyed bright yellow.

3 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.

Visual inspections for fluid residue must be done in these areas:

- Along the wing rear spar 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 the rudder tab.

Any identified residue 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 findings of residue 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 inspection may be reduced.

4 Before Engine Start

It is recommended that deicing / anti-icing is done with the engine shut down.

5 Deicing Equipment and Materials

CAUTION

BE CAREFUL WHEN YOU MANUALLY REMOVE THE CONTAMINATION. YOU CAN EASILY DAMAGE THE AIRCRAFT SURFACE OR COMPONENTS.

CAUTION

YOU MUST SPRAY DEICING / ANTI-ICING FLUID FROM THE FRONT OF THE AIRCRAFT TO THE REAR. IF YOU SPRAY FROM THE REAR OF THE AIRCRAFT YOU CAN FORCE FLUID INTO AERODYNAMICALLY QUIET AREAS FROM WHERE IT MAY NOT BE ABLE TO DRAIN.

Equipment/Material	Recommended Pilatus Part Number
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

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6 Deicing

CAUTION

WHEN YOU REMOVE ICE, SNOW OR SLUSH FROM THE AIRCRAFT SURFACE, TAKE CARE TO PREVENT ENTRY AND ACCUMULATION OF ICE, SNOW OR SLUSH INTO CONTROL SURFACE HINGE AREAS.

Note

Deicing/anti-icing fluid may splash onto heated surfaces such as air data probes. This can produce significant vapour.

Note

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

Note

If deicing/anti-icing fluid runs onto the windshield during application, it must be removed before taxi and take-off. Use an approved cleaner to rinse the fluid from the windshield and dry with a clean lint-free cloth.

Note

Do not apply deicing/anti-icing fluid directly on the:

- Air data probes
- Windshield and windows
- Engine intake
- Exhaust ducts
- Inertial separator
- Brakes
- Wheels and tires.

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 equipment.

You can remove dry, powdery snow with a brush or broom. Remove heavy, wet snow with a squeegee or broom, hot water or a combination of heated water and deicing/anti-icing fluid.

Remove the contamination from the wings and stabilizers sweeping aft and inboard 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. The fluids cab be applied from a bucket with a mop or brush to melt ice so that the ice can be removed manually.

Portable spray equipment with spray wands and hand pumps connected to a supply tank can also be used to apply deicing/anti-icing fluids.

Mobile ground support equipment with the capability to heat deicing fluid and to dispense the fluid in large quantities and at high pressure can be used. The fluid temperature is not to be more than 70 °C (160 °F).

The recommended deicing flowchart is given in Fig. 2-9-1.

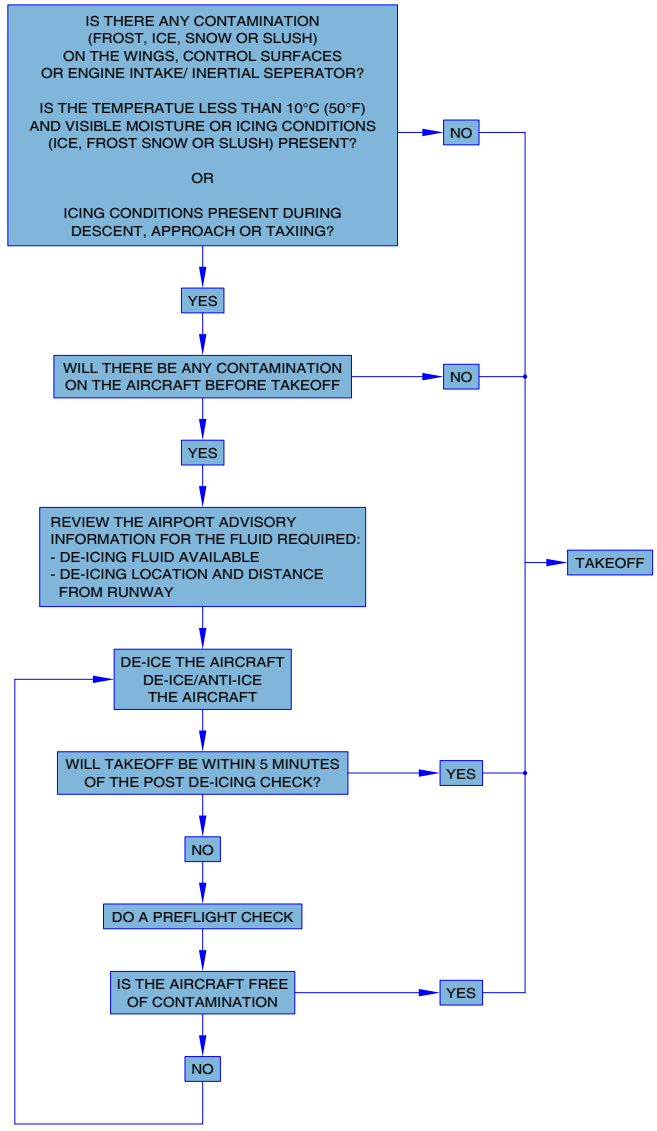

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Figure 2-9-1: Deicing / Anti-icing Flowchart

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

Note

Deicing/anti-icing can be a one-step or a two-step process. Step one deices the aircraft, and if necessary, step two anti-ices the aircraft before take-off.

The one-step process uses heated deicing fluid to remove contamination . It also gives some anti-icing protection to the aircraft.

The two-step process uses heated deicing fluid to remove contamination, then applies anti-icing fluid to the aircraft critical surfaces. The second step must be done before re-freezing occurs.

Fig. 2-9-2 shows the essential areas to de-ice. Fig. 2-9-3 show the critical areas to anti-ice, if necessary.

1 Manually remove the contamination from the aircraft structure.

2 If there is ice accumulations in the wing control surface gaps, spray de-icing fluid from the top of the wing.

3 Deice the stabilizer surfaces as given for the wing surfaces.

4 Carefully inspect the gap between the elevator balance horns and the horizontal stabilizer to make sure that there is no contamination.

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

6 Use type 1 de-icing fluid as necessary to remove the contamination. Apply the deicing fluid:

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

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

8 If necessary, apply anti-icing fluid:

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

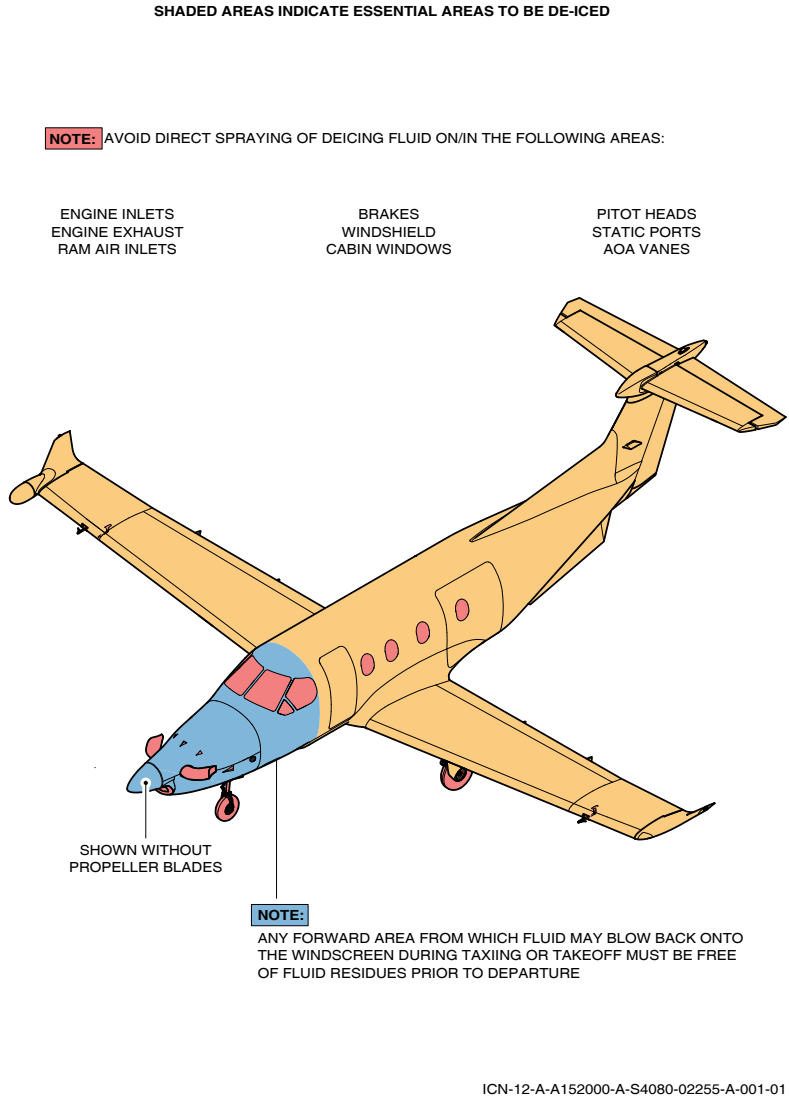

Figure 2-9-2: Aircraft Essential Deicing Areas

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SHADED AREAS INDICATE ESSENTIAL AREAS TO BE ANTI-ICED

NOTE: AVOID DIRECT SPRAYING OF DEICING FLUID ON/IN THE FOLLOWING AREAS:

ENGINE INLETS	BRAKES	PITOT HEADS
ENGINE EXHAUST	WINDSHIELD	STATIC PORTS
RAM AIR INLETS	CABIN WINDOWS	AOA VANES

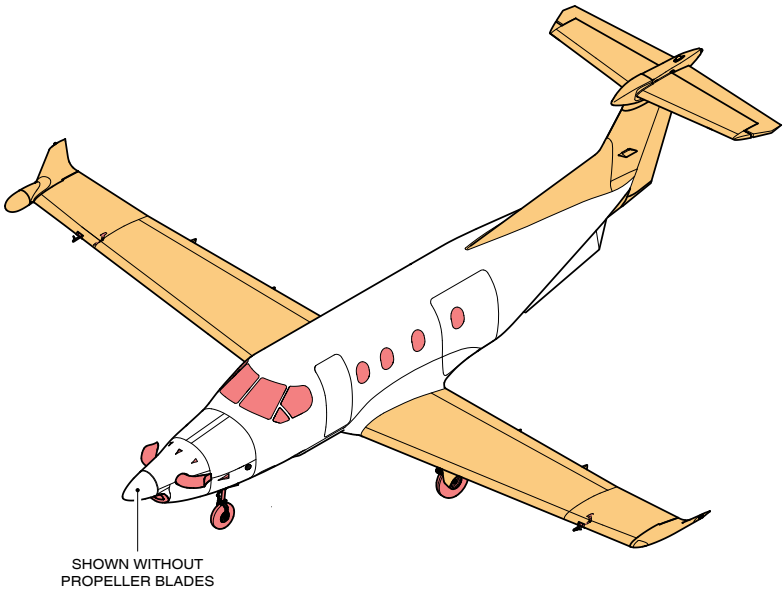

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Figure 2-9-3: Aircraft Essential Anti-icing Areas

6.2 Deicing / Anti-icing the Landing Gear

CAUTION

APPLY ONLY THE MINIMUM AMOUNT OF DE-ICING/ANTI-ICING FLUID NEEDED TO THE LANDING GEAR. DO NOT DIRECT DEICING/ANTI-ICING FLUID ONTO THE BRAKES, WHEELS OR TIRES.

1 Remove the build up of slush, ice or snow from the landing gear with a brush.

2 If contamination deposits are bonded to the surface, remove the contamination with sprayed deicing/anti-icing fluid.

7 Post Deicing/Anti-icing Inspection

After the aircraft is deiced/anti-iced, do a visual inspection for contamination at the following:

- Air data probes
- Propeller blades
- Propeller spinner
- Wing leading edges, upper and lower surfaces, flap surfaces, aileron surfaces including the wing seals and control surface gaps
- Horizontal stabilizer leading edges, upper and lower surfaces, elevator surfaces including the control surface gaps
- Vertical stabilizer and rudder left and right side surfaces including the control surface gaps
- Upper fuselage
- Fuel tank and vents
- Landing gear
- Wheels and brakes.

8 Pre Take-Off Check

The pilot in command, with assistance from the ground crew, must make sure that all critical surfaces are free from ice, snow and frost formations before take-off.

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

1 Visually examine these critical areas to make sure there is no ice, slush, snow or frost on the:

- Wing leading edge and upper surface
- Windshield.

2 Do a check to make sure that the:

- Flaps fully extend and retract
- Flight controls operate smoothly through the full range of movement.