



**Report PC-6-100-MMS  
Revision A**

**STC \_\_\_\_\_**

**PILATUS PORTER PC-6 UNDER WING CARGO PODS**

**INSTALLATION AND SERVICE INSTRUCTIONS**

Prepared by: Eric Leaver  
(EL)

Checked by: Terry Heffield  
(TH)

Initial Issue Date: JULY 5, 2011  
New Issue Date: OCTOBER 5, 2011





**PILATUS PORTER PC-6 UNDER WING CARGO PODS**  
INSTALLATION AND SERVICE INSTRUCTIONS

**TABLE OF CONTENTS**

Record of Revisions..... ii

1 GENERAL..... 1

1. LAYOUT OF THE MANUAL ..... 1

2. WARNINGS, CAUTION AND NOTES ..... 1

3. REVISION SERVICE ..... 2

4. AIRWORTHINESS LIMITATIONS ..... 3

    A. ELIGIBILITY, REQUIRED STC INSTALLATIONS AND APPROVED CONFIGURATIONS ... 3

        (1) Applicable serial numbers ..... 3

        (2) Pilatus Service Bulletin SB43 ..... 3

        (3) Approved configurations ..... 3

    B. MAINTENANCE LIMITATIONS ..... 4

    C. REPLACEMENT LIMITATIONS ..... 4

    D. STRUCTURAL LIMITATIONS ..... 4

5. UWP INSTALLATION AND REMOVAL ..... 5

    A. FIRST TIME INSTALLATION ..... 6

        (1) UWP Installation ..... 6

    B. INSTALLATION/REMOVAL ..... 6

        (1) Job Set Up Information ..... 6

        (2) Job Set up ..... 7

        (3) Installation ..... 7

        (4) Removal ..... 7

6. ROUTINE MAINTENANCE..... 8

7. MAINTENANCE PRACTICES ..... 8

    A. COMPOSITE REPAIRS ..... 8

        (1) Allowed Repairs..... 8

        (2) Job Set Up ..... 8

        (3) Repairing Fractured Areas ..... 9

        (4) Superficial Repairs ..... 12

## RECORD OF REVISIONS

<b>Revision</b>	<b>Revised pages</b>	<b>Description of change</b>	<b>Date</b>	<b>Prepared</b>	<b>Checked</b>
NC	All	Initial Issue	7/5/2011	EL	TH
A	iii 1, 3, 4, 5, 6, 7, 10, 12,	Added glossary FAA changes incorporated	10/5/11	EL	TH



**PILATUS PORTER PC-6 UNDER WING CARGO PODS**  
INSTALLATION AND SERVICE INSTRUCTIONS

## **GLOSSARY**

DWG Drawing  
FAA Federal Aviation Administration  
STC Supplementary Type Certificate  
UWP Under Wing Pod

INTENTIONALLY LEFT BLANK

# 1 GENERAL

AEROCET's Technical Publications Department prepared this Aircraft Maintenance Manual Supplement. It provides the additional information a trained mechanic will need to maintain a Pilatus Porter PC-6-B2/H4 that has been modified with AEROCET's Under Wing Cargo Pods in an airworthy condition.

## 1. LAYOUT OF THE MANUAL

This Maintenance Manual is divided into chapters.

## 2. WARNINGS, CAUTION AND NOTES

**WARNING**  
**AN OPERATING PROCEDURE, PRACTICE OR A CONDITION WHICH, IF NOT CORRECTLY FOLLOWED OR REMEDIED, COULD RESULT IN SERIOUS PERSONAL INJURY OR LOSS OF LIFE.**

**CAUTION**  
**An operating procedure, practice or a condition which, if not strictly observed or corrected, could result in destruction of, or damage to equipment.**

**NOTE**  
An operating procedure, practice or condition which is important to emphasize.





#### 4. AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations Section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of the Federal Aviation Regulations, unless an alternative program has been FAA approved.

This chapter outlines replacement intervals, maintenance requirements, and means of monitoring aircraft components, systems. The following airworthiness limitations and requirements are separated into four groups as described below.

- A. Eligible aircraft serial numbers, Pilatus Service Bulletins that must be installed in conjunction with the Pilatus Porter PC-6 Under Wing Cargo Pods and approved configurations permitted with this STC.
- B. Maintenance Limitations - Maintenance of components and systems that are required to be performed during scheduled maintenance.
- C. Replacement Limitations - List of time limits at which specific components must be replaced.
- D. Structural Limitations - Related to fatigue life limitations as required by Federal Aviation Regulations for certification.

#### **A. ELIGIBILITY, REQUIRED SERVICE BULLETINS INSTALLATIONS AND APPROVED CONFIGURATIONS**

(1) Applicable serial numbers

- (a) This STC is valid for PC-6-B2/H4 from serial number 825 and on.

(2) Pilatus Service Bulletin SB43

- (b) Prior to installing UWPs, under wing suspension points (hard points) must have been fitted to the aircraft in accordance with Pilatus service bulletin SB43 (version 1).

(3) Approved configurations

- (a) Installation of an UWP on one side and a Pilatus Underwing Fuel Tank part number 115.55.06.305 on the other side is permitted. If this option is selected, install the Underwing Fuel Tank in accordance with section 28-15-11 of the Pilatus PC-6 Maintenance Manual. Fuel may only be carried for tankering and may not be used in flight. Place a collar on the circuit breaker of the appropriate transfer pump so as to prevent fuel from the Underwing Fuel Tank to be transferred to the Main Wing Tank.

<p><b>WARNING</b> <b>FUEL FROM AN UNDERWING TANK MAY NOT BE USED IN FLIGHT WHEN AN UWP IS INSTALLED ON THE OPPOSITE WING</b></p>
--

(b) Operation with skis is prohibited when UWPs are installed

<p style="text-align: center;"><b>WARNING</b> <b>OPERATION WITH SKIS PROHIBITED WHEN UNDER WING CARGO PODS INSTALLED</b></p>
--

**B. MAINTENANCE LIMITATIONS**

After every one hundred (100) hours of operation with Under Wing Cargo Pods, perform the inspections given in Section 6 of this manual.

**C. REPLACEMENT LIMITATIONS**

There are no specific replacement items applicable to this STC.

**D. STRUCTURAL LIMITATIONS**

There are no structural limitations associated with this STC.

## 5. UWP INSTALLATION AND REMOVAL

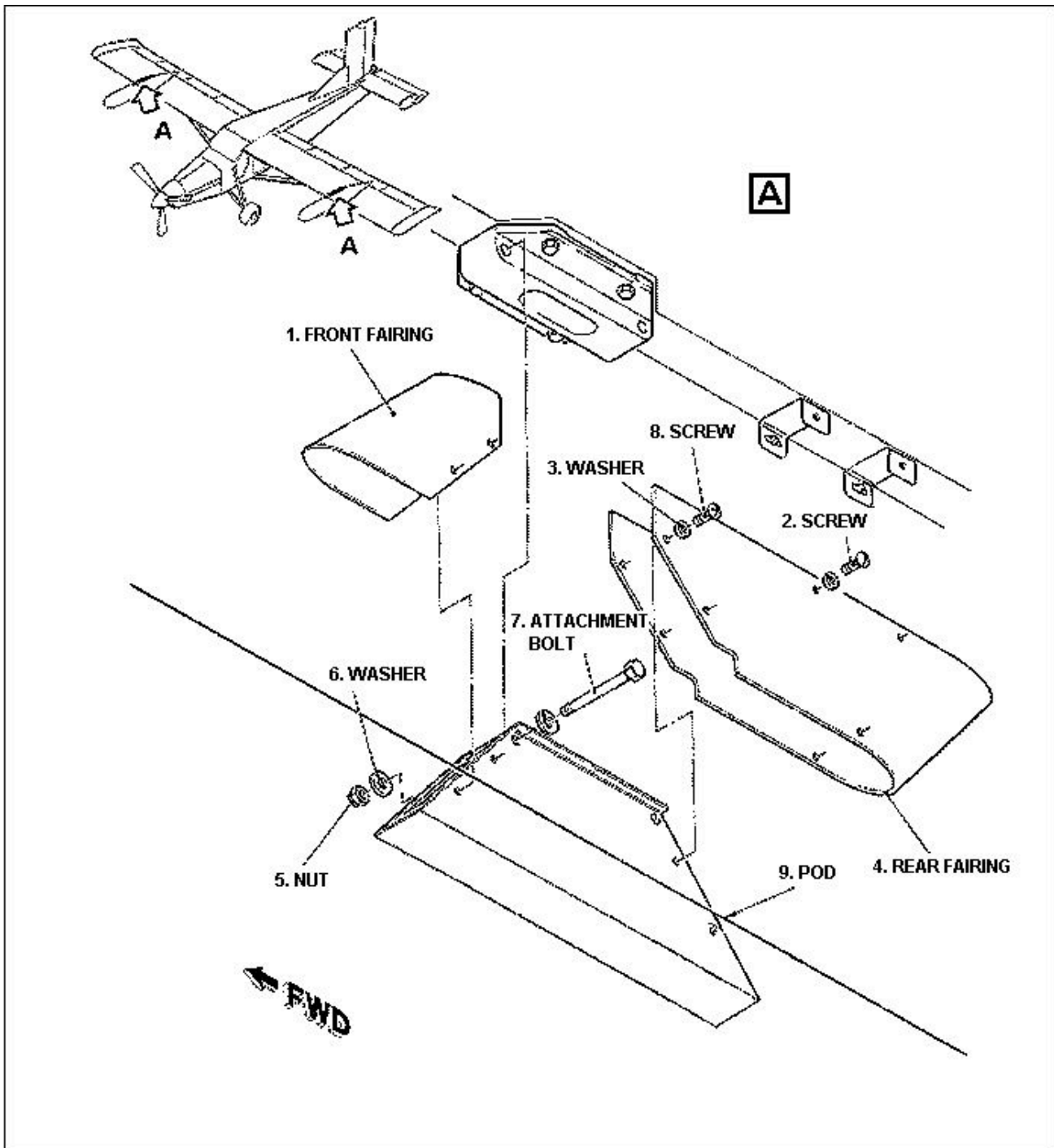


Figure 1 UWP Installation

## A. FIRST TIME INSTALLATION

### (1) UWP Installation

- (a) Install UWP per section 5B
- (b) Insert Flight Manual Supplement PC-6-100-FMS in Aircraft Flight Manual
- (c) Make an appropriate logbook entry to document this change
- (d) Advise the airworthiness authorities about the installation of this STC as appropriate.

## B. INSTALLATION/REMOVAL

### (1) Job Set Up Information

#### (a) Tools and Equipment

Part No.	Description	Remarks
-	Trestle, UWP support	Local manufacture

#### (b) Expendable Parts

Fig. Item	Description	DWG reference
-	None	

#### (c) Consumable Materials

Fig. Item	Description	DWG reference
-	Grease	Material P04-006 Pilatus PC-6 Maintenance Manual

#### (d) Parts

Part number	Item	Description	Qty	
115.55.06.317	(1)	Front Fairing	1	Pilatus, same as tank
NFL22271BC040012L	(2)	Screw	4	Same as tank
NAS1149F N832P	(3)	Washer	14	
115.55.06.318	(4)	Rear fairing	1	Pilatus, same as tank
MS21044N7	(5)	Nut	2	
NAS1149F N0763P	(6)	Washer	4	
AN7-26A	(7)	Bolt	2	
AN525-832R9	(8)	Screw	10	
PC-6-001(L)(R)	(9)	Pod	1	PC-6-001L left, PC-6-001R right

(2) Job Set up

- (a) Inspect UWP, suspension points and hardware for general condition
- (b) Prepare UWP on trestle for installation

**NOTE**

Identify left and right UWP by part number and by the fact that the doors should face inboard

(3) Installation

- (a) Ensure that Under Wing Tanks have been properly removed in accordance with section 28-15-11 of PC-6 Maintenance Manual including the installation of blanks
- (b) Lubricate the bolts (item 7) with grease (material No. P04-006 ref. PC-6 Maintenance Manual)
- (c) Raise the UWP in position
- (d) Install two bolts (item 7) with washers (item 6)
- (e) Install the washers (item 6) and nuts (item 5). Torque to 101.7 Nm (900 lbin).
- (f) Install the forward fairing (item 1) and aft fairing (item 4) using screws (item 2 & 8) and washers (item 3).
- (g) Repeat procedure for opposite side UWP

**WARNING**

**OPERATION WITH ONLY ONE UNDER WING CARGO POD INSTALLED IS PROHIBITED UNLESS A PILATUS UNDERWING TANK 115.305.06.305 IS INSTALLED ON THE OTHER SIDE**

(4) Removal

- (a) Remove the forward fairing (item 1) and aft fairing (item 4) using screws (item 2 & 8) and washers (item 3)
- (b) Hold the weight of the UWP and remove the nuts (item 5), two bolts (item 7) and washers (item 6)
- (c) Lower the UWP onto the trestle
- (d) Repeat procedure for the opposite side UWP

## 6. ROUTINE MAINTENANCE

Every 100 hours of operation or whenever installed or removed, inspect for general condition and wear:

- (a) Left and right UWPs.
- (b) Left and right under wing suspension points (hard points).
- (c) Attaching hardware for left and right UWPs.

## 7. MAINTENANCE PRACTICES

### A. COMPOSITE REPAIRS

#### (1) Allowed Repairs

- (a) Repairs are only allowed for damage that does not exceed 0.30 m x 0.30 m (11.8 in x 11.8 in). No repairs are allowed within 0.2 m (7.9 in) of the attachment bracket. For repairs outside these limits contact Aerocet Inc.

#### (2) Job Set Up

##### (a) Tools and Equipment

Part No.	Description	Remarks
-	Dremel tool	-
-	Scale	-

##### (b) Expendable Parts

Fig. Item	Description	DWG reference
-	Disposable wood sticks	-
-	Disposable containers (about 0.10 m diameter)	-
-	Bristle brush	

##### (c) Consumable Materials

Fig. Item	Description	DWG reference
-	Acetone	-
-	80, 100, 320, 600, 1000 grit sandpaper	-
-	Glass fiber	Conforms to MIL-F-9084 Type VIII A and VIII B, or equivalent

-	Resin	HYDREX 33350 or equivalent commercial grade resin formulated for room temperature cure
-	Peel-ply	Transparent breathable Nylon tafta (non-coated) or equivalent
	Duratec	47 Grey Vinyl Ester Primer Product code 1799-005 Dura Technologies, Inc. Address : 2720 South Willow Ave.Bloomington, CA 92316
	MEKP	Methyl ethyl ketone peroxide

**WARNING**  
**EXERCISE GREAT CAUTION WHEN HANDLING MEKP. ALWAYS WEAR EYE PROTECTION AS MEKP CAN CAUSE BLINDNESS. IF IN CONTACT WITH EYES, FLUSH WITH WATER IMMEDIATELY AND CONTACT PHYSICIAN**

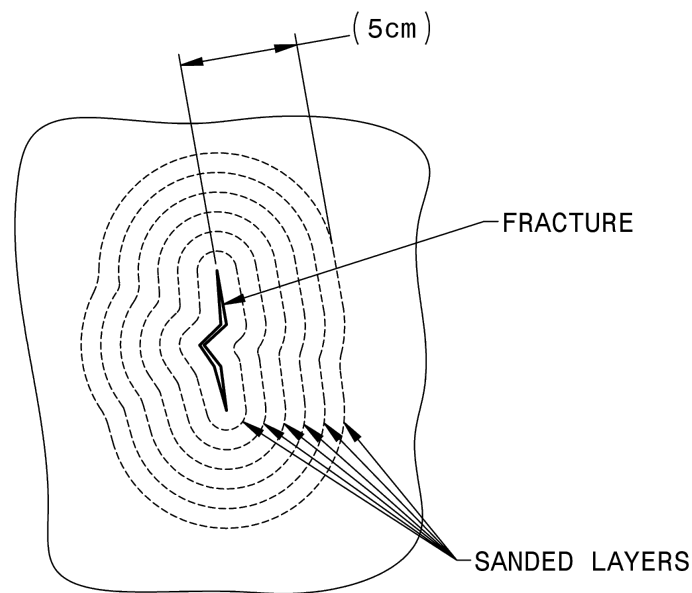
(3) Repairing Fractured Areas

**NOTE**  
 This is only intended to be a general guideline and all references to amount of resins and size of cloth will vary with each repair

- (a) Clean the damaged area in need of repair with a clean rag and acetone on the inside of the pod.
- (b) The area that is fractured requires sanding back slowly and carefully (Figure 2). Use 80 or 100 grit sandpaper to accomplish this. Start sanding back the layers, one at a time, in all directions surrounding the fracture, leaving the first layer intact as best as possible and reaching a 5cm width. As you start sanding through the layers it should look like the rings of a tree cut in half. You will be able to see the different layers by washing the area with more acetone as you sand to the surface coat at the fracture line only. The rest of the cloth should taper back slowly.

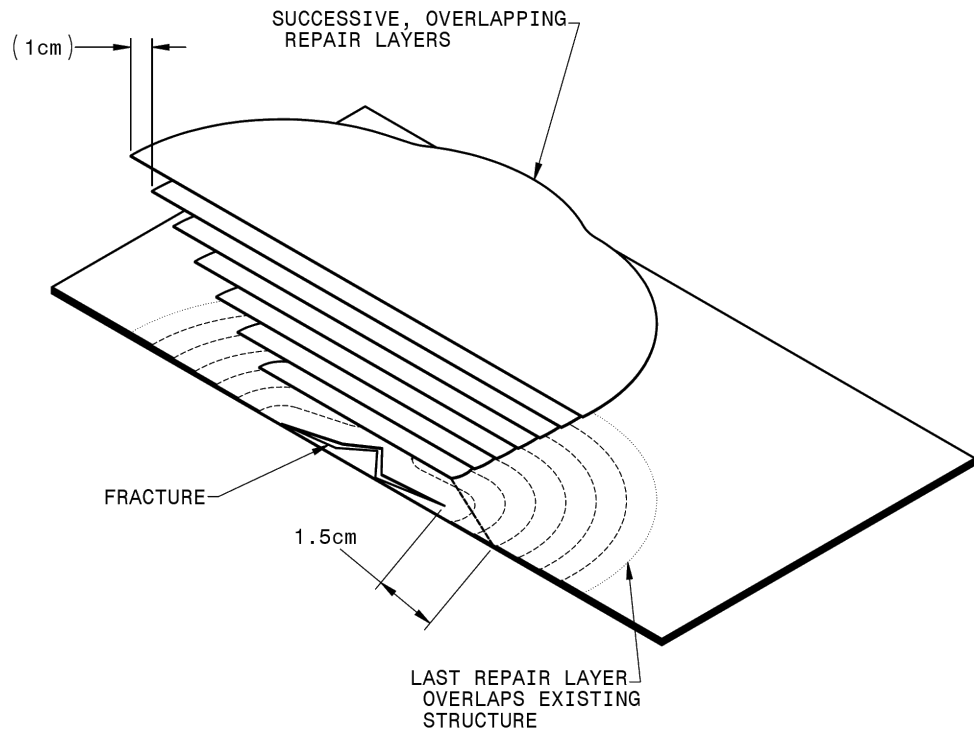
**Note:**

It may be helpful to apply a piece of tape over the fracture from the outside in order to hold the shape and keep resin from oozing out on the outside of the pod.



**Figure 2 Illustration sanding back layers in preparation for adding repair layers**





**Figure 3 Showing enlarged repair, new layers being added on top**

(Original layers having been damaged (bottom as shown) are sanded back to allow overlaps of each new layer.)

- (c) Once the area has been sanded down, wash it back a final time with acetone.
- (d) Precut the glass fiber by beginning with shaped piece extending 1.5cm outward from all sides of the fracture and adding 1 cm perimeter width to each sequential layer. A total of 7 layers of cloth are required (Figure 3).
- (e) Cut peel-ply approximately 5 cm wider around than the last piece of glass fiber.
- (f) Catalyze approximately 250 grams of resin at 1% and wet out the repair area.

- (g) Put the smallest piece of glass fiber on first, lay in place and saturate, working any air out from under the cloth. Next put the following larger piece of cloth on top of the previous layer and repeat until all the cloth is in place, ensuring there is no visible air under the glass fiber. If any air is detected, gently push on the air bubble and work it toward the edge.
- (h) Place the peel-ply over the repaired area and saturate it out (LEAVE A CORNER OF THE PEEL-PLY UNSATURATED SO YOU CAN GRASP IT AND PULL IT OFF AFTER IT CURES) Allow approximately 2 hours at 70°(F). Next, pull off the peel-ply and a nicely blended repair should be complete.

#### (4) Superficial Repairs

- (a) To repair the damaged Duratec on the outside of the pod, sand away the entire loose and cracked Duratec with 320 grit wet/dry sandpaper and/or use a Dremel tool to grind away the damaged area.
- (b) Clean with acetone.
- (c) Coat with Duratech or sanding primer to a thickness of 6-10 mil. This must be compatible for use with topcoat used in Item (e) below, and assure complete coverage of any exposed glass.
- (d) After cure, lightly sand and clean to prepare for top coat.
- (e) Apply suitable coat of high-solids polyurethane enamel such as Dupont™ Imron®, ideally matching existing color and quality.
- (f) In about 3 hours at 20° C (70°F) the area may be sanded with 320 grit sandpaper until the area is flush, and then change to 600 grit then 1000 grit. Utilize buffing compound and a buffing pad to buff out the sanding scratches and bring up to the desired sheen.