

# SERVICE BULLETIN

SERVICE BULLETIN NO: 53-005

REF NO: 041

MODIFICATION NO: ECN 04-0416

ATA CHAPTER: 53

## FUSELAGE - FUSELAGE STRUCTURE INSPECTION FOR CORROSION IN FRAMES 3C AND REPLACEMENT OF WING ATTACHMENT BOLTS

### 1. Planning Information

#### A. Effectivity

PC-9 (M) aircraft MSN 605 and MSN 617 thru MSN 654.

#### B. Concurrent Requirements

None

#### C. Reason

##### (1) Problem

Corrosion has occurred in the pick-up brackets (brackets) (553.20.09.039) of Frame (FR) 3C in some aircraft. The brackets connect FRs 3C to the bottom, left and right longerons. They are also the locations for the wing bolts (bolts) (932.19.60.337).

##### (2) Cause

Electrolytic action between the dissimilar metals of the bolts (932.19.60.337) and the brackets (553.20.09.039) has caused the corrosion.

##### (3) Solution:

- (a) Do inspections of the FR3C assemblies and adjacent structure for signs of corrosion
- (b) Replace the wing, rear attachment bolt assemblies with cadmium plated bolts. This will help to prevent corrosion in the applicable items
- (c) If necessary replace the FR3C assemblies and attaching parts.

#### D. Description

This Service Bulletin gives the data and instructions to:

- Do inspections of FRs 3C, their related parts and the adjacent structure for signs of corrosion
- Replace the bolts (932.19.60.337), nuts (938.07.68.307), washers (110.30.07.006) and washers (938.77.11.119).

This Service Bulletin also refers to a specific repair in the Structural Repair Manual (SRM) if replacement of a FR 3C is necessary. Instructions to do subsequent inspections for corrosion in FRs 3C, and their related components will be given in AMM, 05-23-00.

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**E. Compliance**

Mandatory.

Required within the next six calendar months after the effective date of this Service Bulletin, unless already accomplished.

**F. Approval**

The technical content of this Service Bulletin is approved by the Federal Office for Civil Aviation (FOCA) of Switzerland.

PILATUS advises Operators/Owners to check with their local Airworthiness Authorities for any changes, local regulations or sanctions that may affect the embodiment of this Service Bulletin.

**G. Manpower**

	Total
Preparation	2.5
Inspection	0.5
Replacement	1.0
Close up	2.0
<b>TOTAL MAN-HOURS</b>	<b>6.0</b>

**NOTE:** Man-hours figures do not include the time required to cure sealants and adhesives.

**H. Weight and Balance**

**(1) Weight Change**

Not affected.

**(2) Moment Change**

Not affected.

**I. Electrical Load Data**

Not changed.

**J. Software**

Not changed.

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## K. References

Aircraft Maintenance Manual (AMM), 05-22-00, 25-10-00, 25-10-01 and 25-30-02.

SRM, 51-10-02 and 53-20-00.

## L. Publications Affected

AMM, 05-22-00 and 53-00-00

Illustrated Parts Catalog (IPC), 57-40-02.

## M. Interchangeability of Parts

Pre and Post Service Bulletin 53-006 bolt assemblies are not interchangeable. It is not permitted to install one pre and one post Service Bulletin bolt assembly.

## 2. Material Information

### A. Material - Price and Availability

Operators should send orders for Service Bulletin modification kits, to:

PILATUS AIRCRAFT LTD,  
CUSTOMER LIAISON MANAGER,  
CH 6371 STANS,           Tel: +41 41 619 65 09 (Government)  
SWITZERLAND           Fax: +41 41 619 61 70

Operators are requested to advise Pilatus Aircraft Ltd. of the Manufacturer's Serial Number (MSN), the flying hours and landings of aircraft which are allocated for this Service Bulletin using the Service Bulletin Evaluation Form.

Modification Kit Number	Price	Availability
500.50.09.043	Contact address above	Contact address above

### B. Material Necessary for Each Aircraft

#### (1) Material to be Purchased

Part Numbers, given in this Service Bulletin, are correct at the time of approval. PILATUS AIRCRAFT LTD. reserves the right to change the part numbers as necessary.

Part number of items, delivered with the Modification Kit, are correct when the kit is dispatched which could lead to differences between those quoted in this Service Bulletin and the Modification Kit.

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Modification Kit No. 500.50.09.043 consists of these parts:

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
932.35.14.313	Bolt	932.19.60.377	2	D	1	5
938.07.68.307	Nut	938.07.68.307	2	D	1	1
938.77.11.119	Washer	938.77.11.119	4	D	1	3
110.30.07.006	Washer	110.30.07.006	2	D	1	4

Disposition Codes: D - Discard / R - Return to Pilatus

## (2) Operator Supplied Materials

Part No.	Description	Qty	Remarks
908.18.12.080	Corrosion Preventative (Dinitrol AV 30)	A/R	Material Item No. P10-015
908.63.81.101	Solvent (White Spirit)	A/R	Material Item No. P01-008 (or approved alternative)
910.31.20.040	Corrosion Preventative (Mastinox 6856H)	A/R	Material Item No. P04-012

## C. Material Necessary for Each Spare

Not applicable.

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### **3. Accomplishment Instructions - Aircraft**

**WARNING:** MAKE SURE THE TWO EJECTION SEATS HAVE THE SAFETY PINS INSTALLED IN THE SAFE FOR SERVICING LOCATIONS BEFORE YOU GO INTO THE COCKPIT.

**WARNING:** BE CAREFUL WHEN YOU USE THE CONSUMABLE MATERIALS. OBEY THE MANUFACTURERS HEALTH AND SAFETY INSTRUCTIONS.

#### **A. Preparation**

- (1) Obey the safety instructions given in Ejection Seat - Maintenance Practices (Ref. AMM, 25-10-00, Page Block 201).
- (2) Remove the rear ejection seat (Ref. AMM, 25-10-01, Page Block 401).
- (3) Remove the rear cockpit side panels (and insulation) as applicable to get access to left and right FRs 3C (Ref. AMM, 25-30-02, Page Block 401).

#### **B. Structural Inspection and Replacement of the Bolt Assemblies (Ref. Fig. 1)**

**CAUTION:** DO NOT REMOVE THE TWO WING ATTACHMENT BOLT ASSEMBLIES AT THE SAME TIME. ONE BOLT ASSEMBLY MUST BE FULLY INSTALLED AT ALL TIMES DURING THIS INSPECTION PROCEDURE.

- (1) Remove and discard the left nut (1), washers (3) & (4) and bolt (5).
- (2) Obey the manufacturers instructions and use the solvent (Material Item No. P01-008 or approved alternative) to clean the surfaces of hole for the bolt (1).
- (3) Use a source of bright light and a X 10 magnifier to do an inspection for signs of corrosion:
  - In the hole for the bolt (1)
  - On the bracket (6), shear plate (2), FR 3C and the adjacent structure.

Corrosion is not permitted in the bolt holes. Surface corrosion on the bracket, shear plate or FR 3C assembly is permitted if in limits (Ref. SRM, 53-20-00, Page Block 101). All other types of corrosion in the bracket, shear plate, FR 3C or the adjacent structure is not permitted. You must:

- Remove surface corrosion (Ref. Step 4)
  - Replace the bracket, shear plate and FR 3C assembly together if you find corrosion in one or more of them (Ref. SRM, 53-20-00, Page Block 201):
  - Apply to PILATUS for instructions if you find corrosion in the skin or structure adjacent to FR 3C.
- (4) If necessary remove the surface corrosion (Ref. SRM, 51-10-02, Page Block 1). You must replace the bracket, shear plate and FR 3C assembly (together) if it is not possible to remove the surface corrosion and stay in limits.
  - (5) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P04-012) on the faying surfaces of the new bolt (5), washers (3) & (4) and the bolt hole.
  - (6) Assemble the bolt (5) and washer (4), put the bolt in position and install the washers (3) and nut (1).

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- (7) Torque the nut (1) to between 26 and 28 Nm (230 to 248 lbf in.).
- (8) Obey the manufacturers instructions and use the solvent (Material Item No. P01-008 or approved alternative) to remove unwanted corrosion preventative.
- (9) Apply layers of the corrosion preventative (Material Item No. P10-015) on the FR 3C assembly and adjacent skin and structure.
- (10) Do Steps (1) thru (9) again to:
  - Do an inspection for corrosion in the right bolt hole, bracket (5), shear plate (6), FR 3C and the adjacent structure.
  - Replace the right bolt assembly

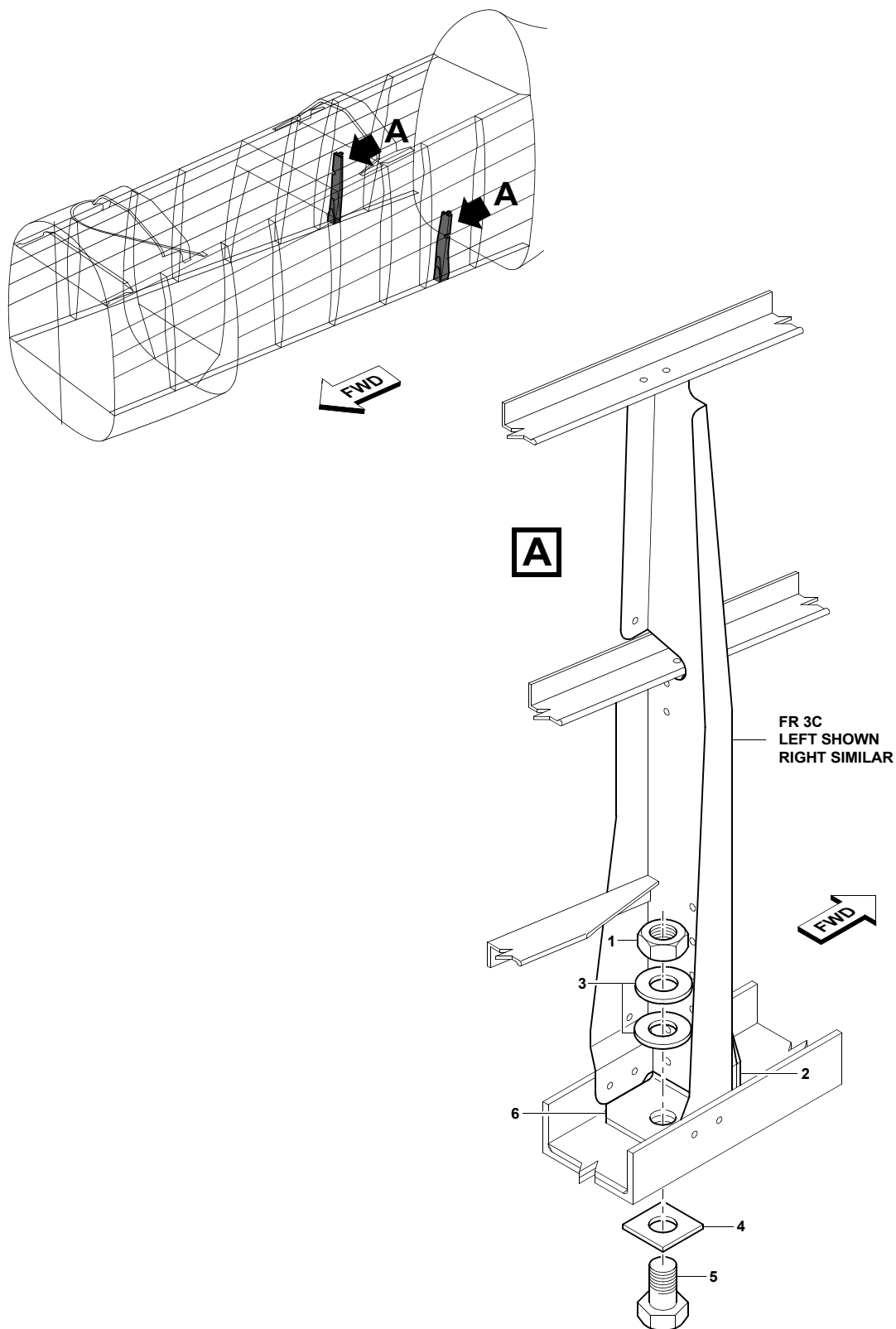
**C. Close up**

- (1) Remove all tools and material and make sure the work areas are clean.
- (2) Install the rear cockpit side panels (Ref. AMM, 25-30-02, Page Block 401).
- (3) Install the rear ejection seat (Ref. AMM, 25-10-01, Page Block 401).

**D. Documentation**

- (1) Make an entry in the Aircraft Logbook that this Service Bulletin has been incorporated.
- (2) Use the Service Bulletin Evaluation Sheet to report your results and the serial number of the modified aircraft to PILATUS.

  
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FR 3C Assembly - Inspection and Replacement of Bolt Assembly  
Figure 1