

Service Bulletin No: 53-008

Ref No: 148

Modification No: Inspection

ATA Chapter: 53

FUSELAGE - GENERAL**DO A CHECK OF THE MATERIAL SPECIFICATION USED IN THE MANUFACTURE OF THE ENGINE MOUNT FITTINGS AND, IF NECESSARY, DO A CHECK FOR CRACKS WITH A BOROSCOPE****1. Planning Information****A. Effectivity**

PC-7 aircraft MSN 101 thru MSN 618.

All engine mount fittings (P/N 112.35.07.152) held as spare or in stock.

B. Concurrent Requirements

None.

C. Reason**(1) Problem**

An operator reported Stress Corrosion Cracking (SCC) on the engine mount fittings.

(2) Cause

Initially the material specification of the parts was AA2024-T351. The material specification was subsequently changed to AA2124-T851 to decrease the risk of stress corrosion.

NOTE: Some customers Structural Repair Manual (SRM) can identify the engine mounting-frame attachment-fittings as made from SNV-L748.5. This is an equivalent to AA2024-T351.**(3) Solution**

Do a one time inspection of the four engine mount fittings to:

- (a) Check the material specification of the fittings.
- (b) If the fittings are made from AA2124-T851, make an entry in the aircraft logbook as required in paragraph 3.F.(3).
- (c) If the fittings are made from AA2024-T351, do a one time inspection with a boroscope for cracks.
- (d) If cracks are found, contact Pilatus.

NOTE: Mandatory inspections will be added to Chapter 5 of the Aircraft Maintenance Manual (AMM). The inspections will give instructions on how to examine the four engine mount fittings for cracks. The inspections will only be applicable to parts made from AA2024-T351.

NOTE: A Service Bulletin will be issued to give instructions and data on how to replace the parts made from AA2024-T351. The new parts are made from AA2124-T851. Parts that are replaced with those made from AA2124-T851 will cancel the requirement for the mandatory repetitive inspections.

D. Description

This Service Bulletin gives the data and instructions necessary to:

- (1) Check the material specification of the fittings.
- (2) If the fittings are made from AA2124-T851, make an entry in the aircraft logbook of the new part number.
- (3) If the fittings are made from AA2024-T351, do a one time inspection with a boroscope for cracks.

These instructions are applicable to the left and right, upper and lower, engine mount fittings, P/N 112.35.07.152.

E. Compliance

Mandatory.

Accomplishment required not later than 90 days after the effective date of this Service Bulletin.

F. Approval

The technical content of this Service Bulletin is approved under the authority of Letter of DOA Acceptance ref. FOCA.21J.002.

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

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H. Manpower

	Total
Preparation	2.0
Eddy-current conductivity measurement-test	0.5
Boroscope inspection (If Necessary)	2.0
Close up	2.5
TOTAL MAN-HOURS	7.0

I. Weight and Balance**(1) Weight Change**

Not changed.

(2) Moment Change

Not changed.

J. Electrical Load Data

Not changed.

K. Software

Not changed.

L. References

Aircraft Maintenance Manual (AMM): 12-00-00, 20-31-00, 25-10-00.

M. Publications Affected

AMM, Chapter 05.

Structural Repair Manual (SRM): 53-10-00.

N. Interchangeability of Parts

Not applicable.

2. Material Information
A. Material - Price and Availability

Operators who require more information should contact:

PILATUS AIRCRAFT LTD,
 INTEGRATED LOGISTIC SUPPORT MANAGER,
 CH 6371 STANS, Tel: +41 41 619 66 30
 SWITZERLAND Fax: +41 41 610 33 51

KIT NUMBER	PRICE	AVAILABILITY
500.60.09.146	Contact address above	Contact address above

NOTE: Kit No. 500.60.09.146 is the kit for the reference pieces used to help identify the material specification of the suspect parts. One kit is required for each fleet of aircraft.

B. Material Necessary for Each Aircraft
(1) Material to be Procured

Kit No. 500.60.09.146 has these parts:

PART No.	DESCRIPTION	QTY	REMARKS
513.57.09.149	AA2024-T351 REFERENCE PLATE	1	
513.57.09.150	AA2124-T851 REFERENCE PLATE	1	

NOTE: One kit is required for each fleet of aircraft.

(2) Operator Supplied Materials (Ref. AMM 20-31-00)

MATERIAL NO.	DESCRIPTION	QTY	REMARKS
P01-010	SOLVENT	A/R	Or equivalent
P02-031	ABSORBENT PAPER	A/R	Or equivalent

C. Material Necessary for Each Spare

None.

D. Re-identified Parts

If the engine mount fittings, either installed on the aircraft or held as spare, are made from AA2124-T851, their part numbers will change as follows:

DESCRIPTION	OLD PART NUMBER	RE-IDENTIFIED PART NUMBER
ENGINE MOUNT FITTING	112.35.07.152	553.10.07.033

E. Tooling - Cost and Availability

PART No.	DESCRIPTION	QTY	REMARKS
-	EDDY-CURRENT EQUIPMENT WITH CONDUCTIVITY MEASUREMENT PROBE OR	1	Local supply
-	CONDUCTIVITY MEASUREMENT EQUIPMENT	1	Local supply
-	BOROSCOPE	1	Local supply
-	ALUMINIUM OR STEEL TUBE OF APPROXIMATELY 800 MM LENGTH X 10 MM DIAMETER	1	Local supply

NOTE: Because of the difficult access, Pilatus recommends that the maximum diameter of the measurement probe is 6,25 mm (0.25 in.).

3. Accomplishment Instructions - On Aircraft

WARNING: READ AND OBEY THE MANUFACTURERS HEALTH INSTRUCTIONS BEFORE YOU USE THE CONSUMABLE MATERIALS.

A. Preparation

- (1) Remove the access panel F5 (Ref. AMM, 12-00-00, Page Block 1).
- (2) Remove the seat from the front cockpit (Ref. AMM, 25-10-00, Page Block 201).
- (3) Obey the manufacturer's operating instructions and calibrate the conductivity measurement equipment.
- (4) Put the eddy current probe in position on the reference plates (P/N 513.57.09.149 and P/N 513.57.09.150).
- (5) Record the value shown on the test equipment.

NOTE: The temperature of the left and right, upper and lower, engine mount fittings (P/N 112.35.07.152) and the reference plates (P/N 513.57.09.149 and P/N 513.57.09.150) must be approximately the same.

B. Do the Test to Find the Material Specification (Ref. Fig. 1)

NOTE: Only personnel that are qualified and authorized by their delegated Airworthiness Authorities are allowed to do this test.

NOTE: Because of the access, Pilatus recommends that the conductivity probe has a maximum diameter of approximately 6.25 mm (0.25 in.).

- (1) For the left upper engine-mount attachment-fitting (1) (P/N 112.35.07.152):

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

- (a) Remove the dirt and grease from the test area with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-010).

NOTE: It is not necessary to remove the layers of surface protection (including paint) to do the test.

NOTE: The temperature of the engine mount fittings (P/N 112.35.07.152) and the reference plates (P/N 513.57.09.149 and P/N 513.57.09.150) must be approximately the same.

- (b) Put the eddy current probe in position on the left upper engine-mount attachment-fitting (1) (P/N 112.35.07.152).
- (c) Record the value shown on the test equipment.
- (d) Compare the value recorded above with the values recorded in Section 3.A.(5) and determine if the attachment fitting is manufactured from AA2024-T351 or AA2124-T851.
- (e) Do Steps 3.B(1)(b) thru (d) again to make sure the result is the same.

- (f) Write the type of material that the left upper engine-mount attachment-fitting (1) (P/N 112.35.07.152) is made from on the Status of Parts Form (Ref. Fig 5).
- (2) Do Step 3.B.(1) of this Service Bulletin again on the right upper and left and right lower, engine mount fittings (P/N 112.35.07.152).
- (3) If you find an engine mount fitting made from AA2024-T351, continue this Service Bulletin from Step 3.C.
- (4) If all the engine mount fittings are made from AA2124-T851, continue this Service Bulletin from Step 3.D.

C. Do the Boroscope Inspection to Find Cracks (Ref. Fig. 2)

NOTE: Step 3.C. is only applicable to engine mount fittings made from AA2024-T351.

NOTE: Only personnel that are qualified and authorized by their delegated Airworthiness Authorities are allowed to do this test.

- (1) Obey the manufacturer's instructions and use a boroscope to examine the areas shown in Fig. 2:
 - (a) Use the aluminium or steel tube as a guide for the boroscope to access the inspection areas.
 - (b) If you find cracks:
 - 1 You must contact Pilatus Customer Support before next flight. The address is:

PILATUS AIRCRAFT LTD.,
Customer Technical Support (MCC),
P.O. Box 992
6371 Stans, Switzerland

Fax: + 41 (0)41 619 67 73
Email: Techsupport@pilatus-aircraft.com
 - 2 Make a report of the inspection results, refer Step 3.D.
 - (c) If you do not find cracks, make a report of the inspection results, refer Step 3.D.

D. Report the Inspection Results

- (1) Make a copy of the Inspection Report Form(s) (Ref. Fig. 3 and Fig. 4).
- (2) Complete the Inspection Report Form(s):
 - Give the date of the inspection.
 - Give the aircraft details.
 - Show the location(s) and dimensions of the crack(s) found (if applicable).
 - Add any comments.

NOTE: If there are no crack indications, use the Inspection Report Form(s) to tell Pilatus Aircraft Ltd the aircraft details.

- (3) Add the part number of the engine mount fittings to the final column of the Status of Parts Form (Ref. Fig. 5).

NOTE: If the engine mount fittings are made from AA2024-T351, the part number will be the same as that entered in column 3. If the engine mount fittings are made from AA2124-T851, the part number will change as shown in Para. 2.D.

- (4) Send or fax the completed form(s) and a copy of the Status of Parts Form (Ref. Fig. 5) to Pilatus Customer Support.

E. Job Close-Up

- (1) Remove all equipment, materials and tools from the work area. Make sure that the work area is clean.
- (2) Install the seat in the front cockpit (Ref. AMM, 25-10-00, Page Block 201).
- (3) Install the access panel F5 (Ref. AMM, 12-00-00, Page Block 1).

F. Documentation

- (1) Make an entry in the Aircraft Logbook that this Service Bulletin has been incorporated.
- (2) Use the Service Bulletin Evaluation Sheet and report your results and the serial number of the aircraft to Pilatus.
- (3) Put the Status of Parts Form (Ref. Fig 5) in the Aircraft Logbook.

NOTE: If the engine mount fittings are made from AA2024-T351 but have no cracks, you will need to do repetitive inspections (Ref. AMM, Chapter 05). You will need this Form (Ref. Fig. 5) to tell you which engine mount fittings require the inspection.

4. Accomplishment Instructions - Engine Mount Fittings Held as Spare or in Stock

NOTE: This procedure is applicable to all engine mount fittings (P/N 112.35.07.152) held as spare or in stock.

A. Preparation

- (1) Obey the manufacturer's operating instructions and calibrate the conductivity measurement equipment.
- (2) Put the eddy current probe in position on the reference plates (P/N 513.57.09.149 and P/N 513.57.09.150).
- (3) Record the value shown on the test equipment.

NOTE: The temperature of the engine mount fittings (P/N 112.35.07.152) and the reference plates (P/N 513.57.09.149 and P/N 513.57.09.150) must be approximately the same.

B. Do the Test to Find the Material Specification

NOTE: Only personnel that are qualified and authorized by their delegated Airworthiness Authorities are allowed to do this test.

- (1) For each engine mount fitting (P/N 112.35.07.152):

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

- (a) Remove the grease from the test area with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-010).

NOTE: It is not necessary to remove the layers of surface protection (including paint) to do the test.

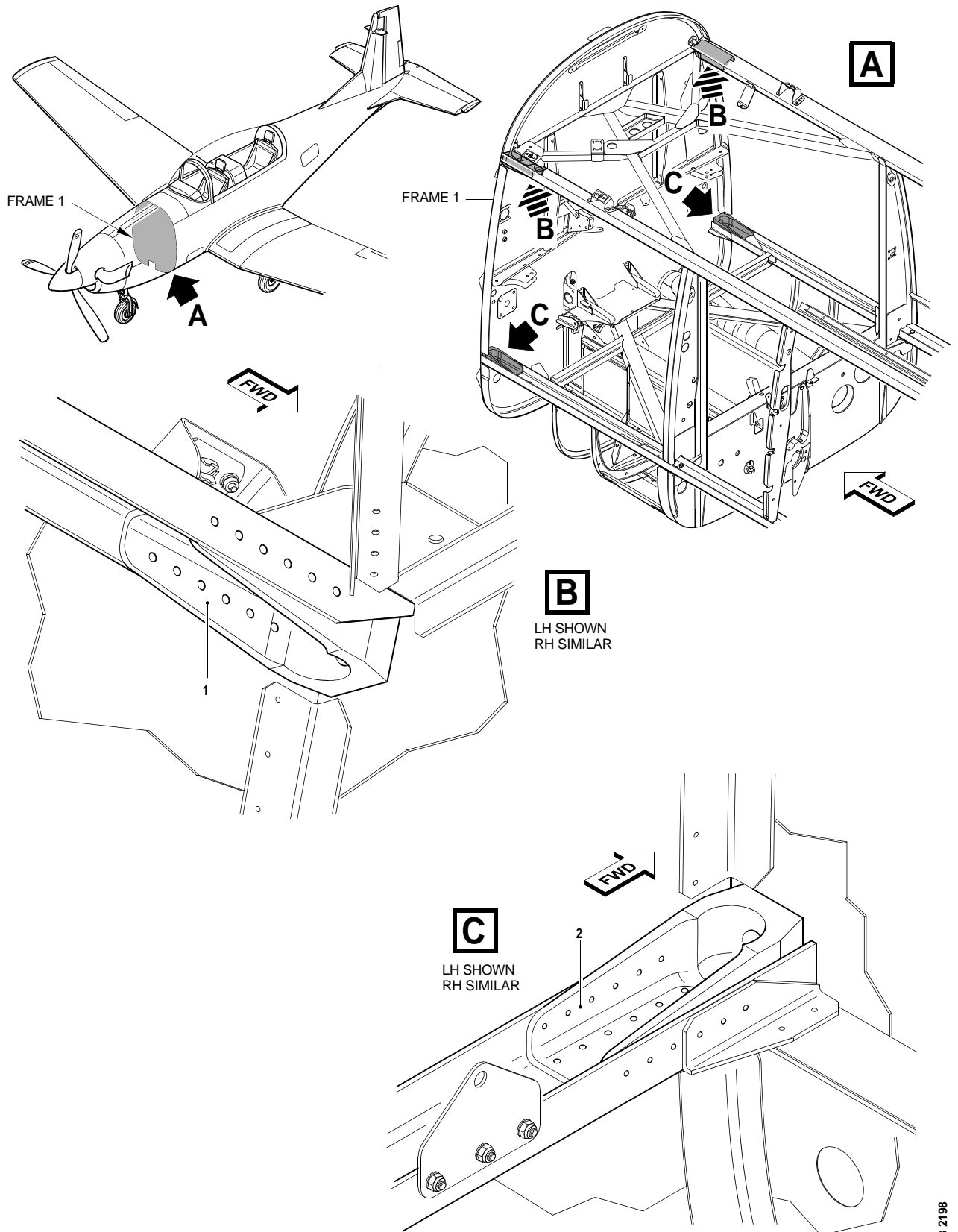
- (b) Put the eddy current probe in position on the engine mount fitting (P/N 112.35.07.152).
- (c) Record the value shown on the test equipment.
- (d) Compare the value recorded above with the values recorded in Section 4.A.(3) and determine if the engine mount fitting (P/N 112.35.07.152) is made from AA2024-T351 or AA2124-T851.
- (e) Do Steps 4.B(1)(b) thru (d) again to make sure the result is the same.
- (f) If the engine mount fitting (P/N 112.35.07.152) is made from AA2024-T351, send it to Pilatus Customer Support. Pilatus will send a replacement engine mount fitting (P/N 553.10.07.032) made from AA2124-T851.
- (g) If the engine mount fitting (P/N 112.35.07.152) is made from AA2124-T851, re-identify the fitting (Ref. Para. 2.D.) with a permanent marker pen (or equivalent).

C. Job Close-Up

- (1) Return the engine mount fittings to stores.
- (2) Make sure the part number is correct and either P/N 553.10.07.033 (Re-identified) or P/N 553.10.07.032 (New).

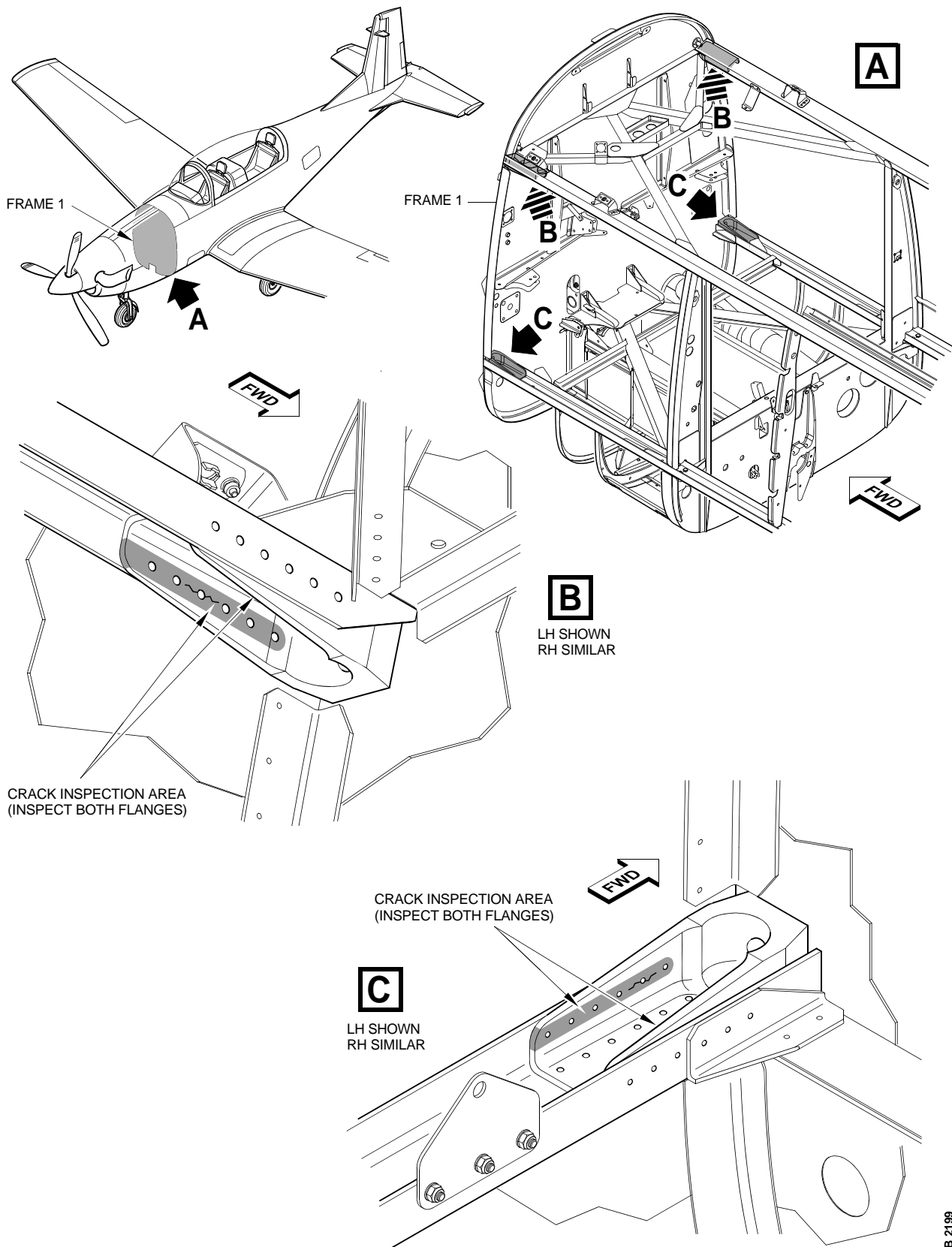
D. Documentation

- (1) Make an entry on the serviceable label (attached to the engine mount fitting) that this Service Bulletin has been incorporated.
- (2) Use the Service Bulletin Evaluation Sheet and report your results to Pilatus.



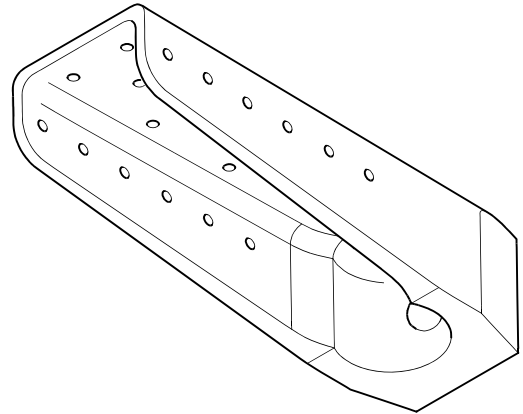
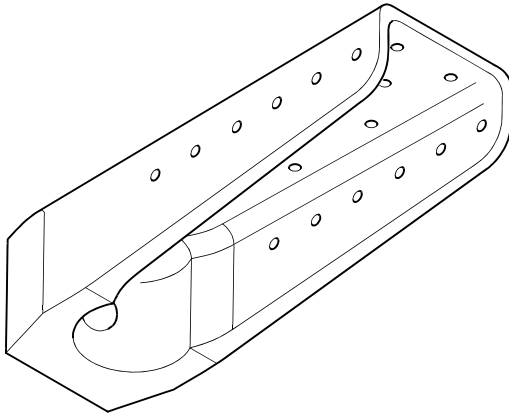
SB 2198

Check of the Material Specification
Figure 1



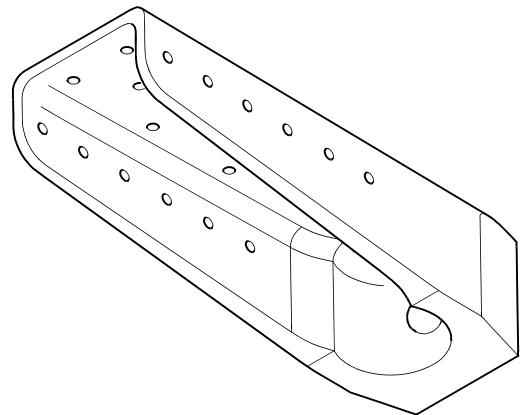
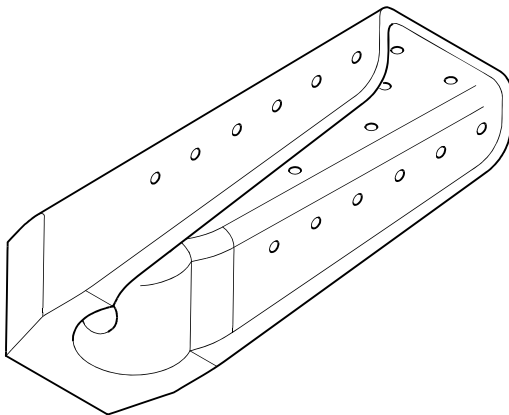
SB 2199

Fittings - Crack Inspection (If Necessary)
Figure 2



LH UPPER FITTING

DATE:	AIRCRAFT MSN:	FLYING HOURS:	LANDINGS:
CRACK 1 LENGTH	mm	ADDITIONAL COMMENTS	
CRACK 2 LENGTH	mm		
CRACK 3 LENGTH	mm		
CRACK 4 LENGTH	mm		

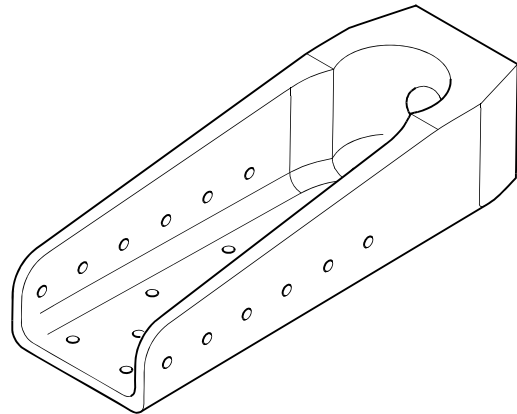
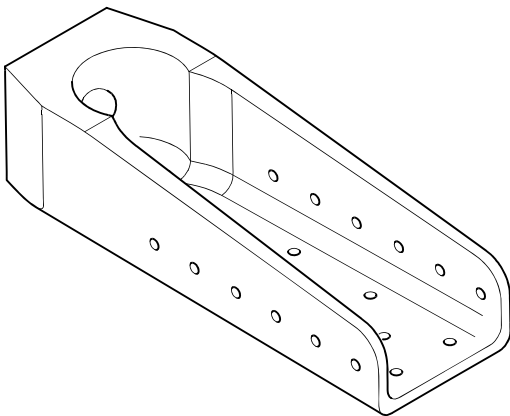


RH UPPER FITTING

DATE:	AIRCRAFT MSN:	FLYING HOURS:	LANDINGS:
CRACK 1 LENGTH	mm	ADDITIONAL COMMENTS	
CRACK 2 LENGTH	mm		
CRACK 3 LENGTH	mm		
CRACK 4 LENGTH	mm		

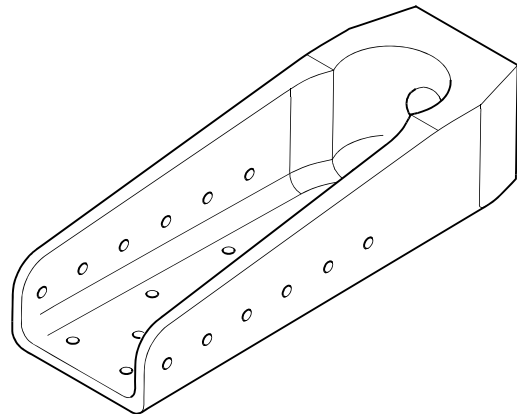
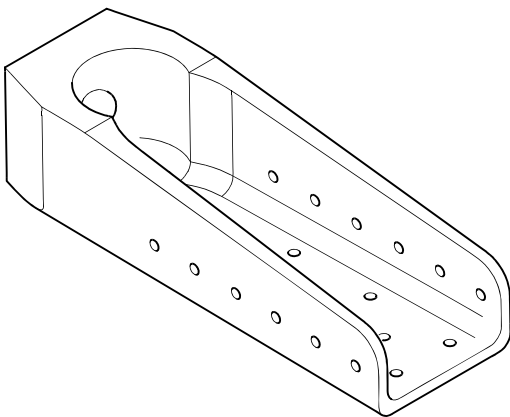
SB 2200

Upper Fittings - Inspection Form
Figure 3



LH LOWER FITTING

DATE:	AIRCRAFT MSN:	FLYING HOURS:	LANDINGS:
CRACK 1 LENGTH	mm	ADDITIONAL COMMENTS	
CRACK 2 LENGTH	mm		
CRACK 3 LENGTH	mm		
CRACK 4 LENGTH	mm		



RH LOWER FITTING

DATE:	AIRCRAFT MSN:	FLYING HOURS:	LANDINGS:
CRACK 1 LENGTH	mm	ADDITIONAL COMMENTS	
CRACK 2 LENGTH	mm		
CRACK 3 LENGTH	mm		
CRACK 4 LENGTH	mm		

SB 2201

Lower Fittings - Inspection Form
Figure 4

Line No.	Component	Part Number	Material Specification, after accomplishment of this Service Bulletin	Part Number, after accomplishment of this Service Bulletin
1	The engine upper-mount fitting, LH	112.35.07.152		
2	The engine upper-mount fitting, RH	112.35.07.152		
3	The engine lower-mount fitting, LH	112.35.07.152		
4	The engine lower-mount fitting, RH	112.35.07.152		

Status of Parts Form
Figure 5

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SERVICE BULLETIN EVALUATION SHEET FOR SB No. 53-008			
Title	Fuselage - General - Do a Check of the Material Specification Used in the Manufacture of the Engine Mount Fittings and, If Necessary, Do a Check for Cracks with a Boroscope		
Customer			
Service Center			
EMBODIMENT REPORTING			
This SB has been embodied:		<input type="checkbox"/>	On the entire fleet
		<input type="checkbox"/>	Only partially
Provide embodiment details per aircraft (use additional copies of this table, if necessary)			
MSN	Flying Hours	MSN	Flying Hours
Additional embodiment comments/findings			
EDITORIAL COMMENTS (procedure, kit quality, suggested improvements, etc.)			
Name	Signature	Date	
Please complete and forward this form to: Pilatus Aircraft LTD, Customer Technical Support (MCC), P.O. BOX 992, 6371 Stans, Switzerland Fax: +41 (0)41 619 6773 Email: Techsupport@pilatus-aircraft.com			

SERVICE BULLETIN EVALUATION SHEET

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