

SERVICE BULLETIN

SERVICE BULLETIN NO: 57-002

REF NO: 185

MODIFICATION NO:

ATA CHAPTER: 57

WINGS - OUTER WING INTEGRAL FUEL-TANK RIB ASSEMBLIES - INSPECTION AND REPAIR

1. Planning Information

A. Effectivity

All PC-6 Series aircraft to MSN 939 inclusive.

B. Concurrent Requirements

Service Bulletin (SB) 118 (Inboard Fuel Tank Ventilating System).

NOTE: PILATUS recommends Operators examine their records for incorporation of SB 118 in the given aircraft. If not found incorporated, PILATUS recommends Operators incorporate SB 118 at the same time as this SB.

C. Reason

(1) Problem

Crack damage has occurred in the ribs in the inboard integral fuel tanks in the left and right wings of PC-6 aircraft.

(2) Cause

Distortion of the wing structure in the areas of the inboard fuel tanks. This can occur when there are pressure differentials between the ambient air pressure and that of the fuel tanks. The effect of a pressure differential is to compress the wing in the area of the fuel tank and cause distortion of the related structure.

(3) Solution:

- Do an inspection of the applicable ribs and related structure.
- Repair damaged ribs and/or related structure or apply to PILATUS for repair instructions
- Examine the records or do an inspection to find if SB 118 is incorporated.
- Incorporate SB 118 (if not found) to give better ventilation of the fuel tanks and thus decrease the risk of pressure differentials.

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D. Description

- (1) Part A of this SB gives the data and instructions to do:
- An inspection of the ribs in the left and right inboard fuel tanks.
 - A typical rib repair
 - An inspection to find if SB 118 is incorporated
- (2) Part B of this SB gives the instruction to incorporate SB 118 if necessary.

E. Compliance

Mandatory.

- (1) Part A.

Required at the next scheduled maintenance after the effective date of this Service Bulletin but not later than Mar 30/03.

- (2) Part B.

Incorporation of SB 118 is required not later than Jun 30/03.

F. Approval

The technical aspects of this Service Bulletin have been approved by the Federal Office for Civil Aviation (FOCA) of Switzerland as an Airworthiness Directive.

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	1.5
Inspection	1.0
Repair	A/R
Close up	2.0
Incorporation of SB 118	12.0
TOTAL MAN-HOURS	16.5

(Repairs not included)

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

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H. Weight and Balance

(1) Weight Change

To be calculated when the weights of the repair materials are known.

(2) Moment Change

To be calculated when the weights of the repair materials and the locations of the repairs are known.

I. Electrical Load Data

Not changed.

J. Software

Not changed.

K. References

Aircraft Maintenance Manual (AMM), 06-40-00, 07-20-00, 12-11-28, 24-32-11 and 28-00-00.

Repair and Overhaul Manual (ROM), Chap 2 and Chap 4.

FAA AC 43. (Aircraft Inspection and Repair) 13-1B

L. Publications Affected

Not applicable.

M. Interchangeability of Parts

Not applicable.

2. Material Information

A. Material - Price and Availability

Not applicable. Modification kit not necessary for this SB.

B. Material Necessary for Each Aircraft

(1) Material to be Purchased

Not applicable. Modification kit not necessary for this SB.

(2) Additional Material to be Purchased

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
917.59.19.007	Rubber Cord	917.59.19.007	10 m	D	N/A	N/A
6102.0018.59	Washer Seal	6102.0018.59	30	D	N/A	N/A

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

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(3) Operator Supplied Materials

Not applicable.

C. Material Necessary for Each Spare

Not applicable.

D. Reidentified Parts

Not applicable.

E. Tooling - Cost and Availability

Not applicable.

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3. Part A - Accomplishment Instructions - Aircraft

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

A. Preparation

- (1) Obey the instructions given in Fuel - Maintenance Practices (Ref. AMM, 28-00-00, Page Block 201).
- (2) Make sure external power is disconnected.
- (3) Disconnect the battery (Ref. AMM, 24-32-11, Page Block 403).
- (4) Put warning signs (DO NOT APPLY ELECTRICAL POWER) in the flight compartment and on the external power receptacle.
- (5) Defuel the aircraft (Ref. AMM, 12-11-28, Page Block 301).
- (6) Use trestles or equivalent equipment to shore the aircraft (Ref. AMM, 07-20-00, Page Block 201). It is not necessary to lift the aircraft when you do this.
- (7) Remove the access-panels (LT1, LT2, RT1 and RT2) (Ref. AMM, 06-40-00, Page Block 301).

B. Inspection of the Wing Ribs and Related Structure (Ref. Fig 1)

This procedure is applicable to the left and right wings.

- (1) Use a source of bright light and a X 10 magnifier to do an inspection for cracks in the ribs of the integral fuel tanks in the wings. Refer to the table below (Typical Tank Rib - Crack Damage) to identify repairable and none repairable crack damage.

Horizontal and Vertical Crack Combinations	Remarks
One, two or three horizontal cracks (A, B or C) with No vertical cracks	Repairable (Ref. Para D)
One horizontal crack (A, B or C) with One vertical crack (D or E)	Repairable (Ref. Para D)
One horizontal crack (A, B or C) with Two or more vertical cracks (D or E)	Apply to PILATUS for repair instructions
All other combinations of horizontal and vertical cracks	Apply to PILATUS for repair instructions

Typical Tank Rib - Crack Damage

Record the type, location and dimensions of all damage you find. Send recorded data to PILATUS immediately and by the fastest way possible. Also, inform PILATUS if no damage is found.

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- (2) Use a straight edge or equivalent to do an inspection for distortion of the top and bottom wing skins (skins).
 - (a) Put the straight edge in position on the top skin. The length of the straight edge must not be less than the length of the fuel tank. Make sure it is:
 - In the middle between the front and rear spars.
 - Parallel to the front and rear spars
 - (b) Look for a clearance between the straight edge and the surface of the skin. Too much clearance shows that distortion has occurred. If applicable, measure and record the clearance between the straight edge and the surface of the skin. The clearance distance must not be more than 2,0 mm (0.08 in.).
 - (c) Do Steps (a) thru (c) again to do an inspection for distortion of the bottom skin.
 - (d) Apply to PILATUS for repair instructions if you have found distortion. Send recorded data to PILATUS immediately and by the fastest way possible. Also inform PILATUS if no damage is found.

C. Inspection to Find if SB 118 is incorporated

- (1) Examine the aircraft records or do an inspection to find if SB 118 is incorporated.

D. Repair of the Wing Ribs and Related Structure

The steps in this procedure are only applicable if you found crack damage or distortion in ribs and/or related structure during the inspection (Ref. Para B, Step (1)).


- (1) If possible obey the instructions given in the ROM and do the applicable repair (or repairs) to the applicable rib/ribs and/or related structure (Ref ROM, Chap 2, Page Block 1 and Chap 4, Page Block 1).

If a rib flange or a lightning hole flange is cracked, obey the instructions given in FAA AC 43. 13-1B and do the applicable repair (or repairs).

- (2) Apply to PILATUS for repair instructions if it is not possible to obey the instructions given in the ROM or FAA AC 43. 13-1B.

E. Close up

- (1) Remove all tools and materials. Make sure the work areas are clean.
- (2) Install the access-panels (LT1, LT2, RT1 and RT2) (Ref. AMM, 06-40-00, Page Block 301).
- (3) Remove the trestles (Ref. AMM, 07-20-00, Page Block 201).
- (4) Refuel the aircraft (Ref. AMM, 12-11-28, Page Block 301).
- (5) Remove the warning signs from the flight compartment and the external power receptacle.


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4. Part B - Incorporation of SB 118

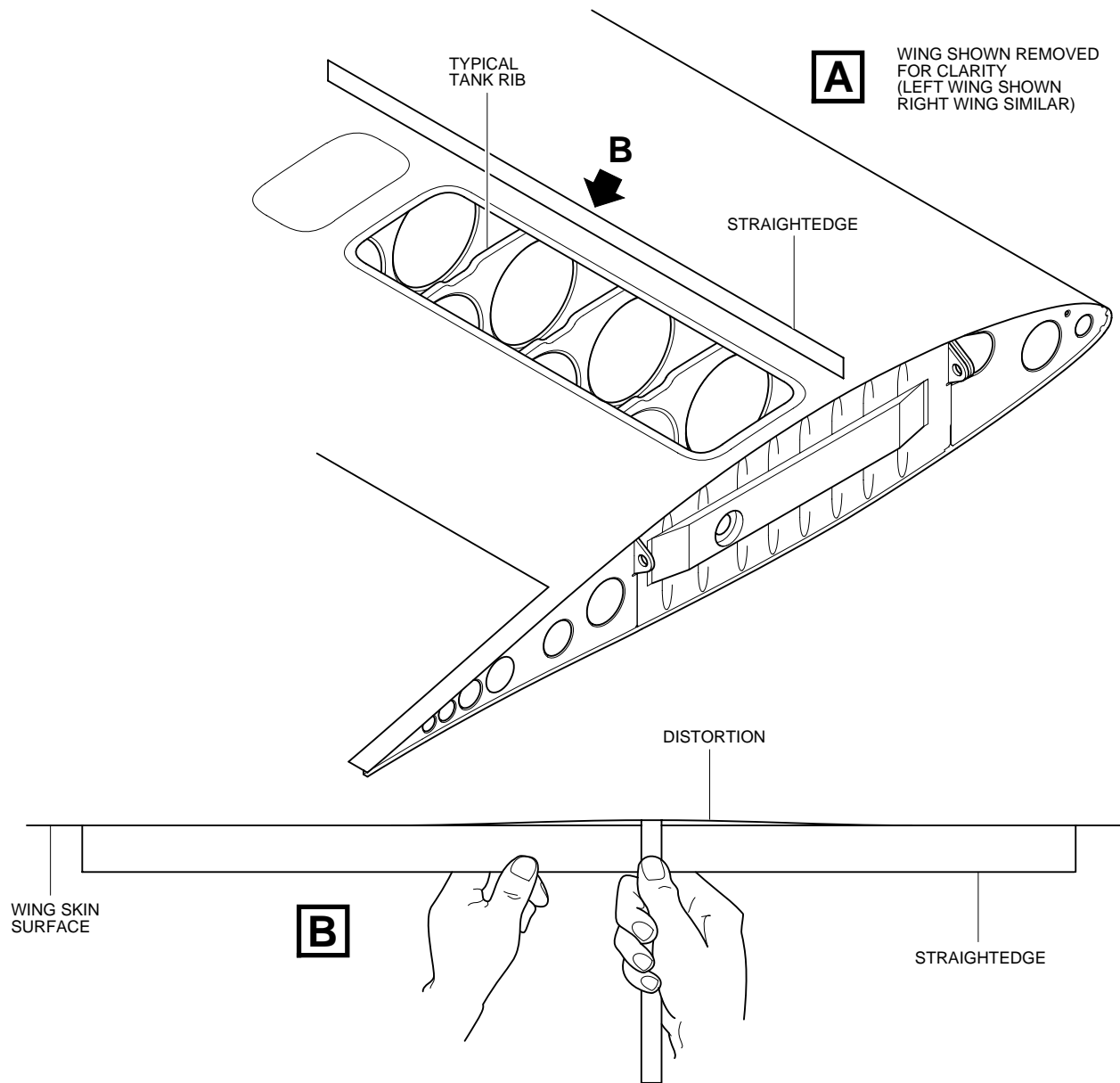
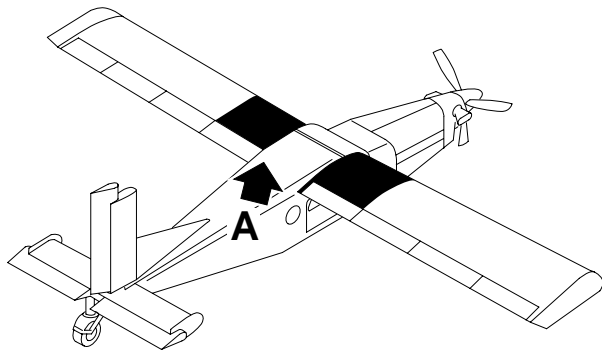
A. Modification

- (1) Incorporate SB 118 if not found incorporated. This SB changes the following data of SB118:
 - Compliance statement given in SB 118 is changed from Optional to Mandatory
 - Changes the effectivity of SB 118 to MSN 338 thru MSN 743

5. Documentation (Part A and Part B)

- (1) Make an entry in the Aircraft Logbook that Part A and Part B of this SB has been incorporated.

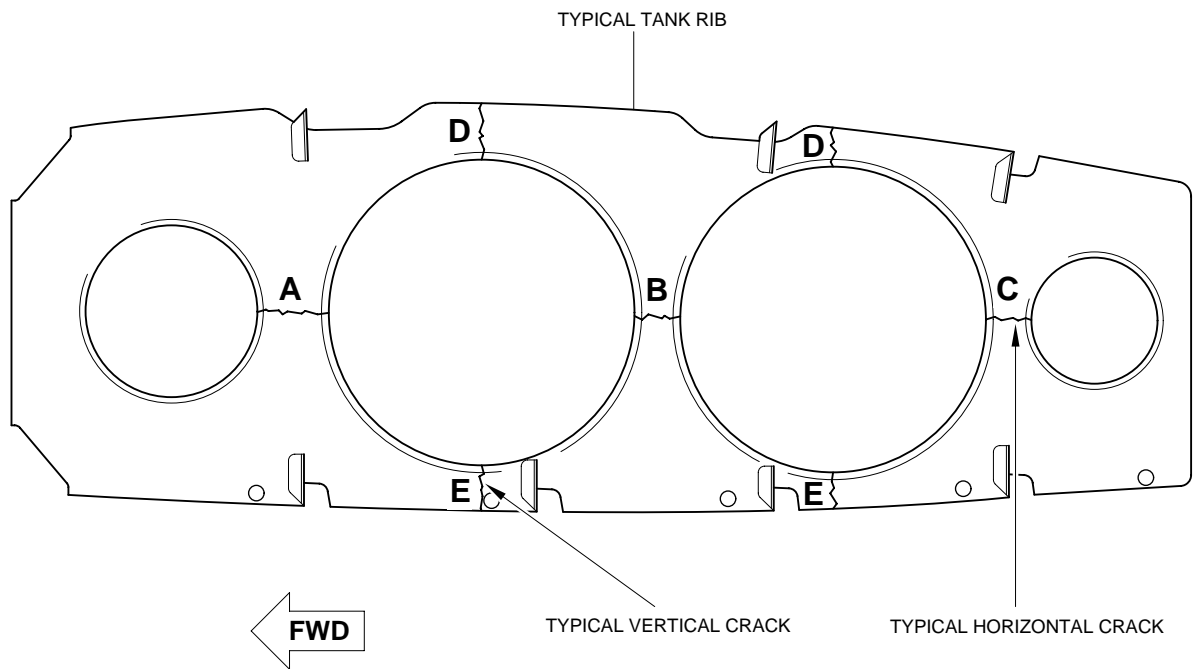
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Ribs in Integral Tank and Related Structure - Inspection
Figure 1 (Sheet 1 of 2)

SB 1250

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SB 1252

Ribs in Integral Tank and Related Structure - Inspection
Figure 1 (Sheet 2 of 2)