Service Bulletin No:	**53-014**	**Ref No:**	**121**
Modification No:	**INSPECTION**	**ATA Chapter:**	**53**

FUSELAGE - GENERAL
INSPECTION FOR CORROSION ON THE UPPER LEFT AND RIGHT LONGERONS ADJACENT TO FRAME 4

1. Planning Information

A. Effectivity

PC-9 aircraft MSNs 101 thru 216 and MSNs 501 thru 567.

B. Concurrent Requirements

None.

C. Reason

(1) Problem

Corrosion has been reported on the upper left and right longerons underneath the wedges installed at the joint with FR4.

(2) Cause

The cause of the corrosion is most probably due to water ingress through the sides of the fiberglass where the adhesive (used to bond the wedge to the longeron) was not sufficiently watertight.

(3) Solution

Do an inspection of the longeron in the specified areas and, if necessary, remove the corrosion. Install a new wedge and seal the area with sealant.

NOTE: Apply to Pilatus for a repair scheme if the removal of corrosion decreases the metal thickness to less than the specified limits.

D. Description

This Service Bulletin gives the instructions and data necessary to:

(1) Remove the wedges (P/N 553.30.09.177, LH and 553.30.09.178, RH).

(2) Do the inspection for corrosion on the longeron.

(3) Install the new wedges (P/N 553.30.09.435, LH and 553.30.09.436, RH).

E. Compliance

Mandatory.

Required within 3 calender months of the issue date of this Service Bulletin, unless already accomplished.

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 local Airworthiness Authorities for any changes, local regulations or sanctions that may affect the embodiment of this Service Bulletin.

G. Manpower

	Total
Preparation	0.25
Removal of the wedge ends	0.25
Inspection	0.25
Corrosion removal (If necessary)	A/R
Installation of the wedge ends	0.50
Close up	0.25
TOTAL MAN-HOURS	**1.50**

NOTE 1: No time is given to remove the corrosion as this depends on the depth and size of the area to be removed.

NOTE 2: Man-hours figures do not include the time required to cure sealants, paints and adhesives.

H. Weight and Balance

(1) Weight Change

Not applicable.

(2) Moment Change

Not applicable.

I. Electrical Load Data

Not affected.

J. Software

Not changed.

K. References

Aircraft Maintenance Manual (AMM), 20-31-00, 25-10-00, 25-30-02 (if applicable), 52-10-00.

Structural Repair Manual (SRM), 51-10-01, 51-10-02.

L. Publications Affected

Not applicable.

M. Interchangeability of Parts

Not applicable.

2. Material Information

A. Material - Price and Availability

Operators who require more information should contact:

PILATUS AIRCRAFT LTD,
CUSTOMER LIAISON MANAGER,
CH 6371 STANS, Tel: +41 41 619 62 26 (Government)
SWITZERLAND Fax: +41 41 619 61 70

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

B. Material Necessary for Each Aircraft

(1) Material to be Procured

(a) Modification Kit No. 500.50.09.215 has these parts:

NEW PART NO.	DESCRIPTION	OLD PART NO.	QTY	DISP. CODE	FIG. NO.	ITEM NO.
553.30.09.435	WEDGE END, LEFT	553.30.09.177	1	D	1	1
553.30.09.436	WEDGE END, RIGHT	553.30.09.178	1	D	1	1

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

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

MATERIAL NO.	DESCRIPTION	QTY	REMARKS
P01-008	SOLVENT	A/R	Or equivalent
P01-016	ACETONE	A/R	Or equivalent
P02-009	ABRASIVE CLOTH, GRADE 120	A/R	Or equivalent
P02-011	ABRASIVE CLOTH, GRADE 240	A/R	Or equivalent
P02-014	ABRASIVE CLOTH, GRADE 400	A/R	Or equivalent
P02-016	SCOTCH BRITE	A/R	Or equivalent
P02-031	ABSORBENT PAPER	A/R	Or equivalent
P07-006	COCKPIT PAINT	A/R	Or equivalent
P07-007	EPOXY PRIMER	A/R	Or equivalent
P07-021	ALODINE 1132	A/R	Or equivalent
P08-020	SEALANT, PR 1422A-2	A/R	Or equivalent
P08-059	ADHESIVE, SW9323	A/R	Or equivalent

C. Material Necessary for Each Spare

Not applicable.

D. Re-identified Parts

Not applicable.

E. Tooling - Cost and Availability

PART NO.	DESCRIPTION	QTY	REMARKS
-	ROUND NOSE METAL SPATULA OR A SCRAPER OR EQUIVALENT	1	LOCAL MANUFACTURE. APPROXIMATELY 12.5MM (0.5 IN.) WIDE WITH ALL SHARP EDGES REMOVED.

3. Accomplishment Instructions

WARNING: MAKE SURE THAT THE TWO EJECTION SEATS HAVE THE SAFETY PINS INSTALLED IN THE SAFE FOR SERVICING LOCATIONS BEFORE YOU GO INTO THE COCKPIT. (REF. AMM, 25-10-00, PAGE BLOCK 201)

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

A. Preparation

(1) Make sure the front and rear ejection seats are safe for servicing (Ref. AMM, 25-10-00, Page Block 201).

(2) Remove the side panels from the left and right sides of the rear cockpit to get access to the work area (Ref. AMM, 25-30-02, Page Block 401, if applicable).

B. Inspection (Ref. Fig. 1)

CAUTION: BE CAREFUL WHEN YOU REMOVE THE FIBREGLASS WEDGE. DO NOT CAUSE DAMAGE TO FRAME 4 AND THE UPPER LONGERON. USE THE ROUND NOSE METAL SPATULA OR A SCRAPER (OR EQUIVALENT).

(1) Removal of the Wedge End

(a) Put some of the absorbent paper (Material No. P02-031) below where the wedge ends (1) are installed in the rear cockpit.

NOTE: This is to catch the unwanted material.

(b) Remove the nut (6), the washers (3 and 5) and the screws (2).

(c) Carefully remove the fibre glass wedge (1) from the longeron (4) with the round nose metal spatula or scraper (or equivalent tool).

(2) Do the Inspection for Corrosion on the Longeron

(a) Remove all the sealant and adhesive from the longeron (4) as follows:

1 Remove as much of the sealant and adhesive as possible with a non-metallic scraper.

2 Remove the remainder of the sealant and adhesive with the abrasive cloth (Material No. P02-009, P02-011 and/or P02-014) and the Scotch Brite (Material No. P02-016).

3 Clean the area with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-008).

CAUTION: IF YOU MUST REMOVE THE SURFACE FINISH, DO NOT USE CHEMICAL PAINT STRIPPING METHODS TO REMOVE THE LAYERS OF PAINT FROM THE SURFACES OF THE LONGERON (4).

(b) Use a X 10 magnifier and look for signs of corrosion in the areas of the left and right wedge ends on the upper surface of the longeron (4) (Ref. SRM, 51-10-01).

(c) If you find corrosion in Para. 3.B.(2)(b), obey the evaluation and assessment instructions (Ref. SRM, 51-10-02).

(d) Remove the corrosion (Ref. SRM, 51-10-02) from the longeron (4) with the abrasive cloth (Material No. P02-009, P02-011 and/or P02-014) and the Scotch Brite (Material No. P02-016).

(e) After you have removed the corrosion in Para. 3.B.(2)(d), measure and record the thickness of the metal in the bare metal areas of the longeron (4). Make an entry in the Aircraft Logbook to record these values.

NOTE 1: You can use the feedback form (Ref. Fig. 2) to record the values. Align the holes in the longeron (4) with the holes drawn in the Figure.

NOTE 2: If you remove corrosion or you can see bare metal areas of the longeron (4), apply Alodine (Material No. P07-021) (Ref. Para. 3.B.(3)(c)) as soon as possible. If you do not apply the Alodine (Material No. P07-021) as soon as possible, the longeron (4) can become corroded again.

(f) If you do not find corrosion in Para. 3.B.(2)(b), measure and record the thickness of the metal in the bare metal areas of the longeron (4). Metal thickness which is less than 2.5 mm (0.098 in.) shows that a blend repair has been done in the area. Make an entry in the Aircraft Logbook to record the thickness if you find that a blend repair has been done.

NOTE: The nominal thickness of the metal is 2.7 ± 0.2 mm (0.106 ± 0.008 in.). You can use the feedback form (Ref. Fig. 2) to record the values.

(g) If the recorded metal thickness in Para. 3.B.(2)(e) is less than 1.4 mm (0.055 in.), use the feedback form (Ref. Fig. 2) to record the values and apply to Pilatus for a repair scheme. 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

(3) Installation of the New Wedge Ends

(a) If you removed corrosion from the longeron (4), make sure the areas of bare metal are a regular shape and all the paint and primer are removed from the area.

NOTE: If you removed corrosion and did not apply the Alodine (Material No. P07-021) immediately, make sure that the longeron (4) has not become corroded again.

(b) Remove the absorbent paper (Material No. P02-031) and all the unwanted material from the rear cockpit.

(c) Clean the area with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-008).

(d) Read and obey the manufacturers instructions and apply a layer of the Alodine 1132 (Material No. P07-021) to the bare areas of the longeron (4). Let the Alodine 1132 (Material No. P07-021) become dry.

(e) Read and obey the manufacturers instructions and mix sufficient primer (Material No. P07-007) for the areas to be treated.

(f) Apply an even layer of the primer (Material No. P07-007) to the areas of the longeron (4) which have been treated with Alodine 1132 (Material No. P07-021). Let the primer (Material No. P07-007) become dry.

(g) Make the primer in the bonding area rough with the Scotch Brite (Material No. P02-016).

(h) Clean the area with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-008).

(i) Make the bonding area of the new wedge rough with the abrasive cloth (Material No. P02-014) or Scotch Brite (Material No. P02-016).

(j) Clean the bonding area of the new wedge with the absorbent paper (Material No. P02-031) made moist with the acetone (Material No. P01-016).

(k) Read and obey the manufacturers instructions and mix sufficient adhesive (Material No. P08-059) for the installation of the two new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH).

(l) Apply a layer of the adhesive (Material No. P08-059) to the mating areas of the two new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and put them in their installed positions.

(m) Hold the new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) in their installed positions with clamps (or a suitable alternative) until the adhesive (Material No. P08-059) cures (refer to the manufacturers instructions).

(n) Make the contours of the new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) align with the longeron (4) and the fuselage with the abrasive cloth (Material No. P02-009, P02-011 and/or P02-014).

(o) Make the new wedge rough with the Scotch Brite (Material No. P02-016).

(p) Do this test to make sure the canopy closes correctly:

1 Close the canopy.

2 Make sure that all four hooks engage on the lugs in the fuselage.

3 Make sure that when the internal handle is released, the hooks stay engaged.

4 If a hook does not stay engaged, refer to AMM, 52-10-00, Page Block 401.

5 Open the canopy.

6 Do Para. 3.B.(3) (p)1 thru 5 again until all the hooks stay engaged on the lugs in the fuselage.

7 Check the operation of the canopy lock microswitch (Ref. AMM, 52-10-00, Page Block 501).

(q) Install the screw (2), the washers (3 and 5) and the nut (6).

(r) Clean the area with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-008).

(s) Read and obey the manufacturers instructions and mix sufficient sealant (Material No. P08-020) to make a small fillet between the two new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and the longeron (4).

(t) Apply a small fillet of the sealant (Material No. P08-020) between:

- The two new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and the longeron (4)
- The two new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and the front face of FR. 4.

(u) Make sure:

- The sealant (Material No. P08-020) fills all the gaps between the new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and the longeron (4)
- All the air bubbles are removed from the sealant (Material No. P08-020).

(v) Clean the surfaces of the new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) with the absorbent paper (Material No. P02-031) made moist with the solvent (Material No. P01-008).

(w) Let the sealant (Material No. P08-020) cure.

(x) Apply a layer of the primer (Material No. P07-007) to the new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and the sealant (Material No. P08-020).

(y) Read and obey the manufacturers instructions and mix sufficient paint (Material No. P07-006) for the areas to be treated.

(z) Apply layers of the paint (Material No. P07-006) to the areas of the longeron (4), the new wedge ends (1) (P/N 553.30.09.435, LH and 553.30.09.436, RH) and the sealant (Material No. P08-020) which have been treated with primer (Material No. P07-007).

(aa) Let the paint (Material No. P07-006) become dry.

C. Close up

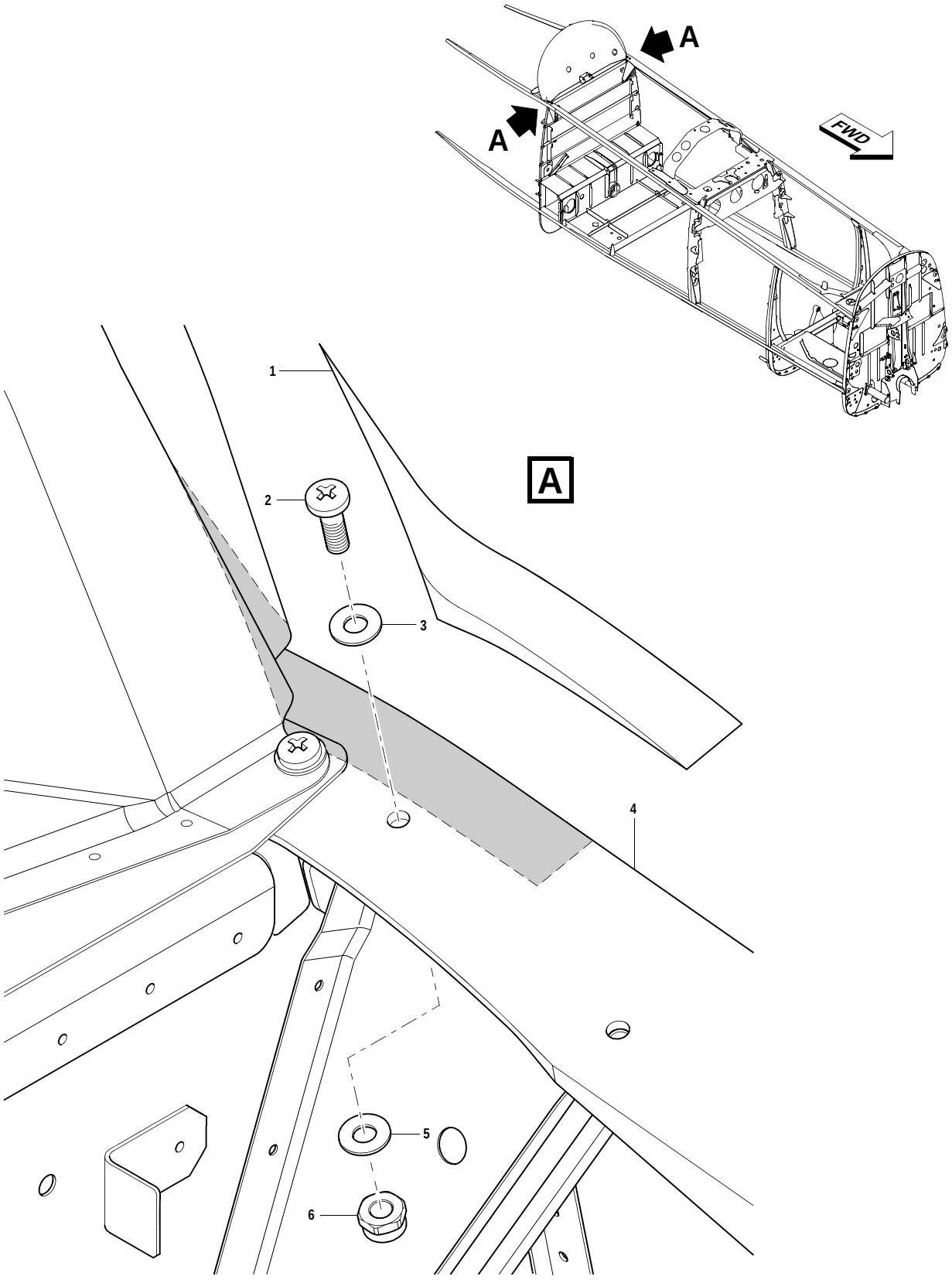
(1) Remove all tools and materials and make sure the work area is clean.

(2) Install the side panels on the left sides of the front and rear cockpits (Ref. AMM, 25-30-02, Page Block 401, if applicable).

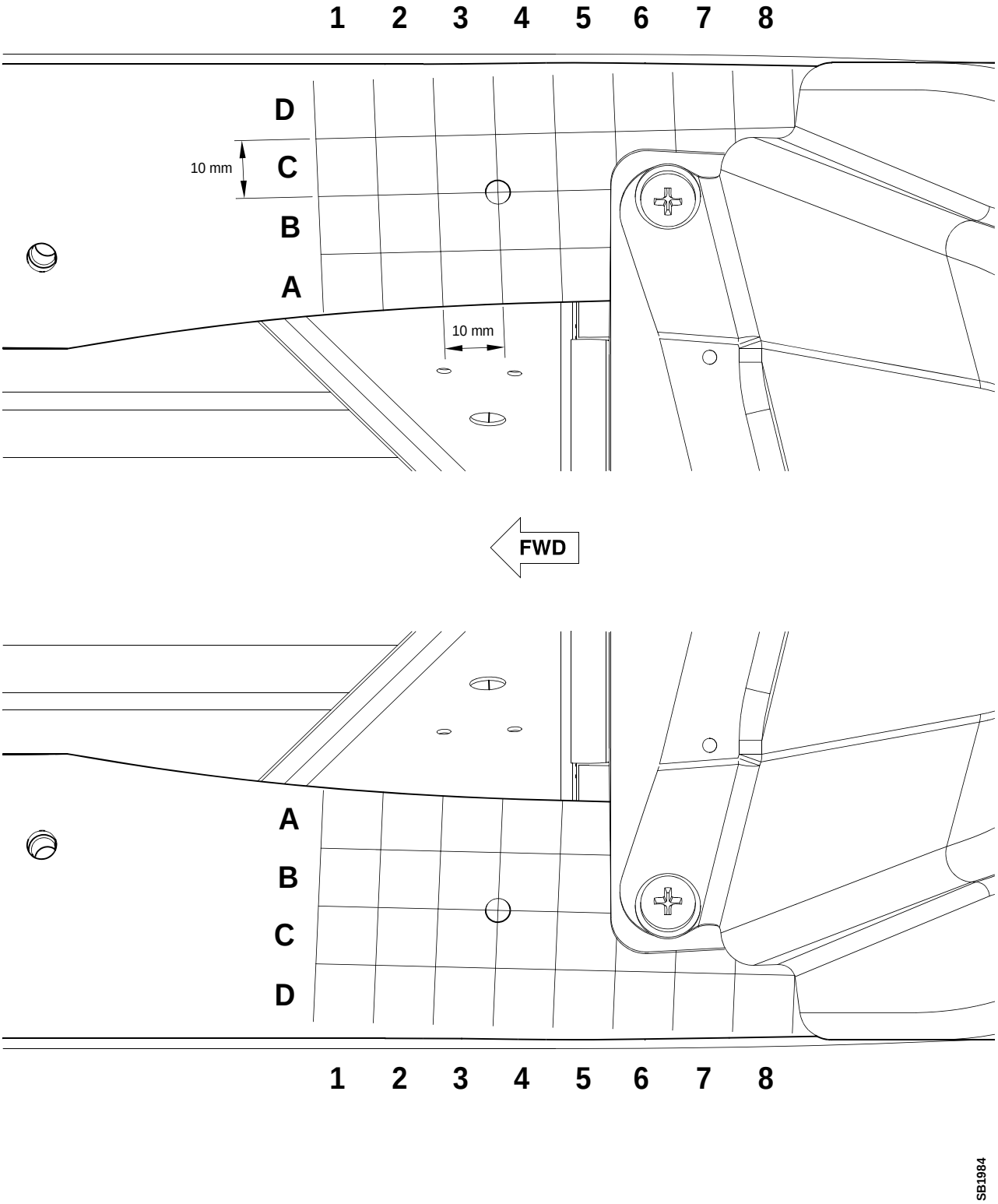
D. Documentation

(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(s) of the aircraft to Pilatus.



Wedge Ends - Removal and Installation
Figure 1



Feedback Form (Rear Cockpit)
Figure 2

SERVICE BULLETIN EVALUATION SHEET FOR SB No. 53-014				
Title	**Fuselage - General Inspection for Corrosion on the Upper Left and Right Longerons adjacent to Frame 4**			
Customer				
Service Center				
EMBODIMENT REPORTING				
This SB has been embodied:		**On the entire fleet**		
		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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