

# SERVICE BULLETIN

SERVICE BULLETIN NO: 57-003

REF NO: 189

MODIFICATION NO: ECN 05-0241

ATA CHAPTER: 57

## WING WING STRUT FITTING - INSPECTION FOR CORROSION AND REPLACEMENT

### 1. Planning Information

#### A. Effectivity

PC-6 Series aircraft MSN 101 thru MSN 949, MSN 951 and MSN 2001 thru MSN 2092. Wing strut fittings (fittings) 111.35.06.184 will be incorporated in aircraft MSN 950 and subsequent.

#### B. Concurrent Requirements

None.

#### C. Reason

##### (1) Problem

Operators have reported exfoliation corrosion in the fittings of some PC-6 aircraft. The corrosion occurred in the parts of the fittings which are exterior to the bottom skin of the wing (skin).

##### (2) Solution

- (a) Examine the fittings (6102.0041.00), (111.35.06.055) or (111.35.06.056) for corrosion.
- (b) Replace defective wing strut fittings with new (retrofit) fittings (111.35.06.185) and/or (111.35.06.186).

**NOTE:** Subsequent inspections for corrosion will be included in Chapter 5 of the Aircraft Maintenance Manual (AMM).

#### D. Description

This Service Bulletin gives the data and instructions necessary to examine the left and right fittings for corrosion and, if necessary, to replace defective fittings. The accomplishment instructions in this Service Bulletin are divided into two parts:

- Section 3. (Accomplishment Instructions - Aircraft - Part 1) gives the procedures necessary to examine the left and right fittings for corrosion.
- Section 4. (Accomplishment Instructions - Aircraft - Part 2) gives the procedures necessary to make access openings in the wing and to replace defective fittings

It is possible that some aircraft have access panels installed in the wings as local modifications without the authority of PILATUS. Operators must check with their local Airworthiness Authorities if such modifications affect the embodiment of this Service Bulletin.

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Revision No. 1 of this Service Bulletin is issued to correct the dimensions for the aft access opening (Figure 2, Sheet 2). If a customer has accomplished this Service Bulletin at the initial issue and has done the aft access opening, they are requested to contact Pilatus. Other minor changes have been done to bring this Service Bulletin to the latest standard.

**E. Compliance**

Mandatory.

Required within the next 12 calendar months after the effective date of this Service Bulletin, unless already accomplished.

**F. Approval**

The technical content of this Service Bulletin is approved under the authority of DOA No. EASA. 21J. 357.

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	4.0
Access Modification and Replacement of Fitting	15.0
Close up	1.5
<b>TOTAL MAN-HOURS</b>	<b>22.0</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). 06-40-00 and 57-00-01.

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

**L. Publications Affected**

AMM. Chapter 5.

Illustrated Parts Catalog. 57-26-01/01

**M. Interchangeability of Parts**

Pre and Post-Service Bulletin 57-003 parts are not interchangeable.

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**2. Material Information**

**A. Material Necessary for Each Aircraft**

**(1) Material to be Purchased**

Not applicable. Modification kit not necessary for this Service Bulletin.

**(2) Additional Material to be Procured**

The parts below are necessary for the replacement of one wing strut fitting (left or right). Operators must order the parts from PILATUS as necessary.

NEW PART NO.	DESCRIPTION	OLD PART NO.	QTY	DISP. CODE	FIG	ITEM
111.35.06.057	BOLT - LARGE	932.53.47.286 932.53.46.436	5	D	3	1
111.35.06.185	FITTING - WING STRUT LH	6102.0041.00 111.35.06.055	1	D	1/3	1/4
111.35.06.186	FITTING - WING STRUT RH	6102.0041.00 111.35.06.056	1	D	N/A	N/A
938.07.31.108	NUT - HEX SLFLKG (8PA106)	938.07.34.104 938.07.65.105	5	D	3	3
938.71.51.108	WASHER (NFL23111CA080)	938.78.11.106 938.78.11.206	5	D	3	2
939.19.86.102	RIVET - BLIND (CR3223-4-2)	N/A	50	N	2	N/A

DISPOSITION CODES: D - DISCARD / N - NEW / R - RETURN TO PILATUS

**(3) Operator Supplied Materials**

PART NO.	DESCRIPTION	QTY	REMARKS
907.10.11.244	SEALANT	A/R	MATERIAL ITEM NO. P08-057
908.40.32.251	CORROSION PREVENTATIVE	A/R	MATERIAL ITEM NO. P07-001
908.63.81.101	SOLVENT	A/R	MATERIAL ITEM NO. P01-008 (OR APPROVED ALTERNATIVE)
910.02.05.031	PRIMER PAINT	A/R	MATERIAL ITEM NO. P07-007
910.31.20.040	CORROSION PREVENTATIVE	A/R	MATERIAL ITEM NO. P04-012
916.16.35.110	AL SHEET	A/R	AA2024-T3 1,0 mm

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**(4) Special Tools**


PART NUMBER	DESCRIPTION	QTY	REMARKS
110.85.07.593	TOOL KIT - REAMER	1	KIT COMPRISES: <ul style="list-style-type: none"><li>• REAMER - 8,1 mm (0.318 in.)</li><li>• REAMER - 8,17 mm (0.321 in.)</li><li>• REAMER - 8,19 mm (0.322 in.)</li><li>• REAMER - 8,2 mm (0.323 in.)</li></ul>

**B. Material Necessary for Each Spare**

Not applicable.

**C. Reidentified Parts**

Not applicable.

  
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**3. Accomplishment Instructions - Aircraft - Part 1**

**A. Preparation**

- (1) Remove the left and right wing struts (Ref. AMM. 57-00-01, Page Block 401).

**B. Examination (Ref. Fig. 1)**

- (1) Remove loose paint if necessary and clean the left and right fittings (1).
- (2) Visually examine the left and right fittings (1) for signs of corrosion. Do this with a X10 magnifier and a source of bright light.

**NOTE:** You can also use the strait edge of a ruler which will indicate distortion caused by corrosion.

Minor surface corrosion is permitted (Ref. ROM. Chap. 2 and 4). All other corrosion is not permitted and you must replace the defective fitting (Ref. Sect 4. Accomplishment Instructions - Aircraft - Part 2).

If you are not sure that a given fitting is serviceable, obey the manufacturers instructions and use a non-destructive test inspection.

- (3) Remove minor surface corrosion (Ref. ROM. Chap. 2 and 4) from the given fittings (1). This step is only applicable if you have found permitted corrosion (Ref. Step (2)).
- (4) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P07-001), primer (Material Item No. P07-007) and the applicable paint on all bare metal surfaces.

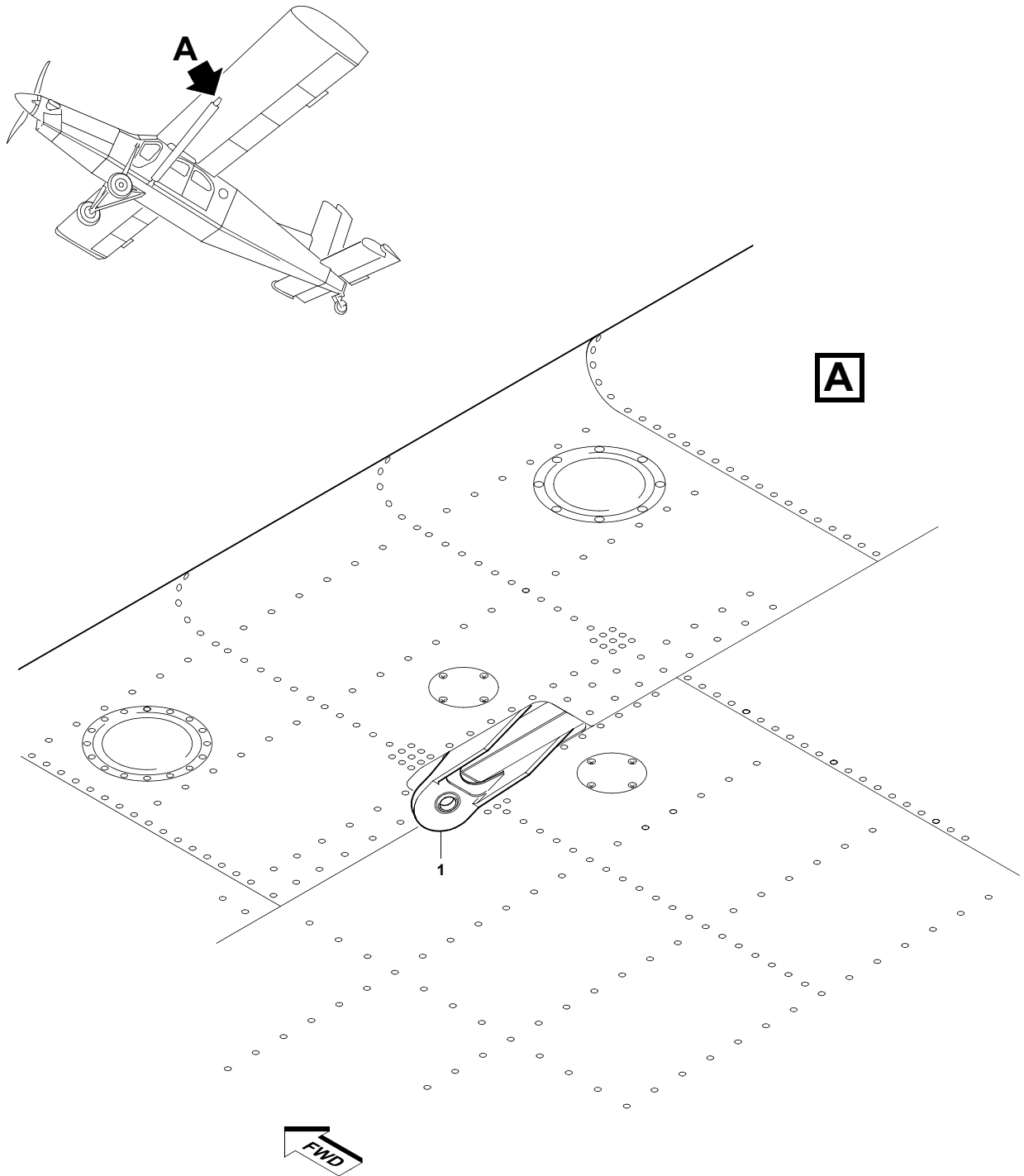
**C. Close up**

- (1) Remove all tools and materials. Make sure that the work areas are clean.
- (2) Install the access panels LB10 and RB9 as applicable (Ref. AMM. 06-40-00, Page Block 1).
- (3) Install the wing struts (Ref. AMM. 57-00-01, Page Block 401).

**D. Documentation**

Make an entry in the Aircraft Logbook that Part 1 of this Service Bulletin has been incorporated.

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Fittings - Inspection  
Figure 1

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**4. Accomplishment Instructions - Aircraft - Part 2**

**A. Fitting/s - Replacement (Ref. Fig. 2 and 3)**

This procedure is only applicable if you found corrosion which is not permitted in Para B, (2). The procedure is given for replacement of the left fitting but is also applicable for the right fitting.

**NOTE:** Not all aircraft have the applicable openings for internal access to the fittings.

- (1) Remove the access panels LB10 and/or RB9 (Ref. AMM. 06-40-00, Page Block 1). Keep two of the screws (935.13.16.018) from the access panel. Discard the unwanted panel and screws.
- (2) Make an access opening in the skin, forward of the fitting (Ref. Fig. 2). This step is only applicable if there is no internal access to the forward flange of the fitting assembly.

**NOTE:** The new opening is at the same location (and is the same width) as the circular (inspection) opening LB10 (left) or RB9 (right). The forward and aft anchor nuts for the access covers LB10 or RB9 will also be used for the cover of the new opening.

- (a) Make marks to show the contours of the opening on the skin. Do this at the location shown and to the given dimensions (192 x 52 mm (7.6 x 2.0 in.) with 26 mm (1.0 in.) radii at each end).
  - (b) Cut the opening in the skin to the contour marks with the applicable cutting tools. Make sure that there are no sharp edges. Do not remove the forward and aft anchor nuts for the access covers LB10 or RB9.
- (3) If necessary make a new access opening in the skin aft of the fitting.
- (a) Make marks to show an intersection of center lines and the contours of a circular opening 120 mm (4.7 in.) in diameter. Do this on the skin at the location shown.
  - (b) Cut the opening in the skin to the contour marks with the applicable cutting tools. Make sure that there are no sharp edges.
- (4) Remove the defective fitting/s (Ref. Fig. 3).
- (a) Remove the nuts (3), washers (2) and bolts (1).
  - (b) Disassemble and remove the fitting (4) from the wing structure. Discard the fitting.
- (5) Make the bolt holes for the new fitting.

- (a) Put the new fitting (4) in position and hold with the removed bolts (1).

**NOTE:** The rear flange of the new fitting contains 8,0 mm (0.315 in.) diameter holes. There are no holes in the forward flange.

- (b) Remove one of the bolts (1) and make a hole in the forward flange of the fitting with an 8,0 mm (0.315 in.) diameter drill.
- (c) Temporarily install one of the removed bolts (1) and a nut (3) in the drilled hole.
- (d) Do Steps (b) and (c) again to make the remaining holes in the forward flange of the fitting (4).



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- (e) Remove and discard the nuts (3) and bolts (1) from the second, third and fourth holes. Do not remove the nuts and bolts from the inboard and outboard holes.
  - (f) Increase the diameters of the empty holes with the reamers. To do this, use the 8,1, 8,17, 8,19 and 8,2 mm (0.318, 0.321, 0.322 and 0.323 in.) reamers in sequence.
  - (g) Temporarily install new larger (oversize) bolts (1) and new nuts (3) in the reamed holes.
  - (h) Remove and discard the nuts (3) and bolts (1) from the inboard and outboard holes.
  - (i) Do Step (f) again to increase the diameters of the empty holes.
  - (j) Remove the nuts (3), bolts (1) and the fitting (4).
  - (k) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P07-001). Do this on the bare metal surfaces of the holes in the wing structure and the fitting (4).
- (6) Install the replacement fitting.
- (a) Obey the manufacturers instructions and apply layers of the sealant (Material Item No. P08-057) on the faying surfaces of the fitting (4).
  - (b) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P04-012) on the faying surfaces of new bolts (1), washers (2) and nuts (3).
  - (c) Put the fitting (4) in position in the wing and align the holes.
  - (d) Install the new bolts (1), washers (2) and nuts (3). Make sure that the heads of the bolts point forward.
  - (e) Torque the nuts (3) to between 18 and 24 Nm (159.3 and 212.4 lbf in.).
  - (f) Obey the manufacturers instructions and remove unwanted sealant and corrosion preventative with the solvent (Material Item No. P01-008 or approved alternative).
- (7) Make the cover for the forward access opening (Ref. Fig. 2).
- (a) Make marks to show the center line and contours of the cover on the piece of aluminium alloy sheet (916.16.35.110). Do this to the given dimensions (224 x 84 mm (8.8 x 3.3 in.) with 42 mm (1.7 in.) radii at each end).
  - (b) Cut the aluminium alloy sheet (916.16.35.110) at the contour marks with the applicable cutting tools to make the cover (1). Make sure that there are no sharp edges.
  - (c) Make marks to show the locations of the rivet and screw holes around the edges of the cover (2). Do this at the pitch dimensions shown.
  - (d) Make the rivet holes at the applicable marks on the cover (1) with a 3,3 mm (0.13 in.) diameter drill. Deburr the holes.
  - (e) Make the screw holes at the applicable marks on the cover (1) with a 4,0 mm (0.16 in.) diameter drill. Deburr the holes.

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- (f) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P07-001) and primer (Material Item No. P07-007). Do this on the bare metal surfaces of the cover (2) and the edges of the opening in the skin.
- (8) Make the rivet holes for the cover for the forward access opening in the skin.
  - (a) Put the cover (1) in position on the skin, align the center lines and hold.
  - (b) Make the rivet and screw holes in the skin with a 3,3 mm (0.13 in.) and 4,0 mm (0.16 in.) diameter drill.
  - (c) Remove the cover and deburr the rivet holes.
  - (d) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P07-001) and primer (Material Item No. P07-007). Do this on the bare metal surfaces of the cover (1) and the edges of the opening in the skin.
- (9) Install the cover for the forward access opening.
  - (a) Obey the manufacturers instructions and apply layers of the sealant (Material Item No. P08-057) on the faying surfaces of the cover (1) and the skin.
  - (b) Put the cover (1) in position on the skin and hold with gripper pins.
  - (c) Install the rivets (CR3223-4-2) (Ref. ROM. Chap. 2). Apply a layer of the sealant (Material Item No. P08-057) on each rivet before you install it.
  - (d) Obey the manufacturers instructions and remove unwanted sealant with the solvent (Material Item No. P01-008 or approved alternative).
  - (e) Install the two screws (935.13.16.018) (Ref. Step (1)).
  - (f) Obey the manufacturers instructions and apply layers of primer (Material Item No. P07-007) and applicable paint on the rivet and screw heads and the exterior surface of the cover (1).
- (10) Make the new cover for the aft access opening.
  - (a) Make marks to show an intersection of center lines and the contours of a 155 mm (6.1 in.) diameter circular cover. Do this on a piece of the aluminium alloy sheet (P/N 916.16.35.110).
  - (b) Cut the aluminium alloy sheet (916.16.35.110) at the contour marks with the applicable cutting tools to make the cover (2). Make sure that there are no sharp edges.
  - (c) Make marks to show the locations of the 16 rivet holes around the edges of the cover (2). Make sure that the holes are of equal pitch, at a diameter of 135 mm (5.32 in.).
  - (d) Make pilot holes in the cover (2). Do this at the marks for the rivet holes with a 2,4 mm (0.1 in.) diameter drill. deburr the holes
- (11) Make the rivet holes for the cover for the aft access opening.
  - (a) Put the cover (2) in position on the skin, align the center lines and hold.

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- (b) Make the rivet holes in the cover (2) and the skin. Do this through the pilot holes with a 3,3 mm (0.13 in.) drill.
  - (c) Remove the cover and deburr the rivet holes.
  - (d) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P07-001) and primer (Material Item No. P07-007). Do this on the bare metal surfaces of the cover (2) and the edges of the opening in the skin.
- (12) Install the cover for the aft access opening cover.
- (a) Obey the manufacturers instructions and apply layers of the sealant (Material Item No. P08-057) on the faying surfaces of the cover (2) and the skin.
  - (b) Put the cover (2) in position the skin and hold with gripper pins.
  - (c) Install the rivets (CR3223-4-2) (Ref. ROM. Chap. 2). Apply a layer of the sealant (Material Item No. P08-057) on each rivet before you install it.
  - (d) Obey the manufacturers instructions and remove unwanted sealant with the solvent (Material Item No. P01-008 or approved alternative).
  - (e) Obey the manufacturers instructions and apply layers of primer (Material Item No. P07-007) and applicable paint on the rivet heads and the exterior surface of the cover (1).
- (13) If necessary do Steps (1) thru (12) again to make the access openings and replace the fitting (4) in the remaining wing.

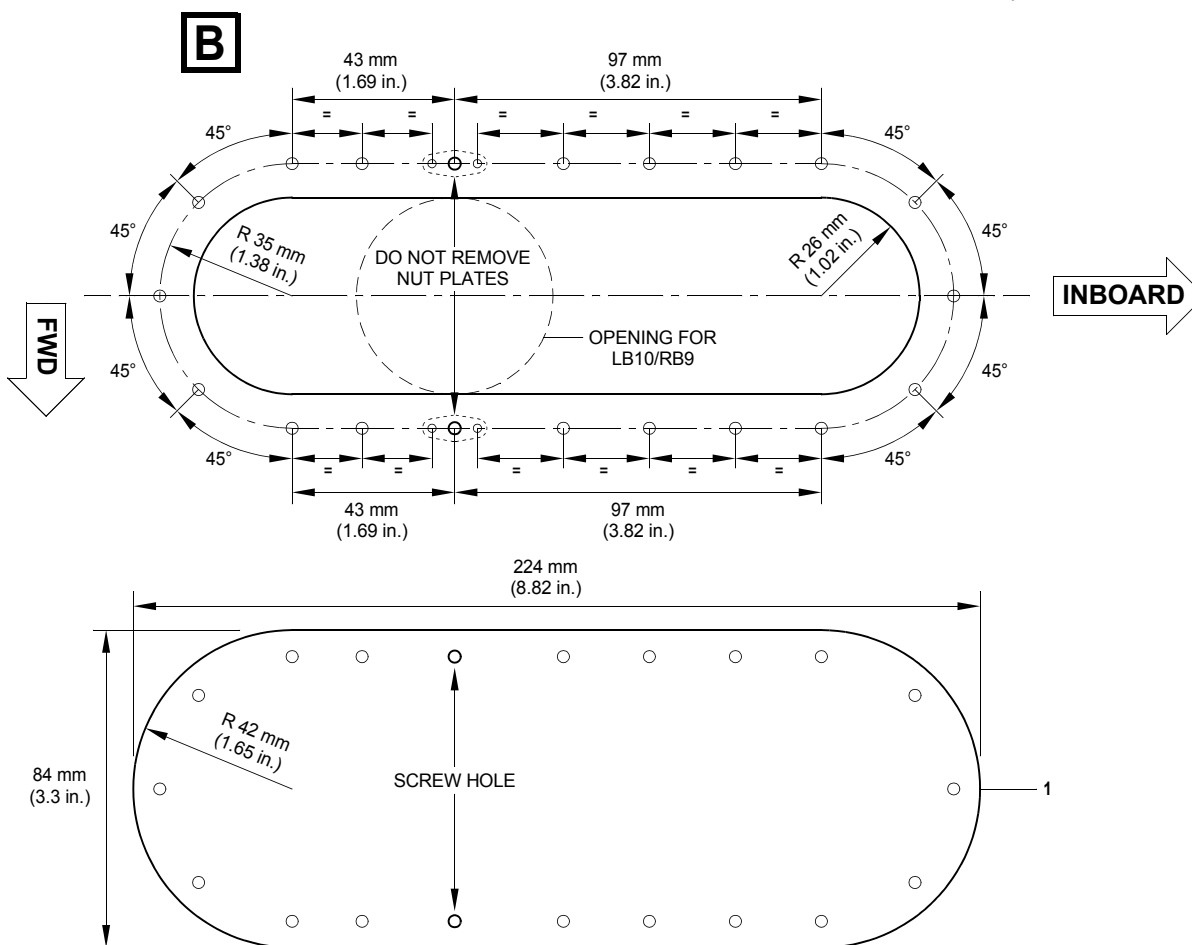
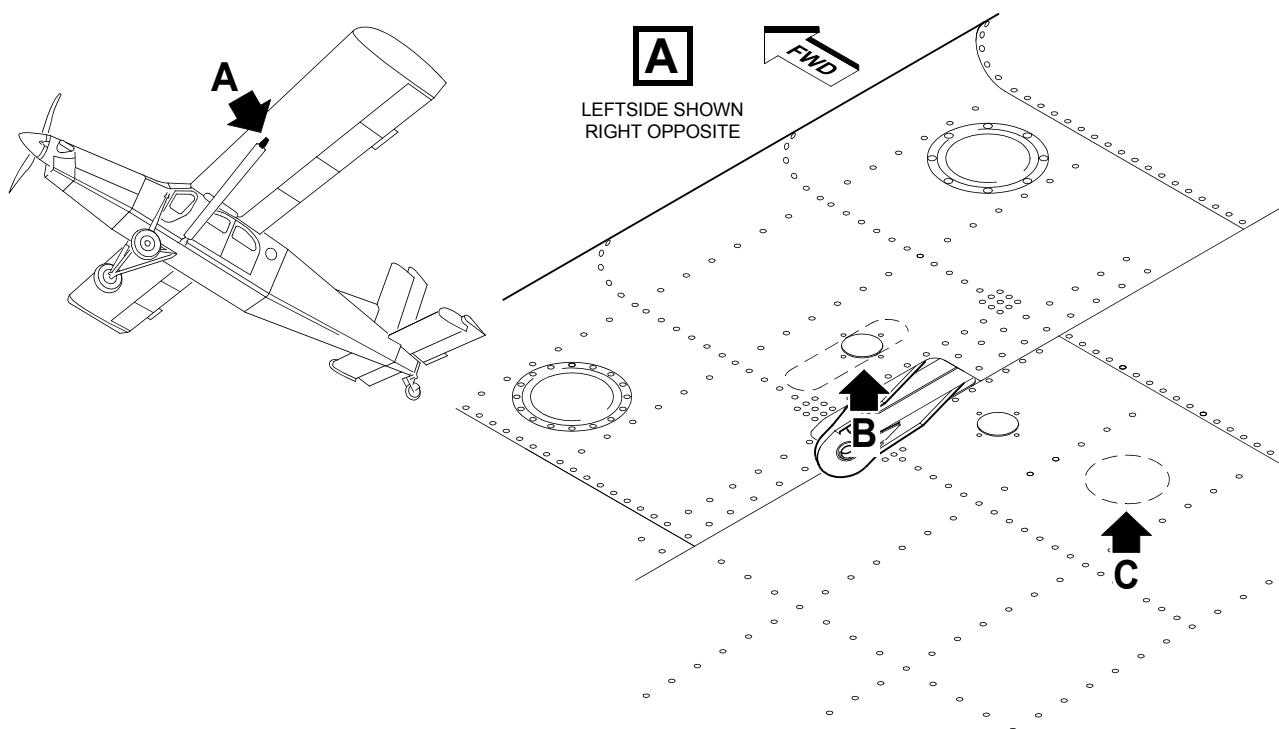
**B. Close up**

- (1) Remove all tools and materials. Make sure that the work areas are clean.
- (2) Install the access panels LB10 and RB9 as applicable (Ref. AMM. 06-40-00, Page Block 1).
- (3) Install the wing struts (Ref. AMM. 57-00-01, Page Block 401).

**C. Documentation**

Make an entry in the Aircraft Logbook that Parts 1 and 2 of this Service Bulletin have been incorporated.

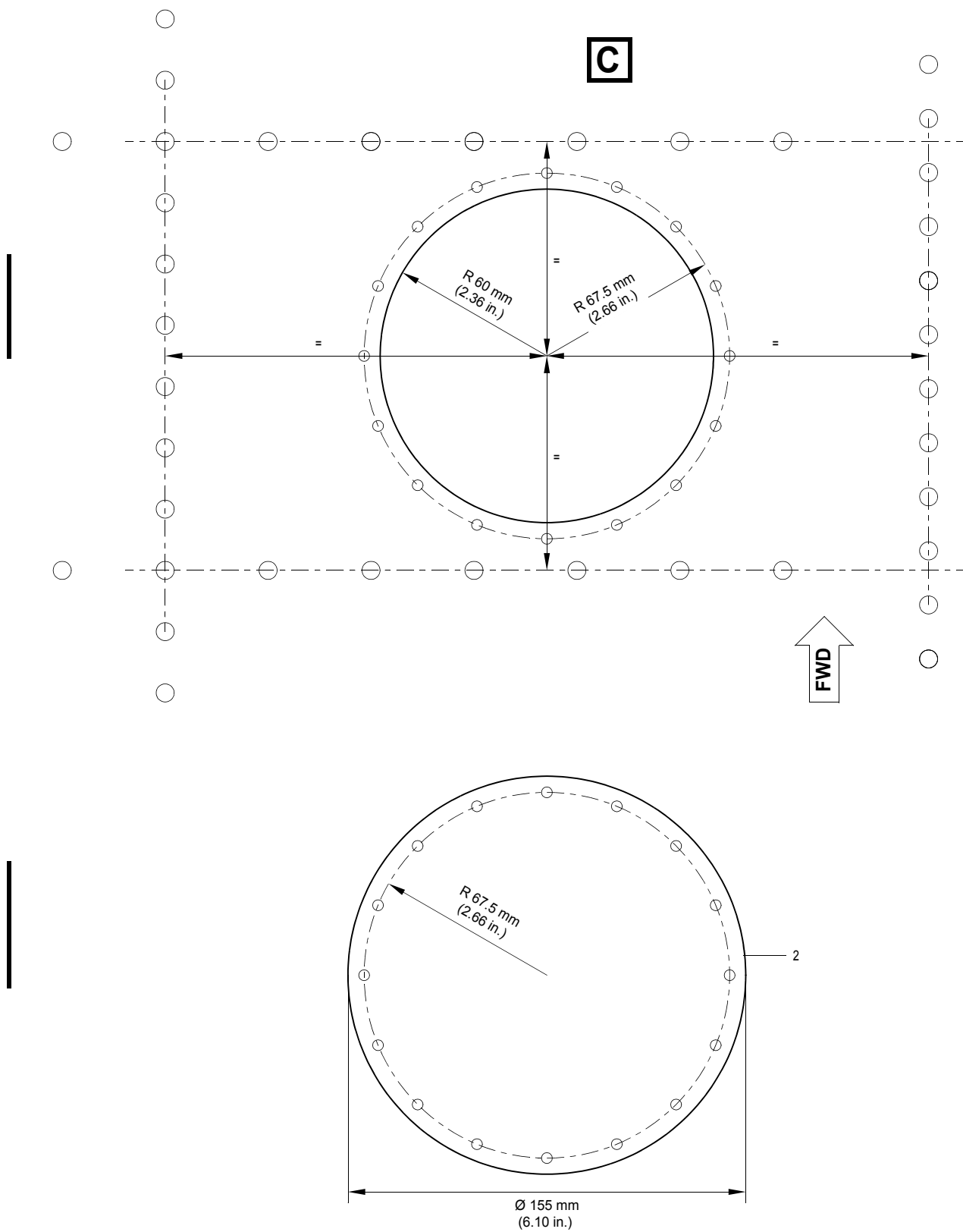
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Access Openings and Covers - Installation (Left Shown, Right Similar)  
Figure 2 (Sheet 1 of 2)

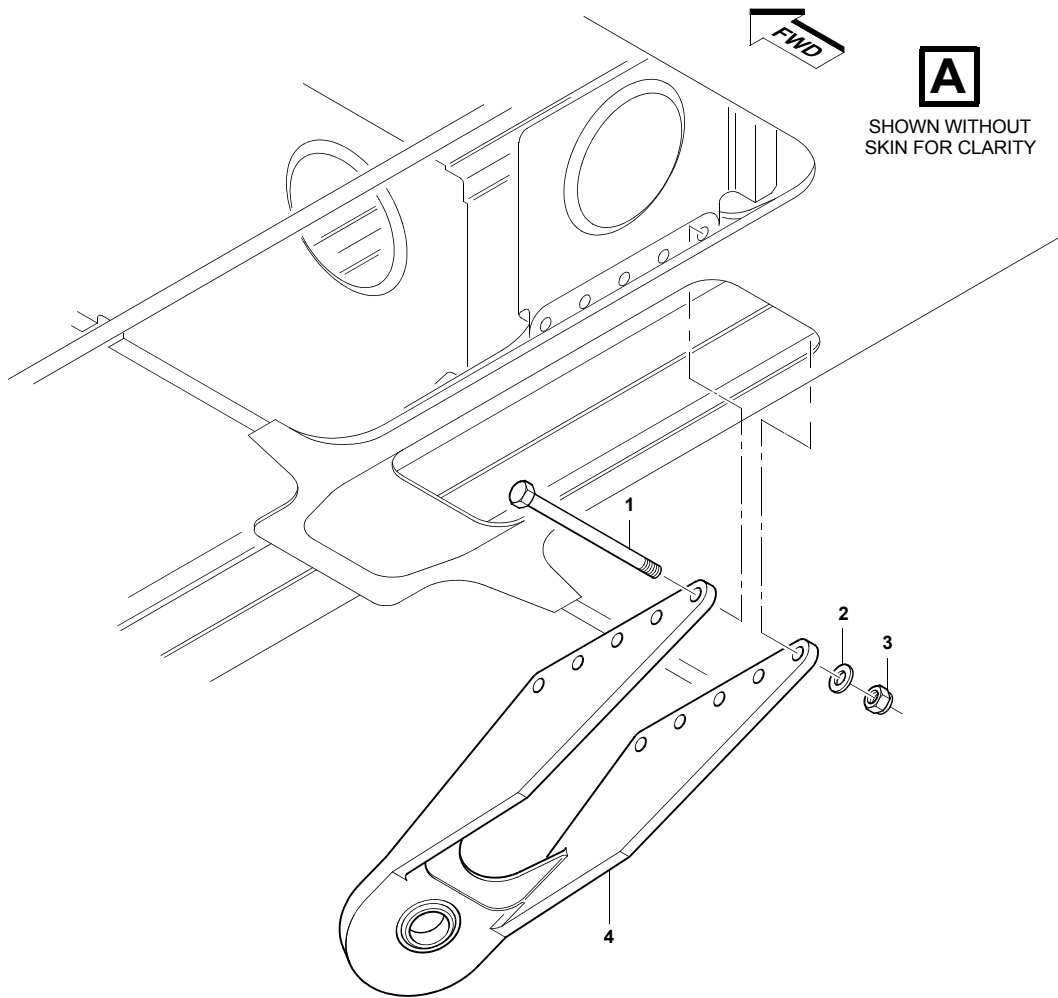
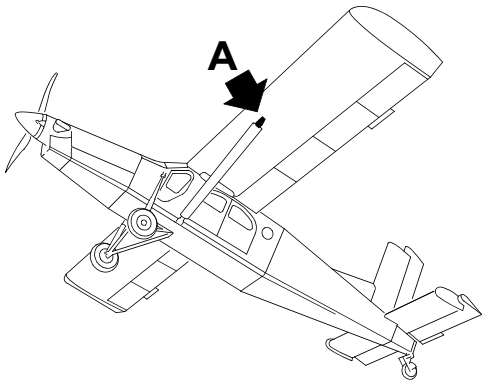
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Access Openings and Covers - Installation (Left Shown, Right Similar)  
Figure 2 (Sheet 2 of 2)

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Fitting - Replacement (Left Shown, Right Similar)  
Figure 3

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