

Service Bulletin No: 27-021

Ref No: 331

Modification No: EC-14-0549, EC-14-0714

ATA Chapter: 27

**FLIGHT CONTROLS - AILERON CONTROL SYSTEM
AILERON TAB COUNTER BALANCE WEIGHT INCREASE****1. Planning Information****A. Effectivity**

PC-12/47 aircraft MSN 684 thru MSN 888 and PC-12/47E aircraft MSN 545, 1001 thru 1520.

Aileron trim tab assemblies P/N 527.15.12.037 or 527.15.12.038 held as spare.

Aileron assemblies P/N 557.05.12.015 / 016 / 017 / 018 held as spare.

This modification will be embodied on PC-12/47E aircraft MSN 1521 and up at production.

B. Concurrent Requirements

None.

C. Reason

During a continued airworthiness review, Pilatus Aircraft Ltd. has identified a potentially unsafe condition that could result from a disconnected aileron trim tab occurring above an altitude of 10,000 feet. While there has been no case of a disconnected tab nor any other in-flight control disconnection on record for the entire PC-12 fleet, all owners and operators should implement this modification to provide improved stability and damping qualities by increasing the weight of the aileron tab counter balance.

D. Description

This Service Bulletin gives the data and instructions necessary to replace the aileron tab counter balance weight. The old counter balance weight has a diameter of 1.25 in. (31,75 mm) and a thickness of 0.34 in. (8,70 mm). The new counter balance weight has a diameter of 1.46 in. (37,20 mm) and a thickness of 0.39 in. (10,00 mm).

E. Compliance

Mandatory.

Required at next Annual Inspection, but no later than 29 February 2016.

F. Approval

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

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

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H. Manpower

Task	Man-hours Part A	Manhours Part B
Preparation	1.0	-
Modification	1.0	1.0
Installation	0.5	1.0
Close-Up	3.0	-
TOTAL MAN-HOURS	5.5	2.0

NOTE: Man-hours do not include drying time for paints.

I. Weight and Balance

Weight Change +0,060 kg

Moment Change +0,392 kg m

J. Electrical load Data

No change.

K. Software

No change.

L. References

NOTE: Throughout this Service Bulletin, references are given without the model prefix. For PC-12, PC-12/45 and PC-12/47 aircraft, prefix references with 12-A. For PC-12/47E aircraft, prefix references with 12-B.

Aircraft Maintenance Manual (AMM)

20-31-00-00A-070A-A

24-00-00-00A-901A-A

57-60-02-00A-920A-A

Structural Repair Manual (SRM)

51-60-01-00A-276A-A

M. Publications Affected

IPC, SRM.

N. Interchangeability of Parts

Not interchangeable.

2. Material Information**A. Material - Price and Availability**

Customers are advised that the standard lead time for parts may be up to two months.

If you require more information about this modification, please contact us as follows:

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Operators are requested to advise Pilatus Aircraft Ltd, of the Manufacturer's Serial Number (MSN) and the flying hours of aircraft which are affected by this Service Bulletin.

B. Warranty

Credit will be issued for parts and labour for all affected aircraft on approval of a warranty claim, provided the work is accomplished by an authorised Service Center within 12 months of the issue date of this Service Bulletin.

C. Material Necessary

NOTE: 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 numbers of items delivered with the Modification Kit are correct when the kit is dispatched. This could lead to differences between those part numbers quoted in this Service Bulletin and the Modification Kit if parts are superseded. Operators are requested to check the IPC for delivered parts which differ from those listed in the Service Bulletin Materials Kit List.

(1) Parts to be ordered from Pilatus for Part A

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
527.15.12.105	COUNTER BALANCE WEIGHT	527.15.12.102	2	D		

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

(2) Parts to be ordered from Pilatus for Part B

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
527.15.12.105	COUNTER BALANCE WEIGHT	527.15.12.102	1	D		

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

D. Operator Supplied Materials (Ref. AMM, 20-31-00-00A-070A-A)

Material No.	Description	Qty	Remarks
940.17.02.502	COTTER PIN	2	
P02-008	LOCKWIRE	A/R	
939.27.81.018	RIVET NAS1097AD4	A/R	Grip length to suit
P07-007	EPOXY PRIMER	A/R	
P08-073	SEALANT	A/R	P08-073 for EU. P08-020 is an alternative product and available for USA

E. Tooling - Cost and Availability

None.

3. Accomplishment Instructions - Part A On-Aircraft**A. Preparation**

- (1) Energize the aircraft electrical system, refer to AMM 24-00-00-00A-901A-A.
- (2) Extend the flaps to 40°.
- (3) De-energize the aircraft electrical system, refer to AMM 24-00-00-00A-901A-A.
- (4) Put a warning sign in the cockpit to warn "DO NOT MOVE FLYING CONTROLS".
- (5) Remove the left and right aileron, AMM 57-60-02-00A-920A-A.

B. Modification

- (1) If installed, remove the trim tab from the aileron, refer to Figure 1:
 - (a) Remove and discard the cotter pin (4).
 - (b) Remove the nut (5) and washer (6) from the control rod bolt (9).
 - (c) Remove the control rod bolt (9) from the trim tab brackets.
 - (d) Disconnect the bonding lead (8) from the bolt (9).
 - (e) Disconnect the control rod eye end (7) from the trim tab (1).
 - (f) Remove and discard the lockwire from the trim tab hinge pin (3) and the lockwire tab (2) on the trim tab.
 - (g) Hold the trim tab (1) then remove and keep the hinge pin (3).
 - (h) Remove the trim tab from the aileron.

Refer to Figure 2.

- (2) Carefully remove the two rivets (12) that hold the counter balance weight (10) to the aileron trim tab rib (1).
- (3) Remove the existing counter balance weight (10) from the trim tab.
NOTE: The counter balance weight may have sealant on the mating surface with the trim tab rib.
- (4) Make sure that the surface finish on the trim tab rib (1) is clean and undamaged. Reprotect the rib as necessary.
- (5) Use sealant (Mat. No. P08-073) to wet assemble. Put the new counter balance weight (11) (P/N 527.15.12.105) in position on the trim tab rib (1).
- (6) Use sealant (Mat. No. P08-073) to wet assemble. Install two new rivets (12) (P/N 939.27.81.018) to hold the counter balance weight (11). Make sure that the countersunk rivet heads are in the trim tab rib.

- (7) Apply epoxy primer (Mat. No. P07-007) to the new counter balance weight and rivet heads.
- (8) Let the epoxy primer dry.
- (9) Apply the applicable surface finish as needed and let the paint dry.
- (10) Part mark the modified item(s) with a permanent marker as follows:

Description	New P/N	Old P/N
Trim Tab LH	527.15.12.043	527.15.12.037
Trim Tab RH	527.15.12.044	527.15.12.038

C. Installation

Refer to Figure 1.

- (1) Install the aileron trim tab on the aileron:
 - (a) Align the trim tab hinge with the hinge half on the aileron.
 - (b) Install the trim tab hinge pin (3).
 - (c) Safety the trim tab hinge pin (3) with lockwire (Mat. No. P02-008) to the lockwire tab (2) on the trim tab.
 - (d) Put the control rod eye end (7) in the trim tab brackets.
 - (e) Install the bonding lead (8) on the control rod bolt (9).
 - (f) Install the control rod bolt (9) through the trim tab brackets and the control rod eye end (7).
 - (g) Install the washer (6) and the nut (5) on the bolt (9).
 - (h) Safety the nut (5) with a new cotter pin (P/N 940.17.02.502) (4).

D. Close Up

- (1) Do the procedure to balance the ailerons, SRM 51-60-01-00A-276A-A.
- (2) Install the left and right aileron, AMM 57-60-02-00A-920A-A.
- (3) Make sure that the work area is clean and clear of tools and other items.

E. Documentation

- (1) Record in the aircraft logbook that this Service Bulletin has been accomplished.

4. Accomplishment Instructions - Part B Spares

A. Modification

- (1) If installed, remove the trim tab from the aileron, refer to Figure 1:
 - (a) Remove and discard the cotter pin (4).
 - (b) Remove the nut (5) and washer (6) from the control rod bolt (9).
 - (c) Remove the control rod bolt (9) from the trim tab brackets.
 - (d) Disconnect the bonding lead (8) from the bolt (9).
 - (e) Disconnect the control rod eye end (7) from the trim tab (1).
 - (f) Remove and discard the lockwire from the trim tab hinge pin (3) and the lockwire tab (2) on the trim tab.
 - (g) Hold the trim tab (1) then remove and keep the hinge pin (3).
 - (h) Remove the trim tab from the aileron.

Refer to Figure 2.

- (2) Carefully remove the two rivets (12) that hold the counter balance weight (10) to the aileron trim tab rib (1).
- (3) Remove the existing counter balance weight (10) from the trim tab.

NOTE: The counter balance weight may have sealant on the mating surface with the trim tab rib.
- (4) Make sure that the surface finish on the trim tab rib (1) is clean and undamaged. Reprotect the rib as necessary.
- (5) Use sealant (Mat. No. P08-073) to wet assemble. Put the new counter balance weight (11) (P/N 527.15.12.105) in position on the trim tab rib (1).
- (6) Use sealant (Mat. No. P08-073) to wet assemble. Install two new rivets (12) (P/N 939.27.81.018) to hold the counter balance weight (11). Make sure that the countersunk rivet heads are in the trim tab rib.
- (7) Apply epoxy primer (Mat No. P07-007) to the new counter balance weight and rivet heads.
- (8) Let the epoxy primer dry.
- (9) Apply the applicable surface finish as needed and let the paint dry.
- (10) Part mark the modified item with a permanent marker as follows:

Description	New P/N	Old P/N
Trim Tab LH	527.15.12.043	527.15.12.037

Description	New P/N	Old P/N
Trim Tab RH	527.15.12.044	527.15.12.038

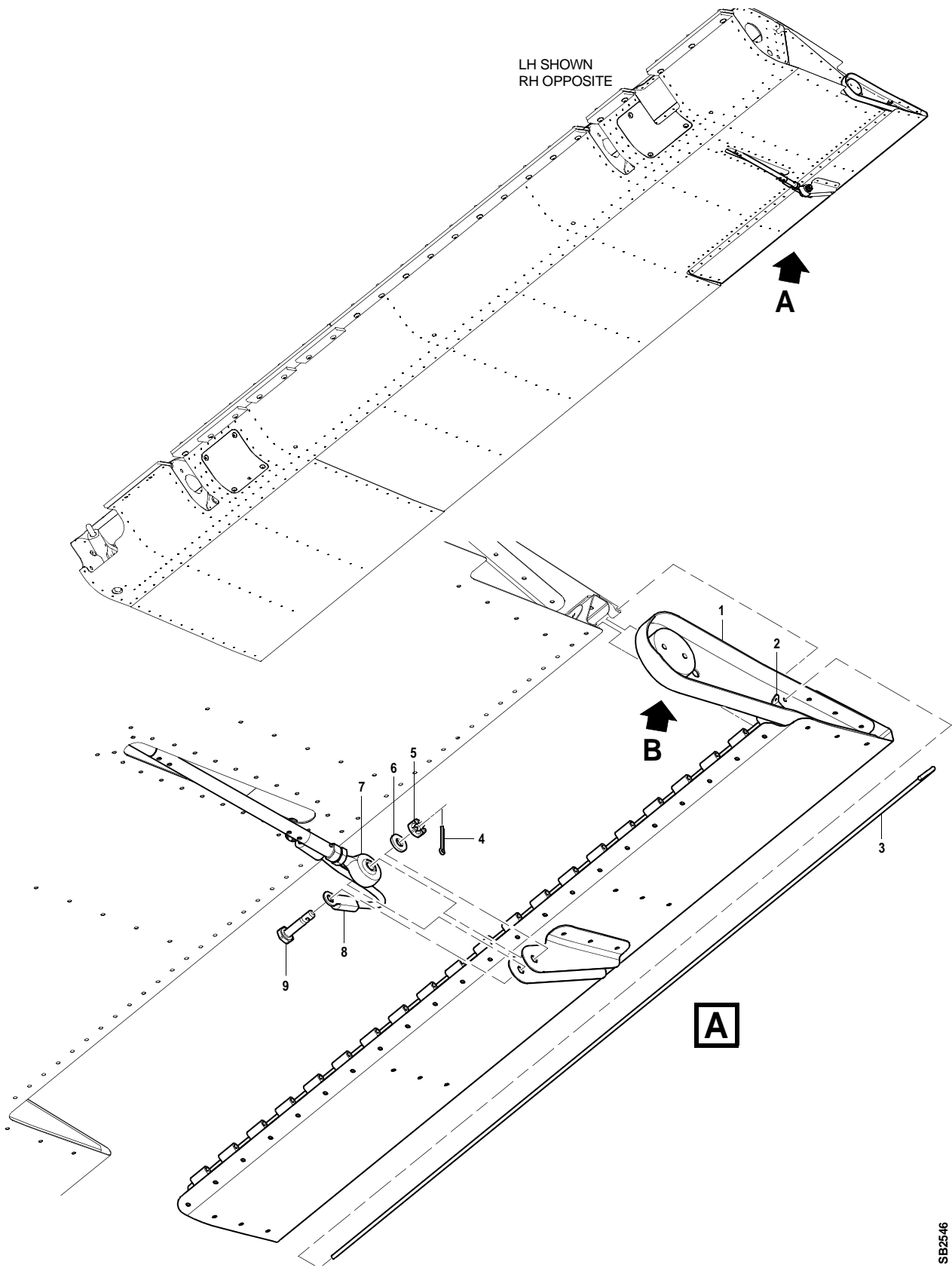
B. Installation

Refer to Figure 1.

- (1) If needed, install the aileron trim tab on the aileron:
 - (a) Align the trim tab hinge with the hinge half on the aileron.
 - (b) Install the trim tab hinge pin (3).
 - (c) Safety the trim tab hinge pin (3) with lockwire (Mat. No. P02-008) to the lockwire tab (2) on the trim tab.
 - (d) Put the control rod eye end (7) in the trim tab brackets.
 - (e) Install the bonding lead (8) on the control rod bolt (9).
 - (f) Install the control rod bolt (9) through the trim tab brackets and the control rod eye end (7).
 - (g) Install the washer (6) and the nut (5) on the bolt (9).
 - (h) Safety the nut (5) with a new cotter pin (P/N 940.17.02.502) (4).

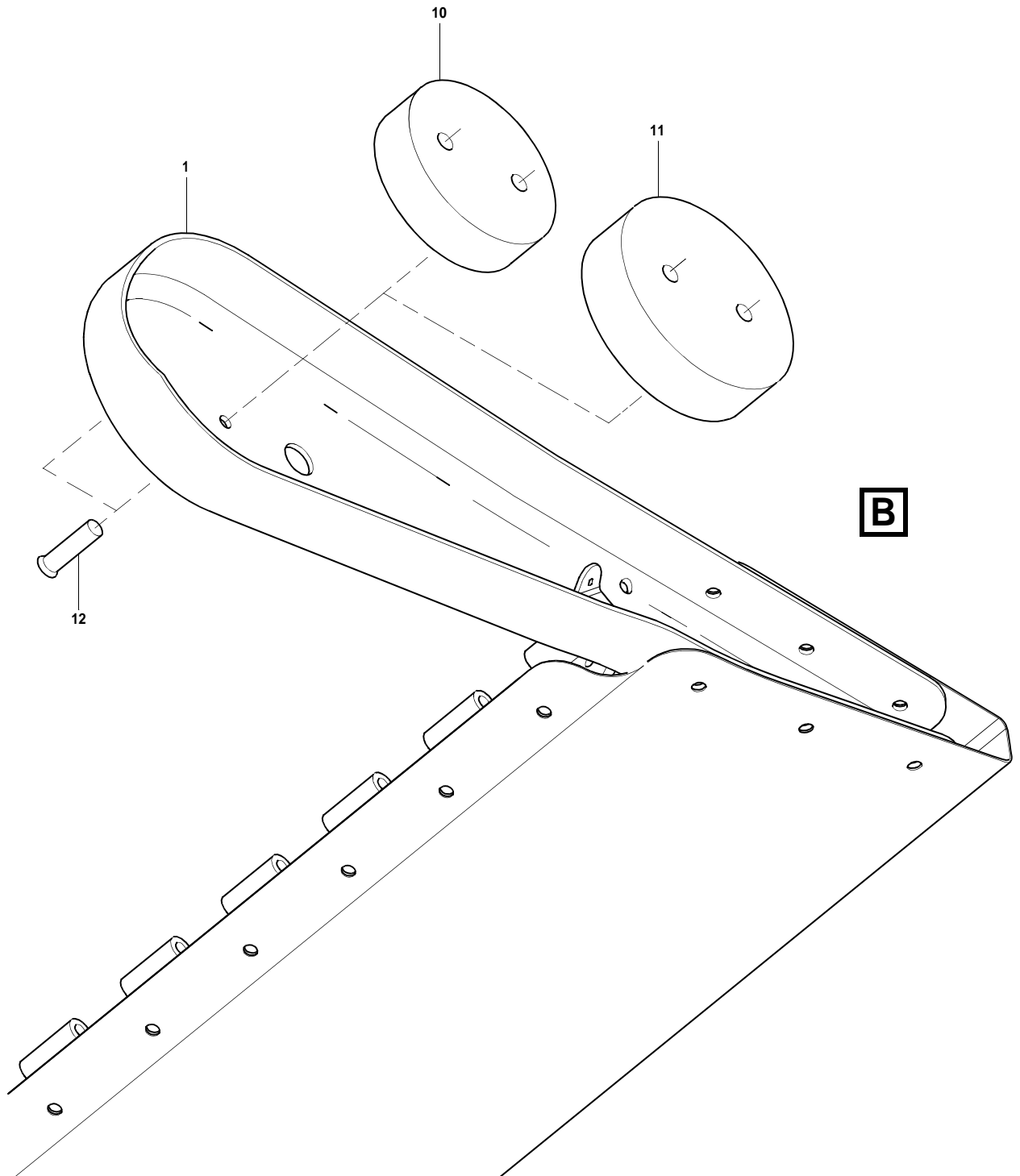
C. Close Up

- (1) Do the procedure to balance the aileron, SRM 51-60-01-00A-276A-A.



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Aileron Trim Tab - Removal/Installation
Figure 1



Aileron Trim Tab Mass Balance Weight - Removal/Installation
Figure 2

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