

# SERVICE BULLETIN

SERVICE BULLETIN NO: 27-018

REF NO: 212

MODIFICATION NO: EC-07-0762

ATA CHAPTER: 27

**FLIGHT CONTROLS - ELEVATOR CONTROL SYSTEM  
REPLACE THE BOLTS ON THE CABLE CLAMPS FOR THE STICK-PUSHER SERVO-CABLES**

**1. Planning Information**

**A. Effectivity**

All PC-12, PC-12/45 and PC-12/47 aircraft up to and including MSN 888 except MSN 545.

**B. Concurrent Requirements**

None.

**C. Reason**

**(1) Problem**

Some Operators have reported that the stick-pusher servo-cables have become loose because the cable clamps have shifted.

**(2) Cause**

Incorrect torque loading of the nuts that attach the clamps to the stick-pusher servo-cables and the elevator cables.

**(3) Solution**

Replace the bolts, washers and nuts on the forward and aft attachment clamps that attach the stick-pusher servo-cables to the elevator cables.

**D. Description**

This Service Bulletin gives the instructions and data necessary to:

- Do a check to make sure the stick-pusher servo-cables are installed correctly, set to the correct position and at the correct tension
- Replace the attachment hardware that holds the forward and aft cable clamps together.

**E. Compliance**

Mandatory.

Required within the next 20 flying hours but not later than Mar 31/08, unless already accomplished.

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

**G. Manpower**

<b>Task</b>	<b>Man-hours Standard Interior</b>	<b>Man-hours Executive Interior</b>
Preparation	0.75	1.50
Check and modification	1.00	1.00
Close-Up	<u>0.75</u>	<u>1.50</u>
<b>TOTAL MAN-HOURS</b>	<b>2.50</b>	<b>4.00</b>

**H. Weight and Balance**

**(1) Weight Change**

Not affected.

**(2) Moment Change**

Not affected.

**I. Electrical Load Data**

Not affected.

**J. Software**

Not changed.

**K. References**

Aircraft Maintenance Manual (AMM), 06-20-00, 20-20-01, 20-31-00, 22-20-06, 25-21-04, 25-21-06, 25-21-07, 25-22-04, 27-00-00 and 27-30-00.

**L. Publications Affected**

(AMM), 27-30-00

Illustrated Parts Catalog (IPC), 27-30-00.

**M. Interchangeability of Parts**

Not applicable.

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**2. Material Information**

**A. Material - Price and Availability**

(1) No modification kit is necessary for this Service Bulletin.

**B. Material Necessary for Each Aircraft**

**(1) Material to be Procured:**

**NOTE:** New nuts, bolts and washers can be procured locally or from Pilatus.

NEW PART NO.	DESCRIPTION	OLD PART NO.	QTY	DISP. CODE	FIG	ITEM
932.35.14.005 (NAS6603-5)	BOLT	932.19.21.027 (AN3-5A)	6	D	1	5
938.77.11.113 (NAS1149F0363P)	WASHER	938.77.11.112 (NAS1149F0332P)	6	D	1	2
938.09.14.303 (NAS1804-3N)	NUT	938.07.68.504 (MS21042-3)	6	D	1	1

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

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

**NOTE:** These parts are only necessary if the stick-pusher servo-cables have moved in the cable clamps (2 clamps are necessary for each position).

NEW PART NO.	DESCRIPTION	OLD PART NO.	QTY	DISP. CODE	FIG	ITEM
527.20.12.108	CLAMP	527.20.12.108	4	D	1	3 4
940.17.29.401	LOCKING CLIP	940.17.29.401	2	D	-	-

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

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

MATERIAL NO.	DESCRIPTION	QTY	REMARKS
P04-029	GREASE	A/R	P04-004 and P04-028 are suitable alternatives for P04-029 for this application.

**C. Warranty**

Credit will be issued for all affected aircraft on approval of a warranty claim, provided the work is accomplished by an authorized service center, and the inspection/check is carried out within 20 flying hours but not later than 31<sup>st</sup> March 2008.

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**D. Material Necessary for Each Spare**

Not applicable.

**E. Re identified Parts**

Not applicable.

**F. Tooling - Cost and Availability**

Not applicable.

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**3. Accomplishment Instructions**

**A. Preparation**

- (1) Put up a warning sign DO NOT OPERATE THE FLIGHT CONTROLS in the flight compartment.
- (2) Move the elevator controls to the center position and install the rigging block assembly on the pilot's control column. Install the rigging pin in the left elevator horn.
- (3) Open and install a safety tag on the circuit breaker:

PUSHER SYS (BATTERY BUS)

**NOTE:** You can access the forward cable clamps, with a small amount of difficulty, through the access panel 12BZ. If you choose to do the work through this panel, you do not have to remove the toilet or the storage cabinet.

- (4) For aircraft in the Executive configuration:
  - Remove the center and right carpets between FR16 and FR24 (Ref. AMM, 25-21-04, Page Block 401)
  - Remove the toilet, as necessary (Ref. AMM, 25-21-07, Page Block 401)
  - Remove the right storage cabinet, as necessary (Ref. AMM, 25-21-06, Page Block 401).
- (5) For aircraft in the Standard configuration, remove the center and right carpets between FR16 and FR24 (Ref. AMM, 25-22-04, Page Block 401).
- (6) Open the access panels 12CZ and 12FZ or 12BZ and 12FZ (Ref. AMM, 06-20-00, Page Block 1).

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

- (1) Do a check to make sure the stick-pusher servo-cables are installed correctly, set to the correct position and at the correct tension (Ref. AMM, 27-30-00, Page Block 501).
- (2) If the stick-pusher servo-cables are not installed correctly or not set to the correct position, adjust as necessary (Ref. AMM, 27-30-00, Page Block 501).
- (3) If the stick-pusher servo-cables are not at the correct tension, look for signs that the cables have moved in the cable clamps (3) and (4).
- (4) If there are signs that the stick-pusher servo-cables have moved in the cable clamps (3) and (4):
  - (a) Remove the two locking clips from the turnbuckle that connects the two stick-pusher servo-cables. Discard the locking clips.
  - (b) Loosen, but do not disconnect the turnbuckle.
  - (c) Remove and discard all the nuts (1), washers (2) and bolts (5) from the forward and aft cable clamps (3) and (4).

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- (d) Remove and discard the cable clamps (3) and (4) that showed signs of movement.

**NOTE:** You do not have to discard the cable clamps (3) and (4) that showed **NO** signs of movement. These can be used again.

- (e) Examine the cables (6) and (7) adjacent to the position where you removed the cable clamps (3) and (4) (Ref. AMM 27-00-00, Page Block 601). Replace as necessary.
- (f) Get new cable clamps (3) and (4), as necessary, and six new nuts (1), washers (2) and bolts (5).

**CAUTION:** THE ELEVATOR CABLE (6) HAS A LARGER DIAMETER THAN THE STICK-PUSHER SERVO-CABLE (7) AND MUST BE INSTALLED IN THE LARGER GROOVE OF THE CLAMPS (3) AND (4).

- (g) Put the clamps (3) and (4) in position on the elevator cable (6) and the stick-pusher servo-cable (7).
- (h) Apply grease (Material No. P04-029) to the threads of the bolts (5) and the nuts (1) and loosely install all six bolts (5), washers (2) and nuts (1).
- (i) Make sure the stick-pusher servo-cable is correctly installed on the capstan (Ref. AMM 22-20-06, Page Block 401).
- (j) Make sure the clamps (3) and (4) are in the correct position and tighten the nuts (1).

**CAUTION:** MAKE SURE YOU ADD THE RUN-DOWN TORQUE OF THE NUTS TO THE VALUE GIVEN IN STEP 3.B.(4)(k) (REF. AMM 20-20-01, PAGE BLOCK 1). DO NOT APPLY ANY CORRECTION FACTORS.

- (k) Torque the nuts to between 4 and 4,5 Nm (35 and 40 lb in.).
- (l) Do the adjustment of the tension of the stick-pusher servo-cables (Ref. 27-30-00, Page Block 501).

**NOTE:** The two locking clips are installed after the tension of the stick-pusher servo-cables is correct.

- (5) If there are no signs that the stick-pusher servo-cables have moved in the cable clamps (3) and (4):

- (a) Get six new nuts (1), washers (2) and bolts (5).

**CAUTION:** IF YOU REMOVE MORE THAN ONE OF THE NUTS (1), ONE OF THE WASHERS (2) AND ONE OF THE BOLTS (5) AT A TIME, YOU MUST DO THE ADJUSTMENT OF THE TENSION OF THE STICK-PUSHER SERVO-CABLES (REF. 27-30-00, PAGE BLOCK 501).

- (b) Remove one of the nuts (1), one of the washers (2) and one of the bolts (5) from the forward cable clamps (3) and (4). Discard the nut (1), the washer (2) and the bolt (5).
- (c) Apply grease (Material No. P04-029) to the threads of the bolt (5) and the nut (1) and install the bolt (5), the washer (2) and the nut (1).

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**CAUTION:** MAKE SURE YOU ADD THE RUN-DOWN TORQUE OF THE NUTS TO THE VALUE GIVEN IN STEP 3.B.(4)(d) (REF. AMM 20-20-01, PAGE BLOCK 1). DO NOT APPLY ANY CORRECTION FACTORS.

- (d) Torque the nut to between 4 and 4,5 Nm (35 and 40 lb in.).
- (e) Do the Steps 3.B.(5)(b) thru (d) for the remaining bolts (5), washers (2) and nuts (1) of the forward cable clamps (3) and (4). Make sure you only remove one bolt each time.
- (f) Do the Steps 3.B.(5)(b) thru (e) for the bolts (5), washers (2) and nuts (1) of the aft cable clamps (3) and (4). Make sure you only remove one bolt each time.

**C. Close up**

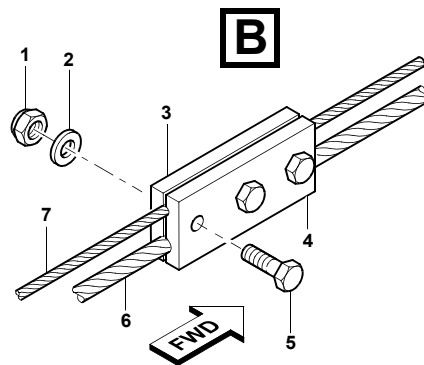
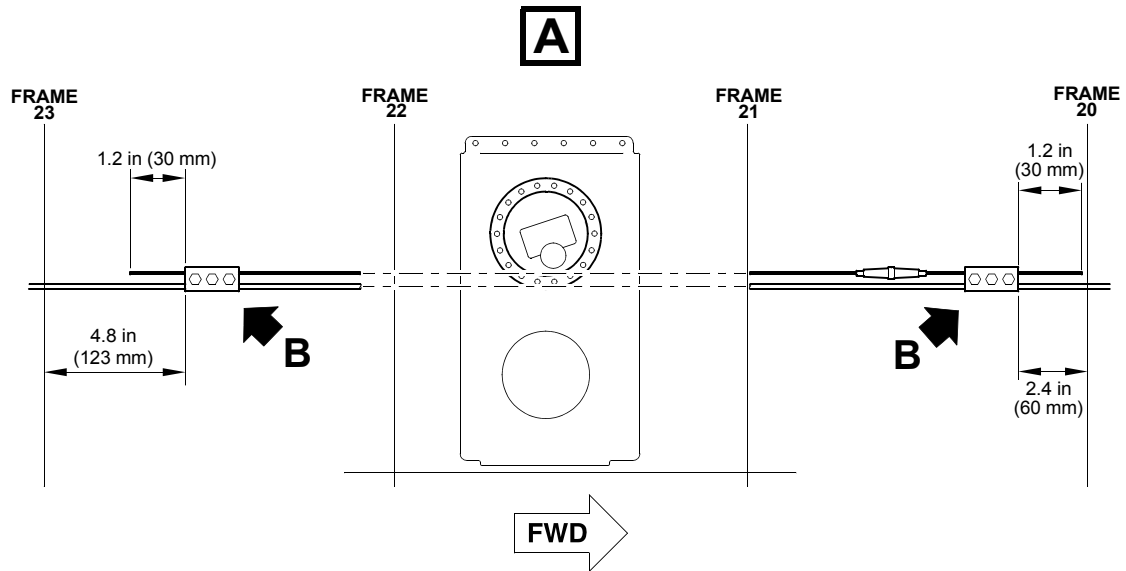
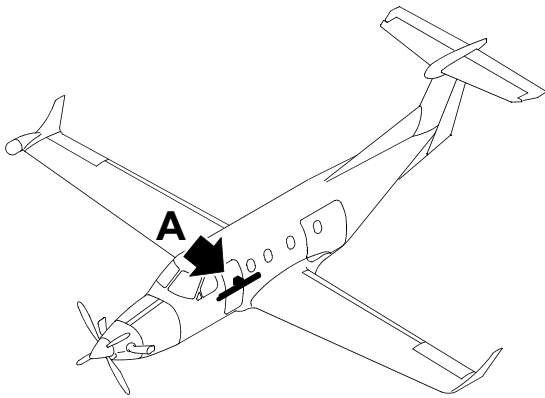
- (1) Remove all tools and materials. Make sure the work areas are clean.
- (2) Remove the rigging block assembly from the pilot's control column. Remove the rigging pin from the left elevator horn.
- (3) Remove the safety tag and close the circuit breaker:

PUSHER SYS (BATTERY BUS)
- (4) Remove the warning sign DO NOT OPERATE THE FLIGHT CONTROLS from the flight compartment.
- (5) Do the pre-flight stick pusher test.
- (6) Make sure the cable clamps have not moved.
- (7) Close the access panels 12EZ and 12FZ or 12BZ and 12FZ (Ref. AMM, 06-20-00, Page Block 1).
- (8) For aircraft in the Executive role:
  - If necessary, install the cabinet you removed (Ref. AMM, 25-21-06, Page Block 401).
  - If necessary, install the toilet (Ref. AMM, 25-21-07, Page Block 401)
  - Install the center and right carpets between FR16 and FR24 (Ref. AMM, 25-21-04, Page Block 401)
- (9) For aircraft in the Standard role, install the center and right carpets between FR16 and FR24 (Ref. AMM, 25-22-04, Page Block 401).

**D. Documentation**

- (1) Make an entry in the Aircraft Logbook that this Service Bulletin has been incorporated.
- (2) For MSNs 101 thru 320 and MSNs 322 thru 400, insert Temporary Revision No. 44 (attached) in the Pilots's Operating Handbook (POH).
- (3) For MSN 321 and MSNs 401 thru 888, insert Temporary Revision No. 16 (attached) in the Pilots's Operating Handbook (POH).

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Replacement of the Attachment Hardware and Location of the Cable Clamps  
Figure 1

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