

SERVICE BULLETIN

SERVICE BULLETIN NO: 32-018

REF NO: 196

MODIFICATION NO: ECN 04-0333

ATA CHAPTER: 32

LANDING GEAR - MAIN LANDING GEAR SPECIAL BOLT ASSEMBLY - INSPECTION AND REPLACEMENT

1. Planning Information - Part A

A. Effectivity:

- PC-12 and PC-12/45 aircraft MSN 101 thru MSN 620
- Main landing gear (MLG) assemblies (532.10.12.049/050) delivered before Dec 31/04 and held as spare
- Special bolts (bolts) (532.10.12.077) delivered before Dec 31/04 and held as spare

B. Concurrent Requirements

None

C. Reason

(1) Problem

It is possible for the heads to break from the shanks of the bolts (532.10.12.077). These bolts attach the hydraulic actuators to the left and right MLG assemblies. The separation of a bolt head has only occurred in a MLG assembly of a specified manufacturer.

(2) Cause

Corrosion has occurred in the area of the bolt head radius of a bolt (532.10.12.077) in a MLG assembly. This has caused the bolt to break with subsequent separation of the bolt head. The corrosion occurred in the damaged bolt because the bolt head was not primed and painted.

(3) Solution

- (a) Do inspections of the MLG assemblies to find bolts (532.10.12.077) that do not have primed and painted heads.
- (b) Replace bolts (532.10.12.077) that do not have primed and painted heads with bolts (532.10.12.077F) in all MLG assemblies.


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D. Description

This Service Bulletin gives the data and instructions necessary to do inspections of the (left and right) MLG assemblies and if necessary, replace the bolts (532.10.12.077) with bolts (532.10.12.077F). The Service Bulletin is divided as follows:

- Sect. 1. Planning Information - Part A
- Sect. 2. Material Information - Part B
- Sect. 3. Accomplishment Instructions - Aircraft - Part C (Inspection)
- Sect. 4. Accomplishment Instructions - Aircraft - Part D (Replacement)
- Sect. 5. Accomplishment Instructions - Spares - Part E

E. Compliance

Mandatory.

Required within the next 100 hours time-in-service or three calendar months after the effective date of this Service Bulletin, whichever comes first.

F. Approval

The technical content of this Service Bulletin is 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

The following man-hours are given for inspection and replacement of the two MLG assemblies:

	Total (Part C)	Total (Part D)
Inspection	0.5	N/A
Preparation	N/A	1.0
Replacement	N/A	1.0
Close up	N/A	1.0
TOTAL MAN-HOURS	0.5	3.0

H. Weight and Balance

(1) Weight Change

Not affected.

(2) Moment Change

Not affected.

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I. Electrical Load Data

Not changed.

J. Software

Not changed.

K. References

Aircraft Maintenance Manual (AMM): 07-10-00, 07-20-00, 20-20-00, 20-20-01, 24-00-00, 29-00-00, 32-10-00 and 32-30-00.

L. Publications Affected

None.

M. Interchangeability of Parts

Not applicable.

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2. Material Information - Part B

A. Material - Price and Availability

If replacement of bolt (or bolts) (532.10.12.077) is necessary Operators should send orders for Service Bulletin Modification Kits, to their Authorized Pilatus Service Center or:

PILATUS AIRCRAFT LTD.,
CUSTOMER SUPPORT MANAGER,
CH-6371 STANS,
SWITZERLAND

General Aviation:
Tel: + 41 41 619 6208
Fax: + 41 41 619 7311
eMail: SupportPC12@pilatus-aircraft.com

Government:
Tel: + 41 41 619 6509
Fax: + 41 41 619 6224
eMail: rpaterson@pilatus-aircraft.com

PILATUS BUSINESS AIRCRAFT LTD.,
PRODUCT SUPPORT DEPARTMENT
11755 AIRPORT WAY
BROOMFIELD, CO 80021.
UNITED STATES OF AMERICA

Tel: 303 465 9099
Fax: 303 465 6040
eMail: Productsupport@PilBal.com

PILATUS AUSTRALIA (Pty.) LTD.,
PO BOX 732
MARLESTON SA 5033
AUSTRALIA

Tel: (08) 8234 4433
Fax: (08) 8234 4499
Free Call: 1800 445 007
eMail: info@pilatus.com.au

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.

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

B. Warranty

Credit will be issued for all affected aircraft and landing gear assemblies held as spare on approval of a warranty claim, provided the:

- Work is done at an authorized service center during the next 100 hour inspection or within three months from the effective date of this Service Bulletin, whichever comes first.
- Removed parts are sent to PILATUS and receipt is confirmed

C. Material Necessary for Each Aircraft

(1) Material to be Procured

Not applicable. Modification kit supplied only when ordered.

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(2) Additional Material to be Procured

Operators must order Modification Kit No. 500.50.12.299 as necessary. The kit is for one MLG assembly and consists these parts:

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
532.10.12.077F	Bolt - Special	532.10.12.077	1	R	1 2	1 6
938.77.11.129	Washer (NAS1149F1290P)	938.77.11.129	1	D	2	3
940.17.02.264	Pin - Cotter (MS24665-355)	940.17.02.264	1	D	2	1

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

(3) Operator Supplied Materials.

Part No.	Description	Qty	Remarks
908.63.81.101	Solvent (White Spirit)	A/R	Material Item No. P01-008 (or approved alternative)
910.31.20.040	Corrosion Preventative (Mastinox 6856H)	A/R	Material Item No. P04-012

D. Material Necessary for Each Spare

Not applicable.

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3. Accomplishment Instructions - Aircraft - Part C

A. Inspection (Ref. Fig. 1)

- (1) Do an inspection of the left and right MLG assemblies to find bolts (1) that do not have white primed and painted heads.
- (2) Replace all bolts that do not have white primed and painted heads (Ref. Part D). Send removed bolts to PILATUS

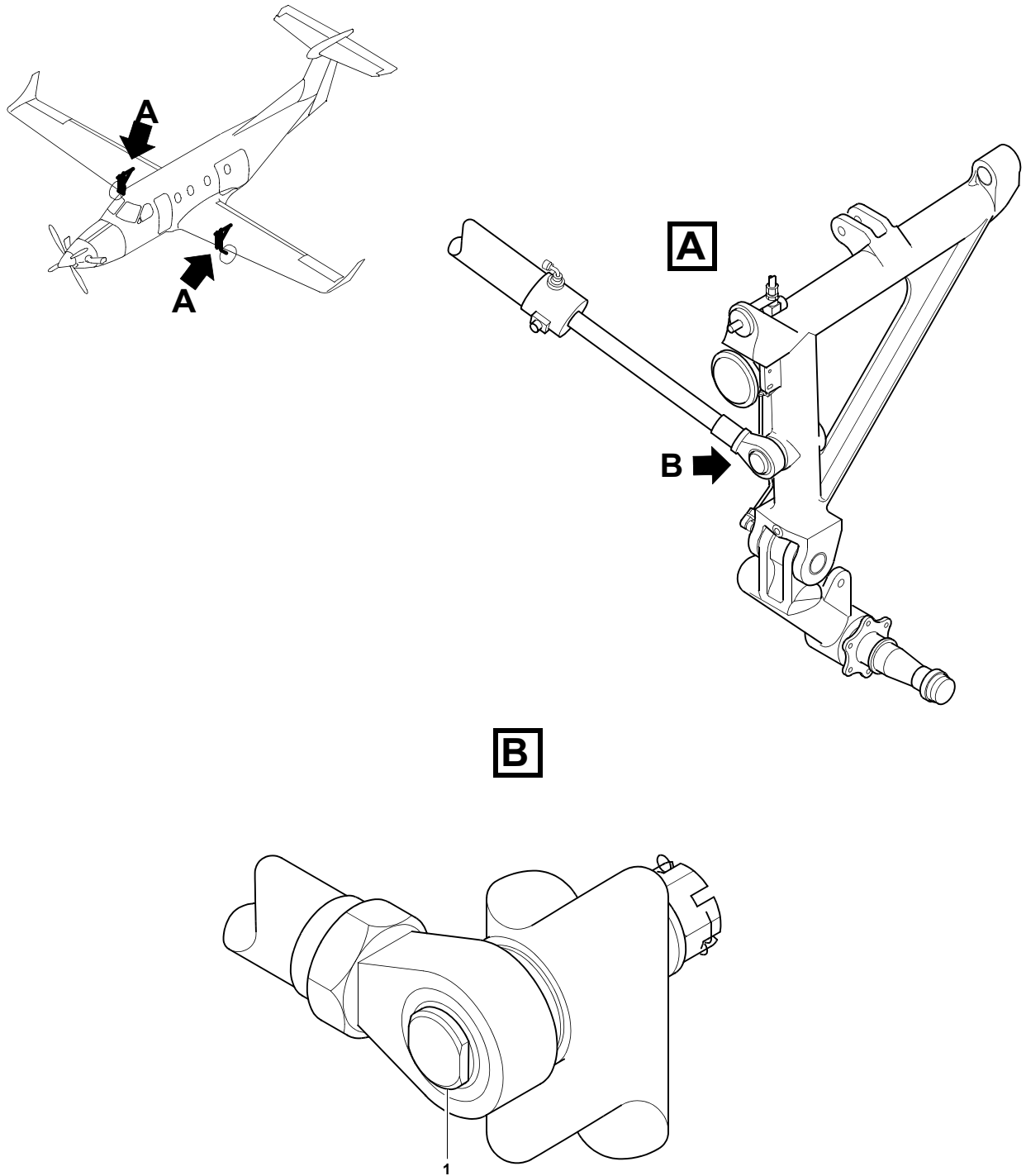
B. Close up

Remove all tools and materials. Make sure the work areas are clean.

C. Documentation

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

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Special Bolt - Inspection
Figure 1

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4. Accomplishment Instructions - Aircraft - Part D

Part D of this Service Bulletin is only applicable if you have found an unservicable bolt (532.10.12.077) during the inspection (Ref. Part C).

WARNING: BE CAREFUL WHEN YOU OPERATE THE FLAP SYSTEMS. MOVING COMPONENTS CAN CAUSE INJURY.

WARNING: BE CAREFUL WHEN YOU OPERATE THE LANDING GEAR SYSTEMS. MOVING COMPONENTS CAN CAUSE INJURY.

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

A. Preparation (Ref. Fig. 2)

- (1) Obey the safety instructions given in:
 - Hydraulic Power - Maintenance Practices (Ref. AMM, 29-00-00, Page Block 201)
 - Landing Gear - Maintenance Practices (Ref. AMM, 32-30-00, Page Block 201)
- (2) Lift the aircraft until the landing wheels are off the ground (Ref. AMM, 07-10-00 and 07-20-00, Page Block 201).
- (3) Energize the aircraft electrical system (Ref. AMM, 24-00-00, Page Block 201).
- (4) Disengage the landing-gear actuator down-lock.
 - (a) Make sure it is safe to move the landing gear.
 - (b) In the flight compartment set the landing-gear selector handle to UP. Do this until the landing-gear actuator down-lock disengages then open and safety the circuit breaker HYDR CTL (NON ESSENTIAL BUS). The MLG will now stay in the disengaged position.
- (5) De-energize the aircraft electrical system (Ref. AMM, 24-00-00, Page Block 201).
- (6) Open and safety the circuit breaker:

LG IND (BATTERY BUS).
- (7) Put the following warning signs in the applicable positions in the flight compartment:
 - DO NOT OPERATE THE FLAPS
 - DO NOT OPERATE THE LANDING GEAR

B. Replacement

- (1) Remove the cotter pin (1), nut (2), washer (3) and bolt (6) to disconnect the actuator (7) from the left MLG assembly (4). Discard the cotter pin and washer. Send the bolt to PILATUS.
- (2) Obey the manufacturers instructions and use the solvent (Material Item No. P01-008 or approved alternative) to clean the bolt holes in the MLG assembly (4) and eye end of the actuator (7).

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- (3) Obey the manufacturers instructions and apply layers of the corrosion preventative (Material Item No. P04-012) on the faying surfaces of the new bolt (6), eye end of the actuator (7) and MLG assembly (4).
- (4) Align the eye end of the actuator (7) with the bolt hole in the MLG assembly (4). Put the new bolt (6) in position.
- (5) Put the new washer (3) on the bolt (6) and install the nut (2).
- (6) Torque the nut (2) to between 1800 and 2000 lbf in. (200 and 220 Nm). (Ref. AMM, 20-20-01, Page Block 1).
- (7) Obey the manufacturers instructions and use the solvent (Material Item No. P01-008 or approved alternative) to remove the unwanted corrosion preventative.
- (8) Install the new cotter pin (1) (Ref. AMM, 20-20-00, Page Block 1).
- (9) Do Steps (1) thru (8) again to replace the bolt (6) in the right MLG assembly (5).
- (10) Make sure the landing-gear operating lever is set to DOWN.
- (11) Close the circuit breakers:

HYDR CTL (NON ESSENTIAL BUS)
LG IND (BATTERY BUS)
- (12) Remove the warning signs from the flight compartment.
- (13) Energize the aircraft electrical system (Ref. AMM, 24-00-00, Page Block 201).
- (14) Do the functional test of the extension and retraction system (Ref. AMM, 32-30-00, Page Block 501).

C. Close up

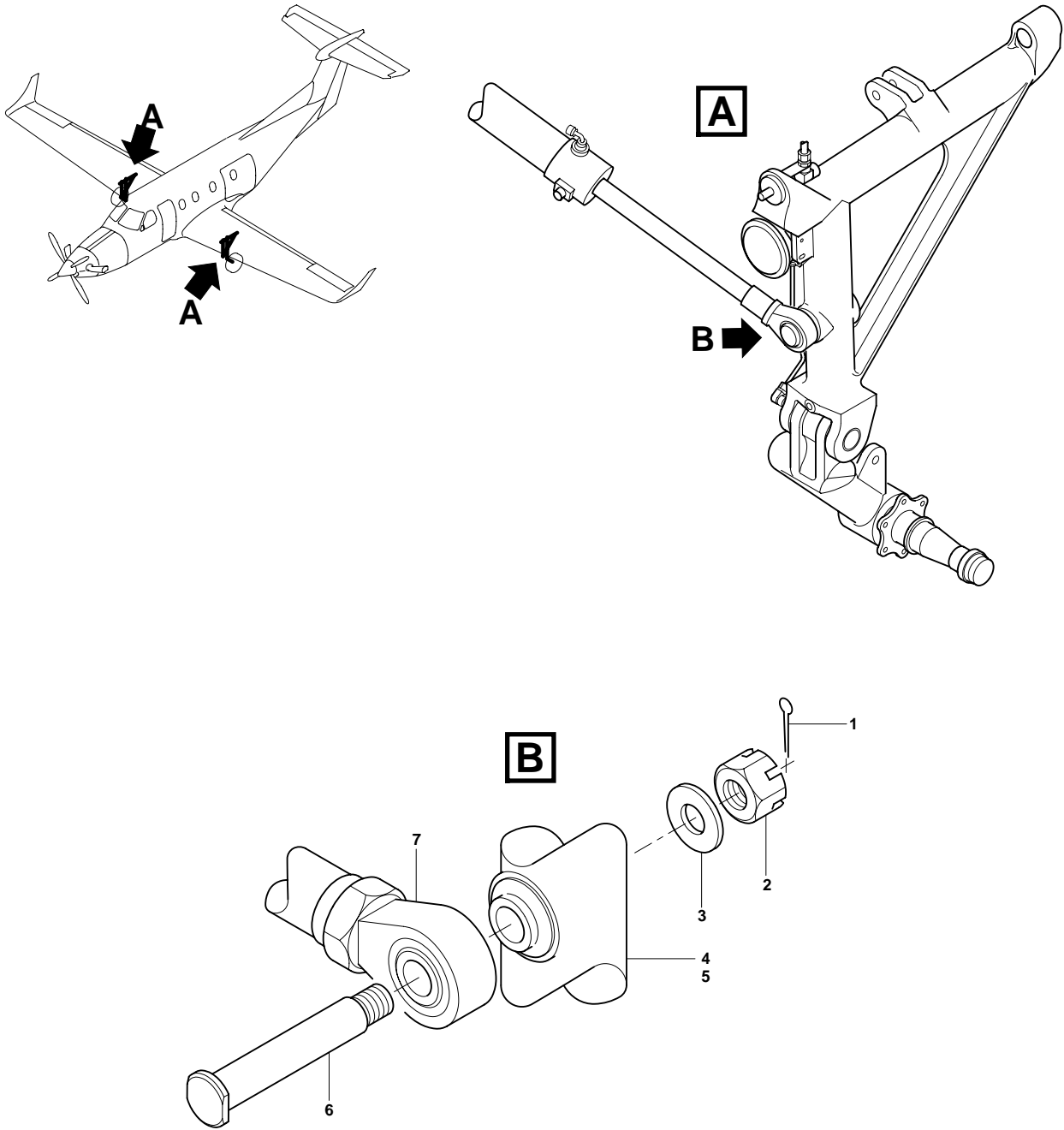
Remove all tools and materials. Make sure the work areas are clean.

Lower the aircraft (Ref. AMM, 07-20-00 and 07-10-00, Page Block 201).

D. Documentation

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

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Special Bolt - Replacement
Figure 2

SB 1103

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5. Accomplishment Instructions - Spares - Part E

A. Inspection

- (1) Do an inspection of all MLG assemblies held as spare (Ref. Sect 3 (Part C)).
- (2) Do inspections of all bolts (532.10.12.077) held as spare but not installed in MLG assemblies. Remove from stock and send to PILATUS, all bolts which do not have a white primed and painted head.

B. Replacement

Replace bolts (532.10.12.077) that do not have white primed and painted heads in all MLG assemblies held as spare (Ref. Sect 4 (Part D)).

C. Documentation

Make an entry in the spare parts inventory list that this modification has been incorporated in the applicable MLG assemblies held as spare.