

# SERVICE BULLETIN

SERVICE BULLETIN NO: 28-011

REF NO: 170

MODIFICATION NO:

ATA CHAPTER: 28

## FUEL - DISTRIBUTION FUEL BOOSTER PUMP - DAMAGE TO WIRES DURING INSTALLATION

### 1. Planning Information

#### A. Effectivity

- (1) All PC-12 and PC-12/45 aircraft from MSN 101 thru MSN 520 and with fuel booster pump (fuel pump) Part No. 968.84.11.401, 968.84.11.403 or 968.84.11.404 installed.
- (2) All fuel pumps Part No. 968.84.11.401, 968.84.11.403 or 968.84.11.404 held as spare.

#### B. Concurrent Requirements

None.

#### C. Reason

##### (1) Problem

It is possible the electrical power wires (leads) to the left and right fuel pumps are damaged. This could possibly cause electric arcs from the leads in an air/fuel mixture which could result in an unsafe condition.

##### (2) Cause

Damage can occur to the leads during the installation of the pump. It is also possible that during aircraft operation the leads can rub.

##### (3) Solution

Examine the leads for defects and apply a spiral wrap to give protection to the leads.

A Temporary Revision to the Pilots Operating Handbook (POH), pre-Service Bulletin 28-011, is necessary to prevent aircraft operation below a set fuel level.

Temporary Revisions to the Aircraft Maintenance Manual (AMM) change the defuel procedure Pre-Service Bulletin 28-011 and the fuel-pump installation-procedure.

Revision 1 of this Service Bulletin has added Fuel Pump Part No. 968.84.11.401. Redefined defect assessment and included wires with splices.

#### D. Description

This Service Bulletin gives the instructions how to examine the leads and to apply the spiral wrap.

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The Temporary Revisions are attached to this Service Bulletin. Operators must insert the Temporary Revisions in the applicable Manual/POH as shown in the Temporary Revisions instructions.

**E. Compliance**

Mandatory.

Immediately on receipt of this Service Bulletin and before the next flight or maintenance procedure, insert the Temporary Revisions in the applicable POH and AMM.

Within the next 100 hours time-in-service (TIS) or six calendar months after the effective date of this Service Bulletin (whichever is the sooner), obey the instruction given in Sect 3, Paras A thru E of this Service Bulletin.

**F. Approval**

The technical aspects of this Service Bulletin have been 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**

|                             | Total      |
|-----------------------------|------------|
| Fuel Pumps - Removal        | 1.5        |
| Installation of Spiral Wrap | 1.0        |
| Fuel Pumps - Installation   | 2.0        |
| <b>TOTAL MAN-HOURS</b>      | <b>4.5</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) 12-10-01, 28-00-00 and 28-20-04,  
Temporary Revision (TR) 12-03, TR 28-02.

Pilots Operating Handbook (POH), TR 7 to Report No. 02211 and TR 37 to  
Report No. 01973-001.

FAA Advisory Circular (AC) 43.13-1B Paragraph 11-97. Wiring replacement.

**L. Publications Affected**

AMM, 12-10-01 and 28-20-04.

POH, Report No. 02211 and Report No. 01973-001.

**M. Interchangeability of Parts**

Pre and Post Service Bulletin 28-011 fuel pumps are not interchangeable.

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**2. Material Information**

**A. Material - Price and Availability**

Operators should send orders for Service Bulletin Modification Kits, to their Authorized Pilatus Service Center, or to:

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

General Aviation:  
Tel: + 41 41 619 6319  
Fax: + 41 41 619 6224  
eMail: [asommer@pilatus-aircraft.com](mailto:asommer@pilatus-aircraft.com)

Government:  
Tel: + 41 41 619 6509  
Fax: + 41 41 619 6224  
eMail: [rpaterson@pilatus-aircraft.com](mailto: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](mailto: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](mailto:info@pilatus.com.au)

**NOTE:** 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          |
|-------------------------|-----------------------|-----------------------|
| 500.50.12.283           | Contact address above | Contact address above |

**B. Material Necessary for Each Aircraft**

**(1) Material to be Procured**

Modification Kit No. 500.50.12.283 consists these parts:

| New Part No.  | Description               | Old Part No.  | Qty        | Disp. Code | Fig | Item |
|---------------|---------------------------|---------------|------------|------------|-----|------|
| 528.26.12.119 | Gasket                    | 528.26.12.119 | 2          | D          | N/A | N/A  |
| 917.96.91.102 | 1/8 in. Spiral Wrap, PTFE | N/A           | 2800<br>mm | N/A        | 1   | 1    |

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

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| New Part No.  | Description               | Old Part No.  | Qty     | Disp. Code | Fig | Item |
|---------------|---------------------------|---------------|---------|------------|-----|------|
| 917.96.91.101 | 1/4 in. Spiral Wrap, PTFE | N/A           | 1400 mm | N/A        | 1   | 2    |
| 946.91.27.210 | Packing, Preformed        | 946.91.27.210 | 2       | D          | N/A | N/A  |
| 946.91.27.310 | Packing, Preformed        | 946.91.27.310 | 2       | D          | N/A | N/A  |
| 946.91.27.466 | Packing, Preformed        | 946.91.27.466 | 2       | D          | N/A | N/A  |
| 946.91.27.722 | Packing, Preformed        | 946.91.27.722 | 2       | D          | N/A | N/A  |

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

The quantity of items supplied in the Modification Kit is sufficient for the left and the right fuel pump procedures.

**C. Material Necessary for Each Spare**

**(1) Material to be Procured**

| New Part No.  | Description               | Old Part No. | Qty     | Disp. Code | Fig | Item |
|---------------|---------------------------|--------------|---------|------------|-----|------|
| 917.96.91.102 | 1/8 in. Spiral Wrap, PTFE | N/A          | 1400 mm | N/A        | 1   | 1    |
| 917.96.91.101 | 1/4 in. Spiral Wrap, PTFE | N/A          | 700 mm  | N/A        | 1   | 2    |

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

Operators should send orders for Spiral Wrap, to their Authorized Pilatus Service Center, or to:

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

General Aviation:  
Tel: + 41 41 619 6319  
Fax: + 41 41 619 6224  
eMail: [asommer@pilatus-aircraft.com](mailto:asommer@pilatus-aircraft.com)

Government:  
Tel: + 41 41 619 6509  
Fax: + 41 41 619 6224  
eMail: [rpaterson@pilatus-aircraft.com](mailto: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](mailto: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](mailto:info@pilatus.com.au)

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**D. Reidentified Parts**

- (1) Reidentify the Fuel Booster Pump, Part No. 968.84.11.403 or 968.84.11.404 when this Service Bulletin is done. Use a stamp or vibropen to put the letter B immediately after the Serial Number on the fuel pump Identification plate.

**E. Warranty Statement**

Credit will be issued for all aircraft, on approval of a warranty claim, provided the work is carried out by an authorized Service Center within six months from the effective date of this Service Bulletin.

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**3. Accomplishment Instructions - Aircraft**

**WARNING:** BE CAREFUL WHEN YOU DO WORK IN AN AREA WHERE THERE IS POSSIBLY A FUEL AND AIR MIXTURE. FUEL AND AIR MIXTURES ARE EXPLOSIVE.

**WARNING:** DO NOT LET UNWANTED MATERIAL GO INTO THE AIRCRAFT FUEL SYSTEM. CONTAMINATION OF THE FUEL SYSTEM CAN CAUSE DAMAGE AND/OR CORROSION.

**A. Preparation**

- (1) Obey the safety precautions given in AMM 28-00-00, Page Block 201.
- (2) Prepare for work on the fuel system (Ref. AMM 28-00-00, Page Block 201).
- (3) Defuel the aircraft (Ref. AMM, 12-10-01, Page Block 301). Use the revised defuel procedure (TR 12-03 attached to this Service Bulletin).
- (4) Remove the left and right fuel pumps (Ref. AMM, 28-20-04, Page Block 401).

**B. Examination and Modification of the Fuel Pumps**

- (1) Examine the fuel pumps
  - (a) For fuel pumps part number 968.84.11.401. Send the fuel pump for modification to the latest standard to the address given in (b).
  - (b) For fuel pumps part number 968.84.11.403 or 968.84.11.404. Examine the wires in accordance with FAA Advisory Circular (AC) 43.13-1B, Paragraph 11-97, Wiring replacement. If defects are found, send the fuel pump for repair to:

Repair and Overhaul Dept,  
Lear Romec Division, Crane Co.  
241 South Abbe Road  
Elyria, Ohio 44035  
United States of America

- (2) If there is no defects to the leads, install the lead protection (Para. C).

**C. Installation of the Lead Protection (Ref. Fig. 1)**

Use the same procedure for the left and the right fuel pump.

- (1) Unwind the two fuel-pump leads (the black wire and the white wire) to isolate the leads. Hold the leads in this position.

**CAUTION:** MAKE SURE THAT YOU DO NOT CAUSE DAMAGE TO THE FUEL PUMP LEADS WHEN YOU CUT THE SPIRAL WRAP.

- (2) Install the spiral wrap on each wire:
  - (a) For a wire with no splice. Wind spiral wrap (1) around the full length of the wire. Twist the spiral wrap (1) to make sure there are no gaps and cut the spiral wrap (1).
  - (b) For a wire with a splice. Wind spiral wrap (1) around the wire between the edge of the shrink wrap and the end of the wire. Twist the spiral wrap (1) to make sure there are no gaps and cut the spiral wrap (1). Do this for each side of the splice.

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- (3) Release the black wire and the white wire.
- (4) Wind the spiral wrap (2) around the full length of the black wire and the white wire. Twist the spiral wrap (2) to make sure there are no gaps and cut the spiral wrap (2).
- (5) Reidentify the Fuel Booster Pump, Part No. 968.84.11.403 or 968.84.11.404 when this Service Bulletin is done. Use a stamp or vibropen to put the letter B immediately after the Serial Number on the fuel pump Identification plate.

**D. Close up**

Do not install Pre-Service Bulletin 28-011 fuel pumps Part No. 968.84.11.403 or 968.84.11.404 or fuel pumps Part No. 968.84.11.401.

- (1) Install the left and right fuel pumps (Ref. AMM, 28-20-04, Page Block 401). Use the revised installation procedure (TR 28-02 attached to this Service Bulletin).
- (2) Make sure the work area is clean and clear of tools and other items.

**E. Documentation**

- (1) Make an entry in the Aircraft Logbook to show this Service Bulletin has been incorporated.
- (2) Remove TR 7 from POH, Report No. 02211 and TR 37 from POH, Report No. 01973-001 as applicable.

**4. Accomplishment Instructions - Spares**

**A. Examination and Modification of the Fuel Pumps (Ref. Fig. 1)**

- (1) Examine the fuel pumps
  - (a) For fuel pumps part number 968.84.11.401 send the fuel pump for modification to the latest standard to the address given in (b).
  - (b) For fuel pumps part number 968.84.11.403 or 968.84.11.404. Examine the wires in accordance with FAA Advisory Circular (AC) 43.13-1B, Paragraph 11-97, Wiring replacement. If defects are found, send the fuel pump for repair to:

Repair and Overhaul Dept,  
Lear Romec Division, Crane Co.  
241 South Abbe Road  
Elyria, Ohio 44035  
United States of America

- (2) If there is no defects, install the lead protection
  - (a) Unwind the two fuel-pump leads (the black wire and the white wire) to isolate the leads. Hold the leads in this position.



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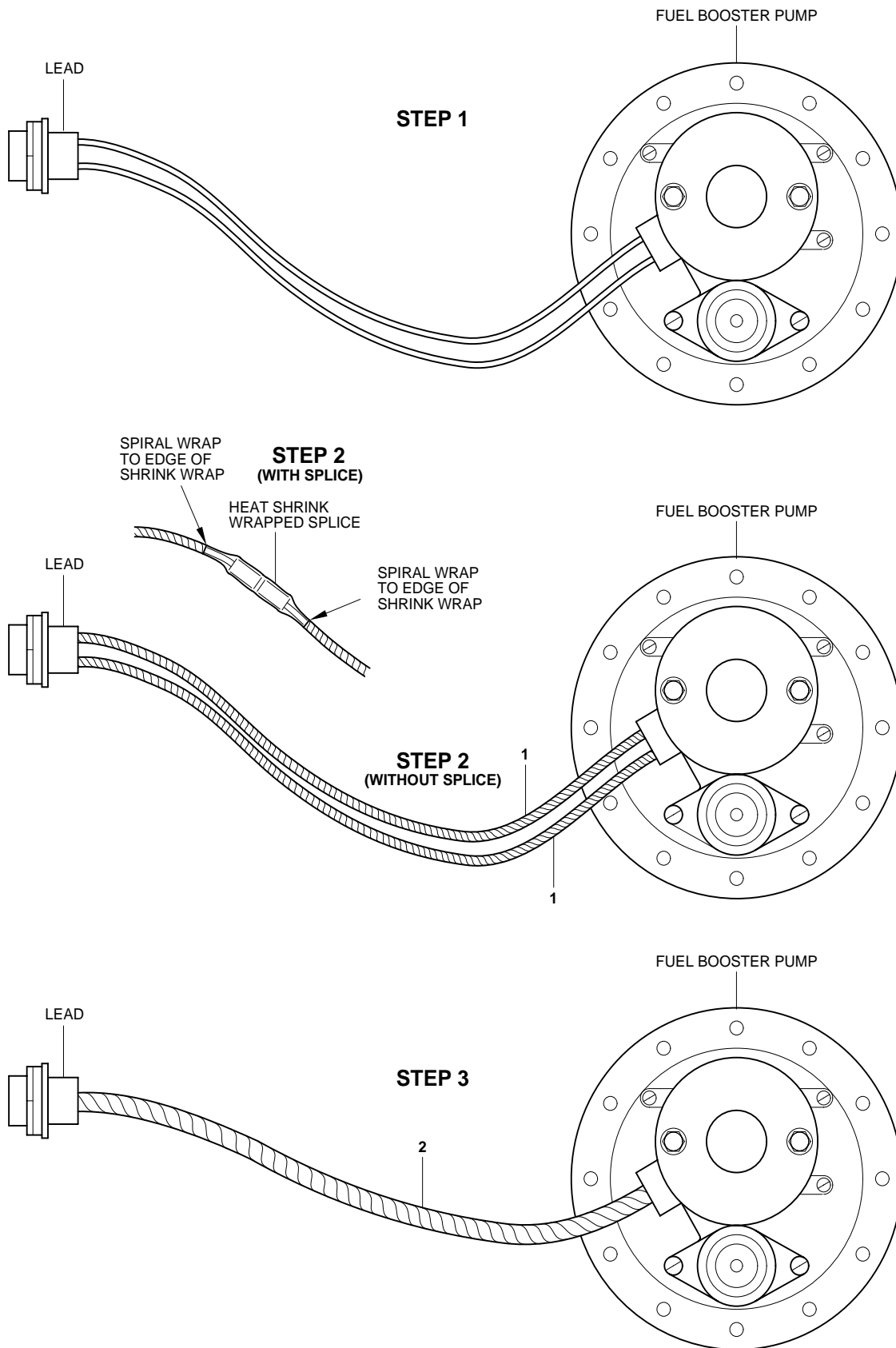
**CAUTION:** MAKE SURE THAT YOU DO NOT DAMAGE THE FUEL PUMP LEADS WHEN YOU CUT THE SPIRAL WRAP.

- (3) Install the spiral wrap on each wire:
  - (a) For a wire with no splice. Wind spiral wrap (1) around the full length of the wire. Twist the spiral wrap (1) to make sure there are no gaps and cut the spiral wrap (1).
  - (b) For a wire with a splice. Wind spiral wrap (1) around the wire between the edge of the shrink wrap and the end of the wire. Twist the spiral wrap (1) to make sure there are no gaps and cut the spiral wrap (1). Do this for each side of the splice.
- (4) Release the black wire and the white wire.
- (5) Wind the spiral wrap (2) around the full length of the black wire and the white wire. Twist the spiral wrap (2) to make sure there are no gaps and cut the spiral wrap (2).
- (6) Reidentify the Fuel Booster Pump, Part No. 968.84.11.403 or 968.84.11.404 when this Service Bulletin is done. Use a stamp or vibropen to put the letter B immediately after the Serial Number on the fuel pump Identification plate.

**B. Documentation**

- (1) Make an entry in the spare parts inventory list that this modification has been incorporated.

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Lead Protection - Installation  
Figure 1

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