



PILATUS AIRCRAFT LTD. CH-6371 STANS, SWITZERLAND

# SERVICE BULLETIN

SERVICE BULLETIN NO: 28-009

REF NO: 080

MODIFICATION NO: 03-0178

ATA CHAPTER: 28

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

### 1. Planning Information

#### A. Effectivity

- (1) PC-9 aircraft from MSN 101 thru MSN 247 and MSN 501 thru MSN 567.
- (2) All fuel pumps Part No's. 968.84.11.401 and 968.84.11.403 (Lear Romec RR53710B type) or Part No. 968.84.11.404 (Lear Romec RR53710K) 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 damage could cause an electric arc from the leads in an air/fuel mixture which can make a dangerous condition.

##### (2) Cause

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

##### (3) Solution

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

Temporary Revisions (TRs) to the Aircraft Maintenance Manual (AMM) change the:

- Defuel procedure
- Installation procedure to prevent damage to the wires

#### D. Description

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

The applicable TRs are attached to this Service Bulletin. The operator must insert the TRs in the applicable AMM as shown in the TR instructions.

Revision 1 to this Service Bulletin adds reference to the revised AMM fuel pump installation procedure (TR 28-01).

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**E. Compliance**

Mandatory.

Immediately on receipt of this Service Bulletin and before the next maintenance procedure, insert the attached TRs in the applicable AMM.

Within the next 50 hours time-in-service (TIS) or three calendar months after Sep. 22/04, the effective date of this Service Bulletin Revision 1 (whichever is the sooner), obey the instructions 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**

AMM, 12-10-01, 28-00-00 and 28-20-03.

TR 12-02 and 28-01.

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

**L. Publications Affected**

AMM, 12-10-01 and 28-20-03.

**M. Interchangeability of Parts**

Pre and Post Service Bulletin 28-009 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:

PILATUS AIRCRAFT LTD,  
CUSTOMER LIAISON MANAGER,  
CH 6371 STANS,           Tel: +41 41 619 65 09 (Government)  
SWITZERLAND           Fax: +41 41 619 61 70

**NOTE:** Operators are requested to advise Pilatus Aircraft Ltd. of the Manufacturer's Serial Number (MSN), the flying hours and landings of aircraft which are allocated for this Service Bulletin using the Service Bulletin Evaluation Form.

Operators should send orders for Service Bulletin modification kits, to:

PILATUS AIRCRAFT LTD,  
CUSTOMER LIAISON MANAGER,  
CH 6371 STANS,           Tel: +41 41 619 65 09  
SWITZERLAND           Fax: +41 41 619 61 70

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

**B. Material Necessary for Each Aircraft**

**(1) Material to be Procured**

Modification Kit No. 500.50.07.004 consists these parts:

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
115.55.07.008	Gasket	115.55.07.008	2	D	N/A	N/A
917.96.91.102	1/8 in. Spiral Wrap, PTFE	N/A	2800 mm	N/A	1	1
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	26	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.

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**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,           Tel: +41 41 619 65 09  
SWITZERLAND           Fax: +41 41 619 61 70

**D. Reidentified Parts**

- (1) Reidentify the fuel pump Part No. 968.84.11.401, 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.

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**E. Fuel Pump Identification and Configuration**

Description	Type Part No.	Serial No. - Suffix	Pilatus Part No.	Remarks
Fuel Booster Pump	RR53710B		968.84.11.401	
Fuel Booster Pump	RR53710B	R1 and/or R2 or Ser. No. B3926 and above	968.84.11.403	-Post Lear Romec SB RR 53710B-20-001 (supersedes SB5602) -Post Pil. PC-9 SB 28-004 (supersedes Pil. P/N: 968.84.11.401
Fuel Booster Pump	RR53710B	B	968.84.11.401 or 968.84.11.403	-Post Pil. PC-9 SB 28-009 (Retrofit in field)
Fuel Booster Pump	RR53710K		968.84.11.404	
Fuel Booster Pump	RR53710K	A	968.84.11.404	-Post Lear Romec SB RR 53710K-20-001 -Post Pil. PC-9 SB 28-004
Fuel Booster Pump	RR53710K	B	968.84.11.404	-Post Pil. PC-9 SB 28-009 (Retrofit in field)
Fuel Booster Pump	RR53710L	NO MODIFICATION REQUIRED	968.84.11.405	-Post Lear Romec SB RR 53710K-20-002 and RR 53710K-20-003 (Rework of K version - wires at the bottom) (supersedes Pil. P/N: 968.84.11.404)
Fuel Booster Pump	RR53710M	NO MODIFICATION REQUIRED	968.84.11.406	-Post Lear Romec SB RR 53710B-20-002 (Rework of B version - wires at the top (supersedes Pil. P/N: 968.84.11.403

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**3. Accomplishment Instructions - Aircraft**

**WARNING:** MAKE SURE THAT THE TWO EJECTION SEATS HAVE THE SAFETY PINS IN THE SAFE FOR SERVICING POSITION.

**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.

**A. Preparation**

- (1) Obey the safety precautions given in Fuel - Maintenance Practices (Ref. AMM, 28-00-00, Page Block 201).
- (2) Defuel the aircraft (Ref. AMM, 12-10-01, Page Block 301 and TR 12-02).
- (3) Remove the left and right fuel pumps (Ref. AMM, 28-20-03, Page Block 401).

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

- (1) Examine the fuel pumps
  - (a) For fuel pumps Part No. 968.84.11.401, 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:

PILATUS AIRCRAFT LTD,  
COMPONENT REPAIRS,  
(TRAINER AIRCRAFT) MANAGER,  
CH6371 STANS, Tel: +41 (41) 619 6904  
SWITZERLAND, Fax: +41 (41) 619 6294

- (b) Install the lead protection (Ref. Para C). This step is only applicable if the leads are not defective.

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

This procedure is the same for the left and the right fuel pump.

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

**CAUTION:** MAKE SURE THAT YOU DO NOT CAUSE DAMAGE TO THE FUEL PUMP WIRES 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.
- (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).

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- (5) Reidentify the fuel pump Part No. 968.84.11.401, 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 28-009 fuel pumps Part No. 968.84.11.401, 968.84.11.403 or 968.84.11.404.

- (1) Install the left and right fuel pumps (Ref. AMM, 28-20-03, Page Block 401). Use the installation procedure given in TR 28-01 (attached) when you do this.
- (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.

**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 No. 968.84.11.401, 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:

PILATUS AIRCRAFT LTD,  
COMPONENT REPAIRS,  
(TRAINER AIRCRAFT) MANAGER,  
CH6371 STANS, Tel: +41 (41) 619 6904  
SWITZERLAND, Fax: +41 (41) 619 6294

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

**CAUTION:** MAKE SURE THAT YOU DO NOT CAUSE DAMAGE TO THE FUEL PUMP WIRES 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.



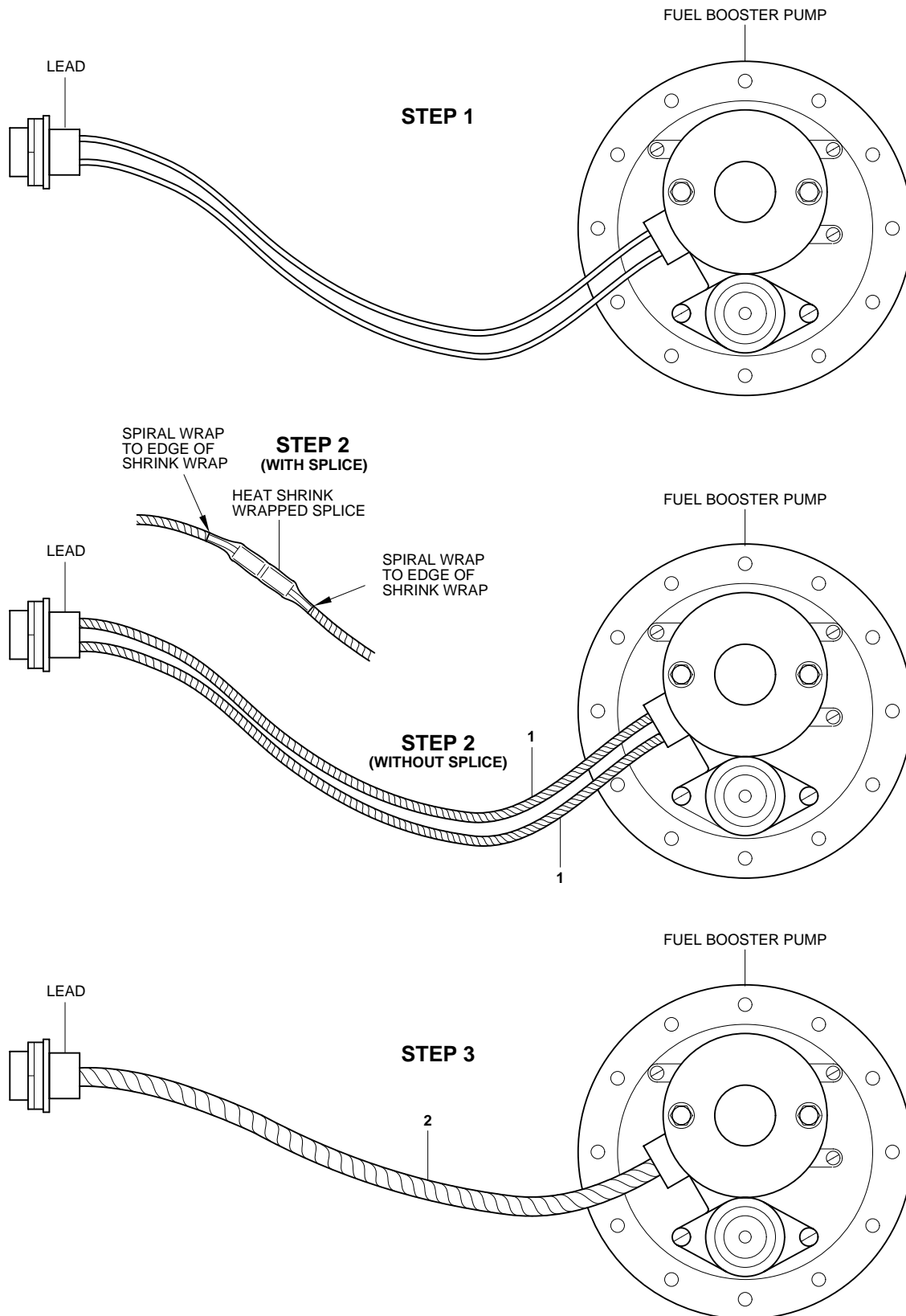
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- (5) Wind the spiral wrap (2) around the full length of the black wire and the white wire. Twist the spiral wrap (2) to make sure there are no gaps and cut the spiral wrap (2).
- (6) Reidentify the fuel pump Part No. 968.84.11.401, 968.84.11.403 or 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