

# SERVICE BULLETIN

SERVICE BULLETIN NO: 30-006

REF NO: 112

MODIFICATION NO:

ATA CHAPTER: 30

## ICE AND RAIN PROTECTION - WINDSHIELD MODIFICATIONS TO THE WINDSHIELD DE-ICE SYSTEM WIRES AND CIRCUIT BREAKERS

### 1. Planning Information

#### A. Effectivity

- (1) All PC-12 and PC-12/45 aircraft from MSN 201 up to and including MSN 320 which have the new windshields PILATUS P/N: 959.81.10.107 LH and 959.81.10.108 RH (PPG P/N: NP172121-5 LH and NP172121-6 RH) installed.
- (2) All PC-12 and PC-12/45 aircraft from MSN 101 up to and including MSN 200 in which the old windshields were replaced with the new PILATUS P/N: 959.81.10.107 LH and 959.81.10.108 RH (PPG P/N: NP172121-5 LH and NP172121-6 RH) windshields.

**NOTE:** You can identify the new type windshields because there are three temperature sensors embedded in their outboard edges.

This Service Bulletin is not applicable to aircraft MSN 321 and subsequent. These aircraft will have a series production installation which fulfils requirements of this Service Bulletin.

#### B. Concurrent Requirements

None.

#### C. Reason

##### (1) Problem

The power-supply circuit breakers of the LH and RH windshield ice and rain protection system are prone to operate (open) and de-energize the system during flight in very cold Outside Air Temperature (OAT) conditions, if LIGHT position is selected.

##### (2) Cause

If the LIGHT position is selected (which heats the complete windscreen), the electrical load of the LH and RH windshields can become too high during flight at cruise altitudes. This is due to the cold OAT which decreases the electrical resistance of the windshield heater elements.

##### (3) Solution

The windshield de-ice system is modified to increase the two power-supply circuit breakers to 40 Amps and increase the gauges of the wires connecting them. Six new 30 Amp circuit breakers are installed, one in each of the three power output wires from each of the controllers to the windshields.

**D. Description**

This Service Bulletin gives the procedure to install the new circuit breakers and modify the wires from the windshields de-ice controllers.

**E. Compliance**

Mandatory.

Required within the next 200 hours time-in-service (TIS) or the next annual inspection whichever comes first, after the effective date of this Service Bulletin, unless already accomplished.

**NOTE:** Unless this Service Bulletin is done the aircraft must be operated i.a.w. AFM Temporary Revision No. 21 (Windshield Heater Operation) dated May 19/00

**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.

**NOTE:** 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
Preparation	1.5
Installation of the new circuit breaker panel and circuit breakers	2.0
Modification of the wires to the left de-ice controller	6.0
Modification of the wires to the right de-ice controller	6.0
Close up	2.0
<b>TOTAL MAN-HOURS</b>	<b>17.5</b>

**H. Weight and Balance**

**(1) Weight Change**

+ 1.1 lb. (0.5 kg)

**(2) Moment Change**

Not affected.

**I. Electrical Load Data**

The calculated maximum electrical-load of 28.4 Amps is not affected, but this uses ambient temperatures in the calculation. Flight test have shown that at altitude the OAT decreases the electrical resistance of the windshield heater elements. This increases the electrical load necessary to keep the windshields at the correct temperature. The average of the measured total electrical load at altitude is 31.5 Amps which gives an increase of 3.1 Amps over the calculated maximum load.

**J. Software**

Not changed.

**K. References**

Aircraft Maintenance Manual (AMM), 06-20-00, 24-00-00, 24-30-07, 25-21-04 or 25-22-04, and 30-40-00.

Illustrated Parts Catalog (IPC), 30-40-00.

**L. Publications Affected**

AMM, 30-40-00 and 30-40-01.

Aircraft Wiring Manual (WM), 24-30-10, 30-40-00 and 30-40-10.

IPC, 24-50-00 and 30-40-00.

**M. Interchangeability of Parts**

It is not permitted to modify only one of the two windshield de-ice systems.

**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.

or PILATUS BUSINESS AIRCRAFT LTD.,  
PRODUCT SUPPORT DEPARTMENT,  
11755 AIRPORT WAY,  
BROOMFIELD, CO 80021.  
USA

Tel : + 41 41 619 6319 (General aviation)  
Tel : + 41 41 619 6509 (Government)  
Fax: + 41 41 619 6224

Tel : 303 465 9099  
Fax: 303 465 6040

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