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| **Service Bulletin No:** | **25-040** | **Ref No:** | **366** |
| **Modification No:** | **EC-15-0406, EC-20-0134** | **ATA Chapter:** | **25** |

**EQUIPMENT AND FURNISHINGS - GENERAL**
**INSTALLATION OF A SUPPLEMENTARY AIRCRAFT HEATING SYSTEM (115 VAC/60 HZ) FOR EXTREME COLD TEMPERATURES**

## 1. Planning Information

### A. Effectivity

All PC-12, PC-12/45 and PC-12/47 series aircraft MSN 101 thru 888, as a customer option.

### B. Concurrent Requirements

None.

### C. Reason

To improve engine starting and ensure adequate operating environments for the electrical and avionics equipment when the aircraft is operated after cold soak in subzero temperatures.

### D. Description

The systems that follow are installed to improve operation of the aircraft in cold soak in subzero temperatures:

- A battery heating system that has two heating elements is installed around the batteries. The heating elements are powered from an external source (115 VAC/60 Hz), through a power receptacle installed on the rear LH fuselage. An indicator light, located adjacent to the power socket, gives an indication when the system is active. The activation of the heating elements is controlled by a temperature sensor attached to the fuselage.

  **NOTE:** This Service Bulletin gives the instructions to install a battery heating system for two batteries. If only one battery is installed in the aircraft, the second heating element must be disconnected and removed. A protection cap must also be installed on the electrical connector from the battery cold operation kit.

- A power outlet that is connected to the battery heating system is also installed. This enables the use of an auxiliary electrical fan-type cabin heater. This auxiliary heater is a commercially-available domestic 'safety' type with a ceramic-core element. It is a free-standing unit (for example WINDMERE 115 VAC (1.5 kW) internal cabin heater), with a variable output up to 1.5 kW, using normal North-American domestic 115 Volt, 15 Amp power at a frequency of 60 Hz.
- An engine heating system with five heating elements is installed around the engine. The heating elements are attached, with sealant (IS 808), to the left and to the aft left of the oil sump, the FCU and the left and right nose case. These elements are powered from an

external source (115 VAC/60 Hz), through a power receptacle which is installed on the front underside of the LH fuselage. An indicator light, located adjacent to the power socket, gives an indication when the system is active.

- A rocker-type switch is installed on the rear center console panel. It is connected to a temperature sensor under the cabin floor and to the cabin temperature indicator on the center console. When the rocker switch is pushed, the sensor reads the ambient temperature under the cabin floor and this is shown on the cabin temperature indicator.
- An Insulated Engine Cover (P/N: 968.20.13.901) which retains the engine latent heat, is stored on the aircraft. The blanket is installed around the engine cowling; when the aircraft is on the ground and the temperature is expected to drop beneath -15°C (5°F). The blanket weighs 4 kg (9 lb.).

This Service Bulletin supersedes Service Bulletin 25-002. Customers who have embodied Service Bulletin 25-002 need not take further action.

Revision 1 of this Service Bulletin updates obsolete parts in the modification kit. Customers who have already embodied this Service Bulletin at Initial Issue do not need to do further work.

Revision 2 of this Service Bulletin corrects the power cable feedthrough location in frame 36 (Figure 2 Sheet 2). Customers who have already successfully embodied this Service Bulletin at a previous issue do not need to do further work.

## E. Compliance

Optional.

This is a mandatory requirement for aircraft seeking certification with the Canadian Airworthiness Authorities.

It is highly recommended for any PC-12, PC-12/45 and PC-12/47 series aircraft operating in an environment with extremely low ambient ground temperature.

## F. Approval

The technical content of this document is approved under the authority of the DOA ref. EASA.21J.357.

PILATUS advises Operators/Owners to check with their designated Airworthiness Authority for any changes, local regulations or sanctions that may affect the embodiment of this Service Bulletin.

## G. Copyright and Legal Statement

**H. Manpower**

| | Total |
|---|---|
| Preparation | 0.5 |
| Modification | 43.0 |
| Close up | 10.0 |
| **TOTAL MAN-HOURS** | **53.5** |

**NOTE:** Man-hour figures do not include the time required to cure sealants and adhesives.

**I. Weight and Balance**

This aircraft must be weighed on completion of the Service Bulletin and the AFM amended.

**J. Electrical Load Data**

Not changed.

**K. Software**

Not changed.

**L. References**

Aircraft Maintenance Manual (AMM):

| | | |
|---|---|---|
| 12-A-06-20-00-00A-040A-A | 12-A-11-00-00-00A-901A-A | 12-A-20-31-00-00A-070A-A |
| 12-A-20-40-10-00A-901A-A | 12-A-20-50-00-00A-901A-A | 12-A-21-30-00-00A-903A-A |
| 12-A-24-00-00-00A-901A-A | 12-A-24-30-07-00A-920A-A | 12-A-25-10-01-00A-920A-A |
| 12-A-25-10-03-00A-920A-A | 12-A-25-10-04-00A-920A-A | 12-A-25-10-05-00A-920A-A |
| 12-A-25-21-04-00A-920A-A | 12-A-25-21-07-00A-920A-A | 12-A-25-22-04-00A-920A-A |
| 12-A-25-23-01-00A-920A-A | 12-A-25-90-00-00A-903A-A | 12-A-33-10-06-00A-920A-A |

**M. Publications Affected**

Illustrated Parts Catalog (IPC)

AFM Supplement No. 10 to AFM 01973-001 and 02211.

**N. Interchangeability of Parts**

Not applicable.

## 2. Material Information

### A. Material - Price and Availability

Operators that require additional information and/or Service Bulletin Material should contact their authorized Pilatus Service Center, or Pilatus Customer Support on www.pilatus-aircraft.com → contact us.

**NOTE:** Part Numbers given in this Service Bulletin are correct at the time of approval. Pilatus Aircraft Ltd reserves the right to change the part numbers as necessary. Part numbers of items delivered with a kit are correct when the kit is dispatched. This could lead to differences between those part numbers quoted in a Service Bulletin and the kit if parts are superseded. Operators are requested to check the IPD for delivered parts which differ from those listed in the Service Bulletin Materials Kit List.

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.

### B. Warranty

Not applicable.

### C. Material Necessary for Each Aircraft