PILATUS AIRCRAFT LTD. CH-6371 STANS, SWITZERLAND

# SERVICE LETTER

**SUBJECT: INTRODUCTION OF SERVICE BULLETIN NO. PBA-34-001**

To all Customers and Operators: Date: June 23/00

This Service Letter is issued to draw attention to the following information:

**Pilatus Business Aircraft Ltd. Service Bulletin No. PBA-34-001**

PILATUS recommends that Service Bulletin PBA-34-001 is incorporated on all PC-12 and PC-12/45 aircraft with FAA Supplement Type Certificate (STC) No. SA00322DE. This only applies to STC installations done under revisions prior to Revision G of STC No. SA00322DE. Revision G of STC No. SA00322DE incorporated an updated 15 Amp circuit breaker and 16 AWG wires.

Pilatus Business Aircraft Ltd. Service Bulletin No. PBA-34-001 requires the replacement of a 7.5 Amp circuit breaker with a 15 Amp circuit breaker and the replacement of 20 AWG wires with 16 AWG wires in the Secondary Pitot-heat circuit.

Operators requiring further information on this subject, please contact the address given below:

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

Tel: 303 465 9099
Fax: 303 465 6040

PILATUS BUSINESS AIRCRAFT LTD
Jeffco Airport
Broomfield, Colorado 80021
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# SERVICE BULLETIN

Effective Date: June 6, 2000

Service Bulletin No. PBA-34-001
ATA Code 34

**SUBJECT:** Replacement of STC SA 00322DE 2nd Pitot Static System Pitot Heat Wires and Circuit Breaker.

## 1. Planning information

### A. Effectivity

(1) All PC-12 and PC-12/45 aircraft with FAA-STC # SA 00322DE incorporated.

The technical contents of this Service Bulletin apply to installations done under Revision G of the Master Drawing List and will be incorporated on all subsequent STC installations. Revision G incorporates the updated 15 AMP Circuit Breaker and 16 AWG wire in the pitot heat circuit.

### B. Concurrent Requirements

None

### C. Reason

#### (1) Problem

The 7.5 AMP circuit breaker and related wiring are incorrectly matched to the maximum potential, 15 AMP current draw of the pitot head.

Although incorrect, the system is considered safe because the circuit breaker is correctly rated to protect the installed, 20 AWG, electrical wires. Furthermore, the initial 'inrush' current is above the rating of the circuit breaker. Tests have shown that the current in the pitot head quickly stabilizes to a value below that of the circuit breaker rating. This also takes into account varying electrical resistances caused by changes in temperature at altitude.

Although the power matching of the system is inappropriate, there have been no reported operational incidents of 'tripping' of the circuit breaker.

#### (2) Cause

Installation of minimum size AWG electrical cables.

#### (3) Solution:

(1) Disconnect and isolate the installed (20 AWG) cables.
(2) Install cables of the correct specification (16 AWG)
(3) Replace the 7.5 AMP (COPILOT PITOT DE-ICE) circuit breaker with a 15 AMP circuit breaker.

## D. Description

This Service Bulletin gives the data and instructions necessary to disconnect and isolate the installed cable assemblies, install new cable assemblies and replace the circuit breaker.

## E. Compliance

Mandatory.

Required within the next six calendar months after the effective date of this Service Bulletin, unless already accomplished.

## F. Approval

The technical aspects of this Service Bulletin have been approved by the Federal Aviation Administration (FAA) through the latest revision of FAA-STC # SA 00322DE, Revision G.

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 (Std. Interior) | Total (Exec. Interior) |
|---|---|---|
| Preparation | 4 | 6 |
| Modification of the pitot electrical system | 20 | 20 |
| Close up | 5 | 7 |
| Test | 1 | 1 |
| **TOTAL MAN-HOURS** | **30** | **34** |

## H. Weight and Balance

### (1) Weight Change

Not affected.

### (2) Moment Change

Not affected.

## I. Electrical Load Data

Not Changed

## J. Software

Not changed.

### K. References

STC SA00322DE Continued Airworthiness Instructions 050-0226.
Aircraft Maintenance Manual (AMM), 06-00-00, 24-00-00, 24-30-07, 25-21-01, 25-21-04, 25-21-07, 25-22-04, 25-22-01, 27-50-00, 34-11-00 and 34-11-01.

### L. Publications Affected

STC SA00322DE Probes De-Icing Wiring Diagram 163-5016

### J. M. Interchangeability of Parts

Not applicable.

## 2. Material Information

### A. Material – Price and Availability

Operators should send orders for Service Bulletin modification materials to their Authorized Pilatus Service Centers, or to:

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

Tel: 303-465-9099
Fax: 303465-6040

### B. Material Necessary for Each Aircraft

#### (1) Material to be Procured

| New Part | Description | Old Part | Qty. | Disp. Code | Fig. |
|---|---|---|---|---|---|
| M22759/32-16-9 | Wire, Elec. **Build the following:** | N/A | 27.5 m | N/A | N/A |
| H226E16N | Cable (16 AWG) | H226E20N | 6m | Discard | 2 |
| H226D16 | Cable (16 AWG) | H226D20 | 8m | Discard | 2 |
| H226C16 | Cable (16 AWG) | H226C20 | 7m | Discard | 2 |
| H226B16 | Cable (16 AWG) | H226B20 | 2m | Discard | 2 |
| H226A16 | Cable (16 AWG) | H226A20 | 2m | Discard | 2 |
| 971.31.18.834 | Lug Terminal | N/A | 1 | N/A | N/A |
| 971.31.18.838 | Lug Terminal | N/A | 3 | N/A | N/A |
| 971.75.18.904 | Socket Contact | N/A | 1 | N/A | N/A |
| 971.75.18.914 | Pin Contact | N/A | 1 | N/A | N/A |
| 972.55.18.409 | Circuit Breaker (15) | 972.55.18.407 | 1 | Discard | 2 |
| 974.22.00.902 | Pin – Relay | N/A | 2 | N/A | N/A |

(2) **Additional Material to be Procured**

Not applicable.

(3) **Operator Supplied Materials (Ref. AMM 20-31-00)**

C. **Material Necessary for Each Spare**

(1) **Material to be Procured**

Not applicable.

(2) **Operator Supplied Materials**

| Part | Description | Qty. | Remarks |
|---|---|---|---|
| 971.32.51.104 | Tie - Cable | A/R | Tie-wrap (MS3367-4-9,PA66) |
| 971.32.51.105 | Tie – Cable | A/R | Tie-wrap (MS3367-5-9,PA66) |

D. **Re-identified Parts**

Not applicable.

E. **Tooling – Cost and Availability**

Not applicable.

3. **Accomplishment Instructions – Aircraft**

A. **Preparation**

(1) Lower the flaps (Ref. AMM, 27-50-00, Page Block 501).

(2) Obey the instructions and safety precautions given in the Electrical Power Maintenance Practices (Ref. AMM, 24-00-00, Page Block 201).

(3) Put a warning sign (DO NOT CONNECT AN EXTERNAL POWER SUPPLY) in the flight compartment and on the external power receptacle.

(4) Disconnect the battery (Ref. AMM, 24-30-07, Page Block 401).

(5) Remove the toilet compartment (if applicable) (Ref. AMM, 25-21-07, Page Block 401 or 25-22-04).

(6) Remove the passenger seats as applicable (Ref. AMM 25-21-01, Page Block 401 or 25-22-01, Page Block 401).

(7) Remove the carpets as applicable (Ref. AMM, 25-21-04, Page Block 401 or 25-22-04, Page Block 401).

(8) Remove the access panels (Ref. AMM 06-20-00, Page Block 1).

(a) On the right side of the flight compartment remove the (trim) panel 21 MZ.

(b) On the left side of the passenger compartment remove the (trim) panel 22CZ.

(c) On the left wing remove panels 51AB, 51KB, 52KB, 52PB and 52MB.

(d) In the passenger compartment floor, remove the necessary panels.

(9) Remove the pitot head (Ref. AMMS 050-0226, Page 6).

**B. Disconnect and Isolate the Cables**

(1) Disconnect the cables from the applicable terminals (Ref. Fig. 1).

(2) Remove the pins and connector lugs from the disconnected cables. Do not remove the cables from the cable looms.

(3) Install a shrink cap on the cut ends of each disconnected cable.

**C. Assemble and Install the New Cables (Ref. Fig. 2)**

| Terminal (From) | End Connector | Cable | Terminal (To) | End Connector |
|---|---|---|---|---|
| CB106 | Lug | H226A16 | K104 | Pin |
| K104 | Pin | H226B16 | P106/Bus | Lug |
| P106/Load | Lug | H226C16 | JB101/J | Pin |
| PB101/J | Pin | H226D16 | P107/A | Pin |
| P107/B | Pin | H226E16N | P420 | Pin |

(1) Use stripping and crimping tools to remove the insulation and attach the applicable pins (or lugs) to one end of each cable.

(2) Connect the pins and lugs to the applicable connectors.

(3) Put each cable in its routing position on the cable looms in the wing and fuselage.

(4) Cut each cable to the correct length.

(5) Use stripping and crimping tools to remove the insulation and attach the applicable pins (or lugs) to the remaining ends of the cables.

(6) Connect the pins and lugs to the applicable connectors.

(7) Use the cable ties to attach each cable to the cable looms. Ensure proper clearance of cable loom to fuselage is maintained.

**D. Replacement of the Circuit Breaker (Ref. IPC 24-50-00 Fig. 4)**

(1) Remove the circuit breaker assembly (CB 106)

(a) Remove the four screws from the GEN1 BUS circuit-breaker panel (2).

(b) Pull the panel inboard to get access to circuit breaker CB106 (COPILOT PITOT DE-ICE).

(c) Remove the screws and nut from the CB leads and the attachment washer and nut.

(2) Remove the 7.5 AMP circuit breaker.

(3) Install the new circuit breaker assembly (CB106).

(a) Put the 15 AMP circuit breaker in position through the hole in the panel. Make sure the small tab on the face of the circuit breaker is engaged in the adjacent location hole.

(b) Put the washer on the circuit breaker and loosely install the nut.

(c) Connect the circuit breaker to the GEN1BUS with the nut and screw.

(d) Connect the H226A16 cable to the 15AMP circuit breaker and tighten all hardware.

(e) Put the GEN1 BUS circuit-breaker panel in position and install the screws.

**E. Close up**

(1) Remove all tools and materials and make sure the work areas are clean.

(2) Install the pitot head (Ref. AMMS 050-0226, Page 6).

(3) Install the access panels (Ref. AMM 06-20-00, Page Block 1).

(a) On the left wing install panels 51AB, 51KB, 52KB, 52PB and 52MB.

(b) On the right side of the flight compartment install the (trim) panel 21MZ.

(c) On the left side of the passenger compartment install the (trim) panel 22CZ.

(d) In the passenger compartment floor install the panels.

(4) Install the carpets as applicable (Ref. AMM 25-21-04, Page Block 401 or 25-22-04, Page Block 401).

(5) Install the passenger seats as applicable (Ref. AMM 25-21-01, Page Block 401 or 25-22-01, Page Block 401).

(6) Install the toilet compartment (if applicable). (Ref. AMM 25-21-07, Page Block 401).

(7) Connect the battery (Ref. AMM 24-30-07, Page Block 401).

(8) Remove the warning signs from the flight compartment and external power receptacle.

(9) Do a test of the pitot-static system. (Ref. AMM 34-11-00, Page Block 501)

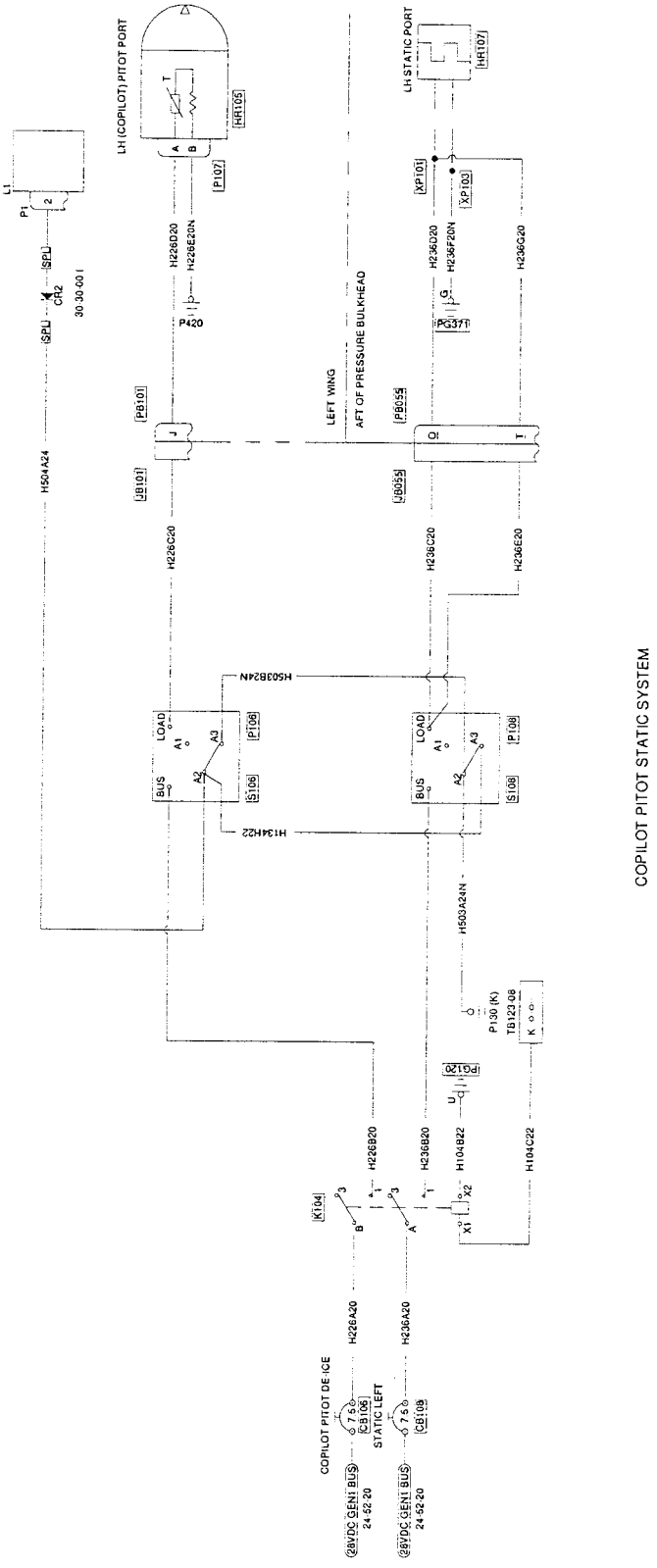
## F. Documentation

(1) Make an entry in the Aircraft Logbook that this Service Bulletin has been incorporated.

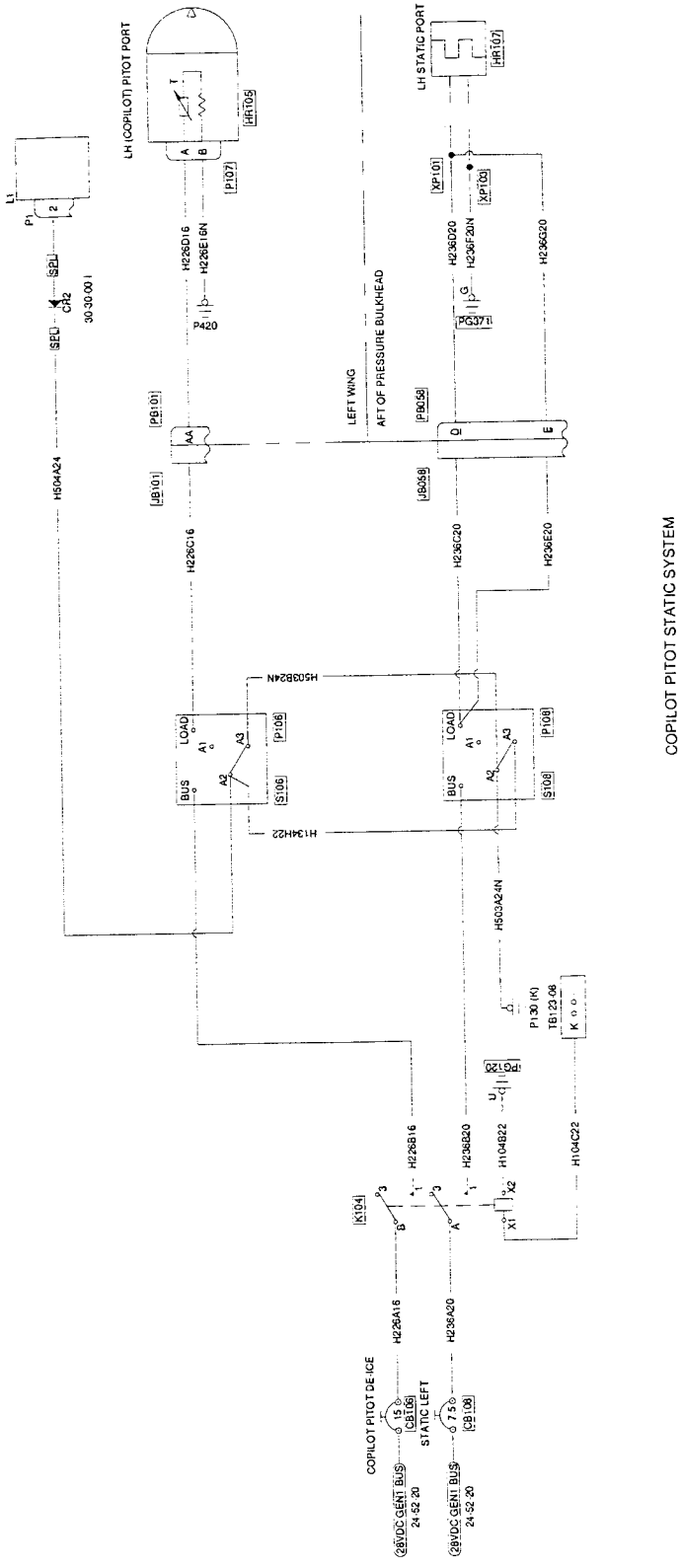
(2) Use the Service Bulletin Evaluation Sheet to report your results and the serial number of the modified aircraft to PILATUS.

## G. Accomplishment Instructions – Spares

Not applicable.




Pre-SB PBA-34-001
Figure 1




Post SB PBA-34-001
Figure 2