

FOR PLANNING PURPOSES

SERVICE BULLETIN

SERVICE BULLETIN NO: 27-011

REF NO: 127

MODIFICATION NO:

ATA CHAPTER: 27

FLIGHT CONTROLS - FLAPS MODIFICATION OF THE FLAP CONTROL WIRING

1. Planning Information

A. Effectivity

- (1) All PC-12 and PC-12/45 aircraft from MSN 101 up to and including MSN 400.

B. Concurrent Requirements

None

C. Reason

(1) Problem

When the flaps get to the 40° position, the down limit switch logic causes a current surge. This current surge can decrease the electrical life of the Flap Power Drive Unit (PDU) motor contactor. If a motor contactor stays closed in the flap power drive circuit, it could cause the flaps to operate continuously through a cycle of 40° and the selected position.

(2) Cause

At the 40° flaps position, the flaps-down limit switch (S035) operates before the Flap Control Warning Unit (FCWU) can stop the extend command. This causes the PDU Up/Down relay (K32) to change from the extend to retract position. This sends the current in the field winding in the opposite direction while current still flows through the motor. If the motor contactor (K31 or K670) stays closed, it can cause a permanent supply current to the PDU motor and field windings when the circuit breaker (CB034) is closed.

(3) Solution

The flaps-down limit switch is used to energize the field relay (K667). This disconnects the electrical supply to the PDU before the PDU Up/Down relay (K32) is de-energized when the FCWU stops the extend command. The installation of a PDU field control panel removes power from the PDU field winding when the flap up or down lines are not energized.

D. Description

This Service Bulletin gives the necessary data and instructions to modify and install the applicable electrical cables and install a PDU Field Control Panel (FCP).

Part A of this Service Bulletin gives the instructions to install the FCP and the necessary wiring modifications for aircraft from MSN 101 thru 320 and pre-Service Bulletin 27-008.

Part B of this Service Bulletin gives the instructions to install the FCP and the necessary wiring modifications for aircraft MSN 101 thru 320 that are post Service Bulletin 27-008. This also applies to all aircraft from MSN 321 thru 400 because their build standard is technically the same as post Service Bulletin 27-008.

Credit will be issued for all aircraft, on approval of a warranty claim, provided that the work is accomplished by an authorised Service Center and in the mandatory compliance time.

Revision 1 to this Service Bulletin revises the electrical test for post Service Bulletin 27-008 aircraft and MSN 321 thru MSN 400 and makes it necessary to do an adjustment/test of the flap down limit switch. It also makes sure that the text agrees with the Mod Kit Part Numbers.

E. Compliance

Mandatory.

Must be incorporated within the next 50 hours time-in-service (TIS) or 30 days, whichever comes first, after the effective date of this Service Bulletin.

On aircraft MSN 101 thru 320 that have not had Service Bulletin 27-008 embodied, do Part A of this Service Bulletin.

- Before Service Bulletin 27-008 can subsequently be embodied, Part A of this Service Bulletin must first be removed.
- After Service Bulletin 27-008 is then embodied, Part B of this Service Bulletin must be done immediately.

On aircraft MSN 101 thru 320 that have had Service Bulletin 27-008 embodied, do Part B of this Service Bulletin

On aircraft MSN 321 thru 400, embody Part B of this Service Bulletin.

F. Approval

The technical aspects of this Service Bulletin are 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. Manpower

	Total if embodied with SB 27- 008	Total if embodied after SB 27-008	Total MSN 321 and subsequent	Total if embodied before SB 27-008
Preparation	0	1	1	1
Modification of the Flap Wiring	0	2	3	2
Close up	0	1	1	1
TOTAL MAN-HOURS	0	4	5	4

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

G. Weight and Balance

(1) Weight Change

Not affected.

(2) Moment Change

Not affected.

H. Electrical Load Data

Not changed.

I. Software

Not changed.

J. References

Aircraft Maintenance Manual (AMM), Chapters 06-20-00, 24-00-00, 24-30-07, 25-10-03, 25-21-01, 25-21-04, 25-21-05, 25-22-01, 25-22-04, 27-50-00, 27-50-07, 31-50-01.

K. Publications Affected

AMM, Chapter 27-50-07.

L. Interchangeability of Parts

None.

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.