

# SERVICE BULLETIN

SERVICE BULLETIN NO: 27-008

REF NO: 110

MODIFICATION NO:

ATA CHAPTER: 27

## FLAP - GENERAL REPLACEMENT OF THE FCWU AND MODIFICATIONS TO THE SYSTEM

### 1. Planning Information

#### A. Effectivity

All PC-12 and PC-12/45 aircraft from MSN 101 up to and including MSN 320.

This Service Bulletin will be incorporated prior to delivery on aircraft MSN 321 and subsequent.

This Service Bulletin must be incorporated at authorized PILATUS service centers.

#### B. Concurrent Requirements

This Service Bulletin supersedes Service Bulletins 27-002, 27-005 and 27-007.

#### C. Reason

##### (1) Problem

The Flap Power Drive-unit (PDU) circuit breaker can open and stop the flap system during flight. The pilot cannot close the circuit breaker during flight because there is no internal access.

The Flap Control and Warning Unit (FCWU) cannot sense if a single actuator becomes excessively worn. Distortion of a flap panel can occur.

Flap system maintenance tasks are complicated with the present system, for example, the flap setting and fault finding procedures.

##### (2) Cause

Cold temperature conditions can cause the electrical load on the PDU system to become too high. When this occurs the PDU circuit breaker opens automatically.

There is no equipment installed which will sense a disengaged flap actuator.

The present flap rigging and fault finding procedures are difficult.

##### (3) Solution

Install the new FCWU99-3. This system has a Remote Controlled Circuit Breaker (RCCB) component which makes it possible to close the PDU circuit breaker in flight.

Install flap position-indication resolvers. These, together with the FCWU99-3 will sense a disengaged flap actuator.

The new system is a better aid to maintenance.

**D. Description**

This Service Bulletin gives the necessary data and instructions to:

- Replace the existing FCWU with the new designed FCWU99-3 and install flap position-indication resolvers at the center and inboard flap actuator positions
- Remove the flap position-indication resolvers from the outboard flap mechanism
- Modify the applicable electrical cables and install new cables as necessary
- Install an RCCB system
- Do the rigging procedure to set the four flap positions (0°, 15°, 30° and 40° full flap)

Revision 1 of this Service Bulletin:

- Replaces the circuit breaker support-bracket (bracket) on the base plate assembly at Frame 24
- Installs a bus link between CB601, CB034, CB035, CB415 and CB416
- Replaces the wire P12H4 with wire P12H0
- Changes wiring for CB653 and CB652 at Frame 16
- Changes the FCWU software specification from Rel. 3.10/R 1.14 to Rel. 3.11/R 1.14

Revision 2 of this Service Bulletin alerts operators to the manufacturers recall of all FCWUs with Serial Nos. 100,000 or less. Operators must make sure that replacement FCWUs have Serial Nos. of 100,001 or subsequent. Only Pages 1, 2 and 11 are issued as Revision 2.

The new system senses when a flap actuator is disengaged and gives (time-stamped) error codes to aid flap maintenance

Up to now high frequency inspections of the flap actuators have been necessary (Ref. AMM, Temp. Revs. 04-04 and 27-12).

Incorporation of this Service Bulletin reduces the inspection frequency to annual or 600 flying hours or 800 landings whichever comes first (Ref. AMM, 05-10-20, Rev. 9, dated Apr 30/00).

AMM Temp. Revs. 04-04 and 27-12 are superseded by Temp. Revs. 04-05 and 27-13 which are only applicable to aircraft MSN 101 up to and including MSN 320 that have not had this Service Bulletin incorporated.

**E. Compliance**

Mandatory.

Required within the next 600 hours time-in-service (TIS) after the effective date of this Service Bulletin or not later than Jun. 30, 2001, whichever comes first.

**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.

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**G. Manpower**

	Total
Preparation (Aircraft with toilet and cabinets installed)	4.0 (2.0)
Installation of Inboard and Center Resolvers	30.0
Remove the bonding straps and disconnect the flap drive arm - inboard actuator.	
Installation of inboard resolver bracket	
Resolver installation - Inboard actuator	
Installation of the guide bush	
Installation of terminal block (TB033) and (TB034)	
Remove the flap position-indication resolver - Outboard actuator	
Installation of terminal block (TB031) and (TB032)	
Remove existing installation	
Resolver installation - Center actuator	
Installation of fuselage pressure reinforcing plate	3.0
Installation of RCCB support bracket	3.0
Installation of the suppression filter	0.5
Modification of the wiring	20.0
Install the new FCWU	0.5
Flap system testing procedure	2.0
Close up (Aircraft with toilet and cabinets installed)	4.0 (2.0)
<b>TOTAL MAN-HOURS</b>	
	(MSN 101 thru 200)
	<b>70.0</b>
	<b>(74.0)</b>
	(MSN 201 thru 320)
	<b>67.0</b>
	<b>(71.0)</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**

FCWU91, FCWU95 and FCWU95-2 are all replaced with a new FCWU99-3, Mod. H, Rel. 3.11/R 1.14.

Use error code monitoring software - Maintenance Utility for Flap Control and Warning Unit (MUF99-Version 2.04) to do the flap system testing procedure.

**K. References**

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

Structural Repair Manual (SRM), 51-40-01.

Illustrated Parts Catalog (IPC), 27-50-00.

**L. Publications Affected**

IPC, 27-50-00.

AMM, 27-50-00, 27-50-05, 27-50-06.

Airplane Flight Manual/Pilots Operating Handbook (AFM/POH)

**M. 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.  
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Tel : + 41 41 619 6319 (General aviation)

Tel : + 41 41 619 6509 (Government)

Fax: + 41 41 610 3351

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.