

FOR PLANNING PURPOSES

SERVICE BULLETIN

SERVICE BULLETIN NO: 27-005

REF NO: 079

MODIFICATION NO:

ATA CHAPTER: 27

FLIGHT CONTROLS - FLAPS CHECK OF ALL FLAP ACTUATORS

1. Planning Information

A. Effectivity

- (1) All PC-12 and PC-12/45 aircraft from MSN 101 up to and including MSN 236.

This Service Bulletin will be incorporated prior to delivery on aircraft MSN 237 and subsequent.

- (2) All flap actuators held as spares.

B. Concurrent Requirements

None.

C. Reason

(1) Problem

Some flap actuators have been found with excessive backlash in the internal gear system. Excessive backlash will lead to rapid premature wear of the gear and in extreme cases to loss of actuator output.

(2) Cause

Internal failure of the worm gear could allow an actuator to turn freely. A detection by the aircraft's safety check system (i.e. asymmetry, torque limiting etc.), cannot be assured in all possible conditions.

(3) Solution

Check the end-play (one time) and the backlash of the actuators at regular intervals, using the procedure outlined in this Service Bulletin. The backlash must be measured until further notice in accordance with AMM Temp. Rev 04-01. Depending on the backlash measurement, aircraft operation with 0 degree flaps maybe required in accordance with AFM/POH Temp. Rev. No. 4 (attached to this Service Bulletin).

D. Description

This Service Bulletin describes how to gain access to the flap actuators, how to install the test equipment and what to test for to make sure that each actuator is within the given tolerance.

The tasks are as follows:

- (1) End-play measurement - once only with this Service Bulletin.

- (2) Backlash play measurement - once only with this Service Bulletin and then at regular intervals, in accordance with the AMM Temp. Rev's. 04-01 and 27-04 depending on the amount of backlash observed.
- (3) Record the measurements, on the attached Data Sheet which must be faxed back to PILATUS AIRCRAFT LTD. so that a statistical record can be established for further decisions.

E. Compliance

Mandatory.

Required within the next 15 landings, but not later than one calendar month; after the effective date of this Service Bulletin, unless already accomplished.

However, all flights with the PC-12 and PC-12/45, between the issue date of this Service Bulletin and the accomplishment of this Service Bulletin, shall be done with the wing flaps in the retracted position. The Stick Shaker/Pusher Test has to be done, prior to each flight, as prescribed in the AFM/POH (i.e. with the flaps set to 15 degrees). After successful completion of the Stick Shaker/Pusher Test, the flaps have to be retracted to 0 degrees and visually checked to be in the correct **UP** position. The flaps shall not be operated, in flight, at any time - except for emergency conditions - before this Service Bulletin is accomplished.

NOTE: Take-off Distance will increase, due to 0 degree Flap, up to 90% (factor of 1.9)
The Landing Distance will increase, with 0 degree Flaps, up to 83% (factor 1.83) (Ref. AFM/POH, Temp. Rev. No. 4). Use of propeller reverse after touchdown will reduce the ground roll distance.

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 (Swiss FOCA AD LTA 98-460).

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	0.5
Disconnect the outer flap flexible shafts	1.0
Installation of test equipment and check of the 4 actuators	2.0
Installation the outer flap flexible shafts and functional test	1.5
Close up	0.5
TOTAL MAN-HOURS	5.5

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

Aircraft Maintenance Manual (AMM).

Illustrated Parts Catalog (IPC) Chapter 27-50-00, Fig. 03.

L. Publications Affected

Aircraft Maintenance Manual (AMM), Chapters 04-00-00 and 27-50-00.

Airplane Flight Manual/Pilots Operating Handbook (AFM/POH) Temp. Ref. No. 4.

M. Interchangeability of Parts

Not applicable.