



PILATUS AIRCRAFT LTD. CH-6371 STANS, SWITZERLAND

SERVICE BULLETIN

SERVICE BULLETIN NO: 29-008

REF NO: 076

MODIFICATION NO:

ATA CHAPTER: 29

HYDRAULIC POWER - AUXILIARY EMERGENCY ACCUMULATOR - INSPECTION FOR CRACKS

1. Planning Information

A. Effectivity

- (1) PC-9 aircraft from MSN 101 thru MSN 247 and MSN 501 thru MSN 567.
- (2) All 4155H series emergency accumulators (accumulators) (P/Ns: 529.20.09.096, 529.20.09.132, 960.10.01.170, 960.10.01.171 and 960.10.01.177) held as spare.

B. Concurrent Requirements

None

C. Reason

(1) Problem

Crack damage has occurred in the (oil head part of the) accumulator of a PC-9 aircraft.

(2) Cause

The cause of the crack damage was stress corrosion in the threaded part of the oil head.

(3) Solution

Do a one time inspection of the accumulator for cracks and, if necessary, replace the component.

Repeat inspections to be included in AMM, 05-00-00.

D. Description

This Service Bulletin gives the data and instructions necessary to do a one time inspections of the accumulator for cracks.

E. Compliance

Mandatory.

Required at the next 100 hour servicing or within four calendar months after the effective date of this Service Bulletin, whichever occurs first.

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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.

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	Total
Preparation	1.0	1.0
Inspection - Visual	1.0	1.0
Inspection - Penetrant Flaw Detection	-	15.0
Close up	1.0	1.0
TOTAL MAN-HOURS	3.0	18.0

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), 12-00-00, 24-00-00, 29-00-00, 29-00-01 and 29-20-01.

L. Publications Affected

AMM, 05-00-00.

M. Interchangeability of Parts

Not applicable.

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2. Material Information

A. Material - Price and Availability

Operators can send unserviceable accumulators for repair to:

PILATUS AIRCRAFT LTD,
COMPONENT REPAIRS,
(TRAINER AIRCRAFT) MANAGER,
CH 6371 STANS, Tel: +41 41 619 6904
SWITZERLAND, Fax: +41 41 619 6294

Operators can get new accumulators from:

PILATUS AIRCRAFT LTD,
CUSTOMER LIAISON MANAGER,
CH 6371 STANS, Tel: +41 41 619 6319
SWITZERLAND, Fax: +41 41 610 3351

B. Material Necessary for Each Aircraft

(1) Material to be Purchased

Part Numbers, given in this SB, are correct at the time of approval. PILATUS AIRCRAFT LTD. reserves the right to change the part numbers as necessary.

No modification kit is necessary for the incorporation of this SB:

(2) Operator Supplied Materials

Part No.	Description	Qty	Remarks
N/A	Paint Remover (DTD900/6013)	A/R	Or equivalent
908.68.12.102	Penetrant (Aerosol)	A/R	Item No. P06-001 Use with developer and remover
908.68.12.103	Remover (Aerosol)	A/R	Item No. P06-002 Use with penetrant and developer
908.68.12.104	Developer (Aerosol)	A/R	Item No. P06-003 Use with penetrant and remover

C. Material Necessary for Each Spare

Not applicable.

D. Reidentified Parts

Not applicable.

E. Tooling - Cost and Availability

Not applicable.

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3. Accomplishment Instructions - Aircraft

WARNING: MAKE SURE THAT BOTH EJECTION SEATS HAVE THE SAFETY PINS INSTALLED IN THE SAFE FOR SERVICING LOCATIONS BEFORE YOU GO INTO THE COCKPIT.

WARNING: BE CAREFUL WHEN YOU USE THE CONSUMABLE MATERIALS. OBEY THE MANUFACTURERS HEALTH AND SAFETY INSTRUCTIONS. THE CHEMICALS IN THE CONSUMABLE MATERIALS ARE POISONOUS.

WARNING: BE CAREFUL WHEN YOU OPERATE THE HYDRAULIC SYSTEMS. MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA.

A. Preparation

- (1) Obey the safety instructions given in Hydraulic Power - Maintenance Practices (Ref. AMM, 29-00-00, Page Block 201).
- (2) Open the access panels ENG3L, ENG3R, F6 and LB0 (Ref. AMM, 12-00-00, Page Block 1).
- (3) Connect the hydraulic service rig (rig) (Ref. AMM, 29-00-01, Page Block 201).
- (4) Energize the aircraft electrical system (Ref. AMM, 24-00-00, Page Block 201).
- (5) Set the rig to ON and the rig hydraulic pressure to 207 bar (3000 psi) (Ref. AMM, 29-00-01, Page Block 201).
- (6) In the cockpit, set the flap selector lever to LAND to extend the flaps.
- (7) In the cockpit, move the air-brake selector lever fully aft to extend the air brake.
- (8) Open and safety the circuit breakers:
 - AIR BRAKE (GENERATOR BUS)
 - FLAPS CONT 1 (GENERATOR BUS)
 - FLAPS CONT 2 (GENERATOR BUS)
- (9) Set the rig to OFF (Ref. AMM, 29-00-01, Page Block 201).
- (10) Install the air-brake ground lock.
- (11) De-energize the aircraft electrical system (Ref. AMM, 24-00-00, Page Block 201).

B. Inspection (Ref. Fig 1).

- (1) Make sure that the inspection areas of the oil and air heads at each end of the accumulator are clean.
- (2) Use a source of bright light, a X 10 magnifier and a mirror to do an inspection of the accumulator for cracks. Look for signs of cracks (for example, cracks or bubbles in the paint or oil seepage) on the surfaces of the oil and air heads. Do this around the full circumference of the oil and air heads. Look specially around the areas of the lock washers in the oil and air head assemblies. No cracks are permitted

You must do the dye-penetrant crack-detection test (Ref. Step 3) if you find signs of cracks. If you find cracks you must replace the accumulator (Ref. AMM, 29-20-01, Page Block 401). Send the unserviceable accumulator to PILATUS or an approved repair station for repair.

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- (3) Do the dye-penetrant crack detection test. This step is only applicable if you find signs of possible cracks in the accumulator during Step 2.
 - (a) Remove the emergency package (Ref. AMM, 29-20-01, Page Block 401).
 - (b) Obey the manufacturers instructions and use the material (DTD900/6013 or equivalent) to remove the accumulator paint. Do this to the bare metal on the applicable surfaces of the oil and air heads.
 - (c) Obey the manufacturers instructions and use the following materials in sequence to do the dye-penetrant crack detection test (or tests):
 - Penetrant (Item No.P06-001)
 - Developer (Item No.P06-003)
 - Remover (Item No.P06-002)

No cracks are permitted, if you find cracks you must replace the accumulator (Ref. AMM, 29-20-01, Page Block 401). Send the unserviceable accumulator to PILATUS or an approved repair station for repair.
 - (d) If no cracks are found, obey the manufacturers instructions and apply the layers of surface protection and paint. Do this on the applicable surfaces of the accumulator.
 - (e) Install the emergency package (Ref. AMM, 29-20-01, Page Block 401).
- (4) Assemble the new accumulator and the related components of the emergency package (Ref. AMM, 29-20-01, Page Block 401). This step is only applicable if it is necessary to replace the accumulator after inspection.

C. Close up

- (1) Remove all tools and materials. Make sure the work areas are clean.
- (2) Remove the air-brake ground lock.
- (3) Close the circuit breakers:

AIR BRAKE (GENERATOR BUS)
FLAPS CONT 1 (GENERATOR BUS)
FLAPS CONT 2 (GENERATOR BUS)
- (4) Energize the aircraft electrical system (Ref. AMM, 24-00-00, Page Block 201).
- (5) Set the rig to ON and the rig hydraulic pressure to 207 bar (3000 psi) (Ref. AMM, 29-00-01, Page Block 201).
- (6) In the cockpit, set the flap selector lever to UP to retract the flaps.
- (7) In the cockpit, move the air-brake selector lever fully forward to retract the air brake.
- (8) Set the rig to OFF (Ref. AMM, 29-00-01, Page Block 201).
- (9) Disconnect the hydraulic service rig (rig) (Ref. AMM, 29-00-01, Page Block 201).
- (10) Close the access panels ENG3L, ENG3R, F6 and LB0 (Ref. AMM, 12-00-00, Page Block 1).

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D. Documentation

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

4. Accomplishment Instructions - Spares

A. Inspection (Ref. Fig 1).

- (1) Make sure that the inspection areas of the oil and air heads at each end of the accumulator are clean.
- (2) Use a source of bright light, a X 10 magnifier and a mirror to do an inspection of the accumulator for cracks. No cracks are permitted. Look for signs of cracks (for example, cracks or bubbles in the paint or oil seepage) on the surfaces of the oil and air heads. Do this around the full circumference of the oil and air heads. Look specially around the areas of the lock washers in the oil and air head assemblies.

You must do the dye-penetrant crack-detection test (Ref. Step 3) if you find signs of cracks. No cracks are permitted, Send the unserviceable accumulator to PILATUS or an approved repair station for repair.

- (3) Do the dye-penetrant crack detection test. This step is only applicable if you find signs of possible cracks in the accumulator during Step 2.
 - (a) Obey the manufacturers instructions and use the material (DTD900/6013 or equivalent) to remove the paint (to the bare metal) from the applicable areas on the surfaces of the accumulator.
 - (b) Obey the manufacturers instructions and use the following materials in sequence to do the dye-penetrant crack detection test (or tests):
 - Penetrant (Item No.P06-001)
 - Developer (Item No.P06-003)
 - Remover (Item No.P06-002)

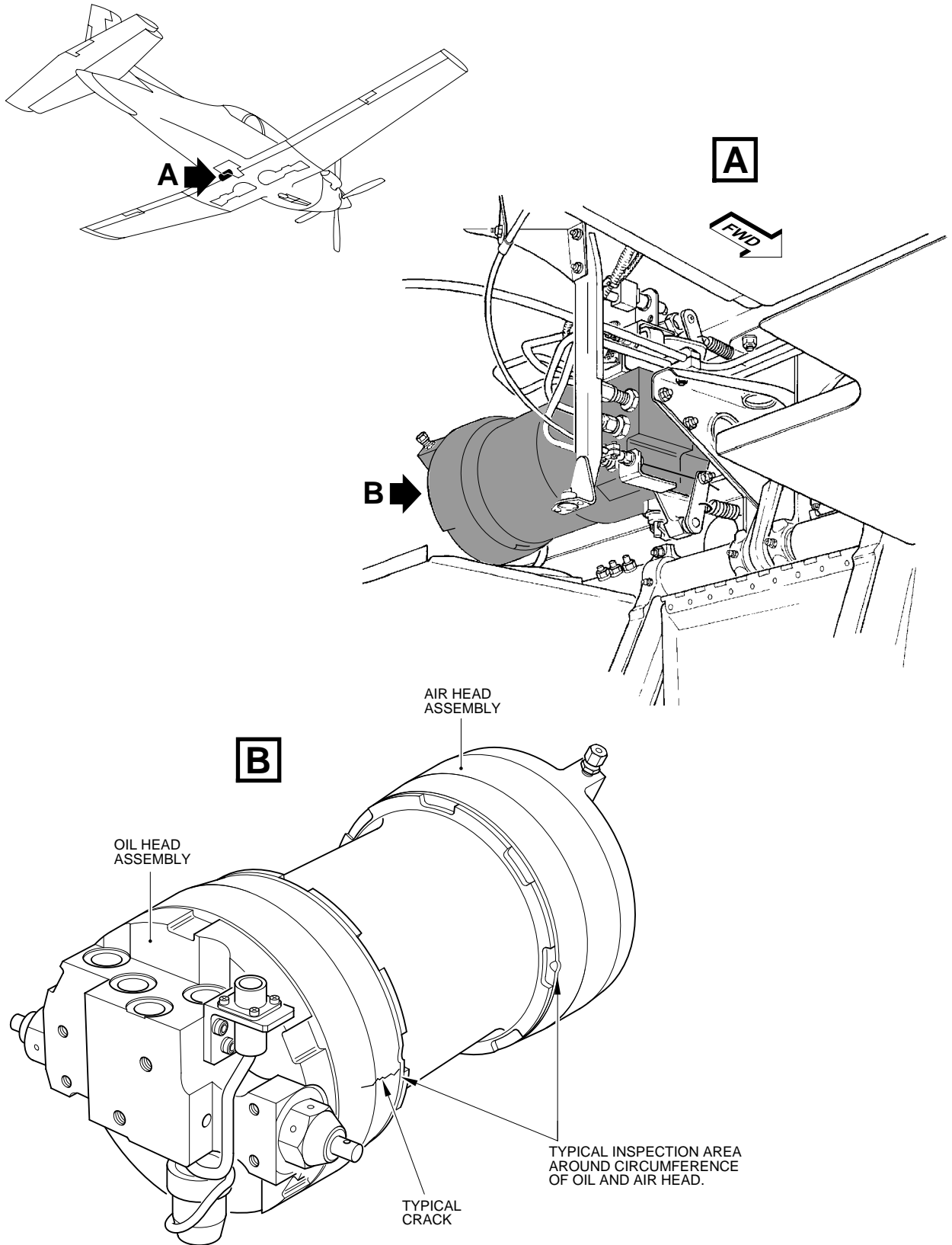
No cracks are permitted, Send the unserviceable accumulator to PILATUS or an approved repair station for repair.

If no cracks are found, obey the manufacturers instructions and apply the layers of surface protection and paint. Do this on the applicable surfaces of the accumulator.

B. Documentation

- (1) Make an entry in the spare parts inventory list that this SB has been incorporated.

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Emergency Accumulator - Inspection
Figure 1