

SERVICE BULLETIN

SERVICE BULLETIN NO: 72-001

REF NO: 13

MODIFICATION NO:

ATA CHAPTER: 72

ENGINE - TURBO-PROP INSPECTION OF THE LOCKBALL MECHANISM IN THE ACCESSORY GEARBOX

1. Planning Information

A. Effectivity

- (1) All PC-9(M) aircraft from MSN 605 thru MSN 654 with PT6A-62 engines installed.
- (2) All PT6A-62 engines held as spare.

B. Concurrent Requirements

None

C. Reason

(1) Problem

If the ball bearing of the lockball mechanism in the accessory gearbox is missing, it is possible that it has become a loose foreign object in the accessory gearbox. This could cause damage to the accessory gearbox and is thus a possible cause of in-flight engine shut down.

(2) Cause

The lockball of the accessory-gearbox coupling shaft can be installed incorrectly on assembly.

(3) Solution

Do an inspection to make sure that the lockball mechanism is correctly engaged. Do Pratt and Whitney Canada Service Bulletin 13358, which gives instructions on the inspection of the lockball mechanism.

D. Description

This Service Bulletin gives the data and instructions to do the necessary inspection of the engine.

E. Compliance

Mandatory.

Required within the next 50 hours time-in-service (TIS) after the effective date of this Service Bulletin, unless already accomplished.

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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.

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	0.15
Inspection of the Lockball (P&WC SB 13358)	1.0
Close up	0.15
TOTAL MAN-HOURS	1.30

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), 06-20-00, 12-10-04, 24-30-21 and 71-00-00.

Pratt and Whitney Canada Service Bulletin (P&WC SB) 13358.

P&WC, Maintenance Manual (MM), 71-00-00 and 72-60-00.

P&WC, Illustrated Parts Catalog (IPC), 72-60-00.

L. Publications Affected

Not affected.

M. Interchangeability of Parts

Not affected.

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2. Material Information

A. Material Necessary for Each Aircraft

(1) Operator Supplied Materials

Part No.	Description	Qty	Remarks
N/A	Packing, Preformed	1	Pre-SB 13163R5: P&WC IPC 72-60-00, Fig 1, Item 270, Vendor Pt. No. AS3208-09 or Post SB 13163R5: P&WC IPC 72-60-00, Fig 1, Item 270, Vendor Pt. No. AS3208-09
		1	P&WC IPC 72-60-00, Fig 1, Item 265, Vendor Pt. No. AS3209-020.
946.91.29.113	Seal, O-Ring	1	Starter-generator drive-shaft
N/A	Engine oil	A/R	Item No. P10-004

3. Accomplishment Instructions - Aircraft

A. Preparation

- (1) Remove ENG 3L and ENG 3R (Ref. AMM, 06-20-00, Page Block 1).
- (2) Remove the starter-generator (Ref. AMM, 24-30-21, Page Block 401).
- (3) Remove the starter generator Quick Attach/Detach Adapter (QAD) (Ref. AMM, 71-00-00, Page Block 401, Para. 4.C).
- (4) Disconnect the starter drain hose from the starter-generator drain adapter (Ref. AMM, 71-00-00, Page Block 401, Para. 4.C).

B. Inspection of the Lockball Mechanism

- (1) Do the inspection to make sure the lockball mechanism is correctly engaged (Ref. P&WC SB 13358). Refer to P&WC, MM, 72-60-00, Page Block 201 for removal of the plug (Pre SB 13163R5) or oil jet nozzle (Post SB 13163R5).
- (2) Remove the preformed packing from the plug (Pre SB 13163R5) or the two packings from the oil jet nozzle (Post SB 13163R5). Discard the preformed packing(s).
- (3) Install new preformed packing on the plug (Pre-SB 13163R5) or two new preformed packings on the oil jet nozzle (Post SB 13163R5) (Ref. P&WC, MM, 72-60-00, Page Block 201).
- (4) Install the plug (Pre-SB 13163R5) or oil jet nozzle (Post SB 13163R5) (Ref. P&WC, MM, 72-60-00, Page Block 201).

C. Close up

- (1) Connect the starter drain hose to the starter-generator drain adapter (Ref. AMM, 71-00-00, Page Block 401, Para. 5.P).
- (2) Install starter generator QAD (Ref. AMM, 71-00-00, Page Block 401, Para. 5.P).
- (3) Install the starter-generator (Ref. AMM, 24-30-21, Page Block 401).
- (4) Fill the engine oil system as necessary (Ref. AMM, 12-10-04, Page Block 301).
- (5) Install ENG 3L and ENG 3R (Ref. AMM, 06-20-00, Page Block 1,).
- (6) Do the Adjustment/Test of the engine (Ref. P&WC, MM, 71-00-00, Para. 2, 3, 4 and 8).
- (7) Make sure the work area is clean and clear of tools and other items.

D. Documentation

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

4. Accomplishment Instructions - Spares

A. Inspection of the Lockball Mechanism

- (1) Do the inspection of the lockball mechanism (Ref. P&WC SB 13358) on all P&WC, PT6A-62 engines.

B. Documentation

- (1) Make an entry in the Engine Logbook and spare parts inventory list that this modification has been incorporated.

PRATT & WHITNEY CANADA
SERVICE BULLETIN

P&WC S.B. No. 13358

BULLETIN INDEX LOCATOR
72-60-00

TURBOPROP ENGINE
AGB COUPLING SHAFT LOCKBALL - INSPECTION OF

MODEL APPLICATION

PT6A-62

Compliance: CATEGORY 3

Summary: The lockball mechanism of the accessory gearbox coupling shaft may be improperly installed. An inspection is performed to ensure the proper engagement of the lockball mechanism.

Sep 13/2001

PT6A-72-13358
Cover Sheet

<i>24-Hour Global Service</i>	<i>USA & CANADA..... 1-800-268-8000</i>	<i>Other..... 1-450-647-8000</i>
HELP DESK	<i>International (IAC*)+8000-268-8000</i>	<i>Fax..... 1-450-647-2888</i>
<i>Toll free where available (SIL GEN-027)</i>	<i>* International Access Code</i>	<i>Web Site..... www.pwc.ca</i>

PRATT & WHITNEY CANADA
SERVICE BULLETIN

P&WC S.B. No. 13358

TURBOPROP ENGINE
AGB COUPLING SHAFT LOCKBALL - INSPECTION OF

1. Planning Information

A. Effectivity

PT6A-62 Engines which are before and include Serial No. PCE-PL0074 and Serial No. PCE-103001 thru PCE-103248.

B. Concurrent Requirements

None.

C. Reason

(1) Problem

The lockball of the accessory gearbox coupling shaft can be incorrectly installed at assembly.

(2) Cause

Possible incorrect assembly of the lockball.

(3) Solution

Inspect lockball mechanism for proper engagement.

D. Description

Inspect the lockball mechanism.

E. Compliance

CATEGORY 3 - P&WC recommends to do this service bulletin within the next 50 flight hours.

F. Approval

D.A.A. approved

G. Weight and Balance

None.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

P&WC No. N/A

Sep 13/2001

PRATT & WHITNEY CANADA
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P&WC S.B. No. 13358

TURBOPROP ENGINE
AGB COUPLING SHAFT LOCKBALL - INSPECTION OF

1. Planning Information (Cont'd)
 - J. References
Applicable PT6A Technical Manuals
 - K. Publications Affected
Applicable PT6A Technical Manuals
 - L. Interchangeability and Intermixability of Parts
Not changed.
2. Material Information
 - A. Industry Support Information
Not applicable.
 - B. Material - Cost and Availability
Not applicable.
 - C. Manpower
Once you have access to the part, an estimate of 1 man-hours is required to include this service bulletin at maintenance.
 - D. Material Necessary for Each Engine
Not applicable.
 - E. Reidentified Parts
None.
 - F. Tooling - Price and Availability
Not applicable.
3. Accomplishment Instructions
 - A. Remove the Accessory Gearbox (AGB) center plug.
NOTE: If necessary remove the starter drain.
 - B. Rotate the AGB coupling shaft to position the lockball. Refer to the maintenance manual (72-60-00).

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TURBOPROP ENGINE
AGB COUPLING SHAFT LOCKBALL - INSPECTION OF

3. Accomplishment Instructions (Cont'd)

CAUTION: DO NOT MOVE THE TOOL FORE AND AFT REPETITIVELY. THIS CAN CAUSE DAMAGE TO THE BEARING.

C. Install the puller/pusher tool (PWC30373) through the center boss in the rear face of the AGB and screw it into coupling shaft.

D. Pull the coupling shaft rearward to disengage the lockball. If you cannot move the coupling shaft, go to step F.

NOTE: Expect a high breaking force.

E. Push the puller/pusher tool forward to engage the lockball.

NOTE: This is confirmed by feel and a locating click with an audible ping.

(1) If you can move the shaft fore and aft with an even force (with no high breakout force) and you do not hear the locating click, go to step G.

(2) If you hear the locating click with an audible ping, reinstall the center plug and starter generator drain fitting as required. Refer to the maintenance manual (72-60-00). Go to step H.

F. If unable to confirm that the lockball is locked do the steps that follow:

(1) Drain the oil from the oil tank.

CAUTION: USE EXTREME CARE WHEN YOU MOVE THE AGB. IF YOU ARE NOT CAREFUL YOU CAN DAMAGE THE PACKING.

(2) Loosen the AGB nuts far enough to allow the AGB to move rearward approximately 2 mm (0.08 in.).

CAUTION: DO NOT MOVE THE TOOL FORE AND AFT REPETITIVELY. THIS CAN CAUSE DAMAGE TO THE BEARING.

(3) Install the puller/pusher tool (PWC30373) through the center boss in the rear face of the AGB and screw it into coupling shaft.

(4) Pull the shaft rearward to disengage the lockball.

NOTE: Expect a high breaking force.

(5) Push the puller/pusher tool forward to engage the lockball.

NOTE: This is confirmed by feel and a locating click with an audible ping.

(a) If you can move the shaft fore and aft with an even force (with no high breakout force) and you do not hear the locating click with an audible ping, go to step G.

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SERVICE BULLETIN

P&WC S.B. No. 13358

TURBOPROP ENGINE
AGB COUPLING SHAFT LOCKBALL - INSPECTION OF

3. Accomplishment Instructions (Cont'd)

- (6) Remove the puller/pusher tool.
- (7) Tighten the AGB nuts. Refer to the maintenance manual.
- (8) Reinstall the center plug, drain plug and starter generator drain fitting as required. Refer to the maintenance manual (72-60-00).
- (9) Refill the engine oil per the maintenance manual
- (10) Go to step H.
- G. If still unable to confirm that the lockball is locked, remove the engine and return it to an approved O/H facility.
- H. Write accomplishment of P&WC S.B. No. 13358 in the applicable engine module log book.

4. Appendix

Not applicable.