TITLE

ENGINE SHROUD SEGMENT INSPECTION

EFFECTIVITY

<table>
<thead>
<tr>
<th>Model</th>
<th>Serial Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>20800001 thru 20800391</td>
</tr>
<tr>
<td>208B</td>
<td>208B0001 thru 208B1123</td>
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</tbody>
</table>

NOTE: Airplanes equipped with new production engines fitted with original factory installed turbine shroud segments and all engines with shroud segments installed prior to year 2000 and all engines with shroud segments 3018503 or 3035673 (Pre-P&WC SB1590) are not affected.

PURPOSE

To transmit Pratt & Whitney Canada Service Bulletin No. 1631; Turboprop Engine Shroud Segment - Inspection Of.

According to Pratt & Whitney, reports have been received of compressor turbine blades tip rubs on engines built with shroud segments p/n 3053094 Post-SB1590 and retaining ring p/n 3020159 Pre-SB1627. P&WC SB No. 1631 provides for an inspection of the turbine blades for blade tip rubs associated with collapsed retaining ring and partial axial movement of the shroud segments out of the shroud housing. Non-compliance with this Service Bulletin could allow turbine shroud segment and/or shroud housing wear to go undetected.

COMPLIANCE

Recommended; should be accomplished within the next 150 hours of operation as specified in Pratt & Whitney Canada Service Bulletin No.1631(or latest revision).

APPROVAL

Refer to the attached Pratt & Whitney Canada Service Bulletin No.1631(or latest revision).
MAN-HOURS

Refer to Pratt & Whitney Canada Service Bulletin No.1631 (or latest revision).

MATERIAL

Refer to Pratt & Whitney Canada Service Bulletin No. 1631 (or latest revision).

ACCOMPLISHMENT INSTRUCTIONS

1. Determine if the engine is affected with any installed p/n 3053094 Post-SB1590 engine shroud segments and/or p/n 3020159 Pre-SB1627 retaining rings by reviewing the airplane paperwork such as logbooks and/or applicable work orders and sales/shipping receipts.
   A. If the engine is affected, proceed to Step 2.
   B. If the engine is not affected, Proceed to Step 3.
2. Do the attached Pratt & Whitney Canada Service Bulletin No.1631 (or latest revision).
3. Make an entry in the airplane and engine logbooks stating compliance and method of compliance with this Service Bulletin.

CREDIT

Refer to Pratt & Whitney Canada Service Bulletin No. 1631 (or latest revision).

Information regarding Commercial Support is available from P&WC for engines that require replacement of the shroud segments and the retaining ring due to blade tip rub associated with partially dislocated shroud segments.

OWNER NOTIFICATION

On May 16, 2005 the following Owner Advisory message will be sent to applicable owners of record in CAB05-7A.

Dear Caravan Owner:

This Owner Advisory is to inform you that Service Bulletin CAB05-7 has been issued to transmit Pratt & Whitney Canada Service Bulletin No. 1631; Turboprop Engine Shroud Segment - Inspection Of.

According to Pratt & Whitney, reports have been received of compressor turbine blades tip rubs on engines built with shroud segments p/n 3053094 Post-SB1590 and retaining ring p/n 3020159 Pre-SB1627. P&WC SB No. 1631 provides for an inspection of the turbine blades for blade tip rubs associated with collapsed retaining ring and partial axial movement of the shroud segments out of the shroud housing. Non-compliance with CAB05-7 could allow turbine shroud segment and/or shroud housing wear to go undetected.

Your airplane engine may be affected. Please contact a Cessna Caravan or Propjet Service Station for detailed information.

NOTE: Airplanes equipped with new production engines fitted with original factory installed turbine shroud segments and all engines with shroud segments installed prior to year 2000 and all engines with shroud segments 3018503 or 3035673 (Pre-P&WC SB1590) are not affected.

Compliance is recommended; should be accomplished within the next 150 hours of operation as specified in Pratt & Whitney Canada Service Bulletin No. 1631 (or latest revision).

The information contained in the referenced Cessna Service Bulletin shall be considered an amendment to the Cessna Manufacturer’s Service/Maintenance Manual.
Information regarding Commercial Support is available from P&WC for engines that require replacement of the shroud segments and the retaining ring due to blade tip rub associated with partially dislocated shroud segments.

Please contact a Cessna Caravan or Propjet Service Station for detailed information and if affected, arrange to have Cessna Service Bulletin CAB05-7/Pratt & Whitney Canada Service Bulletin No. 1631 (or latest revision) accomplished on your airplane.

*       *       *       *       *       *       *       *
Compliance: CATEGORY 3

Summary: There were reports of compressor turbine blades tip rubs on engine built with shroud segments P/N 3053094 Post-SB1590 and retaining ring P/N 3020159 Pre-SB1627. Inspect the engine for turbine blade tip rubs associated with collapsed retaining ring and partial axial movement of the shroud segments out of the shroud housing.
1. Planning Information

A. Effectivity

PT6A-34 Engines Post-SB1590 and all engines converted to Engine Model PT6A-34 (Ref. P&WC engine conversion SB1499).
PT6A-34AG Post-SB1590 and all engines converted to Engine Model PT6A-34AG (Ref. P&WC engine conversion SB1252).
PT6A-34B Engines Post-SB1590.
PT6A-36 Engines Post-SB1590 and all engines converted to Engine Model PT6A-36 (Ref. P&WC engine conversion SB1405).
PT6A-114 Engines Post-SB1590.
PT6A-114A Engines Post-SB1590 and all engines converted to Engine Model PT6A-114A (Ref. P&WC engine conversion SB1625).
PT6A-135 Engines Post-SB1590.
PT6A-135A Engines Post-SB1590.

NOTE: This SB does not apply to new production engines fitted with their original factory installed turbine shroud segments and all engines in which the current shroud segments were installed prior year 2000 and all engines with shroud segments 3018503 or 3035673 (Pre-SB1590).

B. Concurrent Requirements

None.

C. Reason

(1) Problem

Occurences of compressor turbine blade rubs in engines assembled with turbine shroud segments P/N 3053094 Post-SB1590 and retaining ring P/N 3020159 Pre-SB1627 have been reported.

(2) Cause

For turbine shroud segment P/N 3053094 (Post-SB1590) installed with retaining ring P/N 3020159 (Pre-SB1627), the notch on the shroud segment can allow their partial axial movement out of the shroud housing in worst tolerance conditions.

(3) Solution

Inspect engines for compressor turbine blades tip rubs associated with segment movement and embody as required SB 1627 and SB 1628.

D. Description

Inspect the compressor turbine blades for evidence of rub.
1. Planning Information (Cont'd)

E. Compliance

CATEGORY 3 - For engines installed in single engine aircraft, inspect within 150 Flight/hours. For engines installed in twin engine aircraft, inspect within 300 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.

J. References

Applicable PT6A Technical Manuals
P&WC SB No. 1627, 1628

K. Publications Affected

None.

L. Interchangeability and Intermixability of Parts

Not applicable.

2. Material Information

A. Industry Support Information

For engines which requires the replacement of the shroud segments and the retaining ring due to blade tip rub associated with partially dislocated shroud segments, operators may contact their DDOF (Distributor and Designated Overhaul Facility) for information regarding Commercial Support from P&WC.

B. Material - Cost and Availability

Not applicable.
2. Material Information (Cont’d)

C. Manpower

No more man-hours are necessary to include this service bulletin at overhaul.

D. Material Necessary for Each Engine

Not applicable.

E. Reidentified Parts

None.

F. Tooling - Price and Availability

Not applicable.

3. Accomplishment Instructions

A. Do a borescope inspection (Ref. Maintenance Manual) and inspect the engine for conditions that follow:

- Evidence of axial displacement. Segments are axially displaced inward when there is contact between the segment and the compressor turbine vane (Ref. Fig. 1).
- Evidence of compressor turbine blade tip rubs associated with axial displacement and inward movement of shroud segments (Ref. Fig. 2).

**NOTE:** As a minimum, the borescope should be inserted every second fuel nozzle boss.

B. Incorporate SB 1627 and SB 1628 if blade tip rub associated with partially moved shroud segments has occurred.

C. Engines that remain Post-SB1590 without incorporating either SB 1627 or SB 1628, must be trend monitored for performance.

D. Write accomplishment of P&W S.B. No. 1631 in the applicable engine module log book.

E. Continue regular borescope inspection per the maintenance manual (Ref. 72-00-00 inspection Table 601).

4. Appendix

Not applicable.
Shroud Segments Axially Displaced

Figure 1
Blade Tip Rub Associated With Inward Movement
Figure 2