



AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) to ADs.

Number:

CF-2018-12

Effective Date:

11 May 2018

ATA:

72

Type Certificate:

E-29

Subject:

Engine – Material Anomaly for Certain High Pressure (HP) Centrifugal Impellers

Applicability:

Pratt & Whitney Canada (P&WC) model PW150A engines that have HP centrifugal impellers with serial numbers listed in table 1 and 2 of P&WC Service Bulletin (SB) 35331 revision 1.

Compliance:

As indicated below, unless already accomplished.

Background:

Pratt & Whitney Canada (P&WC) has determined that certain PW150A engine HP centrifugal impellers, part number (P/N) 3049127-01, may exhibit a material microstructure anomaly which has a potential to adversely affect the low cycle fatigue (LCF) characteristics of the part, resulting in a lower LCF life than currently published in the engine model's Airworthiness Limitations. The identified discrepancy was related to specific parts having been exposed to inappropriate temperature levels during the manufacturing process.

To address the subject potential material microstructure problem, P&WC issued SB 35331 Initial Issue, dated 16 March 2016, and then subsequently Revision 1, dated 3 May 2016, to recommend replacement of specific impeller serial numbers prior to the parts reaching the determined thresholds. Subsequent to the release of the SB, P&WC voluntarily initiated a fleet campaign to achieve this objective.

The actions specified by this AD are to ensure that HP centrifugal impellers with this potential material anomaly condition are contained in order to prevent severe engine damage and possible aeroplane damage caused by an impeller failure.

Corrective Actions:

- A. As of the effective date of this AD, uninstalled HP centrifugal impellers with serial numbers listed in table 1 and 2 of P&WC SB 35331 revision 1, dated 3 May 2016 are not eligible for installation on PW150A engines.
- B. Before an affected impeller accumulates 8000 flight cycles since new, remove and replace the affected HP centrifugal impellers with non-affected impellers in accordance with the accomplishment instructions of P&WC SB 35331 Revision 1, dated 3 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Note: The compliance time in this AD differs from the recommended compliance time mentioned in the P&WC SB 35331 revision 1, dated 3 May 2016.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 27 April 2018

Contact:

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