
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Pratt and Whitney Canada Turbine Engines - PW300 Series

AD/PW300/2**Engine Fan Blade Fracture****4/2008****TX**

Applicability: Pratt & Whitney Canada (P&WC) - PW305A and PW305B engines serial numbers:

CA0192, CA0195, CA0197, CA0199, CA0200, CA0202, CA0203, CA0204, CA0206, CA0207, CA0208, CA0209, CA0210, CA0211, CA0212, CA0213, CA0214, CA0215, CA0216, CA0217, CA0218, CA0220, CA0221, CA0223, CA0228, CA0231, CA0232, CA0234, CA0235, CA0240, CA0241, CA0243, CA0244, CA0246, CA0247, CA0257, CA0259, CA0260, CA0280, CA0300 fitted with fan blade part number (P/N) 30B2855-01.

Requirement:

1. Inspect the low-pressure compressor fan blades in accordance with Alert Service Bulletin (ASB) No. A24588R2 or later revisions approved by the Chief, Continuing Airworthiness, National Aircraft Certification, Transport Canada.
2. Replace any blade that is found to be under-minimum material condition in accordance with Alert Service Bulletin (ASB) No. A24588R2 or later revisions approved by the Chief, Continuing Airworthiness, National Aircraft Certification, Transport Canada.

Compliance with earlier versions of ASB No. A28280R2 requirements or incorporation of SB No. 24595, prior to the effective date of this AD satisfies the corrective action requirements of this AD.

Note: Transport Canada AD CF-2008-08 dated 30 January 2008 refers.

Compliance:

1. For engines with more than 5000 hours of operating time - Before further flight after the effective date of this AD. One repositioning maintenance flight to facilitate the subject inspection may be allowed.

For engines with 5000 or less, but more than 4000 hours of operating time - Within 30 hours of operating item but not later than 30 September 2008.

For engines with 4000 or less, but more than 2500 hours of operating time - in accordance with one of the following schedules, whichever occurs first.

- at the next First Stage High Pressure Compressor Rotor inspection (Ref 05-20-00 Scheduled Maintenance Checks), or

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AD/PW300/2 (continued)

- at the next scheduled opportunity where the low-pressure compressor fan is removed, (Ref. Hot Section Inspection or Overhaul Shop Visit), or
- within 300 hours of operating time from 24 August 2007.

For engines with 2500 or less hours of operating time - Before it accumulates 4000 hours of operating time, but not later than 30 September 2008.

2. Before further flight after the effective date of this AD.

This Airworthiness Directive becomes effective on 22 February 2008.

Background: There have been two incidents of fan blade dislodgements due to blade fracture on relatively hi-time PW305 engines (over 5000 Hrs). The blade dislodgement in both cases was contained. However, engine installations sustained considerable collateral damage. The root cause of fan blade fracture was determined to be the under-minimum material condition at the fracture location.

P&WC has established that the subject under-minimum material condition is limited only to fan blades P/N 30B2855-01, manufactured under heat code: MCBWF. Accordingly, P&WC on 24 August 2007 issued Alert Service Bulletin (ASB) No. A24588, requiring, on priority bases, identification and removal of all such discrepant fan blades from service, in accordance with Special Instructions (SI) No.37-2007. ASB No. A24588 was subsequently revised (Rev. 2) on 27 November 2007 to include clarification on the incorporation of another Service Bulletin (SB) No. 24595, on the same subject.

Considering the potentially hazardous consequence of possible uncontained dislodgement of discrepant blade and its impact on aircraft safety, this AD is issued to mandate the inspection of the affected engine low-pressure (LP) compressor fan blades in accordance with ASB A24588 requirements.



David Punshon
Delegate of the Civil Aviation Safety Authority

19 February 2008