



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) with ADs.

Number:

CF-2025-08

Effective Date:

24 February 2025

ATA:

72

Type Certificate:

E-28

Subject:

Engine – High Pressure Turbine (HPT) Disk – Improper Rework

Applicability:

Pratt & Whitney Canada Corp. (P&WC) Models PW545A, PW545B and PW545C engines, all serial numbers.

Compliance:

As indicated below, unless already accomplished.

Background:

P&WC identified a repair procedure used for PW545 HPT disk bores that could potentially introduce residual stress from an undesired surface condition resulting from the machining of interrupted surfaces.

While the reworked disks were all found to be crack free during post-rework fluorescent penetrant inspection, the stress analysis performed by P&WC, provides a lower life limit than the currently published airworthiness limitations for the seven (7) repaired disks. This condition, if not corrected, could result in uncontained HPT disk failure, release of high-energy debris and damage to the engine and aeroplane.

To address this unsafe condition, P&WC issued a Service Bulletin (SB) to identify, remove and replace the seven (7) disks no later than the specific revised life limit of the part.

This AD requires the removal and replacement of the affected HPT disks, as indicated per the corrective actions below.

Corrective Actions:

For the purpose of this AD, the following definitions apply:

P&WC SB: PW500-72-30572 Revision 1, dated 20 December 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Affected HPT disk: High pressure turbine disk part number 30J1551-01 of a serial number listed in column “HP Turbine Disk Serial No” of Table 1 of the P&WC SB that does not have the marking “SB30572”.

Serviceable HPT disk: HPT disk which is not an affected HPT disk.

Specific revised life limit: number of cycles associated to an affected HPT disk identified in the column “Not-to-exceed Cycles to Incorporate SB30572” of the Table 1 of the P&WC SB.

Group 1 engines: engines that contain an affected HPT disk.

Group 2 engines: all other engines.

Part I – Removal and Replacement – Applicable to Group 1 Engines

On or before reaching the specific revised life limit of the affected HPT disk:

- A. Remove the affected HPT disk in accordance with the Accomplishment Instructions of the P&WC SB section 3.D.(1).
- B. Install a serviceable HPT disk in accordance with the Accomplishment Instructions of the P&WC SB section 3.D.(5).

Replacement of affected HPT disks in accordance with earlier versions of the P&WC SB, prior to the effective date of this AD, also meets the requirement of this AD.

Part II – Installation Prohibition – Applicable to Group 2 Engines

As of the effective date of this AD, it is prohibited to install an affected HPT disk that has exceeded the specific revised life limit of the affected HPT disk.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 10 February 2025

Contact:

Isabelle Hallé, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca or any Transport Canada Centre.