



EMERGENCY 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-2024-05

Effective Date:

16 February 2024

ATA:

72

Type Certificate:

E-21/ E-24

Subject:

Engine – Second-Stage Power Turbine (PT2) Blade Failure

Applicability:

Pratt & Whitney Canada (P&WC) PT6A-64, PT6A-66, PT6A-66A, PT6A-66B, PT6A-66D, PT6A-66T, PT6A-67, PT6A-67A, PT6A-67AF, PT6A-67AG, PT6A-67B, PT6A-67D, PT6A-67F, PT6A-67P, PT6A-67R, PT6A-67RM, PT6A-67T, PT6A-68, PT6A-68B, PT6A-68C, PT6A-68D, PT6A-68T, PT6E-67XP and PT6E-66XT engine models.

Compliance:

Before further flight, unless already accomplished.

Background:

There has been one recent in-service report of PT2 blade failure on a PT6A-67 engine. In addition, there have been two other events of PT2 blade failures during testing at the manufacturer's facility. The blade failures in all cases were contained. P&WC is still investigating the root cause of the blade failures, but preliminary investigation determined that the power turbine modules in all event engines contained newly manufactured Part Number (P/N) 3056693-01 blades from the same raw material. In all cases, the blades had accumulated less than 25 hours air time since new. Failure of PT2 blades could lead to engine power loss or in-flight shut down, potentially resulting in reduced control of the aeroplane.

This AD mandates removal of the suspect blades prior to next flight.

The corrective actions contained in this AD are considered interim actions until the root cause investigation is completed. Further AD action may follow.

Corrective Actions:

For the purpose of this AD, the following definition applies:

Affected PT2 blades are PT2 blades with serial numbers listed in the "TABLE 1, Suspect Second-stage PT Blade Serial Numbers" of the P&WC Alert Service Bulletin (ASB) for the applicable engine model specified in Table A below,

and

have accumulated less than 50 hours air time since new, or since shop visit, or since second-stage power turbine repair.

Table A – Applicable P&WC ASBs

Engine Model	Applicable P&WC ASB
PT6A-64, PT6A-66, PT6A-66A, PT6A-66B, PT6A-66D, PT6A-66T, PT6A-67, PT6A-67A, PT6A-67AF, PT6A-67AG, PT6A-67B, PT6A-67D, PT6A-67F, PT6A-67P, PT6A-67R, PT6A-67RM, PT6A-67T	PT6A-72-A14574, initial issue dated 13 February 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
PT6A-68, PT6A-68B, PT6A-68C, PT6A-68D, PT6A-68T	PT6A-72-A18296, initial issue dated 13 February 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
PT6E-67XP	PT6E-72-A75036, initial issue dated 13 February 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
PT6E-66XT	PT6E-72-A77021, Revision 1 dated 14 February 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

- A. Remove any affected PT2 blades in accordance with the Accomplishment Instructions of the applicable P&WC ASB listed in Table A of this AD, and replace with PT2 blades not listed in the “TABLE 1, Suspect Second-stage PT Blade Serial Numbers” of the applicable P&WC ASB listed in Table A of this AD.
- B. After the effective date of this AD, PT2 blades, P/N 3056693-01, with serial numbers listed in the “TABLE 1, Suspect Second-stage PT Blade Serial Numbers” of the P&WC ASBs listed in Table A of this AD, are not eligible for installation in the applicable P&WC engine models mentioned above.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 15 February 2024

Contact:

Liviu Badita, 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.