[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-0939; Project Identifier MCAI-2022-00743-E]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Canada Corp. Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Pratt & Whitney Canada Corp. (P&WC) Model PW307D engines. This proposed AD was prompted by a root cause analysis of an event involving an uncontained failure of a high-pressure turbine (HPT) 1st-stage disk, on an International Aero Engines AG Model V2533-A5 engine, that resulted in high-energy debris penetrating the engine cowling and an aborted takeoff. This proposed AD would require removing certain HPT 2nd-stage disks from service and would also prohibit installation of certain HPT 2nd-stage disks on any affected engine. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this NPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to regulations.gov. Follow the instructions for submitting comments.

• Fax: (202) 493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2023-0939; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Barbara Caufield, Aviation Safety Engineer, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2023-0939; Project Identifier MCAI-2022-00743-E" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked

submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Barbara Caufield, Aviation Safety Engineer, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Transport Canada, which is the aviation authority for Canada, has issued Transport Canada AD CF-2022-31, dated June 9, 2022 (Transport Canada AD CF-2022-31) (referred to after this as the MCAI), to correct an unsafe condition on P&WC Model PW307D engines with serial numbers (S/Ns) CM0226 and CM0238, and with an installed HPT 2nd-stage disk, part number (P/N) 30P3182-01 with S/Ns A004D8X1 and A004E9K3, respectively. The MCAI states that on March 18, 2020, an Airbus Model A321-231 airplane, powered by International Aero Engines AG (IAE) Model V2533-A5 engines, experienced an uncontained HPT 1st-stage disk failure that resulted in an aborted takeoff and high-energy debris penetrating the engine cowling.

In response to the March 2020 uncontained HPT 1st-stage disk failure, the FAA issued a series of ADs, including Emergency AD 2020-07-51, Amendment 39-21110 (85 FR 20402, April 13, 2020) (AD 2020-07-51). Since the FAA issued AD 2020-07-51, IAE determined that the failure of the V2533-A5 engine was due to an undetected subsurface material defect in the HPT 1st-stage disk that may affect the life of the part. In coordination with IAE, P&WC performed a records review and analysis of PW307A and PW307D engine parts made of similar material and identified two additional affected HPT 2nd-stage disks (S/Ns A004D8X1 and A004E9K3), installed on PW307D engines. These two additional HPT 2nd-stage disks may have a material defect which could reduce the life of the part. As such, the affected HPT 2nd-stage disks must be removed from service. The FAA is proposing this AD to prevent failure of the HPT 2nd-stage disks, which could result in damage to the engine, damage to the airplane, and loss of the airplane.

FAA's Determination

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI described above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require removing certain part-numbered HPT 2nd-stage disks from service and would prohibit the installation of these HPT 2nd-stage disks onto any engine.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 2 engines installed on airplanes of U.S. Registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Replace high pressure turbine (HPT) 2nd-stage disk	10 work-hours x $85 per hour = $850	$176,000	$176,850	$353,700

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Pratt & Whitney Canada Corp.: Docket No. FAA-2023-0939; Project Identifier MCAI-2022-00743-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Pratt & Whitney Canada Corp. (P&WC) Model PW307D engines.

(d) Subject

Joint Aircraft Service Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by a root cause analysis of an event involving an International Aero Engines AG Model V2533-A5 engine, which experienced an uncontained failure of a high pressure turbine (HPT) 1st-stage disk that resulted in high-energy debris penetrating the engine cowling. The FAA is issuing this AD to prevent failure of the HPT 2nd-stage disk. The unsafe condition, if not addressed, could result in uncontained HPT disk failure, damage to the engine, damage to the airplane, and loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

For engines with an HPT 2nd-stage disk, part number (P/N) 30P3182-01, with serial number (S/N) A004D8X1 or A004E9K3 installed, within 100 engine cycles after the effective date of this AD, remove the HPT 2nd-stage disk from service.

(h) Installation Prohibition

After the effective date of this AD, do not install any HPT 2nd-stage disk having P/N 30P3182-01 with S/N A004D8X1 or A004E9K3 on any engine.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520 Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Additional Information

For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

(k) Material Incorporated by Reference

None.

Issued on May 3, 2023.

Michael Linegang, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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