



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2024-2539; Project Identifier MCAI-2023-00971-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 certain Pratt & Whitney Canada Corp. (P&WC) Model PW535E and PW535E1 engines. This proposed AD was prompted by a manufacturer design review that indicated certain flange bolts securing the gas generator case and turbine support case are susceptible to cracking at their current low-cycle fatigue (LCF) life. This proposed AD would require repetitive borescope inspections (BSI) of the gas generator case to turbine support case retaining bolts for evidence of bolt cracks, bolt fracture, missing bolts, or loose bolts and replacement, if necessary, as specified in a Transport Canada AD, which is incorporated by reference. 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](https://www.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](https://www.regulations.gov) under Docket No. FAA-2024-2539; 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.

*Material Incorporated by Reference:*

- For Transport Canada material identified in this proposed AD, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario, K1A 0N5, Canada; phone: (888) 663-3639; email: [TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca](mailto:TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca); website: [tc.canada.ca/en/aviation](https://tc.canada.ca/en/aviation).

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

**FOR FURTHER INFORMATION CONTACT:** Barbara Caufield, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7146; email: [barbara.caufield@faa.gov](mailto: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-2024-2539; Project Identifier MCAI-2023-00971-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, 2200 South 216th Street, Des Moines, WA 98198. 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-2023-60, dated August 14, 2023 (Transport Canada AD CF-

2023-60) (also referred to as the MCAI), to correct an unsafe condition for certain P&WC Model PW535E and PW535E1 engines. The MCAI states that data from a design review by the manufacturer identified insufficient LCF life for flange bolts securing the engine gas generator and turbine support case. At certain high-stress circumferential locations, LCF cracks could develop on the flange bolt and lead to fracture of the bolt. To address this potential unsafe condition, the manufacturer published material that provides instructions for repetitive BSIs and replacement of the affected parts. The FAA is proposing this AD to prevent fracture of the gas generator case to turbine support case retaining bolts. The unsafe condition, if not addressed, could result in uncontained engine debris, damage to the engine, and damage to the airplane.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-2539.

#### **Material Incorporated by Reference under 1 CFR Part 51**

The FAA reviewed Transport Canada AD CF-2023-60, which identifies the affected gas generator case to turbine support case retaining bolts and specifies procedures for repetitive BSIs and replacement. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **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 referenced 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 accomplishing the actions specified in Transport Canada AD CF-2023-60 described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD and except as discussed under “Differences Between this Proposed AD and the MCAI.”

## **Differences Between this Proposed AD and the MCAI**

Where the service information referenced in Transport Canada AD CF-2023-60 requires reporting certain information to the manufacturer, this proposed AD would not require such a submission.

## **Explanation of Required Compliance Information**

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has been coordinating this process with manufacturers and CAAs. As a result, the FAA proposes to incorporate Transport Canada AD CF-2023-60 by reference in the FAA final rule. This proposed AD would, therefore, require compliance with Transport Canada AD CF-2023-60 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Material required by Transport Canada AD CF-2023-60 for compliance will be available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-2539 after the FAA final rule is published.

## **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 1,042 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
BSI of gas generator case to turbine support case retaining bolts	2 work-hours x \$85 per hour = \$170	\$0	\$170	\$177,140

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. The agency has no way of determining the number of engines that might need these replacements:

### On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Replacement of the gas generator case to turbine support case retaining bolts	4 work-hours x \$85 per hour = \$340	\$4,500	\$4,840

### 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-2024-2539; Project

Identifier MCAI-2023-00971-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 PW535E and P&WC Model PW535E1 engines, as identified in Transport Canada Civil Aviation AD CF-2023-60, dated August 14, 2023 (Transport Canada AD CF-2023-60).

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by a manufacturer design review that indicated certain flange bolts securing the gas generator case and turbine support case have an inadequate low-cycle fatigue life. The FAA is issuing this AD to prevent fracture of the gas generator case to turbine support case retaining bolts. The unsafe condition, if not addressed, could result in uncontained engine debris, damage to the engine, and damage to the airplane.

**(f) Compliance**

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

**(g) Required Actions**

Except as specified in paragraphs (h) and (i) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, Transport

Canada AD CF-2023-60.

**(h) Exceptions To Transport Canada AD CF-2023-60**

(1) Where Transport Canada AD CF-2023-60 requires compliance from its effective date, this AD requires using the effective date of this AD.

(2) Where paragraph A.1. of Transport Canada AD CF-2023-60 refers to “discrepancy,” this AD defines that as “evidence of bolt cracks, bolt fracture, missing bolts, or loose bolts.”

(3) Where paragraph A.2. in Transport Canada AD CF-2023-60 specifies to “Repeat the above paragraph A.1. inspection and rectification requirements of this AD at intervals not to exceed 400 engine cycles,” this AD requires replacing that text with “Repeat the above paragraph A.1. inspection and rectification requirements of this AD thereafter at intervals not to exceed 400 engine cycles.”

(4) Where paragraph A.1. in Transport Canada AD CF-2023-60 specifies to “Inspect the bolts P/N MS9696-08 and P/N MS9489-06 within 400 cycles from the effective date of this AD,” this AD requires replacing that text with “Inspect affected bolts having P/N MS9696-08 and P/N MS9489-06 within 400 engine cycles from the effective date of this AD.”

(5) Where paragraph A.1. in Transport Canada AD CF-2023-60 specifies to “rectify any discrepancy in accordance with the Accomplishment Instructions of the applicable SB,” this AD requires replacing that text with “Following inspection, if any bolts are determined to be in an unserviceable condition, before further flight, replace the affected bolts in accordance with the applicable SB.”

**(i) No Reporting Requirement**

Although the service information referenced in Transport Canada AD CF-2023-60 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Alternative Methods of Compliance (AMOCs)**

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 local Flight Standards District Office, as appropriate. If sending information directly to the manager of the AIR-520 Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (k) of this AD and email to:

AMOC@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.

**(k) Additional Information**

For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the material listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this material as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Transport Canada AD CF-2023-60, dated August 14, 2023.

(ii) [Reserved]

(3) For Transport Canada material identified in this AD, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; phone: (888) 663-3639; email: TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca; website: tc.canada.ca/en/aviation.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on November 20, 2024.

Peter A. White,  
Deputy Director, Integrated Certificate Management Division,  
Aircraft Certification Service.

[FR Doc. 2024-27659 Filed: 11/25/2024 8:45 am; Publication Date: 11/26/2024]