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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2015-0266; Directorate Identifier 2015-NE-03-AD; Amendment 39-18185; AD 2015-12-10]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Pratt & Whitney Division Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Pratt & Whitney Division (PW) PW6122A and PW6124A turbofan engines. This AD requires initial and repetitive borescope inspections (BSIs) of the high-pressure compressor (HPC) 7th stage integrally bladed (IB) rotor aft integral arm for cracks until replacement of the HPC 7th stage IB rotor using non-silver-plated nuts. This AD was prompted by reports of crack finds in the HPC 7th stage IB rotor. We are issuing this AD to prevent HPC 7th stage IB rotor fractures, which could lead to uncontained engine failure and damage to the airplane.

**DATES:** This AD is effective July 6, 2015.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 6, 2015.

We must receive comments on this AD by August 3, 2015.

**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 <http://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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0266.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0266; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: [wego.wang@faa.gov](mailto:wego.wang@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

We received reports of cracks in the PW6122A and the PW6124A HPC 7th stage IB rotor aft integral arm. The root cause is the presence of silver-plated nuts reacting with hot titanium in a high sulfur/high chlorine environment. This AD requires initial and repetitive BSIs of the HPC 7th stage IB rotor. This AD also requires, as terminating action, replacement of the HPC 7th stage IB rotor and HPC 7th stage IB rotor silver-plated nuts with non-silver-plated nuts. This condition, if not corrected, could result in HPC 7th stage IB rotor fractures. We are issuing this AD to prevent HPC 7th stage IB rotor fractures, which could lead to uncontained engine failure and damage to the airplane.

#### **Related Service Information Under 1 CFR Part 51**

We reviewed PW Engineering Authorization (EA) No. 15MM008, Revision A, dated March 24, 2015. We also reviewed PW Service Bulletin (SB) No. PW6ENG 72-46, dated March 5, 2015. The EA describes procedures for BSIs of the HPC 7th stage IB rotor aft integral arm for cracks using the split-case method. The SB describes removal and replacement of the HPC 7th stage IB rotor, removal of the HPC 7th stage IB rotor silver-plated nuts, and the installation of non-silver plated nuts. This service information 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 of this AD.

#### **FAA's Determination**

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **AD Requirements**

This AD requires initial and repetitive BSIs of the HPC 7th stage IB rotor. This AD also requires as terminating action to replace the HPC 7th stage IB rotor and HPC 7th stage IB rotor silver-plated nuts with non-silver-plated nuts.

## **FAA's Justification and Determination of the Effective Date**

No domestic operators use this product. Therefore, we find that notice and opportunity for prior public comment are unnecessary and that good cause exists for making this amendment effective in less than 30 days.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2015-0266; Directorate Identifier 2015-NE-03-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

## **Costs of Compliance**

We estimate that this AD will affect 0 engines installed on airplanes of U.S. registry. We also estimate that it would take about 8 hours per engine to comply with this AD. The average labor rate is \$85 per hour. Based on these figures, we estimate the total cost of this AD to U.S. operators to be \$0.

## **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.

We are 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**

This AD will not have federalism implications under Executive Order 13132. This AD will 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 that this AD:

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

(2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and

(4) Will 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.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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 (AD):



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**2015-12-10 Pratt & Whitney Division:** Amendment 39-18185; Docket No. FAA-2015-0266;  
Directorate Identifier 2015-NE-03-AD.

**(a) Effective Date**

This AD is effective July 6, 2015.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Pratt & Whitney Division (PW) PW6122A and PW6124A turbofan engines with high-pressure compressor (HPC) 7th stage integrally bladed (IB) rotor, part number (P/N) 5495637, installed.

**(d) Unsafe Condition**

This AD was prompted by reports of crack finds in the HPC 7th stage IB rotor. We are issuing this AD to prevent HPC 7th stage IB rotor fractures, which could lead to uncontained engine failure and damage to the airplane.

**(e) Compliance**

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

(1) Within 180 cycles after the effective date of this AD or within 6,500 cycles accumulated on the HPC 7th stage IB rotor, whichever occurs later, borescope inspect the HPC 7th stage IB rotor for cracks. Use Appendix 1, paragraphs 5 and 6 of PW Engineering Authorization 15MM008, Revision A, dated March 24, 2015, to do your inspection. Thereafter, repeat the inspection at every 1,000 cycles since last inspection.

(2) If any crack is detected on the HPC 7th stage IB rotor, then before further flight, replace the HPC 7th stage IB rotor with a part eligible for installation.

**(f) Mandatory Terminating Action**

(1) At the next shop visit after the effective date of this AD:

(i) Replace the affected HPC 7th stage IB rotor, P/N 5495637, with a new, zero-time, HPC 7th stage IB rotor, P/N 5495637, and

(ii) Remove the HPC 7th stage IB rotor silver-plated nuts, P/N 4301682, and replace with non-silver-plated nuts. Use the Accomplishment Instructions of PW Service Bulletin No. PW6ENG 72-46, dated March 5, 2015 to perform the removal and replacement.

**(g) Definition**

For the purposes of this AD an "engine shop visit" is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges. The separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance, is not an engine shop visit.

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

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

**(i) Related Information**

For more information about this AD, contact Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

**(j) Material Incorporated by Reference**

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

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

(i) Pratt & Whitney Division (PW) Engineering Authorization No. 15MM008, Revision A, dated March 24, 2015.

(ii) PW Service Bulletin No. PW6ENG 72-46, dated March 5, 2015.

(3) For PW service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on June 9, 2015.

Ann C. Mollica,  
Acting Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.