

[Federal Register Volume 79, Number 126 (Tuesday, July 1, 2014)]  
[Rules and Regulations]  
[Pages 37171-37173]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2014-14955]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2013-1009; Directorate Identifier 2013-NE-35-AD; Amendment 39-17855; AD 2014-11-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Pratt & Whitney Canada Corp. Turboprop Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Pratt & Whitney Canada Corp. (P&WC) turboprop engines. This AD requires installing a reinforcement liner to the power turbine (PT) containment ring and, for certain PT containment rings, adding scallops. This AD was prompted by in-service events involving the perforation of engine cases as a result of the liberation of PT blades and the fracture/displacement of the PT containment ring. We are issuing this AD to prevent uncontained engine failure and damage to the airplane.

**DATES:** This AD becomes effective August 5, 2014.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 5, 2014.

**ADDRESSES:** For service information identified in this AD, contact Pratt & Whitney Canada Corp., 1000 Marie-Victorin, Longueuil, Quebec, Canada, J4G 1A1; phone: 800-268-8000; fax: 450-647-2888; Internet: [www.pwc.ca](http://www.pwc.ca). 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.

#### **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-2013-1009; 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 mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30,

West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7754; fax: (781) 238-7199; email: robert.green@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to the specified products. The NPRM was published in the Federal Register on January 7, 2014 (79 FR 763). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

There have been in-service events involving the perforation of PT6A small series engine cases as a result of the loss of integrity of Power Turbine (PT) Containment Rings under failure loads. Perforation of engine cases has been seen to result from the liberation of PT blades and from fracture/displacement of the PT Containment Ring itself.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Request To Add Engine Models to the List of Applicable Engines**

Friend Aircare requested that we add the engine models listed in P&WC Service Bulletin (SB) No. 12076, Revision 3, dated January 17, 1992, to the applicability of this AD because that SB requires the same modification to the PT containment ring assembly.

We agree. We revised paragraph (c) of this AD by adding certain serial numbers of the following P&WC engine models: PT6A-11, PT6A-11AG, PT6A-15AG, PT6A-110, PT6A-112, and PT6A-121. We revised paragraph (e) of this AD to specify use of either P&WC SB No. 12076, Revision 3, dated January 17, 1992; or P&WC SB No. PT6A-72-A1427, Revision 3, dated January 27, 2012, as applicable. We revised paragraph (f) of this AD by adding credit for corrective actions taken in accordance with P&WC SB No. 12076, Revision 2, dated April 24, 1991, or earlier versions.

### **Request To Exclude Engines Used on Single-Engine Aircraft**

Reabe Spraying Services, Inc. requested that we exclude from applicability engines used on single-engine aircraft, or aircraft where the engine has nothing alongside of it that would sustain damage from release of debris.

We disagree. We consider the uncontained release of engine hardware to be an unsafe condition. We did not change this AD.

### **Request To Withdraw the NPRM**

Dynamic Aviation requested that the FAA withdraw the NPRM (79 FR 763, January 7, 2014). Dynamic Aviation has not experienced any PT disk blade failure in 16 years and 800,000 flight hours.

We disagree. There have been in-service events involving the perforation of PT6A series engine cases as a result of the loss of integrity of the PT containment rings under failure loads. Perforation of engine cases has been seen to result from the liberation of PT blades and from fracture/displacement of the PT containment ring itself. We consider the release of engine hardware to be an unsafe condition. This AD requires the incorporation of P&WC SB No. 12076, Revision 3, dated January 17, 1992, or P&WC SB No. PT6A-72-A1427, Revision 3, dated January 27, 2012, as applicable, to prevent uncontained events. We did not change this AD.

### **Requests To Extend the Period of Compliance**

Dynamic Aviation requested that we change the compliance time from within 24 months after the effective date of this AD, to within 36 to 48 months after the effective date of this AD. Dynamic Aviation said the extended compliance period would better allow the complete modification of all engines.

Ameriflight LLC requested that we reconsider the period of compliance to allow a longer, more realistic timeframe for compliance.

We agree. The compliance period can be increased without an appreciable risk effect. We revised paragraph (e)(2) of this AD to read, "Within 48 months after the effective date of this AD, modify the existing PT containment ring."

### **Request To More Accurately Estimate the Time Required To Modify an Engine**

Several entities requested that the estimated time and costs of compliance for completing the requirements of this AD more accurately reflect the actual time required to modify an engine.

We agree. In the NPRM (79 FR 763, January 7, 2014), we based our estimate of 3 hours to modify an engine on original equipment manufacturer service information. Further analysis indicates this estimate is inadequate. We increased the estimated hours required to modify an engine from 3 hours to 20 hours.

### **Conclusion**

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

### **Costs of Compliance**

We estimate that this AD affects 1,000 engines installed on airplanes of U.S. registry. We estimate that it will take about 20 hours per engine to comply with this AD. The average labor rate is \$85 per hour. Required parts cost about \$1,655 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$3,355,000.

### **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**

We determined that 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 this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the 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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**2014-11-05 Pratt & Whitney Canada Corp.:** Amendment 39-17855; Docket No. FAA-2013-1009; Directorate Identifier 2013-NE-35-AD.

**(a) Effective Date**

This AD becomes effective August 5, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Pratt & Whitney Canada Corp. (P&WC) turboprop engines as follows: all model PT6A-20, PT6A-20A, PT6A-20B, PT6A-25, PT6A-28, PT6A-34B, PT6A-36, and PT6A-135 engines; model PT6A-11 engines, serial number (S/N) PC-E10539 and earlier; PT6A-11AG, S/N PC-E10224 and earlier; PT6A-15AG engines, S/N earlier than PC-E14089; model PT6A-21 engines, S/N PCE-25361 and earlier; model PT6A-25A engines, S/N PCE-48757 and earlier; model PT6A-25C engines, S/N PCE-26258 and earlier; model PT6A-27 engines, S/N PCE-42523 and earlier as well as all engines converted to PT6A-27; model PT6A-34 engines, S/N PCE-57303 and earlier as well as all engines converted to PT6A-34; model PT6A-34AG engines, S/N PCE-57312 and earlier as well as all engines converted to PT6A-34AG; model PT6A-110 engines, S/N PC-E15052 and earlier; model PT6A-112 engines, S/N earlier than PC-E12563; model PT6A-114 engines, S/N PCE-17218 and earlier; and model PT6A-135A engines, S/N PCE-35089 and earlier.

**(d) Reason**

This AD was prompted by in-service events involving the perforation of engine cases as a result of the liberation of power turbine (PT) blades and the fracture/displacement of the PT containment ring. We are issuing this AD to prevent uncontained engine failure and damage to the airplane.

**(e) Actions and Compliance**

- (1) Comply with this AD within the compliance times specified, unless already done.
- (2) Within 48 months after the effective date of this AD, modify the existing PT containment ring. Use paragraph 2, Accomplishment Instructions, of P&WC Service Bulletin (SB) No. 12076, Revision 3, dated January 17, 1992, or paragraph 3, Accomplishment Instructions, P&WC SB No. PT6A-72-A1427, Revision 3, dated January 27, 2012, as applicable, to make the modification.

**(f) Credit for Previous Actions**

If you modified the PT containment ring before the effective date of this AD using P&WC SB No. 12076, Revision 2, dated April 24, 1991, or earlier versions, or P&WC SB No. PT6A-72-A1427, Revision 2, dated April 3, 1990, or earlier versions, you have met the requirements of this AD.

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

The Manager, Engine Certification Office, FAA, may approve AMOCs to this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(h) Related Information**

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7754; fax: (781) 238-7199; email: robert.green@faa.gov.

(2) Refer to MCAI Transport Canada Civil Aviation AD CF-2013-33R1, dated November 14, 2013, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-1009-0003>.

**(i) 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 Canada (P&WC) Corp. Service Bulletin (SB) No. PT6A-72-A1427, Revision 3, dated January 27, 2012.

(ii) P&WC, Inc. SB No. 12076, Revision 3, dated January 17, 1992.

(3) For P&WC service information identified in this AD, contact Pratt & Whitney Canada Corp., 1000 Marie-Victorin, Longueuil, Quebec, Canada, J4G 1A1; phone: 800-268-8000; fax: 450-647-2888; Internet: [www.pwc.ca](http://www.pwc.ca).

(4) You may view this service information at 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 May 22, 2014.

Colleen M. D'Alessandro,  
Assistant Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.