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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2006-23807; Directorate Identifier 2005-NE-51-AD; Amendment 39-14763; AD 2006-19-06]**

**RIN 2120-AA64**

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

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

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

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for Pratt & Whitney Canada (P&WC) Models PW118, PW118A, PW118B, PW119C, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW124B, PW125B, PW127, and PW127E turboprop engines with certain propeller shafts installed. This AD requires before further flight, replacing certain serial-numbered propeller shafts, and performing initial and repetitive visual inspections on others. This AD results from two reports of through-cracks in the propeller shaft. We are issuing this AD to detect through-cracks in the propeller shaft. Through-cracks at the No. 19 bearing area of the propeller shaft could result in uncontained engine failure and damage to the airplane.

**DATES:** Effective September 29, 2006. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of September 29, 2006.

We must receive any comments on this AD by November 13, 2006.

**ADDRESSES:** Use one of the following addresses to comment on this AD:

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contact Pratt & Whitney Canada Corp., 1000, Marie-Victorin, Longueuil, Québec, Canada J4G 1A1; telephone 450-677-9411, for the service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7178; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** Transport Canada, which is the airworthiness authority for Canada, recently notified us that an unsafe condition may exist on certain P&WC turboprop engines. Transport Canada advises that they have received two reports of through-cracks in the No. 19 bearing area of the propeller shaft. Investigation determined the cracks result from hydrogen embrittlement caused by an improper nickel-plating repair process at two different overhaul facilities. A persistent external oil leak in the propeller shaft area, where the crack extended past the oil seal runner, led to finding both events. P&WC has identified the population of propeller shafts with improper nickel-plating repair process. This condition, if not corrected could result in an uncontained engine failure and damage to the airplane.

### **Relevant Service Information**

We have reviewed and approved the technical contents of P&WC Service Bulletin (SB) No. PW100-72-21714, Revision 2, dated May 20, 2005. That SB describes procedures for:

- Inspecting the propeller shaft seal area for leaks,
- Fluorescent-penetrant inspecting the internal areas of the propeller shaft, and
- Replacing the propeller shaft.

Transport Canada issued AD CF-2005-29, dated September 12, 2005, to ensure the airworthiness of these P&WC engines in Canada.

### **Bilateral Airworthiness Agreement**

These engine models are manufactured in Canada and are type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Under this bilateral airworthiness agreement, Transport Canada kept the FAA informed of the situation described above. We have examined the findings of Transport Canada, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

### **FAA's Determination and Requirements of This AD**

The unsafe condition described previously is likely to exist or develop on other P&WC Models PW118, PW118A, PW118B, PW119C, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW124B, PW125B, PW127, and PW127E turboprop engines of the same type design. We are issuing this AD to detect through-cracks in the propeller shaft. Through-cracks in the No. 19 bearing area of the propeller shaft could result in an uncontained engine failure and damage to the airplane. This AD requires:

- Before further flight, replacing any propeller shaft that has a serial number (SN) listed in Table 1, Table 2, or Table 3 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, and
- Within two days after the effective date of this AD, performing an initial visual inspection of any propeller shaft that has a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, and

- Thereafter, performing a repetitive visual inspection at an interval not to exceed 7 days since last inspection, and
- Within 250 hours time-in-service, but not to exceed three months after the effective date of this AD, performing a fluorescent penetrant inspection on the internal surface of any propeller shaft that has a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, and
- Removing any propeller shaft that has a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, before December 31, 2007.

You must use the service information described previously to perform the actions required by this AD.

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

Since an unsafe condition exists that requires the immediate adoption of this AD, we have found that notice and opportunity for public comment before issuing this AD are impracticable, 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 us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. FAA-2006-23807; Directorate Identifier 2005-NE-51-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of the DMS Web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.).

### **Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Offices between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

### **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 have 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 that the regulation:

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); and
3. 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. FAA-2006-23807; Directorate Identifier 2005-E-51-AD" in your request.

## **List of Subjects in 14 CFR Part 39**

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

## **Adoption of the Amendment**

Under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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:

# AIRWORTHINESS DIRECTIVE

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**



**2006 19-06 Pratt & Whitney Canada:** Amendment 39-14763. Docket No. FAA-2006-23807; Directorate Identifier 2005-NE-51-AD.

## Effective Date

(a) This airworthiness directive (AD) becomes effective September 29, 2006.

## Affected ADs

(b) None.

## Applicability

(c) This AD applies to Pratt & Whitney Canada (P&WC) Models PW118, PW118A, PW118B, PW119C, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW124B, PW125B, PW127, and PW127E turboprop engines with certain propeller shafts installed. These engines are installed on, but not limited to, Aerospatiale ATR 42 and ATR 72 series, Bombardier DHC-8-100, -200, and -300 series, Dornier 328-120 series, Embraer EMB 120 series, and Fokker 50 airplanes.

## Unsafe Condition

(d) This AD results from two reports of through-cracks in the propeller shaft. We are issuing this AD to detect through-cracks in the propeller shaft. Through-cracks at the No. 19 bearing area of the propeller shaft could result in uncontained engine failure and damage to the airplane.

## Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

## Remove Propeller Shafts From Service

(f) Before further flight, remove from service any propeller shaft that has a serial number (SN) listed in Table 1, Table 2, or Table 3 of P&WC Service Bulletin (SB) No. PW100-72-21714, Revision 2, dated May 20, 2005.

(g) After the effective date of this AD, do not install any propeller shaft that has a SN listed in Table 1, Table 2, or Table 3 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005.

## **Visual Inspection**

(h) For all propeller shafts that have a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, do the following within two days after the effective date of this AD:

(1) Perform a visual inspection for leaks. Use 3.A.(1) through 3.A.(2) of the Accomplishment Instructions of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005.

(2) If you find a leak that you cannot fix without removing the propeller, perform an internal fluorescent penetrant inspection for cracks. Use 3.B.(1) through 3.B.(11)(h) of the Accomplishment Instructions of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005.

(3) If you find a crack, replace the propeller shaft before further flight.

## **Repetitive Visual Inspection**

(i) Thereafter, repeat the inspections of paragraphs (h)(1) through (h)(2) of this AD at not greater than 7 days between inspections.

## **Internal Fluorescent Penetrant Inspection**

(j) For all propeller shafts that have a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, do the following within 250 hours time-in-service or 3 months, whichever is earlier, after the effective date of this AD:

(1) Perform an internal fluorescent penetrant inspection for cracks on all propeller shafts that have a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005. Use 3.B.(1) through 3.B.(11)(h) of the Accomplishment Instructions of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005.

(2) If you find a crack, replace the propeller shaft before further flight.

## **Terminating Actions**

(k) Replace any propeller shaft that has a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, by December 31, 2007.

(l) Replacing a propeller shaft with a propeller shaft that doesn't have a SN listed in Table 4 of P&WC SB No. PW100-72-21714, Revision 2, dated May 20, 2005, terminates the repetitive inspection requirements in paragraph (i) of this AD.

## **Alternative Methods of Compliance**

(m) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## **Related Information**

(n) Transport Canada airworthiness directive No. CF-2005-29, dated August 3, 2005, also addresses the subject of this AD.

## **Material Incorporated by Reference**

(o) You must use Pratt & Whitney Canada Service Bulletin No. PW100-72-21714, Revision 2, dated May 20, 2005 to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a)

and 1 CFR part 51. Contact Pratt & Whitney Canada Corp., 1000, Marie-Victorin, Longueuil, Québec, Canada J4G 1A1; telephone 450-677-9411, for a copy of this service information. You may review copies at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or 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 September 6, 2006.

Peter A. White,  
Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.  
[FR Doc. E6-15139 Filed 9-13-06; 8:45 am]