



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0416; Directorate Identifier 2012-NE-13-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Canada Corp. Turboprop Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to all Pratt & Whitney Canada Corp. (P&WC) PW118, PW118A, PW118B, PW119B, PW119C, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW123AF, PW124B, PW125B, PW126A, PW127, PW127E, PW127F, PW127G, and PW127M turboprop engines. The existing AD currently requires initial and repetitive inspections of certain serial numbers (S/Ns) of propeller shafts for cracks and removal from service if found cracked. Since we issued that AD, we determined the need to add a mandatory terminating action for the repetitive inspections. This proposed AD would require initial and repetitive inspections of certain S/Ns of propeller shafts for cracks and removal from service if found cracked, and would require removal from service of affected propeller shafts as mandatory terminating action to the repetitive inspections. We are proposing this AD to detect propeller shaft cracks, which could cause failure of the shaft, propeller release, and loss of control of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 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 <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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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; Web site: 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>; 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 proposed 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: James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; phone: 781-238-7176; fax: 781-238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0416; Directorate Identifier 2012-NE-13-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed 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 proposed AD.

Discussion

On May 31, 2012, we issued AD 2012-11-14, Amendment 39-17078 (77 FR 39624, July 5, 2012), for all P&WC PW118, PW118A, PW118B, PW119B, PW119C, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW123AF, PW124B, PW125B, PW126A, PW127, PW127E, PW127F, PW127G, and PW127M turboprop engines. That AD requires initial and repetitive inspections of certain S/Ns of propeller shafts for cracks and removal from service if found cracked. That AD resulted from reports of two propeller shafts found cracked at time of inspection during maintenance. We issued that AD to detect propeller shaft cracks, which could cause failure of the shaft, propeller release, and loss of control of the airplane.

Actions Since Existing AD Was Issued

Since we issued AD 2012-11-14 (77 FR 39624, July 5, 2012), we determined the need to add a mandatory terminating action for the repetitive inspections of the affected propeller shafts, by requiring the removal from service of the propeller shafts.

Relevant Service Information

We reviewed P&WC Alert Service Bulletin (ASB) No. PW100-72-A21813, Revision 3, dated March 21, 2012. That ASB provides instructions for identifying the location of repaired propeller shafts for which compliance to the nickel plating repair process cannot be determined and for inspecting for cracks in the inner bore of the propeller shafts identified by S/N in Tables 1 and 2 of that ASB. We also reviewed P&WC ASB No. PW100-72-A21802, Revision 4, dated March 16, 2012. That ASB provides instructions for removing the affected propeller shafts that are identified by S/N in Table 1 of that ASB. We also reviewed P&WC Special Instruction P&WC No. 22-2012, R2, dated April 4, 2012. That service information provides instructions for performing ultrasonic inspections to the affected propeller shafts to comply with the inspection requirement of ASB No. PW100-72-A21813, Revision 3, dated March 21, 2012. We also reviewed P&WC ASB No. PW100-72-A21798, Revision 5, dated March 20, 2012. That ASB provides instructions for performing mandatory replacement of the affected propeller shafts that are identified by S/N in Tables 1 and 2 of that ASB.

FAA's Determination

We are proposing 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.

Proposed AD Requirements

This proposed AD would retain the requirements of AD 2012-11-14 (77 FR 39624, July 5, 2012), except it would require the initial inspection done before further

flight, as operators should have already complied with the initial compliance times in that AD. This proposed AD would add a mandatory terminating action to the repetitive inspections of the affected propeller shafts, by removing those propeller shafts from service.

Costs of Compliance

We estimate that this proposed AD would affect 570 engines installed on airplanes of U.S. registry. We estimate that it would take 6 work-hours per engine to remove the propeller shaft for inspection, 1 work-hour to perform the inspection, 65 work-hours to remove and reinstall the engine if needed, and 35 work-hours to replace the propeller shaft. We estimate that consumable materials would cost \$2,200 per engine, and required engine testing would cost \$5,000. The average labor rate is \$85 per work-hour. We expect that about 30 engines would be found with propeller shafts requiring a replacement propeller shaft. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$1,028,850.

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 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 that the proposed 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),
- (3) Will not affect intrastate aviation in Alaska, 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.

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 removing airworthiness directive (AD) 2012-11-14, Amendment 39-17078 (77 FR 39624, July 5, 2012), and adding the following new AD:

Pratt & Whitney Canada Corp. (formerly Pratt & Whitney Canada Inc.): Docket No. FAA-2012-0416; Directorate Identifier 2012-NE-13-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2012-11-14 (77 FR 39624, July 5, 2012).

(c) Applicability

This AD applies to all Pratt & Whitney Canada Corp. (P&WC) PW118, PW118A, PW118B, PW119B, PW119C, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW123AF, PW124B, PW125B, PW126A, PW127, PW127E, PW127F, PW127G, and PW127M turboprop engines, with the serial number (S/N) propeller shafts listed in P&WC Alert Service Bulletin (ASB) No. PW100-72-A21813, Revision 3, dated March 21, 2012, ASB No. PW100-72-A21802, Revision 4, dated March 16, 2012, and ASB No. PW100-72-A21798, Revision 5, dated March 20, 2012.

(d) Unsafe Condition

This AD was prompted by reports of two propeller shafts found cracked at time of inspection during maintenance. We are issuing this AD to detect propeller shaft cracks, which could cause failure of the shaft, propeller release, and loss of control of the airplane.

(e) Compliance

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

(f) Inspecting Propeller Shafts

(1) For propeller shafts with an S/N listed in Table 1 and Table 2 of P&WC ASB No. PW100-72-A21813, Revision 3, dated March 21, 2012:

(i) For engines not yet initially inspected per AD 2012-11-14 (77 FR 39624, July 5, 2012), before further flight, perform either an initial visual inspection or an initial ultrasonic inspection (UI) for cracks, in accordance with paragraphs 3.C.(1) through 3.C.(1)(a), and 3.C.(2) of P&WC ASB No. PW100-72-A21813, Revision 3, dated March 21, 2012, and Section 9 of P&WC Special Instruction (SI) P&WC No. 22-2012, R2, dated April 4, 2012.

(ii) If the visual inspection was performed, repeat the visual inspection within 50 engine flight hours (EFH) after the initial inspection, and thereafter every 10 EFH, until the propeller shaft is removed from service.

(iii) If the UI was performed, repeat the UI at intervals not to exceed 1,000 EFH, until the propeller shaft is removed from service.

(2) If a crack is found during any of the inspections required by this AD, remove the propeller shaft from service before the next flight.

(g) Mandatory Terminating Action

As mandatory terminating action to the repetitive inspections required by AD 2012-11-14, (77 FR 39624, July 5, 2012):

(1) For propeller shafts with an S/N listed in Table 1 of P&WC ASB No. PW100-72-A21802, Revision 4, dated March 16, 2012, remove the propeller shafts from service before further flight.

(2) For affected S/N propeller shafts listed in Table 1 of P&WC ASB No. PW100-72-A21798, Revision 5, dated March 20, 2012, remove the propeller shafts from service within 6 months after the effective date of this AD.

(3) For affected S/N propeller shafts listed in Table 2 of P&WC ASB No. PW100-72-A21798, Revision 5, dated March 20, 2012, remove the propeller shafts from service within 12 months after the effective date of this AD.

(h) Installation Prohibition

(1) After the effective date of this AD, do not install any propeller shaft S/Ns listed in Table 1 of P&WC ASB No. PW100-72-A21802, Revision 4, dated March 16, 2012, into any engine.

(2) After the effective date of this AD, do not install any propeller shaft S/Ns listed in Table 1 and Table 2 of P&WC ASB No. PW100-72-A21798, Revision 5, dated March 20, 2012, into any engine.

(i) Credit for Actions Accomplished in Accordance with Previous Service Information

(1) Initial inspections performed using P&WC ASB No. PW100-72-A21813, Revision 3, dated March 21, 2012 or earlier revisions, satisfy the initial inspection requirements of paragraph (f) of this AD. However, you must perform the repetitive inspection intervals specified in paragraph (f).

(2) Ultrasonic inspections performed per SI P&WC 22-2012R2, dated April 4, 2012, or earlier revisions satisfy the requirements of paragraph (f) of this AD.

(j) Alternative Methods of Compliance (AMOCs)

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

(k) Special Flight Permit

No special flight permits will be issued for this AD.

(l) Related Information

(1) For more information about this AD, contact James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; phone: 781-238-7176; fax: 781-238-7199.

(2) Refer to Transport Canada AD No. CF-2012-12, dated March 26, 2012, for related information.

(3) 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; Web site: 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.

Issued in Burlington, Massachusetts, on September 6, 2012.

Robert G. Mann,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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