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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0725; Directorate Identifier 2010-NE-18-AD]; Amendment 39-16528; AD 2010-24-09]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney PW4000 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD requires a one-time visual inspection of the No. 3 bearing oil pressure tube, part number (P/N) 51J041-01, P/N 50J604-01, or P/N 50J924-01. Tubes that are found cracked or repaired must be removed from service. This AD also prohibits repaired tubes from being installed. This AD results from one report of a repaired No. 3 bearing oil tube that caused an engine in-flight shutdown, seven reports of repaired No. 3 bearing oil pressure tubes found cracked that led to unscheduled engine removals, and one report of a test cell event from a repaired tube that cracked. We are issuing this AD to prevent cracking of No. 3 bearing oil pressure tubes, which could result in internal oil fire, failure of the high-pressure turbine (HPT) disks, uncontained engine failure, and damage to the airplane.

DATES: This AD is effective December 28, 2010.

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 AD, 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: James Gray, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7742; fax (781) 238-7199; e-mail: james.e.gray@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to the specified products. That NPRM published in the Federal Register on June 3, 2010 (75 FR 31330). That NPRM proposed to require:

- A one-time visual inspection of the No. 3 bearing oil pressure tube, P/N 51J041-01, P/N 50J604-01, or P/N 50J924-01; and
- Removal from service if found cracked or repaired, or if suspected that the tube was repaired; and
- A prohibition on installing repaired tubes.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

Request To Clarify Paragraph (e) of the Proposed AD

United Airlines asked us to revise paragraph (e) of the proposed AD to inspect the tube when the tube is in the piece-part condition. United Airlines felt that changing paragraph (e) of the proposed AD will make our intent clear.

We agree. We revised paragraph (e) of the proposed AD to say "You are responsible for having the actions required by this AD performed the next time the No. 3 bearing oil pressure tube is in the piece-part condition after the effective date of this AD, unless the actions have already been done." We also added a new heading "Definitions" and new paragraph (i) that defines piece-part condition for the oil pressure tube.

Request To Provide Clarification of the Definition of a Repair

Delta Airlines, Inc. and United Airlines asked us to clarify the types of repaired tubes that must be removed. Delta Airlines Inc. and United Airlines said the body of the NPRM states that weld repairs were the source of the failures.

We don't agree. All repairs are unacceptable, not just weld repairs. Further, the original equipment manufacturer also revised their applicable repair manual(s) to remove all repairs to these tubes.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

We estimate that this AD would affect 973 PW4000 series turbofan engines installed on airplanes of U.S. registry. We also estimate that it would take about 10 minutes per engine to perform the one-time visual inspection when the tube has been removed, and that the average labor rate is $85 per work-hour. Required parts would cost about $9,154 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $8,923,383.

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, 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, 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):

2010-24-09 Pratt & Whitney: Amendment 39-16528; FAA-2010-0725; Directorate Identifier 2010-NE-18-AD.

Effective Date

(a) This AD is effective December 28, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the following Pratt & Whitney turbofan engines, with No. 3 bearing oil pressure tube, part number (P/N) 51J041-01, P/N 50J604-01, or P/N 50J924-01, installed:

PW4000-94'' Engines

(1) PW4000-94" engines affected are PW4050, PW4052, PW4056, PW4060, PW4060A, PW4060C, PW4062, PW4062A, PW4152, PW4156, PW4156A, PW4158, PW4160, PW4460, PW4462, and PW4650, including models with any dash number suffix.

PW4000-100'' Engines

(2) PW4000-100" engines affected are PW4164, PW4168, PW4168A, PW4164C, PW4164C/B, PW4170, PW4168A-1D, PW4168-1D, PW4164-1D, PW4164C-1D, and PW4164C/B-1D, including models with any dash number suffix.

PW4000-112'' Engines

(3) PW4000-112" engines affected are PW4074, PW4074D, PW4077, PW4077D, PW4084, PW4084D, PW4090, PW4090-3, PW4090D, and PW4098, including models with any dash number suffix.

(4) These engines are installed on, but not limited to, Airbus A300, A310, and A330 series, Boeing MD-11, 747, 767, and 777 series, airplanes.

Unsafe Condition

(d) This AD results from one report of a repaired No. 3 bearing oil pressure tube that cracked and caused an engine in-flight shutdown, one report of a test cell event, and seven reports since 2007, of repaired No. 3 bearing oil pressure tubes found cracked that led to unscheduled engine removals. We are issuing this AD to prevent cracking of No. 3 bearing oil pressure tubes, which could result in internal oil fire, failure of the high-pressure turbine disks, uncontained engine failure, and damage to the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed the next time the No. 3 bearing oil pressure tube is in the piece-part condition after the effective date of this AD, unless the actions have already been done.

One-Time Visual Inspection of the No. 3 Bearing Oil Pressure Tube

(f) Perform a one-time visual inspection of the exterior of the No. 3 bearing oil pressure tube for cracks and evidence of being repaired.

(1) Remove the tube from service if any cracks are found.

(2) Remove the tube from service if found repaired, or if suspected that the tube was repaired.

(g) After the effective date of this AD, do not install any repaired No. 3 bearing oil pressure tube into any engine.

(h) Guidance on the No. 3 bearing oil pressure tube visual inspection can be found in:

(1) Pratt & Whitney Clean, Inspect, Repair Manual PN 51A357, 72-41-20 for PW4000-94" and PW4000-100" series engines; or

(2) Pratt & Whitney Clean, Inspect, Repair Manual PN 51A750, 72-41-20 for PW4000-112" series engines.

Definitions

(i) For the purpose of this AD, piece part condition means that the part is completely disassembled from the engine as specified in the disassembly instructions in the manufacturer's engine manual.

Alternative Methods of Compliance

(j) The Manager, Engine Certification Office, FAA, may approve alternative methods of compliance for this AD, if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) For more information about this AD, contact James Gray, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7742; fax (781) 238-7199; e-mail: james.e.gray@faa.gov.

Material Incorporated by Reference

(l) None.

Issued in Burlington, Massachusetts, on November 16, 2010.

Robert G. Mann,

Acting Manager, Engine & Propeller Directorate,

Aircraft Certification Service.