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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0417; Directorate Identifier 2009-NE-13-AD; Amendment 39-15955; AD 2009-14-05]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Models PW2037, PW2037(M), and PW2040 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Pratt & Whitney models PW2037, PW2037(M), and PW2040 turbofan engines. This AD requires 12th stage disks of certain high-pressure compressor (HPC) drum rotor disk assemblies, to be inspected for cracks by Pratt & Whitney using a special eddy current inspection procedure. This AD results from six HPC 12th stage disks found cracked during HPC module disassembly at overhaul. We are issuing this AD to prevent uncontained failure of the HPC 12th stage disk and airplane damage.

DATES: This AD becomes effective July 23, 2009. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of July 23, 2009.

We must receive any comments on this AD by September 8, 2009.

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

- Federal eRulemaking Portal: Go to http://www.regulations.gov and follow the instructions for sending your comments electronically.
- Mail: U.S. Docket Management Facility, Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

FOR FURTHER INFORMATION CONTACT: Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: mark.riley@faa.gov; telephone (781) 238-7758, fax (781) 238-7199.

Contact Pratt & Whitney, 400 Main Street, East Hartford, CT 06108, for the service information identified in This AD.

SUPPLEMENTARY INFORMATION: In November 2006, a Pratt & Whitney model PW2037 turbofan engine was found to have a cracked HPC 12th stage disk during routine overhaul. The crack extended from the disk bore to the disk rim. Investigation by Pratt & Whitney revealed that the disk had a material defect that occurred during original manufacture. In July 2007, a second HPC 12th stage disk was found cracked with the same defect. In response to the cracking, Pratt & Whitney issued Alert Service Bulletin (ASB) No. PW2000 A72-736 on January 5, 2009, recommending removal of 26 additional HPC 12th stage disks, manufactured from this same material heat. Pratt concluded that this population might have the same material defects and therefore, be susceptible to cracking. Thereafter, in February 2009, after Pratt & Whitney issued the ASB, we became aware of four additional HPC 12th stage disks, manufactured from the same material heat, that had small cracks in the disk bores that originated from similar material defects. Because of Pratt & Whitney's recommended short compliance times in the ASB, we are issuing this final rule; request for comments AD. This condition, if not corrected, could result in uncontained failure of the HPC 12th stage disk and airplane damage.

Relevant Service Information

We have reviewed and approved the technical contents of Pratt & Whitney ASB No. PW2000 A72-736, dated January 5, 2009. That ASB describes procedures for having Pratt & Whitney perform the special eddy-current inspection performed on the 12th stage disks.

Differences Between This AD and the Service Information

The recommended compliance times in the Pratt & Whitney ASB are stated as calendar dates for each engine model. We specify cycles-in-service rather than calendar dates, because the risk of crack development is cycle, not time dependant.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other Pratt & Whitney models PW2037, PW2037(M), and PW2040 turbofan engines of the same type design. For that reason, we are issuing this AD to prevent uncontained failure of the HPC 12th stage disk and airplane damage. This AD requires 12th stage disks of certain HPC drum rotor disk assemblies, to be inspected for cracks by Pratt & Whitney using a special eddy current inspection procedure.

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-2009-0417; Directorate Identifier 2009-NE-13-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://www.regulations.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 Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Operations office 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 Operations office (telephone (800) 647-5527) is the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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 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); 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 at the address listed under ADDRESSES.

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:

2009-14-05 Pratt & Whitney: Amendment 39-15955. Docket No. FAA-2009-0417; Directorate Identifier 2009-NE-13-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective July 23, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Pratt & Whitney models PW2037, PW2037(M), and PW2040 turbofan engines, with the following high-pressure compressor (HPC) drum rotor disk assemblies installed:

Table 1–Affected HPC Drum Rotor Disk Assemblies

Drum Rotor Disk Assembly Part Number 1B3702; 1B3702-001; 1B3610; 1B3610-001; or 1B7377 – Serial Number	12th Stage Disk Billet and Heat Number
T62805	T/LALY-4013
R80293	T/LALY-4012
R80289	T/LALY-4010
R80322	T/LALY-4009
R80330	T/LALY-4008
R78394	T/LALY-4007
R80281	T/LALY-4006
R80304	T/LALY-4005
R80343	T/LALY-4004
R80299	T/LALY-4003
R80313	T/LALY-4002
R80333	M1/LALY-4035
R80324	M1/LALY-4034
R80310	M1/LALY-4033
R80326	M1/LALY-4030
R80305	M1/LALY-4026

R80315	M1/LALY-4025
R80309	M1/LALY-4024
R80341	M1/LALY-4023
R80329	M1/LALY-4022
R80312	M1/LALY-4020
R80321	M1/LALY-4019
R80319	M2/LALY-4040
R80358	M2/LALY-4039
R80302	M2/LALY-4038
R80336	M2/LALY-4037

These engines are installed on, but not limited to, Boeing 757-200 and 757-300 airplanes.

Unsafe Condition

(d) This AD results from six HPC 12th stage disks found cracked during HPC module disassembly at overhaul. We are issuing this AD to prevent uncontained failure of the HPC 12th stage disk and airplane damage.

Compliance

(e) You are responsible for having the actions required by this AD performed at the following compliance times:

(1) For PW2040 turbofan engines, within 200 cycles-in-service (CIS) after the effective date of this AD, unless the actions have already been done.

(2) For PW2037 and PW2037(M) turbofan engines, within 400 CIS after the effective date of this AD, unless the actions have already been done.

Non-Destructive Inspection

(f) Have a special eddy-current inspection performed on the 12th stage disks installed in the HPC drum rotor disk assemblies listed in Table 1 of this AD, for cracks. Use paragraph 1 of the Accomplishment Instructions of Pratt & Whitney Alert Service Bulletin No. PW2000 A72-736, dated January 5, 2009, to do the special eddy current inspection.

Alternative Methods of Compliance

(g) 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

(h) Contact Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: mark.riley@faa.gov; telephone (781) 238-7758, fax (781) 238-7199.

Material Incorporated by Reference

(i) You must use Pratt & Whitney Alert Service Bulletin No. PW2000 A72-736, dated January 5, 2009, to have the special eddy current inspections performed 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, 400 Main Street, East Hartford, CT 06108, for a copy of this service information. You may review copies at the FAA, New England Region, 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 June 23, 2009.
Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.