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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1095; Directorate Identifier 2009-NE-40-AD; Amendment 39-16742; AD 2011-14-07]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney (PW) Models PW4074 and PW4077 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 removing the 15th stage HPC disk within 12,000 cycles since new (CSN) or, for any disks that exceed 12,000 CSN after the effective date of this AD using a drawdown plan that includes a borescope inspection (BSI) or eddy current inspection (ECI) of the rim for cracks. This AD was prompted by multiple shop findings of cracked 15th stage HPC disks. We are issuing this AD to prevent cracks from propagating into the disk bolt holes, which could result in a failure of the 15th stage HPC disk, uncontained engine failure, and damage to the airplane.

DATES: This AD is effective September 8, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of September 8, 2011.

ADDRESSES: For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7700; fax (860) 565-1605. You may review copies of the referenced 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 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: Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7178; fax: (781) 238-7199; e-mail: ian.dargin@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 November 2, 2010, (75 FR 67253). That NPRM proposed to require removing the 15th stage HPC disk before 12,000 CSN, or for any disks that exceed 12,000 CSN after the effective date of this AD, using a drawdown plan that includes a BSI or ECI of the rim for cracks.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

We estimate that this AD will affect 44 engines installed on airplanes of U.S. registry. Prorated parts life will cost about \$66,000 per 15th stage HPC disk. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$2,904,000.

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

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, 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):



2011-14-07 Pratt & Whitney: Amendment 39-16742; Docket No. FAA-2010-1095; Directorate Identifier 2009-NE-40-AD.

Effective Date

- (a) This AD is effective September 8, 2011.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Pratt & Whitney (PW) PW4074 and PW4077 turbofan engines with 15th stage high-pressure compressor (HPC) disks, part number (P/N) 55H615, installed.

Unsafe Condition

(d) This AD results from multiple shop findings of cracked 15th stage HPC disks. We are issuing this AD to prevent cracks from propagating into the bolt holes of the 15th stage HPC disk, which could result in a failure of the 15th stage HPC disk, 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.

(f) For 15th stage HPC disks that have 9,865 or fewer cycles since new (CSN) on the effective date of this AD, remove the disk from service before accumulating 12,000 CSN.

(g) For 15th stage HPC disks that have accumulated more than 9,865 CSN on the effective date of this AD, do the following:

(1) Remove the disk from service at the next piece-part exposure above 12,000 CSN, not to exceed 2,135 cycles-in-service (CIS) after the effective date of this AD.

(2) For 15th stage HPC disks that are installed in the engine and exceed 12,000 CSN on the effective date of this AD, perform a borescope inspection (BSI) or eddy current inspection (ECI) of the disk rim according to the following schedule:

(i) Within 2,400 cycles-since-last fluorescent penetrant inspection or ECI, or

(ii) Within 1,200 cycles-since-last BSI, or

(iii) Within 55 CIS after the effective date of this AD, whichever occurs later.

(3) If the BSI from paragraph (g)(2) of this AD indicates the presence of a crack in the disk rim, but you can't visually confirm a crack, perform an ECI within 5 CIS after the BSI.

(4) If you confirm a crack in the disk rim using any inspection method, remove the disk from service before further flight.

(h) Use paragraph 1.A. or 1.B. of the Accomplishment Instructions "For Engines Installed on the Aircraft" or 1.A. or 1.B. of the Accomplishment Instructions "For Engines Removed from the

Aircraft," of PW Service Bulletin PW4G-112-72-309, Revision 1, dated July 1, 2010 to perform the inspections.

Alternative Methods of Compliance

(i) 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

(j) For more information about this AD, contact Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7178; fax: (781) 238-7199; e-mail: ian.dargin@faa.gov.

Material Incorporated by Reference

(k) You must use Pratt & Whitney Service Bulletin PW4G-112-72-309, Revision 1, dated July 1, 2010, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of the service information contained in this AD under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7700; fax (860) 565-1605.

(3) You may review copies of the 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.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call 202-741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Burlington, Massachusetts, on June 24, 2011.

Peter A. White,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.