



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-1176; Directorate Identifier 2011-NE-35-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Pratt & Whitney JT9D-7R4D, -7R4D1, -7R4E, -7R4E1, -7R4G2, -7R4H1, and -7R4E4 turbofan engines. This proposed AD would establish a new lower life limit for high-pressure turbine (HPT) 1st stage air seals, part number (P/N) 735907, and would require removing them from service using a drawdown schedule. This proposed AD was prompted by the determination that a new lower life limit for the HPT 1st stage air seals, P/N 735907, is necessary. We are proposing this AD to prevent critical life-limited rotating engine part failure and damage to 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.

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: Stephen Sheely, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7750; fax: 781-238-7199; e-mail: stephen.k.sheely@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2011-1176; Directorate Identifier 2011-NE-35-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

We received two reports of HPT 1st stage air seals, P/N 735907, found cracked by fluorescent penetrant inspection during engine overhaul. The cracks were located on the flat section of the seal, between the bolted flange and the knife edge seals. One of the air seals had accumulated 11,150 cycles-since-new (CSN), and the other air seal had accumulated 13,340 CSN. The current published life limit for these seals is 15,000 CSN. Pratt & Whitney has informed us that they are preparing to issue service information which will require reducing the published life limit from 15,000 CSN to 9,000 CSN. This condition, if not corrected, could result in critical life-limited rotating engine part failure and damage to the airplane.

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 require establishing a new lower life limit for HPT 1st stage air seals, P/N 735907, from 15,000 CSN, to 9,000 CSN, and would require removing them from service using a drawdown schedule.

Costs of Compliance

We estimate that this proposed AD would affect 257 Pratt & Whitney JT9D-7R4D, -7R4D1, -7R4E, -7R4E1, -7R4G2, -7R4H1, and -7R4E4 turbofan engines installed on airplanes of U.S. registry. We also estimate that it would take about 28.8 work-hours per engine to perform the actions required by this AD, and that the average labor rate is \$85 per work-hour. Required parts will cost about \$37,200 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$10,189,536.

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 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 this 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 adding the following new airworthiness directive (AD):

Pratt & Whitney: Docket No. FAA-2011-1176; Directorate Identifier 2011-NE-35-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Pratt & Whitney JT9D-7R4D, -7R4D1, -7R4E, -7R4E1, -7R4G2, -7R4H1, and -7R4E4 turbofan engines.

(d) Unsafe Condition

This AD was prompted by the determination that a new lower life limit of 9,000 cycles-since-new (CSN) for high-pressure turbine (HPT) 1st stage air seals, part number (P/N) 735907, is necessary. We are issuing this AD to prevent critical life-limited rotating engine part failure, and damage to the airplane.

(e) Compliance

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

(f) Removal of HPT 1st Stage Air Seals, P/N 735907

Remove HPT 1st stage air seals, P/N 735907, from service as follows:

(1) For air seals that have fewer than 6,500 CSN on the effective date of this AD, remove from service before exceeding 9,000 CSN.

(2) For air seals that have 6,500 CSN or more on the effective date of this AD, do the following:

(i) If the engine has a shop visit before the air seal exceeds 9,000 CSN, remove the air seal from service before exceeding 9,000 CSN.

(ii) If the engine does not have a shop visit before the air seal exceeds 9,000 CSN, remove the air seal from service at the next shop visit, not to exceed 2,500 cycles from the effective date of this AD or 15,000 CSN, whichever occurs first.

(3) Remove from service any HPT 1st stage air seal, P/N 735907, that is installed or re-installed after the effective date of this AD, before the air seal exceeds the new life limit of 9,000 CSN.

(g) Installation Prohibition

After the effective date of this AD, do not install or reinstall into any engine any HPT 1st stage air seal, P/N 735907, that exceeds the new life limit of 9,000 CSN.

(h) Engine Shop Visit Definition

For the purposes of this AD, an engine shop visit is the induction of an engine into the shop after the effective date of this AD, where the separation of a major engine flange occurs, except that the following maintenance actions, or any combination, are not considered engine shop visits:

(1) Introduction of an engine into a shop solely for removal of the compressor top or bottom case for airfoil maintenance or variable stator vane bushing replacement.

(2) Introduction of an engine into a shop solely for removal or replacement of the stage 1 fan disk.

(3) Introduction of an engine into a shop solely for replacement of the turbine rear frame.

(4) Introduction of an engine into a shop solely for replacement of the accessory gearbox or transfer gearbox, or both.

(5) Introduction of an engine into a shop solely for replacement of the fan forward case.

(i) 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.

(j) Related Information

For more information about this AD, contact Stephen Sheely, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7750; fax: 781-238-7199; e-mail: stephen.k.sheely@faa.gov.

Issued in Burlington, Massachusetts, on November 15, 2011.

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

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