[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-1127; Directorate Identifier 2014-NE-16-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 all Pratt & Whitney (PW) JT8D-217C and JT8D-219 turbofan engines. This proposed AD was prompted by reports of cracking in the low-pressure turbine (LPT) shaft. This proposed AD establishes a new lower life limit for these parts and would require removing affected LPT shafts from service using a drawdown plan. We are proposing this AD to prevent failure of the LPT shaft, which could lead to an uncontained engine 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.

For service information identified in this proposed AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503. 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 by searching for and locating Docket No. FAA-2014-1127; 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: Jo-Ann Theriault, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7105; fax: 781-238-7199; email: jo-ann.theriault@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-1127; Directorate Identifier 2014-NE-16-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all

comments received by the closing date and may amend this NPRM 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 NPRM.

Discussion

We received reports of two LPT shafts with in-shop findings of fatigue cracks on the No. 4.5 bearing thread undercut adjacent to oil feed holes. The cracks were discovered during routine fluorescent penetrant inspections. Both shafts had oil feed hole enlargement rework accomplished. The root cause is increased stress on the fillet of the thread undercut region in front of the oil feed holes caused by oil feed hole rework. The increased stress reduces the low cycle fatigue life of the shaft. This condition, if not corrected, could result in failure of the LPT shaft, which could lead to an uncontained engine failure and damage to the airplane.

Related Service Information under 1 CFR Part 51

We reviewed PW Service Bulletin (SB) No. JT8D 6504, dated November 5, 2014. The SB contains additional information regarding removal of the LPT shaft. This service information is reasonably available; see ADDRESSES for ways to access this service information.

FAA's Determination

We are proposing this NPRM 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 NPRM would require removing affected LPT shafts from service.

Costs of Compliance

We estimate that this proposed AD would affect about 744 engines installed on airplanes of U.S. registry. The average labor rate is $85 per hour. We estimate the pro-rated replacement cost would be $28,230. We also estimate that shaft replacement would be accomplished during an engine shop visit at no additional labor cost. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be $21,003,120.

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 to the extent that it justifies making a regulatory distinction, 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-2014-1127; Directorate Identifier 2014-NE-16-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 all Pratt & Whitney (PW) JT8D-217C and JT8D-219 turbofan engines with low-pressure turbine (LPT) shaft part numbers 783319, 783319-001,

783319-003, 783319-004, 783320, 783320-001, 783320-003, 783320-004, 820514-001, 820514-003, 820514-004, or 820514-005, installed.

(d) Unsafe Condition

This AD was prompted by reports of cracking in the LPT shaft. We are issuing this AD to prevent failure of the LPT shaft, which could lead to an uncontained engine failure and damage to the airplane.

(e) Compliance

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

For engines with an LPT shaft part number listed in paragraph (c) of this AD:

(1) If the LPT shaft has 15,000 or fewer cycles since new (CSN) on the effective date of this AD, remove it from service before it accumulates 20,000 CSN.

(2) If the LPT shaft has more than 15,000 CSN on the effective date of this AD, remove it from service before it accumulates 5,000 additional cycles in service, or at the next piece-part exposure after accumulating 20,000 CSN, whichever occurs first.

(3) After the effective date of this AD, do not install any LPT shaft listed in paragraph (c) of this AD that is at piece-part exposure and exceeds the new life limit of 20,000 CSN, into any engine.

(f) Definitions

For the purpose of this AD, piece-part exposure is when the LPT shaft is completely disassembled from the engine.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(h) Related Information

(1) For more information about this AD, contact Jo-Ann Theriault, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7105; fax: 781-238-7199; email: jo-ann.theriault@faa.gov.

(2) PW Service Bulletin No. JT8D 6504, dated November 5, 2014, which is not incorporated by reference in this proposed AD, can be obtained from PW using the contact information in paragraph (h)(3) of this proposed AD.

(3) For service information identified in this proposed AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503.

(4) 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 February 20, 2015.

Colleen M. D'Alessandro,
Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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