



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-8836; Directorate Identifier 2016-NE-17-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Division 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 Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084, PW4084D, PW4090, and PW4090-3 turbofan engines. This proposed AD was prompted by an uncontained failure of a high-pressure turbine (HPT) hub during takeoff. This proposed AD would require an inspection to measure the surface condition of the aft side web/rim fillet of HPT 1st stage hubs and removal from service of hubs that fail inspection. We are proposing this AD to prevent failure of the HPT 1st stage hub, uncontained hub release, damage to the engine, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 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 NPRM, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, 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-2016-8836; 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, 1200 District Avenue, 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 proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-8836; Directorate Identifier 2016-NE-07-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 a report of an uncontained failure of an HPT hub during takeoff. The root cause of the event is a machining anomaly (cutter mismatch) in the aft web/rim fillet area of the HPT 1st stage hub. The machining mismatch raises the stress and significantly reduces the life of the hub. The defect was introduced when the part was originally manufactured. This condition, if not corrected, could result in failure of the HPT 1st stage hub, uncontained hub release, damage to the engine, and damage to the airplane.

Related Service Information under 1 CFR part 51

We reviewed PW Service Bulletin (SB) PW4G-112-72-342, dated September 23, 2016. This PW SB provides guidance on performing the HPT 1st stage hub web/rim fillet replication inspection and measurement for the affected HPT hubs. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

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 an inspection to measure the surface condition of the aft side web/rim fillet of HPT 1st stage hubs and removal from service of hubs that fail inspection.

Costs of Compliance

We estimate that this proposed AD affects 119 engines installed on airplanes of U.S. registry. We also estimate that it would take about 1 hour per engine to do the inspection. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$10,115.

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 Division: Docket No. FAA-2016-8836; Directorate Identifier 2016-NE-17-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084, PW4084D, PW4090, and PW4090-3 turbofan engines.

(d) Unsafe Condition

This AD was prompted by an uncontained failure of a high-pressure turbine (HPT) hub during takeoff. We are issuing this AD to prevent failure of the HPT 1st stage hub, uncontained hub release, damage to the engine, and damage to the airplane.

(e) Compliance

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

(1) At the next engine shop visit after the effective date of this AD, perform the HPT 1st stage hub web/rim fillet replication inspection and measurement using the Accomplishment Instructions, Part A, paragraphs 2.A. and 2.B.(1) to 2.B.(4) or Part B, paragraphs 1.A. and 1.B.(1) to 1.B.(4), of PW Service Bulletin (SB) PW4G-112-72-342, dated September 23, 2016.

(2) If the hub fails inspection, remove the hub from service before further flight and replace with a part eligible for installation.

(f) Definition

For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of any major mating flange, except that the separation of engine flanges solely for the purposes of transportation without subsequent maintenance does not constitute an engine shop visit.

(g) Installation Prohibition

After the effective date of this AD, do not install or re-install into any engine any HPT 1st stage hub that has not been inspected and passed the inspection required by paragraph (e) of this AD.

(h) 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.

(i) Related Information

(1) For more information about this AD, contact Jo-Ann Theriault, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7105; fax: 781-238-7199; email: jo-ann.theriault@faa.gov.

(2) PW SB PW4G-112-72-342, dated September 23, 2016, can be obtained from PW using the contact information in paragraph (i)(3) of this AD.

(3) For service information identified in this AD, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on October 19, 2016.

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

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