[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0021; Directorate Identifier 2017-NE-01-AD]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines AG 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 certain International Aero Engines AG (IAE) V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5, and V2531-E5 turbofan engines. This proposed AD was prompted following a self-disclosure by IAE regarding manufacturing quality escapes. This proposed AD would require replacing the affected and suspect parts within the time limits specified in the compliance section. We are proposing this AD to correct the unsafe condition on these products.

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 International Aero Engines AG, 400 Main Street, East Hartford, CT 06118; phone: 860-565-0140; email: help24@pw.utc.com; Internet: http://fleetcare.pw.utc.com. 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-2017-0021; 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: Brian Kierstead, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7772; fax: 781-238-7199; email: brian.kierstead@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-2017-0021; Directorate Identifier 2017-NE-01-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

IAE self-disclosed several quality escapes that had occurred during manufacture of high-pressure turbine (HPT) stage 2 air seals, HPT 1st stage air seals, and/or HPT stage 2 ring plates, at the Pratt and Whitney Chengdu facility. The quality escapes are associated with P&W's manufacturing source approval requirement, which includes reporting of tool breaks on life-limited parts. A number of documented and undocumented occurences of tool breaks were experienced during machining, which could affect the low-cycle fatigue capability of the suspect parts. In addition, several manufactured life-limited parts without logbooks are also suspected of experiencing occurences of a tool break. This proposed AD would require replacing the affected parts within the time limits specified in the compliance section. This condition, if not corrected, could result in failure of high-energy, rotating hardware, uncontained part release, damage to the engine, and damage to the airplane.

Related Service Information under 1 CFR part 51

We reviewed International Aero Engines, IAE Non-Modification Service Bulletin (NMSB) V2500-ENG-72-0676, dated October 14, 2016; IAE NMSB V2500-ENG-72-0677, Revision 1, dated January 11, 2017; IAE NMSB V2500-ENG-72-0682, dated December 2, 2016; IAE NMSB V2500-ENG-72-0681, Revision 2, dated January 9, 2017; and IAE NMSB V2500-ENG-72-0678, Revision 1, dated January 5, 2017. Each of

the NMSBs describes procedures for replacing a different affected part. 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 these same type designs.

Proposed AD Requirements

This proposed AD would require replacing the affected parts within the time limits specified in the compliance section.

Costs of Compliance

We estimate that this proposed AD affects 70 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Removal of HPT stage 2 air seal (cycle limited)	$0	$154,119.00	$154,119.00	$308,238.00
Removal of HPT 1st stage air seal (cycle limited)	$0	$87,503.00	$87,503.00	$175,006.00
Removal of HPT stage 2 ring plate (cycle limited)	$0	$56,207.00	$56,207.00	$112,414.00

Removal of HPT stage 2 ring plate (piece-part)	$0	$31,403.00	$31,403.00	$2,041,195.00

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

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):

International Aero Engines AG: Docket No. FAA-2017-0021; Directorate Identifier 2017-NE-01-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**

(1) This AD applies to International Aero Engines (IAE) V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5, and V2531-E5 turbofan engines with one or more of the following installed:

(i) High-pressure turbine (HPT) stage 2 air seal, part number (P/N) 2A4157, with a serial number (S/N) listed in Table 1 of IAE Non-Modification Service Bulletin (NMSB) V2500-ENG-72-0676, dated October 14, 2016.

(ii) HPT 1st stage air seal, P/N 2A3423, with an S/N listed in Table 1 of IAE NMSB V2500-ENG-72-0677 Revision 1, dated January 11, 2017; or IAE NMSB V2500-ENG-72-0678, Revision 1, dated January 5, 2017.

(iii) HPT stage 2 ring plate, P/N 2A3437, with an S/N listed in Table 1 of IAE NMSB V2500-ENG-72-0682, dated December 2, 2016; or IAE NMSB V2500-ENG-72-0681, Revision 2, dated January 9, 2017.

(2) Reserved.

(d) **Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Engine.

(e) **Unsafe Condition**

This AD was prompted by several reports by IAE of quality escapes during manufacture of HPT stage 2 air seals, HPT 1st stage air seals, and/or HPT stage 2 ring plates, at the Pratt and Whitney Chengdu facility. We are issuing this AD to prevent failure of high-energy, rotating hardware, uncontained part release, damage to the engine, and damage to the airplane.

(f) **Compliance**

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

(g) **Required Actions**

(1) Remove the following hardware from service before reaching the specified part cycles since new listed in the service instructions in paragraphs (g)(1)(i) through (iii) of this AD, or within 50 cycles in service after the effective date of this AD, whichever occurs later, and replace with a part eligible for installation:

(i) HPT stage 2 air seal, P/N 2A4157, identified in Table 1 of IAE NMSB V2500-ENG-72-0676, dated October 14, 2016.

(ii) HPT 1st stage air seal, P/N 2A3423, identified in Table 1 of IAE NMSB V2500-ENG-72-0677, Revision 1, dated January 11, 2017.

(iii) HPT stage 2 ring plate, P/N 2A3437, identified in Table 1 of IAE NMSB V2500-ENG-72-0682, dated December 2, 2016.

(2) After the effective date of this AD, remove the following hardware from service when the HPT module is disassembled and access to the part is available and replace with a part eligible for installation;

(i) HPT 1st stage air seal, P/N 2A3423, identified in Accomplishment Instructions, Table 1, of IAE NMSB V2500-ENG-72-0678, Revision 1, dated January 5, 2017.

(ii) HPT stage 2 ring plate, P/N 2A3437, identified in Accomplishment Instructions, Table 1, of IAE NMSB V2500-ENG-72-0681, Revision 2, dated January 9, 2017.

(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 Brian Kierstead, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200

District Avenue, Burlington, MA 01803; phone: 781-238-7772; fax: 781-238-7199; email: brian.kierstead@faa.gov.

(2) For service information identified in this AD, contact International Aero Engines AG, 400 Main Street, East Hartford, CT 06118; phone: 860-565-0140; email: help24@pw.utc.com; Internet: http://fleetcare.pw.utc.com.

(3) 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 March 2, 2017.

Thomas A. Boudreau,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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