



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-4123; Directorate Identifier 2016-NE-06-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, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 turbofan engines. This proposed AD was prompted by the fracture of the high-pressure turbine (HPT) stage 2 hub during flight, which resulted in an in-flight shutdown (IFSD), undercowl fire, and smoke in the cabin. This proposed AD would require inspecting the HPT stage 1 hub and HPT stage 2 hub, and, if necessary, their replacement with parts that are eligible for installation. We are proposing this AD to prevent failure of the HPT stage 1 or HPT stage 2 hubs, which could result in uncontained HPT blade release, damage to the engine, 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 NPRM, contact International Aero Engines AG, 400 Main Street, East Hartford, CT 06118; phone: 860-368-3700; fax: 860-368-4600; email: iaeinfo@iae2500.com; Internet: <https://www.iaeworld.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-2016-4123 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 proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-4123; Directorate Identifier 2016-NE-06-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 engine IFSD and subsequent undercowl fire on an IAE V2527-A5 turbofan engine during a revenue flight of an Airbus A320 airplane in September 2014. The subsequent investigation of this event determined that it was caused by a manufacturing defect in the HPT stage 2 hub that resulted in fracture and failure of the HPT stage 2 hub. The event involved release of a fir tree lug and two HPT stage 2 blades. IAE also identified a similar manufacturing defect on the HPT stage 1 hub. This condition, if not corrected, could result in uncontained HPT blade release, damage to the engine, and damage to the airplane.

Related Service Information under 1 CFR part 51

We reviewed IAE Non-Modification Service Bulletin (NMSB) No. V2500-ENG-72-0661, Revision No. 1, dated February 5, 2016. The NMSB describes procedures for inspecting the HPT stage 1 and stage 2 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 inspecting the engine HPT stage 1 hub and HPT stage 2 hub, and, if necessary, their replacement with parts eligible for installation.

Costs of Compliance

We estimate that this proposed AD affects 668 engines with 947 hubs installed on airplanes of U.S. registry. Some of the 668 engines have two hubs installed. We estimate that it would take about 8 hours per hub to perform the piece-part inspection. The average labor rate is \$85 per hour. We estimate that 568 hubs will require replacement. We estimate the pro-rated cost to replace an HPT stage 1 hub to be \$50,271 and the pro-rated cost to replace an HPT stage 2 hub to be \$40,063. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$26,298,816.

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):

International Aero Engines AG: Docket No. FAA-2016-4123; Directorate Identifier 2016-NE-06-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 International Aero Engines AG (IAE) V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5, engines with either of the following installed:

(1) high-pressure turbine (HPT) stage 1 hub, part number (P/N) 2A5001, with a serial number (S/N) listed in Table 1, Appendix A, of IAE Non-Modification Service Bulletin (NMSB) No. V2500-ENG-72-0661, Revision 1, dated February 5, 2016; or

(2) HPT stage 2 hub, P/N 2A4802, with an S/N listed in Table 2, Appendix A, of IAE NMSB No. V2500-ENG-72-0661, Revision 1, dated February 5, 2016.

(d) Unsafe Condition

This AD was prompted by the fracture of the HPT stage 2 hub during flight, which resulted in an in-flight shutdown, undercowl fire, and smoke in the cabin. We are issuing this AD to prevent failure of the HPT stage 1 or HPT stage 2 hubs, which could result in uncontained HPT blade 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) Inspect the HPT stage 1 hub, P/N 2A5001, and HPT stage 2 hub, P/N 2A4802, at the next shop visit or as follows, whichever comes first:

(i) For hubs with 0 to 7,000 CSN, before accumulating 13,000 CSN;

(ii) For hubs with 7,001 to 11,000 CSN, within 6,000 cycles from the effective date of this AD or before accumulating 15,000 CSN, whichever occurs first;

(iii) For hubs with 11,001 to 15,500 CSN, within 4,000 cycles from the effective date of this AD or before accumulating 17,000 CSN, whichever occurs first;

(iv) For hubs with 15,501 CSN or greater, within 1,500 cycles from the effective date of this AD.

(2) Use Accomplishment Instructions, paragraphs 2.A., 2.C., and 2.D., of IAE NMSB No. V2500-ENG-72-0661, Revision 1, dated February 5, 2016, to inspect the HPT stage 1 hub, P/N 2A5001.

(3) Use Accomplishment Instructions, paragraphs 2.E., 2.G., and 2H., of IAE NMSB No. V2500-ENG-72-0661, to inspect the HPT stage 2 hub, P/N 2A4802.

(4) Remove from service any HPT stage 1 hub, P/N 2A5001, or HPT stage 2 hub, P/N 2A4802, that fail the inspections required by paragraphs (e)(2) and (e)(3) of this AD, and replace with a part that is eligible for installation.

(f) Definition

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

(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 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 proposed AD, contact International Aero Engines AG, 400 Main Street, East Hartford, CT 06118; phone: 860-368-3700; fax: 860-368-4600; email: iaefinfo@iaev2500.com; Internet: <https://www.iaeworld.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 24, 2016.

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

[FR Doc. 2016-07579 Filed: 4/4/2016 8:45 am; Publication Date: 4/5/2016]