

[Federal Register Volume 84, Number 158 (Thursday, August 15, 2019)]

[Unknown Section]

[Pages 41621-41623]

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[FR Doc No: 2019-17403]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2019-0274; Product Identifier 2019-NE-07-AD; Amendment 39-19704; AD 2019-16-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; International Aero Engines AG Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all International Aero Engines AG (IAE) V2525-D5 and V2528-D5 model turbofan engines. This AD was prompted by reports of cracked turbine exhaust cases (TECs). This AD requires initial and repetitive inspections of the affected TEC and, depending on the results of the inspections, its replacement with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective September 19, 2019.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 19, 2019.

**ADDRESSES:** For service information identified in this final rule, contact International Aero Engines AG, 400 Main Street, East Hartford, CT, 06118; phone: 800-565-0140; email: help24@pw.utc.com; internet: <http://fleetcare.pw.utc.com>. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0274.

#### **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-2019-0274; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Martin Adler, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7157; fax: 781-238-7199; email: Martin.Adler@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all IAE V2525-D5 and V2528-D5 model turbofan engines. The NPRM published in the Federal Register on May 20, 2019 (84 FR 22740). The NPRM was prompted by reports of cracked TECs. The NPRM proposed to require initial and repetitive inspections of the affected TEC and, depending on the results of the inspections, its replacement with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

### **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Request To Revise Compliance Time**

IAE requested that the FAA revise the compliance time in paragraph (g)(1) of this AD from 4,000 to 2,000 flight cycles after the effective date of this AD. Considering that this AD will be effective in 2019, IAE indicated that this change would better align the AD compliance time with IAE's drawdown plan and the assumptions used in its safety analysis.

The FAA disagrees. The FAA finds that the proposed compliance time of 4,000 flight cycles after the effective date of this AD still meets the safety objectives of this rule. Additionally, reducing the compliance time from that proposed in the NPRM would likely require that the FAA re-notice this AD, thereby further delaying its implementation. The FAA did not change this AD.

### **Support for the AD**

The Air Line Pilots Association International supported the NPRM as written. The Boeing Company indicated it had no comment on the NPRM.

### **Conclusion**

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed.

### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed IAE Non-Modification Service Bulletin (NMSB) V2500-ENG-72-0694, Revision No. 2, dated July 2, 2018. The NMSB describes procedures for detecting any cracks that develop along the rear mount stiffener rail on the TEC. 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.

### **Costs of Compliance**

The FAA estimates that this AD affects 173 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

**Estimated Costs**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspect turbine exhaust case	3 work-hours × \$85 per hour = \$255	\$0	\$255	\$44,115

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspection. The FAA has no way of determining the number of aircraft that might need this replacement:

**On-Condition Costs**

Action	Labor cost	Parts cost	Cost per product
Replace turbine exhaust case	2 work-hours × \$85 per hour = \$170	\$725,000	\$725,170

**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.

The FAA is 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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

**Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will 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 that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) 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.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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):



**2019-16-01 International Aero Engines AG:** Amendment 39-19704; Docket No. FAA-2019-0274; Product Identifier 2019-NE-07-AD.

**(a) Effective Date**

This AD is effective September 19, 2019.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all International Aero Engines AG (IAE) V2525-D5 and V2528-D5 model turbofan engines.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by reports of a cracked turbine exhaust case (TEC). The FAA is issuing this AD to prevent failure of the TEC. The unsafe condition, if not addressed, could result in engine separation and loss of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

(1) At the next engine shop visit, but not later than 4,000 flight cycles (FCs) after the effective date of this AD, perform an eddy current inspection (ECI) and high sensitivity fluorescent penetrant inspection (FPI) of the TEC front and rear mount stiffener rails for cracking indications as follows:

(i) Perform an ECI using the Accomplishment Instructions, Part I–For Engines Installed on Aircraft, paragraphs 2 through 19 inclusive, or Part II–For Engines Not Installed on Aircraft, paragraphs 2 through 18 inclusive, of IAE Non-Modification Service Bulletin (NMSB) V2500-ENG-72-0694, Revision No. 2, dated July 2, 2018 (“IAE NMSB V2500-ENG-72-0694”).

(ii) If a rejectable indication was found during the ECI, perform a local high sensitivity FPI to confirm a crack.

(iii) If a rejectable indication was found during the ECI, but no crack(s) were confirmed using the local high sensitivity FPI, then clean, blend and repeat the ECI in the local area of the part. Use the Accomplishment Instructions, Part I–For Engines Installed on Aircraft, paragraph 20.A.(3), or

Part II—For Engines Not Installed on Aircraft, paragraph 19.A.(3), of IAE NMSB V2500-ENG-72-0694 to perform the cleaning and blending. Use the Accomplishment Instructions, Part I—For Engines Installed on Aircraft, paragraphs 2 through 19 inclusive, or Part II—For Engines Not Installed on Aircraft, paragraphs 2 through 18 inclusive, of IAE NMSB V2500-ENG-72-0694 to perform the repeat ECI.

(iv) If a rejectable indication was again found during the repeat ECI, then repeat the local high sensitivity FPI inspection in the local area of the part. If the local high sensitivity FPI does not confirm a crack, follow the instructions in the Accomplishment Instructions, Part I—For Engines Installed on Aircraft, paragraph 20.A.(5)(a), or Part II—For Engines Not Installed on Aircraft, paragraph 19.A.(5)(a), of IAE NMSB V2500-ENG-72-0694.

(2) If no cracks were found, within 2,000 FCs since the last inspection, and thereafter, repeat the inspections of paragraphs (g)(1)(i) through (iv) of this AD.

(3) If a crack was confirmed during the FPI and visual inspection required by paragraphs (g)(1)(ii) or (iv), before further flight, remove the part from service and replace with a part eligible for installation.

### **(h) Credit for Previous Actions**

You may take credit for the inspections required by paragraph (g)(1) of this AD if you performed these inspections before the effective date of this AD, using IAE NMSB V2500-ENG-72-0694, Revision No. 1, dated February 7, 2018; or IAE NMSB V2500-ENG-72-0694, Original Issue, dated January 5, 2018.

### **(i) No Reporting Requirement**

No reporting requirement contained within the NMSB referenced in paragraph (g) of this AD is required by this AD.

### **(j) 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 pairs of major mating engine case 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.

### **(k) Special Flight Permit**

A special flight permit is not permitted if the crack indication extends past the mount stiffener rail or if there is evidence of an FPI indication on the outer diameter of the case.

### **(l) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (m) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(m) Related Information**

For more information about this AD, contact Martin Adler, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7157; fax: 781-238-7199; email: Martin.Adler@faa.gov.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) International Aero Engines Non-Modification Service Bulletin V2500-ENG-72-0694, Revision No. 2, dated July 2, 2018.

(ii) [Reserved]

(3) For International Aero Engines service information identified in this AD, contact International Aero Engines AG, 400 Main Street, East Hartford, CT, 06118; phone: 800-565-0140; email: help24@pw.utc.com; internet: <http://fleetcare.pw.utc.com>.

(4) You may view this referenced service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on August 7, 2019.

Robert J. Ganley,  
Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.