



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0700; Project Identifier AD-2020-00238-E]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines AG Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2019-06-06, which applies to all International Aero Engines AG (IAE) V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2533-A5 model turbofan engines. AD 2019-06-06 requires initial and repetitive borescope inspections (BSIs) of the diffuser case M-flange and, if it fails the inspection, replacement of the diffuser case with a part eligible for installation. Since the FAA issued AD 2019-06-06, the manufacturer performed an updated safety risk analysis, which reduced the diffuser case M-flange inspection intervals and added the performance of a replacement of the diffuser case M-flange. This proposed AD would require an initial BSI of the diffuser case M-flange and, if it fails the inspection, repetitive BSIs of the diffuser case M-flange until replacement of the diffuser case M-flange is performed. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA 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 <https://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: 800-565-0140; email: help24@pw.utc.com; website: <http://fleetcare.pw.utc.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0700; 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 NPRM, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Nicholas Paine, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7742; fax: 781-238-7199; email: nicholas.j.paine@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0700; Project Identifier AD-2020-00238-E” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposal.

Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Nicholas Paine, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which

is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2019-06-06, Amendment 39-19604 (84 FR 11642, March 28, 2019) (“AD 2019-06-06”), for all IAE V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2533-A5 model turbofan engines. AD 2019-06-06 requires initial and repetitive BSIs of the diffuser case M-flange and, if it fails the inspection, replacement of the diffuser case with a part eligible for installation. AD 2019-06-06 resulted from a crack found at the diffuser case M-flange during overhaul inspection. The FAA issued AD 2019-06-06 to prevent failure of the diffuser case.

Actions Since AD 2019-06-06 Was Issued

Since the FAA issued AD 2019-06-06, the manufacturer performed an updated safety risk analysis, which resulted in reducing the diffuser case M-flange inspection intervals and adding the performance of a replacement of the diffuser case M-flange, which terminates the need for repetitive BSIs of the diffuser case M-flange.

FAA’s Determination

The FAA is issuing this NPRM because the agency has determined that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Service Information Incorporated by Reference under 1 CFR part 51

The FAA reviewed IAE Non-Modification Alert Service Bulletin (NMASB) V2500-ENG-72-A0706, Revision 2, dated November 7, 2019. IAE NMASB V2500-ENG-72-A0706, Revision 2, describes procedures for inspecting the diffuser case M-flange. 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.

Other Related Service Information

The FAA reviewed IAE Service Bulletin (SB) V2500-ENG-72-0709, dated December 13, 2019. IAE SB V2500-ENG-72-0709 describes procedures for replacing the diffuser case M-flange.

Proposed AD Requirements in this NPRM

This proposed AD would retain certain requirements of AD 2019-06-06. This proposed AD would require an initial BSI of the diffuser case M-flange and, if it fails the inspection, repetitive BSIs of the diffuser case M-flange until replacement of the diffuser case M-flange is performed.

Costs of Compliance

The FAA estimates that this AD, as proposed, would affect 1,654 engines installed on airplanes of U.S. registry.

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

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
BSI of diffuser case M-flange	2 work-hours x \$85 per hour = \$170	\$0	\$170	\$281,180
Replace the diffuser case M-flange	40 work-hours x \$85 per hour = \$3,400	\$20,000	\$23,400	\$38,703,600

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. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all costs in its 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.

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.

Regulatory Findings

The FAA has 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 that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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:

a. Removing Airworthiness Directive (AD) 2019-06-06, Amendment 39-19604 (84 FR 11642, March 28, 2019); and

b. Adding the following new AD:

International Aero Engines AG: Docket No. FAA-2020-0700; Project Identifier AD-2020-00238-E.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2019-06-06, Amendment 39-19604 (84 FR 11642, March 28, 2019).

(c) Applicability

This AD applies to all International Aero Engines AG (IAE) V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 model turbofan engines.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a crack found at the diffuser case M-flange during overhaul inspection. The FAA is issuing this AD to prevent failure of the diffuser case. The unsafe condition, if not addressed, could result in uncontained diffuser case rupture, 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) Borescope Inspection of Diffuser Case M-Flange

For engines with a diffuser case assembly, part number 2A0051, 2A2081-01, 2A2581-01, 2A2883-01, 2A2885-01, 2A2889-01, 2A2891-01, 2A2896-01, 2A2897-01, or 2A3132 installed, perform an initial borescope inspection (BSI) of zones 1, 2, and 3 of the diffuser case M-flange as follows:

(i) For engines with a diffuser case M-flange that has 19,000 or more cycles since new (CSN) on the effective date of this AD, perform the BSI of the diffuser case M-flange before accumulating the “Inspect within (Cycles)” in Table 1 to paragraph (g)(1) of this AD. If the CSLFPI is unknown, use the CSN of the diffuser case M-flange.

Table 1 to paragraph (g)(1) – M-flange cycle inspection limits

Cycles Since Last Flourescent Penetrant Inspection (CSLFPI)	Inspect within (Cycles)
30,000 and greater	250
20,000 to 29,999	500
15,000 to 19,999	1,000
1 to 14,999	1,300
0	2,100

(ii) For engines with a diffuser case M-flange that has fewer than 19,000 CSN on the effective date of this AD, perform the BSI of the diffuser case M-flange before accumulating 20,300 CSN.

(iii) For engines with a diffuser case M-flange in which the CSN is unknown, perform the BSI of the diffuser case M-flange within 250 cycles after the effective date of this AD.

(iv) Use the Accomplishment Instructions, paragraphs 2.A. through 2.G. of IAE Non-Modification Alert Service Bulletin (NMASB) V2500-ENG-72-A0706, Revision 2, dated November 7, 2019 (“the NMASB”), to perform the initial BSI.

(v) If no crack is found as a result of the inspections required by paragraphs (g)(1)(i) through (iii) of this AD, repeat the BSI of zones 1, 2, and 3 of the diffuser case M-flange at intervals not to exceed 2,100 cycles since the previous BSI.

(vi) If a crack is found as a result of the inspections required by paragraphs (g)(1)(i) through (iii) of this AD, replace the diffuser case M-flange or repeat the BSI of zones 1, 2, and 3 of the diffuser case M-flange as specified by either “Table 2: Fly on Limits” or “Table 4: Fly on Limits,” in paragraph 2, Accomplishment Instructions, of the NMASB as appropriate for the affected the engine model.

(2) Replacement of the Diffuser Case M-Flange

(i) At the next engine shop visit after the effective date of this AD or before the diffuser case M-flange accumulates 20,000 CSN, whichever occurs later, replace the diffuser case M-flange.

Note 1 to paragraph (g)(2)(i): Guidance on performing the replacement of the diffuser case M-flange can be found in the Accomplishment Instructions, paragraphs 1.A. and B., of IAE SB V2500-ENG-72-0709, dated December 13, 2019.

(ii) Thereafter, repeat the replacement of the diffuser case M-flange before accumulating 20,000 cycles since the previous replacement.

(iii) Replacement of the diffuser case M-flange is the terminating action for the repetitive BSIs required by paragraph (g)(1) of this AD.

(h) Installation Prohibition

After the effective date of this AD, do not install a diffuser case onto any engine if the diffuser case M-flange has more than 20,000 CSN.

(i) Credit for Previous Actions

You may take credit for the initial BSIs that are required by paragraphs (g)(1)(i) through (iii) of this AD, or the replacement of the diffuser case M-flange required by paragraph (g)(2) of this AD, if you performed those actions before the effective date of this AD using IAE NMASB V2500-ENG-72-A0706, Revision 1, dated June 28, 2019, or Original Issue, dated February 14, 2019; IAE V2500 Special Instruction (SI) No. 341F-18, dated November 19, 2018; IAE V2500 SI No. 350F-18, Rev. 1, dated December 17, 2018; IAE V2500 SI No. 356F-18, Rev. 1, dated January 9, 2019; IAE V2500 SI No. 372F-18, dated January 8, 2019; or IAE V2500 Special SI No. 04F-19, dated January 14, 2019.

(j) Definition

For the purpose of this AD, an “engine shop visit” is the induction of the engine into the shop for maintenance involving the separation of pairs of major mating engine flanges.

(k) 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 (l)(1) 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.

(I) Related Information

(1) For more information about this AD, contact Nicholas Paine, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7742; fax: 781-238-7199; email: nicholas.j.paine@faa.gov.

(2) For 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; website: <http://fleetcare.pw.utc.com>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued on September 1, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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