



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2020-1168; Project Identifier AD-2020-01568-E; Amendment 39-21379; AD 2021-01-03]

RIN 2120-AA64

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

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

**ACTION:** Final rule; request for comments.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain International Aero Engines AG (IAE) V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2531-E5, and V2533-A5 model turbofan engines. This AD was prompted by a root cause analysis of an event involving an uncontained failure of a high-pressure turbine (HPT) 1st-stage disk that resulted in high-energy debris penetrating the engine cowling. This AD requires removing certain HPT 1st-stage and HPT 2nd-stage disks from service. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this 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.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1168; 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, any comments received, and other information. The street address for the Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Nicholas Paine, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7116; fax: (781) 238-7199; email: [nicholas.j.paine@faa.gov](mailto:nicholas.j.paine@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

On March 18, 2020, an Airbus Model A321-231 airplane, powered by IAE V2533-A5 model turbofan engines, experienced an uncontained HPT 1st-stage disk failure that resulted in high-energy debris penetrating the engine cowling. Based on a preliminary analysis of this event, on March 21, 2020, the FAA issued Emergency AD 2020-07-51, which requires the removal from service of certain HPT 1st-stage disks installed on IAE V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 model turbofan engines.

Since the FAA issued AD 2020-07-51, the manufacturer conducted a root cause analysis and identified a different population of HPT 1st-stage and HPT 2nd-stage disks that are affected by the unsafe condition and require removal from service. This condition, if not addressed, could result in failure of the HPT, uncontained HPT failure, damage to the engine, damage to the airplane, and loss of the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

#### **FAA's Determination**

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

## **AD Requirements**

This AD requires the removal from service of certain HPT 1st-stage and HPT 2nd-stage disks installed on IAE V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2531-E5, and V2533-A5 model turbofan engines.

## **Interim Action**

The design approval holder is currently developing a modification to address the unsafe condition identified in this AD. Once this modification is developed, the FAA might consider additional rulemaking.

## **Justification for Immediate Adoption and Determination of the Effective Date**

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies foregoing notice and comment prior to adoption of this rule. On March 18, 2020, an Airbus Model A321-231 airplane, powered by IAE V2533-A5 model turbofan engines, experienced an uncontained HPT 1st-stage disk failure that resulted in an aborted takeoff. The uncontained failure of the HPT 1st-stage disk resulted in high-energy debris penetrating the engine cowling. The FAA published Emergency AD (EAD) 2020-07-51 on March 21, 2020 (followed by publication in the *Federal Register* on April 13, 2020, as a Final Rule, Request for Comments (85 FR 20402)), to remove from service HPT 1st-stage disks identified as having the highest risk of failure. Based on the root cause analysis performed since that event, the manufacturer has identified a different population of affected HPT 1st-stage and HPT 2nd-stage disks that are affected by the same unsafe condition and require

removal from service. These HPT disks have the highest risk of failure and require removal within 50 flight cycles or 30 days after the effective date of this AD, whichever comes first, to prevent additional HPT disk failures and maintain an acceptable level of safety. This unsafe condition may result in loss of the airplane.

The FAA considers removal of certain HPT 1st-stage and HPT 2nd-stage disks to be an urgent safety issue. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B). In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forego notice and comment.

### **Comments Invited**

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include the docket number FAA-2020-1168 and Project Identifier AD-2020-01568-E at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, 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 final rule because of those comments.

Except for Confidential Business Information (CBI) 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 final rule.

### **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 AD 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 AD, 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 AD. Submissions containing CBI should be sent to Nicholas Paine, Aviation Safety 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.

**Regulatory Flexibility Act**

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

**Costs of Compliance**

The FAA estimates that this AD affects 4 engines installed on airplanes of U.S. registry.

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

**Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Remove HPT 1st-stage or HPT 2nd-stage disk from service	92 work-hours x \$85 per hour = \$7,820	\$300,000	\$307,820	\$1,231,280

**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**

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, and
- (2) Will not affect intrastate aviation in Alaska.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **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:

**2021-01-03 International Aero Engines AG:** Amendment 39-21379; Docket No. FAA-2020-1168; Project Identifier AD-2020-01568-E.

### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

### **(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to International Aero Engines AG (IAE) V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2531-E5, and V2533-A5 model turbofan engines with an installed:

(1) High-pressure turbine (HPT) 1st-stage disk, part number (P/N) 2A5001, with a serial number (S/N) listed in Figure 1 to paragraph (c) of this AD; or

(2) HPT 2nd-stage disk, P/N 2A4802 or 2A1202, with an S/N listed in Figure 2 to paragraph (c) of this AD.

**Figure 1 to Paragraph (c) – HPT 1st-Stage Disks, P/N 2A5001**

<b>HPT 1st-Stage Disk S/N</b>
PKLBMR8122
PKLBN95688
PKLBPD1563
PKLBR09920
PKLBR16496
PKLBR19225
PKLBR25636
PKLBR28076
PKLBR34562
PKLBR52354
PKLBR69530
PKLBR82479
PKLBRJ9427
PKLBRN5510
PKLBRT5081
PKLBRU7299
PKLBRW8547
PKLBRW9395
PKLBSJ7141
PKLBSM8377

**Figure 2 to Paragraph (c) – HPT 2nd-Stage Disks, P/N 2A4802 or 2A1202**

<b>HPT 2nd-Stage Disk S/N</b>
PKLBJ09996
PKLBJ13601
PKLBJ80883
PKLBKL8627
PKLBLJ9333
PKLBP87124
PKLBPY9696
PKLBSL8699

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by an analysis performed by the manufacturer of an event involving an uncontained failure of an HPT 1st-stage disk that resulted in high-energy debris penetrating the engine cowling. The FAA is issuing this AD to prevent failure of the HPT 1st-stage and HPT 2nd-stage disks. The unsafe condition, if not addressed, could result in uncontained HPT disk failure, damage to the engine, damage to the airplane, and loss of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

(1) For IAE model turbofan engines with an HPT 1st-stage disk, P/N 2A5001, with a S/N listed in Figure 1 to paragraph (c) of this AD, within 50 flight cycles or 30 days after the effective date of this AD, whichever comes first, remove the HPT 1st-stage disk from service.

(2) For IAE model turbofan engines with an HPT 2nd-stage disk, P/N 2A4802 or 2A1202, with a S/N listed in Figure 2 to paragraph (c) of this AD, within 50 flight cycles or 30 days after the effective date of this AD, whichever comes first, remove the HPT 2nd-stage disk from service.

**(h) Installation Prohibition**

After the effective date of this AD, do not install onto any engine an HPT 1st-stage or HPT 2nd-stage disk with a P/N and S/N listed in paragraph (c) of this AD.

**(i) 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 Related Information. 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.

**(j) Related Information**

For more information about this AD, contact Nicholas Paine, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7116; fax: (781) 238-7199; email: [nicholas.j.paine@faa.gov](mailto:nicholas.j.paine@faa.gov).

**(k) Material Incorporated by Reference**

None.

Issued on December 28, 2020.

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

[FR Doc. 2021-00053 Filed: 1/5/2021 8:45 am; Publication Date: 1/6/2021]