



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2025-0926; Project Identifier AD-2025-00200-E; Amendment 39-23153; AD 2025-19-13]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines AG Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain International Aero Engines AG (IAE AG) Model V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2531-E5, and V2533-A5 engines. This AD was prompted by a manufacturer investigation that revealed a quality escape following angled ultrasonic inspections (AUSIs) performed on certain high-pressure turbine (HPT) 1st-stage hubs and HPT 2nd-stage hubs. This AD requires removal and replacement of certain HPT 1st-stage hubs and HPT 2nd-stage hubs. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0926; 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 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: Carol Nguyen, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7655; email: carol.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain IAE AG Model V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2531-E5, and V2533-A5 engines. The NPRM was published in the *Federal Register* on June 13, 2025 (90 FR 25002). The NPRM was prompted by a report of a quality escape on HPT 1st-stage hubs and HPT 2nd-stage hubs that had AUSIs performed at production. A manufacturer investigation of these AUSIs revealed that the quality escape resulted from the misinterpretation of the rejection criteria for the AUSIs performed on affected HPT 1st-stage hubs and HPT 2nd-stage hubs. In the NPRM, the FAA proposed to require removal and replacement of certain HPT 1st-stage hubs and HPT 2nd-stage hubs. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from two commenters. The commenters were the Air Line Pilots Association, International (ALPA) and an anonymous commenter. ALPA supported the NPRM without change. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Limit Engine Applicability

An anonymous commenter requested that the FAA limit the applicability of the proposed AD to apply only to engine serial numbers (S/N) that are known to have incorporated the eight identified affected hubs. The commenter stated that limiting the applicability would make future compliance checks more efficient and would also eliminate the need for repetitive verification across the fleet. The commenter also stated that the proposed AD would apply indefinitely to all engines within the listed models, which creates an unnecessary and continuing compliance burden for maintenance providers and operators in that each future engine shop visit will require verification of S/N eligibility even though removal will be required within a finite period.

The FAA disagrees with the request. This final rule includes an installation prohibition that currently applies to all models listed in the Applicability paragraph of this AD. If the Applicability paragraph of this AD is revised to apply only to the engines that currently have the affected hubs installed, the installation prohibition will only apply to engines that already have affected hubs installed rather than all engines. The FAA did not change this AD as a result of this comment.

Request to Add Terminating Action

An anonymous commenter requested that the FAA include a terminating action in the proposed AD stating that once all affected hubs are removed, the AD would no longer apply to any engines.

The FAA disagrees with the request because complying with the required actions in paragraph (g) of this AD removes the unsafe condition and thus provides a terminating action for that portion of the AD. In addition, as stated earlier, this AD includes an installation prohibition, so removing all affected hubs from service does not make the AD no longer applicable. The FAA did not change this AD as a result of this comment.

Request to Supersede or Cancel the Proposed AD

An anonymous commenter requested that the FAA consider superseding or cancelling the proposed AD once all suspect parts have been removed and no longer create an airworthiness concern. The commenter stated that there is an established precedent for terminating or superseding ADs once unsafe conditions have been fully mitigated. The FAA infers that by cancelling an AD, the commenter is referring to rescinding an AD.

The FAA disagrees with this request. The FAA would not supersede or rescind this AD once all suspect parts have been removed because an unsafe condition would still exist, as this AD includes an installation prohibition and removing all affected hubs from service does not make the AD no longer applicable. The FAA did not change this AD as a result of this comment.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA

is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Costs of Compliance

The FAA estimates that this AD affects two engines of U.S. registry. The FAA estimates that two engines need replacement of the HPT 1st-stage hub and no engines need replacement of the HPT 2nd-stage hub.

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
Replace HPT 1st-stage hub	100 work-hours x \$85 per hour = \$8,500	\$460,000	\$468,500	\$937,000
Replace HPT 2nd-stage hub	100 work-hours x \$85 per hour = \$8,500	\$360,000	\$368,500	\$0

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,

(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.

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:

2025-19-13 International Aero Engines AG: Amendment 39-23153; Docket No. FAA-2025-0926; Project Identifier AD-2025-00200-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to International Aero Engines AG (IAE AG) Model V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, V2531-E5, and V2533-A5 engines.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a manufacturer investigation that revealed a quality escape following angled ultrasonic inspections performed on certain high-pressure turbine (HPT) 1st-stage hubs and HPT 2nd-stage hubs. The FAA is issuing this AD to prevent failure of the HPT 1st-stage hub and HPT 2nd-stage hub. The unsafe condition, if not addressed, could result in an uncontained hub failure, release of high-energy debris, 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

For engines with an installed part, part number (P/N) and serial number (S/N) identified in table 1 to paragraph (g) of this AD, at the next engine shop visit after the effective date of this AD before exceeding the applicable removal cycle limit listed in table 1 to paragraph (g) of this AD or within 100 flight cycles from the effective date of this AD, whichever occurs later, remove the affected part from service and replace with a part eligible for installation.

Table 1 to Paragraph (g) - Affected HPT 1st Stage and HPT 2nd Stage Hubs

Part	P/N	S/N	Removal cycle limit (cycles since new)
HPT 1st-stage hub	2A5001	PKLBSK9287	100
HPT 1st-stage hub	2A5001	PKLBSS9200	4,800
HPT 1st-stage hub	2A5001	PKLBST5011	5,500
HPT 1st-stage hub	2A5001	PKLBST7489	6,200
HPT 2nd-stage hub	2A4802	PKLBST5005	4,000
HPT 2nd-stage hub	2A4802	PKLBSS9840	3,900
HPT 2nd-stage hub	2A4802	PKLBSS0301	5,000
HPT 2nd-stage hub	2A4802	PKLBSR2100	6,000

(h) Installation Prohibition

After the effective date of this AD, do not install an HPT 1st-stage hub or HPT 2nd-stage hub that has a P/N and S/N listed in table 1 to paragraph (g) of this AD in any engine.

(i) Definitions

For the purpose of this AD:

(1) A “part eligible for installation” is an HPT 1st-stage hub or HPT 2nd-stage hub having a P/N and S/N that is not listed in table 1 to paragraph (g) of this AD.

(2) An “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of any major mating engine flanges, H-P, except for the following situations, which do not constitute an engine shop visit:

(i) Separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance.

(ii) Engine removal for the purpose of performing field maintenance activities at a maintenance facility in lieu of performing them on-wing.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520 Continued Operational Safety 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 AIR-520 Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (k) of this AD and email to:

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.

(k) Additional Information

For more information about this AD, contact Carol Nguyen, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7655; email: carol.nguyen@faa.gov.

(l) Material Incorporated by Reference

None.

Issued on September 19, 2025.

Lona C. Saccomando,
Acting Deputy Director, Integrated Certificate Management Division,
Aircraft Certification Service.
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