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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0294; Directorate Identifier 2009-NE-08-AD; Amendment 39-16057; AD 2009-22-06]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines AG (IAE) V2500-A1, V2527E-A5, V2530-A5, and V2528-D5 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for International Aero Engines AG (IAE) V2500-A1, V2527E-A5, V2530-A5, and V2528-D5 turbofan engines. This AD requires reducing the published life limit of certain high-pressure compressor (HPC) stage 9-12 disc assemblies. This AD also removes from service those HPC stage 9-12 disc assemblies using a drawdown schedule. This AD results from IAE updating the low-cycle-fatigue (LCF) life analysis for certain HPC stage 9-12 disc assemblies. We are issuing this AD to prevent an uncontained failure of the HPC stage 9-12 disc assembly, resulting in an in-flight engine shutdown and possible damage to the airplane.

DATES: This AD becomes effective November 30, 2009.

ADDRESSES: You can get the service information identified in this AD from International Aero Engines AG, 400 Main Street, East Hartford, CT 06108; telephone: (860) 565-5515; fax: (860) 565-5510.

The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: Kevin Dickert, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: kevin.dickert@faa.gov; telephone (781) 238-7117; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to IAE V2500-A1, V2527E-A5, V2530-A5, and V2528-D5 turbofan engines. We published the proposed AD in the Federal Register on June 29, 2009 (74 FR 30981). That action proposed to require reducing the published life limit of certain HPC stage 9-12 disc assemblies. That action also proposed to remove from service those HPC stage 9-12 disc assemblies using a drawdown schedule.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

Comments

We provided the public the opportunity to participate in the development of this AD. We received no comments on the proposal or on the determination of the cost to the public.

Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

We estimate that this AD will affect 18 engines installed on airplanes of U.S. registry. We also estimate that it will take about 200 work-hours per engine to perform the actions, and that the average labor rate is $80 per work-hour. The prorated cost due to a life reduction for a HPC stage 9-12 disc assembly installed in a V2500-A1 engine, is about $5,600 per engine, and for one installed in a V2527E-A5, V2530-A5, or V2528-D5 engine, is about $29,700 per engine. Based on these figures, we estimate the cost of the AD on U.S. operators to be $485,200.

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 have determined that 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) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration 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:

2009-22-06 International Aero Engines AG: Amendment 39-16057. Docket No. FAA-2009-0294; Directorate Identifier 2009-NE-08-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective November 30, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to International Aero Engines AG (IAE) V2500-A1, V2527E-A5, V2530-A5, and V2528-D5 turbofan engines. These engines are installed on, but not limited to, Airbus A320 and A321 series, and McDonnell Douglas Corporation MD-90 airplanes.

Unsafe Condition

(d) This AD results from IAE updating the low-cycle-fatigue (LCF) life analysis for certain high-pressure compressor (HPC) stage 9-12 disc assemblies. We are issuing this AD to prevent an uncontained failure of the HPC stage 9-12 disc assembly, resulting in an in-flight engine shutdown and possible damage to the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

V2500-A1 Turbofan Engines

(f) For V2500-A1 turbofan engines with HPC stage 9-12 disc assemblies, P/N 2A3200, 2A3300, 2A3400, 2A3500, 6A4131, and 6A7545, installed, remove from service as follows:

(1) For HPC stage 9-12 disc assemblies that have accumulated fewer than 12,000 cycles-since-new (CSN) on the effective date of this AD, remove from service before the disc assembly accumulates 14,600 CSN.

(2) For HPC stage 9-12 disc assemblies that have accumulated 12,000 or more CSN but fewer than 14,600 CSN on the effective date of this AD:

(i) If the next engine shop visit will occur before accumulating 14,600 CSN, then remove from service before accumulating 14,600 CSN.

(ii) If the next engine shop visit will occur upon accumulating 14,600 or more CSN, then remove from service at the next engine shop visit but not to exceed 15,000 CSN.

(3) For HPC stage 9-12 disc assemblies that have accumulated 14,600 or more CSN on the effective date of this AD, remove from service at the next engine shop visit but not to exceed 15,000 CSN.

V2527E-A5 and V2530-A5 Turbofan Engines

(g) For V2527E-A5 and V2530-A5 turbofan engines with HPC stage 9-12 disc assemblies, P/N 6A4156 and 6A7547 installed, remove from service as follows:

(1) For HPC stage 9-12 disc assemblies that have accumulated fewer than 9,000 CSN on the effective date of this AD, remove from service before the disc assembly accumulates 11,800 CSN.

(2) For HPC stage 9-12 disc assemblies that have accumulated 9,000 or more CSN but fewer than 11,800 CSN on the effective date of this AD:

(i) If the next engine shop visit will occur before accumulating 11,800 CSN, then remove from service before accumulating 11,800 CSN.

(ii) If the next engine shop visit will occur upon accumulating 11,800 or more CSN, then remove from service at the next engine shop visit but not to exceed 12,000 CSN.

(3) For HPC stage 9-12 disc assemblies that have accumulated 11,800 or more CSN on the effective date of this AD, remove from service at the next engine shop visit but not to exceed 12,000 CSN.

V2528-D5 Turbofan Engines

(h) For V2528-D5 turbofan engines with HPC stage 9-12 disc assemblies, P/N 6A4156 and 6A7547 installed, remove from service as follows:

(1) For HPC stage 9-12 disc assemblies that have accumulated fewer than 9,000 CSN on the effective date of this AD, remove from service before the disc assembly accumulates 11,800 CSN.

(2) For HPC stage 9-12 disc assemblies that have accumulated 9,000 or more CSN but fewer than 11,800 CSN on the effective date of this AD:

(i) If the next engine shop visit will occur before accumulating 11,800 CSN, then remove from service before accumulating 11,800 CSN.

(ii) If the next engine shop visit will occur upon accumulating 11,800 or more CSN, then remove from service at the next engine shop visit but not to exceed 13,200 CSN.

(3) For HPC stage 9-12 disc assemblies that have accumulated 11,800 or more CSN on the effective date of this AD, remove from service at the next engine shop visit but not to exceed 13,200 CSN.

Definition

(i) 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 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.

Alternative Methods of Compliance

(j) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) IAE Alert Service Bulletin No. V2500-ENG-72-A0554, Revision 1, dated June 27, 2008, also pertains to the subject of this AD. Contact International Aero Engines AG, 400 Main Street, East Hartford, CT 06108; telephone: (860) 565-5515; fax: (860) 565-5510, for a copy of this service information.

(l) Contact Kevin Dickert, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: Kevin.dickert@faa.gov; telephone (781) 238-7117; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(m) None.

Issued in Burlington, Massachusetts, on October 16, 2009.
Robert J. Ganley,
Acting Manager, Engine and Propeller Directorate,
Aircraft Certification Service.