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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0174; Directorate Identifier 2008-NE-03-AD; Amendment 39-15997; AD 2009-18-01]

RIN 2120-AA64

Airworthiness Directives; CFM International, S.A. CFM56-5B1/P; -5B2/P; -5B3/P; -5B3/P1; -5B4/P; -5B4/P1; -5B5/P; -5B6/P; -5B7/P; -5B8/P; -5B9/P; -5B1/3; -5B2/3; -5B3/3; -5B4/3; -5B5/3; -5B6/3; -5B7/3; -5B8/3; -5B9/3; -5B3/3B1; and -5B4/3B1 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for CFM International, S.A. CFM56-5B1/P; -5B2/P; -5B3/P; -5B3/P1; -5B4/P; -5B4/P1; -5B5/P; -5B6/P; -5B7/P; -5B8/P; -5B9/P; -5B1/3; -5B2/3; -5B3/3; -5B4/3; -5B5/3; -5B6/3; -5B7/3; -5B8/3; -5B9/3; -5B3/3B1; and -5B4/3B1 turbofan engines. This AD requires initial and repetitive eddy current inspections (ECIs) of certain part number (P/N) low-pressure (LP) turbine rear frames. This AD results from a refined lifing analysis by the engine manufacturer that shows the need to identify initial and repetitive inspection thresholds for inspecting certain LP turbine rear frames. We are issuing this AD to detect low-cycle-fatigue cracks in the LP turbine rear frame, which could result in an engine separating from the airplane, causing damage to, and possibly leading to loss of control of the airplane.

DATES: This AD becomes effective October 1, 2009. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of October 1, 2009.

ADDRESSES: You can get the service information identified in this AD from CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone (513) 552-2800; fax (513) 552-2816.

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: Stephen Sheely, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park,

Burlington, MA 01803; e-mail: stephen.k.sheely@faa.gov; telephone (781) 238-7750; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD and a supplemental proposed AD. The proposed AD applies to CFM International, S.A. CFM56-5B1/P; -5B2/P; -5B3/P; -5B3/P1; -5B4/P; -5B4/P1; -5B5/P; -5B6/P; -5B7/P; -5B8/P; and -5B9/P turbofan engines, and the supplemental proposed AD applies to CFM International, S.A. CFM56-5B1/P; -5B2/P; -5B3/P; -5B3/P1; -5B4/P; -5B4/P1; -5B5/P; -5B6/P; -5B7/P; -5B8/P; -5B9/P; -5B1/3; -5B2/3; -5B3/3; -5B4/3; -5B5/3; -5B6/3; -5B7/3; -5B8/3; -5B9/3; -5B3/3B1; and -5B4/3B1 turbofan engines. We published the proposed AD in the Federal Register on May 7, 2008 (73 FR 25597). That action proposed to require initial and repetitive ECIs of certain P/N LP turbine rear frames. We published the supplemental proposed AD in the Federal Register on April 24, 2009 (74 FR 18662). That action proposed to require initial and repetitive ECIs of those same P/N LP turbine rear frames, to add two additional P/N LP turbine rear frames, to add 11 engine models to the applicability, and to clarify the commercial and corporate engines/LP turbine rear frames applicability.

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 have considered the comment received.

One commenter, CFM International, S.A. requests that we reference the latest European Aviation Safety Agency AD 2009-0110, dated May 7, 2009, as it is up-to-date on P/Ns and engine models affected.

We agree and changed the AD to reference AD 2009-0110.

Conclusion

We have carefully reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

We estimate that this AD will affect 282 CFM56-5B series turbofan engines installed on airplanes of U.S. registry. We estimate that it will take about 3 work-hours to perform an eddy current inspection of an LP turbine rear frame. The average labor rate is \$80 per work-hour. A replacement LP turbine rear frame costs about \$102,240. If all 282 LP turbine rear frames needed replacement, we estimate the total cost of the AD to U.S. operators to be \$28,899,360. Our cost estimate is exclusive of possible warranty coverage.

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, Incorporation by reference, 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:



2009-18-01 CFM International, S.A.: Amendment 39-15997. Docket No. FAA-2008-0174;
Directorate Identifier 2008-NE-03-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective October 1, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to:

(1) CFM International, S.A. turbofan engines with a low-pressure (LP) turbine rear frame, part number (P/N) 338-171-703-0; 338-171-704-0; 338-171-705-0; or 338-171-706-0 installed, as follows:

(i) Commercial application CFM56-5B1/P; -5B2/P; -5B3/P; -5B3/P1; -5B4/P; -5B4/P1; -5B5/P; -5B6/P; -5B7/P; -5B8/P; -5B9/P turbofan engines.

(ii) Corporate application CFM56-5B6/P and -5B7/P turbofan engines.

(2) CFM International, S.A. turbofan engines with an LP turbine rear frame, P/N 338-171-751-0; or 338-171-752-0 installed, on corporate and commercial applications of CFM56-5B1/P; -5B2/P; -5B3/P; -5B3/P1; -5B4/P; -5B4/P1; -5B5/P; -5B6/P; -5B7/P; -5B8/P; -5B9/P; -5B1/3; -5B2/3; -5B3/3; -5B4/3; -5B5/3; -5B6/3; -5B7/3; -5B8/3; -5B9/3; -5B3/3B1; and -5B4/3B1 turbofan engines.

(3) These engines are installed on, but not limited to, Airbus A318, A319, A320, and A321 series airplanes.

Unsafe Condition

(d) This AD results from a refined lifing analysis by the engine manufacturer that shows the need to identify initial and repetitive inspection thresholds for inspecting certain LP turbine rear frames. We are issuing this AD to detect low-cycle-fatigue cracks in the LP turbine rear frame, which could result in an engine separating from the airplane, causing damage to, and possibly leading to loss of control of 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.

Initial Inspection

(f) Perform an initial eddy current inspection (ECI) of the LP turbine rear frame using paragraphs 3.A. through 3.A.(7)(d) of the Accomplishment Instructions of CFM International, S.A. Service Bulletin (SB) No. CFM56-5B S/B 72-0620, Revision 2, dated December 1, 2008, at the following compliance times:

(1) For commercial engine applications, within 25,000 cycles-since-new (CSN) on the LP turbine rear frame.

(2) For corporate engine applications, within 19,000 CSN on the LP turbine rear frame.

(3) For engines with unknown LP turbine rear frame CSN, within 300 cycles-in-service from the effective date of this AD.

Repetitive Inspections

(g) Perform repetitive ECIs of the LP turbine rear frame using paragraphs 3.A. through 3.A.(7)(d) of the Accomplishment Instructions of CFM International, S.A. SB No. CFM56-5B S/B 72-0620, Revision 2, dated December 1, 2008. Use the inspection intervals in paragraph 3.A.(8) of the Accomplishment Instructions of CFM International, S.A. SB No. CFM56-5B S/B 72-0620, Revision 2, dated December 1, 2008.

LP Turbine Rear Frame Removal Criteria

(h) Remove LP turbine rear frames from service that have a single crack length of 2.56 inches (65 mm) or longer, or multiple cracks with an accumulated crack length of 2.56 inches (65 mm) or longer.

Previous Credit

(i) Initial and repetitive inspections done before the effective date of this AD using CFM International, S.A. SB No. CFM56-5B S/B 72-0620, dated May 3, 2007, or SB No. CFM56-5B S/B 72-0620, Revision 1, dated December 20, 2007, comply with the initial and repetitive inspection requirements specified in this AD. Operators must continue performing the repetitive inspections required in paragraph (g) of this AD.

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) European Aviation Safety Agency AD 2009-0110, dated May 7, 2009, also addresses the subject of this AD.

(l) Contact Stephen Sheely, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: stephen.k.sheely@faa.gov; telephone (781) 238-7750; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(m) You must use CFM International, S.A. SB No. CFM56-5B S/B 72-0620, Revision 2, dated December 1, 2008 to perform the inspections required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone (513) 552-2800; fax (513) 552-2816, for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or 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 17, 2009.
Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.