

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 95-ANE-15]

Airworthiness Directives; CFM International CFM56-2/-2A/-2B/-3/-3B/-3C/-5 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to CFM International (CFMI) CFM56-2/-2A/-2B/-3/-3B/-3C/-5 series turbofan engines. This proposal would require part number reidentification of certain low pressure turbine rotor (LPTR) stub shafts and conical supports, and reduction of the low cycle fatigue (LCF) retirement lives for these reidentified parts. This proposal is prompted by the results of a refined life analysis performed by the manufacturer which revealed minimum calculated LCF lives significantly lower than published LCF retirement lives. The actions specified by the proposed AD are intended to prevent a LCF failure of the LPTR stub shaft and conical support, which could result in an uncontained engine failure and damage to the aircraft.

DATES: Comments must be received by October 31, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 95-ANE-15, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from CFM International, Technical

Publications Department, One Neumann Way, Cincinnati, OH 45215. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT:

Robert J. Ganley, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (617) 238-7138; fax (617) 238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 95-ANE-15." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 95-ANE-15, 12 New England Executive Park, Burlington, MA 01803-5299.

Discussion

This proposed airworthiness directive (AD) is applicable to CFM International (CFMI) CFM56-2/-2A/-2B/-3/-3B/-3C/-5 series turbofan engines. Numerous first production low pressure turbine rotor (LPTR) stub shafts and conical supports were machined from thick forgings. Parts machined from thick forgings have lower metallurgical properties than ones machined from near net shape forgings. A study performed by the manufacturer using updated lifing analyses revealed that these parts have minimum calculated low cycle fatigue (LCF) lives which are significantly lower than published LCF retirement lives. This condition, if not corrected, could result in a LCF failure of the LPTR stub shaft and conical support, which could result in an uncontained engine failure and damage to the aircraft.

The FAA has reviewed and approved the technical contents of CFMI CFM56-2 Service Bulletin (SB) No. 72-728, Revision 2, dated December 21, 1994, CFMI CFM56-2A SB No. 72-338, dated November 25, 1993, CFMI CFM56-2B SB No. 72-476, dated December 7, 1993, and CFMI CFM56-3/-3B/-3C SB No. 72-695, dated November 25, 1993. These SB's describe procedures for the part number reidentification of LPTR stub shafts and conical supports.

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require part number reidentification of certain LPTR stub shafts and conical supports, and reduction of the LCF retirement lives for these reidentified parts. The actions would be required to be accomplished in accordance with the SB's described previously.

The FAA estimates that 41 engines installed on aircraft of U.S. registry would be affected by this proposed AD, that it would take approximately 0.25 work hours per engine to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Assuming that the parts cost is proportional to the reduction of the LCF retirement lives, the required parts would cost approximately \$6,687 per engine. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$274,782.

The regulations proposed herein would not have substantial direct effects

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. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, 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. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 USC 106(g), 40101, 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

CFM International: Docket No. 95-ANE-15.

Applicability: CFM International (CFMI) CFM56-2/-2A/-2B/-3/-3B/-3C/-5 series turbofan engines installed on, but not limited to Airbus A320 series, McDonnell Douglas DC-8 series, and Boeing 737, E-3, E-6, and KC-135 series aircraft.

Note: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (j) to

request approval from the Federal Aviation Administration (FAA). This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any engine from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent a low cycle fatigue (LCF) failure of the low pressure turbine rotor (LPTR) stub shaft and conical support, which could result in an uncontained engine failure and damage to the aircraft, accomplish the following:

(a) Reidentify CFM56-2A LPTR stub shafts, Part Numbers (P/N) 301-330-623-0 and 301-330-624-0, with Serial Numbers (S/N) listed in Table 2 of CFMI CFM56-2A Service Bulletin (SB) No. 72-338, dated November 25, 1993, in accordance with the Accomplishment Instructions of CFMI CFM56-2A SB No. 72-338, dated November 25, 1993, at the next piece-part exposure after the effective date of this AD, but not to exceed 6,400 cycles since new (CSN).

(b) Reidentify CFM56-2B LPTR stub shafts, P/N 301-330-618-0, 301-330-619-0, 301-330-623-0, and 301-330-624-0, with S/N listed in Table 2 of CFMI CFM56-2B SB No. 72-476, dated December 7, 1993, in accordance with the Accomplishment Instructions of CFMI CFM56-2B SB No. 72-476, dated December 7, 1993, at the next piece-part exposure after the effective date of this AD, but not to exceed 8,300 CSN.

(c) Reidentify CFM56-2 LPTR conical supports, P/N 305-056-106-0, 305-056-109-0, 305-056-110-0, and 305-056-111-0, with S/N listed in Table 1 of CFMI CFM56-2 SB No. 72-728, Revision 2, dated December 21, 1994, in accordance with the Accomplishment Instructions of CFMI CFM56-2 SB No. 72-728, Revision 2, dated December 21, 1994, at the next piece-part exposure after the effective date of this AD, but not to exceed 18,000 CSN.

(d) Reidentify CFM56-2A LPTR conical supports, P/N 305-056-110-0 and 305-056-111-0, with S/N listed in Table 1 of CFMI CFM56-2A SB No. 72-338, dated November 25, 1993, in accordance with the Accomplishment Instructions of CFMI CFM56-2A SB No. 72-338, dated November 25, 1993, at the next piece-part exposure after the effective date of this AD, but not to exceed 5,700 CSN.

(e) Reidentify CFM56-2B LPTR conical supports, P/N 305-056-106-0, 305-056-109-0, 305-056-110-0, and 305-056-111-0, with S/N listed in Table 1 of CFMI CFM56-2B SB No. 72-476, dated December 7, 1993, in accordance with the Accomplishment Instructions of CFMI CFM56-2B SB No. 72-476, dated December 7, 1993, at the next piece-part exposure after the effective date of this AD, but not to exceed 8,700 CSN.

(f) Reidentify CFM56-3B/-3C LPTR stub shafts, P/N 301-330-618-0, 301-330-619-0, 301-330-623-0, and 301-330-624-0, with S/N listed in Table 2 of CFMI CFM56-3/-3B/

-3C SB No. 72-695, dated November 25, 1993, in accordance with the Accomplishment Instructions of CFMI CFM56-3/-3B/-3C SB No. 72-695, dated November 25, 1993, as follows:

(1) For CFM56-3B series engines, at the next piece-part exposure after the effective date of this AD, but not to exceed 11,400 CSN.

(2) For CFM56-3C series engines, at the next piece-part exposure after the effective date of this AD, but not to exceed 7,900 CSN.

(g) Reidentify CFM56-3/-3B/-3C LPTR conical supports, P/N 305-056-106-0, 305-056-109-0, 305-056-110-0, and 305-056-111-0, with S/N listed in Table 1 of CFMI CFM56-3/-3B/-3C SB No. 72-695, dated November 25, 1993, in accordance with the Accomplishment Instructions of CFMI CFM56-3/-3B/-3C SB No. 72-695, dated November 25, 1993, as follows:

(1) For CFM56-3 series engines, at the next piece-part exposure after the effective date of this AD, but not to exceed 12,100 CSN.

(2) For CFM56-3B series engines, at the next piece-part exposure after the effective date of this AD, but not to exceed 9,300 CSN.

(3) For CFM56-3C series engines, at the next piece-part exposure after the effective date of this AD, but not to exceed 5,700 CSN.

(h) Remove from service CFM56-5 LPTR conical support, P/N 336-000-305-0, prior to accumulating 11,300 CSN.

(i) This action establishes new LCF retirement lives for parts reidentified in accordance with paragraphs (a) through (g) of this AD, and the new LCF retirement life noted in paragraph (h) of this AD, which are published in Chapter 05 of the applicable engine shop manual (CFM56-2 CFMI-TP.SM.4, CFM56-2A/-2B CFMI-TP.SM.6, CFM56-3 CFMI-TP.SM.5, and CFM56-5 CFMI-TP.SM.7).

(j) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(k) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

Issued in Burlington, Massachusetts, on August 23, 1995.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 95-21770 Filed 8-31-95; 8:45 am]

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