

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [FR 57556 10/26/99]

[Docket No. 98-ANE-62-AD; Amendment 39-11388; AD 99-22-10]

RIN 2120-AA64

Airworthiness Directives; General Electric Aircraft Engines CF34 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain General Electric Aircraft Engines CF34 series turbofan engines, that establishes new life limits for certain high pressure compressor (HPC) spools, stage 9 HPC disks, and rear HPC spools. This amendment is prompted by a cyclic life analysis using increased stress levels resulting from manufacturing discrepancies. The actions specified by this AD are intended to prevent HPC spool and disk cracking, which could result in an uncontained engine failure and damage to the aircraft.

DATE: Effective December 27, 1999.

FOR FURTHER INFORMATION CONTACT: Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7148, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to General Electric Aircraft Engines (GEAE) Models CF34-1A, -3A, -3A1, and -3A2 turbofan engines was published in the **Federal Register** on April 5, 1999 (64 FR 16364). That action proposed to require removal from service of forward HPC spools, part number (P/N) 6078T56P01; rear HPC spools, P/N 6087T01P03 and 6087T01P04; and stage 9 HPC disks, P/N 5087T46P01 or 5087T46P02. The affected parts must be removed prior to accumulating cycles in service beyond new, reduced cyclic life limits.

Comment Received

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comment received.

The commenter supports the rule as proposed.

After careful review of the available data, including the comment noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

There are approximately 600 engines of the affected design in the worldwide fleet. The FAA estimates that 28 engines installed on aircraft of US registry will be affected by the requirement within this AD to replace the forward spool. The FAA has calculated the prorated cost for forward spool replacements to be \$36,500 per engine, based on the estimated new part cost divided by the original life limit, multiplied by the number of cycles that will be reduced by the AD requirement. Therefore, the FAA estimates the total cost impact for replaced forward spools to be \$1,022,000.

The FAA estimates that 200 engines installed on aircraft of US registry will be affected by the requirement to replace the stage 9 disk. The FAA has calculated the prorated cost for stage 9 disk replacements to be \$3,500 per engine, based on the estimated new part cost divided by the original life limit, multiplied by the number of cycles that will be reduced by the AD requirement. The FAA estimates the total cost impact for replaced stage 9 disks to be \$700,000.

The FAA estimates that 300 engines installed on aircraft of US registry will be affected by the requirement to replace the rear spool. The FAA has calculated the prorated cost for rear spool replacements to be \$8,900 per engine, based on the new part cost divided by the original life limit, multiplied by the number of cycles that will be reduced by the AD requirement. Therefore, the FAA estimates the total cost impact for replaced rear spools to be \$2,670,000.

The FAA has determined that it will take no additional work hours per engine to remove affected components, as removal would take place at available opportunities. Based on these figures, the total cost impact of the AD on US operators is estimated to be \$4,392,000.

Regulatory Impact

The regulations adopted herein will 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 final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from 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.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends 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 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]

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

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

99-22-10 GENERAL ELECTRIC AIRCRAFT ENGINES: Amendment 39-11388.
Docket 98-ANE-62-AD. Issued October 18, 1999.

Applicability: General Electric Aircraft Engines (GEAE) Models CF34-1A, -3A, -3A1, and -3A2 turbofan engines, installed on but not limited to Canadair aircraft models CL-600-2A12, -2B16, and -2B19.

NOTE 1: 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent high pressure compressor (HPC) spool and disk cracking, which could result in an uncontained engine failure and damage to the aircraft, accomplish the following:

(a) Remove from service the following HPC spools and disks prior to accumulating cycles in service beyond new, reduced cyclic life limits, and replace with a serviceable part, as follows:

(1) forward HPC spools, part number (P/N) 6078T56P01, which have accumulated fewer than 6,000 cycles since new (CSN) on the effective date of this AD, remove prior to accumulating 6,000 CSN.

(2) For forward HPC spools, P/N 6078T56P01, which have accumulated 6,000 or more CSN on the effective date of this AD, remove at the next shop visit after the effective date of this AD, but prior to accumulating 12,000 CSN.

(3) For the purpose of this AD, engine shop visit is defined as engine disassembly that includes separation of the compressor section from the fan section front frame and from the combustion section combustion chamber frame.

(4) For stage 9 HPC disks, P/N 6087T01P03 or 6087T01P04, remove prior to accumulating 20,000 CSN.

(5) For rear HPC spools, P/N 5087T46P01 or 5087T46P02, remove prior to accumulating 17,000 CSN.

(b) 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. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(c) 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.

(d) This amendment becomes effective on December 27, 1999.

FOR FURTHER INFORMATION CONTACT:

Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7148, fax (781) 238-7199.