

293840

[4910-13-U]

DEPT. OF TRANSPORTATION
DOCKETS

DEPARTMENT OF TRANSPORTATION (DOT)

2004 AUG 24 PM 12:10

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18869-³; Directorate Identifier 2004-NE-23-AD]

RIN 2120-AA64

Airworthiness Directives; General Electric Company CF34-3A1 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for General Electric Company (GE) CF34-3A1 turbofan engines with certain high pressure turbine (HPT) rotating components installed. This proposed AD results from the discovery that the manufacturer removed certain part numbers of HPT rotating components from the Life Limits section of the CF34 Engine Manual, SEI-756. We are proposing this AD to clarify that these HPT rotating components have life limits in order to prevent low cycle fatigue (LCF) cracking and failure of those components, leading to uncontained engine failure and damage to the airplane.

DATES: We must receive any comments on this proposed AD by [insert date 60 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: Use one of the following addresses to submit comments on this proposed AD.

- DOT Docket web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.

- Government-wide rulemaking web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; US Department of Transportation, 400 Seventh Street, S.W., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, S.W., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may examine the comments on this proposed AD in the AD docket on the Internet at <http://dms.dot.gov>.

FOR FURTHER INFORMATION CONTACT: Robert Grant, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7757; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Docket Management System (DMS)

We have implemented new procedures for maintaining AD dockets electronically. As of May 17, 2004, we posted new AD actions on the DMS and assigned a DMS docket number. We track each action and assign a corresponding Directorate identifier. The DMS docket No. is in the form "Docket No. FAA-200X-XXXXX." Each DMS docket also lists the Directorate identifier ("Old Docket Number") as a cross-reference for searching purposes.

Comments Invited

We invite you to submit any written relevant data, views, or arguments regarding this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2004-18869; Directorate Identifier 2004-NE-23-AD” in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of the DMS web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit <http://dms.dot.gov>.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications that affect you. You can get more information about plain language at <http://www.faa.gov/language> and <http://www.plainlanguage.gov>.

Examining the AD Docket

You may examine the docket that contains the proposal, any comments received and, any final disposition in person at the DMS Docket Offices between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

Discussion

CF34-3A1 engines are used in both business jet and regional jet applications. The regional jet is used in both commercial, and corporate and private applications. In May of 2003, GE issued a Temporary Revision to the CF34 Engine Manual, SEI-756, that removed the life limits from the following parts used in the commercial application:

- 6078T90P01, Balance Piston Air Seal.
- 6017T00P05, HPT Rotor Shaft.
- 4027T15P03, Stage 1 Front Cooling Plate.
- 6078T93P01 and 6078T93P02, Stage 1 Turbine Disk.
- 5041T70P03, Stage 1 Aft Cooling Plate.
- 5023T97P03, Stage 2 Rear Cooling Plate.
- 6078T94P01 and 6078T94P02, Stage 2 Turbine Disk.
- 5042T29P02, Stage 2 Front Cooling Plate.
- 5041T67P02, Outer Torque Coupling.
- 5079T02P01, Inner Torque Coupling.

As a result of that Temporary Revision removing the life limits of these parts from the engine manual, operators may not realize that the parts must be removed from service prior to those limits. In March of 2004, we became aware that a CF34-3A1 lease engine with some or all of these part number components installed, was introduced into the commercial regional jet fleet. We have since learned that there are a total of eight CF34-3A1 lease engines, with some or all of these part number components installed, which may be operated in commercial regional jets. We are therefore proposing this AD to clarify that these parts still have life limits and must be removed from service before exceeding those limits.

This condition, if not corrected, could result in HPT rotating components being operated beyond their life limit, which could result in LCF cracking and failure of those components, leading to uncontained engine failure and damage to the airplane.

FAA's Determination and Requirements of the Proposed AD

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other products of this same type design. We are proposing this AD, which would clarify that the HPT rotating components listed by part number have a life limit of 6,000 cycles-since-new.

Costs of Compliance

We estimate that eight CF34-3A1 turbofan engines installed on airplanes of U.S. registry would be affected by this proposed AD. Since the life limits for the listed HPT rotating components were contained in the original approved type design, and since we estimate that no affected engine has a component that is near or approaching that limit, we estimate that this AD will not result in any additional direct labor or part costs.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 the 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. Would 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 proposal 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.

The Proposed Amendment

Under the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

General Electric Company: Docket No. FAA-2004-18869; Directorate Identifier 2004-NE-23-AD.

Comments Due Date

(a) The Federal Aviation Administration (FAA) must receive comments on this airworthiness directive (AD) action by [insert date 60 days after date of publication in the FEDERAL REGISTER].

Affected ADs

(b) None.

Applicability

(c) This AD applies to General Electric Company (GE) CF34-3A1 turbofan engines with one or more of the high pressure turbine (HPT) rotating components installed, listed in the following Table 1:

Table 1 HPT Rotating Components With Life Limits Restored

Part Number	Nomenclature
6078T90P01	Seal, Balance Piston Air
6017T00P05	Shaft, HPT Rotor
4027T15P03	Plate, Stage 1 Front Cooling
6078T93P01	Disk, Stage 1 Turbine
6078T93P02	Disk, Stage 1 Turbine
5041T70P03	Plate, Stage 1 Aft Cooling
5023T97P03	Plate, Stage 2 Rear Cooling
6078T94P01	Disk, Stage 2 Turbine
6078T94P02	Disk, Stage 2 Turbine
5042T29P02	Plate, Stage 2 Front Cooling

5041T67P02	Coupling, Outer Torque
5079T02P01	Coupling, Inner Torque

These CF34-3A1 turbofan engines are installed on, but not limited to, Bombardier series Regional Jet Model CL-600-2B19 (Regional Jet Series 100 and 440) airplanes.

Unsafe Condition

(d) This AD results from the discovery that the manufacture removed the HPT rotating component part numbers, listed in Table 1 of this AD, from the HPT Life Limits section of the CF34 Engine Manual, SEI-756. We are issuing this AD to clarify that the HPT rotating component part numbers, listed in Table 1 of this AD, have a life limit to prevent low cycle fatigue (LCF) cracking and failure of those components, leading to uncontained engine failure and 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.

(f) Remove from service the HPT rotating components listed in Table 1 of this AD, before exceeding the life limit of 6,000 cycles-since-new.

Alternative Methods of Compliance

(g) 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.

Material Incorporated by Reference

(h) None.

Related Information

(i) GE Temporary Revision No. 05-0073, and Temporary Revision No. 05-0074, for CF34 Engine Manual, SEI-756, also pertain to the subject of this AD.

Issued in Burlington, Massachusetts, on August 9, 2004.



Ann Mollica,
Acting Manager, Engine and Propeller Directorate,
Aircraft Certification Service.