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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2003-NE-46-AD; Amendment 39-13557; AD 2004-07-13]**

**RIN 2120-AA64**

### **Airworthiness Directives; General Electric Company CF6-80C2 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for General Electric Company (GE) CF6-80C2 series turbofan engines. This AD requires replacing certain high pressure turbine (HPT) stage 1 disks at or before reaching a new reduced life cycle limit. This AD is prompted by an updated low-cycle-fatigue (LCF) analysis of the HPT stage 1 disk. We are issuing this AD to prevent LCF cracking and failure of the HPT stage 1 disk due to exceeding the life limit, which could result in an uncontained engine failure and damage to the airplane.

**DATES:** This AD becomes effective May 6, 2004.

#### **ADDRESSES:**

You can get the service information identified in this AD from General Electric Company via Lockheed Martin Technology Services, 10525 Chester Road, Suite C, Cincinnati, Ohio 45215; telephone (513) 672-8400; fax (513) 672-8422.

You may examine the AD docket, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA. You may examine the service information, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Karen Curtis, Aerospace Engineer, Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Office Park, Burlington, MA 01803; telephone (781) 238-7192; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to GE CF6-80C2 series turbofan engines. We published the proposed AD in the Federal Register on November 12, 2003 (68 FR 64001). That action proposed to require replacing certain HPT stage 1 disks at or before reaching a new reduced life cycle limit.

## **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

One commenter states that the overall impact to him is minimal. The commenter does not request any changes to the proposal as written. The FAA agrees.

One commenter requests that the proposal be withdrawn. The commenter believes that an AD is not necessary because the lower life limit has already been published by the manufacturer in Chapter 5, Airworthiness Limitations, of the engine manual.

The FAA does not agree. Changes to life limits that appear only in a manual or type certificate data sheet, even if FAA-approved, are not enforceable for all operators. Life limit reductions from the original certified limits become enforceable for all operators only through the AD process (14 CFR part 39).

## **Conclusion**

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

## **Changes to 14 CFR Part 39—Effect on the AD**

On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. That regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. The material previously was included in each individual AD. Since the material is included in 14 CFR part 39, we will not include it in future AD actions.

## **Costs of Compliance**

There are about 526 CF6-80C2A5F, CF6-80C2B5F, CF6-80C2B7F, and CF6-80C2D1F turbofan engines of the affected design in the worldwide fleet. We estimate that 208 engines installed on airplanes of U.S. registry would be affected by this AD. The action does not impose any additional labor costs. The prorated cost of a new HPT stage 1 disk is about \$43,306 per engine. Based on these figures, and on the prorating for the usage of the HPT stage 1 disks, the cost of the AD on U.S. operators is estimated to be \$9,007,648.

## **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 by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-NE-46-AD" in your request.

## **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 (AD):

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

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

*We post ADs on the internet at "www.faa.gov"*

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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).

**2004-07-13 General Electric Company:** Amendment 39-13557. Docket No. 2003-NE-46-AD.

## Effective Date

- (a) This AD becomes effective May 6, 2004.

## Affected ADs

- (b) None.

## Applicability

(c) This AD applies to General Electric Company (GE) CF6-80C2A5F, CF6-80C2B5F, CF6-80C2B7F, and CF6-80C2D1F turbofan engines with high pressure turbine (HPT) stage 1 disks, part numbers (P/Ns) 1531M84G10 or 1531M84G12 installed. These engines are installed on, but not limited to, Airbus Industrie A300 and A330 series, Boeing 747 and 767 series, and McDonnell Douglas MD-11 airplanes.

## Unsafe Condition

(d) This AD is prompted by an updated low-cycle-fatigue (LCF) analysis of the HPT stage 1 disk. The actions specified in this AD are intended to prevent LCF cracking and failure of the HPT stage 1 disk due to exceeding the life limit, which could result in an 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) Replace HPT stage 1 disks, P/Ns 1531M84G10 and 1531M84G12, at or before the disk accumulates 10,720 cycles-since-new (CSN).

(g) After the effective date of this AD, do not install any HPT stage 1 disk, P/N 1531M84G10 or 1531M84G12, that exceeds 10,720 CSN.

### **Alternative Methods of Compliance**

(h) 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**

(i) None.

### **Related Information**

(j) None.

Issued in Burlington, Massachusetts, on March 24, 2004.

Francis A. Favara,

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

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