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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2007-28726; Directorate Identifier 2007-NE-32-AD; Amendment 39-15190; AD 2007-18-10]**

**RIN 2120-AA64**

#### **Airworthiness Directives; General Electric Company CF6-80E1 Series Turbofan Engines**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for General Electric Company (GE) CF6-80E1 series turbofan engines with certain part number (P/N) compressor rear frames (CRFs) installed. This AD requires revisions to the Airworthiness Limitations Section (ALS) of the manufacturer's Instructions for Continued Airworthiness (ICA) and air carrier's approved Continued Airworthiness Maintenance Programs (CAMP) to include initial and repetitive eddy current inspections (ECIs) or fluorescent penetrant inspections (FPIs) of the affected CRFs. This AD results from the need to require enhanced inspections of the CF6-80E1 series engine CRFs for cracks. We are issuing this AD to prevent rupture of the CRF, which could result in an under-cowl engine fire.

**DATES:** This AD becomes effective September 26, 2007.

We must receive any comments on this AD by November 13, 2007.

**ADDRESSES:** Use one of the following addresses to comment on this 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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

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

**FOR FURTHER INFORMATION CONTACT:** Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: Robert.green@faa.gov; telephone (781) 238-7754; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** GE recently reassessed the original basis for certification of the CF6-80E1 series turbofan engine CRFs, using updated techniques and materials. The data revealed that the stresses in critical areas of the CRF are higher than originally calculated. This condition, if not corrected, could result in rupture of the CRF, possibly resulting in an under-cowl engine fire.

### **FAA's Determination and Requirements of This AD**

Although no airplanes that are currently registered in the United States use these CF6-80E1 series turbofan engines, the possibility exists that the engines could be used on airplanes that are registered in the United States in the future. The unsafe condition described previously is likely to exist or develop on other engines of the same type design. We are issuing this AD to prevent rupture of the CRF, which could result in an under-cowl engine fire. This AD requires revisions to the ALS of the manufacturer's ICA and air carrier's approved CAMP to include required ECIs or FPIs of those certain P/N CRFs, for cracks in critical areas.

### **FAA's Determination of the Effective Date**

Since there are currently no domestic operators of this engine model, notice and opportunity for public comment before issuing this AD are unnecessary. A situation exists that allows the immediate adoption of this regulation.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. FAA-2007-28726; Directorate Identifier 2007-NE-32-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

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 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>.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://dms.dot.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.

### **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 the 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, Safety.

### **Adoption of the Amendment**

Under 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. The FAA amends § 39.13 by adding the following new airworthiness directive:



**2007-18-10 General Electric Company:** Amendment 39-15190. Docket No. FAA-2007-28726; Directorate Identifier 2007-NE-32-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective September 26, 2007.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to General Electric Company (GE) CF6-80E1A1, CF6-80E1A2, CF6-80E1A3, CF6-80E1A4, and CF6-80E1A4/B model turbofan engines with compressor rear frame (CRF) part numbers (P/Ns) 1520M26G03/G06/G08/G11/G12 installed. These engines are installed on, but not limited to, Airbus Industrie A330 series airplanes.

**Unsafe Condition**

(d) This AD results from the need to require enhanced inspections of the CF6-80E1 series turbofan engine CRFs, for cracks. We are issuing this AD to prevent rupture of the CRF, which could result in an under-cowl engine fire.

**Compliance**

(e) Within the next 30 days after the effective date of this AD, revise GE's Instructions for Continued Airworthiness ALS, and for air carrier operations, revise the approved continuous airworthiness maintenance program, by adding the information in Table 1 and in paragraphs (f) through (i) of this AD.

**Table 1 – Inspection Compliance Schedule**

<b>If CRF P/Ns 1520M26G03 / G06 / G08 / G11 / G12 are:</b>	<b>Then Initially Inspect:</b>	<b>And Repetitively Inspect:</b>
(1) Operated at a CF6-80E1A3 or CF6-80E1A4/B engine rating.	Before 12,200 cycles-since-new (CSN).	Within every 6,300 cycles-since-last-inspection (CSLI), except that igniter pad holes on CRFs with P/Ns 1520M26G03 / G06 / G08, must be inspected within every 4,800 CSLI.

(2) Operated at a CF6-80E1A4 engine rating.	Before 13,700 CSN.	Within every 6,300 CSLI, except that igniter pad holes on CRFs with P/Ns 1520M26G03 / G06 / G08, must be inspected within every 6,100 CSLI.
(3) Operated at a CF6-80E1A1 or CF6-80E1A2 engine rating.	Before 14,200 CSN.	Within every 6,300 CSLI.

### Module-Level Inspection of CRFs

(f) For CRF P/Ns 1520M26G03/G06/G08/G11/G12, at module level:

(1) Clean and eddy current inspect (ECI) the locations numbered 3 through 8.

(2) Information on these locations can be found in figure 801, sheets 2, 3, and 4, of CF6-80E1 Engine Manual No. GEK 99376, Section 05-21-01. The remaining engine manual references in this AD are to No. GEK 99376.

(3) Information on cleaning and ECI can be found in CF6-80E1 Engine Manual, Section 72-00-34, COMPRESSOR REAR FRAME ASSEMBLY–INSPECTION 001, Subtask 72-00-34-250-001.

(4) For CRF P/Ns 1520M26G03/G06/G08, clean and fluorescent penetrant inspect (FPI) the locations numbered 1 and 2.

(5) Information on these locations can be found in figure 801, sheet 1, of CF6-80E1 Engine Manual, Section 05-21-01.

(6) Information on cleaning and FPI can be found in CF6-80E1 Engine Manual, Section 72-00-34, COMPRESSOR REAR FRAME ASSEMBLY–INSPECTION 001, Subtask 72-00-34-230-051.

### Piece-Part Level Inspection of CRFs

(g) For CRF P/Ns 1520M26G03/G06/G08/G11/G12, at piece-part level:

(1) Clean and FPI the locations numbered 3 through 8.

(2) Information on these locations can be found in figure 801, sheets 2, 3, and 4, of CF6-80E1 Engine Manual, Section 05-21-01.

(3) Information on cleaning and FPI can be found in CF6-80E1 Engine Manual, Section 72-34-01, COMPRESSOR REAR FRAME–INSPECTION 001, Subtask 72-34-01-200-003.

(4) For CRF P/Ns 1520M26G03/G06/G08, clean and FPI the locations numbered 1 and 2.

(5) Information on these locations can be found in figure 801, sheet 1, of CF6-80E1 Engine Manual, Section 05-21-01.

(6) Information on cleaning and FPI can be found in CF6-80E1 Engine Manual, Section 72-34-01, COMPRESSOR REAR FRAME–INSPECTION 001, Subtask 72-34-01-200-003.

### Determining CSN of the Compressor Rear Frame

(h) Air carriers and operators must use engine operating records to determine the CSN of the compressor rear frame. If the number of cycles accumulated since new cannot be established, inspect the CRF within 300 cycles-in-service after the effective date of this AD.

(i) For compressor rear frames that have operated in multiple engine models or thrust ratings, information on correct cycle counting can be found in Method 1 or Method 2 of CF6-80E1 Engine Manual No. GEK 99376, Section 05-11-00, LIFE LIMITS OF ENGINE ROTATING PARTS.

## **Definition**

(j) For the purposes of this AD, piece-part level means that the CRF is removed and disassembled using the disassembly instructions in GE's engine manual.

## **Alternative Methods of Compliance**

(k) You must perform these mandatory inspections using the ALS of the Instructions for Continued Airworthiness and the applicable Engine Manual unless you receive approval to use an alternative method of compliance under paragraph (l) of this AD. Section 43.16 of the Federal Aviation Regulations (14 CFR 43.16) may not be used to approve alternative methods of compliance or adjustments to the times in which these inspections must be performed.

(l) 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**

(m) GE CF6-80E1 Engine Manual Temporary Revision (TR) 05-0055, dated July 3, 2007, and CF6-80E1 Engine Manual TR 72-0088, dated July 3, 2007, pertain to the subject of this AD. TR 05-055 adds CRF inspection references to the CRF inspection tables and TR 0088 adds an ECI for the CRF.

(n) Contact Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: Robert.green@faa.gov; telephone (781) 238-7754; fax (781) 238-7199, for more information about this AD.

## **Material Incorporated by Reference**

(o) None.

Issued in Burlington, Massachusetts, on August 29, 2007.  
Thomas A. Boudreau,  
Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.  
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