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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2007-0053; Directorate Identifier 98-ANE-54-AD; Amendment 39-15347; AD 2008-02-17]**

**RIN 2120-AA64**

#### **Airworthiness Directives; General Electric Company CF6-50, -80A1/A3, and -80C2A Series Turbofan Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for General Electric Company (GE) CF6-50, -80A1/A3, and -80C2A series turbofan engines, installed on Airbus A300, A300-600, and A310 series airplanes. That AD currently requires initial and repetitive inspections and checks of the thrust reverser actuation systems. This AD requires revised inspection thresholds and intervals, and would require the same actions and additional inspections of the thrust reverser actuation system locking features. This AD results from refined safety analyses performed on the thrust reverser systems by GE and Airbus. We are issuing this AD to prevent inadvertent in-flight thrust reverser deployment, which can result in loss of control of the airplane.

**DATES:** This AD becomes effective February 28, 2008. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of February 28, 2008.

**ADDRESSES:** You can get the service information identified in this AD from Middle River Aircraft Systems, Mail Point 46, 103 Chesapeake Park Plaza, Baltimore, MD 21220, attn: Warranty Support, telephone: (410) 682-0094, fax: (410) 682-0100.

The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

**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:** The FAA proposed to amend 14 CFR part 39 by superseding AD 99-18-20, Amendment 39-11286 (64 FR 48286, September 3, 1999), with a proposed AD. The proposed AD applies to GE CF6-50, -80A1/A3, and -80C2A series turbofan engines, installed on Airbus A300, A300-600, and A310 series airplanes. We published the proposed AD in the Federal Register on October 25, 2007 (72 FR 60604). That action proposed to require revised inspection thresholds and intervals, and proposed to require the same actions as AD 99-18-20, and additional inspections of the thrust reverser actuation system locking features.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.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.

### **Comments**

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

### **Service Bulletin Reference Error**

One commenter, GE Aviation, points out that Alert Service Bulletin No. CF6-80C2 S/B 78A1015 should be No. CF6-80C2 S/B 78A1005, in paragraph (j)(2). We agree and corrected the number in the AD.

### **Airplane Reference Clarification**

One commenter, Airbus, requests that we clarify paragraphs (i)(1), (i)(2), (j)(1), and (j)(2) by referencing that they apply to A300-600 series airplanes, instead of A300 and A310 series airplanes. We agree and made those changes to the AD.

### **NPRM Costs of Compliance Error**

We inadvertently listed an incorrect estimated cost total of \$28,000 in the NPRM "Costs of Compliance" paragraph. We corrected the estimated cost total to \$16,480, in this AD.

### **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 with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

We estimate that this AD will affect 206 engines installed on airplanes of U.S. registry. We also estimate that it will take about one work-hour per engine to perform the additional inspection, and that the average labor rate is \$80 per work-hour. Based on these figures, we estimate the total additional cost of the AD for one inspection of the U.S. fleet, to be \$16,480.

## **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 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, Incorporation by reference, 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 removing Amendment 39-11286 (64 FR 48286, September 3, 1999), and by adding a new airworthiness directive, Amendment 39-15347, to read as follows:



**2008-02-17 General Electric Company:** Amendment 39-15347. Docket No. FAA-2007-0053; Directorate Identifier 98-ANE-54-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective February 28, 2008.

**Affected ADs**

- (b) This AD supersedes AD 99-18-20, Amendment 39-11286.

**Applicability**

- (c) This AD applies to General Electric Company (GE) CF6-50, -80A1/A3, and -80C2A series turbofan engines. These engines are installed on Airbus A300, A300-600, and A310 series airplanes.

**Unsafe Condition**

- (d) This AD results from refined safety analyses performed on the thrust reverser systems by GE and Airbus. We are issuing this AD to prevent inadvertent in-flight thrust reverser deployment, which can result in loss of control of 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.

**Initial Inspection for CF6-50 Series Turbofan Engines**

- (f) For CF6-50 series turbofan engines, perform initial thrust reverser inspections using Section 2, Accomplishment Instructions, of Middle River Aircraft Systems (MRAS) Alert Service Bulletin (ASB) No. CF6-50 S/B 78A3001, Revision 4, dated August 30, 2007, as follows:

- (1) On Airbus A300 series airplanes with a Three Light Reverser Indication Circuit configuration, and without thrust reverser actuation system (TRAS) locks installed, perform the initial inspections and checks within 1,500 hours time-in-service (TIS) after the effective date of this AD.

- (2) On Airbus A300 series airplanes with a Three Light Reverser Indication Circuit configuration, and with TRAS locks installed, perform the initial inspections and checks within 7,000 hours TIS after the effective date of this AD.

- (3) On Airbus A300 series airplanes with a Two Light Reverser Indication Circuit configuration, and without TRAS locks installed, perform the initial inspections and checks within 1,500 hours TIS after the effective date of this AD.

(4) On Airbus A300 series airplanes with a Two Light Reverser Indication Circuit configuration, and with TRAS locks installed, perform the initial inspections and checks within 7,000 hours TIS after the effective date of this AD.

### **Repetitive Inspections for CF6-50 Series Turbofan Engines**

(g) For CF6-50 series turbofan engines, perform repetitive thrust reverser inspections using Section 2, Accomplishment Instructions, of MRAS ASB No. CF6-50 S/B 78A3001, Revision 4, dated August 30, 2007, as follows:

(1) On Airbus A300 series airplanes with a Three Light Reverser Indication Circuit configuration, and without TRAS locks installed, perform repetitive inspections and checks at the following:

(i) Within every 2,500 hours time-since-last-inspection (TSLI), perform paragraph 2.D., Translating Cowl Air Seal, Dagmar Fairing and Aft Frame Inspection; and paragraph 2.I., Fan Reverser Operational Check.

(ii) Within every 6,000 hours TSLI, perform paragraph 2.C., Pneumatic Drive Motor (PDM) Disc Brake Holding Torque Check; paragraph 2.E., Feedback Rod to Yoke Alignment Check and Inspection of Feedback Yoke and Feedback Rod; paragraph 2.F., Translating Cowl Auto Re-Stow Function Check; and paragraph 2.I., Fan Reverser Operational Check.

(2) Within every 7,000 hours TSLI on Airbus A300 series airplanes with a Three Light Reverser Indication Circuit configuration, and with TRAS locks installed, perform repetitive inspections and checks.

(3) On Airbus A300 series airplanes with a Two Light Reverser Indication Circuit configuration, and without TRAS locks installed, perform repetitive inspections and checks at the following:

(i) Within every 2,500 hours TSLI, perform paragraph 2.D., Translating Cowl Air Seal, Dagmar Fairing and Aft Frame Inspection; and paragraph 2.I., Fan Reverser Operational Check.

(ii) Within every 6,000 hours TSLI, perform paragraph 2.C., Pneumatic Drive Motor (PDM) Disc Brake Holding Torque Check; paragraph 2.E., Feedback Rod to Yoke Alignment Check and Inspection of Feedback Yoke and Feedback Rod; paragraph 2.G., Translating Cowl Auto Re-Stow Function Check; paragraph 2.H., Over Pressure Shutoff Valve (OPSOV) Indication Check; and paragraph 2.I., Fan Reverser Operational Check.

(4) On Airbus A300 series airplanes with a Two Light Reverser Indication Circuit configuration, and with TRAS locks installed, perform repetitive inspections and checks within every 7,000 hours TSLI.

### **Initial and Repetitive Inspections for CF6-80A1/A3 Series Turbofan Engines**

(h) For CF6-80A1/A3 series turbofan engines installed on Airbus A310-200 airplanes, perform initial and repetitive thrust reverser inspections using Section 2, Accomplishment Instructions, of MRAS ASB No. CF6-80A1/A3 S/B 78A1002, Revision 5, dated July 19, 2007, at the following:

(1) For initial inspection, within 1,500 hours TIS after the effective date of this AD.

(2) For repetitive inspections, within every 7,000 hours TSLI.

### **Initial Inspection for CF6-80C2A Series Turbofan Engines**

(i) For CF6-80C2A series turbofan engines, perform initial thrust reverser inspections using Section 2, Accomplishment Instructions, of MRAS ASB No. CF6-80C2A1/A2/A3/A5/A8/A5F S/B 78A1015, Revision 7, dated August 30, 2007, at the following:

(1) On Airbus A300-600 and A310 series airplanes with left-hand and right-hand reverser halves that do not have the double/backup P-seal introduced by MRAS SB No. CF6-80C2 S/B 78A1005, and that do not have locking actuator assemblies (LAAs) installed, within 600 hours TIS after the effective date of this AD.

(2) On Airbus A300-600 and A310 series airplanes with left-hand and right-hand reverser halves that have the double/backup P-seal introduced by MRAS SB No. CF6-80C2 S/B 78A1005, or that have LAAs installed, within 7,000 hours TIS after the effective date of this AD.

### **Directional Pilot Valve (DPV) Pressure Switch Check on Airbus Airplanes With CF6-80C2A5F Engines Is Not Applicable**

(3) The DPV pressure switch check per paragraph 2.F. is not applicable to Airbus airplanes with CF6-80C2A5F left-hand and right-hand fan reverser halves (model ES-CF6-5), because this check is performed through the full authority digital electronic control fault detection system.

### **Repetitive Inspections for CF6-80C2A Series Turbofan Engines**

(j) For CF6-80C2A series turbofan engines, perform repetitive thrust reverser inspections using Section 2, Accomplishment Instructions, of MRAS ASB No. CF6-80C2A1/A2/A3/A5/A8/A5F S/B 78A1015, Revision 7, dated August 30, 2007, at the following:

(1) On Airbus A300-600 and A310 series airplanes with left-hand and right-hand reverser halves that do not have the double/backup P-seal, introduced by MRAS SB No. CF6-80C2 S/B 78A1005, and that do not have LAAs installed, within every 600 hours TSLI.

(2) On Airbus A300-600 and A310 series airplanes with left-hand and right-hand reverser halves that have the double/backup P-seal, introduced by MRAS SB No. CF6-80C2 S/B 78A1005, or that have LAAs installed, within every 7,000 hours TSLI.

### **Engines That Fail an Inspection or Check**

(k) On engines that fail an inspection or check required by this AD, perform corrective actions or deactivate the fan reverser per Section 2, Accomplishment Instructions, of the applicable MRAS ASB, before further flight.

### **Previous Credit**

(l) Initial and repetitive inspections and checks of the thrust reverser actuation systems done before the effective date of this AD that use the following ASBs, comply with the requirements specified in this AD:

(1) MRAS ASB No. CF6-50 S/B 78A3001, Revision 2, dated December 18, 1997; and MRAS ASB No. CF6-50 S/B 78A3001, Revision 3, dated May 3, 2006.

(2) MRAS ASB No. CF6-80A1/A3 S/B 78A1002, Revision 3, dated January 21, 1999; and MRAS ASB No. CF6-80A1/A3 S/B 78A1002, Revision 4, dated May 3, 2006.

(3) MRAS ASB No. CF6-80C2 S/B 78A1015, Revision 5, dated January 21, 1999; and MRAS ASB No. CF6-80C2A1/A2/A3/A5/A8/A5F S/B 78A1015, Revision 6, dated May 3, 2006.

### **Alternative Methods of Compliance**

(m) The Manager, Engine Certification Office, FAA, 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**

(n) France AD 1999-422-IMP(B), dated October 20, 1999, also pertains to the subject of this AD.

(o) 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.

(p) You must use the service information specified in Table 1 of this AD to perform the inspections required by this AD. The Director of the Federal Register approved the incorporation by reference of the documents listed in Table 1 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Middle River Aircraft Systems, Mail Point 46, 103 Chesapeake Park Plaza, Baltimore, MD, 21220, attn: Warranty Support, telephone: (410) 682-0094, fax: (410) 682-0100 for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

**Table 1 – Incorporation by Reference**

<b>Middle River Aircraft Systems Alert Service Bulletin No.</b>	<b>Page</b>	<b>Revision</b>	<b>Date</b>
CF6-50 S/B 78A3001	All	4	August 30, 2007
Total Pages: 50			
CF6-80A1/A3 S/B 78A1002	All	5	July 19, 2007
Total Pages: 38			
CF6-80C2A1/A2/A3/A5/A8/A5F S/B 78A1015	All	7	August 30, 2007
Total Pages: 36			

Issued in Burlington, Massachusetts, on January 15, 2008.

Peter A. White,  
 Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.  
 [FR Doc. E8-975 Filed 1-23-08; 8:45 am]