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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-27687; Directorate Identifier 2000-NE-42-AD; Amendment 39-15012; AD 2007-07-07]

RIN 2120-AA64

Airworthiness Directives; General Electric Company CF34-1A, -3A, -3A1, -3A2, -3B, and -3B1 Turbofan Engines

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

ACTION: Final rule; request for comments.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) for General Electric Company (GE) CF34-1A, -3A, -3A1, -3A2, -3B, and -3B1 turbofan engines. That AD requires a onetime inspection of certain fan disks for electrical arc-out indications, replacing fan disks with electrical arc-out indications, and reducing the life limit of certain fan disks. This AD requires the same reduced life limit of certain fan disks, but requires on-wing inspection of certain fan disks installed on regional jets within 500 flight hours after the effective date of this AD. This AD also requires more enhanced shop-level inspections of all fan disks for electrical arc-out defects. This AD results from a report that in January 2007, a CF34-3B1 turbofan engine experienced an uncontained fan disk failure during flight operation. We are issuing this AD to prevent an uncontained fan disk failure and airplane damage.

DATES: Effective April 23, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of April 23, 2007.

We must receive any comments on this AD by June 5, 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: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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: Tara Chaidez, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: tara.chaidez@faa.gov; telephone (781) 238-7773; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: On February 24, 2006, the FAA issued AD 2006-05-04, Amendment 39-14501 (71 FR 10832; March 3, 2006). That AD requires a onetime inspection, and if necessary replacement of certain fan disks for electrical arc-out defects. That AD also reduces the life limit of certain fan disks. That AD was the result of a fan disk crack found during a visual inspection as part of routine engine maintenance. That condition, if not corrected, could result in an uncontained failure of the engine.

Actions Since AD 2006-05-04 was Issued

Since that AD was issued, a CF34-3B1 turbofan engine experienced an uncontained fan disk failure during flight operation, in January 2007. An inspection of the recovered segments of the fan disk found an electrical arc-out defect at the fracture origin site. The fan disk was marked using the electro-chemical etch marking (ECM) procedure during engine assembly. If the ECM procedure is performed incorrectly, an arc-out defect can occur. This arc-out defect, caused during part marking, resulted in the uncontained failure.

The uncontained fan disk failure during flight operation in January 2007 showed that the inspections in GE Service Bulletin No. CF34-BJ 72-A0088, Revision 1, dated October 30, 2000 and in GE Alert Service Bulletin (ASB) No. CF34-AL 72-A0103, dated August 4, 2000, mandated by AD 2006-05-04, are not adequate to find all electrical arc-out defects.

We issued emergency AD 2007-04-51 on February 16, 2007, and its follow-up published version, AD 2007-05-16, on February 28, 2007, to perform an enhanced onetime inspection of a high-risk suspect population of 31 fan disks. While complying with those ADs, operators found indications of additional electrical arc-out defects.

Because these additional indications of electrical arc-out defects validate our concern for the significant risk posed in the remaining suspect population of fan disks, we are issuing this final rule; request for comments AD. This AD requires an accelerated inspection schedule using the improved inspections of the three GE ASBs listed below. These ASBs include fluorescent penetrant inspection (FPI), tactile and enhanced visual (TEV) inspection, and eddy current inspection (ECI) for finding electrical arc-out defects. This condition, if not corrected, could result in an uncontained fan disk failure and airplane damage.

Relevant Service Information

We have reviewed and approved the technical contents of GE ASBs No. CF34-BJ S/B 72-A0212, Revision 2, dated March 22, 2007, ASB No. CF34-AL S/B 72-A0233, Revision 2, dated March 22, 2007, and ASB No. CF34-AL S/B 72-A0231, dated March 7, 2007. All three ASBs list the affected fan disks by serial number and part number. The first two ASBs describe procedures for performing FPI, a tactile and TEV inspection, and ECI for cracks and electrical arc-out defects. The third ASB describes procedures for performing an on-wing TEV inspection of fan disks for electrical arc-out defects.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other GE CF34-1A, -3A, -3A1, -3A2, -3B, and -3B1 turbofan engines of the same type design. We are issuing this AD to prevent an uncontained fan disk failure and airplane damage. This AD requires on-wing TEV inspection of fan disks for electrical arc-out defects on fan disks installed on regional jets within 500 flight hours after the effective date of this AD. This AD also requires for all affected fan disks shop-level FPI, enhanced TEV, and ECI inspections for cracks and electrical arc-out defects. This AD also carries forward from AD 2006-05-04 the reduced life limit for certain fan disks. You must use the service information described previously to perform the actions required by this AD.

FAA's Determination of the Effective Date

Since an unsafe condition exists that requires the immediate adoption of this AD, we have found that notice and opportunity for public comment before issuing this AD are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

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-2007-27687; Directorate Identifier 2000-NE-42-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 docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility between 9 a.m. and 5 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.

Docket Number Change

We are transferring the docket for this AD to the Docket Management System as part of our ongoing docket management consolidation efforts. The new Docket No. is FAA-2007-27687. The old Docket No. became the Directorate Identifier, which is 2000-NE-42-AD. This AD might get logged into the DMS docket, ahead of the previously collected documents from the old docket file, as we are in the process of sending those items to the DMS.

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, Incorporation by reference, 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 removing Amendment 39-14501 (71 FR 10832; March 3, 2006), and by adding a new airworthiness directive, Amendment 39-15012, to read as follows:



2007-07-07 General Electric Company: Amendment 39-15012. Docket No. FAA-2007-27687; Directorate Identifier 2000-NE-42-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective April 23, 2007.

Affected ADs

(b) This AD supersedes AD 2006-05-04.

Applicability

(c) This AD applies to General Electric Company (GE) CF34-1A, -3A, -3A1, -3A2, -3B, and -3B1 turbofan engines, with fan disks part numbers (P/Ns) 5921T18G01, 5921T18G09, 5921T18G10, 5921T54G01, 5922T01G02, 5922T01G04, 5922T01G05, 6020T62G04, 6020T62G05, 6078T00G01, 6078T57G01, 6078T57G02, 6078T57G03, 6078T57G04, 6078T57G05, and 6078T57G06 installed. These engines are installed on, but not limited to, Bombardier Canadair airplane models CL-600-2A12, -2B16, and -2B19.

Unsafe Condition

(d) This AD results from a report that in January 2007, a CF34-3B1 turbofan engine experienced an uncontained fan disk failure during flight operation. We are issuing this AD to prevent an uncontained fan disk failure and airplane damage.

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.

Removal of Certain Fan Disks From Service

(f) For fan disks listed by P/N and SN in the following Table A that have fewer than 8,000 cycles-since-new (CSN) on the effective date of this AD, replace fan disks before accumulating 8,000 CSN:

Table A - Fan Disks that Require Removal Based on Blended Callouts

Disk Part Number	Disk Serial Number
6078T57G02	GAT6306N
6078T00G01	GAT3860G
6078T57G02	GAT1924L
5922T01G04	GAT9599G
6078T57G04	GEE05831
6078T57G04	GEE06612
6078T57G04	GEE06618
6078T57G04	GEE06974
6078T57G04	GEE06980
6078T57G05	GEE143FY
6078T57G05	GEE1453G
6078T57G05	GEE14452
6078T57G05	GEE145NA
6078T57G04	GEE08086
6078T57G04	GEE09287
6078T57G04	GEE09337
6078T57G05	GEE12720
6078T57G05	GEE14214
6078T57G05	GEE142YT
6078T57G05	GEE146GT

(g) For fan disks listed in Table A of this AD that have 8,000 CSN or more on the effective date of this AD, replace the disk within 15 days after the effective date of this AD.

Inspections of Fan Disks Installed in Regional Jet Airplanes

(h) For CF34-3A1 and CF34-3B1 turbofan engines installed on Bombardier Canadair CL600-2B19 Regional Jet airplanes:

On-Wing Tactile and Enhanced Visual (TEV) Inspection

(1) On-wing TEV inspect the fan disks listed by P/N and SN in Table 1 of GE Alert Service Bulletin (ASB) No. CF34-AL S/B 72-A0231, dated March 7, 2007, using the compliance times specified in the following Table B:

Table B - Regional Jet On-wing Fan Disk Inspection Compliance Times

For Fan Disks:	Inspect:
(i) That have not had a shop-level inspection.	Within 500 flight hours after the effective date of this AD.
(ii) That are marked with an asterisk in Table 1 of GE ASB No. CF34-AL S/B 72-A0231, dated March 7, 2007.	Within 500 flight hours after the effective date of this AD.

(2) Use paragraphs 3.A. through 3.A.(13) of the Accomplishment Instructions of GE ASB No. CF34-AL S/B 72-A0231, dated March 7, 2007, to do the inspection.

Shop-level Inspection

(3) Within 5,000 flight hours or 5 calendar years after the effective date of this AD, whichever occurs first, fluorescent penetrant inspect (FPI), TEV inspect, and eddy current inspect (ECI) at shop-level for cracks and electrical arc-out defects on the fan disks listed by P/N and SN in Table 1 of GE ASB No. CF34-AL S/B 72-A0233, Revision 2, dated March 22, 2007.

(4) Use paragraphs 3.A.(1) through 3.A.(6) of the Accomplishment Instructions of GE ASB No. CF34-AL S/B 72-A0233, Revision 2, dated March 22, 2007, to do the inspections.

Shop-level Inspection Exemption

(5) Fan disks are exempt from the shop-level inspection that meet the following criteria:

- (i) Fan disks inspected before the effective date of this AD per GE Engine Manual No. SEI-756, Section 72-21-00 (FAN ROTOR ASSEMBLY INSPECTION); and
- (ii) That have accumulated no more than 100 cycles since that inspection; and
- (iii) That pass the on-wing TEV inspection in paragraph (h)(2) of this AD.

Inspection of Fan Disks Installed in Business Jet Airplanes

(i) For CF34-1A, -3A, -3A1, -3A2, and -3B turbofan engines installed on Bombardier Canadair Models CL-600-2A12 (CL-601), CL-600-2B16 (CL-601-3A), (CL-601-3R), and (CL-604) Business Jet airplanes:

(1) FPI, TEV inspect, and ECI for cracks and electrical arc-out defects at shop-level on the fan disks listed by P/N and SN in Table 1 of GE ASB No. CF34-BJ S/B 72-A0212, Revision 2, dated March 22, 2007, using the compliance times specified in the following Table C:

Table C - Business Jet Shop-level Fan Disk Inspection Compliance Times

For Fan Disks:	Inspect:
(i) That have more than 5,500 flight hours on the effective date of this AD.	Within 500 flight hours after the effective date of this AD.
(ii) That have 5,500 or fewer flight hours on the effective date of this AD.	Within accumulating a total of 6,000 fan disk operating hours-since-new, or 5 calendar years, whichever occurs first.

(2) Use paragraphs 3.A. through 3.A.(10) of the Accomplishment Instructions of GE ASB No. CF34-BJ S/B 72-A0212, Revision 2, dated March 22, 2007, to do the inspections.

Reporting Requirements

(j) Report the results of the on-wing inspections performed in paragraph (h)(2) by following the instructions in paragraph 3.A.(14) of the Accomplishment Instructions of GE ASB No. CF34-AL S/B 72-A0231, dated March 7, 2007. Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD, and has assigned OMB Control Number 2120-0056.

Previous Credit

(k) Credit is allowed for fan disks previously shop-level inspected using GE ASB No. CF34-AL S/B 72-A0233, dated March 7, 2007 or Revision 1 of that ASB dated March 16, 2007, or GE ASB No. CF34-BJ S/B 72-A0212, dated March 7, 2007 or Revision 1 of that ASB dated March 16, 2007, before the effective date of this AD.

Alternative Methods of Compliance

(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) Emergency AD 2007-04-51 and AD 2007-05-16 also pertain to the subject of this AD.

Material Incorporated by Reference

(n) You must use the General Electric Alert Service Bulletins listed in Table D 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 D of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You can get a copy 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 can review copies at the FAA, New England Region, Office of the Regional Counsel, 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 D – Incorporation by Reference

Alert Service Bulletin No.	Page Number	Revision	Date
CF34-AL S/B 72-A0231 Total Pages: 94	All	Original	March 7, 2007
CF34-AL S/B 72-A0233 Total Pages: 91	All	2	March 22, 2007
CF34-BJ S/B 72-A0212 Total Pages: 95	All	2	March 22, 2007

Issued in Burlington, Massachusetts, on March 30, 2007.

Peter A. White,

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

[FR Doc. E7-6345 Filed 4-5-07; 8:45 am]