[Federal Register: February 26, 2004 (Volume 69, Number 38)]
[Rules and Regulations]
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[DOCID:fr26fe04-3]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2004-NE-05-AD; Amendment 39-13488; AD 2004-04-07]

RIN 2120-AA64

Airworthiness Directives; General Electric Company (GE) CF6-80 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is superseding two existing airworthiness directives (ADs) for GE CF6-80 series turbofan engines with certain stage 1 high-pressure turbine (HPT) rotor disks. Those ADs currently require initial and repetitive inspections of certain stage 1 HPT rotor disks for cracks in the bottom of the dovetail slot. This action retains the initial inspection requirement, as a qualification for the mandatory rework procedures for certain disks, and continues repetitive inspections only for the disks for which the rework procedures are not yet defined. This action requires reworking certain disks before further flight. In addition, this AD expands the population of affected engines and removes certain CF6-80E1 series disks from service. This AD results from the manufacturer's investigation and development of a rework procedure that chamfers the aft breakedge of the dovetail slot bottom. We are issuing this AD to detect and prevent cracks in the bottoms of the dovetail slots that could propagate to failure of the disk and cause an uncontained engine failure.

DATES: Effective March 12, 2004. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of March 12, 2004.

We must receive any comments on this AD by April 26, 2004.

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

- By mail: Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2004-NE-05-AD, 12 New England Executive Park, Burlington, MA 01803-5299.
- By fax: (781) 238-7055.
- By e-mail: 9-ane-adcomment@faa.gov

You can get the service information referenced 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; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Anthony W. Cerra Jr., Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: (781) 238-7128, fax: (781) 238-7199.

SUPPLEMENTARY INFORMATION: On May 10, 2001, the FAA issued AD 2001-10-07, Amendment 39-12233 (66 FR 27592, May 18, 2001). That AD requires initial and repetitive inspections of certain stage 1 HPT rotor disks installed on CF6-80C2 turbofan engines for cracks in the bottoms of the dovetail slots. That AD resulted from a report of an uncontained failure of an engine during a high-power ground run during maintenance. On January 2, 2003, we issued AD 2003-01-05, Amendment 39-13016 (68 FR 1519, January 13, 2003). That AD requires initial and repetitive inspections of certain stage 1 HPT rotor disks installed on CF6-80A series turbofan engines for cracks in the bottoms of the dovetail slots. AD 2003-01-05 resulted from a report of an uncontained failure of a CF6-80A series engine during climb. The manufacturer investigated those two failures as well as findings of cracks on other disks to determine the root cause of the failures. Those investigations showed that the cracks started from tool marks, broach burrs, damage sustained from improper handling and processing, and other unknown causes. The manufacturer and the FAA have determined that those conditions could also exist on stage 1 HPT rotor disks that are installed in certain CF6-80E1 series turbofan engines. Those conditions, if not corrected, could result in cracks in the bottoms of the dovetail slots that could propagate to failure of the disk and cause an uncontained engine failure.

Actions Since AD 2001-10-07 and AD 2003-01-05 Were Issued

Since we issued those ADs, the manufacturer developed a rework procedure to eliminate the root causes of the cracks. This rework procedure removes potentially damaged material from the breakedge and makes the geometry less susceptible to damage that could lead to cracks in the bottoms of the dovetail slots and subsequent failure. As part of the rework procedure, the disks are remarked with a different part number. The rework replaces the current requirements for initial and repetitive inspections on those disks for which rework is defined.

Stage 1 HPT rotor disks, part number (P/N) 9367M45G02, are an early configuration, and no parts are believed to be in service. These disks do not have rework procedures defined. Therefore the repetitive inspections remain for any disks that may still be in service.

The manufacturer developed a rework procedure for stage 1 HPT rotor disks, P/N 1862M23G01, to address cracks in the forward flange of the thermal shield by machining the profile of the slot bottom. A limited number of these disks were released to the field before the program was discontinued. These disks also do not have rework procedures defined because the chamfered breakedge rework machining was not developed for this limited number of parts.

We are considering additional rulemaking to add eddy current inspections of the bottom of the CF6-80A dovetail slots and the CF6-80A and CF6-80C2 chamfer surfaces to the Airworthiness Limitations Section of the Instructions for Continued Airworthiness as part of the FAA's "enhanced-disk inspection initiative."

Relevant Service Information

We have reviewed and approved the technical contents of the following GE Service Bulletins (SBs) and Alert Service Bulletin (ASB) that describe procedures for removing, inspecting, and reworking certain stage 1 HPT rotor disks:

- SB No. CF6-80E1 S/B 72-0251, dated January 22, 2004;
- SB No. CF6-80A S/B 72-0779, Revision 1, dated January 22, 2004;
- SB No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003;
- ASB No. CF6-80C2 S/B 72-A1026, Revision 2, dated January 22, 2004;
- SB No. CF6-80C2 S/B 72-1089, Revision 2, dated December 18, 2003.

Differences Between This AD and the Service Information

The differences between this AD and the service information are as follows:

- GE SB No. CF6-80A S/B 72-0779, Revision 1, dated January 22, 2004, applies to certain CF6-80A stage 1 HPT rotor disks and requires an initial inspection at next exposure. However, this AD requires only the stage 1 HPT rotor disks, P/N 9367M45G02, to have only an initial inspection at the next shop visit, subject to cycle limitations and subsequent repetitive inspections at each piece part exposure. This AD requires the other HPT rotor disks, to which the SB applies, to have the rework defined in SB No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003. This AD also requires the inspection of stage 1 HPT rotor disks, P/N 9367M45G02, which have zero cycles-since-new (CSN) before installation into the engine. The SB does not.
- GE ASB No. CF6-80C2 S/B 72-A1026, Revision 2, dated January 22, 2004, applies to certain CF6-80C2 stage 1 HPT rotor disks, and requires initial inspections of the stage 1 HPT rotor disks at the next shop visit. However, this AD requires only the stage 1 HPT rotor disks, P/N 1862M23G01, to have only an initial inspection at the next shop visit, subject to cycle limitations, and subsequent repetitive inspections at each piece-part exposure. This AD requires the other HPT rotor disks, to which this ASB applies, to have the rework defined in SB No. CF6-80C2 S/B 72-1089, Revision 2, dated December 18, 2003. The cycle limitations in the AD are based on the latest risk analysis for CF6-80A and CF6-80C2 engines where the ASB's cycle limitations are based on a risk analysis completed in 2001 for only CF6-80C2 engines. This AD also requires the inspection of stage 1 HPT rotor disks, P/N 1862M23G01, which have zero CSN before installation into the engine. The ASB does not.
- There are no differences between GE SB No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003, and GE SB No. CF6-80C2 S/B 72-1089, Revision 2, dated December 18, 2003, and this AD except for the introduction of compliance cycle limitations.
- There are no differences between GE SB No. CF6-80E1 S/B 72-0251, dated January 22, 2004, and this AD.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other GE CF6-80 series turbofan engines of the same type design. We are issuing this AD to detect and prevent cracks in the bottoms of the dovetail slots that could propagate to failure of the disk and cause an uncontained engine failure. This AD requires rework of the dovetail slot bottom of certain stage 1 rotor disks. The disks must pass an inspection to qualify for the rework. Disks for which the rework has not been defined must continue to receive initial and repetitive inspections. In addition, this AD expands the population of affected engines and removes from service certain CF6-80E1 series 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.

Changes to 14 CFR Part 39–Effect on the AD

On July 10, 2002, we issued a new version of 14 CFR part 39 (67 FR 47998, July 22, 2002), which governs our AD system. This regulation now includes material that relates to special flight permits, alternative methods of compliance, and altered products. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

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 submit any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. 2004-NE-05-AD" in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it. If a person contacts us verbally, and that contact relates to a substantive part of this AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the AD in light of those comments.

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 with you. You may 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 AD Docket (including any comments and service information), by appointment, between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. See ADDRESSES for the location.

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 the 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. 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. 2004-NE-05-AD" in your request.

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 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 39-12233 (66 FR 27592, May 18, 2001), and Amendment 39-13016 (68 FR 1519, January 13, 2003), and by adding a new airworthiness directive, Amendment 39-13488, to read as follows:

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"

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).

2004-04-07 General Electric Company: Amendment 39-13488. Docket No. 2004-NE-05-AD. Supersedes AD 2001-10-07, Amendment 39-12233, and AD 2003-01-05, Amendment 39-13016.

Effective Date

(a) This airworthiness directive (AD) becomes effective March 12, 2004.

Affected ADs

(b) This AD supersedes AD 2001-10-07 and AD 2003-01-05.

Applicability

(c) This AD applies to the General Electric Company (GE) CF6-80 turbofan engine models listed in the following Table 1:

TABLE 1.—APPLICABILITY MODELS, PART NUMBERS, AIRPLANES

Models	Stage 1 high pressure turbine (HPT) rotor disk part Nos. (PNs)	Engines installed on but not limited to
CF6–80A, CF6–80A1, CF6–80A2, CF6–80A3	9234M67G22/G24/G25/G26. 9362M58G02/G06/G07/G09. 9367M45G02/G04/G09.	Airbus A310 and Boeing 767 airplanes.
CF6–80C2A1, CF6–80C2A2, CF6–80C2A3, CF6–80C2A5, CF6–80C2A8, CF6–80C2A5F, CF6–80C2B1, CF6–80C2B2, CF6–80C2B4, CF6–80C2B6, CF6–80C2B1F, CF6–80C2B2F, CF6–80C2B4F, CF6–80C2B5F, CF6–80C2B6F, CF6–80C2B6FA, CF6–80C2B7F, CF6–80C2D1F	1862M23G01. 9392M23G10/G12/G21. 1531M84G02/G06/G08/G10.	Airbus A300, A310, Boeing 747, 767, and McDonnell Douglas MD11 airplanes.
CF6–80E1A2, CF6–80E1A4	1639M41P04	Airbus A330 airplanes.

These engines are installed on, but not limited to, the airplanes listed in Table 1 of this AD.

Unsafe Condition

(d) This AD results from the manufacturer's investigation and development of a rework procedure that chamfers the aft breakedge of the dovetail slot bottom. The actions specified in this AD are intended to detect and prevent cracks in the bottoms of the dovetail slots that could propagate to failure of the disk and cause an uncontained engine failure.

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.

CF6-80A, -80A1, -80A2, and -80A3 Engines

Stage 1 HPT Rotor Disks, P/N 9362M58G09, With Chamfered Breakedges

(f) At the next piece-part exposure after the effective date of this AD, for stage 1 HPT rotor disks, P/N 9362M58G09, with SNs listed in Table 2 of this AD, do the following:

TABLE 2. —SNS OF CF6-80A SERIES STAGE 1 HPT ROTOR DISK P/N 9362M58G09– WITH CHAMFERED BREAKEDGES

GWN03RD7	GWN042J3	GWN04HRD	GWN04M9K	GWN03TKG	GWN04FW2
GWN04HRE	GWN04M9L	GWN03TKH	GWN04FW3	GWN04HRF	GWN04M9M
GWN03TKJ	GWN04FW4	GWN04HRG	GWN04M9R	GWN03W3M	GWN04FW5
GWN04HRH	GWN04M9T	GWN03W3N	GWN04H0M	GWN04K8N	GWN04M9W
GWN03W3R	GWN04HRA	GWN04M9J			

(1) Visually inspect the rotor disks for the presence of a chamfer on the aft breakedges of the dovetail slot bottoms. Use paragraph 3.A. of GE Service Bulletin (SB) No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003, to do the inspection.

(2) For disks that have the chamfered breakedges, remark, fluorescent penetrant inspect (FPI), and eddy current inspect (ECI) the rotor disk. Use paragraph 3.A.(1)(a) through 3.A.(1)(b) of the Accomplishment Instructions of GE SB No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003, to remark and inspect the rotor disk and remove from service as necessary.

(3) For disks that do not have the chamfered breakedges, inspect, rework and remark the rotor disk. Use paragraph 3.A(2)(a) through 3.A(2)(b) of the Accomplishment Instructions of GE SB No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003, to inspect, rework, and remark the disk and remove from service as necessary.

Stage 1 HPT Rotor Disks, P/Ns 9234M67G22, G24, G25, G26, 9367M45G04, G09, 9362M58G02, G06, G07, and 9362M58G09 With SNs Not Listed in Table 2 of This AD

(g) For stage 1 HPT rotor disks, P/Ns 9234M67G22, G24, G25, G26, 9367M45G04, G09, 9362M58G02, G06, G07, and 9362M58G09 with SNs not listed in Table 2 of this AD, inspect, rework, and remark the disks using paragraphs 3.A.(2) through 3.B.(2) of Accomplishment Instructions of GE SB No. CF6-80A S/B 72-0788, Revision 2, dated December 17, 2003, at the following:

(1) For stage 1 HPT rotor disks not installed in engines with both new and old hardware, inspect, rework, remark, and remove from service as necessary before further flight.

(2) For stage 1 HPT rotor disks that have been inspected before the effective date of this AD using any version of GE SB No. CF6-80A S/B 72-0779, inspect, rework, remark, and remove from service as necessary at the next Engine Shop Visit (ESV) using the compliance times in the following Table 3:

TABLE 3.—COMPLIANCE TIMES FOR INSPECTION AND REWORK OF CF6–80A SERIES STAGE 1 HPT ROTOR DISKS, P/NS 9234M67G22, G24, G25, G26, 9367M45G04, G09, 9362M58G02, G06, G07, AND 9362M58G09 WITH SNS NOT LISTED IN TABLE 2 OF THIS AD—PREVIOUSLY INSPECTED

Stage 1 HPT rotor disk cycles-since-last-inspection (CSLI) on the effective date of this AD	Compliance time for inspection and rework
(i) More than 1,500 CSLI	At the next ESV after the effective date of this AD, but not to exceed 4,500 CSLI.
(ii) 1,500 CSLI or fewer	At the next ESV after the effective date of this AD, but not to exceed 3,500 CSLI.

(3) For stage 1 HPT rotor disks that have not been inspected before the effective date of this AD using any version of GE SB No. CF6-80A S/B 72-0779, inspect, rework, remark, and remove from service as necessary at the next ESV using the compliance times in the following Table 4:

TABLE 4. COMPLIANCE TIMES FOR INSPECTION AND REWORK OF CF6–80A SERIES STAGE 1 HPT ROTOR DISKS, P/NS 9234M67G22, G24, G25, G26, 9367M45G04, G09, 9362M58G02, G06, G07, AND 9362M58G09 WITH SNS NOT LISTED IN TABLE 2 OF THIS AD—NOT PREVIOUSLY INSPECTED

Stage 1 HPT rotor disk cycles-since-new (CSN) on the effective date of this AD	Compliance time for inspection and rework
(i) 10,000 or more CSN	At the next ESV or within 1,000 cycles-in-service (CIS) after the effective date of this AD, whichever occurs first.
(ii) 5,000 or more CSN but fewer than 10,000 CSN	At the next ESV or within 2,400 CIS after the effective date of this AD, whichever occurs first, but before accumulating 11,000 CSN.
(iii) Fewer than 5,000 CSN	At the next ESV or within 3,500 CIS after the effective date of this AD, whichever occurs first, but before accumulating 7,400 CSN.

Stage 1 HPT Rotor Disks, P/N 9367M45G02

(h) For stage 1 HPT rotor disks, P/N 9367M45G02, inspect the rotor disk dovetail slot bottoms and remove the disk from service as necessary using paragraphs 3.A. through 3.C.(10)(i) of Accomplishment Instructions of GE SB No. CF6-80A S/B 72-0779, Revision 1, dated January 22, 2004, at the following times:

(1) For stage 1 HPT rotor disks not installed in engines with both new and old hardware, inspect and remove from service as necessary before further flight.

(2) For stage 1 HPT rotor disks that have been inspected before the effective date of this AD using any version of GE SB No. CF6-80A S/B 72-0779, and had more than zero CSN at the time of that inspection, inspect and remove from service as necessary at each piece-part exposure.

(3) For stage 1 HPT rotor disks that have not been inspected, or were only inspected with zero CSN before the effective date of this AD using any version of GE SB No. CF6-80A S/B 72-0779, inspect and remove from service as necessary at the next ESV using the compliance times in the following Table 5:

TABLE 5. COMPLIANCE TIMES FOR INSPECTION OF CF6–80A SERIES STAGE 1 HPT ROTOR DISKS, P/N 9367M45G02—NOT PREVIOUSLY INSPECTED

Stage 1 HPT rotor disk CSN on the effective date of this AD	Compliance time for initial inspection
(i) 10,000 or more CSN	At the next ESV or within 1,000 CIS after the effective date of this AD, whichever occurs first.
(ii) 5,000 or more CSN but fewer than 10,000 CSN	At the next ESV or within 2,400 CIS after the effective date of this AD, whichever occurs first, but before accumulating 11,000 CSN.
(iii) Fewer than 5,000 CSN	At the next ESV or within 3,500 CIS after the effective date of this AD, whichever occurs first, but before accumulating 7,400 CSN.

(4) Thereafter, inspect at each piece-part exposure, and remove the rotor disk from service if necessary.

CF6-80C2 Series Engines

Stage 1 HPT Rotor Disks, P/N 1531M84G10, With Chamfered Breakedges

(i) At the next piece-part exposure after the effective date of this AD, for stage 1 HPT rotor disks, P/N 1531M84G10, with SNs listed in Table 6 of this AD, do the following:

Table 6.–SNs of CF6-80C2 Series Stage 1 HPT Rotor Disks, P/N 1531M84G10, With Chamfered Breakedges

GWN03111	GWN0369J	GWN03K3F	GWN03RPD	GWN049JM	GWN03114
GWN036JG	GWN03K3G	GWN03RPE	GWN049M7	GWN03501	GWN036JH
GWN03K3H	GWN03RPF	GWN049M8	GWN03699	GWN036JJ	GWN03K3K
GWN03RPG	GWN049M9	GWN03752	GWN036JK	GWN03K3L	GWN0402A
GWN04AEP	GWN03753	GWN036JL	GWN03K3M	GWN0402E	GWN04AER
GWN03754	GWN036JM	GWN03K3N	GWN0402F	GWN04AET	GWN03755
GWN036JN	GWN03K3R	GWN0402G	GWN04ALR	GWN03756	GWN0375A
GWN03K3T	GWN0402H	GWN04ALT	GWN03757	GWN0375C	GWN03K3W
GWN0402J	GWN04ALW	GWN03759	GWN0375D	GWN03K40	GWN0402K
GWN04AM0	GWN03981	GWN0375E	GWN03K6J	GWN0402L	GWN04AM1
GWN03982	GWN037H2	GWN03K7R	GWN0402M	GWN04AM2	GWN03983
GWN0398A	GWN03K7T	GWN0402N	GWN04AM3	GWN03984	GWN0398C
GWN03KR1	GWN0402P	GWN04AM4	GWN03985	GWN039PF	GWN03KR2
GWN040R5	GWN04CGJ	GWN03986	GWN039PG	GWN03KR3	GWN0418A
GWN04CGL	GWN03987	GWN039PH	GWN03KR4	GWN0418C	GWN04CGN
GWN03988	GWN039PJ	GWN03KR5	GWN0418D	GWN04CGT	GWN03989
GWN039PK	GWN03KR6	GWN0418E	GWN04CGW	GWN04026	GWN039PL
GWN03KR7	GWN0418F	GWN04CH3	GWN04027	GWN039PM	GWN03KR8
GWN0418G	GWN04CH5	GWN04028	GWN039PN	GWN03KRA	GWN0418H

GWN04CH8	GWN04029	GWN03A4J	GWN03KRC	GWN0418J	GWN04CH9
GWN04189	GWN03A4K	GWN03KRD	GWN0418K	GWN04CHA	GWN04190
GWN03A4L	GWN03L2D	GWN0418L	GWN04CHC	GWN04191	GWN03A4M
GWN03L2E	GWN0418M	GWN04D52	GWN04366	GWN03A4N	GWN03L2F
GWN0418N	GWN04D54	GWN04722	GWN03A4P	GWN03LNF	GWN0418P
GWN04D55	GWN04726	GWN03A4R	GWN03LNJ	GWN0418R	GWN04D56
GWN04729	GWN03A4T	GWN03LNK	GWN0418T	GWN04D57	GWN031N2
GWN03A4W	GWN03M88	GWN0418W	GWN04D58	GWN031N3	GWN03C12
GWN03M89	GWN044DP	GWN04D59	GWN031N4	GWN03C13	GWN03M8C
GWN0454E	GWN04DPW	GWN031N5	GWN03C14	GWN03M8D	GWN0454F
GWN04DR4	GWN031N6	GWN03CA0	GWN03M8E	GWN0454G	GWN04DR9
GWN031N7	GWN03DC9	GWN03M8F	GWN0454H	GWN04DRE	GWN031N8
GWN03DCA	GWN03M8J	GWN0454J	GWN04DRJ	GWN031N9	GWN03DCC
GWN03M8K	GWN0454K	GWN04E9K	GWN031NA	GWN03DCD	GWN03NHN
GWN0454L	GWN04E9L	GWN031NC	GWN03DCE	GWN03NHP	GWN0454M
GWN04E9M	GWN032G1	GWN03DCF	GWN03NHR	GWN0454N	GWN04E9N
GWN032G2	GWN03DCG	GWN03NHT	GWN045T0	GWN04EM5	GWN032G3
GWN03DCH	GWN03R73	GWN045T1	GWN04EMA	GWN032G4	GWN03DCJ
GWN03R74	GWN045T2	GWN04EMK	GWN032G5	GWN03DCK	GWN03R75
GWN045T3	GWN04EML	GWN032G6	GWN03DCL	GWN03R76	GWN045T4
GWN04EMM	GWN032G7	GWN03DCM	GWN03R77	GWN045T5	GWN04F8N
GWN032G8	GWN03DCN	GWN03R78	GWN045T6	GWN04F8P	GWN032G9
GWN03DCP	GWN03R79	GWN045T7	GWN04FTJ	GWN032GE	GWN03DCR
GWN03R7A	GWN045T8	GWN04FTL	GWN0335P	GWN03DME	GWN03R7C
GWN045T9	GWN04FTM	GWN0335R	GWN03DMF	GWN03R7D	GWN045TA
GWN04FTN	GWN033C5	GWN03ER7	GWN03R7E	GWN045TC	GWN034KR
GWN03ER8	GWN03R7F	GWN045TD	GWN034KT	GWN03ER9	GWN03R7G
GWN045TE	GWN0350M	GWN03ERA	GWN03R7H	GWN045TF	GWN0350N
GWN03FTN	GWN03R9G	GWN045TG	GWN0350P	GWN03FTP	GWN03R9H
GWN045TH	GWN0350R	GWN03FTR	GWN03R9J	GWN046F6	GWN0350T
GWN03FTT	GWN03R9K	GWN046F7	GWN0350W	GWN03FTW	GWN03R9L
GWN046F8	GWN035M5	GWN03FW0	GWN03R9M	GWN047LG	GWN035M6
GWN03H56	GWN03R9N	GWN047LH	GWN035M7	GWN03H57	GWN03R9P
GWN047LJ	GWN035M8	GWN03H58	GWN03R9R	GWN047LK	GWN035M9
GWN03HTL	GWN03R9T	GWN047LL	GWN035MA	GWN03HTM	GWN03R9W
GWN048CD	GWN035MC	GWN03HTN	GWN03RA0	GWN048CF	GWN035MD
GWN03HTP	GWN03RA1	GWN048CG	GWN035TH	GWN03HTR	GWN03RA2
GWN048CH	GWN035TJ	GWN03HTT	GWN03RA3	GWN048CJ	GWN035TK
GWN03J8T	GWN03RA4	GWN048CK	GWN035TL	GWN03J8W	GWN03RA5
GWN048CM	GWN035TM	GWN03J90	GWN03RA6	GWN048CN	GWN0369A
GWN03J91	GWN03RA7	GWN048CP	GWN0369C	GWN03J92	GWN03RA8
GWN048CR	GWN0369D	GWN03JNN	GWN03RP7	GWN049GH	GWN0369E
GWN03JNP	GWN03RP9	GWN049GJ	GWN0369G	GWN03K3C	GWN03RPA
GWN049GK	GWN0369H	GWN03K3D	GWN03RPC	GWN049JL	

(1) Visually inspect the rotor disks for the presence of a chamfer on the aft breakedges of the dovetail slot bottoms. Use paragraph 3.A. of GE SB No. CF6-80C2 S/B 72-1089, Revision 2, dated December 18, 2003, to do the inspection.

(2) For disks that have the chamfered breakedges, remark, FPI, and ECI the rotor disk. Use paragraph 3.A.(1)(a) through 3.A.(1)(b) of the Accomplishment Instructions of GE SB No. CF6-

80C2 S/B 72-1089, Revision 2, dated December 18, 2003, to remark and inspect the rotor disk, and remove from service as necessary.

(3) For disks that do not have the chamfered breakedges, inspect, rework and remark the rotor disk. Use paragraph 3.A.(2)(a) through 3.A.(2)(b) of the Accomplishment Instructions of GE SB No. CF6-80C2 S/B 72-1089, Revision 2, dated December 18, 2003, to inspect, rework and remark the disk and remove from service as necessary.

Stage 1 HPT Rotor Disks, P/Ns 9392M23G10, G12, G21, 1531M84G02, G06, G08, and 1531M84G10 With SNs Not Listed in Table 6 of This AD

(j) For stage 1 HPT rotor disks, P/Ns 9392M23G10, G12, G21, 1531M84G02, G06, G08, and 1531M84G10 with SNs not listed in Table 6 of this AD, inspect, rework, and remark the disks using paragraphs 3.A.(2) through 3.B.(2) of Accomplishment Instructions of GE SB No. CF6-80C2 S/B 72-1089, Revision 2, dated December 18, 2003, at the following:

(1) For stage 1 HPT rotor disks not installed in engines with both new and old hardware, inspect, rework, remark, and remove from service as necessary before further flight.

(2) For stage 1 HPT rotor disks that have been inspected before the effective date of this AD using GE SB No. CF6-80C2 S/B 72-A1024, Revision 1, dated November 3, 2000, or any version of GE ASB No. CF6-80C2 S/B 72-A1026, inspect, rework, remark, and remove from service as necessary at the next ESV using the compliance times in the following Table 7:

TABLE 7.—COMPLIANCE TIMES FOR INSPECTION AND REWORK OF CF6–80C2 SERIES STAGE 1 HPT ROTOR DISKS, P/NS 9392M23G10, G12, G21, 1531M84G02, G06, G08, AND 1531M84G10 WITH SNS NOT LISTED IN TABLE 6 OF THIS AD—PREVIOUSLY INSPECTED

Stage 1 HPT rotor disk cycles-since-inspection (CSI) on the effective date of this AD	Compliance time for inspection and rework
(i) More than 1,500 CSLI	At the next ESV or within 4,500 CSLI after the effective date of this AD, whichever occurs first.
(ii) 1,500 CSLI or fewer	At the next ESV or within 3,500 CSLI after the effective date of this AD, whichever occurs first.

(3) For stage 1 HPT rotor disks that have not been inspected before the effective date of this AD using GE SB No. CF6-80C2 S/B 72-A1024, Revision 1, dated November 3, 2000, or any version of GE ASB No. CF6-80C2 S/B 72-A1026, inspect, rework, remark, and remove from service as necessary at the next ESV using the compliance times in the following Table 8:

TABLE 8.—COMPLIANCE TIMES FOR INSPECTION AND REWORK OF CF6–80C2 SERIES STAGE 1 HPT ROTOR DISKS, P/NS 9392M23G10, G12, G21, 1531M84G02, G06, G08, AND 1531M84G10 WITH SNS NOT LISTED IN TABLE 6 OF THIS AD—NOT PREVIOUSLY INSPECTED

Stage 1 HPT rotor disk cycles-since-new (CSN) on the effective date of this AD	Compliance time for inspection and rework
(i) 10,000 or more CSN	At the next ESV or within 1,000 CIS after the effective date of this AD, whichever occurs first.
(ii) 5,000 or more CSN but fewer than 10,000 CSN	At the next ESV or within 2400 CIS after the effective date of this AD, whichever occurs first, but before accumulating 11,000 CSN
(iii) Fewer than 5,000 CSN.	At the next ESV or within 3,500 CIS after the effective date of this AD, whichever occurs first, but before accumulating 7,400 CSN.

Stage 1 HPT Rotor Disks, P/N 1862M23G01

(k) For stage 1 HPT rotor disk, P/N 1862M23G01, inspect the rotor disk dovetail slot bottoms and remove the disk from service as necessary using paragraphs 3.A. through 3.C.(10)(i) of Accomplishment Instructions of GE ASB No. CF6-80C2 S/B 72-A1026, Revision 2, dated January 22, 2004, at the following times:

(1) For stage 1 HPT rotor disks not installed in engines with both new and old hardware, inspect and remove from service as necessary before further flight.

(2) For stage 1 HPT rotor disks that have been inspected before the effective date of this AD using any version of GE ASB No. CF6-80C2 S/B 72-A1026, and had more than zero CSN at the time of that inspection, inspect and remove from service as necessary at each piece-part exposure.

(3) For stage 1 HPT rotor disks that have not been inspected, or were only inspected with zero CSN before the effective date of this AD using any version of GE ASB No. CF6-80C2 S/B 72-A1026, inspect and remove from service as necessary at the next ESV using the compliance times in the following Table 9:

TABLE 9.—COMPLIANCE TIMES FOR INSPECTION OF CF6–80C2 SERIES STAGE 1 HPT ROTOR DISKS, P/N 1862M23G01—NOT PREVIOUSLY INSPECTED

Stage 1 HPT rotor disk CSN on the effective date of this AD	Compliance time for initial inspection
(i) 10,000 or more CSN	At the next ESV or within 1,000 CIS after the effective date of this AD, whichever occurs first.
(ii) 5,000 or more CSN but fewer than 10,000 CSN	At the next ESV or within 2,400 CIS after the effective date of this AD, whichever occurs first, but before accumulating 11,000 CSN.
(iii) Fewer than 5,000 CSN	At the next ESV or within 3,500 CIS after the effective date of this AD, whichever occurs first, but before accumulating 7,400 CSN.

(4) Thereafter, inspect at each piece-part exposure, and remove the rotor disk from service if necessary.

CF6-80E1A2, A4 Engines

Stage 1 HPT Rotor Disks, P/N 1639M41P04

(l) For stage 1 HPT rotor disks, P/N 1639M41P04, remove the rotor disks from service using paragraphs 3.A.(1) through 3.A.(2) of Accomplishment Instructions of GE SB No. CF6-80E1 S/B 72-0251, dated January 22, 2004, at the following times:

(1) For stage 1 HPT rotor disks currently in service, remove the disk using the compliance times in the following Table 10:

TABLE 10.—COMPLIANCE TIMES FOR REMOVAL OF CF6–80E1 STAGE 1 HPT ROTOR DISKS, P/N 1639M41P04

Stage 1 HPT rotor disk CSN on the effective date of this AD	Compliance time for removal of disk
(i) More than 10,000 CSN	At the next ESV or within 600 CIS after the effective date of this AD, whichever occurs first.
(ii) More than 5,000 CSN but fewer than or equal to 10,000 CSN	At the next ESV or within 2,500 CIS after the effective date of this AD, whichever occurs first, but before accumulating 10,600 CSN.
(iii) Fewer than or equal to 5,000 CSN	At the next ESV or within 3,500 CIS after the effective date of this AD, whichever occurs first, but before accumulating 7,500 CSN.

(2) After the effective date of this AD, do not install any stage 1 HPT rotor disk, P/N 1639M41P04, into any engine.

Definitions

(m) For the purpose of this AD, the following definitions apply:

(1) An engine shop visit (ESV) is defined as the removal of an engine from an aircraft for maintenance in which a major engine flange is disassembled after the effective date of this AD. The following actions, either separately or in combination with each other, are not considered ESVs for the purpose of this AD.

(i) The removal of the upper compressor stator case solely for airfoil maintenance.

(ii) The module level inspection of the high-pressure compressor rotor 3-9 spool.

(iii) The replacement of stage 5 high-pressure compressor variable stator vane bushings or lever arms.

(2) Piece-part exposure is defined as when:

(i) The stage 1 HPT rotor disk is considered completely disassembled according to the manufacturer's engine manual or other FAA-approved engine manual; and

(ii) The disk has accumulated more than 100 cycles-in-service since the last piece-part inspection, provided that the part was not damaged or the disassembly is not related to the cause for its removal from the engine.

Reporting Requirements

(n) Within five calendar days of the inspection, report the results of inspections that equal or exceed the reject criteria to: Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive park, Burlington, MA 01803-5299; telephone (781) 238-7128; fax (781) 238-7199. Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056. Be sure to include the following information:

(1) Engine model in which the stage 1 HPT rotor disk was installed.

(2) Part Number.

(3) Serial Number.

(4) Part CSN.

(5) Part CSLI.

(6) Date and location where inspection was done.

(o) We recommend that you record the inspection information and results on GE Form 1653-1, entitled CF6-80A/80C Stage 1 HPT Disk Dovetail Slot Bottom Inspection. This form is available in any version of GE SB CF6-80A S/B 72-0779, or GE ASB CF6-80C2 S/B 72-A1026. We also

recommend that a copy of the data be sent to GE Airline Support Engineering, General Electric Aircraft Engines, Customer Support Center, 1 Neumann Way, Mail Drop RM285, Cincinnati, OH, 45215.

Alternative Methods of Compliance

(p) 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

(q) You must use the service information specified in Table 11 to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of the documents listed in Table 11 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 may review copies at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. Table 11 follows:

TABLE 11.—INCORPORATION BY REFERENCE

Service bulletin no.	Page	Revision	Date
GE SB No. CF6–80E1 S/B 72–0251 Total Pages: 4	All	Original	January 22, 2004.
GE SB No. CF6–80A S/B 72–0779 Total Pages: 34	All	1	January 22, 2004.
GE SB No. CF6–80A S/B 72–0788 Total Pages: 10	All	2	December 17, 2003.
GE ASB No. CF6–80C2 S/B 72–A1026 Total Pages: 38	All	2	January 22, 2004.
GE SB No. CF6–80C2 S/B 72–1089 Total Pages: 11	All	2	December 18, 2003.

Related Information

(r) GE SB No. CF6-80C2 S/B 72-A1024, Revision 1, dated November 3, 2000 also pertains to the subject of this AD.

Issued in Burlington, Massachusetts, on February 13, 2004.
Peter A. White,
Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 04-3798 Filed 2-25-04; 8:45 am]
BILLING CODE 4910-13-U