

[Federal Register: March 4, 2005 (Volume 70, Number 42)]
[Rules and Regulations]
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr04mr05-1]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NE-43-AD; Amendment 39-13835; AD 2004-22-07]

RIN 2120-AA64

Airworthiness Directives; General Electric Company (GE) CF6-80C2 Turbofan Engines; Correction

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; correction.

SUMMARY: This document makes a correction to Airworthiness Directive (AD) 2004-22-07. That AD applies to GE CF6-80C2 turbofan engines with certain part number (P/N) high pressure turbine stage 2 nozzle guide vanes (HPT S2 NGVs) installed. That AD was published in the Federal Register on October 27, 2004 (69 FR 62571). The phrase "5.0 or more cycles per flight leg" in the Compliance section is incorrect. This document corrects that phrase. In all other respects, the original document remains the same.

EFFECTIVE DATE: Effective March 4, 2005.

FOR FURTHER INFORMATION CONTACT: Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA; telephone (781) 238-7148; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A final rule AD, FR Doc. 04-23929 that applies to GE CF6-80C2 turbofan engines with certain P/N HPT S2 NGVs installed, was published in the Federal Register on October 27, 2004 (69 FR 62571). The following correction is needed:

PART 39—[CORRECTED]

§ 39.13 [Corrected]

On page 62574, in the first column, in paragraph (h)(1), in the second line, "more cycles per flight leg," is corrected to read "more hours per flight leg,"

Issued in Burlington, MA, on February 24, 2005.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 05-4072 Filed 3-3-05; 8:45 am]

BILLING CODE 4910-13-U

[Federal Register: October 27, 2004 (Volume 69, Number 207)]
[Rules and Regulations]
[Page 62571-62574]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr27oc04-7]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NE-43-AD; Amendment 39-13835; AD 2004-22-07]

RIN 2120-AA64

Airworthiness Directives; General Electric Company (GE) CF6-80C2 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for GE CF6-80C2 turbofan engines with certain part number (P/N) high pressure turbine stage 2 nozzle guide vanes (HPT S2 NGVs) installed. This AD requires flex borescope inspections of HPT S2 NGVs installed in CF6-80C2 turbofan engines. This AD results from an uncontained engine failure due to HPT S2 NGV distress. We are issuing this AD to prevent blade separation from HPT S2 NGV distress, which could result in an uncontained engine failure.

DATES: This AD becomes effective December 1, 2004. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of December 1, 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 at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA. You may examine the service information, 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/code_of_federal_regulations/ibr_locations.html.

FOR FURTHER INFORMATION CONTACT: Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA; telephone (781) 238-7148; 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 turbofan engines with certain P/N HPT S2 NGVs installed. We published the proposed AD in the Federal Register on November 18, 2003 (68 FR 65000). That action proposed to require flex borescope inspections of certain P/N HPT S2 NGVs installed in CF6-80C2A1, -80C2A2, -80C2A3, -80C2A5, -80C2A5F, -80C2A8, -80C2B1, -80C2B1F, -80C2B2, -80C2B2F, -80C2B4, -80C2B4F, -80C2B5F, -80C2B6, -80C2B6F, -80C2B6FA, -80C2B7F, and -80C2D1F turbofan engines.

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

Comments

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

Requests To Limit the Required Inspections

Seven commenters ask that we limit the inspections required by the proposed AD to those parts listed in paragraph 1.C.(6) of GE Service Bulletin (SB) No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003, and that we revise Table 1 of the proposed AD to clarify the affected parts. The commenters state that those parts are the population recommended by the Manufacturer. We agree. We revised the applicability paragraph and Table 1 of the final rule for consistency with GE SB No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003. We also clarified the applicability of certain P/Ns in Table 1 by adding, "Insert, P/N 1957M40G01 or P/N 1957M40G02, was installed during modification or repair," to those parts.

Six commenters ask that we limit the inspections required by the proposed AD to areas of critical stress such as the leading edge and outer fillet areas of the HPT nozzle airfoil as specified in Paragraph 3.B.(3) of GE SB No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003. The commenters feel that the proposed AD requires inspecting HPT blades as well as the nozzles, but that the cracking of the nozzles is the primary cause of failure of the HPT blade. The commenters feel that the proposed AD requires inspecting noncritical areas of nozzles. We agree. We revised paragraph (f) of the final rule to state "Flex-borescope inspect the NGVs following paragraphs 3.B.(3) through 3.B.(5) of the * * *." We also deleted paragraphs (f)(1) through (f)(3)(ii) because they applied to HPT S2 NGVs that have not been repaired.

Requests for a Drawdown Allowance and Credit for Inspections Already Done

Five commenters ask that we provide an appropriate drawdown allowance for engines that have exceeded the threshold for the initial inspection, or provide credit for inspections that have already been done. The commenters feel that some engines might have already exceeded the initial limits. We agree that credit should be given for inspections that were performed before the effective date of the final rule, however, the proposed AD already provides for that credit by stating in paragraph (e) of the proposed AD "You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done". We changed paragraph (f)(2) of the final rule to state "For engines listed in paragraphs (f)(1)(i) and (f)(1)(ii) of this AD that are already beyond the initial inspection thresholds, inspect at or before accumulating an additional 200 CSO after the effective date of this AD."

Request To Add CF6-80C2B8F to the Applicability

Two commenters ask us to add the CF6-80C2B8F engine model to the Applicability. The commenters state that the engine model was in the SB before we issued the NPRM. We agree. We have added the CF6-80C2B8F engine model to the Applicability of the final rule.

Request To Withdraw the NPRM

Two commenters ask us to withdraw the NPRM because they do not feel there is an issue with safety of flight. One commenter states that they have not removed any engines for this cause. The other commenter states that the engine fragments that exited the engine via holes in the low pressure turbine case were small and caused only minor damage to the airplane. We do not agree. We identified an unsafe condition after an uncontained engine failure. We provided a discussion of the cause of the uncontained engine failure and how the condition could affect other engines of the same type design. We are issuing this AD to prevent future occurrences of the same unsafe condition.

Request To Change Blade Failure to Blade Separation

One commenter asks us to change "blade failure" to "blade separation." The commenter states this is consistent with using the term failure when the failure of the part is the primary cause. We agree. We have changed "blade failure" to "blade separation" in the final rule.

Request To Change CSO to CSN

One commenter asks us to state the inspection compliance times for new nozzles in paragraph (f)(2)(i) through (iii) in terms of "CSN." The commenter feels this will clarify the requirements. We agree that the change would have clarified the requirements of the original NPRM. However, based on previous comments, the final rule will apply only to repaired or modified nozzles and the paragraphs that the commenter asks us to change will not be included in the final rule.

Requests To Limit Reinspection Requirements

Two commenters ask us to limit the reinspection requirements in paragraph (g) for the outer fillet to Figure 5, sheets 1 and 2 of GE SB No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003. The commenters state that those sheets are the specific inspection requirements for cracking in the outer fillet. We agree. We added "Sheets 1 and 2" to paragraph (g) of the final rule.

Requests To Change the Reinspection intervals

Several commenters ask us to change the reinspection intervals that are incorporated by reference in paragraph (g). The commenters feel that the requirement to "reinspect at the next regular S2 Blade Inspection" as stated in Figure 5 of GE SB No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003, might be misleading. Although the next regular S2 Blade Inspection should coincide with 250 cycles-since-last-inspection (CSLI) for CF6-80C2D1F engines with 5.0 or more cycles per flight leg and 400 CSLI for all other engines, the lack of specific cyclic limits might cause confusion. We agree. We added new paragraphs (h), (h)(1), and (h)(2) to the final rule to define the next regular S2 Blade Inspection as cyclic limits of 250 and 400 CSLI respectively.

Request To Delete or Change the Paragraph Relating To Operation as More Than One Engine Configuration

Two commenters ask us to delete or change paragraph (h) of this AD, "Engines Operated as More than One Engine Model Configuration (Thrust Level)." Both commenters feel that we should delete paragraph (h) because the inspections are limited to repaired nozzles. One commenter also feels that we need a provision for engines that have operated at different thrust levels (i.e., reconfigured from one model to another model) before the initial inspection. We agree. We changed paragraph (i) of the final rule to require performing the initial inspection at the lowest applicable inspection threshold, and reinspection intervals associated with the current engine model configuration.

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

There are about 1,100 GE CF6-80C2 turbofan engines of the affected design in the worldwide fleet. We estimate that this AD will affect 300 of these engines installed on airplanes of U.S. registry. We also estimate that it will take about 2 work hours per engine to perform the inspections on engines that exhibit no damage, and therefore require no mapping of damage, and that the average labor rate is \$65 per work hour. Based on these figures, we estimate the total cost of this AD to U.S. operators to be \$39,000.

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-43-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 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:

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).

CORRECTION: [*Federal Register: March 4, 2005 (Volume 70, Number 42); Page 10485; www.access.gpo.gov/su_docs/aces/aces140.html*]

2004-22-07 General Electric Company: Amendment 39-13835. Docket No. 2003-NE-43-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective December 1, 2004.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to General Electric Company (GE) CF6-80C2A1, -80C2A2, -80C2A3, -80C2A5, -80C2A5F, -80C2A8, -80C2B1, -80C2B1F, -80C2B2, -80C2B2F, -80C2B4, -80C2B4F, -80C2B5F, -80C2B6, -80C2B6F, -80C2B6FA, -80C2B7F, -80C2B8F, and -80C2D1F turbofan engines, with the part numbers (P/Ns) of high pressure turbine (HPT) stage 2 nozzle guide vanes (HPT S2 NGVs) listed in the following Table 1, installed:

TABLE 1.—AFFECTED HPT S2 NGVS

HPT S2 NGV:	Provided that:
P/N 1347M66G03, P/N 1347M66G04, and P/Ns 1815M81G01 through 1815M81G07.	Insert, P/N 1957M40G01 or P/N 1957M40G02, was installed during repair.
P/Ns 9373M80G07 through 9373M80G22, and P/Ns 9373M80G25 through 9373M80G32.	Insert, P/N 1957M40G01 or P/N 1957M40G02, was installed during repair, or NGV was repaired by GE between April 1, 1998 through September 30, 1999.
P/Ns 9373M80G33 through 9373M80G36	Part was repaired.
P/Ns 2080M38G01 through 2080M38G16, and P/Ns 2080M38G19 through 2080M38G24.	Insert, P/N 1957M40G01 or P/N 1957M40G02, was installed during modification or repair.
P/Ns 2080M19G01 through 2080M19G04, P/Ns 2080M19G07 through 2080M19G16, P/Ns 2080M19G19 through 2080M19G46, P/Ns 2080M19G49 through 2080M19G70, and P/Ns 2080M19G73 through 2080M19G80.	Insert, P/N 1957M40G01 or P/N 1957M40G02, was installed during modification or repair.

These engines are installed on, but not limited to, Airbus A300, Airbus A310, Boeing 747, Boeing 767, and McDonnell Douglas MD-11 airplanes.

Unsafe Condition

(d) This AD results from an uncontained engine failure due to HPT S2 NGV distress. We are issuing this AD to prevent blade separation from HPT S2 NGV distress, which could result in 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.

Initial Flex Borescope Inspection of NGVs

(f) Flex-borescope inspect the NGVs following paragraph 3.B.(3) through 3.B.(5) of Accomplishment Instructions of GE Service Bulletin (SB) No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003, as follows:

Initial Inspection Thresholds

(1) For all P/N NGVs, initial-inspect after the effective date of this AD at the following applicable initial inspection thresholds:

(i) For CF6-80C2A2, -80C2B2, and -80C2B2F engines, inspect at or before accumulating 1,600 HPT cycles-since-overhaul (CSO).

(ii) For CF6-80C2A1, -80C2A3, -80C2A5, -80C2A5F, -80C2A8, -80C2B1, -80C2B1F, -80C2B4, -80C2B4F, -80C2B5F, -80C2B6, -80C2B6F, -80C2B6FA, -80C2B7F, -80C2B8F, and -80C2D1F engines, inspect at or before accumulating 800 CSO.

(2) For engines listed in paragraphs (f)(1)(i) and (f)(1)(ii) of this AD that are already beyond the initial inspection thresholds, inspect at or before accumulating an additional 200 CSO after the effective date of this AD.

Reinspection

(g) Reinspect or remove from service NGVs following the Conditions and Reinspection intervals listed in the "Inspection Table for Cracking in the Airfoil Outer Fillet", Figure 5, Sheets 1 and 2, of GE SB No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003.

(h) If the recommendation contained in Figure 5, Sheets 1 and 2, of GE SB No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003, states "reinspect at next regular S2 Blade inspection," then for the purposes of this AD, the next regular S2 Blade Inspection must be within the following intervals:

(1) For CF6-80C2D1F engines with 5.0 or more hours per flight leg, the next regular S2 Blade inspection means within 250 cycles-since-last-inspection (CSLI).

(2) For all other engines listed in paragraph (c) of this AD, the next regular S2 Blade inspection means within 400 CSLI.

Engines Operated as More Than One Engine Model Configuration (Thrust Level)

(i) For NGVs installed in engines operated as more than one engine model configuration (thrust level), use the lowest applicable initial inspection threshold, and use the reinspection intervals associated with the current engine model.

Alternative Methods of Compliance

(j) 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

(k) You must use GE Service Bulletin No. CF6-80C2 S/B 72-0952, Revision 6, dated May 5, 2003, to perform the inspections and removals required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin 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/code_of_federal_regulations/ibr_locations.html.

Related Information

(l) None.

Issued in Burlington, Massachusetts, on October 20, 2004.

Francis A. Favara,

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

[FR Doc. 04-23929 Filed 10-26-04; 8:45 am]

BILLING CODE 4910-13-P