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[Page 30956-30959]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-26488; Directorate Identifier 2006-NE-43-AD; Amendment 39-15077; AD 2007-11-20]

RIN 2120-AA64

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

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

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for GE CF6-80 series turbofan engines with fuel shroud retaining rings, part number (P/N) J204P0084, installed. This AD requires replacing those retaining rings with a more robust design fuel shroud retaining snap ring. This AD results from two events of external engine fuel leakage and a subsequent under-cowl engine fire. We are issuing this AD to prevent an under-cowl engine fire and damage to the airplane during an engine high vibration event.

DATES: This AD becomes effective July 10, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of July 10, 2007.

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 on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone: (781) 238-7176, 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 CF6-80 series turbofan engines with fuel shroud retaining rings, part number (P/N) J204P0084, installed. We published the proposed AD in the Federal Register on February 15, 2007 (72 FR 7355). That action proposed to require replacing those retaining rings with a more robust design fuel shroud retaining snap ring.

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.

Comments

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

Comment That Table 1 Compliance Schedule Is Somewhat Difficult To Follow

One commenter, GE, states that the Table 1 compliance schedule in the proposed AD is somewhat difficult to follow. The commenter states that the table needs lines or spaces added, to separate some of the items in it, for clarity.

We agree that the Table 1 compliance schedule in the proposed AD is difficult to follow. We have deleted the Table 1 compliance schedule from this AD, based on comments received on the proposed AD, and which are discussed in the paragraphs that follow.

Request To Reduce the AD Applicability

GE requests that we reduce the AD applicability to only engines with the drainless manifold configuration, since the drained manifold configuration is not subjected to high internal pressure. If a fuel supply tube leaks internally, the shroud contains the fuel, preventing an external leak. We agree and reduced the AD applicability in the AD to only engines with the drainless manifold configuration.

Request To Clarify Applicability

GE requests that we clarify the applicability to state that engines built at the factory during production assembly with the drainless manifold configuration, are also subject to the requirements of the AD. We agree and made that clarification in the AD.

SB Compliance Credit for CF6-80C2 Series Engines

GE suggests that we add a note or statement to the compliance section verifying that CF6-80C2 series engine operators that have complied with a previous revision of SB No. CF6-80C2 S/B 73-0337, are in compliance with the AD. We agree. We added the “SB Compliance Credit for CF6-80C2 Series Engines” paragraph to the AD.

Request To Revise the Compliance Section

KLM Royal Dutch Airlines requests that we revise the section of the compliance that states “Comply with this AD as soon as one or more fuel shroud retaining rings are removed from the engine” to, “Comply with this AD during next engine shop visit for any reason.” The commenter states that the AD action should be only at engine-level and not on-wing.

We agree that the AD action should be only at engine-level and not on-wing. That part of the proposed compliance section was for engines that had not incorporated GE SB No. CF6-80C2 S/B 73-0253 (which eliminates the fuel drain system manifold and introduces a new drainless fuel manifold). The result is that this AD now applies to only the drainless manifold configuration. In addition, we deleted the Table 1 compliance schedule because it is no longer needed, clarified compliance paragraph (g), and clarified applicability paragraphs (c) and (d) in this AD.

Request To Change Nomenclature

All Nippon Airways requests that we change the proposed AD nomenclature for the rings being removed, from “retaining snap ring” to “retaining ring”. We agree. We confirmed that GE's SBs refer to the removed rings as “retaining rings” and to the rings being installed as “snap rings.” We changed the nomenclature in the AD to reflect that which the SBs use.

Reference Table of Fuel Manifold Part Numbers Added

For reference, we added a Table under paragraph (f) which lists fuel manifold production part numbers.

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 853 CF6-80 series turbofan engines installed on airplanes of U.S. registry. We also estimate that it will take about 12.5 work-hours per engine to perform the actions, and that the average labor rate is \$80 per work-hour. Required parts will cost about \$72 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$914,416.

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 adding the following new airworthiness directive:



2007-11-20 General Electric Company: Amendment 39-15077. Docket No. FAA-2006-26488; Directorate Identifier 2006-NE-43-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective July 10, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the following General Electric Company (GE) CF6-80C2 series turbofan engines that have incorporated GE Service Bulletin (SB) No. CF6-80C2 S/B 73-0253, or were built with the drainless manifold configuration at the factory during production assembly, and, have one or more fuel shroud retaining rings, part number (P/N) J204P0084, installed:

CF6-80C2A1	CF6-80C2B1F
CF6-80C2A2	CF6-80C2B2F
CF6-80C2A3	CF6-80C2B4F
CF6-80C2A5	CF6-80C2B5F
CF6-80C2A8	CF6-80C2B6F
CF6-80C2A5F	CF6-80C2B6FA
CF6-80C2B1	CF6-80C2B7F
CF6-80C2B2	CF6-80C2B8F
CF6-80C2B4	CF6-80C2D1F
CF6-80C2B6	CF6-80C2L1F

(d) This AD also applies to GE CF6-80E1A1, CF6-80E1A2, CF6-80E1A3, CF6-80E1A4, and CF6-80E1A4B turbofan engines that have incorporated GE SB No. CF6-80E1 S/B 73-0026, or were built with the drainless manifold configuration at the factory during production assembly, and, have one or more fuel shroud retaining rings, P/N J204P0084, installed.

(e) These engines are installed on, but not limited to, Airbus A300, A310, A330, Boeing 747, 767, and McDonnell Douglas MD11 airplanes.

(f) For reference, the following Table 1 lists fuel manifold production P/Ns.

Table 1 - Reference of Fuel Manifold Production P/Ns

CF6-80C2 Series Engines	
Drained Fuel Manifold P/N (left side)	Drainless Fuel Manifold P/N (left side)
1303M31G04	
1303M31G06	
1303M31G07	
1303M31G08	
1303M31G10	1303M31G12
Drained Fuel Manifold (right side)	Drainless Fuel Manifold P/N (right side)
1303M32G04	
1303M32G06	
1303M32G07	
1303M32G08	
1303M32G10	1303M32G12
CF6-80 E1 Series Engines	
Drained Fuel Manifold P/N (left side)	Drainless Fuel Manifold P/N (left side)
1700M34G01	1303M31G12
Drained Fuel Manifold P/N (right side)	Drainless Fuel Manifold P/N (right side)
1700M35G02	1303M32G12

Unsafe Condition

(g) This AD results from two events of external engine fuel leakage and a subsequent under-cowl engine fire. We are issuing this AD to prevent an under-cowl engine fire and damage to the airplane during an engine high vibration event.

Compliance

(h) You are responsible for having the actions required by this AD performed at the next engine shop visit for any reason after the effective date of this AD, unless the actions have already been done.

Replacement of Fuel Shroud Retaining Snap Rings

(i) Replace any fuel shroud retaining rings, P/N J204P0084, with a fuel shroud retaining snap ring, P/N 2186M12P01. Each engine has a total of 30 rings installed.

(j) For CF6-80C2 series engines, use paragraphs 3.A. through 3.C.(1)(b)2, of GE SB No. CF6-80C2 S/B 73-0337, Revision 3, dated February 5, 2007, to do the replacements.

(k) For CF6-80E1 series engines, use paragraphs 3.A. through 3.C.(1)(b)2, of GE SB No. CF6-80E1 S/B 73-0075, Revision 1, dated November 27, 2006, to do the replacements.

SB Compliance Credit for CF6-80C2 Series Engines

(l) This AD requires no further action if the fuel shroud retaining snap rings were installed in the CF6-80C2 series engines before the effective date of this AD using GE SB No. CF6-80C2 S/B 73-0337, Revision 2, dated January 11, 2007, Revision 1, dated April 19, 2005, or the Original, dated November 30, 2004.

Alternative Methods of Compliance

(m) 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

(n) Contact James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone (781) 238-7176; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(o) You must use the General Electric Company service information specified in Table 2 of this AD to perform the replacements required by this AD. The Director of the Federal Register approved the incorporation by reference of the documents listed in Table 2 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. 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 a copy of this service information. 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 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 2 – Incorporation by Reference

Service Bulletin No.	Page	Revision	Date
CF6-80C2 S/B 73-0337 Total Pages: 13	All	3	February 5, 2007
CF6-80E1 S/B 73-0075 Total Pages: 13	All	1	November 27, 2006

Issued in Burlington, Massachusetts, on May 24, 2007.
Francis A. Favara,
Manager, Engine and Propeller Directorate, Aircraft Certification Service.
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