[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-7491; Directorate Identifier 2015-NE-39-AD]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all General Electric Company (GE) GE90-76B, GE90-77B, GE90-85B, GE90-90B, and GE90-94B turbofan engines. This proposed AD was prompted by an uncontained failure of the high-pressure compressor (HPC) stage 8-10 spool, leading to an airplane fire. This proposed AD would require eddy current inspections (ECIs) or ultrasonic inspections (USIs) of the HPC stage 8-10 spool and removing from service those parts that fail inspection. We are proposing this AD to prevent failure of the HPC stage 8-10 spool, uncontained rotor release, damage to the engine, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: 513-552-3272; fax: 513-552-3329; email: geae.aoc@ge.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2015-7491; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: John Frost, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7756; fax: 781-238-7199; email: john.frost@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2015-7491; Directorate Identifier 2015-NE-39-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

Discussion

We received a report of an HPC stage 8-10 spool uncontained failure resulting in an airplane fire. Ongoing investigations have determined that a crack initiated in the stage 8 aft web upper face of the HPC 8-10 spool and propagated until spool rupture. The root cause of the crack initiation is not yet known. This condition, if not corrected, could result in failure of the HPC stage 8-10 spool, uncontained rotor release, damage to the engine, and damage to the airplane. We are issuing this AD to correct the unsafe condition on these products.

Related Service Information

We reviewed the following chapters of GE GE90 Engine Manual, GEK100700, Revision 66, dated September 1, 2015:

- Chapter 72-31-08, Special Procedure 003, piece-part level ECI,
- Chapter 72-00-31, Special Procedure 006, rotor assembly and module level ECI and,
- Chapter 72-00-31, Special Procedure 007, rotor assembly level USI.

FAA's Determination

We are proposing this NPRM because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This NPRM would require accomplishing an ECI or USI of the stage 8 aft web upper face of the HPC stage 8-10 spool and removing from service those parts that fail inspection.

Interim Action

We consider this proposed AD interim action. GE is determining the root cause for the unsafe condition identified in this proposed AD. Once a root cause is identified, we might consider additional rulemaking.

Costs of Compliance

We estimate that this proposed AD affects 54 engines installed on airplanes of U.S. registry. We also estimate that it will take about 7 hours per engine to comply with this AD. The average labor rate is $85 per hour. We estimate one part will fail inspection at a cost of $780,000. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $812,130.

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 determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed 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),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 (AD):

General Electric Company: Docket No. FAA-2015-7491; Directorate Identifier 2015-NE-39-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to General Electric Company (GE) GE90-76B, GE90-77B, GE90-85B, GE90-90B, and GE90-94B turbofan engines with a high-pressure compressor (HPC) 8-10 stage spool, part numbers (P/Ns) 1694M80G04, 1844M90G01, or 1844M90G02, installed.

(d) Unsafe Condition

This AD was prompted by an uncontained failure of the HPC stage 8-10 spool. We are issuing this AD to prevent failure of the HPC stage 8-10 spool, uncontained rotor release, damage to the engine, and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) Perform an eddy current inspection (ECI) or ultrasonic inspection (USI) of the stage 8 aft web upper face of the HPC stage 8-10 spool, before exceeding 10,500 cycles since new or within 500 cycles in service, after the effective date of this AD, whichever occurs later.

(2) At each shop visit, perform an ECI or USI of the stage 8 aft web upper face of the HPC stage 8-10 spool.

(3) Remove from service any HPC stage 8-10 spool that fails the inspection required by paragraphs (e)(1) and (e)(2) of this AD and replace the spool with a spool eligible for installation.

(f) Installation Prohibition

After the effective date of this AD, an HPC stage 8-10 spool, P/Ns 1694M80G04, 1844M90G01, and 1844M90G02, is not eligible for installation into any engine, unless the spool has passed an ECI or USI required by paragraphs (e)(1) and (e)(2) of this AD.

(g) Definition

For the purpose of this AD, an engine shop visit is the induction of an engine into the shop for maintenance during which the compressor discharge pressure seal face is exposed.

(h) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(i) Related Information

(1) For more information about this AD, contact John Frost, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7756; fax: 781-238-7199; email: john.frost@faa.gov.

(2) GE GE90 Engine Manual, GEK100700, Revision 66, dated September 1, 2015, Chapter 72-31-08, Special Procedure 003, Chapter 72-00-31, Special Procedure 006, and Chapter 72-00-31, Special Procedure 007, rotor assembly level USI can be obtained from General Electric Company, using the contact information in paragraph (i)(3) of this AD.

(3) For service information identified in this proposed AD, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: 513-552-3272; fax: 513-552-3329; email: geae.aoc@ge.com.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on December 22, 2015.

Colleen M. D'Alessandro,
Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
[FR Doc. 2015-33097 Filed: 1/12/2016 8:45 am; Publication Date: 1/13/2016]