[Federal Register Volume 83, Number 196 (Wednesday, October 10, 2018)]
[Rules and Regulations]
[Pages 50814-50816]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2018-21863]

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0863; Product Identifier 2018-NE-30-AD; Amendment 39-19423; AD 2018-19-22]**

**RIN 2120-AA64**

**Airworthiness Directives; General Electric Company Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all General Electric Company (GE) CF34-10A16, CF34-10E2A1, CF34-10E5, CF34-10E5A1, CF34-10E6, CF34-10E6A1, CF34-10E7, and CF34-10E7-B turbofan engines with certain high-pressure turbine (HPT) front rotating air seals. This AD requires replacement of the affected HPT front rotating air seal. This AD was prompted by cracks found in the HPT front rotating air seal. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective October 25, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of October 25, 2018.

We must receive comments on this AD by November 26, 2018.

**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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; telephone 513-552-3272; email:

aviation.fleetsupport@ge.com. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0863.

**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-2018-0863; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations (phone: 800-647-5527) is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Michael Richardson-Bach, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; email: michael.richardson-bach@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We received a report that multiple cracks were found in the HPT front rotating air seal during a scheduled shop visit. After further investigation, GE determined that a rabbet surface on certain parts was not shot-peened after machining during the original manufacturing. The lack of shot-peening caused the parts to be more susceptible to crack initiation. This condition, if not addressed, could result in uncontained HPT front rotating air seal release, damage to the engine, and damage to the airplane. We are issuing this AD to address the unsafe condition on these products.

**Related Service Information Under 1 CFR Part 51**

We reviewed GE CF34-10E Service Bulletin (SB) 72-0347 R00, dated August 3, 2018. The SB describes procedures for inspection and repair or replacement of the affected HPT front rotating air seals. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**FAA's Determination**

We are issuing this AD 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.

**AD Requirements**

This AD requires replacement of the affected HPT front rotating air seal.

**Differences Between the AD and the Service Information**

GE CF34-10E SB 72-0347 R00, dated August 3, 2018, recommends inspecting affected HPT front rotating air seal and repairing parts that do not have linear indications. This AD does not require inspecting or repairing the affected HPT front rotating air seal but allows installation of parts that have been inspected and repaired.

## FAA's Justification and Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because the compliance time for the required action is shorter than the time necessary for the public to comment and for us to publish the final rule. The highest risk HPT front rotating air seals must be removed within approximately one month to ensure that they are replaced before cracks develop that could result in the failure of these seals. Therefore, we find good cause that notice and opportunity for prior public comment are impracticable. In addition, for the reasons stated above, we find 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 any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2018-0863 and Product Identifier 2018-NE-30-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. We will consider all comments received by the closing date and may amend this final rule 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 final rule.

## Costs of Compliance

We estimate that this AD affects three engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

**Estimated Costs**

| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|---|---|---|
| Replace the HPT front rotating air seal | 2 work-hours × $85 per hour = $170 | $243,700 | $243,870 | $731,610 |

## 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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance

of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

**Regulatory Findings**

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),

(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.

**Adoption of the Amendment**

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

**2018-19-22 General Electric Company:** Amendment 39-19423; Docket No. FAA-2018-0863; Product Identifier 2018-NE-30-AD.

**(a) Effective Date**

This AD is effective October 25, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all General Electric Company (GE) CF34-10A16, CF34-10E2A1, CF34-10E5, CF34-10E5A1, CF34-10E6, CF34-10E6A1, CF34-10E7, and CF34-10E7-B turbofan engines with high-pressure turbine (HPT) front rotating air seals listed in Appendices A and B, of GE CF34-10E Service Bulletin (SB) 72-0347 R00, dated August 3, 2018, that were not inspected and repaired using GE CF34-10E SB 72-0347 R00, dated August 3, 2018.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Engine Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by cracks found in the HPT front rotating air seal. We are issuing this AD to prevent failure of the HPT front rotating air seal. The unsafe condition, if not addressed, could result in an uncontained release of the HPT front rotating air seal, damage to the engine, and damage to the airplane.

**(f) Compliance**

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

**(g) Required Actions**

(1) Remove the HPT front rotating air seal listed in Appendix A, of GE CF34-10E SB 72-0347 R00, dated August 3, 2018, and replace with a part eligible for installation within the following cycles:

(i) If the HPT front rotating air seal has 17,499 cycles since new (CSN) or more on the effective date of this AD, remove within 250 cycles in service (CIS).

(ii) If the HPT front rotating air seal has 16,500 to 17,498 CSN on the effective date of this AD, remove within 500 CIS but not to exceed 17,750 CSN.

(iii) If the HPT front rotating air seal has 15,500 to 16,499 CSN on the effective date of this AD, remove within 750 CIS but not to exceed 17,000 CSN.

(iv) If the HPT front rotating air seal has 14,500 to 15,499 on the effective date of this AD, remove within 1,000 CIS but not to exceed 16,250 CSN.

(v) If the HPT front rotating air seal has 12,800 to 14,499 on the effective date of this AD, remove within 1,500 CIS but not to exceed 15,500 CSN.

(vi) If the HPT front rotating air seal has 10,800 to 12,799 CSN on the effective date of this AD, remove within 2,000 CIS but not to exceed 14,300 CSN.

(vii) If the HPT front rotating air seal has 8,450 to 10,799 CSN on the effective date of this AD, remove within 2,500 CIS but not to exceed 12,800 CSN.

(viii) If the HPT front rotating air seal has fewer than 8,450 CSN on the effective date of this AD, remove at next piece-part exposure or before accumulating 10,950 CSN, whichever comes first.

(2) Remove the HPT front rotating air seal, listed in Appendix B, of GE CF34-10E SB 72-0347 R00, dated August 3, 2018, from service and replace with a part eligible for installation before exceeding the CSN listed in Appendix B, of GE CF34-10E SB 72-0347 R00, dated August 3, 2018.

**(h) Definitions**

(1) For the purpose of this AD, a part that is “eligible for installation” is defined as:

(i) An HPT front rotating air seal with a part number (P/N) and serial number (S/N) that is not listed in Appendix A or B, of GE CF34-10E SB 72-0347 R00, dated August 3, 2018; or,

(ii) an HPT front rotating air seal with a P/N and S/N listed in Appendix A or B, of GE CF34-10E SB 72-0347 R00, dated August 3, 2018, that was inspected and repaired using GE SB CF34-10E SB 72-0347 R00, dated August 3, 2018.

(2) For the purpose of this AD, “piece-part exposure” is defined as the separation of the HPT front rotating air seal from the disk.

**(i) Special Flight Permit**

A special flight permit will not be issued.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

For more information about this AD, contact Michael Richardson-Bach, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; email: michael.richardson-bach@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) General Electric Company CF34-10E Service Bulletin 72-0347 R00, dated August 3, 2018.

(ii) Reserved.

(3) For service information identified in this AD, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; telephone 513-552-3272; email: aviation.fleetsupport@ge.com.

(4) You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) You may view this service information that is incorporated by reference 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.

Issued in Burlington, Massachusetts, on September 28, 2018.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.