



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2019-0665; Product Identifier 2019-NE-25-AD]**

**RIN 2120-AA64**

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

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain General Electric Company (GE) CF34-1A, CF34-3A, CF34-3A1, CF34-3A2, CF34-3B, and CF34-3B1 model turbofan engines. This proposed AD was prompted by an in-flight failure of a fan blade that led to an in-flight shutdown. This proposed AD would require removal and replacement of the affected fan blades. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 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 NPRM, contact General Electric Company, GE Aviation, Room 285, 1 Neumann Way, Cincinnati, OH, 45215; phone: 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.

### **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-2019-0665; 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 NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Christopher McGuire, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7120; fax: 781-238-7199; email: [chris.mcguire@faa.gov](mailto:chris.mcguire@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-0665; Product Identifier 2019-NE-25-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

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

### **Discussion**

The FAA was notified of an in-flight failure of a fan blade installed on a GE CF34-3B1 engine. As a result of this failure, the crew shut down the engine and performed an air turnback and a safe landing. A review by GE determined that a lance peening was not performed on certain fan blades after a repair done at a repair station between 2007 and 2009. Fan blades can lose their compressive residual stress during certain electron beam weld repairs and hot form repairs. The loss of mechanical properties is restored with the lance peening process called out in these repairs. During an audit, GE identified the fan blades referenced in paragraph (c) of this AD as suspected of missing lance peening. This condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

### **Related Service Information under 1 CFR part 51**

The FAA reviewed GE Service Bulletin (SB) CF34-BJ S/B 72-0306, dated September 27, 2017, and GE SB CF34-AL S/B 72-0314, dated September 27, 2017. GE SB CF34-BJ S/B 72-0306 describes procedures for removal and replacement of affected fan blades installed on CF34-1A, -3A, -3A1, -3A2, and -3B model turbofan engines. GE SB CF34-AL S/B 72-0314 describes procedures for removal and replacement of affected fan blades installed on CF34-3A1 and -3B1 model turbofan engines.

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.

**Other Related Service Information**

The FAA also reviewed GE SB CF34-AL S/B 72-0148, Revision 05, dated July 23, 2015; and GE SB CF34-BJ S/B 72-0123, Revision 04, dated October 21, 2015. GE SB CF34-AL S/B 72-0148 describes procedures for repair of fan blades installed on GE CF34-3A1 and -3B1 model turbofan engines. GE SB CF34-BJ S/B 72-0123 describes procedures for repair of fan blades installed on GE CF34-1A, -3A, -3A1, -3A2, and -3B model turbofan engines.

**FAA’s Determination**

The FAA is proposing 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.

**Proposed AD Requirements**

This proposed AD would require removal and replacement of the affected fan blades.

**Costs of Compliance**

The FAA estimates that this proposed AD affects 121 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

**Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Remove and replace fan blade	2 work-hours X \$85 per hour = \$170	\$11,000	\$11,170	\$1,351,570

**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.

The FAA is 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**

The FAA 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) Will not affect intrastate aviation in Alaska, 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.

**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-2019-0665; Product Identifier 2019-NE-25-AD.

**(a) Comments Due Date**

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to General Electric Company (GE) CF34-1A, CF34-3A, CF34-3A1, CF34-3A2, CF34-3B, and CF34-3B1 model turbofan engines having a fan blade with a part number listed in Planning Information, paragraph 1.A., of GE Service Bulletin (SB) CF34-AL S/B 72-0314, dated September 27, 2017 or of GE SB CF34-BJ S/B 72-

0306, dated September 27, 2017, and with any serial number listed in paragraph 4., Appendix A, of GE SB CF34-AL S/B 72-0314 or of GE SB CF34-BJ S/B 72-0306.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7220, Turbine Engine Inlet Section.

**(e) Unsafe Condition**

This AD was prompted by an in-flight failure of a fan blade that led to an in-flight shutdown. The FAA is issuing this AD to prevent failure of the fan blade. The unsafe condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

Remove the affected fan blades from service within 90 days after the effective date of this AD and replace with a part eligible for installation.

**(h) Definition**

A part that is eligible for installation is any fan blade other than those identified by paragraph (c) of this AD or a fan blade that has been repaired per GE SB CF34-AL S/B 72-0148, Revision 05, dated July 23, 2015; or GE SB CF34-BJ S/B 72-0123, Revision 04, dated October 21, 2015.

**(i) 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 (j)(1) of this AD. You may email your request to [ANE-AD-AMOC@faa.gov](mailto: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.

**(j) Related Information**

(1) For more information about this AD, contact Christopher McGuire, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7120; fax: 781-238-7199; email: [chris.mcguire@faa.gov](mailto:chris.mcguire@faa.gov).

(2) For service information identified in this AD, contact General Electric Company, GE Aviation, Room 285, 1 Neumann Way, Cincinnati, OH, 45215; phone: 513-552-3272; email: [aviation.fleetsupport@ge.com](mailto:aviation.fleetsupport@ge.com). You may view this referenced 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.

Issued in Burlington, Massachusetts, on October 7, 2019.

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

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