[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0869; Project Identifier AD-2021-00176-E]

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) CF34-8C and CF34-8E model turbofan engines. This proposed AD was prompted by a report of a quality escape during the manufacturing of a high-pressure turbine (HPT) rotor stage 1 disk. This proposed AD would require removing the HPT rotor stage 1 disk from service and replacing the HPT rotor stage 1 disk with a part eligible for installation. The FAA is proposing this AD to 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 https://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, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552-3272; email:

aviation.fleetsupport@ae.ge.com; website: https://www.ge.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety 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 at https://www.regulations.gov by searching for and locating Docket No. FAA-2021-0869; 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, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Scott Stevenson, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7132; fax: (781) 238-7199; email: Scott.M.Stevenson@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 ADDRESSES. Include "Docket No. FAA-2021-0869; Project Identifier AD-2021-00176-E" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C.

552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Scott Stevenson, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA was notified by GE of a quality escape that occurred during the manufacturing of an HPT rotor stage 1 disk. The quality escape occurred at a supplier that began production in August 2019. On November 25, 2019, the supplier discovered tool gouges at the forward chamfer of the air holes in an HPT rotor stage 1 disk. These gouges can reduce the life of the HPT rotor stage 1 disk. This condition, if not addressed, could result in uncontained disk release, damage to the engine, and damage to the airplane.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information

The FAA reviewed GE CF34-8C Alert Service Bulletin (ASB) 72-A0344 R01 and GE CF34-8E ASB 72-A0228 R01, both dated December 19, 2019. The ASBs describe procedures for removing the HPT rotor stage 1 disk. The FAA also reviewed GE Repair Document RD # 150-1811-P1, dated March 17, 2020. This document describes procedures for repairing the HPT rotor stage 1 disk.

Proposed AD Requirements in this NPRM

This proposed AD would require removing a certain HPT rotor stage 1 disk from service and replacing the HPT rotor stage 1 disk with a part eligible for installation.

Differences Between this Proposed AD and the Service Information

The ASBs instruct operators to perform a visual inspection of the HPT rotor stage 1 disk and re-mark the HPT rotor stage 1 disk, while this proposed AD would not mandate visual inspection or re-marking. The ASBs also instruct operators to perform an inspection of the removed HPT rotor stage 1 disk and send it to an authorized service center for repair, while this proposed AD would require removal of the HPT rotor stage 1 disk from service and replacement with a part eligible for installation.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 23 engines installed on airplanes of U.S. registry.

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

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Remove and replace HPT rotor stage 1 disk	812 work-hours x $85 per hour = $69,020	$258,100	$327,120	$7,523,760

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.

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) Would not affect intrastate aviation in Alaska, and

(3) Would 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:

General Electric Company: Docket No. FAA-2021-0869; Project Identifier AD-2021-00176-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) 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) CF34-8C5, CF34-8C5B1, CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, and CF34-8E6A1 model turbofan engines with an installed high-pressure turbine (HPT) rotor stage 1 disk, part number (P/N) 4125T22P04, and a serial number (S/N) listed in Figure 1 or Figure 2 to paragraph (c) of this AD.

Figure 1 to Paragraph (c) – HPT Rotor stage 1 disk, P/N 4125T22P04, installed on CF34-8C5 and CF34-8C5B1 engines

HPT Rotor Stage 1 Disk S/N
NCU1234C
NCU0180C
NCU0174C
NCU0183C
NCU6175C
NCU6174C
NCU7694C
GATJ8T64
NCU7065C
NCU7068C
NCU6173C
NCU1232C
NCU7698C
GATJ8P5T

Figure 2 to Paragraph (c) – HPT Rotor stage 1 disk, P/N 4125T22P04, installed on CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, and CF34-8E6A1 engines

HPT Rotor Stage 1 Disk S/N
GATJ8PJF
GATJ8P5R
NCU9014C
NCU9654A
GATJ903T
NCU8314C
GATJ8WK4
NCU9785A
NCU1233C
NCU2151C
NCU7070C
NCU2920C
NCU7692C
NCU6171C

GATJ8TCF
GATJ8T63
NCU8313C

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a report of a quality escape during the manufacturing of an HPT rotor stage 1 disk. The FAA is issuing this AD to prevent failure of the HPT rotor stage 1 disk. The unsafe condition, if not addressed, could result in uncontained disk release, 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

For all affected engines, at the next engine shop visit or before the HPT rotor stage 1 disk accumulates 7,600 cycles since new, whichever occurs first after the effective date of this AD, remove the HPT rotor stage 1 disk from service and replace with a part eligible for installation.

(h) Definitions

For the purpose of this AD:

(1) An “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance does not constitute an engine shop visit.

(2) A “part eligible for installation” is an HPT rotor stage 1 disk that is not listed in Figure 1 or Figure 2 to paragraph (c) of this AD or an HPT rotor stage 1 disk that has been repaired using an FAA-approved repair.

Note 1 to paragraph (h)(2): Guidance for repairing the HPT rotor stage 1 disk can be found in GE Repair Document RD # 150-1811-P1, dated March 17, 2020.

(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. Information may be emailed 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.

(j) Related Information

(1) For more information about this AD, contact Scott Stevenson, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7132; fax: (781) 238-7759; email: Scott.M.Stevenson@faa.gov.

(2) For service information identified in this AD, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552-3272; email: aviation.fleetsupport@ae.ge.com; website: https://www.ge.com. You may view this referenced service information at the FAA, Airworthiness Products Section, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759.

Issued on September 30, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.
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