[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0791; Project Identifier AD-2021-00716-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 supersede Airworthiness Directive (AD) 2020-20-13, which applies to certain General Electric Company (GE) CF6-80A and CF6-80C model turbofan engines. AD 2020-20-13 requires ultrasonic inspection (UI) of high-pressure turbine (HPT) stage 1 and stage 2 disks and replacement of any HPT stage 1 or stage 2 disk that fails the inspection. Since the FAA issued AD 2020-20-13, the manufacturer determined that the requirement to perform UI of affected HPT stage 1 and stage 2 disks should be expanded to include an additional population of affected HPT stage 1 and stage 2 disks. This proposed AD would retain the required UI while expanding the population of affected HPT stage 1 and stage 2 disks. 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 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: www.ge.com. You may view this service information at the Airworthiness Products Section, Operational Safety Branch, FAA, 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-2021-0791; 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: Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; fax: (781) 238-7199; email: Sungmo.D.Cho@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-2021-0791; Project Identifier AD-2021-00716-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 the 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 we receive about this proposed AD.

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 Sungmo Cho, 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 issued AD 2020-20-13, Amendment 39-21269 (85 FR 63193, October 7, 2020), (AD 2020-20-13), for certain GE CF6-80A, CF6-80A1, CF6-80A2, CF6-80A3, CF6-80C2A1, CF6-80C2A2, CF6-80C2A3, CF6-80C2A5, CF6-80C2A5F, CF6-80C2A8, CF6-80C2B1, CF6-80C2B1F, CF6-80C2B2, CF6-80C2B2F, CF6-80C2B4, CF6-80C2B4F, CF6-80C2B5F, CF6-80C2B6, CF6-80C2B6F, CF6-80C2B6FA, CF6-80C2B7F, CF6-80C2D1F, CF6-80C2L1F, and CF6-80C2K1F model turbofan engines. AD 2020-20-13 was prompted by an uncontained failure of an HPT stage 2 disk and the manufacturer's determination to expand the population of affected HPT disks. AD 2020-20-13 retains the required inspections of AD 2018-15-04 (83 FR 43739; August 28, 2018), while expanding the population of affected HPT disks. The agency issued AD 2020-20-13 to prevent failure of the HPT stage 1 disk (CF6-80C2 engines) and the HPT stage 2 disk (CF6-80C2 and CF6-80A engines).

Actions Since AD 2020-20-13 Was Issued

Since the FAA issued AD 2020-20-13, the manufacturer discovered an error in the service information and determined that the requirement to perform UI of affected HPT stage 1 and 2 disks should be expanded to include an additional population of HPT stage 1 and stage 2 disks. GE, therefore, revised its service information to include the additional affected HPT stage 1 and stage 2 disks.

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 under 1 CFR Part 51

The FAA reviewed GE CF6-80C Service Bulletin (SB) 72-1562 R05, dated March 19, 2021 (GE SB 72-1562). The SB specifies procedures for UI of CF6-80C2 turbofan engine HPT stage 1 and 2 disks. The FAA also reviewed GE CF6-80A SB 72-0869 R03, dated March 19, 2021 (GE SB 72-0869). This SB specifies procedures for UI of CF6-80A turbofan engine HPT stage 2 disks. 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 ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would retain all the requirements of AD 2020-20-13. This proposed AD would require UI of HPT stage 1 and stage 2 disks and replacement of any HPT stage 1 or stage 2 disk that fails the inspection. This proposed AD would also expand the applicability to include an additional population of affected HPT stage 1 and 2 disks.

Differences Between this Proposed AD and the Service Information

GE SB 72-1562 and GE SB 72-0869 specify that information, including the disk part number, disk serial number, accumulated cycles to date, and documented results of the inspection must be sent to GE Aviation Fleet Support. This proposed AD would not mandate sending information to GE Aviation Fleet Support.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 1,512 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
UI of HPT stage 1 and stage 2 disks	10 work-hours x $85 per hour = $850	$0	$850	$1,285,200

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. The agency has no way of determining the number of aircraft that might need these replacements:

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Replace CF6-80C2 HPT stage 1 disk	0.25 work-hours x $85 per hour = $21.25	$799,700	$799,721.25
Replace CF6-80C2 HPT stage 2 disk	0.25 work-hours x $85 per hour = $21.25	$364,600	$364,621.25
Replace CF6-80A HPT stage 2 disk	0.25 work-hours x $85 per hour = $21.25	$344,000	$344,021.25

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 that the 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:

a. Removing Airworthiness Directive 2020-20-13, Amendment 39-21269 (85 FR 63193, October 7, 2020); and

b. Adding the following new airworthiness directive:

General Electric Company: Docket No. FAA-2021-0791; Project Identifier AD-2021-00716-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-20-13, Amendment 39-21269 (85 FR 63193, October 7, 2020).

(c) Applicability

This AD applies to General Electric Company (GE) CF6-80A, CF6-80A1, CF6-80A2, CF6-80A3, CF6-80C2A1, CF6-80C2A2, CF6-80C2A3, CF6-80C2A5, CF6-80C2A5F, CF6-80C2A8, CF6-80C2B1, CF6-80C2B1F, CF6-80C2B2, CF6-80C2B2F, CF6-80C2B4, CF6-80C2B4F, CF6-80C2B5F, CF6-80C2B6, CF6-80C2B6F, CF6-80C2B6FA, CF6-80C2B7F, CF6-80C2D1F, CF6-80C2L1F, and CF6-80C2K1F model turbofan engines with high-pressure turbine (HPT) disks with serial numbers listed in Tables 1 and 2 of Appendix A, paragraph 4., in GE CF6-80C2 Service Bulletin (SB) 72-1562 R05, dated March 19, 2021 (GE SB 72-1562), and Table 1 of Appendix – A, paragraph 4., in GE CF6-80A SB 72-0869 R03, dated March 19, 2021 (GE SB 72-0869).

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by an uncontained failure of an HPT stage 2 disk and the manufacturer's determination to expand the population of affected HPT disks. The FAA is issuing this AD to prevent failure of the HPT stage 1 disk (CF6-80C2 engines) and the HPT stage 2 disk (CF6-80C2 and CF6-80A engines). The unsafe condition, if not addressed, could result in an uncontained HPT 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

(1) After the effective date of this AD, perform an ultrasonic inspection (UI) for cracks in HPT stage 1 and stage 2 disks on the CF6-80C2 turbofan engine at each piece-part exposure using the Accomplishment Instructions, paragraph 3.A.(2), of GE SB 72-1562.

(2) After the effective date of this AD, perform a UI for cracks in HPT stage 2 disks on the CF6-80A turbofan engine at each piece-part exposure using the Accomplishment Instructions, paragraph 3.A.(2), of GE SB 72-0869.

(3) If any disk fails the inspection required by paragraph (g)(1) or (2) of this AD, replace the disk with a part eligible for installation before further flight.

(h) No Reporting Requirements

The reporting requirements specified in the Accomplishment Instructions, paragraphs 3.A.(2)(c) and 3.A.(2)(f), of GE SB 72-1562, and paragraph 3.A.(3), of GE SB 72-0869, are not required by this AD.

(i) Definitions

(1) For the purpose of this AD, a "part eligible for installation" is an HPT stage 1 or stage 2 disk:

(i) That has been inspected in accordance with paragraph (g)(1) or (2) of this AD and a crack or rejectable indication was not found; or

(ii) With a serial number not listed in Tables 1 and 2 of Appendix A, paragraph 4., in GE SB 72-1562, and Table 1 of Appendix – A, paragraph 4., in GE SB 72-0869.

(2) For the purpose of this AD, "piece-part exposure" of the HPT stage 1 or stage 2 disk is the separation of that HPT disk from its mating rotor parts within the HPT rotor module (thermal shield and HPT stage 1 and stage 2 disk, respectively).

(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)(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.

(k) Related Information

(1) For more information about this AD, contact Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; fax: (781) 238-7199; email: Sungmo.D.Cho@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: www.ge.com. You may view this referenced 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.

Issued on September 10, 2021.

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

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