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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-0465; Project Identifier AD-2024-00139-E,R; Amendment 39-22702; AD 2024-05-51]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Engines, and Various Restricted Category Rotorcraft

AGENCY:

Federal Aviation Administration (FAA), DOT.

ACTION:

Final rule; request for comments.

SUMMARY:

The FAA is adopting a new airworthiness directive (AD) for certain General Electric Company (GE) Model CT7-2E1, CT7-2F1, CT7-8A, CT7-8E, CT7-8F5 engines, and various restricted category helicopters with GE Model T700-GE-700, -701A, -701C, -701D/CC, -701D, -401, -401C, CT7-2D or CT7-2D1 engines installed. This AD was prompted by at least four reports of failures of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly within the last several months. This AD requires a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage, and repair or replacement of the power turbine drive shaft assembly if necessary. The FAA previously sent an emergency AD to all known U.S. owners and operators of these engines and helicopters and is now issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective April 1, 2024. Emergency AD 2024-05-51, issued on February 28, 2024, which contained the requirements of this amendment, was effective with actual notice.

The Director of the Federal Register approved the incorporation by reference of certain publications identified in this AD as of April 1, 2024.

The FAA must receive comments on this AD by April 29, 2024.

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 *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.

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA–2024–0465; 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, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For service information that is incorporated by reference, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552–3272; email: aviation.fleetsupport@ge.com; website: *ge.com*.
- You may view this service information that is incorporated by reference 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 (817) 222–5110. It is also available at *regulations.gov* under Docket No. FAA–2024–0465.

FOR FURTHER INFORMATION CONTACT:

Barbara Caufield, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238–7146; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under **ADDRESSES**. Include “Docket No. FAA–2024–0465; Project Identifier AD–2024–00139–E,R” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, 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 final rule 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 *regulations.gov*, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

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 AD 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 AD, 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 AD. Submissions containing CBI should be sent to Barbara Caufield, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

On February 28, 2024, the FAA issued Emergency AD 2024-05-51 (also referred to as the emergency AD), which applies to certain GE Model CT7-2E1, CT7-2F1, CT7-8A, CT7-8E, CT7-8F5 engines, and various restricted category helicopters with GE Model T700-GE-700, -701A, -701C, -701D/CC, -701D, -401, -401C, CT7-2D or CT7-2D1 engines installed. The emergency AD requires a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage, and repair or replacement of the power turbine drive shaft assembly if necessary. The FAA sent the emergency AD to all known U.S. owners and operators of these engines and helicopters. This action was prompted by at least four reports of failures of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly within the last several months. This condition, if not addressed, could result in improper torque and engine speed indications, which in combination with specific phases of flight, could create an unacceptably high flight crew workload in maintaining control of the aircraft, and result in consequent loss of control of the aircraft.

FAA's Determination

The FAA is issuing this AD because the agency 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.

Related Service Information Under [1 CFR Part 51](#)

The FAA reviewed GE Alert Service Bulletin (ASB) CT7-2E1 S/B 72-A0034, dated February 26, 2024, and GE ASB CT7-8 S/B 72-A0118, Revision 01, dated February 26, 2024, which, among other actions,

specify procedures for a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage. This service information also specifies repair or replacement of the power turbine drive shaft assembly if necessary. These documents are distinct since they apply to different engine models.

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

Since issuance of the emergency AD, Sikorsky Aircraft Corporation issued ASB 70-04-17, dated February 28, 2024. For the engines installed on restricted category helicopters, this ASB specifies procedures for a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage.

AD Requirements

This AD requires a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage, and repair or replacement of the power turbine drive shaft assembly if necessary.

Interim Action

The FAA considers this AD to be an interim action. The manufacturer is currently investigating the root cause of the unsafe condition identified in this AD. If final action is later identified, the FAA might consider further rulemaking.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) ([5 U.S.C. 551 et seq.](#)) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for "good cause," finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that required the immediate adoption of Emergency AD 2024-05-51, issued on February 28, 2024, to all known U.S. owners and operators of these engines and helicopters. The FAA found that the risk to the flying public justified waiving notice and comment prior to adoption of this rule because failure of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly could result in improper torque and engine speed indications, which in combination with specific phases of flight, could create an unacceptably high flight crew workload in maintaining control of the aircraft, and result in consequent loss of control of the aircraft. Since this condition happens rapidly and without warning, the inspection and any necessary repair or replacement must be accomplished before further flight. Thus, the FAA has determined that the affected torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly must be inspected, and repaired or replaced if necessary, before further flight. These conditions still

exist, therefore, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to [5 U.S.C. 553\(b\)\(3\)\(B\)](#).

In addition, the FAA finds that good cause exists pursuant to [5 U.S.C. 553\(d\)](#) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forego notice and comment.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to [5 U.S.C. 553](#) to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 100 engines installed on aircraft of U.S. registry.

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

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Phase array ultrasonic inspection	1 work-hours × \$85 per hour = \$85	\$0	\$85	\$8,500

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

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Repair or replacement of the power turbine drive shaft assembly	8 work-hours × \$85 per hour = \$680	\$50,000	\$50,680

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

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) 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 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:

2024-05-51 General Electric Company Engines, and Various Restricted Category Rotorcraft: Amendment 39-22702; Docket No. FAA-2024-0465; Project Identifier AD-2024-00139-E,R.

(a) Effective Date

The FAA issued Emergency Airworthiness Directive (AD) 2024-05-51, on February 28, 2024, and was sent directly to affected owners and operators. As a result of such actual notice, that AD was effective for those owners and operators on the date it was received. This AD contains the same requirements as that emergency AD and, for those who did not receive actual notice, is effective on April 1, 2024.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following products:

(1) General Electric Company (GE) Model CT7-2E1, CT7-2F1, CT7-8A, CT7-8E, CT7-8F5 engines, with any power turbine (PT) drive shaft assembly part number 5123T91G01, 5123T91G02, and 5128T51G01 installed, and the following conditions:

(i) A PT drive shaft assembly with less than 100 hours-time since new (TSN) or 100 hours-time since replacement (TSR) of the torque reference tube, as applicable, as of the effective date of this AD; and

(ii) An engine serial number, PT module serial number, or PT shaft assembly serial number listed in GE Alert Service Bulletin (ASB) CT7-2E1 S/B 72-A0034, dated February 26, 2024 (CT7-2E1 S/B 72-A0034); or GE ASB CT7-8 S/B 72-A0118, Revision 01, dated February 26, 2024 (CT7-8 S/B 72-A0118, Revision 01).

(2) Restricted category helicopters specified in paragraphs (c)(2)(i) through (ix) of this AD, with GE Model T700-GE-700, -701A, -701C, -701D/CC, -701D, -401, -401C, CT7-2D or CT7-2D1 engines installed, with a PT drive shaft assembly that was installed in the engine after January 1, 2020 and has less than 100 hours-TSN or 100 hours-TSR, as applicable. PT drive shaft assemblies manufactured or repaired after January 1, 2024 are not affected by this AD.

(i) Model EH-60A helicopters; current type certificate holders include, but are not limited to, Delta Enterprise; Heliquest International Inc.; Pickering Aviation, Inc.; and Sixtyhawk TC, LLC.

(ii) Model HH-60L helicopters; current type certificate holders include, but are not limited to, Capitol Helicopters Inc.; Central Copters Inc.; and Sixtyhawk TC, LLC.

(iii) Model S-70 helicopters; current type certificate holders include, but are not limited to, Sikorsky Aircraft Corporation.

(iv) Model S-70A helicopters; current type certificate holders include, but are not limited to, Sikorsky Aircraft Corporation.

(v) Model S-70C helicopters; current type certificate holders include, but are not limited to, Sikorsky Aircraft Corporation.

(vi) Model S-70C(M) helicopters; current type certificate holders include, but are not limited to, Sikorsky Aircraft Corporation.

(vii) Model S-70C(M1) helicopters; current type certificate holders include, but are not limited to, Sikorsky Aircraft Corporation.

(viii) Model S-70M helicopters; current type certificate holders include, but are not limited to, Sikorsky Aircraft Corporation.

(ix) Model UH-60A helicopters; current type certificate holders include, but are not limited to, ACE Aeronautics LLC; Billings Flying Service, Inc; Blackhawk Mission Equipment; Capitol Helicopters Inc.; Carson Helicopters; Delta Enterprise; Heliqwest International Inc.; High Performance Helicopters Corp.; Northwest Rotorcraft, LLC; Pickering Aviation, Inc.; PJ Helicopters Inc; Reeder Flying Service Inc.; Sixtyhawk TC, LLC; Skydance Blackhawk Operations LLC; Timberline Helicopters, Inc.; and Unical Air Inc.

(d) Subject

Joint Aircraft System Component (JASC) Code 7200, Engine (Turbine/Turboprop), 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by at least four reports of failures of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly within the last several months. The FAA is issuing this AD to prevent failure of the power turbine drive shaft reference torque tube magnetic insert braze joint. The unsafe condition, if not addressed, could result in improper torque and engine speed indications, which in combination with specific phases of flight, could create an unacceptably high flight crew workload in maintaining control of the aircraft, and result in consequent loss of control of the aircraft.

(f) Compliance

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

(g) Required Actions

(1) For GE Model CT7-2E1, CT7-2F1, CT7-8A, CT7-8E, CT7-8F5 engines: Before further flight, do a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage in accordance with the Accomplishment Instructions, paragraph 3.A.(2) of CT7-2E1 S/B 72-A0034, or CT7-8 S/B 72-A0118, Revision 01, as applicable.

(2) For engines installed on the restricted category aircraft specified in paragraphs (c)(2)(i) through (ix) of this AD: Before further flight, do a phase array ultrasonic inspection of the torque reference tube magnetic insert braze joint of the power turbine drive shaft assembly for inadequate braze coverage using a method approved by the Manager, AIR-520 Continued Operational Safety Branch, FAA.

(3) If during any inspection required by paragraphs (g)(1) or (2) of this AD, any braze coverage of the torque reference tube magnetic insert braze joint is found to be less than 42 percent, before further flight, repair or replace the power turbine drive shaft assembly.

(h) Special Flight Permit

A special flight permit may be issued in accordance with [14 CFR 21.197](#) and [21.199](#) to operate the aircraft to a location where the phase array ultrasonic inspection can be performed, provided no passengers are onboard.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520 Continued Operational Safety 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 AIR-520 Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (j) of this AD and email 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) Additional Information

For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

(k) 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 (GE) Alert Service Bulletin (ASB) CT7-2E1 S/B 72-A0034, dated February 26, 2024.

(ii) GE ASB CT7-8 S/B 72-A0118, Revision 01, dated February 26, 2024.

(3) For service information that is incorporated by reference, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552-3272; email: aviation.fleetsupport@ge.com; website: ge.com.

(4) You may view this service information that is incorporated by reference 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 (817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations or email fr.inspection@nara.gov.

Issued on March 8, 2024.

Victor Wicklund,

Deputy Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[[FR Doc. 2024-05547](#) Filed 3-12-24; 11:15 am]

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SUPERSEDED