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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0808; Directorate Identifier 2008-NE-18-AD; Amendment 39-18288; AD 2015-20-09]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turboshift Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding airworthiness directives (AD) 2001-18-06 and AD 2008-22-16, for all General Electric Company (GE) CT58 turboshaft engines. AD 2001-18-06 and AD 2008-22-16 required recalculating the lives of life-limited rotating parts using a repetitive heavy-lift (RHL) multiplying factor and removal from service of parts that exceed the recalculated cyclic or hourly life limit. This new AD would consolidate AD 2001-18-06 and AD 2008-22-16, and further reduce the life capability of certain parts. This AD was prompted by recalculation of life for parts installed on engines used in Utility operations, and a reduced life for compressor spools in all operations. We are issuing this AD to prevent failure of life-limited rotating parts, uncontained part release, damage to the engine, and damage to the aircraft.

DATES: This AD is effective November 18, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 18, 2015.

ADDRESSES: For service information identified in this proposed AD, contact General Electric Company, GE Aviation, Room 285, One Neumann Way, Cincinnati, OH, 45215; phone: 513-552-3272; email: aviation.fleetsupport@ge.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

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-2008-0808; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD,

the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Christopher McGuire, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7120; fax: 781-238-7199; email: chris.mcguire@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2001-18-06, Amendment 39-12432 (66 FR 47575, September 13, 2001, ("AD 2001-18-06") and AD 2008-22-16, Amendment 39-15712 (73 FR 63629, October 27, 2008, ("AD 2008-22-16"). AD 2001-18-06 and AD 2008-22-16 applied to certain GE CT58 turboshaft engines. The NPRM published in the Federal Register on May 1, 2015 (80 FR 24852). The NPRM was prompted by GE updating the life limits of compressor spools. GE also updated the calculation method for the life consumption of compressor spools and of life-limited rotating parts flown in Utility operations. This update resulted in generally reduced lives for compressor spools and all other life-limited parts used in Utility operations. The NPRM proposed to consolidate AD 2001-18-06 and AD 2008-22-16, and further reduce the life capability of certain parts. We are issuing this AD to prevent failure of life-limited rotating parts, uncontained part release, damage to the engine, and damage to the aircraft.

Related Service Information Under 1 CFR Part 51

We reviewed GE CT58 Alert Service Bulletin (ASB) No. SB 72-A0162, Revision 16, dated January 7, 2015. The service information describes procedures for calculating life limits for the affected life-limited rotating parts. This service information is reasonably available because the interested parties have access to it through their normal course of business or see ADDRESSES for other ways to access this service information.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request New Method for Determining Reduced Life Limits

AAR Airlift Group (AAR) requested replacement of the current method for determining reduced life limits because current limits do not agree with operators field experience. AAR independent testing revealed that expired critical rotating parts showed no fatigue cracks.

We disagree. FAA-approved life limits for rotating parts are specified to prevent fatigue crack initiation, using conservative analytical margins. The number of parts that AAR had inspected would not be sufficient to show a likelihood of part cracking consistent with FAA regulatory guidelines for rotating part life limits. We did not change this AD.

Request Reassessment of Cost Impact

AAR disagrees that the NPRM has minimal impact on their company. AAR stated that their cost per flight would increase and company revenue would be reduced.

We agree that this AD will impose an economic impact to operators. How an operator absorbs or passes on the cost is left to the operator to determine. We did not change this AD.

Clarification Requirements

Since we issued the proposed AD, we discovered that ASB formatting discrepancies exist due to documentation changes implemented by GE. We changed paragraphs (e)(2), (e)(3), and (e)(4) to reflect the correct SB paragraph numbers.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed.

Costs of Compliance

We estimate that this AD will affect about 60 engines installed on aircraft of U.S. registry. The average pro-rated cost of the life-limited rotating parts is \$20,000. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$8,715,000.

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.

Regulatory Findings

We have determined that 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 to the extent that it justifies making a regulatory distinction, 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:

- a. Removing airworthiness directives (AD) 2001-18-06, Amendment 39-12432 (66 FR 47575, September 13, 2001) ("AD 2001-18-06"); and AD 2008-22-16, Amendment 39-15712 (73 FR 63629, October 27, 2008) ("AD 2008-22-16"), and
- b. Adding the following new AD:



2015-20-09 General Electric Company: Amendment 39-18288; Docket No. FAA-2008-0808; Directorate Identifier 2008-NE-18-AD.

(a) Effective Date

This AD is effective November 18, 2015.

(b) Affected ADs

This AD replaces AD 2001-18-06 and AD 2008-22-16.

(c) Applicability

This AD applies to all General Electric Company (GE) CT58-100-2, CT58-110-1, CT58-110-2, CT58-140-1, and CT58-140-2 turboshaft engines.

(d) Unsafe Condition

This AD was prompted by recalculation of life for parts installed on engines used in Utility operations, and a reduced life for compressor spools in all operations. We are issuing this AD to prevent failure of life-limited rotating parts, uncontained part release, damage to the engine, and damage to the aircraft.

(e) Compliance

Do the actions required by this AD, unless already done.

(1) Calculating Cyclic Life Consumption

Re-calculate the cycles-since-new for all compressor spools, and for life-limited rotating parts other than compressor spools used in Utility operations. Use paragraphs 3.A.(1) and 3.B.(1) in the Accomplishment Instructions of GE CT58 Alert Service Bulletin (ASB) No. SB 72-A0162, Revision 16, dated January 7, 2015, to perform the calculations.

(2) Removal of Compressor Spools

After the effective date of this AD, remove compressor spools, part numbers (P/Ns) 5124T94G02, 6010T57G04, 6010T57G07, and 6010T57G08 from service, before reaching the life limits specified in paragraph 4.A., Appendix A, in GE CT58 ASB No. SB 72-A0162, Revision 16, dated January 7, 2015, as re-calculated per paragraph (e)(1) of this AD.

(3) Removal of Rotating Parts Used in Utility Operations Other Than Compressor Spools

After the effective date of this AD, remove from service any life-limited rotating part used in Utility operations, other than the compressor spools with P/Ns listed in paragraph (e)(2) of this AD,

that exceeds its life limit as re-calculated per paragraph (e)(1) of this AD. Use Tables I, II, III, and IV in paragraphs 3.D. through 3.G. in the Accomplishment Instructions in GE CT58 ASB No. SB 72-A0162, Revision 16, dated January 7, 2015, and paragraph 4.D., Appendix A of this GE CT58 ASB, to determine when to remove these parts.

(4) Removal of Rotating Parts Not Used in Utility Operations Other Than Compressor Spools

After the effective date of this AD, remove from service any life-limited rotating part not used in Utility operations, other than the compressor spools with P/Ns listed in paragraph (e)(2) of this AD, that exceeds its life limit. Use Tables I, II, III, and IV in paragraphs 3.D. through 3.G. in the Accomplishment Instructions in GE CT58 ASB No. SB 72-A0162, Revision 16, dated January 7, 2015, and paragraph 4.C., Appendix A of this GE CT58 ASB, to determine when to remove these parts.

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(g) Related Information

For more information about this AD, contact Christopher McGuire, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7120; fax: 781-238-7199; email: chris.mcguire@faa.gov.

(h) 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) CT58 Alert Service Bulletin No. SB 72-A0162, Revision 16, dated January 7, 2015.

(ii) Reserved.

(3) For GE service information identified in this AD, contact General Electric Company, GE Aviation, Room 285, One Neumann Way, Cincinnati, OH 45215; phone: 513-552-3272; email: aviation.fleetsupport@ge.com.

(4) You may view this service information at FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information 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 30, 2015.
Colleen M. D'Alessandro,
Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.