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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0520; Directorate Identifier 2002-NE-43-AD; Amendment 39-17273; AD 2012-24-03]

RIN 2120-AA64

Airworthiness Directives; Turbomeca S.A. Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) for all Turbomeca S.A. Arriel 1A, 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E, 1E2, 1K, 1K1, 1S, and 1S1 turboshaft engines. That AD currently requires initial and repetitive visual inspections for erosion caused by dust ingestion and, if necessary, cleaning of the gas generator (module M03). This new AD requires determining the engine history; performing a one-time visual inspection of the axial compressor for erosion; performing initial and repetitive cleaning of the gas generator hollow shaft; and replacing the rear bearing if the amount of dust collected during cleaning exceeds 8 grams. This AD also includes an optional terminating action. This AD was prompted by in-service experience which has shown that dust inside the gas generator hollow shaft may be found when the axial compressor wheel has less erosion than initially assessed. We are issuing this AD to prevent an unbalance of the gas generator rotating assembly, which may lead to gas generator rear bearing failure, and uncommanded engine shutdown.

DATES: This AD is effective January 7, 2013.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of January 7, 2013.

ADDRESSES: For service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 05 59 74 40 00; telex: 570 042; fax: 33 05 59 74 45 15. 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>; 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: Rose Len, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7772; fax: 781-238-7199; email: rose.len@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2003-12-14, Amendment 39-13199 (68 FR 36900, June 20, 2003). That AD applies to the specified products. The NPRM published in the Federal Register on July 25, 2012 (77 FR 43550). That NPRM proposed to require determining the engine history; performing a one-time visual inspection of the axial compressor for erosion; performing initial and repetitive cleaning of the gas generator hollow shaft; and replacing the rear bearing if the amount of dust collected during cleaning exceeds 8 grams. That NPRM also included an optional terminating action. That NPRM also removed Turbomeca S.A. Arriel 1E and 1K turboshaft engines from the applicability section of the AD. The 1E engine is no longer in service. The 1K engine is not an FAA validated engine.

Comments

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

Request To Ease Requirements When Barrier Filters Used Continuously

Charles E. Greenberg requested that the FAA consider modifying the AD to accommodate operators of helicopters with barrier filter installations for the engine intakes. If operator records can show that specific serial number engines have always operated with filtered air, the requirement for cleaning the gas generator hollow shaft should be superseded by a requirement to maintain records of operation with barrier filter protection. The commenter stated that no dirt can be ingested by an engine downstream of the filter, as long as the barrier filter has never gone into bypass mode.

We disagree. The FAA cannot anticipate all of the available barrier filter designs installed on helicopter models. Each barrier filter design and helicopter combination would require its own assessment of the filter's use and effectiveness. We did not change the AD.

However, the substantiated continuous use of a barrier filter may be proposed as an alternative method of compliance (AMOC) to this AD, using the standard AMOC request procedure.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

We estimate that this AD will affect about 1,421 engines installed on helicopters of U.S. registry. We also estimate that it will take about 24 work-hours per engine to inspect and clean the gas generator module. The average labor rate is \$85 per work-hour. A replacement gas generator rear bearing would cost about \$4,128 per engine and take about 8 work-hours to replace. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$2,898,840.

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, 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 removing airworthiness directive (AD) 2003-12-14, Amendment 39-13199 (68 FR 36900, June 20, 2003), and adding the following new AD:



2012-24-03 Turbomeca S.A.: Amendment 39-17273; Docket No. FAA-2012-0520; Directorate Identifier 2002-NE-43-AD.

(a) Effective Date

This airworthiness directive (AD) is effective January 7, 2013.

(b) Affected ADs

This AD supersedes AD 2003-12-14, Amendment 39-13199 (68 FR 36900, June 20, 2003).

(c) Applicability

This AD applies to all Turbomeca S.A. Arriel 1A, 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, and 1S1 turboshaft engines that have not incorporated Turbomeca S.A. Modification TU360.

(d) Unsafe Condition

This AD was prompted by in-service experience showing that dust inside the gas generator hollow shaft may be found when the axial compressor wheel has less erosion than initially assessed. We are issuing this AD to prevent an unbalance of the gas generator rotating assembly, which may lead to deterioration of the gas generator rear bearing and uncommanded engine shutdown.

(e) Compliance

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

(1) Within 50 engine hours after the effective date of this AD, determine the engine history and perform the maintenance actions at the specified schedules. Use paragraphs 1.A. and 2.A. through 2.C. of Turbomeca S.A. Alert Mandatory Service Bulletin (MSB) No. A292 72 0230, Version C, dated February 29, 2012 to perform the maintenance actions and to establish the cleaning schedule.

(2) If during any of the cleanings, the dust weight collected inside the gas generator hollow shaft is more than 8 grams, replace the gas generator rear bearing before further flight.

(3) After the effective date of this AD, if there are any changes in accordance with paragraph 1.A.(1)(a)1.3 of Turbomeca S.A. Alert MSB No. A292 72 0230, Version C, dated February 29, 2012, within 50 engine hours time-in-service after such a change, accomplish the actions as specified in paragraphs (e)(1) and (e)(2) of this AD.

(4) After the effective date of this AD, do not install any gas generator (module M03) on an engine unless it is in compliance with this AD.

(5) After the effective date of this AD, do not install any gas generator rear bearing that has operated on an engine with a hollow shaft that has been found to have a dust weight more than 8 grams.

(f) Optional Terminating Action

As optional terminating action to the repetitive actions in this AD, modify the engine by incorporating Turbomeca S.A. Modification TU360.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(h) Related Information

(1) For more information about this AD, contact Rose Len, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7772; fax: 781-238-7199; email: rose.len@faa.gov.

(2) Refer to European Aviation Safety Agency AD 2012-0071, dated April 26, 2012, and Turbomeca S.A. Alert MSB No. A292 72 0230, Version C, dated February 29, 2012, for related information.

(i) 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) Turbomeca S.A. Alert Mandatory Service Bulletin No. A292 72 0230, Version C, dated February 29, 2012.

(ii) Reserved.

(3) For Turbomeca S.A. service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 05 59 74 40 00; telex: 570 042; fax: 33 05 59 74 45 15.

(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 November 20, 2012.

Robert J. Ganley,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.