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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-6990; Directorate Identifier 2016-NE-14-AD; Amendment 39-186990; AD 2016-22-10]

RIN 2120-AA64

Airworthiness Directives; Turbomeca S.A. Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Turbomeca S.A. Arriel 1, 1A, 1A1, 1A2, 1B, 1B2, 1C, 1C1, 1C2, 1D, 1D1, 1E, 1E2, 1K1, 1S, and 1S1 turboshaft engines. This AD requires removing the centrifugal impeller and replacing with a part eligible for installation. This AD was prompted by an anomaly that occurred during the grinding operation required by modification TU376, which increases the clearance between the rear curvic coupling of the centrifugal impeller and the fuel injection manifold. We are issuing this AD to prevent failure of the centrifugal impeller, uncontained centrifugal impeller release, damage to the engine, and damage to the helicopter.

DATES: This AD becomes effective December 6, 2016.

ADDRESSES: See the FOR FURTHER INFORMATION CONTACT section.

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-2016-6990; 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 mandatory continuing airworthiness information (MCAI), 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: Philip Haberlen, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7770; fax: 781-238-7199; email: philip.haberlen@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to the specified products. The NPRM was published in the Federal Register on July 28, 2016 (81 FR 49575). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Turbomeca reported an anomaly that was generated during the grinding operation associated to the application of modification TU376, which increases the clearance between the rear curvic coupling of the centrifugal impeller and the fuel injection manifold.

This condition, if not corrected, could lead to crack initiation and propagation in the centrifugal impeller bore area, possibly resulting in centrifugal impeller failure, with consequent damage to, and reduced control of, the helicopter. To address this potential unsafe condition, the life of the affected centrifugal impellers was reduced and Turbomeca published Mandatory Service Bulletin (MSB) 292 72 0848 to inform operators about the life reduction and to provide instructions for the replacement of the affected centrifugal impellers.

For the reasons described above, this AD requires replacement of each affected centrifugal impeller before it exceeds the applicable reduced life limit.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6990.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (81 FR 49575, July 28, 2016) or on the determination of the cost to the public.

Conclusion

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

Related Service Information

Turbomeca S.A. has issued Mandatory Service Bulletin (MSB) 292 72 0848, Version B, dated April 13, 2016. The MSB describes procedures for reducing the life limit of the centrifugal impellers affected by an anomaly that occurred during the grinding operation required by modification TU376. 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.

Costs of Compliance

We estimate that this AD affects 3 engines installed on helicopters of U.S. registry. We also estimate that it would take about 22 hours per engine to comply with this AD. The average labor rate is \$85 per hour. Required parts cost about \$96,518 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$295,164.

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 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 this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the 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 adding the following new airworthiness directive (AD):



2016-22-10 Turbomeca S.A.: Amendment 39-186990; Docket No. FAA-2016-6990; Directorate Identifier 2016-NE-14-AD.

(a) Effective Date

This AD becomes effective December 6, 2016.

(b) Affected ADs

None.

(c) Applicability

This AD applies to certain Arriel 1, 1A, 1A1, 1A2, 1B, 1B2, 1C, 1C1, 1C2, 1D, 1D1, 1E, 1E2, 1K1, 1S, and 1S1 turboshaft engines, with modification TU376 installed.

(d) Reason

This AD was prompted by an anomaly that occurred during the grinding operation required by modification TU376, which increases the clearance between the rear curvic coupling of the centrifugal impeller and the fuel injection manifold. We are issuing this AD to prevent failure of the centrifugal impeller, uncontained centrifugal impeller release, damage to the engine, and damage to the helicopter.

(e) Actions and Compliance

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

(1) Remove from service, any centrifugal impeller listed in Table 1 to paragraph (e) of this AD, before exceeding the applicable cycles since new (CSN) and replace with a centrifugal impeller not listed in Table 1 to paragraph (e) of this AD.

Table 1 to Paragraph (e)–Centrifugal Impeller CSNs

Part No.	Serial No.	CSN
0292254040	44	5,129
0292254040	1762FT	11,476
0292254050	1676CAR	6,281
0292254050	5333OTT	5,495
0292254050	5017OTT	5,491
0292254050	1136CAR	8,734
0292254050	3655OTT	4,600

0292254050	1757CAR	7,913
0292254050	1738CAR	10,640
0292254050	1149CAR	12,273
0292254050	2677OTT	11,145
0292254050	3109OTT	10,662
0292254050	3496OTT	5,562
0292254050	2074CAR	7,423
729225293A	290CAR	6,326
729225293A	1227FT	8,139
729225293A	504FB	4,600
729225293A	2517OTT	9,732
729225293A	2165OTT	6,163
729225293A	2194FT	11,461
729225293A	1331OTT	12,513
729225293A	1301FT	7,262
729225293A	1567FT	6,305
729225293A	783FB	8,307
729225293A	98OTT	9,492

(2) Reserved.

(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

(1) For more information about this AD, contact Philip Haberlen, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7770; fax: 781-238-7199; email: philip.haberlen@faa.gov.

(2) Refer to MCAI, European Aviation Safety Agency AD 2016-0090, dated May 10, 2016, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2016-6990.

(h) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on October 24, 2016.
Colleen M. D'Alessandro,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.