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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-5539; Directorate Identifier 2015-NE-37-AD; Amendment 39-18493; AD 2016-08-16]

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 all Turbomeca S.A. Arriel 2E turboshaft engines. This AD requires removing the pre-TU 193 adjusted high-pressure/low-pressure pump and metering valve assembly and replacing it with a part that is eligible for installation. This AD also requires replacing the constant delta-pressure (delta-P) diaphragm of the fuel metering valve. This AD was prompted by reports of fuel flow non-conformities found during acceptance tests of Arriel 2E hydro-mechanical metering units (HMUs). We are issuing this AD to prevent failure of the delta-P diaphragm, which could result in an uncommanded in-flight shutdown and damage to the helicopter.

DATES: This AD becomes effective May 25, 2016.

ADDRESSES: For service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 (0)5 59 74 40 00; fax: 33 (0)5 59 74 45 15. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-5539.

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-2015-5539; 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: Kyle Gustafson, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7183; fax: 781-238-7199; email: kyle.gustafson@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 January 4, 2016 (81 FR 30). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Fuel flow non-conformities were found during reception tests of ARRIEL 2E Hydraulic Mechanical Metering Unit (HMU). Investigation and instrumented tests revealed instabilities on the additional check valve. These instabilities lead to hydraulic pulses. All HMU installed on ARRIEL 2E and 2N engines could present these instabilities.

This condition, if not corrected, could lead to life reduction of the delta pressure valve diaphragm, and consequently, an uncommanded engine power increase, or an uncommanded in flight shutdown, possibly resulting in an emergency landing.

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-2015-5539.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (81 FR 30, January 4, 2016).

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) No. 292 73 2193, Version A, dated July 16, 2015. The MSB describes procedures for incorporating modification TU 193 and replacing the constant delta-P diaphragm of the fuel metering valve.

Costs of Compliance

We estimate that this AD affects 12 engines installed on helicopters of U.S. registry. We also estimate that it will take about 2 hours per engine to comply with this AD. The average labor rate is \$85 per hour. Required parts cost about \$13,400 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$162,840.

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 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):



2016-08-16 Turbomeca S.A.: Amendment 39-18493; Docket No. FAA-2015-5539; Directorate Identifier 2015-NE-37-AD.

(a) Effective Date

This AD becomes effective May 25, 2016.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Turbomeca S.A. Arriel 2E turboshaft engines that have a pre-TU 193 adjusted high-pressure/low-pressure (HP/LP) pump and metering valve assembly, installed.

(d) Reason

This AD was prompted by reports of fuel flow non-conformities found during acceptance tests of Arriel 2E hydro-mechanical metering units. We are issuing this AD to prevent failure of the constant delta-pressure (delta-P) diaphragm of the fuel metering valve, which could result in an uncommanded in-flight shutdown and damage to the helicopter.

(e) Actions and Compliance

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

(1) Prior to exceeding 880 operating hours since new on the adjusted HP/LP pump and metering valve assembly or within 50 operating hours after the effective date of this AD, whichever occurs later:

- (i) Remove from service the adjusted HP/LP pump and metering valve assembly and replace with a part that is eligible for installation, and
 - (ii) replace the constant delta-P diaphragm of the fuel metering valve.
- (2) Reserved.

(f) Installation Prohibition

After the effective date of this AD, do not install into any engine any pre-TU 193 adjusted HP/LP pump and metering valve assembly, nor install onto any helicopter any engine that has a pre-TU 193 adjusted HP/LP pump and metering valve assembly.

(g) 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.

(h) Related Information

(1) For more information about this AD, contact Kyle Gustafson, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7183; fax: 781-238-7199; email: kyle.gustafson@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2015-0213, dated October 16, 2015, for more information. You may examine the MCAI in the AD docket on the Internet at <https://www.regulations.gov/#!documentDetail;D=FAA-2015-5539-0002>.

(3) Turbomeca S.A. Mandatory Service Bulletin No. 292 73 2193, Version A, dated July 16, 2015, can be obtained from Turbomeca S.A., using the contact information in paragraph (h)(4) of this AD.

(4) For service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 (0)5 59 74 40 00; fax: 33 (0)5 59 74 45 15.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(i) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on April 12, 2016.
Ann C. Mollica,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.