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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0057; Directorate Identifier 2012-NE-04-AD; Amendment 39-17100; AD 2012-12-20]

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 Turbomeca S.A. Arriel 2C1, 2C2, and 2S2 turboshaft engines. This AD requires replacement of affected digital engine control units (DECUs). This AD was prompted by a report of a helicopter experiencing a DECU malfunction during flight. We are issuing this AD to prevent loss of automatic control on one or both engines installed on the same helicopter, which could result in an uncommanded in-flight engine shutdown, forced autorotation landing, or accident.

DATES: This AD becomes effective July 26, 2012.

ADDRESSES: The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

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 include an AD that would apply to the specified products. That NPRM was published in the Federal Register on February 21, 2012 (77 FR 9874). That NPRM proposed to correct an unsafe condition for the specified products. European Aviation Safety Agency AD 2011-0249 states:

An incident has been reported of a helicopter which experienced a Digital Engine Control Unit (DECU) malfunction in flight from one of its Arriel 2C1 engines. The indicating system of the helicopter displayed a "FADEC FAIL" message, with a concurrent loss of automatic control of the engine. The mission was aborted and the helicopter returned to its base without any further incident.

The subsequent technical investigations carried out by Turbomeca revealed that a Digital Engine Control Unit (DECU) assembly non-conformity was at the origin of this event. Further investigations performed with the supplier of the DECU led to the conclusion that only a limited number of DECU are potentially affected by the non-conformity.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (77 FR 9874, February 21, 2012).

Conclusion

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

Costs of Compliance

Based on the service information, we estimate that this AD will affect about two engines installed on helicopters of U.S. registry. We also estimate that it will take about one work-hour per engine to comply with this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$12,551 per engine. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$25,272. Our cost estimate is exclusive of possible warranty coverage.

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); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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 street address for the Docket Operations office (phone: (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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 AD:



2012-12-20 Turbomeca S.A.: Amendment 39-17100; Docket No. FAA-2012-0057; Directorate Identifier 2012-NE-04-AD.

(a) Effective Date

This airworthiness directive (AD) becomes effective July 26, 2012.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Turbomeca S.A. Arriel 2C1, 2C2, and 2S2 turboshaft engines with any of the digital engine control units (DECUs) listed in Table 1 of this AD installed.

Table 1—Serial Numbers of Affected DECUs

529	558	560	655
696	869	878	939
983	1039	1050	1052
1150	1195	1208	1236
1302	1304	1329	1330
1350	1384	1408	1412
1416	1429	1430	1440
1464	1468	1472	1499
1508	1528	1557	1558
1560	1567	1578	1615
1616	1656	1689	N/A

(d) Reason

This AD was prompted by a report of a helicopter experiencing a DECU malfunction during flight. We are issuing this AD to prevent loss of automatic control on one or both engines installed on the same helicopter, which could result in an uncommanded in-flight engine shutdown, forced autorotation landing, or accident.

(e) Actions and Compliance

Unless already done, do the following actions.

(1) For any helicopter fitted with two DECU's listed in Table 1 of this AD:

(i) Within 50 engine hours after the effective date of this AD, replace one of the two DECU's with a DECU that is not listed in Table 1 of this AD.

(ii) Within 1,000 engine hours or 12 months after the effective date of this AD, whichever occurs first, replace the other DECU with a DECU that is not listed in Table 1 of this AD.

(2) For any helicopter fitted with one DECU listed in Table 1 of this AD, within 1,000 engine hours or 12 months after the effective date of this AD, whichever occurs first, replace the DECU with a DECU that is not listed in Table 1 of this AD.

(f) Installation Prohibition

From the effective date of this AD, do not install a DECU listed in Table 1 of this AD onto any engine, and do not install any engine having a DECU listed in Table 1 of this AD, onto a helicopter.

(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 2011-0249, dated December 22, 2011, and Turbomeca Alert Mandatory Service Bulletin No. A292 73 2845, Version A, dated December 19, 2011, for related information.

(3) For service information identified in this AD, contact Turbomeca, 40220 Tarnos, France; phone: 33 05 59 74 40 00; fax: 33 05 59 74 45 15. You may review copies of the referenced 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.

(i) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on June 14, 2012.

Colleen M. D'Alessandro,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.