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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0164; Directorate Identifier 2014-NE-02-AD; Amendment 39-18191; AD 2015-13-04]

RIN 2120-AA64

Airworthiness Directives; Turbomeca S.A. Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding airworthiness directive (AD) 2014-19-05 for all Turbomeca S.A. Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, 1S1, 2B, 2B1, 2C, 2C1, 2C2, 2S1, and 2S2 turboshaft engines. AD 2014-19-05 required an initial one-time vibration check of the engine accessory gearbox (AGB) on certain Arriel 1 and Arriel 2 model engines, and repetitive vibration checks for all Arriel 1 and Arriel 2 engines. This AD was prompted by our determination that we incorrectly identified technical references in AD 2014-19-05. We are issuing this AD to prevent failure of the engine AGB, which could lead to in-flight shutdown and damage to the engine, which may result in damage to the aircraft.

DATES: This AD is effective September 1, 2015.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of September 1, 2015.

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of November 5, 2014 (79 FR 59091, October 1, 2014).

ADDRESSES: For service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 0 5 59 74 40 00; telex: 570 042; fax: 33 0 5 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0164.

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-2014-0164; 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, 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: Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7758; fax: 781-238-7199; email: mark.riley@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2014-19-05, Amendment 39-17973 (79 FR 59091, October 1, 2014), ("AD 2014-19-05"). AD 2014-19-05 applied to the specified products. The NPRM published in the Federal Register on February 4, 2015 (80 FR 6017). The NPRM proposed to continue to require an initial one-time vibration check of the engine AGB on certain higher risk Arriel 1 and Arriel 2 model engines. That NPRM also proposed to continue to require repetitive vibration checks of the engine AGB for all Arriel 1 and Arriel 2 engines at every engine shop visit.

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Request To Allow Sufficient Compliance Time

One commenter requested that sufficient time be allowed to comply with this AD to account for the availability of the vibration test equipment and Turbomeca technical representatives. The commenter indicated that the initial one-time vibration check of the engine AGB requires use of Turbomeca-specified vibration test equipment and is performed by Turbomeca technical personnel.

We do not agree. The compliance times in the AD provide sufficient time for the operator to perform the required maintenance. Operators can also procure the required vibration test equipment to perform the test. We did not change this AD.

Request To Revise Definition of Shop Visit

One commenter requested that we revise the AD to make the definition of "shop visit" consistent with EASA AD 2014-0036. The EASA AD specifies that the repetitive vibration check of the engine AGB be performed during a "qualifying shop visit," which is when the engine is "overhauled or repaired in a qualified Repair Center." The commenter indicated that because of the modularity of the Arriel engine, it is possible to separate a major mating flange during "Level 2" or "Level 1 maintenance."

We do not agree. We do not find specific criteria in EASA AD 2014-0036's definition of "engine shop visit" for when the repetitive AGB vibration check should be conducted. We did not change this AD.

Request To Eliminate Repetitive Vibration Check

One commenter requested that the repetitive vibration check required by this AD be eliminated. The commenter indicated that this vibration check is already incorporated in Turbomeca Level 4 maintenance, and in subsequent test requirements, so it will always be done. Further, adding this requirement to the AD only adds to the cost and paperwork requirements for operators.

We do not agree. The repetitive vibration checks of the engine AGB are required to prevent failure of the AGB. We did not change this AD.

Revisions To Service Information References

Turbomeca S.A. updated the service bulletins (SBs) referenced in this AD. We reviewed the updated SBs and found they adequately addressed the unsafe condition. Therefore, we revised this AD to reference the updated versions of the SBs. This AD now references Turbomeca S.A. Mandatory Service Bulletin (MSB) No. 292 72 0839, Version C, dated June 18, 2014, and Turbomeca S.A. MSB No. 292 72 2849, Version C, dated June 18, 2014. We also revised compliance paragraph (e) of this AD to refer to the corresponding paragraphs used in these updated MSBs to require the vibration checks.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed Turbomeca S.A. MSB No. 292 72 0839, Version C, dated June 18, 2014; and Turbomeca S.A. MSB No. 292 72 2849, Version C, dated June 18, 2014. The service information describes procedures for vibration checks. 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 of this AD.

Costs of Compliance

We estimate that this AD affects 1,268 engines installed on aircraft of U.S. registry. We also estimate that it will take about 4 hours per engine to comply with the inspection requirement in this AD. 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 \$431,120.

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

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 part 39 of the Federal Aviation Regulations (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) 2014-19-05, Amendment 39-17973 (79 FR 59091, October 1, 2014), and adding the following new AD:



2015-13-04 Turbomeca S.A.: Amendment 39-18191; Docket No. FAA-2014-0164; Directorate Identifier 2014-NE-02-AD.

(a) Effective Date

This AD is effective September 1, 2015

(b) Affected ADs

This AD supersedes AD 2014-19-05, Amendment 39-17973 (79 FR 59091, October 1, 2014).

(c) Applicability

This AD applies to all Turbomeca S.A. Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, 1S1, 2B, 2B1, 2C, 2C1, 2C2, 2S1, and 2S2 turboshaft engines.

(d) Unsafe Condition

This AD was prompted by reports of uncommanded in-flight shutdowns on Turbomeca S.A. Arriel 1 and Arriel 2 engines following rupture of the 41-tooth gear forming part of the 41/23-tooth bevel gear located in the engine accessory gearbox (AGB). We are issuing this AD to prevent failure of the engine AGB, which could lead to in-flight shutdown and damage to the engine, which may result in damage to the aircraft.

(e) Compliance

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

(1) For all Turbomeca S.A. Arriel 1B, 1D, 1D1, 2B, and 2B1 turboshaft engines, perform a one-time vibration check of the AGB 41/23-tooth bevel gear meshing within 32 months of the effective date of this AD, as follows:

(i) For all Turbomeca S.A. Arriel 1B, 1D, and 1D1 engines, except those engines with an AGB installed with a serial number (S/N) listed in the figure under paragraph 2.2. of Turbomeca S.A. Mandatory Service Bulletin (MSB) No. 292 72 0839, Version C, dated June 18, 2014, use paragraph 2.3.1. through 2.3.3. of Turbomeca S.A. MSB No. 292 72 0839, Version C, dated June 18, 2014, to perform the vibration check.

(ii) You must also use Turbomeca S.A. Arriel 1 Technical Instruction (TI) No. 292 72 0839 and Turbomeca S.A. Arriel 1 TI No. 292 72 0840 to do the vibration check.

(iii) For all Turbomeca S.A. Arriel 2B and 2B1 engines, except those engines with an AGB installed with an S/N listed in the figure under paragraph 2.2. of Turbomeca S.A. MSB No. 292 72 2849, Version C, dated June 18, 2014, use paragraphs 2.3.1. through 2.3.3. of Turbomeca S.A. MSB No. 292 72 2849, Version C, dated June 18, 2014, to perform the vibration check. Turbomeca S.A. MSB No. 292 72 2849 refers to Turbomeca S.A. Arriel 2 TI No. 292 72 2849 and to Turbomeca S.A. Arriel 2 TI No. 292 72 2850, which you must also use to do the vibration check.

(iv) The reporting requirements in paragraphs 2.3.1.1.3., 2.3.2.1.3., and the requirement to return module M01 (AGB) to a Repair Center in paragraph 2.3.2.2.2. in Turbomeca S.A. MSB No. 292 72

0839, Version C, dated June 18, 2014, and in Turbomeca S.A. MSB No. 292 72 2849, Version C, dated June 18, 2014, are not required by this AD.

(2) For all affected Turbomeca S.A. engines, during each engine shop visit after the effective date of this AD, perform a vibration check of the AGB 41/23-tooth bevel gear meshing.

(3) If the AGB does not pass the vibration check required by paragraphs (e)(1) or (e)(2) of this AD, replace the AGB with a part eligible for installation.

(f) Credit for Previous Action

If you performed a vibration check of the AGB before the effective date of this AD using Turbomeca S.A. MSB No. 292 72 0839, Version A, dated September 9, 2013, or Version B, dated November 25, 2013, or MSB No. 292 72 2849, Version A, dated September 9, 2013, or Version B, dated November 25, 2013; or during an engine shop visit per paragraph (e)(2) of this AD, you met the initial inspection requirement of paragraph (e)(1) of this AD.

(g) Definition

For the purpose of this AD, an "engine shop visit" is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges. The separation of engine flanges solely for the purpose of transportation without subsequent engine maintenance does not constitute an engine shop visit.

(h) 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.

(i) Related Information

(1) For more information about this AD, contact Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7758; fax: 781-238-7199; email: mark.riley@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2014-0036, dated February 11, 2014, for related information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0164-0003>.

(3) Turbomeca S.A. Engine Test Bed Acceptance Test Specifications CCT No. 0292009400, Version T; CCT No. 0292019400, Version R; CCT No. 0292019690, Version I; CCT No. 0292019530, Version K; CCT No. 0292019610, Version K; CCT No. 0292029450, Version J; CCT No. 0292029490, Version I; CCT No. 0292029440, Version I; CCT No. 0292029480, Version K; CCT No. 0292029520, Version H; CCT No. 0292029410, Version L; CCT No. 0292029530, Version H; or Turbomeca ID No. 383952; or Turbomeca RTD No. X 292 65 327 2, provide information on performing a vibration check during an engine shop visit. These service documents can be obtained from Turbomeca S.A. using the contact information in paragraph (j)(5) of this AD.

(j) 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.

(3) The following service information was approved for IBR on September 1, 2015.

(i) Turbomeca S.A. Mandatory Service Bulletin (MSB) No. 292 72 0839, Version C, dated June 18, 2014.

(ii) Turbomeca S.A. MSB No. 292 72 2849, Version C, dated June 18, 2014.

(4) The following service information was approved for IBR on November 5, 2014 (79 FR 59091, October 1, 2014).

(i) Turbomeca S.A. MSB No. 292 72 0839, Version B, dated November 25, 2013.

(ii) Turbomeca S.A. MSB No. 292 72 2849, Version B, dated November 25, 2013.

(iii) Turbomeca S.A. Arriel 1 Technical Instruction (TI) No. 292 72 0839, Version E, dated February 20, 2014.

(iv) Turbomeca S.A. Arriel 1 TI No. 292 72 0840, Version A, dated November 29, 2013.

(v) Turbomeca S.A. Arriel 2 TI No. 292 72 2849, Version E, dated February 20, 2014.

(vi) Turbomeca S.A. Arriel 2 TI No. 292 72 2850, Version A, dated November 29, 2013.

(5) For Turbomeca S.A. service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 0 5 59 74 40 00; telex: 570 042; fax: 33 0 5 59 74 45 15.

(6) 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.

(7) 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 July 16, 2015.

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