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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0024; Product Identifier 2000-NE-12-AD; Amendment 39-19307; AD 2018-12-03]

RIN 2120-AA64

Airworthiness Directives; Safran Helicopter Engines, S.A., Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2013-11-09 for all Safran Helicopter Engines, S.A., Arrius 2B1 and 2F turboshaft engines. AD 2013-11-09 required the repetitive replacement of the fuel injector manifolds and privilege injector, or only the privilege injector. This AD retains the repetitive hardware replacement requirements of AD 2013-11-09, but only allows replacement pipe injector preferred assembly, part number (P/N) 0 319 73 044 0, on the Arrius 2F engines. This AD was prompted by reports of engine flameouts as a result of reduced fuel flow due to the presence of coking. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 9, 2018.

ADDRESSES: For service information identified in this final rule, contact Safran Helicopter Engines, S.A., 40220 Tarnos, France; phone: (33) 05 59 74 40 00; fax: (33) 05 59 74 45 15; internet address: www.tools.safran-helicopter-engines.com. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2013-0024.

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-2013-0024; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information, regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is Document

Operations, 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: Barbara Caufield, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7146; fax: 781-238-7199; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-11-09, Amendment 39-17469 (78 FR 32551, May 31, 2013), "AD 2013-11-09". AD 2013-11-09 applied to all Turbomeca S.A., Arrius 2B1 and 2F turboshaft engines. The NPRM published in the Federal Register on August 25, 2017 (82 FR 40503). The NPRM was prompted by a report that the corrective actions of the existing AD were insufficient to eliminate the unsafe condition. The NPRM proposed initial and repetitive replacement of the main fuel injector half-manifolds and preferred injector for Arrius 2B1 turboshaft engines, and initial and repetitive replacement of the preferred injector and replacing pipe injector preferred assemblies, P/N 0 319 73 835 0, with assembly, P/N 0 319 73 044 0, for Arrius 2F turboshaft engines. We are issuing this AD to address the unsafe condition on these products.

Comments

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

Request To Add Safran Service Bulletin (SB) 319 73 4085

An individual commenter requested that we incorporate Safran service bulletin (SB) No. 319 73 4085, which installs new insulating seals on the fuel manifold assemblies to limit coking, in this AD. The commenter does not believe that the proposed AD completely corrects the unsafe condition, which could result in another revised or supersedure AD in the future.

We disagree. We have not determined that the Safran SB No. 319 73 4085, Version A, dated March 23, 2016, provides an effective terminating action to the current AD requirements. We did not change this AD.

Request To Revise Operating Hours in Figure 1

Safran Helicopter Engines stated there was an error in Figure 1 to paragraph (g)(1)(i) of this AD requiring the post-mod TU117 main fuel injector half-manifold be replaced every 600 operating hours. They stated the replacement interval is 500 hours (plus a 100 hour non-cumulative tolerance). The application of the non-cumulative tolerance specified in the Arrius 2B1 Maintenance Manual X 319 L5 301 2 was misinterpreted.

We agree with commenter's explanation and justification. We revised the main fuel injector half-manifold–post-mod TU117 operating hours in Figure 1 to paragraph (g) of this AD from 600 operating hours to 500 operating hours, which is consistent with the approved Airworthiness Limitations for this engine. We also added paragraph (g)(1)(i)(A) to this AD that allows a non-cumulative tolerance of 100 operating hours to the compliance time for the initial replacement of the post-mod TU117 main injector half-manifolds.

Request To Revise the Compliance Requirements

Safran Helicopter Engines requested that we revise paragraph (g)(2)(iii) of this AD to replace "within 16 months after the effective date of this AD" with "August 31, 2018." Safran Helicopter Engines asserted that 16 months was correct when EASA issued AD 2017-0070, but to be consistent with the compliance in Safran Helicopter Engines Mandatory SB No. 319 73 4839, this date must be modified to match August 31, 2018.

We disagree. We determined that 16 months after the effective date of the AD is a reasonable timeframe to complete the actions and will meet our safety objectives. We did not change this AD.

Request To Revise the Required Actions

Safran Helicopter Engines requested we clarify paragraph (g)(2)(iii) of this AD by deleting the words "before next flight."

We agree with the commenter's request because this change clarifies paragraph (g)(2)(iii) of this AD. We revised paragraph (g)(2)(iii) of this AD as requested.

Request To Revise Contact Information

Safran Helicopter Engines requested that we revise the contact information for service information in paragraph to the following: "Please contact your nearest SAFRAN Helicopter Engines technical representative or connect to www.tools.safran-helicopter-engines.com."

We agree. We revised the contact information in the ADDRESSES section of this AD to include Safran's internet address: www.tools.safran-helicopter-engines.com.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information

We reviewed Safran Helicopter Engines Mandatory SB No. 319 73 4839, Version A, dated December 13, 2016. The SB describes procedures for replacing pipe injector preferred assemblies.

Costs of Compliance

We estimate that this AD affects 50 Arrius 2B1 and 105 Arrius 2F turboshaft engines installed on helicopters of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Arrius 2B1 fuel injector manifolds and injector replacement	3 work-hours × $85 per hour = $255	$0	$255	$12,750
Arrius 2F pipe injector preferred assembly replacement	3 work-hours × $85 per hour = $255	3,154	3,409	357,945

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

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 Code of Federal 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) 2013-11-09, Amendment 39-17469 (78 FR 32551), and adding the following new AD:

2018-12-03 Safran Helicopter Engines, S.A. (Type Certificate previously held by Turbomeca S.A.): Amendment 39-19307; Docket No. FAA-2013-0024; Product Identifier 2000-NE-12-AD.

(a) Effective Date

This AD is effective August 9, 2018.

(b) Affected ADs

This AD replaces AD 2013-11-09, Amendment 39-17469 (78 FR 32551, May 31, 2013).

(c) Applicability

This AD applies to all Safran Helicopter Engines, S.A., Arrius 2B1 and 2F turboshaft engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7320, Fuel Controlling System.

(e) Unsafe Condition

This AD was prompted by several reports of engine flameouts as a result of reduced fuel flow due to the presence of coking. We are issuing this AD to prevent an engine flameout of Arrius 2B1 and 2F turboshaft engines. The unsafe condition, if not addressed, could result in an engine flameout and damage to the helicopter.

(f) Compliance

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

(g) Required Actions

(1) For Arrius 2B1 turboshaft engines, do the following:

(i) Replace each main fuel injector half-manifold and preferred injector with a part eligible for installation before exceeding the operating hours (hours accumulated by the part since installation on an engine) specified in Figure 1 to paragraph (g) of this AD.

(A) For the post-mod TU117 main injector half-manifold, a one-time, non-cumulative tolerance of 100 operating hours may be applied to the compliance interval specified in Figure 1. This one-time tolerance can be applied to the initial replacement or a subsequent replacement, as required.

(B) Reserved.

Figure 1 to Paragraph (g) – Replacement

Part	Operating hours
Main fuel injector half-manifold – post-mod TU117	500
Main fuel injector half-manifold – pre-mod TU117	200
Preferred injector pre/post-mod TU117	200

(ii) Borescope-inspect (BSI) the flame tube and the high-pressure turbine (HPT) area for turbine distress, when replacing the fuel injector manifolds and preferred injector for the first time.

(iii) Thereafter, replace the fuel injector manifolds and preferred injector with a part eligible for installation before exceeding the operating hours (hours accumulated by the part since installation on an engine) specified in Figure 1 to paragraph (g) of this AD.

(2) For Arrius 2F turboshaft engines, do the following:

(i) Replace each pipe injector preferred assembly, part number (P/N) 0 319 73 835 0 and P/N 0 319 73 044 0, with a part eligible for installation before exceeding 400 operating hours (hours accumulated by the part since installation on an engine).

(ii) BSI the flame tube and the HPT area for turbine distress, when replacing the privilege injector for the first time.

(iii) Unless already accomplished as required by paragraph (g)(2)(i) of this AD, within 16 months after the effective date of this AD, replace the pipe injector preferred assembly, P/N 0 319 73 835 0, with a part eligible for installation.

(iv) Thereafter, replace the pipe injector preferred assembly with a part eligible for installation within 400 operating hours since the last pipe injector preferred assembly replacement.

(h) Definitions

(1) For Arrius 2B1 turboshaft engines, a main fuel injector half-manifold or preferred injector is eligible for installation if it has not exceeded the operating hours specified in Figure 1 to paragraph (g) of this AD since first installation on an engine or since last cleaning.

(2) For Arrius 2F turboshaft engines, a pipe injector preferred assembly, P/N 0 319 73 044 0, is eligible for installation if it has not exceeded 400 operating hours since first installation on an engine or since last cleaning.

(i) Installation Prohibition

(1) For Arrius 2B1 turboshaft engines, after the effective date of this AD, do not install a main fuel injector half-manifold or preferred injector onto any engine, or any engine onto a helicopter, unless the main fuel injector half-manifold and preferred injector are eligible for installation.

(2) For Arrius 2F turboshaft engines, after the effective date of this AD, do not install a pipe injector preferred assembly onto any engine, or any engine onto a helicopter, unless the pipe injector preferred assembly is eligible for installation.

(3) For Arrius 2F turboshaft engines, after the effective date of this AD, do not install a pipe injector preferred assembly, P/N 0 319 73 835 0, onto any engine.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person

identified in paragraph (k)(1) of this AD. You may email your request to: ANE-AD-AMOC@;faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local Flight Standards District Office/Certificate Holding District Office.

(k) Related Information

(1) For more information about this AD, contact Barbara Caufield, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7146; fax: 781-238-7199; email: barbara.caufield@faa.gov.

(2) Refer to European Aviation Safety Agency AD 2017-0070, dated April, 25, 2017, for more information. You may examine the EASA AD on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2013-0024.

(l) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on June 27, 2018.
Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.