



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-1180; Project Identifier MCAI-2020-00517-E]

RIN 2120-AA64

Airworthiness Directives; Safran Helicopter Engines, S.A. (Type Certificate Previously Held by Turbomeca, S.A.) Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Safran Helicopter Engines, S.A. (Safran Helicopter Engines) Arriel 2B, 2B1, 2C, 2C1, 2C2, 2S1 and 2S2 model turboshaft engines. This proposed AD was prompted by reports of non-conforming fuel filter pre-blockage pressure switches. This proposed AD would require repetitive visual inspections of the fuel filter by-pass indicator pop-up, a one-time operational test of the fuel filter pre-blockage pressure switch and, depending on the findings, replacement of the fuel filter pre-blockage pressure switch with a part eligible for installation. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR §§ 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12 140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Safran Helicopter Engines, S.A., Avenue du 1er Mai, Tarnos, France; phone: +33 (0) 5 59 74 45 11. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1180; 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 NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Wego Wang, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7134; fax: (781) 238-7199; email: wego.wang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal AD. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2020-1180; Project Identifier MCAI-2020-00517-E” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Wego Wang, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2019-0180, dated July 25, 2019 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

Occurrences have been reported of non-conforming fuel filter pre-blockage pressure switches, manufactured before December 2016. The non-conformity of the fuel filter pre-blockage pressure switch can cause its non-activation in case of fuel system contamination, with consequent opening of the by-pass without indication in the cockpit.

This condition, if not detected and corrected, and in case of fuel contamination, could lead to an uncommanded in-flight shut-down, possibly resulting in an emergency autorotation landing on a single

engine helicopter, or to a double uncommanded in-flight shut-down on a twin engine helicopter.

To address this potential unsafe condition, SAFRAN issued the MSB, providing inspection instructions.

For the reasons described above, this [EASA AD] requires repetitive daily visual checks of the fuel filter by-pass indicator pop-up. This [EASA] AD also requires a one-time operational check of the affected part and, depending on findings, replacement of that part, which constitutes terminating action for the repetitive daily checks as required by this [EASA] AD.

You may obtain further information by examining the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1180.

FAA's Determination

This product has been approved by EASA and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because the agency evaluated all the relevant information provided by EASA and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Task 73-23-01-750-801-A01 – Pre-Blockage Pressure Switch of the Fuel Filter Tests (Electrical), dated November 30, 2012, from the Turbomeca Arriel 2 S1 Maintenance Manual. Task 73-23-01-750-801-A01 provides instructions for performing an operational test of the fuel filter pre-blockage pressure switch. 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 ADDRESSES.

Other Related Service Information

The FAA reviewed Safran Helicopter Engines Mandatory Service Bulletin (MSB) No. 292 73 2869, Version B, dated December 2018. The MSB describes procedures for

identifying and securing pre-blockage pressure switches of fuel filter part number P/N 9 550 17 200 0, which are potentially non-conforming.

Proposed AD Requirements in this NPRM

This proposed AD would require repetitive visual inspections of the fuel filter by-pass indicator pop-up, a one-time operational test of the fuel filter pre-blockage pressure switch and, depending on the findings, replacement of the fuel filter pre-blockage pressure switch with a part eligible for installation.

Justification for Allowing Pilot to Perform Visual Inspection

This proposed AD would allow the visual inspections required by paragraph (g)(1) of this NPRM to be performed by an aircrew member holding at least a private pilot certificate. Performing a visual inspection to determine if the fuel filter by-pass indicator pop-up has been activated is not considered an action that must be performed by a certified person under 14 CFR 43.3. This authorization is an exception to our standard maintenance regulations.

Differences Between this Proposed AD and the MCAI or the Service Information

EASA AD 2019-0180 defines “Group 1” engines as Safran Helicopter Engines Arriel 2B, 2B1, 2B1A, 2C, 2C1, 2C2, 2S1 and 2S2 model turboshaft engines with an affected a fuel filter pre-blockage pressure switch and “Group 2” engines as the same Safran Helicopter Engines Arriel turboshaft engines not equipped with an affected fuel filter pre-blockage pressure switch. This AD does not define or use “Group 1” or “Group 2” and identifies both the affected engines and the affected fuel filter pre-blockage pressure switch in the Applicability paragraph. This AD does not include Safran Helicopter Engines Arriel 2B1A model turboshaft engines since these engines are not type certificated in the United States.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 775 engines installed on helicopters of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Visual inspection of fuel filter by-pass indicator	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$65,875
Operational test of the fuel filter pre-blockage pressure switch	3 work-hours x \$85 per hour = \$255	\$0	\$255	\$197,625

The FAA estimates the following costs to do any necessary replacement that would be required based on the results of the proposed inspection. The FAA has no way of determining the number of aircraft that might need this replacement.

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Replace fuel filter pre-blockage pressure switch	2 work-hours x \$85 per hour = \$170	\$225	\$395

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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.

The FAA is 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

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

Safran Helicopter Engines, S.A. (Type Certificate Previously Held by Turbomeca, S.A.): Docket No. FAA-2020-1180; Project Identifier MCAI-2020-00517-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Safran Helicopter Engines, S.A., (type certificate previously held by Turbomeca, S.A.) Arriel 2B, 2B1, 2C, 2C1, 2C2, 2S1 and 2S2 model turboshaft engines with a fuel filter pre-blockage pressure switch, part number 9 550 17 200 0, and serial number (S/N) 00001 to 12753, inclusive, and S/N A0001 to A0247, inclusive, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7321 Fuel Control/Turbine Engines.

(e) Unsafe Condition

This AD was prompted by reports from the manufacturer of non-conforming fuel filter pre-blockage pressure switches manufactured before December 2016. The FAA is issuing this AD to prevent the non-conformity of the fuel filter pre-blockage pressure switch, which can cause its non-activation in case of fuel system contamination, with consequent opening of the by-pass without indication in the cockpit. The unsafe condition, if not addressed, could result in uncommanded in-flight shut-down of the engine, an emergency autorotation landing on a single engine helicopter, or an uncommanded in-flight shut-down of both engines on a twin engine helicopter.

(f) Compliance

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

(g) Required Actions

(1) After the effective date of this AD, during the pre-flight inspection for the first flight of each day the engine is operated, perform a visual inspection of the fuel filter by-pass indicator to determine if the fuel filter by-pass indicator pop-up has been activated.

(2) Within the next 300 hydro-mechanical metering unit (HMU) operating hours or 180 days after the effective date of this AD, whichever occurs first, perform an operational test of the fuel filter pre-blockage pressure switch in accordance with Task 73-23-01-750-801-A01 – Pre-Blockage Pressure Switch of the Fuel Filter Tests

(Electrical), dated November 30, 2012, (the Task) from the Turbomeca Arriel 2 S1 Maintenance Manual.

(3) During any visual inspection required by paragraph (g)(1) of this AD, if the fuel filter by-pass indicator pop-up has been activated or, during the operational test required by paragraph (g)(2) of this AD, any discrepancy is detected as described by the Task, before next flight, replace the fuel filter pre-blockage pressure switch with a part eligible for installation.

(4) The actions required by paragraph (g)(1) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD, in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The records must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

(h) Terminating Action

Passing the operational test (no failure detected) of the fuel filter pre-blockage pressure switch, as required by paragraph (g)(2) of this AD, or replacement of the fuel filter pre-blockage pressure switch with a part eligible for installation, constitutes a terminating action for the repetitive visual inspections required by paragraph (g)(1) of this AD for that engine.

(i) Definition

A part eligible for installation is a fuel filter pre-blockage pressure switch that is not listed in the Applicability, paragraph (c), of this AD, or a fuel filter pre-blockage pressure switch that has passed the operational test (no discrepancies detected) required by paragraph (g)(2) of this AD.

(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 Related Information. 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 Wego Wang, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7134; fax: (781) 238-7199; email: *wego.wang@faa.gov*.

(2) Refer to EASA AD 2019-0180, dated July 25, 2019, for more information. You may examine the EASA AD in the AD docket at <https://www.regulations.gov> by searching for and locating it in Docket No. FAA-2020-1180.

(3) For service information identified in this AD, contact Safran Helicopter Engines, S.A., Avenue du 1er Mai, Tarnos, France; phone: +33 (0) 5 59 74 40 00. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759.

Issued on January 22, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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