



**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2021-0132; Project Identifier MCAI-2020-00947-E; Amendment 39-21466; AD 2021-05-22]**

**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:** Final rule; request for comments.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Safran Helicopter Engines, S.A. (Safran Helicopter Engines) Arriel 1B, Arriel 1C, Arriel 1C2, Arriel 1D1, Astazou XIV B, and Astazou XIV H model turboshaft engines. This AD was prompted by the detection of positive segregation (freckles) on Stage 2 high-pressure turbine (HPT) disks and Stage 3 turbine wheels. This AD requires removal from service of certain Stage 2 HPT disks for Safran Helicopter Engines Arriel 1B, 1C, 1C2, and 1D1 model turbofan engines and affected Stage 3 turbine wheels for Safran Helicopter Engines Astazou XIV B and XIV H model turbofan engines. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this 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 final rule, 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. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0132.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0132; 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 (MCAI), any comments received, and other information. The street address for the 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](mailto:wego.wang@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **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 2020-0151-E, dated July 9, 2020, for Safran Helicopter Engines Arriel 1B, Arriel 1C, Arriel 1C2, and Arriel 1D1 model turboshaft engines, and AD 2020-0161-E, dated July 17, 2020, for Safran Helicopter Engines Astazou XIV B and Astazou XIV H model

turboshaft engines to address an unsafe condition for the specified products. EASA AD 2020-0151-E states:

Positive segregation (freckles) was detected on Stage 2 HP turbine discs manufactured from a certain block of material. Other parts manufactured from that same block of material may also be affected by this non-conformity.

This condition, if not corrected, could lead to HP turbine disc failure and result in high-energy debris release, with consequent damage to, and reduced control of, the helicopter.

To address this unsafe condition, SAFRAN issued the MSB, as defined in this [EASA] AD, to identify affected HP turbine discs and provide instructions for replacement.

For the reason described above, this [EASA] AD requires replacement of affected parts with serviceable parts, and prohibits re-installation of affected parts.

EASA AD 2020-0161-E states:

Positive segregation (freckles) was detected on Stage 3 turbine wheels manufactured from a certain block of material. Other parts manufactured from that same block of material may also be affected by this non-conformity.

This condition, if not corrected, could lead to turbine wheel failure and result in high-energy debris release, with consequent damage to, and reduced control of, the helicopter.

To address this unsafe condition, SAFRAN issued the MSB, as defined in this [EASA] AD, to identify affected turbine wheels and provide instructions for replacement.

For the reason described above, this [EASA] AD requires replacement of affected parts with serviceable parts, and prohibits re-installation of affected parts.

You may obtain further information by examining the MCAIs in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0132.

### **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. The FAA is issuing this AD because the agency evaluated all the relevant information provided by EASA and has determined that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Related Service Information**

The FAA reviewed Safran Mandatory Service Bulletin (MSB) 292 72 0860, Version A, dated July 9, 2020 (MSB 292 72 0860). MSB 292 72 0860 identifies affected Stage 2 HPT disks and describes procedures for removing and replacing affected Stage 2 HPT disks on Safran Helicopter Engines Arriel 1B, Arriel 1C, Arriel 1C2, and Arriel 1D1 model turbofan engines. The FAA also reviewed Safran MSB 283 72 0814, Version A, dated July 16, 2020 (MSB 283 72 0814). MSB 283 72 0814 describes procedures for replacing the Stage 3 turbine wheel on Safran Helicopter Engines Astazou XIV B and Astazou XIV H model turbofan engines.

### **AD Requirements**

This AD requires the removal from service and replacement of affected Stage 2 HPT disks for Safran Helicopter Engines Arriel 1B, Arriel 1C, Arriel 1C2, and Arriel 1D1 model turbofan engines. This AD also requires the removal from service and replacement of each affected Stage 3 turbine wheel for Safran Helicopter Engines Astazou XIV B and Astazou XIV H model turbofan engines.

### **Differences Between this AD and the MCAI or Service Information**

EASA AD 2020-0161-E requires operators to use Safran Helicopter Engines service information to perform the removal and replacement of affected Stage 2 HPT disks while this AD does not.

## **Justification for Immediate Adoption and Determination of the Effective Date**

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

The FAA has found the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because no domestic operators use this product. It is unlikely that the FAA will receive any adverse comments or useful information about this AD from any U.S. operator. Accordingly, notice and opportunity for prior public comment are unnecessary, pursuant to 5 U.S.C. 553(b)(3)(B). In addition, for the foregoing reason(s), the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days.

## **Comments Invited**

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include Docket No. FAA-2021-0132 and Project Identifier MCAI-2020-00947-E at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, 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 final rule 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 final rule.

## **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 AD 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 AD, 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 AD. 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.

### **Regulatory Flexibility Act**

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

### **Costs of Compliance**

The FAA estimates that this AD affects 0 engines installed on helicopters of U.S. registry.

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

#### **Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Replace Stage 2 HPT disk	50 work-hours x \$85 per hour = \$4,250	\$30,000	\$34,250	\$0
Replace Stage 3 turbine wheel	50 work-hours x \$85 per hour = \$4,250	\$237,000	\$241,250	\$0

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this 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**

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, and
- (2) Will not affect intrastate aviation in Alaska.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **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:

**2021-05-22 Safran Helicopter Engines, S.A. (Type Certificate previously held by Turbomeca, S.A.):** Amendment 39-21466; Docket No. FAA-2021-0132; Project Identifier MCAI-2020-00947-E.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Safran Helicopter Engines (Type Certificate previously held by Turbomeca, S.A.):

(1) Arriel 1B, Arriel 1C, Arriel 1C2, and Arriel 1D1 model turboshaft engines with a Stage 2 HPT disk part number (P/N) 0292250400 and serial number (S/N) J915AD, J918AD, J919AD, J921AD, J923AD, J924AD, J926AD or J927AD, installed; and

(2) Astazou XIV B and Astazou XIV H model turboshaft engines with a Stage 3 turbine wheel P/N 0256257050 and S/N J276AD, J278AD, J279AD, J281AD, J282AD, J283AD or J287AD, installed.

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

#### **(e) Unsafe Condition**

This AD was prompted by the detection of positive segregation (freckles) on Stage 2 high-pressure turbine (HPT) disks and Stage 3 turbine wheels manufactured from a certain block of material. The FAA is issuing this AD to prevent failure of the HPT

disk. The unsafe condition, if not addressed, could result in failure of the Stage 2 HPT disk and Stage 3 turbine wheels, uncontained release of these parts, damage to the helicopter, and reduced control of the helicopter.

**(f) Compliance**

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

**(g) Required Actions**

(1) For affected Safran Helicopter Engines Arriel 1B, Arriel 1C, Arriel 1C2 and Arriel 1D1 model turboshaft engines, within 25 flight hours (FHs) after the effective date of this AD, remove from service the Stage 2 HPT disk and replace with a part that is eligible for installation.

(2) For affected Safran Helicopter Engines Astazou XIV B and Astazou XIV H model turboshaft engines, within 25 FHs after the effective date of this AD, remove from service the Stage 3 turbine wheel and replace with a part that is eligible for installation.

**(h) Definitions**

(1) For the purpose of this AD, a part eligible for installation on Safran Helicopter Engines Arriel 1B, Arriel 1C, Arriel 1C2, and Arriel 1D1 model turboshaft engines is a Stage 2 HPT disk that does not have P/N 0292250400 and S/N J915AD, J918AD, J919AD, J921AD, J923AD, J924AD, J926AD or J927AD.

(2) For the purpose of this AD, a part that is eligible for installation on Safran Helicopter Engines Astazou XIV B and Astazou XIV H model turboshaft engines is a Stage 3 turbine wheel that does not have P/N 0265257050 and S/N J276AD, J278AD, J279AD, J281AD, J282AD, J283AD, or J287AD.

**(i) 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.

**(j) 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](mailto:wego.wang@faa.gov).

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2020-0151-E, dated July 9, 2020, and EASA AD 2020-0161-E, dated July 17, 2020, for more information. You may examine the EASA ADs in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0132.

**(k) Material Incorporated by Reference**

None.

Issued on February 26, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,  
Compliance & Airworthiness Division,  
Aircraft Certification Service

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