

Airworthiness Directive

AD No.: 2024-0207**Issued:** 24 October 2024

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I Part M.A.301, or Annex Vb Part ML.A.301, as applicable, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I Part M.A.303, or Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

SAFRAN HELICOPTER ENGINES

Type/Model designation(s):

ARRIEL 1 engines

Effective Date: 31 October 2024**TCDS Number(s):** EASA.E.073**Foreign AD:** Not applicable**Supersedure:** None

ATA 72 – Engine – Gas Generator First Stage High Pressure Turbine Blades – Replacement

Manufacturer(s):

SAFRAN Helicopter Engines (SAFRAN), formerly Turboméca

Applicability:

ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aérospatiale, Sud Aviation) AS 350 B, BA, BB, B1 and B2, AS 365 and SA 365 (all models, except AS 365 N3) helicopters; Airbus Helicopters Deutschland (formerly Eurocopter Deutschland, Messerschmitt-Bölkow-Blohm) MBB-BK117-C1 and -C2, Leonardo (formerly AgustaWestland, Agusta) A 109 K2, and Sikorsky S-76A helicopters.

Definitions:

For the purpose of this AD, the following definitions apply:

The MSB: SAFRAN Mandatory Service Bulletin (MSB) 292 72 0867 version A.**Affected part:** First stage high pressure turbine (HPT1) blade having Part Number (P/N) 2 292 25 A1Z 0, and an s/n as listed in Appendix 1 of the MSB.

Serviceable part: An HPT1 blade, eligible for installation in accordance with SAFRAN instructions, that is not an affected part; or an affected part that has not exceeded 6 000 N1 engine cycles (EC) (defined as "C1" in the relevant SAFRAN Maintenance Manual) since first installation.

Groups: Group 1 engines are those which have at least one affected part installed. Group 2 engines are those which do not have any affected part installed.

Reason:

An investigation revealed that a change in the casting manufacturing process of the affected part had an effect on the porosity rate in the root of those parts.

A non-conformant porosity rate can have an effect on the mechanical strength of the HPT blade, causing its premature rupture.

This condition, if not corrected, could lead to an uncommanded in-flight shutdown of the engine which may result in a significant reduction of the control of a helicopter.

To address this potential unsafe condition, SAFRAN issued the MSB, providing instructions for implementation of the reduced life limit of the affected parts and for the replacement of affected parts before exceeding the reduced use limit.

For the reasons described above, this AD requires the replacement of the affected parts with the serviceable parts, and provides condition for installation of affected parts.

Required Action(s) and Compliance Time(s):

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:

Replacement:

- (1) For Group 1 engines: Before an affected part exceeds the compliance time as identified in Table 1 of this AD, as applicable, replace that affected part with a serviceable part in accordance with the instructions of the MSB.

Table 1 – Replacement Compliance Time

Affected Part Consumed Life on the effective date of this AD (see Note 1 of this AD)	Compliance Time
Less than 6 000 EC since first installation	Before exceeding 6 000 EC since first installation
Between 6 000 and 6 200 EC since first installation	Before exceeding 6 200 EC since first installation
6 200 or more EC since first installation	Before next flight after the effective date of this AD; A single ferry flight without passengers is allowed to a maintenance location, where the



	actions required by this AD can be accomplished
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Note 1: Sections 2.6.2.2 and 4.5 of the MSB provide instructions to determine the applicable consumed life of each affected part.

Part(s) Installation:

- (2) For Group 1 and Group 2 engines: From the effective date of this AD, it is allowed to install an affected part on a high-pressure turbine assembly, provided that the affected part is a serviceable part, as defined in this AD and that, following installation, it is replaced as required by paragraph (2) of this AD.

Ref. Publications:

SAFRAN SB 292 72 0867 version A dated 14 October 2024.

The use of later approved revisions of the above-mentioned document is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication. All interested persons may send their comments, referencing the AD Number, to the E-mail address specified in below Remark 3, prior to 21 November 2024. Only if any comment is received during the consultation period, a Comment Response Document will be published in the [EASA Safety Publications Tool](#), in a compressed ('zipped') file, attached to the record for this AD.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact your nearest SAFRAN Helicopter Engines technical representative, or connect to www.tools.safran-helicopter-engines.com.

