



Emergency Airworthiness Directive

AD No.: 2019-0247-E

Issued: 04 October 2019

Note: This Emergency 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, 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 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):

MAKILA 2 engines

Effective Date: 08 October 2019

TCDS Number(s): EASA.E.006

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Module 01 26-Teeth Bevel Gear – Replacement

Manufacturer(s):

SAFRAN Helicopter Engines (SAFRAN), formerly Turboméca

Applicability:

MAKILA 2A and MAKILA 2A1 engines, all serial numbers.

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France) EC 225 LP helicopters.

Definitions:

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

Affected part: Module 01 equipped with a 26-tooth bevel gear having part number (P/N) 0 298 11 010 0, and a serial number as listed in Appendix 1 of this AD.

Serviceable part: Any module 01 which is not an affected part.

Affected engine: An engine having an affected part installed.

Serviceable engine: An engine, which is not an affected engine.



The SB: SAFRAN Mandatory Service Bulletin (SB) A298 72 2837.

ALF: After the last flight (ALF) of the day inspection.

Groups: Group 1 helicopters are twin engine helicopters having two affected engines installed. Group 2 helicopters are twin engine helicopters having only one affected engine installed.

Reason:

An occurrence was reported of in-flight shut-down (IFSD) of an engine. Subsequent investigations identified rupture of several teeth of the Module 01 bevel gear, due to fatigue propagation. A quality issue during manufacturing has been determined as root cause, and a batch of affected parts has been identified.

This condition, if not corrected, could lead to further IFSD, possibly resulting in reduced control of the helicopter or total loss of power.

To address this unsafe condition, SAFRAN issued the SB to provide applicable instructions.

For the reasons described above, this AD requires replacement of each affected part with a serviceable part. This AD also prohibits (re)installation of affected parts.

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

Required as indicated, unless accomplished previously:

Part Replacement:

(1) For Group 1 helicopters: Before next flight after the effective date of this AD, replace the affected part with a serviceable part, as defined in this AD, on one of the two affected engines in accordance with the instructions of section 2 of the SB. Replacing one affected engine on a helicopter with a serviceable engine, as defined in this AD, in accordance with the instructions of the applicable helicopter maintenance manual, is an acceptable method to comply with this requirement for that helicopter.

After accomplishment of this requirement on a helicopter, accomplish all the actions as required by this AD for a Group 2 helicopter.

(2) For Group 2 helicopters: Within 100 flight hours (FH) or 12 months, whichever occurs first after the effective date of this AD, replace the affected part with a serviceable part, as defined in this AD, on the affected engine, in accordance with the instructions of section 2 of the SB. Replacing the affected engine with a serviceable engine, as defined in this AD, on a helicopter, in accordance with the instructions of the applicable helicopter maintenance manual, is an acceptable method to comply with this requirement for that helicopter.

(3) For engine stored, in shop, or otherwise not in operational use: From the effective date of this AD, before release or return to service of an affected engine, as defined in this AD, replace the affected part with a serviceable part, as defined in this AD, in accordance with the instructions of section 2 of the SB.



Repetitive Inspection(s):

- (4) For Group 2 helicopters: From the effective date of this AD, during each ALF, inspect the oil tank mechanical magnetic plug and the N1 speed sensor magnetic head in accordance with the instructions of section 2 of the SB.
- (5) For Group 2 helicopters: within 15 FH or 7 days, whichever occurs first after the effective date of this AD, and, thereafter, at intervals not to exceed 15 FH or 7 days, whichever occurs first, accomplish a visual inspection of the module 01 26-tooth bevel gear area in accordance with the instructions of section 2 of the SB.

Corrective Action:

- (6) If, during any inspection as required by paragraph (4) or (5) of this AD, as applicable, any discrepancy, as identified in the SB, is found on an engine, before next flight, replace the affected part with a serviceable part, as defined in this AD, in accordance with the instructions of section 2 of the SB. Replacing the affected engine on a helicopter with a serviceable engine, as defined in this AD, in accordance with the instructions of the applicable helicopter maintenance manual, is an acceptable method to comply with this requirement for that helicopter.

Terminating Action:

- (7) Replacing the affected part with a serviceable part on an engine, as required by paragraph (2) or (6) of this AD, as applicable, constitutes terminating action for the repetitive inspections as required by paragraph (4) and (5) of this AD for that engine.

Part(s) Installation:

- (8) From the effective date of this AD, do not install an affected part on any engine.

Engine Installation:

- (9) From the effective date of this AD, do not install an affected engine on any helicopter.

Ref. Publications:

SAFRAN Mandatory SB A298 72 2837 dated 04 October 2019.

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. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.
3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness 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](#).
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.



Appendix 01 – Affected 26-tooth bevel gear (P/N 0 298 11 010 0) – s/n

162	441	458
163	442	459
166	444	461
168	446	464
169	447	466
172	448	469
173	451	474
435	452	475
436	453	477
437	455	478
438	456	481

