



Airworthiness Directive

AD No.: 2021-0088

Issued: 24 March 2021

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, 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):

ARRIUS 2 engines

Effective Date: 07 April 2021

TCDS Number(s): EASA.E.029

Foreign AD: Not applicable

Supersedure: This AD supersedes DGAC France AD F-2004-017 R1 dated 03 March 2004, EASA approval 2004-1618.

ATA 73 – Engine Fuel & Control – Digital Engine Control Unit – Software Update

Manufacturer(s):

SAFRAN Helicopter Engines S.A. (SAFRAN), formerly Turboméca S.A.

Applicability:

ARRIUS 2B1, ARRIUS 2B1A (including those that embody modification (mod) TU45C, identified as ARRIUS 2B1A_1) and ARRIUS 2B2 engines, all serial numbers.

These engines are known to be installed on, but not limited to, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) EC135 helicopters.

Definitions:

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

The applicable SB: Turboméca Service Bulletin (SB) 319 73 2080 R1 (ARRIUS 2B1 without overspeed protection option), SB 319 73 2081 R1 (ARRIUS 2B1 with overspeed protection option), SB 319 73 2082 Version D (ARRIUS 2B1A) and SB 319 73 2090 (ARRIUS 2B2), as applicable.

Affected DECU: Digital Engine Control Units (DECU), having Part Number (P/N) 70EMF01090 (ARRIUS 2B1 without overspeed protection option), P/N 70EMF01100 and P/N 70EMF01120 (ARRIUS 2B1 with overspeed protection option), P/N 70EMH01010 (ARRIUS 2B1A) and



P/N 70EMM01000 (ARRIUS 2B2), or DECU having an earlier P/N corresponding to an earlier Turboméca software modification.

Serviceable DECU: DECU having P/N 70EMF01160 (ARRIUS 2B1 without overspeed protection option/mod TU80C), P/N 70EMF01170 (ARRIUS 2B1 with overspeed protection option/mod TU81C), P/N 70EMH01040 (ARRIUS 2B1A/mod TU82C) and P/N 70EMM01010 (ARRIUS 2B2/mod TU90C), or DECU having a later P/N corresponding to a later Turboméca/SAFRAN software modification.

Reason:

An occurrence was reported of simultaneous loss of automatic control in flight of both ARRIUS 2B1 engines on an EC135 T1 helicopter. Loss of automatic control would result, for each engine, from a difference between the position datum of the fuel metering valve and its measured position.

This condition, if not corrected, could lead to increased work for flight crew during certain flight phases, possibly resulting in reduced control of the helicopter.

To address this potential unsafe condition, Turboméca developed mod TU80C, TU81C, TU82C and TU90C to improve the DECU software for ARRIUS 2B1 engines without overspeed option, ARRIUS 2B1 engines with overspeed option, ARRIUS 2B1A and ARRIUS 2B2 engines, and DGAC France issued AD F-2004-017 (later revised) to require engine modification.

Since that AD was issued, it was determined that a DECU having a P/N which corresponds to Turboméca mod TU80C, TU81C, TU82C, TU90C or later software is not affected by the software modification requirement. DGAC France AD F-2004-017R1 did not specifically identify any affected DECU P/N(s).

For the reason described above, this AD retains the requirements of DGAC France AD F-2004-017R1 (EASA approval 2004-1618), which is superseded, and limits the required actions to engines with an affected DECU P/N installed. This AD also prohibits (re)installation of affected DECU on any engine.

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

Required as indicated, unless accomplished previously:

Software Update:

- (1) Within 3 months after the effective date of this AD, update the software of each affected DECU in accordance with the instructions of the applicable SB (see Note 1 of this AD).

Note 1: For affected DECU having a P/N earlier than those referenced in the applicable SB, software update in accordance with the applicable SB is not possible. Those DECU P/N(s) should be replaced with a serviceable DECU as specified in paragraph (2) of this AD.

Alternative Method of Compliance:

- (2) Installation on an engine of a serviceable DECU, as defined in this AD, is an acceptable method to comply with the requirements of paragraph (1) of this AD for that engine, provided this is accomplished by using approved engine modification instructions.



Parts Installation:

- (3) From the effective date of this AD, do not install on any engine an affected DECU, as defined in this AD.

Ref. Publications:

Turboméca SB 319 73 2080 Revision 1 dated 13 February 2004.

Turboméca SB 319 73 2081 Revision 1 dated 13 February 2004.

Turboméca SB 319 73 2082 Version D dated 06 June 2011.

Turboméca SB 319 73 2090 original issue dated 13 February 2004.

The use of later approved revisions of the above-mentioned documents 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. This AD was posted on 23 February 2021 as PAD 21-030 for consultation until 23 March 2021. No comments were received during the consultation period.
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.

