



Airworthiness Directive

AD No.: 2016-0003R1

Issued: 29 November 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption]

Design Approval Holder's Name:

SAFRAN HELICOPTER ENGINES

Type/Model designation(s):

ARRIUS 2B1 engines

Effective Date: Revision 1: 06 December 2016
Original issue: 19 January 2016

TCDS Number(s): EASA.E.029

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2016-0003 dated 05 January 2016, which superseded EASA AD 2012-0249 dated 21 November 2012.

ATA 73 – Engine Fuel & Control – Main Injector Half-Manifolds and Preference Injector – Replacement

Manufacturer(s):

SAFRAN Helicopter Engines (formerly Turboméca S.A.)

Applicability:

ARRIUS 2B1 engines, all serial numbers.

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

Reason:

During inspections carried out at a repair workshop, it was found that some main injectors were totally or partially blocked.

This condition, if not corrected, could lead to engine flame out during rapid engine deceleration or to non-availability of the OEI 2min 30s rating, possibly resulting in an uncommanded engine in-flight shut down.



To address this unsafe condition, DGAC France issued AD 1999-217(A) to require periodical replacement of fuel manifolds.

Since that AD was issued, further investigation results demonstrated that:

- a periodic flow rate check (water technology) and the cleaning accomplished in accordance with the instructions of Turbomeca Mandatory Service Bulletin (MSB) N° A319 73 2012 did not meet the expected results (wrong indication and non-sufficient cleaning), and
- replacement of the fuel injection manifolds and preference injector ensures the airworthiness of the engine in case of blockage of the injection manifolds combined with a rapid engine deceleration or in case of the use of the OEI 2min 30s rating.

Consequently, EASA issued AD 2012-0249, which superseded DGAC France AD 1999-217(A), to require replacement of the fuel injection manifolds and preference injector before exceeding a defined limit of operating hours as specified in Turbomeca MSB N° A319 73 2012.

Since EASA AD 2012-0249 was issued, Turbomeca transferred the replacement instructions of Turbomeca MSB N° A319 73 2012 into the applicable Airworthiness Limitation Sections of the applicable Maintenance Manuals (MM). Furthermore, depending on the engine configuration (see Table 1 of this AD), the periodic replacement of the Right Hand (RH) and Left Hand (LH) main injector half-manifolds has been extended from 200 to 500 operating hours.

Consequently, EASA issued AD 2016-0003 to require implementation of these new limits by repetitive replacement of the RH and LH main injector half-manifolds and preference injector.

Since that AD was issued, it was determined that the definition of serviceable main injector half-manifold and preference injector was incomplete.

For the reasons described above, this AD is revised to modify the definition of serviceable main injector half-manifold and preference injector and to update the Design Approval Holder's name, which has recently changed.

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

Required as indicated, unless accomplished previously:

- (1) From 19 January 2016 [the effective date of this AD at original issue], before exceeding the compliance time (hours accumulated since first installation on an engine) as specified in Table 1 of this AD, as applicable, replace each main injector half-manifold and preference injector with a serviceable part in accordance with approved maintenance instructions.

Table 1 – Periodic Replacement

Part	Compliance Time
Main injector half-manifold – post-mod TU117	500 operating hours (see Note 2)
Main injector half-manifold – pre-mod TU117	200 operating hours
Preference injector pre/post-mod TU117	200 operating hours

Note 1: For the purpose of this AD, a serviceable main injector half-manifold or preference injector is one that has not exceeded the applicable limit as specified in Table 1 of this AD since first



installation on an engine, or since last fuel flow test, or since last cleaning by pyrolysis in accordance with the instructions of the applicable Component MM X-73-15-01-2.

Note 2: For the main injector half-manifold – post-mod TU117, a non-cumulative tolerance of 100 operating hours may be applied to the compliance times specified in paragraph (1) of this AD.

- (2) From 19 January 2016 [the effective date of this AD at original issue], it is allowed to install a replacement main injector half-manifold or preference injector on an engine, or an engine on a helicopter, provided it is determined that the replacement main injector half-manifold or preference injector is a serviceable part as defined in Note 1 of this AD.

Ref. Publications:

Section ALS of Safran Helicopter Engines ARRIUS 2B1 MM X 319 L5 301 2.

The use of later approved revisions of this 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 original issue of this AD was posted on 25 November 2015 as PAD 15-142 for consultation until 23 December 2015. 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. 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.

