



Notification of a proposal to issue an Airworthiness Directive

PAD No.: 17-015R1

Issued: 22 March 2017

Note: This Proposed Airworthiness Directive (PAD) 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.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

Design Approval Holder's Name:

SAFRAN HELICOPTER ENGINES

Type/Model designation(s):

ARRIEL 1E2 engines

Effective Date: [TBD - standard: 14 days after AD issue date]

TCDS Number(s): EASA.E.073

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2015-0064R1 dated 29 July 2015.

ATA 72 – Engine – Front Support Pins – Inspection / Replacement

Manufacturer(s):

SAFRAN Helicopter Engines, formerly Turboméca, S.A.

Applicability:

ARRIEL 1E2 engines, all serial numbers, except those that embody SAFRAN Helicopter Engines modification (mod) TU 380.

These engines are known to be installed on, but not limited to, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) MBB-BK117-C1 and MBB-BK117-C2 helicopters.

Reason:

Cases were reported of finding ruptured front support pins on pre-mod TU 380 ARRIEL 1E2 engines. The ruptured pins were detected either during accomplishment of a scheduled maintenance task or during an inspection, prompted by abnormal vibrations in flight.

This condition, if not detected and corrected, could lead to the loss of the load path integrity of the engine front support, possibly resulting in reduced control of the helicopter.



To address this unsafe condition, Turboméca issued Mandatory Service Bulletin (MSB) 292 72 0842 version A to provide instructions for the periodic inspection of the pins and front support replacement.

Consequently, EASA issued AD 2015-0064 to require repetitive inspections of front support pins and, if a pin is found ruptured, replacement of the front support.

Since that AD was issued, further analysis demonstrated that it was possible to extend the interval for the visual inspections of the external and internal pins of the front support. In addition, a tolerance to this interval was added. Consequently, EASA issued AD 2015-0064R1 to introduce those changes accordingly.

After that revised AD was issued, SAFRAN Helicopter Engines developed mod TU 380, improving the front support pin mechanical behaviour. Consequently, SAFRAN Helicopter Engines issued MSB 292 72 0842 version C to specify that post-mod TU 380 engines are not affected by the repetitive inspections, and providing modification instructions for engines that do not pass a required inspection.

For the reason described above, this AD retains the requirements of EASA AD 2015-0064R1, which is superseded, excludes engines in post-mod TU 380 configuration from the Applicability and requires, depending on findings, replacement of the front support with a post-mod TU 380 front support, which constitutes terminating action for the repetitive inspections required by this AD.

Since EASA PAD 17-015 was issued, it was determined that, inadvertently, engines which had accumulated less than 2 400 flight hours (FH) on 04 May 2015 seemed not affected by the repetitive inspections. This PAD is revised to correct that oversight and to clarify that all pre-mod TU 380 ARRIEL 1E2 engines must be inspected.

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

Required as indicated, unless accomplished previously:

Repetitive Inspections:

- (1) From the effective date of this AD, before the first flight of the day after accumulating 2 400 FH by the front support pin since its first installation on an engine (see Note 1 of this AD), and, thereafter, before the first flight of each day, visually inspect the external pin of the front support in accordance with the instructions of SAFRAN Helicopter Engines MSB 292 72 0842 version C.

Note 1: If the FH, accumulated by the front support pin since its first installation on an engine, are unknown, the FH accumulated by the module M01 since first installation on an engine can be used instead to determine the start of inspections.

- (2) Within the compliance times specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 30 FH (see Note 3 of this AD), visually inspect the internal pin of the front support in accordance with the instructions of SAFRAN Helicopter Engines MSB 292 72 0842 version C.



Table 1 – Initial Inspection

FH Accumulated (see Notes 1 and 2 of this AD)	Compliance Time
Less than 2 400 FH	Within 30 FH after accumulating 2 400 FH
2 400 FH or more	Within 30 FH after the last inspection in accordance with the instructions of Turboméca/SAFRAN Helicopter Engines MSB 292 72 0842 (any revision), or within 30 FH after the effective date of this AD, as applicable

Note 2: The accumulated FH defined in Table 1 of this AD are those accumulated by the front support pin since its first installation on an engine.

Note 3: A non-cumulative tolerance of 10% may be applied to the compliance times specified in paragraph (2) of this AD, to allow synchronization of the required inspections with other maintenance tasks for which a noncumulative tolerance is already granted in the applicable Engine Maintenance Manual.

Corrective Action(s):

- (3) If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, any pin rupture is identified, before next flight, modify the engine by replacing the front support with a post-mod TU 380 front support in accordance with the instructions of SAFRAN Helicopter Engines MSB 292 72 0842 version C.

Terminating Action:

- (4) Modification of an engine as required by paragraph (3) of this AD constitutes terminating action for the repetitive inspections required by this AD for that engine.

Ref. Publications:

Turboméca MSB 292 72 0842 version A dated 20 March 2015, or version B dated 08 July 2015, or SAFRAN Helicopter Engines version C dated 03 January 2017.

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

Remarks:

1. This Proposed AD will be closed for consultation on 05 April 2017.
2. The original PAD was posted on 26 January 2017 for consultation until 23 February 2017. The Comment Response Document can be found at <http://ad.easa.europa.eu>.
3. Enquiries regarding this PAD 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 PAD, please contact your nearest SAFRAN Helicopter Engines technical representative or connect to www.tools.safran-helicopter-engines.com.

