



Airworthiness Directive

AD No.: 2018-0044

Issued: 14 February 2018

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 2 engines

Effective Date: 28 February 2018

TCDS Number(s): EASA.E.029

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Gas Generator (Module 02) / Power Turbine Wheel – Replacement

Manufacturer(s):

Safran Helicopter Engines (formerly Turboméca)

Applicability:

ARRIUS 2B1, ARRIUS 2B1A, ARRIUS 2B2, ARRIUS 2G1, ARRIUS 2K1, ARRIUS 2K2 engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) EC135, Leonardo (formerly Finmeccanica, AgustaWestland, Agusta) A109 and KAMOV 226T twin-engine helicopters.

Definitions:

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

The SB: Safran Helicopter Engines Alert Service Bulletin (SB) N° A319 72 2854.

Potentially affected power turbine wheel (PTW): PTW having an s/n as specified in Appendix 1 of this AD.



Serviceable part: A PTW which s/n is not listed in Appendix 1 of this AD; or a PTW which s/n is listed in Appendix 1 of this AD and which passed an inspection in accordance with the instructions of the SB; or a PTW which s/n is listed in Appendix 1 of this AD and which, after the inspection in accordance with the instructions of the SB, has been repaired in accordance with the instructions of the SB.

Groups: Group 1 engines are those that have a potentially affected PTW installed. Group 2 engines are all other engines.

Reason:

During an ARRIUS 2B2 engine ground run check, the "Degrade" indicator illuminated and unusual vibration occurred. At the same time, bluish smoke and debris came out of the exhaust pipe. Both engines were shut down without further occurrences.

Investigations at Safran Helicopter Engines revealed that missing dampers on the PTW assembly caused rupture of PTW blades. Further investigations identified a batch of potentially affected PTW.

The dampers on the PTW blades reduce the mechanical stress exerted on the blades. With no dampers, mechanical stress on the blades can exceed the vibratory fatigue limit, eventually leading to rupture of the blades.

This condition, if not corrected, could lead to In Flight Shut Down and release of low energy debris through exhaust pipe, potentially resulting in forced landing, damage to the helicopter and injury to occupants.

To address this potential unsafe condition, Safran Helicopter Engines issued the SB to provide instructions for inspection and PTW replacement.

For the reasons described above, this AD requires replacement of potentially affected PTWs with a serviceable parts.

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

Required as indicated, unless accomplished previously:

Part Replacement:

- (1) For Group 1 engines: Within 20 flight hours or 30 days, whichever occurs first after the effective date of this AD, replace the PTW with a serviceable part in accordance with the instructions of the SB.

Part Installation:

- (2) From the effective date of this AD, it is allowed to install a PTW on an engine, provided it is serviceable.

Ref. Publications:

Safran Helicopter Engines Alert MSB N° A319 72 2854 version A (original issue) dated 09 February 2018.



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.
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.



Appendix 1 – Potentially Affected PTW

PTW s/n
14260UP
1143TY
1285TY
934TY
AZF0108UP
AZD3710TY
1172TY
13421UP
14326UP
12714UP
AZF6215UP
SER1036TY
AZL309TY
1126TY
AZF5663UP
AZF1833UP
AZF1984UP
AZF2445UP
AZF6176
14338UP
AZF3248UP
AZF3963UP
12716UP
14380UP
AZF1116UP
AZF1109UP
AZF6034UP
AZF2969UP
AZF3241UP
AZF3332UP
AZL0614TY
AZL0585TY
AZF0050UP
818TY
990TY
AZF3967UP

Note: The SB provides a list of Module 02 on which a potentially affected PTW is known to have been installed. This list can be used to identify the s/n of the affected Module 02, provided the potentially affected PTW wheel has not been replaced with a non-affected part in that Module 02.

