



## Airworthiness Directive

**AD No.:** 2007-0057R1

**Issued:** 26 March 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 2F engines

**Effective Date:** Revision 1: 26 March 2018  
 Original issue: 14 March 2007

**TCDS Number(s):** EASA.E.031

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2007-0057 dated 01 March 2007.

### ATA 72 – Engine – Gas Generator Front Bearing – Modification

**Manufacturer(s):**  
 SAFRAN Helicopter Engines (SAFRAN), formerly Turboméca, S.A.

**Applicability:**  
 ARRIUS 2F engines, all manufacturer serial numbers, except those that have embodied SAFRAN modification (mod) Tf84.

These engines are known to be installed on, but not limited to EC 120B helicopters.

**Reason:**  
 An un-commanded in-flight engine shut-down was reported after seizing of the gas generator. Subsequent investigation determined fracture of the gas generator front bearing as a root cause leading to seizing of the gas generator. Additionally, the investigation also identified that the bearing fracture occurred as a result of high-cycle cracking of the lubrication slot of the bearing separator cage.

This condition, if not corrected, could lead to additional cases of un-commanded in-flight shut-downs. On a single-engine helicopter, the result may be an emergency autorotation landing.

To address this unsafe condition, Turboméca (currently SAFRAN) developed mod Tf12, available for embodiment on in-service engines through Mandatory Service Bulletin (MSB) No 319 72 4012,



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Consequently, EASA issued AD 2007-0057 to require modification of engines by installing an improved gas generator front bearing.

Since that AD was issued, SAFRAN developed mod Tf84, which provides equivalent safety to mod Tf12, and issued Service Bulletin (SB) 319 72 4084 providing instructions to install a new gas generator module equipped with improved bearings.

This AD is revised to exclude post-mod Tf84 engines from the Applicability, and introduces that mod as an alternative method of compliance to the modification requirements of this AD.

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

Required as indicated, unless accomplished previously:

**Modification:**

- (1) Before 30 April 2008, modify the engine by incorporating mod Tf12 in accordance with the instructions of paragraph 2 of Turboméca MSB No 319 72 4012.
- (2) Modification of an engine in accordance with the instructions of SAFRAN SB 319 72 4084 is an acceptable method to comply with the requirement of the paragraph (1) of this AD for that engine.

**Ref. Publications:**

Turboméca MSB No 319 72 4012 Update 1 dated 19 September 2006.

SAFRAN Helicopter Engines SB 319 72 4084 Version B dated 04 May 2016.

The use of later approved revisions of 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. The original issue of this AD was posted as PAD 07-017 on 01 February 2007 for consultation until 01 March 2007. 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](mailto: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](http://www.tools.safran-helicopter-engines.com).

