

 <b>適航指令發布單</b> <b>Airworthiness Directive Issuance Form</b>			
民航局 AD 編號 AD number	CAA-2017-04-005 緊急	發布日期 Date issued	2017/4/14
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 engines, all serial numbers.		
主旨摘要	Engine Fuel & Control - Drain Valve Assembly - Inspection / Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authorities <input type="checkbox"/> FAA <input type="checkbox"/> Germany LBA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> CAA-NL <input type="checkbox"/> Brazil <input type="checkbox"/> UK CAA <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> Japan CAB <input type="checkbox"/> DGAC <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____		
	設計國 AD 編號 Original AD number	2017-0064-E	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	ATA 73. This AD supersedes EASA AD 2017-0019R1(CAA-2017-02-001A) dated 22 February 2017. Ref. Publications: SAFRAN Helicopter Engines MSB 292 73 0853 version A dated 07 April 2017.		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			



## Emergency Airworthiness Directive

**AD No.:** 2017-0064-E

**Issued:** 12 April 2017

Note: This Emergency 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:**

**Type/Model designation(s):**

SAFRAN HELICOPTER ENGINES

ARRIEL 1 engines

**Effective Date:** 14 April 2017

**TCDS Number(s):** EASA.E.073

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2017-0019R1 dated 22 February 2017.

### ATA 73 – Engine Fuel & Control – Drain Valve Assembly – Inspection / Replacement

**Manufacturer(s):**

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

**Applicability:**

ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S and 1S1 engines, all serial numbers.

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale) AS 350 B, BA, BB, B1 and B2, AS 365 and SA 365 (all models, except AS 365 N3), Airbus Helicopters Deutschland (formerly Eurocopter Deutschland, Messerschmitt-Bölkow-Blohm) MBB-BK117-C1 and -C2, Leonardo (formerly AgustaWestland, Agusta) A 109 K2, and Sikorsky S-76A helicopters.

**Reason:**

Some fuel leaks were reported originating from the drain valve (DV) assembly on certain ARRIEL 1 engines. Investigation results revealed that these fuel leaks had been caused by a non-compliant diaphragm holes position.

This condition, if not detected and corrected, could lead to fuel spraying on engine hot section and fire, possibly resulting in a commanded in-flight shut-down with consequent emergency autorotation landing on single engine helicopter.



To address this potential unsafe condition, SAFRAN Helicopter Engines published Mandatory Service Bulletin (MSB) 292 73 0851, providing instructions to identify the affected DV, temporary measures (wrapping) and repetitive inspections, and removal from service of the affected DV.

Consequently, EASA issued Emergency AD 2017-0019-E (later revised) to require replacement of the affected DV, or wrapping and repetitive inspections, pending replacement of the affected DV. After that AD was issued, SAFRAN Helicopter Engines developed a new alternative solution to the DV replacement and published MSB 292 73 0851 version B for in-service introduction of that alternative. Consequently, EASA issued AD 2017-0019R1 to introduce the wrap of the affected DV with heat-shrinkable tubing, as a new alternative method, pending DV replacement.

After that AD was issued, additional fuel leak events were reported on DV assemblies which were equipped with compliant diaphragm hole positions. Subsequent investigation results revealed that these fuel leaks were actually caused by the fact that the diaphragm of the affected DV is more sensitive to operation stress than the previous design diaphragm.

To address this potential unsafe condition, SAFRAN Helicopter Engines published MSB 292 73 0853, providing instructions to identify, inspect and correct the affected DV.

For the reasons described above, this AD supersedes EASA AD 2017-0019R1, to require a one-time visual inspection of the affected DV, followed by repetitive inspections and, depending on findings, accomplishment of applicable corrective action(s).

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

Required as indicated, unless accomplished previously:

Note 1: SAFRAN Helicopter Engines MSB 292 73 0853 (any version) is hereafter referred to as ‘the MSB’ in this AD.

Note 2: For the purpose of this AD, an affected DV, subject to inspections and wrapping, is a DV manufactured, repaired or overhauled on or after 01 January 2016.

Note 3: For the purpose of this AD, a serviceable DV is an unaffected DV (see Note 2 of this AD) or an affected DV that is wrapped and leak-free in accordance with the instructions of the MSB.

Note 4: The MSB introduces an extended service limit for certain DV that are not subject to the inspections and wrapping. This AD does not impose that limit.

#### **Inspection:**

- (1) Within 10 flight hours (FH) or 7 days, whichever occurs first after the effective date of this AD, visually inspect the affected DV in accordance with the instructions of the MSB.

#### **Corrective Action(s):**

- (2) If, during the inspection as required by paragraph (1) of this AD, a fuel leak is detected, before next flight, replace the affected DV with a serviceable DV (see Note 3 of this AD) in accordance with the instructions of the MSB.



- (3) If, during the inspection as required by paragraph (1) of this AD, no fuel leak is detected, before next flight, wrap the affected DV with a self-amalgamate tape or with a heat shrinkable tubing in accordance with the instructions of the MSB.

**Repetitive Inspections:**

- (4) Before next flight after wrapping of an affected DV, as required by paragraph (3) of this AD, and, thereafter, before each first flight of the day, inspect the affected DV in accordance with the instructions of the MSB.

**Corrective Action(s):**

- (5) If, during any inspection as required by paragraph (4) of this AD, a fuel leak is detected, before next flight, replace the affected DV with a serviceable DV (see Note 3 of this AD) in accordance with the instructions of the MSB.
- (6) If, during any inspection as required by paragraph (4) of this AD, the wrapping is found defective, before next flight, remove the wrap and re-wrap the affected DV in accordance with the instructions of the MSB.

**Credit:**

- (7) Inspections and corrective actions (including any wrapping of a DV) on an engine, accomplished before the effective date of this AD in accordance with the instructions of SAFRAN Helicopter Engines MSB 292 73 0851, is acceptable to comply with the initial requirements of this AD for that engine.

**Part(s) Installation:**

- (8) From the effective date of this AD, it is allowed to install a DV on an engine, provided it is a serviceable DV (see Note 3 of this AD).

**Terminating Action:**

- (9) Replacement on an engine of an affected DV, as required by paragraph (5) of this AD, does not constitute terminating action for the repetitive inspections as required by paragraph (4) of this AD for that engine.

**Ref. Publications:**

SAFRAN Helicopter Engines MSB 292 73 0853 version A dated 07 April 2017.

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 results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.



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).

