

 <b>適航指令發布單</b> <b>Airworthiness Directive Issuance Form</b>			
民航局 AD 編號 AD number	CAA-2016-05-004	發布日期 Date issued	2016/5/18
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, 1K1, 1S and 1S1 engines, all serial numbers (s/n). These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale, Sud Aviation) AS 350 B, B1 and B2, and SA 365 N helicopters, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) MBB-BK 117 C2 helicopters, Sikorsky S-76C helicopters, and Finmeccanica (formerly AgustaWestland, Agusta S.p.A) A109K2 helicopters.		
主旨摘要	Engine - Gas Generator (Module 03) / Centrifugal Impeller - 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	2016-0090	
	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 72. Ref. Publications: Turbomeca MSB 292 72 0848 version A dated 07 March 2016.		
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>			



## Airworthiness Directive

**AD No.:** 2016-0090

**Issued:** 10 May 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:

TURBOMECA

### Type/Model designation(s):

ARRIEL 1 engines

**Effective Date:** 24 May 2016

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

**Foreign AD:** Not applicable

**Supersedure:** None

## ATA 72 – Engine – Gas Generator (Module 03) / Centrifugal Impeller – Replacement

---

### Manufacturer(s):

Turbomeca

### Applicability:

ARRIEL 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S and 1S1 engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale, Sud Aviation) AS 350 B, B1 and B2, and SA 365 N helicopters, Airbus Helicopters Deutschland (formerly Eurocopter Deutschland) MBB-BK 117 C2 helicopters, Sikorsky S-76C helicopters, and Finmeccanica (formerly AgustaWestland, Agusta S.p.A) A109K2 helicopters.

### Reason:

Turbomeca reported an anomaly that was generated during the grinding operation associated to the application of modification TU376, which increases the clearance between the rear curvic coupling of the centrifugal impeller and the fuel injection manifold.

This condition, if not corrected, could lead to crack initiation and propagation in the centrifugal impeller bore area, possibly resulting in centrifugal impeller failure, with consequent damage to, and reduced control of, the helicopter.



To address this potential unsafe condition, the life of the affected centrifugal impellers was reduced and Turbomeca published Mandatory Service Bulletin (MSB) 292 72 0848 to inform operators about the life reduction and to provide instructions for the replacement of the affected centrifugal impellers.

For the reasons described above, this AD requires replacement of each affected centrifugal impeller before it exceeds the applicable reduced life limit.

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an affected centrifugal impeller has a Part Number (P/N) and a s/n as specified in Appendix 1 of this AD.

- (1) For engines equipped with a Module 03 having an affected centrifugal impeller installed, before the centrifugal impeller exceeds the applicable reduced life limit specified in Appendix 1 of this AD, as applicable, replace the Module 03 with a serviceable Module 03 (see Note 2 of this AD) in accordance with the instructions of Turbomeca MSB 292 72 0848.

Note 2: For the purpose of this AD, a serviceable Module 03 is either a Module 03 equipped with an affected centrifugal impeller, which has not exceeded the applicable reduced life limit specified in Appendix 1 of this AD, or a Module 03 equipped with a non-affected centrifugal impeller.

- (2) From the effective date of this AD, it is allowed to install on any engine a Module 03, provided this is a serviceable Module 03 as defined in Note 2 of this AD.

**Ref. Publications:**

Turbomeca MSB 292 72 0848 version A dated 07 March 2016.

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. This AD was posted on 14 March 2016 as PAD 16-038 for consultation until 11 April 2016 and republished on 19 April 2016 for consultation until 03 May 2016. 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: Turbomeca, ARRIEL 1 Customer Support, 40220 Tarnos, France  
Fax: +33 5 59 74 45 15, or contact your usual or nearest Turbomeca technical representative at [www.turbomeca-support.com](http://www.turbomeca-support.com)



## Appendix 1

Note 3: Turbomeca MSB 292 72 0848 provides a list of Module 03 on which an affected centrifugal impeller is known to have been installed. This list can be used to identify the P/N and s/n of the affected Module 03, provided the affected centrifugal impeller has not been replaced with a non-affected part in that Module 03.

Affected Centrifugal Impeller		Applicable reduced life limit (cycles since new)
P/N	s/n	
0292254040	44	5 129
0292254040	1762FT	11 476
729225293A	290CAR	6 326
729225293A	1227FT	8 139
729225293A	504FB	4 600
0292254050	1676CAR	6 281
729225293A	2517OTT	9 732
729225293A	2165OTT	6 163
0292254050	5333OTT	5 495
0292254050	5017OTT	5 491
0292254050	1136CAR	8 734
0292254050	3655OTT	4 600
0292254050	1757CAR	7 913
0292254050	1738CAR	10 640
0292254050	1149CAR	12 273
729225293A	2194FT	11 461
729225293A	1331OTT	12 513
0292254050	2677OTT	11 145
0292254050	3109OTT	10 662
0292254050	3496OTT	5 562
0292254050	2074CAR	7 423
729225293A	1301FT	7 262
729225293A	1567FT	6 305
729225293A	783FB	8 307
729225293A	98OTT	9 492

