




適航指令發布單

Airworthiness Directive Issuance Form

民航局AD編號 AD Number	CAA-2015-08-004	發布日期 Date issued	2015/8/10
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	ARRIEL 2B, 2B1, 2B1A, 2B1B, 2C, 2C1, 2C2, 2D, 2E, 2N, 2S1 and 2S2 engines, all serial numbers. These engines are known to be installed on, but not limited to, Airbus Helicopters AS350B3, EC130B4, EC130T2, AS365N3, EC155B and EC155B1, Airbus Helicopters Deutschland MBB-BK 117 D-2 (EC145T2 or H145), Avic international AC311 and Sikorsky S-76C helicopters.		
主旨摘要	Engine – Accessory Gear Box Module M01 – Inspection / Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主關機構 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	2015-0162	
	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: Turboméca MSB 292 72 2861 version A dated 24 April 2015.		
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：adcaa@mail.caa.gov.tw 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：adcaa@mail.caa.gov.tw			

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2015-0162
	Date: 06 August 2015 <p>Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.</p>
<p>This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with 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 [EU 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p>	
Design Approval Holder's Name: TURBOMECA	Type/Model designation(s): ARRIEL 2 engines
TCDS Number: EASA.E.001	
Foreign AD: Not applicable	
Supersedure: None	
ATA 72	Engine – Accessory Gear Box Module M01 – Inspection / Replacement
Manufacturer(s):	Turboméca
Applicability:	ARRIEL 2B, 2B1, 2B1A, 2B1B, 2C, 2C1, 2C2, 2D, 2E, 2N, 2S1 and 2S2 engines, all serial numbers. These engines are known to be installed on, but not limited to, Airbus Helicopters AS350B3, EC130B4, EC130T2, AS365N3, EC155B and EC155B1, Airbus Helicopters Deutschland MBB-BK 117 D-2 (EC145T2 or H145), Avic international AC311 and Sikorsky S-76C helicopters.
Reason:	<p>An uncommanded in-flight shut-down (IFSD) of an ARRIEL 2 engine was reported, caused by rupture of the 41-tooth gear, which forms part of the bevel gear of the accessory gearbox (module M01). The subsequent investigation revealed that wear on the housing of the front bearing of this gear was a major contributor to this rupture. In addition, the investigation showed that this wear mechanism had resulted in positive Spectrometric Oil Analysis (SOA) indications before the event.</p> <p>This condition, if not detected and corrected, could potentially lead to further cases of IFSD, possibly resulting in an emergency landing.</p> <p>To address this potentially unsafe condition, Turboméca issued Mandatory Service Bulletin (MSB) 292 72 2861 to provide SOA check instructions.</p> <p>For the reasons described above, this AD requires repetitive SOA checks and, depending on the results, replacement of the module M01.</p>

Effective Date:	20 August 2015						
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the compliance time specified in Table 1 of this AD, perform a visual inspection in accordance with the instructions of Turboméca MSB 292 72 2861 to identify, if a machined front casing Part Number (P/N) 0292120650 is installed on that engine. (2) For engines equipped with a module M01 fitted with a machined front casing P/N 0292120650 (as identified in Turboméca MSB 292 72 2861), within the compliance time specified in Table 1 of this AD, and, thereafter, at intervals not to exceed 100 EH, unless otherwise required by paragraph (3) and (4) of this AD, accomplish a SOA check in accordance with the instructions of Turboméca MSB 292 72 2861. <p style="text-align: center;">Table 1 – Initial SOA check</p> <table border="1"> <thead> <tr> <th>Engine Hours (EH) accumulated by the Module M01 (since first installation on an engine or since last overhaul)</th><th>Compliance Time</th></tr> </thead> <tbody> <tr> <td>Less than 800 EH</td><td>Before exceeding 850 EH since first installation of the Module M01 on an engine, or since last Module M01 overhaul, as applicable</td></tr> <tr> <td>800 EH or more, or EH not known</td><td>Within 50 EH after the effective date of this AD</td></tr> </tbody> </table> <ol style="list-style-type: none"> (3) If, during any SOA check as required by paragraph (2) of this AD, an aluminium concentration has value between 0.8 ppm and 1.4 ppm (inclusive), accomplish further SOA checks at intervals not to exceed 50 EH to comply with paragraph (2) of this AD. (4) If, during any SOA check, as required by paragraph (2) or (3) of this AD, the aluminium concentration is above 1.4 ppm, within 50 EH after that SOA check, replace the module M01 with a serviceable module M01 (refer to paragraph (5) of this AD), in accordance with the instructions of Turboméca MSB 292 72 2861. (5) For the purpose of this AD, a serviceable module M01 is either a module M01 fitted with a machined front casing P/N 0292120650, that is subjected to SOA checks in accordance with paragraph (2) and (3) of this AD, or a module M01 fitted with a casted front casing P/N 0292127020 (6) From the effective date of this AD, it is allowed to install a module M01 fitted with a machined front casing P/N 0292120650, provided it is subjected to SOA checks in accordance with paragraph (2) and (3) of this AD. 	Engine Hours (EH) accumulated by the Module M01 (since first installation on an engine or since last overhaul)	Compliance Time	Less than 800 EH	Before exceeding 850 EH since first installation of the Module M01 on an engine, or since last Module M01 overhaul, as applicable	800 EH or more, or EH not known	Within 50 EH after the effective date of this AD
Engine Hours (EH) accumulated by the Module M01 (since first installation on an engine or since last overhaul)	Compliance Time						
Less than 800 EH	Before exceeding 850 EH since first installation of the Module M01 on an engine, or since last Module M01 overhaul, as applicable						
800 EH or more, or EH not known	Within 50 EH after the effective date of this AD						
Ref. Publications:	<p>Turboméca MSB 292 72 2861 version A dated 24 April 2015.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>						
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted on 23 June 2015 as PAD 15-079 for consultation until 21 July 2015. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 						

	<p>4. For any question concerning the technical content of the requirements in this AD, please contact: Turboméca S.A., ARRIEL 2 Customer Support 40220 Tarnos, France Fax: +33 5 59 74 45 15, or your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com).</p>
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