EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0246 **Date: 10 November 2009** 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.

This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Type Approval Holder's Name :	**Type/Model designation(s) :**
TURBOMECA	ARRIEL 2B turboshaft engines

TCDS Number :	EASA.E.001
Foreign AD :	Not applicable
Supersedure :	This AD supersedes EASA AD 2007-0026 dated 1 February 2007 which superseded DGAC AD (CN) F-2004-139 (EASA Approval number 2004-8594) dated 18 August 2004.

ATA 73	**Engine Fuel & Control – Hydro HMU Acceleration Control Axle – Inspection and Lubrication**
Manufacturer(s):	Turboméca S.A
Applicability:	all ARRIEL 2B turboshaft engines, which do not incorporate modification TU149. These engines are known to be installed on, but not limited to, Eurocopter AS 350 B3 helicopters.
Reason:	Cases have been reported where the Hydro-Mechanical Unit (HMU) acceleration controller axle was sticking in its bearing, resulting in difficulty or in impossibility to control the fuel flow rate in manual or mixed mode. This condition, if not corrected, can lead to an unpredictable engine operation in manual or mixed mode which can cause gas generator or power turbine overspeed, resulting in uncommanded or commanded in-flight engine shutdown. On a single-engine helicopter, the result may be an emergency autorotation landing. EASA AD 2007-0026 which superseded DGAC France AD (CN) F-2004-139 (EASA Approval number 2004-8594) was issued to account for Turboméca modification TU132 (SB 292 73 2132) which was designed to prevent the acceleration controller axle from sticking in its bearing located in the cover. For engines with TU132-modified HMU installed, repetitive inspection and lubrication of the HMU acceleration controller axle were no longer required. Since issuance of AD 2007-0026, some cases of sticking of the acceleration

	controller axle in the metering valve body have been encountered on engines which incorporated modification TU132. It has then been determined that additional design improvement was required. Turboméca has now released modification TU149 (SB 292 73 2149) to prevent the sticking of the acceleration controller axle. This modification enhances TU132 by improving both the cover side and the metering valve body side designs. This AD therefore supersedes AD 2007-0026 by retaining the same requirements except that its applicability is changed and now limited to Arriel 2B engines which do not incorporate modification TU149.
Effective Date:	24 November 2009
Required Action(s) and Compliance Time(s):	The following measures are made mandatory from the effective date of this AD, unless accomplished previously: 1. Before receipt of the parts required for the application of Turboméca Mandatory Service Bulletin (MSB) A292 73 2814 version D (Paragraph 3), perform before the first flight of the day, a ground check in mixed mode operation (refer to the AS350 B3 Flight Manual section 8 task 3C, dealing with the control system mixed mode). 2. Within 20 operating hours of receiving parts provided by Turboméca, check the fuel metering system and perform maintenance procedures in accordance with Paragraph 2 of Turboméca MSB A292 73 2814 version D. 3. Repeat the maintenance procedures of Paragraph 2 every 200 hours (+/- 10 hours). **NOTE**: If the HMU already incorporates modification TU149, or after the HMU has been modified with TU149, no action is required.
Ref. Publications:	Turboméca Mandatory Service Bulletin n° A292 73 2814 version D dated 16 October 2009. The use of later approved updates of this document is acceptable for compliance with the requirement of this AD. Eurocopter AS 350 B3 Flight Manual: section 8, chapter “Check after engine or module replacement – Manual Emergency” – Sheet n° 3C.
Remarks :	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The required actions and the risk allowance have granted the issuance of a Final AD with Request for Comments, postponing the public consultation process after publication 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail ADs@easa.europa.eu 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 TURBOMÉCA technical representative (refer to http://www.turbomeca-support.com)