EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2008-0065 **Date: 31 March 2008**

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name :	**Type/Model designation(s) :**
TURBOMECA	TM 333 2B2 turboshaft engines

TCDS Number: EASA E.030

Foreign AD: Not applicable

Supersedure: None

ATA 72	**Engine – Gas Generator Air Flow Cage – Replacement**
Manufacturer(s):	Turboméca S.A.
Applicability:	TM 333 2B2 turboshaft engines, serial numbers 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244 and 1245. These engines are known to be installed on, but not limited to, Hindustan Aeronautics Limited "Dhruv" (ALH) helicopters.
Reason:	During a TM 333 2B2 flight acceptance test, one case of oil leak has been observed, leading to contamination of the bleed air for the cabin. Following low oil pressure indication, the flight crew shut the engine down. The oil leak was due to the deterioration of the labyrinth seal on the Air Flow Cage Part Number (P/N) 0 333 21 838 0. This seal ensures the front bearing tightness. Deterioration consisted of separation of the abradable layer from the bonded surface. This separation has been identified as being caused by an inappropriate bonding process. This deterioration may lead to oil contamination of the bleed air for the cabin and/or to commanded engine shutdown, following low oil pressure indication. In case of dual engine shut-down, this could result in emergency landing of the helicopter in autorotation. For the reason stated above, this Airworthiness Directive (AD) requires the replacement of the air flow cages that are likely to deteriorate.
Effective Date:	14 April 2008

Compliance:	Requires as indicated, unless accomplished previously: (1) If the two engines installed on the same aircraft are part of the batch listed in Turboméca Mandatory Service Bulletin (MSB) n° 333 72 0807: Within 20 engine operating hours but not later than 31 December 2009, whichever occurs first after the effective date of this AD, remove one of the engines (or its module M02) and replace the air flow cage with a unit repaired or manufactured in accordance with the correct bonding process, in accordance with the instructions of Turboméca MSB n° 333 72 0807. (2) If only one of the two engines installed on the same aircraft is part of the batch listed in Turboméca MSB n° 333 72 0807: Within 150 engine operating hours but not later than 31 December 2009, whichever occurs first after the effective date of this AD, remove the affected engine (or its module M02) and replace the air flow cage with a unit repaired or manufactured in accordance with the correct bonding process, in accordance with the instructions of Turboméca MSB n° 333 72 0807. (3) After 31 December 2009, no person shall install a spare Air Flow Cage P/N 0 333 21 838 0 on any aircraft as a replacement part, unless it has been verified to have been manufactured or repaired in accordance with the correct bonding process, and marked as specified in Turboméca MSB n° 333 72 0807, paragraph 2.B.(3)(c).
Ref. Publications:	Turboméca MSB n° A333 72 0807 dated 22 February 2008. 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 26 February 2008 as PAD 08-030 for consultation until 25 March 2008. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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., Service DSO/MTM (Equipe TM 333 2B2), 40220 TARNOS, FRANCE Fax: +33 5 59 74 45 48, or your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com)