EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	EAD No.: 2010-0041-E **Date: 12 March 2010** Note: This Emergency Airworthiness Directive (EAD) 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 EAD 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 : ROLLS-ROYCE TURBOMECA Ltd	**Type/Model designation(s) :** RTM 322-01/9 and RTM 322-01/9A turboshaft engines
TCDS Number :	EASA E.009
Foreign AD :	Not applicable
Supersedure :	Not applicable
ATA 75	**Air System - P2.5 Air Tube and High Pressure Turbine (HPT) Interduct - Inspection**
Manufacturer(s):	Rolls-Royce Turbomeca Ltd
Applicability:	RTM 322-01/9 and RTM 322-01/9A turboshaft engines, all serial numbers. These engines are known to be installed on, but not limited to, NH Industries NH90 (military) helicopters.
Reason:	A Merlin Mk1 helicopter equipped with three RTM322-01/8 Mk100 engines suffered an uncontained failure of the No.1 engine. The initial symptom was the release of first stage power turbine (PT1) blades from the engine casing, some of which punctured the No.1 engine bay firewall and cowling, passed through the No.2 engine intake and were then ingested by the No.2 engine. Subsequent investigation showed that the turbine blades had been released radially from the PT1 Disc. The PT1 Disc had been significantly softened as a result of overheating, which had resulted in sufficient disc growth to allow not only the PT1 blade release but also separation of the PT1 and PT2 discs. There was evidence of a fire within the inner air passages of the HPT interduct, which is the engine static structure between the high pressure and power turbine sections. The most likely source of fuel for the fire is thought to be oil. The P2.5 buffering and cooling air supply tube through the interduct, the inner walls of the interduct, the combustion chamber outer casing and the three oil supply tubes that also traverse the interduct and their associated adapters and gaskets showed signs of significant oil leakage and/or lacquering.

	Although the investigation is on-going, there is sufficient evidence at this stage to point to an oil leak as the root cause of the event and to justify immediate mitigating action. The RTM 322-01/9 and RTM 322-01/9A engines have similar architecture to the non-civil certified RTM 322-01/8 engine and are susceptible to the same condition that resulted in the uncontained failure. This condition, if not corrected, could lead to release of hazardous debris, fire or loss of power in flight. This AD requires repetitive inspections of engines for oil leakage in the vicinity of the P2.5 air tube and interduct, and immediate withdrawal from service of any engine exhibiting signs of oil leakage in these areas.
Effective Date:	14 March 2010
Required action(s) and Compliance Time(s):	Required as indicated: (1) Within 1 month or 25 flight hours after the effective date of this AD, whichever occurs first, inspect the P2.5 air tube and HPT interduct in accordance with the Accomplishment Instructions of Rolls Royce Turbomeca Emergency Mandatory Service Bulletin SBP-M3-A-75-09-00-01A-A-A. (2) Repeat the inspection required by paragraph (1) at intervals not exceeding 200 flight hours. (3) If evidence of any oil leakage is found, as defined in paragraphs 1.1.7, 1.2.3.2, 1.2.3.3, 1.2.3.4 and 1.2.3.5 of the referenced Accomplishment Instructions, engine operation is not allowed. (4) After the effective date of this AD, do not install any affected engine on a helicopter unless inspected in accordance with paragraph (1) of this AD.
Ref. Publications:	Rolls Royce Turbomeca Emergency Mandatory Service Bulletin SBP-M3-A-75-09-00-01A-A-A. 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 EAD. 2. The safety assessment has justified waiving the full consultation process and proceeding to immediate publication and notification. 3. Enquiries regarding this EAD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this EAD, please contact: your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com).