


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2013-0001</p> <p>Date: 04 January 2013</p> <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 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 AD applies, except in accordance with the requirements of that AD, 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].</p>	
Design Approval Holder's Name : ROLLS-ROYCE TURBOMECA Ltd	Type/Model designation(s) : RTM 322 engines
TCDS Number:	EASA.E.009
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2010-0203R1 dated 22 March 2011.
ATA 75	Air System – P2.5 Air Tube and High Pressure Turbine (HPT) Interduct – Inspection
Manufacturer(s):	Rolls-Royce Turboméca Ltd
Applicability:	<p>RTM 322-01/9 and RTM 322-01/9A turboshaft engines, all serial numbers, except those incorporating Rolls Royce Turboméca Modification (Mod.) C3086.</p> <p>These engines are known to be installed on, but not limited to, NH Industries NH90 (military) helicopters.</p>
Reason:	<p>A Merlin Mk1 helicopter equipped with three RTM 322-01/8 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.</p> <p>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 still on-going, there was sufficient evidence to point to an oil leak</p>

	<p>as the root cause of the event and to justify immediate mitigating action.</p> <p>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.</p> <p>To address this potential unsafe condition, EASA issued AD 2010-0041-E to require repetitive inspections for oil leakage in the vicinity of the P2.5 air tube and interduct, and, in case of any signs of oil leakage in these areas, immediate withdrawal from service of the engine.</p> <p>Subsequently, EASA issued AD 2010-0203, which superseded EASA AD 2010-0041-E, partially retaining its requirements, redefining the repetitive inspection requirements and the relevant compliance time. Additionally, that AD defined new criteria for operating the engine following an inspection.</p> <p>EASA issued AD 2010-0203R1 to simplify paragraph (3), related to the inspection findings for oil leakage. It was necessary following issuance of Rolls-Royce Turboméca Mandatory Service Bulletin (SB) SBP-M3-A-75-09-00-02A-A-A issue number 002 in which the numbering of the paragraphs related to the inspection findings was modified in comparison with Rolls-Royce Turboméca Mandatory SB SBP-M3-A-75-09-00-02A-A-A original issue.</p> <p>Following issuance of EASA AD 2010-0203R1, Rolls-Royce Turboméca developed Mod. C3086, which introduces an increased torque value and a revised assembly and torque procedure to bolts securing each of the oil feed, scavenge and vent adaptors and is defined in Rolls-Royce Turboméca Mandatory SB SBP-M3-A-72-42-00-03A-A-A. Rolls-Royce Turboméca Mandatory SB SBP-M3-A-75-09-00-02A-A-A has been issued to issue 003 in order to incorporate modification C3086.</p> <p>For the reasons described above, this AD retains the repetitive inspection requirements of EASA AD 2010-0203R1, which is superseded, and additionally requires embodiment of Rolls-Royce Turboméca Modification C3086, which constitutes terminating action for the repetitive inspections required by this AD.</p>
Effective Date:	18 January 2013
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 1 month or 25 flight hours (FH), whichever occurs first after 14 March 2010 [the effective date of EASA AD 2010-0041-E] and, thereafter, at intervals not to exceed 200 FH or 6 months, whichever occurs first, inspect the P2.5 air tube and HPT interduct in accordance with the Accomplishment Instructions of Rolls Royce Turboméca Emergency Mandatory SB SBP-M3-A-75-09-00-01A-A-A. (2) If, during any inspection as required by paragraph (1) of this AD, evidence of any oil leakage is found, as defined in Rolls Royce Turboméca Emergency Mandatory SB SBP-M3-A-75-09-00-01A-A-A or in Rolls Royce Turboméca Mandatory SB SBP-M3-A-75-09-00-02A-A-A, as applicable, remove the engine from service. (3) Engines entering service after 05 April 2011 [the effective date of EASA AD 2010-0203R1] must comply with the requirements of this AD. (4) Within 120 months after the effective date of this AD, or at the next maintenance opportunity accomplished at a RRTM approved Repair Center, whichever occurs first after the effective date of this AD, embody modification C3086 in accordance with the instructions of Rolls-Royce Turboméca Mandatory SB SBP-M3-A-72-42-00-03A-A-A. (5) Modification of an engine as required by paragraph (4) of this AD constitutes terminating action for the repetitive inspections required by paragraph (1) of this AD for that engine.

Ref. Publications:	<p>Rolls Royce Turboméca Emergency MSB SB SBP-M3-A-75-09-00-01A-A-A.</p> <p>Rolls-Royce Turboméca MSB SB SBP-M3-A-75-09-00-02A-A-A.</p> <p>Rolls-Royce Turboméca MSB SB SBP-M3-A-72-42-00-03A-A-A</p> <p>The use of later approved revisions of these documents 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 26 November 2012 as PAD 12-149 for consultation until 24 December 2012. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com).