


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>
	<p><b>AD No.: 2009-0106R1</b></p> <p><b>Date: 03 November 2011</b></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>
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 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].	
<b>Type Approval Holder's Name :</b> Eurocopter Deutschland GmbH	<b>Type/Model designation(s) :</b> EC135 and EC635 helicopters
<b>TCDS Number :</b>	EASA R.009
<b>Foreign AD :</b>	Not applicable
<b>Revision:</b>	This AD revises EASA Emergency AD 2009-0106-E dated 30 April 2009, which superseded EASA Emergency AD 2008-0116-E dated 17 June 2008.
<b>ATA 63</b>	<b>Main Rotor Drive – Main Gearbox (MGB) Oil Sampling &amp; Analysis Program – Amendment</b>
<b>Manufacturer(s):</b>	Eurocopter Deutschland GmbH, Eurocopter ESPANA S.A.
<b>Applicability:</b>	EC135 helicopters, model P1(CDS), P1(CPDS), P2(CPDS), P2+, T1(CDS), T1(CPDS), T2(CPDS) and T2+, all serial numbers, and EC635 helicopters, model T1(CPDS), P2+ and T2+, all serial numbers, if a MGB Part Number (P/N) 4649 010 003, P/N 4649 010 005, P/N 4649 010 006, P/N 4649 010 006X, P/N 4649 010 008, P/N 4649 010 008X, P/N 4649 001 007, P/N 4649 010 010, or P/N 4649 010 013 is installed.
<b>Reason:</b>	<p>Following several chip indications, a main gearbox was returned for repair to the manufacturer of the main gearbox, ZF Luftfahrttechnik (ZFL). During disassembly, a partial tooth rupture was detected after removal of a drive pinion. This tooth rupture was determined to have been caused by wear.</p> <p>To monitor the condition of the main gearbox (MGB), Eurocopter Deutschland (ECD) developed a program for oil samples to be taken and analysed at regular intervals, to ensure that wear is detected in time, prior to actual tooth rupture, and that appropriate corrective measures are taken following chip indication(s). EASA issued AD 2008-0082 (later revised) to require operators to implement the oil sampling and analysis program and take appropriate corrective actions. Following further technical analysis, the corrective actions were adapted and EASA issued AD 2008-0116-E, superseding AD 2008-0082R1 and retaining its requirements, to require a one-time check of chip indication records over the last 300 flight hours (FH), with subsequent corrective measures and implementation of the adapted corrective measures into the oil sampling and analysis program. After EASA AD 2008-0116-E was issued, it was shown that a definition of the oil change</p>

	<p>interval in case of contamination with water was necessary.</p> <p>For that reason, EASA issued Emergency AD 2009-0106-E, superseding EASA AD 2008-0116-E and retaining its requirements, to require an oil change in case of water contamination, in accordance with the instructions of ECD Alert Service Bulletin (ASB) EC135-63A-012 Revision 04.</p> <p>More recently, ECD published ASB EC135-63A-012 Revision 05, indicating that a modification to the MGB, involving a new input stage, has been developed, changing the P/N. The MGB modification can be introduced during repair and/or overhaul of the MGB. Prompted by this development, this AD is revised to exclude helicopters from the Applicability that have a modified MGB installed, and to confirm that installation on a helicopter, of a MGB with a P/N not listed in the Applicability of this AD, constitutes terminating action for the repetitive actions required by this AD for that helicopter.</p>
Effective Date:	<p>Revision 1: 10 November 2011</p> <p>Original issue: 02 May 2009</p>
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> <li>(1) For EC135 and EC635 series helicopters with serial numbers (s/n) up to 504 inclusive that have not been modified in accordance with ECD Service Bulletin (SB) EC135-63-011 (retrofit to a more efficient lubricating oil), within the next 100 flight hours (FH) after 09 May 2008 [the effective date of AD 2008-0082], take the first oil sample in accordance with the instructions of ECD ASB EC135-63A-012.</li> <li>(2) For EC135 and EC635 series helicopters with s/n up to 504 inclusive that have been modified in accordance with ECD SB EC135-63-011, within the next 100 FH after 09 May 2008 [the effective date of AD 2008-0082], but not prior to accumulating 100 FH after accomplishment of SB EC135-63-011, take the first oil sample in accordance with the instructions of ECD ASB EC135-63A-012.</li> <li>(3) For EC135 and EC635 series helicopters with s/n 505 and up, within the next 100 FH, but not prior to accumulating 90 FH after the first oil change, whichever occurs later after 09 May 2008 [the effective date of AD 2008-0082] (the first oil change must be accomplished when 50 FH have been accumulated since new), take the first oil sample in accordance with the instructions of ECD ASB EC135-63A-012.</li> <li>(4) After taking the first oil sample, take further oil samples at intervals not to exceed 100 FH (+/- 10% tolerance) or 12 months, whichever occurs first, in accordance with the instructions of ECD ASB EC135-63A-012.</li> <li>(5) Before the helicopter accumulates 25 FH after taking each oil sample, accomplish the analysis in accordance with the instructions of ECD ASB EC135-63A-012 and, depending on the results, take the corrective measures as specified and at the time(s) as specified in ECD ASB EC135-63A-012 at Revision 04, or a later revision;</li> <li>(6) Oil sampling, analysis and corrective actions accomplished prior to the effective date of this AD, in accordance with the instructions of ECD ASB EC135-63A-012 at original issue or Revision 01, Revision 002 or Revision 03, are acceptable to comply with the initial requirements of this AD. After 02 May 2009 [the effective date of the original issue of this AD], oil sampling, analysis and corrective actions must be accomplished in accordance with the instructions of ECD ASB EC135-63A-012 Revision 04, or a later revision.</li> </ol>

	<p>(7) When a MGB is installed that has accumulated 300 FH or more total time, or time since overhaul, or time since repair, before further flight, check the log card of the MGB for entries regarding chip indications and, depending on the results, at the time(s) specified in ECD ASB EC135-63A-012, accomplish the tasks and take the applicable corrective measures, in accordance with the instructions of ECD ASB EC135-63A-012.</p> <p>(8) At any time after the effective date of this AD, in case of a chip detector indication, at the time(s) specified in ECD ASB EC135-63A-012, accomplish the tasks and take the applicable corrective measures, in accordance with the instructions of ECD ASB EC135-63A-012.</p> <p>(9) Modification of a helicopter, by installation of a MGB with a P/N not listed in the Applicability of this AD, constitutes terminating action for the requirements of this AD for that helicopter.</p>
Ref. Publications:	<p>Eurocopter EC135 Alert Service Bulletin No. EC135-63A-012 Revision 04 dated 27 April 2009 or Revision 05 dated 06 September 2011.</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"> <li>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</li> <li>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.</li> <li>3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>4. For any question concerning the technical content of the requirements in this AD, please contact: Eurocopter Deutschland GmbH, Industriestrasse 4, 86607 Donauwörth, Federal Republic of Germany Telephone: + 49 (0)151-1422 8976; Facsimile: + 49 (0)906-71 4111</li> </ol>