


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>
	<p><b>AD No.: 2010-0128</b></p> <p><b>Date: 23 June 2010</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>
<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].</p>	
<p><b>Type Approval Holder's Name :</b></p> <p>EUROCOPTER DEUTSCHLAND GmbH</p>	<p><b>Type/Model designation(s) :</b></p> <p>BO 105 helicopters</p>
<p>TCDS Number : EASA.R.011</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : None</p>	
<b>ATA 72</b>	<b>Engine – Power Turbine Speed – Operational Limitation</b>
Manufacturer(s):	Eurocopter Deutschland GmbH, Eurocopter Hubschrauber GmbH, Messerschmitt-Bölkow-Blohm GmbH.
Applicability:	BO 105 C, BO 105 D, and BO 105 S helicopters, all variants as specified in Appendix 1 of this AD, all serial numbers, if equipped with Rolls Royce Corporation (formerly Allison, Detroit Diesel Allison) 250-C20 series engines, except helicopters that have been modified in accordance with ECD VTOL retrofit kit 105-80037.
Reason:	<p>Several third stage turbine wheel failures have been reported on Rolls-Royce Corporation (RRC) 250 series engines. Investigation by RRC has determined that detrimental vibrations can occur within a particular range of turbine speeds, which are a potential contributing factor to these failures.</p> <p>This condition, if not corrected, could result in loss of engines power, possibly resulting in an emergency landing and consequent injuries to helicopter occupants.</p> <p>To address this unsafe condition, RRC issued Commercial Engine Bulletin (CEB) A-1400, now at Revision 3, to introduce an operational limitation to avoid engine N2 steady-state operation in a certain speed range (86.5% - 95.5%) for more than 60 seconds in single or cumulative events for engines with the third stage turbine wheel Part Number (P/N) 23065833 installed.</p> <p>In response, Eurocopter Deutschland (ECD) issued Alert Service Bulletin (ASB) BO105-60-110, now at Revision 1, to introduce the same operating limitation for BO 105 helicopters with the affected engines installed.</p> <p>For the reasons described above, this AD requires the introduction of a placard and the amendment of the Rotorcraft Flight Manual (RFM).</p>

Effective Date:	07 July 2010			
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> <li>(1) Within the next 30 days after the effective date of this AD, check both engines to verify whether a third stage turbine wheel P/N 23065833 is installed on the helicopter. This check can be accomplished through a maintenance records check, provided those records are sufficiently accurate to be relied upon for that purpose.</li> <li>(2) If the check as required by paragraph (1) of this AD indicates that a third stage turbine wheel P/N 23065833 is installed on the helicopter, accomplish the following actions concurrently: <ol style="list-style-type: none"> <li>(2.1) Install a placard next to the triple RPM indicator, in full view of the pilot, as specified in, and in accordance with the instructions of, ECD ASB BO105-60-110: <table border="1" data-bbox="815 678 1137 840"> <tr> <td>Min. Continuous 98%</td></tr> <tr> <td>Min. Transient 95%</td></tr> <tr> <td>ASB BO105-60-110</td></tr> </table> </li> <li>(2.2) Amend the RFM to incorporate the revision as referenced in Appendix 1 of this AD, as applicable to helicopter Model.</li> </ol> </li> <li>(3) RRC no longer manufactures P/N 23065833 third stage turbine wheels. After modification of both engines on a helicopter by replacing the third stage turbine wheel P/N 23065833 with another P/N third stage turbine wheel in accordance with the instructions of paragraph 2.C.(1)(d) of RRC 250-C20 Series CEB A-1400, the placard as required by this AD may be removed from that helicopter.</li> </ol>	Min. Continuous 98%	Min. Transient 95%	ASB BO105-60-110
Min. Continuous 98%				
Min. Transient 95%				
ASB BO105-60-110				
Ref. Publications:	<p>Eurocopter Deutschland GmbH ASB BO105-60-110 Revision 1 dated 03 March 2010.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p> <p>Rolls-Royce Corporation 250-C20 Series CEB A-1400 Revision 3 dated 19 January 2009.</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. This AD was posted on 25 May 2010 as PAD 10-051 for consultation until 22 June 2010. No comments were received during the consultation period.</li> <li>3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management &amp; Research Section, Certification 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 D-86607 Donauwörth, Germany Telephone: +49 (0)151-1422 8976; Facsimile: +49 (0) 906-71-4111.</li> </ol>			

## Appendix 1 – BO 105 RFM Revisions

Model	Variants	RFM Revision
BO 105 C	C23 (Europe), C-2 (USA) and CDN (Canada)	No.5
BO 105 S	CS (Europe) and CS-2 (USA)	
BO 105 C	CB (Europe), CB-2 (USA) and CDN-B (Canada)	No.8
BO 105 S	CBS (Europe), CBS-2 (USA) and CDN-BS (Canada)	
BO 105 D	DB and DBS (Europe)	No.4

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