


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>
	<p><b>AD No.: 2012-0145</b></p> <p><b>Date: 06 August 2012</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>Design Approval Holder's Name :</b></p> <p>ROLLS-ROYCE plc</p>	<p><b>Type/Model designation(s) :</b></p> <p>RB211 Trent 900 engines</p>
<p>TCDS Number : EASA.E.012</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure: None</p>	
<b>ATA 72</b>	<b>Engine – Low Pressure Turbine Shaft and Bearing Housing End Cover – Inspection / Replacement</b>
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 970-84, 970B-84, 972-84, 972B-84, 977-84, 977B-84 and 980-84 engines, all serial numbers.</p> <p>These engines are known to be installed on, but not limited to, Airbus A380 aeroplanes.</p>
Reason:	<p>During a revenue service flight, a Trent 900 engine experienced a high Intermediate Pressure (IP/N2) vibration fault along with several other fluctuating engine parameters, including Low Pressure (LP/N1) faults. The flight crew decided to throttle back the engine to idle and performed an air turn back. The other engines continued to operate normally and an uneventful landing was made.</p> <p>The results of an initial investigation revealed that the LP system was seized. Removal of the Low Pressure Turbine (LPT) bearing housing end cover revealed that the oil transfer tube assembly had fractured because the spherical seat between the oil transfer tube and the end cover was missing (not installed).</p> <p>This non-conformity caused the fracture of the oil transfer tube, leading to reduced oil flow and subsequent damage to the LP and IP bearings. Rolls-Royce has identified that other Trent 900 engines could potentially be affected.</p> <p>This condition, if not detected and corrected, could lead to LP location bearing damage which could result in uncontained engine failure and subsequent</p>

	<p>damage to the aeroplane.</p> <p>For the reasons described above, this AD requires an inspection for the presence of the spherical seat plate between the oil transfer tube and the LPT bearing housing end cover and, depending on findings, replacement of the LPT shaft and bearing housing end cover.</p>								
Effective Date:	13 August 2012								
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within the compliance time specified in Table 1 of this AD, as applicable, inspect the LPT shaft and bearing housing end cover assembly Part Number (P/N) FW22780 for conformity and presence of the spherical seat (P/N CU38971) in accordance with the instructions of paragraph 3 of Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AH051, or NMSB RB.211-72-H056, as applicable to engine s/n.</p> <p style="text-align: center;">Table 1</p> <table border="1"> <tr> <th>Affected engines, on the effective date of this AD</th><th>Compliance time</th></tr> <tr> <td>Engine s/n listed in paragraph 1.A of Alert NMSB RB.211-72-AH051 and installed on an aeroplane</td><td>within 20 engine cycles after the effective date of this AD</td></tr> <tr> <td>Engine s/n listed in paragraph 1.A of NMSB RB.211-72-H056 and installed on an aeroplane</td><td>within 200 engine cycles after the effective date of this AD</td></tr> <tr> <td>All engines in shop</td><td>before release to service of the engine</td></tr> </table> <p>(2) If, during the inspection as required by paragraph (1) of this AD, a discrepancy is found, before next flight, replace the LPT shaft and bearing housing end cover assembly P/N FW22780 with a serviceable part in accordance with the instructions of paragraph 3 of Rolls-Royce Alert NMSB 72-AH051, or NMSB RB.211-72-AH056, as applicable to engine s/n.</p> <p>(3) Inspections and replacements accomplished before the effective date of this AD, in accordance with the instructions of Rolls-Royce Technical Variance TV125436, are acceptable for compliance with the requirements paragraphs (1) and (2) of this AD.</p> <p>(4) From the effective date of this AD, do not install a LPT bearing housing end cover assembly P/N FW22780 on an engine, or an engine with a LPT bearing housing end cover assembly P/N FW22780 installed on an aeroplane, unless it has been determined that the assembly is conform and the spherical seat P/N CU38971 is installed in that LPT bearing housing end cover assembly.</p>	Affected engines, on the effective date of this AD	Compliance time	Engine s/n listed in paragraph 1.A of Alert NMSB RB.211-72-AH051 and installed on an aeroplane	within 20 engine cycles after the effective date of this AD	Engine s/n listed in paragraph 1.A of NMSB RB.211-72-H056 and installed on an aeroplane	within 200 engine cycles after the effective date of this AD	All engines in shop	before release to service of the engine
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Ref. Publications:	<p>Rolls-Royce Alert NMSB RB.211-72-AH051 initial issue dated 03 August 2012.</p> <p>Rolls-Royce NMSB RB.211-72-H056 initial issue dated 03 August 2012</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"> <li>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</li> <li>2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until 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 your designated Rolls-Royce representative, or download the publication from your Aeromanager account at <a href="http://www.aeromanager.com">www.aeromanager.com</a>. If you do not have a designated representative or Aeromanager account, please contact <b>Corporate Communications at Rolls-Royce plc</b>, P.O. Box 31, Derby, DE24 8BJ, The United Kingdom. Telephone: +44 (0) 1332 242424, or email from <a href="http://www.rolls-royce.com/contact/civil_team.jsp">http://www.rolls-royce.com/contact/civil_team.jsp</a> identifying the correspondence as being related to <b>Airworthiness Directives</b>.</li> </ol>
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