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| EASA | NOTIFICATION OF A PROPOSAL TO ISSUE AN AIRWORTHINESS DIRECTIVE | |
|  | PAD No.: 11-038 Date: 05 April 2011 Note: This Proposed Airworthiness Directive (PAD) 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. | |
| | In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below. All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation closing date indicated. | |
| Type Approval Holder's Name : ROLLS-ROYCE PLC | | Type/Model designation(s) : RB211 Trent 800 engines |
| TCDS Number : UK CAA 1051 | | |
| Foreign AD : Not applicable | | |
| Supersedure : None | | |
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| ATA 72 | Engine – Front Combustion Liner Head Section – Inspection/Replacement | |
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| Manufacturer(s): | Rolls-Royce plc | |
| Applicability: | Models RB211 Trent 800 series engines, all serial numbers. These engines are known to be installed on, but not limited to, Boeing 777 series aeroplanes. | |
| Reason: | <p>Routine inspections have revealed cracking on the head sections of two Trent 800 front combustion liners.</p> <p>This condition, if not detected and corrected, could lead to hot gas breakout with subsequent downstream component release potentially leading to uncontained high energy debris, possibly resulting in damage to the aeroplane or injury to persons on the ground.</p> <p>To address this unsafe condition, EASA AD 2009-0187R1 was issued requiring a one-time borescope inspection of the head section of the front combustion liner and report findings to Rolls Royce.</p> <p>Rolls Royce have now defined a repetitive inspection programme for the RB211 Trent 800 series engines only. This programme allows crack propagation to be safely monitored during continued operation and for engines to be withdrawn from service before loss of combustion liner integrity can occur.</p> <p>For the reasons described above, this AD takes over the requirements of EASA AD 2009-0187R1 for the RB211 Trent 800 series engines only. It requires repetitive on-wing and in-shop inspections of the Front Combustion Liner Head Section for discrepancies and, depending on findings, corrective actions.</p> | |

| | When the final AD for this subject is issued, EASA AD 2009-0187R1 will be revised accordingly, reducing the Applicability. | | | | | | | | | | | | |
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| Effective Date: | [TBD: 14 days after Final AD issue date] | | | | | | | | | | | | |
| Required Action(s) and Compliance Time(s): | <p>Required as indicated, unless already accomplished:</p> <p>(1) <u>ON-WING Inspections:</u></p> <p>(1.1) Within 1 000 Flight Cycles (FC) after the effective date of this AD and thereafter at intervals not to exceed 2 000 FC, inspect the Front Combustion Liner Head Section for cracking in accordance with the On-Wing Accomplishment Instructions of Rolls-Royce Non Mandatory Service Bulletin (NMSB) RB211-72-AG456.</p> <p>(1.2) If, during any inspection as required by paragraph (1.1) of this AD, cracking is found, take the corrective actions as detailed in Table 1 of this AD, as applicable.</p> <p style="text-align: center;">Table 1 – Inspection Findings and Follow-on Actions</p> <table border="1"> <thead> <tr> <th>Inspection Findings</th><th>Action(s) and Compliance Time(s)</th></tr> </thead> <tbody> <tr> <td>Cumulative crack length up to 150 mm (up to 2 heatshields)</td><td>Reduce the inspection intervals to 250 FC</td></tr> <tr> <td>Cumulative crack length 150 mm to 300mm (up to 4 heatshields)</td><td>Reduce the inspection intervals to 100 FC</td></tr> <tr> <td>Cumulative crack length 300 mm to 450mm (up to 6 heatshields)</td><td>Replace the engine within 50 FC</td></tr> <tr> <td>Cumulative crack length 450 mm to 900mm (up to 12 heatshields)</td><td>Replace the engine within 5 FC</td></tr> <tr> <td>Cumulative crack length greater than 900 mm (more than 12 heatshields)</td><td>Replace the engine before next flight</td></tr> </tbody> </table> <p>(2) <u>IN-SHOP Inspections:</u></p> <p>(2.1) At every shop visit after the effective date of this AD, inspect the Front Combustion Liner Head Section for cracking in accordance with the In-shop Accomplishment Instructions of Rolls-Royce NMSB RB211-72-AG456.</p> <p>(2.2) If any cracking is identified, before release of the engine to service, replace the Front Combustion Liner Head Section with a new or serviceable part.</p> <p>(2.3) Accomplishment of a shop visit inspection as required by paragraph (2.1) of this AD may substitute the accomplishment of an on-wing inspection as required by paragraph (1) of this AD.</p> <p>(3) Replacement of the Front Combustion Liner Head Section with a new or serviceable part does not constitute terminating action for the repetitive inspection requirements of this AD. After replacement, the requirements of this AD remain applicable.</p> | Inspection Findings | Action(s) and Compliance Time(s) | Cumulative crack length up to 150 mm (up to 2 heatshields) | Reduce the inspection intervals to 250 FC | Cumulative crack length 150 mm to 300mm (up to 4 heatshields) | Reduce the inspection intervals to 100 FC | Cumulative crack length 300 mm to 450mm (up to 6 heatshields) | Replace the engine within 50 FC | Cumulative crack length 450 mm to 900mm (up to 12 heatshields) | Replace the engine within 5 FC | Cumulative crack length greater than 900 mm (more than 12 heatshields) | Replace the engine before next flight |
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| Ref. Publications: | <p>Rolls-Royce NMSB RB211-72- AG456 dated 09 September 2010.</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"> 1. This Proposed AD will be closed for consultation on 03 May 2011. 2. Enquiries regarding this PAD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail ADs@easa.europa.eu. 3. For any question concerning the technical content of the requirements in this PAD, please contact your designated Rolls-Royce representative or download the publication from your Aeromanager account at www.aeromanager.com. <p>If you do not have a designated representative or Aeromanager account, please contact Corporate Communications at Rolls-Royce plc.</p> <p>PO Box 31, Derby, DE24 8BJ, United Kingdom, telephone: +44 (0) 1332 242424, or send an e-mail through http://www.rolls-royce.com/contact/civil_team.jsp identifying the correspondence as being related to Airworthiness Directives.</p> |