

EASA	NOTIFICATION OF A PROPOSAL TO ISSUE AN AIRWORTHINESS DIRECTIVE
	PAD No.: 10-030 Date: 23 March 2010 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 series engines
TCDS Number : UK CAA 1051	
Foreign AD : Not applicable	
Supersedure : None	
ATA 72	Engine – Low Pressure Compressor Fan Blades - Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	Models RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17. These engines are known to be installed on, but not limited to, Boeing 777 series aeroplanes.
Reason:	In January 2009 a Trent 895 powered Boeing 777-200 aircraft experienced release of a Low Pressure (LP) compressor blade which failed due to fatigue cracking in the root section of the blade. The released blade (undercut root standard) had received a part life processing to apply a compression layer to the blade root (Service Bulletin SB72-D672 - Introduction of Laser Shock Peening (LSP)) and also a part life upgrade to the retention feature lubrication system. Investigation has revealed that the effectiveness of this upgraded blade root lubrication coating system may be reduced dependant on the extent of previous running with the earlier standard, leading to increased blade root stress levels. In the specific case of the released blade, a review of its in-service modification history has shown that it operated for a relatively high number of flight cycles prior to the compression layer processing and the new retention feature lubrication system. A review of the Engine Health Monitoring data has also identified it operated at high N1 speeds compared to the Trent 800 fleet average N1 speeds. The combination of these factors has resulted in increased fatigue life usage which is considered to have led to crack initiation and propagation prior to reaching the blades declared life limit. A review of all in-service undercut / LSP

	standard Trent 800 LP compressor blades has identified specific blades that carry a similar increased susceptibility to cracking. This AD is issued to mitigate the risk of possible multiple fan blades failure affecting those blades identified as described above which could lead to high energy non contained debris from the engine. This AD requires repetitive ultrasonic inspections of the specific LP compressor blades as identified in the Rolls Royce Non Modification Service Bulletin (NMSB) RB211-72-AG244 to detect possible root cracks developing in the undercut radius shear key slot area and, if necessary, replacement of any LP compressor blade.														
Effective Date:	[TBD: 14 days after final AD issue date]														
Required Action(s) and Compliance Time(s):	Required as indicated: (1) Initial Inspection: as specified in the first column of Table 1 (below) inspect the affected LP compressor blades complying with the corresponding thresholds indicated in the second column, in accordance with (i.a.w.) Section 3 “Accomplishment Instructions” of Rolls Royce Non Modification Service Bulletin (NMSB) RB211-72-AG244, rejected LP compressor blades must be removed from the engine before next flight. (2) Repetitive Inspections: following Initial Inspection, repeat the inspection at recurring intervals not exceeding 100 flight cycles and reject, as required, the affected LP compressor blades as detailed in paragraph (1) of this AD,. (3) After the thresholds indicated in Table 1 of this AD, do not install any affected LP compressor blade unless previously inspected i.a.w. the requirements of paragraph (1) of this AD and thereafter, repeat the inspection i.a.w. paragraph (2) of this AD. Table 1: <table border="1" data-bbox="453 1202 1452 1897"> <thead> <tr> <th data-bbox="453 1202 1077 1328">Appendix number of NMSB RB211-72-AG244 which identifies affected LP compressor blades by Serial Number:</th><th data-bbox="1077 1202 1452 1328">Initial Inspection threshold</th></tr> </thead> <tbody> <tr> <td data-bbox="453 1328 1077 1422">3A</td><td data-bbox="1077 1328 1452 1422">120 Flight Cycles after the effective date of this AD</td></tr> <tr> <td data-bbox="453 1422 1077 1516">3B</td><td data-bbox="1077 1422 1452 1516">No later than 1 January 2012</td></tr> <tr> <td data-bbox="453 1516 1077 1610">3C</td><td data-bbox="1077 1516 1452 1610">No later than 1 January 2013</td></tr> <tr> <td data-bbox="453 1610 1077 1704">3D</td><td data-bbox="1077 1610 1452 1704">No later than 1 January 2014</td></tr> <tr> <td data-bbox="453 1704 1077 1798">3E</td><td data-bbox="1077 1704 1452 1798">No later than 1 January 2015</td></tr> <tr> <td data-bbox="453 1798 1077 1892">3F</td><td data-bbox="1077 1798 1452 1892">No later than 1 January 2016</td></tr> </tbody> </table>	Appendix number of NMSB RB211-72-AG244 which identifies affected LP compressor blades by Serial Number:	Initial Inspection threshold	3A	120 Flight Cycles after the effective date of this AD	3B	No later than 1 January 2012	3C	No later than 1 January 2013	3D	No later than 1 January 2014	3E	No later than 1 January 2015	3F	No later than 1 January 2016
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Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin RB211-72-AG244 Initial issue. The use of later approved revisions is acceptable for compliance with the requirements of this AD.
Remarks :	1. This Proposed AD will be closed for consultation on 20 April 2010. 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com.