

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2012-0166 Date: 30 August 2012 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.
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].	
Design Approval Holder's Name: Rolls-Royce Deutschland Ltd & Co KG	Type/Model designation(s): BR700-710 engines
TCDS Number: EASA.E.018	
Foreign AD: Not applicable	
Supersedure: None	
ATA 72	Engine – High Pressure Turbine Rotor Disc Stage 1 and Stage 2 Life Limitation – Implementation
Manufacturer(s): Rolls-Royce Deutschland Ltd & Co KG (RRD)	
Applicability:	BR700-710A1-10 and BR700-710A2-20 engines, all serial numbers (s/n). BR700-710C4-11 engines, all s/n which (a) have hardware configuration standard 710C4-11 engraved on the engine data plate (RRD Service Bulletin (SB) SB-BR700-72-101466 standard not incorporated), or (b) have hardware configuration standard 710C4-11/10 engraved on the engine data plate (Service Bulletin SB-BR700-72-101466 standard incorporated). These engines are known to be installed on, but not limited to Gulfstream GV, GV-SP (G500, G550) and Bombardier BD-700-1A10, BD-700-1A11 series aeroplanes.
Reason:	The results of a recent quality review of high pressure turbine (HPT) Stage 1 and Stage 2 discs identified potential for steel inclusions in some production scale of these parts. Further investigation concluded that all affected parts were manufactured by Udimet 720i and melted by a certain supplier. Subsequent evaluation concluded that the affected parts life limitation values declared in the engine Time Limits Manual cannot be supported for discs with potential steel inclusion. This condition, if not corrected, could lead to an uncontained HPT disc failure, potentially resulting in damage to, and/or reduced control of the aeroplane. To address this unsafe condition, RRD issued Alert Non-Modification SB-

	BR700-72-A900508 to introduce new life limitations for certain HPT Stage 1 and 2 discs, identified by Part Number (P/N) and serial number (s/n) to reduce approved life limitations specified in the engine Time Limits Manuals. For the reasons described above, this AD requires the implementation of more restrictive life limits for the affected parts.																							
Effective Date:	13 September 2012																							
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) After the effective date of this AD, before or upon reaching the applicable Declared Safe Cyclic Life (DSCL) limit, in engine flight cycles (EFC) as defined in Table 1 or Table 2 of this AD, as applicable, to allow operation of an engine with installed HPT Stage 1 disc P/N BRR23952 and HPT Stage 2 disc P/N BRR22008, as listed by serial numbers (S/N) in Table 1 and Table 2 of this AD, replace each HPT Stage 1 and HPT Stage 2 discs with serviceable parts in accordance with the instructions of RRD SB-BR700-72-A900508: Table 1 – HPT Stage 1 disc P/N BRR23952 <table><tr><th>s/n</th><th>DSCL Limit when installed in A1-10, A2-20 and C4-11(without Mod 72-101466) engine models</th><th>DSCL Limit when installed in C4-11 with Mod 72-101466</th></tr><tr><td>LDRQA05841</td><td rowspan="10">3 000 EFC</td><td rowspan="10">2 300 EFC</td></tr><tr><td>LDRQA05719</td></tr><tr><td>LDRQA05720</td></tr><tr><td>LDRQA05727</td></tr><tr><td>LDRQA05722</td></tr><tr><td>LDRQA05723</td></tr><tr><td>LDRQA05726</td></tr><tr><td>LDRQA05721</td></tr><tr><td>LDRQA05842</td></tr><tr><td>LDRQA05724</td></tr></table> Table 2 - HPT Stage 2 P/N BRR22008 <table><tr><th>s/n</th><th>DSCL Limit when installed in A1-10, A2-20 and C4-11(without Mod 72-101466) engine models</th><th>DSCL Limit when installed in C4-11 with Mod 72-101466</th></tr><tr><td>LDRQA05944</td><td rowspan="3">3 000 EFC</td><td rowspan="3">2 300 EFC</td></tr><tr><td>LDRQA05945</td></tr><tr><td>LDRQA05791</td></tr></table>	s/n	DSCL Limit when installed in A1-10, A2-20 and C4-11(without Mod 72-101466) engine models	DSCL Limit when installed in C4-11 with Mod 72-101466	LDRQA05841	3 000 EFC	2 300 EFC	LDRQA05719	LDRQA05720	LDRQA05727	LDRQA05722	LDRQA05723	LDRQA05726	LDRQA05721	LDRQA05842	LDRQA05724	s/n	DSCL Limit when installed in A1-10, A2-20 and C4-11(without Mod 72-101466) engine models	DSCL Limit when installed in C4-11 with Mod 72-101466	LDRQA05944	3 000 EFC	2 300 EFC	LDRQA05945	LDRQA05791
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	(2) From the effective date of this AD, do not install a HPT Stage 1 disc P/N BRR23952 and HPT Stage 2 disc P/N BRR22008, as identified by S/N in Tables 1 and 2 of this AD, in the same engine Turbine Module. (3) From the effective date of this AD, do not install a Turbine Module in an engine and engine on an aeroplane unless in compliance with requirements of this AD. (4) Compliance with the requirements of paragraphs (1), (2) and (3) of this AD can be demonstrated by: (4.1) Revising as follows the approved Aircraft Maintenance Programme (AMP) on the basis of which the operator or the owner ensures the continuing airworthiness of each operated aeroplane: Incorporate the applicable airworthiness limitations as specified by this AD and (4.2) Complying with the approved AMP described in paragraph (4.1) of this AD.
Ref. Publications:	Rolls-Royce Deutschland Alert NMSB BR700-72-A900508 at initial issue. The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.
Remarks:	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted on 31 July 2012 as PAD 12-101 for consultation until 31 August 2012. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact: rtd.techhelp@rolls-royce.com, Phone : +49 (0) 337086 1200, Fax : +49 (0) 337086 1212.