

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2013-0143 Date: 12 July 2013 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 EU 748/2012, Part 21.A.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:	Type/Model designation(s):
Rolls-Royce Deutschland Ltd & Co KG	Tay 620, Tay 650, and Tay 651 engines
TCDS Number:	EASA.E.063
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2013-0071 dated 19 March 2013.
ATA 72	Engine – Low Pressure Compressor / Rotor Blade Leading Edge – Re-profiling
Manufacturer(s):	Rolls-Royce plc
Applicability:	Tay 620-15, Tay 620-15/20, Tay 650-15, Tay 650-15/10 and Tay 651-54 engines, all serial numbers. These engines are known to be installed on, but not limited to, Fokker F28 Mark 0070 and Mark 0100, and on Boeing 727 (STC-modified) series aeroplanes.
Reason:	Service history of Tay series engines discovered that low pressure compressor (LPC) fan blade leading edge is exposed to excessive deterioration. The LPC fan blade leading edge profile influences the LPC aerodynamic characteristics and stability. This condition, if not corrected, could reduce fan flutter margin and, in some cases, could lead to fan blade failure, possibly resulting in uncontained release of high energy debris with consequent damage to, and/or reduced control of the aeroplane. To address this potential unsafe condition, Rolls-Royce Deutschland Ltd & Co KG (RRD) issued Alert Non-Modification Service Bulletin (NMSB) TAY-72-A1782 at initial issue and revision 1 to provide instructions for re-profiling of LPC fan blade leading edge profile of Tay 650-15 and Tay 650-15/10 engines. Consequently, EASA issued AD 2013-0071 to require implementation of repetitive re-profiling for the affected parts. Since that AD was issued, RRD issued NMSB TAY-72-A1782 Revision 2 to make the re-profiling instructions of LPC fan blade leading edge also applicable to Tay 620-15, Tay 620-15/20 and Tay 651-54 engines, due to the similarity of

	fan blade design used in these engines and hence possibility of fan blade root cracking imposed by fan flutter generated high stress. For the reasons described above, this AD retains the requirements of AD 2013-0071, which is superseded, and expands the Applicability to Tay 620-15, Tay 620-15/20 and Tay 651-54 engines.												
Effective Date:	26 July 2013												
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: Note: For the purpose of this AD, fan blade flight cycles (FC) means FC accumulated by the fan blade since new or since the last re-profiling in accordance with RRD NMSB TAY-72-A1782 or TAY-72-1603, or in accordance with Engine Manual Repair HRS3629 (Engine Manual, Chapter 72-31-12, TASK 72-31-12-300-005), as applicable. Tay 620-15 and 620-15/20 engines: (1) Within the compliance time as specified in Table 1 of this AD, as applicable, and thereafter at intervals not to exceed 12 000 FC, accomplish a fan blade re-profiling in accordance with accomplishment instructions of RRD Alert NMSB TAY-72-A1782. Table 1 <table border="1"> <tr> <th>Fan blade FC accumulated on the effective date of this AD</th><th>Compliance time</th></tr> <tr> <td>Less than 10 000 FC</td><td>Before accumulating 12 000 FC</td></tr> <tr> <td>Equal to or more than 10 000 FC</td><td>Within 2 000 FC after the effective date of this AD</td></tr> </table> Tay 650-15, Tay 650-15/10 and Tay 651-54 engines: (2) Within the compliance time as specified in Table 2 of this AD, as applicable, and thereafter at intervals not to exceed 10 000 FC, accomplish a fan blade re-profiling in accordance with accomplishment instructions of RRD Alert NMSB TAY-72-A1782. Table 2 <table border="1"> <tr> <th>Fan blade FC accumulated on the effective date of this AD</th><th>Compliance time</th></tr> <tr> <td>Less than 8 000 FC</td><td>Before accumulating 10 000 FC</td></tr> <tr> <td>Equal to or more than 8 000 FC</td><td>Within 2 000 FC after the effective date of this AD</td></tr> </table> (3) For Tay 650-15 and Tay 650-15/10 engines, fan blade leading edge re-profiling accomplished before the effective date of this AD in accordance with RRD Alert NMSB TAY-72-A1782 at initial issue or revision 1 is acceptable to comply with the initial requirements of paragraphs (2) of this AD. All engine models: (4) From the effective date of this AD, do not install a LPC module on an engine, or an engine on an aeroplane, unless in compliance with the requirements of this AD. (5) If, on the effective date of this AD, the engine is in shop or undergoing overhaul, before release to service of the engine, accomplish a fan blade re-profiling in accordance with Instruction II of RRD Alert NMSB TAY-72-A1782.	Fan blade FC accumulated on the effective date of this AD	Compliance time	Less than 10 000 FC	Before accumulating 12 000 FC	Equal to or more than 10 000 FC	Within 2 000 FC after the effective date of this AD	Fan blade FC accumulated on the effective date of this AD	Compliance time	Less than 8 000 FC	Before accumulating 10 000 FC	Equal to or more than 8 000 FC	Within 2 000 FC after the effective date of this AD
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	(6) Compliance with the requirements of paragraphs (1) and (2) of this AD can be demonstrated by: (6.1) 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 LPC fan blade repetitive re-profiling as specified in RRD Alert NMSB TAY-72-A1782, and (6.2) Complying with the approved AMP as described in paragraph (6.1) of this AD.
Ref. Publications:	RRD Alert NMSB TAY-72-A1782 revision 2 dated 30 May 2013. RRD NMSB TAY-72-1603 Initial issue, dated 21 June 2004. Engine Manual Repair HRS3629 issue 04, dated 15 December 2007. The use of later approved revisions of these documents 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. 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. 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: Rolls-Royce Deutschland Ltd & Co KG Eschenweg 11 – 15827 Dahlewitz – Germany Tel: + 49 (0) 33 708 6 1200 (direct 1016) Fax: + 49 33 708 6 1212. E-mail: RRDTechnicalHelpdesk@Rolls-Royce.com.