

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0253 Date: 30 November 2009 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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].	
Type Approval Holder's Name : ROLLS-ROYCE PLC	Type/Model designation(s) : RB211-524 Series Engines
TCDS Number : UK-CAA TCDS No.s 1043, 1046 and 1048	
Foreign AD : N/A	
Supersedure : This AD supersedes AD No. 2009-0089 dated 16 April 2009	
ATA 78	Engine – Thrust Reverser Unit (TRU) – Replacement of Damaged Rivets on Thrust Reverser Fixed Structure
Manufacturer(s):	Rolls-Royce plc
Applicability:	RB211-524D4-19, -524D4-B-19, -524D4-39, -524D4-B-39, -524D4X-19, -524D4X-B-19, -524H-36, -524H2-19, -524H-T-36, -524H2-T-19, -524G2-19, -524G3-19, -524G2-T-19 and -524G3-T-19 engines, all serial numbers, if equipped with a Thrust Reverser having a part number as identified in Rolls-Royce RB211 Propulsion Systems Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3. These engines are known to be installed, but not limited to Boeing 747 and Boeing 767 series aircraft.
Reason:	An investigation into the loss of a TRU during landing has revealed that this incident was preceded by the detachment of the TRUs fixed structure front ring rivet lines on the rear flange. It was concluded that the loss of rivet lines was directly associated with a previous translating cowl gearbox stubshaft fracture and the subsequent repair of the fixed structure to Engine Manual repair No. FRS5887. This repair instructs the replacement of the damaged section of the structure but does not require the rivets adjacent to the repair to be replaced although latest analysis has shown that the rivets may have weakened as a result of a translating cowl gearbox stubshaft failure. Loss of a TRU during landing may release a significant amount of debris and this may adversely affect the safety of flight operations. Thus, the loss of a

	TRU constitutes a potentially unsafe condition. EASA AD No. 2009-0089 was issued to instruct replacement of potentially yielded rivets from TRUs in service in order to prevent a further TRU loss. Further engineering evaluation carried out by Rolls-Royce concluded that the Compliance Times required by this AD can be partially extended. This AD supersedes AD No. 2009-0089 and is issued in order to extend the applicability of the Required Actions contained in AD No. 2009-0089 to RB211-524D4X-19 engines and also to partially extend the Compliance Times originally required by AD No. 2009-0089. This AD includes additional compliance criteria with respect to an earlier translating cowl gearbox stubshaft failure in order to enable operators to further limit the population of potentially affected engines.
Effective Date:	14 December 2009
Required Action(s) and Compliance Time(s):	1. If a TRU has previously had Engine Manual repair No. FRS5887 and either Engine Manual repair No. FRS4976 or Engine Manual repair No. FRS6669 embodied jointly as a result of a translating cowl gearbox stubshaft failure and the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3 or earlier approved revisions have not been carried out yet, carry out the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3 or later approved revisions before 31st March 2010. <u>Important Note:</u> Unless unambiguous documented evidence exists to demonstrate otherwise, a translating cowl gearbox stubshaft failure should be assumed. 2. If a TRU has previously had Engine Manual repair No. FRS4976 embodied as a result of a translating cowl gearbox stubshaft failure or Engine Manual repair No. FRS6669 embodied as a result of a translating cowl gearbox stubshaft failure and it is not known whether this was performed jointly with Engine Manual repair No. FRS5887 and the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3 or earlier approved revisions have not been carried out yet, carry out the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3 or later approved revisions before 31st March 2010. <u>Important Note:</u> Unless unambiguous documented evidence exists to demonstrate otherwise, a translating cowl gearbox stubshaft failure should be assumed. 3. If a TRU has previously had only Engine Manual repair No. FRS5887 embodied as a result of a translating cowl gearbox stubshaft failure and the actions specified in Section 3. Accomplishment Instructions of Rolls-

	Royce Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3 or earlier approved revisions have not been carried out yet, carry out the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) No. 78-AG084 Revision 3 or later approved revision before 31st December 2012. Important Note: Unless unambiguous documented evidence exists to demonstrate otherwise, a translating cowl gearbox stubshaft failure should be assumed.
Ref. Publications:	Rolls-Royce RB211 Propulsion System Non-Modification Service Bulletin (NMSB) No. 78-AG084, Revision 3 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. The required actions and the risk allowance have granted the issuance of a Final AD with Request for Comments, postponing the public consultation process after publication. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification 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 plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936, E-mail: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com