



Airworthiness Directive

AD No.: 2017-0006

Issued: 10 January 2017

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, 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 Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 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 [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

ROLLS-ROYCE plc

Type/Model designation(s):

RB211-535E4 engines

Effective Date: 24 January 2017

TCDS Number(s): EASA.E.061

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2014-0123 dated 15 May 2014.

ATA 73 – Engine Fuel & Control – Fuel Tube Assemblies – Replacement

Manufacturer(s):

Rolls-Royce plc (RR)

Applicability:

RB211-535E4-37, RB211-535E4-B-37 and RB211-535E4-C-37 engines, all serial numbers.

These engines are known to be installed on, but not limited to, Boeing 757 series aeroplanes.

Reason:

Fuel leaks have occurred in-service at two different locations, (1) from the low pressure (LP) fuel tube assembly located between the LP fuel filter and high pressure (HP) fuel pump; and (2) at the flanged joints between the HP fuel pump and the fuel supply and inlet overspill tube assemblies. All the reported LP fuel tube leaks were from the LP fuel tube assembly to the standard of RR Service Bulletin (SB) RB.211-73-C297, which was originally required by CAA UK AD 007-10-97. Reported leaks at the flanged joints between the HP fuel pump and the fuel supply and inlet overspill tube assemblies were attributed to the volume of the sealing O-ring material being greater than the volume of the groove in the end adaptor.

This condition, if not detected and corrected, could lead to critical fuel unbalance or in-flight fuel starvation, possibly resulting in reduced control of the aeroplane.



To address this potential unsafe condition, EASA issued AD 2014-0123, superseding CAA UK AD 007-10-97, to require installation of a rigid fuel tube between the LP fuel filter and the HP fuel pump. That AD also prohibited future (re-)installation of earlier fuel tube standards.

Since that AD was issued, to mitigate the risk of fuel leaks at the flanged joints between the HP fuel pump and the fuel supply and inlet overspill tube assemblies, RR developed a modification (mod 73-G230) and issued corresponding SB RB.211-73-G230, which introduced new HP fuel pump-to-fuel flow governor (FFG) fuel supply and inlet overspill tube assemblies with increased size of the O-ring groove on the end adaptor sealing face.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0123, which is superseded, and in addition requires the installation of new HP fuel pump-to-FFG fuel supply and inlet overspill tube assemblies. This AD also prohibits (re-)installation of earlier HP fuel pump-to-FFG fuel supply and inlet overspill tube assemblies, as well as P/N AE709623 LP fuel filter to HP pump tube assemblies, which were inadvertently not included in paragraph (2) of EASA AD 2014-0123.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Note 1: Where, in this AD, reference is made to an RR Mod, SB or NMSB with an 'A' (Alert) in the number, it should be recognised that an earlier or later revision may not have that 'A'. This kind of change does not effectively alter the publication references for the purpose of this AD.

Note 2: For the purpose of this AD, LP fuel filter to HP pump tube assemblies P/N AE709623 (previously introduced by Mod/SB 73-C297), P/N 163521545 and P/N 163521538 are collectively referred to as 'Group 1 affected part' in this AD. HP fuel pump-to-FFG fuel supply and inlet overspill tube assemblies P/N UL16690, P/N UL16691, P/N UL37213 and P/N UL37214, and flanged adaptors P/N UL37218, are collectively referred to as 'Group 2 affected part' in this AD.

Replacement:

- (1) Within the compliance time specified in Table 1 of this AD, as applicable, replace each Group 1 affected part (see Note 2 of this AD) in accordance with the instructions of Section 3 of RR SB RB.211-73-H131.

Table 1 - LP Fuel Tubes Replacement

Compliance Time (A or B, whichever occurs first after 29 May 2014 [the effective date of EASA AD 2014-0123])	
A	On-wing, during the next occasion when the part is removed because of its condition, or during accomplishment of the instructions of RR SB RB.211-73-E355
B	During the next shop visit

- (2) Within the compliance time specified in Table 2 of this AD, as applicable, replace each Group 2 affected part (see Note 2 of this AD) in accordance with the instructions of Section 3 of RR SB RB.211-73-G230.



Table 2 – HP Fuel Tubes / Flanged Adaptors Replacement

Compliance Time (whichever occurs first after the effective date of this AD, A or B)	
A	On-wing, during the next occasion when an affected part is removed because of its condition, or during accomplishment of the instructions of RR SB RB.211-73-E355
B	During the next shop visit

Parts Installation:

(3) From the effective date of this AD, do not install on any engine a Group 1 or Group 2 affected part (see Note 2 of this AD).

Ref. Publications:

Rolls-Royce SB RB.211-73-H131 original issue dated 10 May 2013, or Revision 1 dated 02 September 2014.

Rolls-Royce SB RB.211-73-G230 original issue dated 12 November 2009, or Revision 1 dated 07 July 2011, or Revision 2 dated 20 December 2012.

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. This AD was posted on 10 November 2016 as PAD 16-158 for consultation until 08 December 2016. The Comment Response Document can be found at <http://ad.easa.europa.eu>.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. For any question concerning the technical content of the requirements in this AD, please contact your designated Rolls-Royce representative, or download the publication from your Rolls Royce Care account at <https://customers.rolls-royce.com>.

If you do not have a designated representative or Rolls Royce Care account, please contact **Corporate Communications** at **Rolls-Royce plc**, P.O. Box 31, Derby, DE24 8BJ, United Kingdom Telephone +44 (0)1332 242424,

or send an email through http://www.rolls-royce.com/contact/civil_team.jsp identifying the correspondence as being related to **Airworthiness Directives**.

