



Notification of a proposal to issue an Airworthiness Directive

PAD No.: 16-158

Issued: 10 November 2016

Note: This Proposed Airworthiness Directive (PAD) 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.

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 date indicated.

Design Approval Holder's Name:

ROLLS-ROYCE plc

Type/Model designation(s):

RB211-535E4 engines

Effective Date: [TBD - standard: 14 days after AD issue date]

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, 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 is 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, Rolls-Royce 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 future (re-)installation of earlier HP fuel pump-to-FFG fuel supply and inlet overspill tube assemblies.

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.

Parts Replacement:

- (1) Within the compliance time specified in Table 1 of this AD, as applicable, replace the P/N 163521545 and P/N 163521538 fuel tubes 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 requires removal 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 P/N UL16690, P/N UL16691, P/N UL37213 and P/N UL37214 tube assemblies, and P/N UL37218 flanged adaptors, 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 the part requires removal 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 P/N 163521545 or P/N 163521538 LP fuel filter to HP fuel pump tube; or a P/N UL16690, P/N UL16691, P/N UL37213 or P/N UL37214 tube assembly; or a P/N UL37218 flanged adaptor.

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. This Proposed AD will be closed for consultation on 08 December 2016.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
3. For any question concerning the technical content of the requirements in this PAD, 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**.

