



Airworthiness Directive

AD No.: 2016-0036

Issued: 29 February 2016

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):

Trent XWB engines

Effective Date: 07 March 2016

TCDS Number(s): EASA.E.111

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Low Pressure Compressor / Shaft Attachment – Inspection

Manufacturer(s):

Rolls-Royce plc (RR)

Applicability:

RR Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines, serial numbers as listed in Appendix 1 of Alert Non-Modification Service Bulletin (NMSB) 72-AJ306 Revision 2 dated 24 February 2016.

These engines are known to be installed on, but not limited to, Airbus A350 aeroplanes.

Reason:

It was recently established that, under certain circumstances, it is possible to incorrectly assemble the low pressure (LP) compressor disc to the LP compressor shaft, such that the bolt holes are misaligned. This could lead to a reduced end load on the LP compressor disc bolts, or damage to the bore of the LP compressor disc bolt holes.

This condition, if not detected and corrected, could lead to bolt failure(s) and damage to Group A (critical) engine parts, possibly resulting in engine in-flight shut-down and consequently, reduced control of the aeroplane.



To address this potential unsafe condition, RR published TRENT XWB NMSB 72-J306, to provide inspection instructions, initially for data gathering only, to improve the understanding of the problem. Following the first inspection results, it was decided to inspect all in-service engines and the NMSB was revised and re-issued as an Alert NMSB accordingly.

For the reasons described above, this AD requires a one-time on-wing or in-shop visual inspection of the LP compressor disc and LP compressor shaft.

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

Required as indicated, unless accomplished previously:

Note: 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.

- (1) Within 30 days after the effective date of this AD, accomplish an on-wing or in-shop inspection of the LP compressor disc to LP compressor shaft bolted joint. Determine if the yellow timing mark on the LP compressor disc assembly cone support ring is aligned with the yellow timing mark located in the centre of the LP compressor shaft tang, and determine that the LP compressor disc is correctly positioned relative to these, in accordance with the instructions of RR TRENT XWB Alert NMSB 72-AJ306 Revision 2.
- (2) If, during an on-wing inspection as required by paragraph (1) of this AD, any misalignment is detected, or any finding that exceeds the criteria as specified in Section 3, paragraph A.(3) of RR TRENT XWB NMSB 72-AJ306 Revision 2, before next flight, remove the engine from service, contact RR for approved corrective action instructions and, before release to service of that engine, accomplish those actions accordingly.
- (3) If, during an in-shop inspection as required by paragraph (1) of this AD, any misalignment is detected, or any finding that exceeds the criteria as specified in Section 3, paragraph A.(3) of RR TRENT XWB NMSB 72-AJ306 Revision 2, before release to service of that engine, contact RR for approved corrective action instructions and accomplish those actions accordingly.
- (4) Inspection of an engine, accomplished before the effective date of this AD in accordance with the instructions of RR TRENT XWB NMSB 72-J306 at original issue or Revision 1, is acceptable to comply with the requirements of paragraph (1) of this AD for that engine.

Ref. Publications:

RR TRENT XWB NMSB 72-J306 original issue dated 20 February 2016, or Revision 1 dated 22 February 2016, or NMSB 72-AJ306 Revision 2 dated 24 February 2016.

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. 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 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**.

