



# Notification of a proposal to issue an Airworthiness Directive

**PAD No.: 16-177**

**Issued: 22 December 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):

Trent XWB engines

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

**TCDS Number(s):** EASA.E.111

**Foreign AD:** Not applicable

**Supersedure:** None

## ATA 73 – Engine Fuel & Control – P30 Sense Line Air Tube – Drainage / Inspection

### Manufacturer(s):

Rolls-Royce plc (RR)

### Applicability:

RR Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines, all serial numbers.

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

### Reason:

RR previously introduced Non-Modification Service Bulletin (NMSB) TRENT XWB 73-H925 to provide instructions for repetitive inspections of P30 sense line air tubes for water accumulation, but without any instructions to offset inspections between engines on the same aeroplane. Following a recent review of in-service anomalous bleed valve fault messages, RR identified an error in the Engine Electronic Control (EEC) software that leads to failure of the EEC to accommodate a static P30 signal, which can occur as a result of an unusually high volume of frozen water inside the sense line air tube, possibly limiting thrust control of the engine. Unusually high volumes of water present in the P30 sense line air tubes occurring in both engines could result in a dual engine risk on an aeroplane. This was not mitigated by NMSB TRENT XWB 73-H925 original issue or Revision 1.



This condition, if not detected and corrected, could result in reduced control of the aeroplane.

To address this potential unsafe condition, RR published Alert NMSB TRENT XWB 73-AJ578 to introduce an offset of inspection between engines on the same aeroplane to prevent a common mode of loss of thrust control, and also to introduce additional measures to ensure that no potential air leakage paths can exist or develop which could exacerbate water accumulation as a result of previous inspections.

Consequently, EASA issued Emergency AD 2016-0247-E to require a one-time on-wing inspection and emptying of the P30 sense line air tubes.

Since that AD was issued, RR issued Alert NMSB TRENT XWB 73-AH925 Revision 2 (hereafter referred to as 'the NMSB' in this AD), with updated instructions to include an offset of a minimum of 20 engine flight cycles (EFC) between emptying/inspection of engines on the same aeroplane, to prevent a common mode of loss of thrust control. It has been determined that continued repetitive inspections, offset between engines on the same aeroplane, are necessary to ensure safe engine operation.

For the reason described above, this AD requires of repetitive offset emptying/inspections and continues with the additional measures ensuring that, following inspection, no air leakage path can exist or develop which could exacerbate water accumulation.

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

Required as indicated, unless accomplished previously:

Note 1: Where, in this AD, reference is made to a RR 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.

#### **On-Wing Inspection:**

- (1) Before an engine exceeds 100 EFC since first flight on an aeroplane or within 7 days of the effective date of this AD, whichever occurs later, or before an engine exceeds 100 EFC since an inspection accomplished in accordance with the instructions of Alert NMSB TRENT XWB 73-AJ578 or NMSB TRENT XWB 73-AH925, as applicable, and thereafter at intervals not to exceed 100 EFC, inspect the P30 sense line air tube in accordance with the instructions of Section 3 of the NMSB.
- (2) For an aeroplane, the inspection as required by paragraph (1) of this AD for each engine must be accomplished with a minimum of 20 EFC inspection offset between the engines installed on that aeroplane.

#### **Corrective Action(s):**

- (3) If, during any inspection as required by paragraph (1), water is found in the P30 sense line air tube, before next flight, empty the P30 sense line air tube in accordance with the instructions of Section 3 of the NMSB.



- (4) Following the inspection as required by paragraph (1) of this AD, during P30 sense line air tube installation, accomplish an independent over-check of the fitting of a new sealing ring and torque application, in accordance with the instructions of Section 3 of the NMSB.

**Part / Engine Installation:**

- (5) From the effective date of this AD, it is allowed to install an engine on an aeroplane, or a new / replacement P30 sense line air tube in an engine installed on an aeroplane, provided the P30 sense line air tube is compliant with paragraphs (1) and (3) of this AD.

**Prohibition:**

- (6) From the effective date of this AD, do not inspect any engine in accordance with the instructions of RR NMSB TRENT XWB 73-H925 at original issue or Revision 1.

**Ref. Publications:**

RR Alert NMSB TRENT XWB 73-AJ578 original issue, dated 12 December 2016.

RR Alert NMSB TRENT XWB 73-AH925 Revision 2, dated 15 December 2016.

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 19 January 2017.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto: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](http://www.rolls-royce.com/contact/civil_team.jsp) identifying the correspondence as being related to **Airworthiness Directives**.

