



# Notification of a Proposal to issue an Airworthiness Directive

**PAD No.: 22-063**

**Issued: 25 May 2022**

Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 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 DEUTSCHLAND Ltd & Co KG

## Type/Model designation(s):

Trent XWB series engines

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

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

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2019-0234 dated 19 September 2019.

## ATA 72 – Engine – Front Engine Mount Support Structure – Inspection

### Manufacturer(s):

Rolls-Royce plc

### Applicability:

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84 and Trent XWB-97 engines, all engine serial numbers.

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

### Definitions:

For the purpose of this AD, the following definitions apply:

**The NMSB:** Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) TRENT XWB 72-AK188 Revision 3 (all engine models, except Trent XWB-97) and Alert NMSB TRENT XWB 72-AK583 (Trent XWB-97), as applicable. Where, in this AD, reference is made to a Rolls-Royce (NM)SB with an 'A' (Alert) in the number, it should be recognised that a later revision may not have that 'A'. This kind of change does not effectively alter the publication references for the purpose of this AD.



**Qualified shop visit:** Engine refurbishment shop visit (Level 3 or 4 on the high-pressure system module).

**Reason:**

The purpose of the engine mount is to position the engine relative to the pylon and to transfer all loads and rotational moments between the engine and pylon. The front engine mount support structure (EMSS) consists of the low pressure compressor (LPC) outlet guide vane (OGV) assembly and OGV outer mount ring assembly. Revised analysis of these parts, when the front engine mount (FEM) is engaged in the fail-safe condition, has now been undertaken using more advanced modelling techniques. This analysis predicts that, once the FEM is in the fail-safe condition, the most highly stressed LPC OGV has a life that could be substantially less than one shop visit interval.

This condition, if not detected and corrected, could lead to failure of the EMSS, possibly resulting in engine separation and reduced control of the aeroplane.

To address this potential unsafe condition, Rolls-Royce introduced inspections to protect against the FEM entering the failsafe condition following a failure of the OGV outer mount ring assembly lugs, and published NMSB 72-AK188 (original issue, later revised) to provide instructions. Consequently, EASA issued AD 2019-0234 to require repetitive inspections (on-wing or in-shop) of the OGV outer mount ring assembly lug fillet area and, depending on findings, accomplishment of applicable corrective action(s).

Since that AD was issued, it was determined that these inspections are necessary for Trent XWB-97 engines as well. In addition, analysis results indicated that the on-wing inspections, previously instructed through NMSB 72-AK188, could be discontinued, and the interval of the in-shop inspection could coincide with a qualified shop visit, as defined in this AD. Rolls-Royce issued the NMSB, as defined in this AD, accordingly.

For the reasons described above, this AD partially retains the requirements of EASA AD 2019-0234, which is superseded, expands the Applicability to include Trent XWB-97 engines, removes the on-wing inspections and allows the in-shop inspection interval to be adjusted.

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

Required as indicated, unless accomplished previously:

**Inspection(s):**

- (1) During each qualified shop visit (as defined in this AD) after the effective date of this AD, inspect the OGV outer mount ring assembly in accordance with the instructions of section 3.B of the NMSB.

**Corrective Action(s):**

- (2) If, during any inspection as required by paragraph (1) of this AD, any discrepancy is detected that exceeds the accept criteria of the OGV outer mount ring, as specified in the NMSB, before release to service of the engine, either replace the OGV outer mount ring assembly with a new part, or, depending on findings, accomplish a repair as specified in the NMSB.



**Terminating Action:**

(3) None.

**Ref. Publications:**

Rolls-Royce Alert NMSB TRENT XWB 72-AK188 original issue dated 13 August 2019, or Revision 1 dated 20 September 2019, or Revision 2 dated 17 December 2019, or Revision 3 dated 09 May 2022.

Rolls-Royce Alert NMSB TRENT XWB 72-AK583 original issue dated 09 May 2022.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

**Remarks:**

1. This Proposed AD will be closed for consultation on 22 June 2022.
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. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this PAD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
4. 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 <https://www.rolls-royce.com/contact-us/civil-aerospace.aspx> identifying the correspondence as being related to **Airworthiness Directives**.

