



### 適航指令發布單

### Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2022-07-001	發布日期 Date issued	2022/7/6
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	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.		
主旨摘要 Subject	Engine - Front Engine Mount Support Structure - Inspection		
民航局 CAA <input type="checkbox"/> 本國產品 Native product <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authority <input type="checkbox"/> FAA <input type="checkbox"/> Germany LBA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> CAA-NL <input type="checkbox"/> Brazil <input type="checkbox"/> UK CAA <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> Japan CAB <input type="checkbox"/> DGAC <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____		
	設計國 AD 編號 Original AD number	2022-0129	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	This AD supersedes EASA AD 2019-0234(CAA-2019-09-009) dated 19 September 2019.		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			



## Airworthiness Directive

**AD No.:** 2022-0129

**Issued:** 30 June 2022

Note: This Airworthiness Directive (AD) 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.

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 or Annex Vb Part ML.A.301, as applicable, 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 Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

### Design Approval Holder's Name:

ROLLS-ROYCE DEUTSCHLAND Ltd & Co KG

### Type/Model designation(s):

Trent XWB series engines

**Effective Date:** 14 July 2022

**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

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### 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:** An engine shop visit where the high pressure module is undergoing a Level 3 or Level 4 workscope.



**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 fail-safe 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 serviceable 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. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. This AD was posted on 25 May 2022 as PAD 22-063 for consultation until 22 June 2022. The Comment Response Document can be found in the [EASA Safety Publications Tool](#), in the compressed (zipped) file attached to the record for this AD.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, 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 AD 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.
5. 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 <https://www.rolls-royce.com/contact-us/civil-aerospace.aspx> identifying the correspondence as being related to **Airworthiness Directives**.

