

## Airworthiness Directive

**AD No.:** 2024-0182**Issued:** 19 September 2024

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 &amp; Co KG

**Type/Model designation(s):**

Trent XWB engines

**Effective Date:** 03 October 2024**TCDS Number(s):** EASA.E.111**Foreign AD:** Not applicable**Supersedure:** This AD supersedes EASA AD 2024-0174-E dated 05 September 2024.

### ATA 72 – Engine – Main Fuel Hose Assembly / Fuel Hoses – Inspection

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**Manufacturer(s):**

Rolls-Royce plc

**Applicability:**

Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines having engine serial numbers (ESN) listed in Appendix 1 of the NMSB, and

Trent XWB-97 engines having ESN listed in Appendix 2 of the NMSB.

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 Non-Modification Service Bulletin (NMSB) Trent XWB 72-AL167.

Where, in this AD, reference is made to a NMSB 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.

**Affected part:** Fuel manifold main fuel hose(s) having Part Number (P/N) PH11181-2CLS, P/N PH11179-2CLS, P/N PH11180-2CLS, P/N PH11182-2CLS, P/N PH11176-2CLS, P/N PH11177-2CLS, P/N PH11178-2CLS or P/N PH11183-2CLS.

**Serviceable part:** An affected part which is new (never previously installed on any engine); or a part that has passed an inspection (no defect found) in accordance with the instructions of the NMSB and is being reinstalled on the same engine.

**Groups:**

Group A, Group B and Group C are Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines listed by ESN in Appendix 1 of the NMSB.

Group D and Group E are Trent XWB-97 engines listed by ESN in Appendix 2 of the NMSB.

Group 1 and Group 2 are Trent XWB-97 engines, all ESN listed in Appendix 2 of the NMSB, except engines having ESN 26024, 26025, 26026, 26029, 26033, 26035, 26036, 26039, 26040, 26042, 26043, 26047, 26048, 26052, 26053, 26058, 26059, 26061, 26062, 26069, 26070 and ESN 26133.

**Reason:**

Damage of a fuel manifold main fuel hose, leading to a controlled, temporary engine fire and heat damage to the exterior and interior of the engine nacelle (thrust reverser C-ducts), was reported. The occurrence resulted in a commanded in-flight shut down. The investigation is still ongoing to identify the root cause of the event.

This condition, if not detected and corrected could, in combination with additional failures, lead to a more severe engine fire and resulting damage to an aeroplane.

To address this potential unsafe condition Rolls-Royce issued the NMSB Trent XWB 72-AL165 to provide inspection and corrective action instructions for certain Trent XWB-97 engines and EASA issued EASA AD 2024-0174-E to require a one-time visual and dimensional inspection of the fuel manifold main fuel hoses.

Since EASA issued AD 2024-0174-E, in-service and in-shop inspections have identified that a specific cleaning process available during engine refurbishment may lead to fuel manifold main fuel hose degradation.

Additionally, it was determined that Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines were also the subject of the suspect cleaning process, and therefore are potentially affected by the unsafe condition addressed by this AD.

Prompted by this development, the affected cleaning process was discontinued by maintenance organisations as instructed by Rolls-Royce Maintenance Repair and Overhaul Quality Alert No. MRO 2024-21 issue 1. Additionally, Rolls-Royce issued the NMSB, as defined in this AD, to provide repetitive inspections for populations of engines potentially affected by the suspect fuel manifold main fuel hose cleaning process.

For the reasons described above, this AD partially retains the requirements of AD 2024-0174-E, which is superseded, and requires repetitive inspections and corrective actions for affected



populations of engines. This AD also introduces restrictions for installation of the affected parts, engines equipped with the affected parts, and requires reporting of inspection results.

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

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:

**On-Wing Inspection(s):**

- (1) For Group 1 and Group 2 engines: Within the compliance time as defined in Table 1 of this AD, as applicable, inspect each affected part in accordance with the instructions of Rolls-Royce NMSB Trent XWB 72-AL165 (see Note 1 of this AD).

Table 1 – Compliance Time for Group 1 and Group 2 engines

Groups	Accumulated Service Life and number of Shop Visits	Compliance Time (after 09 September 2024 [the effective date of EASA AD 2024-0174-E])
1	Engines having accumulated 18 500 engine flying hours (EFH) or more since new and that have had 2 or more previous shop visits (Hospital, Check & Repair, Refurbishment or Overhaul)  or  Engines having accumulated 2 300 engine flying cycles (EFC) or more since new and that have had 2 or more previous shop visits (Hospital, Check & Repair, Refurbishment or Overhaul)	3 days
2	Engines which are not in Group 1, which have had a previous shop visit (Hospital, Check & Repair, Refurbishment or Overhaul)	7 days

Note 1: The EFH, EFC and number of previous shop visits specified in Table 1 of this AD are those accumulated by the engine on 09 September 2024 [the effective date of EASA AD 2024-0174-E].

- (2) For Group A, Group B and Group C engines (Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines): Within the compliance time as defined in Table 2 of this AD, as applicable, and thereafter at intervals not to exceed 2 000 EFH inspect each affected part in accordance with the instructions of the NMSB.



Table 2 – Compliance Time for Group A, Group B and Group C engines

Groups	Compliance Time
A	Within 30 days after the effective date of this AD
B	Before exceeding 8 000 EFH accumulated since the applicable date listed in Appendix 1 of the NMSB for Group B engines
C	Before exceeding 2 000 EFH accumulated since 01 September 2024

- (3) For Group D and Group E engines (Trent XWB-97 engines): Within the compliance time as defined in Table 3 of this AD, as applicable, and thereafter at intervals not to exceed 2 000 EFH inspect each affected part in accordance with the instructions of the NMSB.

Table 3 – Compliance Time for Group D Group E engines

Groups	Compliance Time
D	Before exceeding 2 000 EFH accumulated since accomplishment of the inspection as required by paragraph (1) of this AD
E	Before exceeding 2 000 EFH accumulated since 01 September 2024

**Corrective Action(s):**

- (4) If, during the inspection as required by paragraph (1) of this AD, any discrepancy or damaged affected part is detected, as defined in Rolls-Royce NMSB 72-AL165, within the compliance time as defined in paragraph “3. Accomplishment Instructions” of Rolls-Royce NMSB 72-AL165, as applicable, replace that affected part with a serviceable part in accordance with the instructions of Rolls-Royce NMSB 72-AL165.
- (5) If, during any inspection as required by paragraph (2) or (3) of this AD, any discrepancy or damaged affected part is detected, as defined in the NMSB, within the compliance time as defined in paragraph “3. Accomplishment Instructions” of the NMSB, as applicable, replace that affected part with a serviceable part in accordance with the instructions of the NMSB.

**In-Shop Inspections:**

- (6) From the effective date of this AD, it is allowed to release to service an engine after a shop visit (Hospital, Check & Repair, Refurbishment or Overhaul) provided that, during that shop visit, each affected part has been inspected, and, depending on findings, all the applicable corrective actions have been accomplished in accordance with the instructions of the NMSB.

**Credit:**

- (7) Accomplishment of the inspection and, depending on findings, corrective action on an affected part in accordance with the instructions of Rolls-Royce NMSB 72-AL165 constitutes an acceptable method to comply with the initial inspection and corrective action requirements of paragraphs (2) and (5) of this AD for that affected part.

**Terminating Action:**

- (8) Replacement of the affected part on an engine with a new part, accomplished after 01 September 2024 in accordance with the instructions of Airbus A350 Aircraft Maintenance



Manual task A350-A-72-41-65-00001-720A-A or Rolls-Royce Engine Manual task TRENTXWB-A-72-41-70-00A01-720A-B or task TRENTXWB-B-72-41-70-00A01-720A-B constitutes terminating action for repetitive inspections as required by paragraphs (2) and (3) of this AD for that affected part.

#### Parts Removal and Installation:

- (9) From the effective date of this AD, it is allowed to install an affected part on an engine, provided that the part is a serviceable part.
- (10) An affected serviceable part removed from an engine having an ESN listed in Appendix 1 or Appendix 2 of the NMSB can only be reinstalled on the same engine ESN.

#### Engine Installation:

- (11) For Group 1, Group 2, Group A and Group D engines: From the effective date of this AD, installation of an engine on an aeroplane is allowed, provided that the engine passed an inspection (no finding detected or finding corrected) in accordance with the instructions of the NMSB or Rolls-Royce NMSB Trent XWB 72-AL165, as applicable.
- (12) For Group B, Group C and Group E engines: From the effective date of this AD, installation of an engine on an aeroplane is allowed provided that the engine passed an inspection as required by this AD, or has not yet reached the inspection thresholds as defined in paragraph (2) or (3) of this AD, as applicable.

#### Reporting:

- (13) Within 30 days after accomplishment of the inspection, as required by paragraph (1), (2) or (3) of this AD, as applicable, report the inspection result to Rolls-Royce. Using the 'Feedback Sheet NMSB 72-AL165' (Appendix 1 of the NMSB Trent XWB 72-AL165) or Feedback Sheet NMSB 72-AL167 (Appendix 3 of the NMSB), as applicable, is an acceptable method to comply with this requirement.

#### Ref. Publications:

Rolls-Royce NMSB Trent XWB 72-AL167 original issue dated 18 September 2024.

Rolls-Royce NMSB Trent XWB 72-AL165 original issue dated 05 September 2024, or Revision 1 dated 06 September 2024, or Revision 2 dated 11 September 2024, or Revision 3 dated 18 September 2024.

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. 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. All interested persons may send their comments, referencing the AD Number, to the E-mail



address specified in below Remark 3, prior to 17 October 2024. Only if any comment is received during the consultation period, a Comment Response Document will be published in the [EASA Safety Publications Tool](#), in a 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**.

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