



# 適航指令發布單

## Airworthiness Directive Issuance Form

民航局AD編號 AD number	CAA-2024-09-009A	發布日期 Date issued	2024/10/16
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 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.		
主旨摘要 Subject	Engine - Main Fuel Hose Assembly / Fuel Hoses - Inspection		
民航局 CAA  <input type="radio"/> 本國產品 Native product  <input type="radio"/> 其他個案 Other	<div>設計國民航主管機構 Original Authority</div> <div><div><input type="radio"/> FAA <input checked="" type="radio"/> EASA <input type="radio"/> Brazil <input type="radio"/> Transport Canada Civil Aviation <input type="radio"/> DGAC</div><div><input type="radio"/> Germany LBA <input type="radio"/> CAA-NL <input type="radio"/> UK CAA <input type="radio"/> Japan CAB <input type="radio"/> CAA of Israel <input type="radio"/> Other_____</div></div> <div>設計國AD編號 Original AD number</div> <div>2024-0182R1</div> <div>1. 直接採用原AD之內容? (Is the original AD directly adopted?) <input checked="" type="radio"/> 是(Yes)    <input type="radio"/> 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 checked="" type="radio"/> 需要(Yes)    <input type="radio"/> 不需要(No)</div>		
備註 Note	This AD revises EASA AD 2024-0182(CAA-2024-09-009) dated 19 September 2024, which superseded EASA AD 2024-0174-E dated 05 September 2024.		

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, [adcaa@mail.caa.gov.tw](mailto:adcaa@mail.caa.gov.tw)

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 Aviation Administration on Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, [adcaa@mail.caa.gov.tw](mailto:adcaa@mail.caa.gov.tw)



## Airworthiness Directive

**AD No.:** 2024-0182R1

**Issued:** 09 October 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 & Co KG

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

Trent XWB engines

**Effective Date:** Revision 1: 16 October 2024  
Original issue: 03 October 2024

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

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2024-0182 dated 19 September 2024, which superseded EASA AD 2024-0174-E dated 05 September 2024.

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

**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.

After 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 original issue of NMSB Trent XWB 72-AL167 to provide repetitive inspections for populations of engines potentially affected by the suspect fuel manifold main fuel hose cleaning process. Prompted by this development, EASA issued AD 2024-0182 partially retaining the requirements of AD 2024-0174-E, which was superseded, and required repetitive inspections and corrective actions for affected populations of engines. That AD



also introduced restrictions for installation of the affected parts, engines equipped with the affected parts, and required reporting of inspection results.

Since that AD was issued RR issued Revision 1 of the NMSB Trent XWB 72-AL167. Additionally, it was recognised that for the AD wording clarity, the paragraph (8) shall explicitly indicate that replacement of an affected part on an engine constitutes terminating action for that affected part, for both on-wing and in-shop inspections.

For the reasons described above, this AD is revised accordingly.

#### **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

<b>Groups</b>	<b>Accumulated Service Life and number of Shop Visits</b>	<b>Compliance Time</b> (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 03 October 2024 [the effective date of the original issue 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 03 October 2024 [the effective date of the original issue 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), (3) and (6) of this AD for that affected part.

#### **Parts Removal and Installation:**

- (9) From 03 October 2024 [the effective date of this AD at original issue], it is allowed to install an affected part on an engine, provided that the part is a serviceable part.
- (10) From 03 October 2024 [the effective date of the original issue of this AD], 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 03 October 2024 [the effective date of the original issue 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 03 October 2024 [the effective date of the original issue 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, or Revision 1 dated 03 October 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**.

