

Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 24-021

Issued: 07 February 2024

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 engines

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

TCDS Number(s): EASA.E.111

Foreign AD: Not applicable

Supersedure: None

ATA 79 – Oil – Front Bearing Housing Oil Feed Tube Assembly – Replacement

Manufacturer(s):

Rolls-Royce plc

Applicability:

Trent XWB-75, Trent XWB-79, Trent XWB-79B and Trent XWB-84 engines, all serial numbers (s/n), including core engines with an s/n as identified in Section A.(1)(a) of the SB.

Definitions:

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

The SB: Rolls-Royce Service Bulletin (SB) TRENT XWB 79-AK684. Where, in this AD, reference is made to a Rolls-Royce modification (mod), SB or Non-Modification SB 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.

Affected part: Front bearing housing (FBH) oil feed tube assemblies, having Part Number (P/N) KH47678.

Serviceable part: FBH oil feed tube assemblies, having P/N LV19901.

Groups: Group 1 engines are those that have an affected part installed. Group 2 engines are those that do not have an affected part installed. All engines on which Rolls-Royce mod 79-AK684 has been embodied in production are Group 2.

Qualified engine shop visit: Non-modular rework level of engine refurbishment, or engine check & repair.

Reason:

Occurrences have been reported on in-service engines of measuring differential oil pressures that are lower than expected. Preliminary investigation identified the need for restricting the intended excess oil supply to the FBH bearing chamber. Operation at extremes of the flight envelope could cause oil pressure to drop below the amber limit.

This condition, if not corrected, could lead to FBH bearing chamber firing, possibly resulting in engine in-flight shut-down (IFSD) or dual IFSD, with consequent reduced, or loss of, control of the aeroplane.

To address this potential unsafe condition, Rolls-Royce developed mod 79-AK684, re-distributing the oil flow between all bearing chambers and gearboxes, thereby increasing the overall differential oil pressure within the oil feed system. Rolls-Royce also issued the SB, providing in-service modification instructions.

For the reason described above, this AD requires modification of each engine by replacement of each affected part with a serviceable part. This AD also prohibits (re)installation of affected parts.

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

Required as indicated by this AD, unless the actions required by this AD have been already accomplished:

Modification:

- (1) For Group 1 engines: During the next qualified engine shop visit, or within 75 months, whichever occurs first after the effective date of this AD, modify the engine in accordance with the instructions of the SB, removing the affected part from service.

For an engine that, on the effective date of this AD, is in a qualified engine shop visit where the high pressure module re-assembly has not yet started, before release to service, modify that engine in accordance with the instructions of the SB, removing the affected part from service.

Part Installation:

- (2) Do not install an affected part on any engine as required by paragraph (2.1) or (2.2) of this AD, as applicable.

(2.1) For Group 1 engines: After modification of the engine as required by paragraph (1) of this AD.

(2.2) For Group 2 engines: From the effective date of this AD.



Ref. Publications:

Rolls-Royce TRENT XWB SB 79-AK684 original issue dated 02 January 2024.

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

Remarks:

1. This Proposed AD will be closed for consultation on 06 March 2024.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: 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**.

