

Airworthiness Directive

AD No.: 2022-0184

Issued: 02 September 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):

Tay engines

Effective Date: 09 September 2022

TCDS Number(s): EASA.E.063

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – High Pressure Turbine Stage 2 Intermediate Air Seal / Bolts – Inspection

Manufacturer(s):

Rolls-Royce plc

Applicability:

Tay 620-15 and Tay 650-15 engines, all engine serial numbers.

These engines are known to be installed on, but not limited to, Fokker F28 Mark 0070 and F28 Mark 0100 series aeroplanes.

Definitions:

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

The NMSB: Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) TAY-72-A1797.

Groups: Group 1 engines are those installed or previously installed on an aeroplane operated under an air operator certificate (AOC) issued by the Islamic Republic of Iran.

Group 2 are all other engines.

Reason:

Occurrences have been reported of finding cracks in high pressure (HP) turbine stage 2 intermediate air seal attachment bolts.

This condition, if not detected and corrected, could lead to an uncontained HP turbine rotor disc (Stage 1 and/or Stage 2) failure with consequent release of high energy debris, possibly resulting in damage to, and/or reduced control of, the aeroplane.

To address this potential unsafe condition, Rolls-Royce issued the NMSB to provide inspection instructions.

Due to another reported incident, where total loss of the interstage bolts has been observed, EASA has decided to publish the Final AD before the end of the PAD (22-115) consultation period. Circumstances and detailed information about the event are expected to be provided by the investigating authority. The information provided so far suggests the same failure mechanism as addressed by the NMSB inspection. Therefore, Rolls-Royce has requested that EASA publish the inspection instructions (NMSB) for wider accessibility, to avoid any further events.

For the reasons described above, this AD requires repetitive inspections of HP turbine Stage 2 intermediate air seal and attachment bolts and, depending on findings, replacement of parts.

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

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) For Group 1 engines: Within 50 flight cycles (FC) or 2 months, whichever occurs first after the effective date of this AD, and, thereafter, at intervals not to exceed 500 FC or 12 months, whichever occurs first, inspect (on-wing or in-shop) the HP turbine Stage 2 intermediate air seal and attachment bolts in accordance with the instructions of section 3 of the NMSB.
- (2) For Group 2 engines: Within the compliance time specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 2 000 FC or 24 months, whichever occurs first, inspect (on-wing or in-shop) the HP turbine Stage 2 intermediate air seal and attachment bolts in accordance with the instructions of section 3 of the NMSB.

Table 1 – Group 2 Initial Inspection

Compliance Time (whichever occurs later, A or B)	
A	Before exceeding 10 000 FC accumulated by HP turbine Stage 2 intermediate air seal bolts since first installation on the engine
B	Within 1 000 FC or 12 months, whichever occurs first after the effective date of this AD



Corrective Action(s):

- (3) If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, discrepancies are detected (as defined in the NMSB), before next flight, or before release to service of the engine, as applicable, replace all damaged parts in accordance with the instructions of section 3 of the NMSB.

Terminating Action:

- (4) None.

Ref. Publications:

Rolls-Royce Alert NMSB TAY-72-A1797 original issue dated 02 August 2022.

The use of later approved revisions of the above-mentioned document 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 18 August 2022 as PAD 22-115 for consultation until 15 September 2022. No comments were received during the (shortened – see Reason section) consultation period. A copy of the NMSB 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.
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: Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, Dahlewitz, 15827 Blankenfelde-Mahlow, Germany, Telephone: + 49 33708 6 3500, E-mail: DWOSD@rolls-royce.com.

