

## Airworthiness Directive

**AD No.:** 2020-0124

**Issued:** 29 May 2020

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, 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 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 1000 engines

**Effective Date:** 12 June 2020

**TCDS Number(s):** EASA.E.036

**Foreign AD:** Not applicable

**Supersedure:** None

**ATA 73 – Engine Fuel and Control – Fuel Pump – Replacement [Life Limitation]**

**Manufacturer(s):**

Rolls-Royce plc

**Applicability:**

Trent 1000-D2, Trent 1000-J2 and Trent 1000-K2 engines, all serial numbers.

These engines are known to be installed on, but not limited to, Boeing 787 aeroplanes.

**Definitions:**

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

**The NMSB:** Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) TRENT 1000 73-AK581. The NMSB has an 'A' (Alert) in the number, but a later revision may not have that 'A'. This kind of change does not effectively alter the publication references.

**Affected part:** Fuel pumps, having Part Number (P/N) G5030FPU01.

**Serviceable part:** Any fuel pump which is not an affected part; or an affected part which has not exceeded the applicable life limit as identified in the NMSB.

**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.



**Reason:**

An unexpected reduction in fuel pump performance has been seen during testing of high life units. Strip examination of these fuel pumps has identified that life related wear-out of the internal components is causing deterioration in pump efficiency. The effect of the loss of fuel pump efficiency is more pronounced on higher rated engines.

This condition, if not corrected, could lead to reduced engine thrust, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, Rolls-Royce published the NMSB to provide instructions for replacement of the affected parts before exceeding reduced life limits.

For the reasons described above, this AD requires removal from service of the affected parts.

This AD is considered an interim action and further AD action may follow.

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

Required as indicated, unless accomplished previously:

**Life Limit Implementation:**

- (1) For Group 1 engines, all ratings: Before an affected part exceeds the applicable life limits, as specified in section 1.D.(2) of the NMSB, remove that affected part from service and install a serviceable part in accordance with the instructions of the NMSB.
- (2) For Group 1 engines, D2 rating only: Before an affected part exceeds the life limits, as specified in section 1.D.(3) of the NMSB, remove that affected part from service and install a serviceable part in accordance with the instructions of the NMSB.

Note 1: The NMSB contains an Appendix, listing some fuel pumps that have undergone sufficient repair which qualifies them as overhauled. The life since overhaul for these parts can be calculated, as specified in the NMSB, for compliance with this AD.

**Part Installation:**

- (3) For Group 1 and Group 2 engines: From the effective date of this AD, it is allowed to install on any engine an affected part, provided it is a serviceable part, as defined in this AD, and that, following installation, the affected part is replaced as required by paragraph (1) or (2) of this AD, as applicable.

**Ref. Publications:**

Rolls-Royce Trent 1000 Alert NMSB 73-AK581 original issue dated 12 May 2020.

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 13 May 2020 as PAD 20-079 for consultation until 27 May 2020. 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 Programming and Continued Airworthiness 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](#).
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**.

