

The NMSB: Rolls-Royce Trent 900 Non-Modification Service Bulletin (NMSB) RB.211-73-AK615.

Reason:

Rolls-Royce put in place a fuel pump life management policy (Trent 900 NMSB RB.211-73-H310) to mitigate the loss of servo pump flow performance, which resulted in low servo system pressures after engine shutdown and before engine ignition at engine start. This was addressed by Rolls-Royce Trent 900 SB RB.211-73-J319. Since then, however, pump performance and windmill relight flow shortfall concerns remained at high life of the pump. Investigation has shown that this is due to main pump cavitation damage, progressive loss of fuel pump flow performance being caused by cavitation erosion of the high-pressure gear stage bearing bridge.

This condition, if not corrected, could lead to engine thrust shortfall, or insufficient fuel flow for an in-flight windmill relight in the event of a multi-engine flameout, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, Rolls-Royce issued the NMSB to introduce life limits for the affected parts.

For the reason described above, this PAD proposes to require removal from service of all affected parts before exceeding the applicable life limit. This PAD also proposes conditions for installation of affected parts.

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

Required as indicated, unless accomplished previously:

Replacement:

- (1) In-shop: During the next engine shop visit after the affected part has exceeded 11 500 FH, before release to service of the engine, replace the affected part with a serviceable part in accordance with the instructions of the NMSB. For an engine that, on the effective date of this AD, is in a shop visit and the affected part has exceeded 11 500 FH, replace the affected part before release to service of that engine.
- (2) On-Wing: Within the compliance time specified in Table 1 of this AD, as applicable, replace the affected part with a serviceable part in accordance with the instructions of the NMSB.

Table 1 – Affected Part Replacement On-Wing

| FH Accumulated (on the effective date of this AD) | Compliance Time |
|---|--|
| 13 200 FH or less | Before exceeding 15 000 FH |
| more than 13 200 FH | Within 1 800 FH after the effective date of the AD |

- (3) For certain P/N 1703697G post-SB RB.211-73-J319 fuel pumps, identified in Appendix 1 of the NMSB, within 30 days after the effective date of this AD, adjust / calculate the FH of the affected part in accordance with the instructions of the NMSB; thereafter, within the compliance time specified in paragraph (1) or Table 1 of this AD, as applicable, replace the affected part with a serviceable part in accordance with the instructions of the NMSB.



Parts Installation:

- (4) 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.

Ref. Publications:

Rolls-Royce RB211 Trent 900 NMSB RB.211-73-AK615 original issue dated 16 November 2022.

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 15 December 2022.
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**.

