



Airworthiness Directive

AD No.: 2019-0113

Issued: 24 May 2019

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):

RB211 Trent 900 engines

Effective Date: 01 June 2019

TCDS Number(s): EASA.E.012

Foreign AD: Not applicable

Supersedure: None

ATA 73 – Engine Fuel & Control – Engine Electronic Control Software – Update

Manufacturer(s):

Rolls-Royce plc

Applicability:

RB211 Trent 970-84, 972-84 and 972E-84 engines, all serial numbers (ESN).

These engines are known to be installed on, but not limited to, Airbus A380 aeroplanes.

Definitions:

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

Where, in this AD, reference is made to a Rolls-Royce mod, Service Bulletin (SB) or Non-Modification SB (NMSB) 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.

The SB: Rolls-Royce Trent 900 SB RB.211-73-K110.

Affected SW: Engine electronic controller (EEC) software (SW) version 12.2, Part Number (P/N) RRY22-0122-380A, and earlier versions and P/N.



Serviceable SW: EEC SW version 12.3, P/N RRY23-0123-380A, or later version and P/N.

Groups: Group 1 engines are those that have an EEC with affected SW installed.

Group 2 engines are those that have an EEC with serviceable SW installed. An engine having ESN 91580 or higher is a Group 2 engine.

Reason:

Rolls-Royce has developed EEC SW version 12.3 in order to improve the Trent 900 intermediate pressure (IP) turbine over-speed system (IPTOS). As part of the risk mitigation actions to respond to different in-service occurrences, Rolls-Royce assumed a certain in-service incorporation rate for this new SW version. In case the expected incorporation rate is not met, insufficient protection may exist against IP shaft failure.

This condition, if not corrected, could lead to IP turbine disc burst and high-energy debris release, possibly resulting in damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, Rolls-Royce published the SB, providing instructions to install the new SW.

For the reasons described above, this AD requires updating the EEC SW.

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

Required as indicated, unless accomplished previously:

SW Update:

- (1) For Group 1 engines: Within 3 months after the effective date of this AD, update the EEC SW in accordance with the instructions of the SB.

Engine / EEC installation:

- (2) After expiry of the compliance time of this AD, it is allowed to install an engine or EEC with affected SW on an aeroplane, provided that, before first operation of that engine, the engine or EEC, as applicable, is modified by installing serviceable SW, as defined in this AD, in accordance with the instructions of the SB.

SW Upload / Installation:

- (3) Do not operate any engine having an EEC with affected SW installed, and do not upload affected SW on any EEC, as required by paragraph (3.1) or (3.2) of this AD, as applicable.

(3.1) For Group 1 engines: After modification of the engine as specified in paragraph (1) of this AD.

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

EEC SW Intermixing:

- (4) From the effective date of this AD, do not intermix EEC SW 12.3 on an aeroplane with SW standards earlier than EEC SW 12.2.



Ref. Publications:

Rolls-Royce Trent 900 SB RB.211-73-K110 original issue dated 01 February 2019, or Revision 1 dated 13 March 2019.

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 02 May 2019 as PAD 19-076 for consultation until 16 May 2019. 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.
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 http://www.rolls-royce.com/contact/civil_team.jsp identifying the correspondence as being related to **Airworthiness Directives**.

