



## Airworthiness Directive

**AD No.:** 2017-0217

**Issued:** 08 November 2017

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

### Design Approval Holder's Name:

ROLLS-ROYCE DEUTSCHLAND Ltd & Co KG

### Type/Model designation(s):

Tay 650-15 and Tay 651-54 engines

**Effective Date:** 22 November 2017

**TCDS Number(s):** EASA.E.063

**Foreign AD:** Not applicable

**Supersedure:** None

### ATA 72 – Engine – Low Pressure Compressor Fan Blades – Identification / Replacement

#### Manufacturer(s):

Rolls-Royce plc.

#### Applicability:

Tay 650-15 and Tay 651-54 engines, all manufacturer serial numbers (s/n), equipped with low pressure compressor (LPC) module M01300AA or M01300AB.

#### Reason:

Fractures of LPC fan blade retention lugs were reported on engines subjected to a high number of Dry Film Lubrication (DFL) treatments. Subsequent investigation determined that this had exposed the retention lugs of the affected LPC (fan) blades to excessive high stress cycles.

This condition, if not detected and corrected, could lead to failure of LPC fan blade retention lug(s), high vibration, reduced thrust or in-flight shut down, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, Rolls Royce Deutschland (RRD) issued Alert Non-Modification Service Bulletin (NMSB) TAY-72-A1833 (hereafter referred to as 'the NMSB') to provide identification and replacement instructions.



For the reasons described above, this AD requires determination of number of DFL treatments applied to the LPC fan blades and, based on that determination, fan blades replacement. This AD also introduces a maximum allowable number of DFL treatments applicable to the LPC fan blades.

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

Required as indicated, unless accomplished previously:

Note 1: Group 1 engines are those equipped with a LPC fan blade identified by Part Number (P/N) JR31911, P/N JR33865, or P/N JR33866, and having an s/n listed in Appendix 1 of the NMSB. Group 2 engines are all other engines.

#### Determination:

- (1) For Group 1 and Group 2 engines: Within 30 days after the effective date of this AD, determine the number of applications of DFL treatment on each LPC fan blade by reviewing the engine maintenance records or using an alternative method specified in, and in accordance with, the instructions of the NMSB.

#### Corrective Action(s):

- (2) If it is determined, as required by paragraph (1) of this AD, that the number of DFL treatments is less than 13, during the next LPC fan blade removal after the effective date of this AD, identify the affected LPC blade by applying a specific suffix code mark on the blade dovetail root in accordance with the instructions of the NMSB.
- (3) Group 1 engines, and those Group 2 engines for which the maintenance programme includes scheduled DFL treatment: If it is determined, as required by paragraph (1) of this AD, that the number of DFL treatments is 13 or more, but less than 20, within 500 flight hours (FH) after the effective date of this AD, accomplish the applicable corrective action(s) in accordance with the instructions of the NMSB, to ensure that no LPC fan blade with 13 to 19 (included) DFL treatments is installed on more than one engine on the same aeroplane.
- (4) If it is determined, as required by paragraph (1) of this AD, that the number of DFL treatments is 20 or more, within 500 FH after the effective date of this AD, remove each affected LPC fan blade from service and replace it with a serviceable part in accordance with the instructions of the NMSB.
- (5) For Group 2 engines for which the maintenance programme includes DFL treatment: Within 30 days after the effective date of this AD contact RRD for approved instructions and, within the compliance time indicated in those instructions, accomplish those instructions accordingly.

#### Parts Installation:

- (6) From the effective date of this AD, it is allowed to install on any engine an affected LPC fan blade, or an LPC module M01300AA or M01300AB, or to install an engine, equipped with an affected LPC fan blade or LPC module M01300AA or M01300AB, on an aeroplane, provided that the LPC fan blade passed an assessment and identification in accordance with the instructions of the NMSB, and that, following installation, the LPC fan blade is replaced before exceeding 12 DFL treatments.



- (7) From the effective date of this AD, do not install on any engine an LPC fan blade that has received 13 DFL treatments or more.

**Ref. Publications:**

RRD Alert NMSB TAY-72-A1833 original issue dated 18 September 2017.

The use of later approved revisions of this 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 29 September 2017 as PAD 17-133 for consultation until 27 October 2017. 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 Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. 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 (0) 337086 1200, E-mail: [rrd.techhelp@rolls-royce](mailto:rrd.techhelp@rolls-royce).

Superseded

