



## COMMENT RESPONSE DOCUMENT

EASA PAD No. 16-173

[Published on 15 December 2016 and officially closed for comments on 29 December 2016]

### Commenter 1: Ethiopian Airlines – Shimelis Dejene – 20/12/2016

#### Comment # 1

Ethiopian Airlines currently operating 6 Trent 1000 engines. Two engines have time until the end of January 2017. The other four engines have time until the end of April 2017 and we have time to plan. The problem will be in April, when we might have 6 engines to be inspected including the ones planned be inspected in January will reach to the next inspection interval. I just want you draw your attention to the following points based on AD and Alert SB. So, I comment for the increase of at least the next inspection intervals based on findings of the consecutive inspections after the industry service experience to be consideration and even the availability of spare engines even at the manufacturer level.

#### EASA response:

*Comment understood, but not agreed. The safety analysis and risk assessment resulted in the inspections thresholds and intervals, as specified in the NMSB. The normal practice to allow AD compliance time extension – which is what the commenter indicates – is to request an approval for that from the State of Registry authority of the affected aircraft. See our [AD FAQ](#) on this subject.*

*No changes have been made to the Final AD in response to this comment.*

### Commenter 2: Air New Zealand – Logan Horrell – 22/12/2016

#### Comment # 2

With the recent release of EASA PAD # 16-173 issued 15 December 2016 pertaining to “ATA 72 - Engine - Intermediate Pressure Compressor Rotor Seal - Inspection”, Air New Zealand understand the intent of the AD is to mandate the inspection of IP Compressor Rotor Seals of part number KH19098 standard for identification of cracks initiated during pass off testing. However, in order to ensure that the crack initiates only on pass off testing, the replacement of the IPC Rotor Seal part number KH19098 does not constitute terminating action for the repetitive inspections required by paragraph (1) of this AD.



With the current wording stated in the applicability of the AD, 'Terminating Action: Paragraph (6)' will require operators to inspect not only RR Trent 1000 Package C engines fitted with part number KH19098 standard of IPC Rotor Seal, but also any engines fitted with a new design of IPC Rotor Seal of which is not susceptible to flutter induced by heavy rub and high air flow around the IPC Static and Rotor seal during pass off.

If this is not the intent of the AD, Air New Zealand wish to request consideration and if agreed amendment of the AD applicability to state:

"Trent 1000-A2, Trent 1000-C2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, Trent 1000-L2, Trent 1000-AE2 and Trent 1000-CE2 engines, all serial numbers fitted with part number KH19098 standard of IPC Rotor Seal."

**EASA response:**

***Comment partially agreed. The intent of the AD is to inspect only engines with an 'affected part' installed. Those that do not – at this time – have an 'affected part' installed are included in the Applicability for the reason that such a part can be installed later. At this time, no 'terminating action' modification is available for engines with an 'affected part' installed. The Final AD has been amended to clarify this aspect, without changing the Applicability.***

**Commenter 3: All Nippon Airways Co., Ltd. – Toshiki Ito – 28/12/2016**

**Comment # 3**

A. ANA would like to confirm the intention of "Repetitive inspections (1)". This EASA PAD says that accomplish an on-wing borescope inspection of the affected seal in accordance with the instructions of Section 3, Part A (front face) of the NMSB, and/or, depending on findings (see Figure 1 of the NMSB), Part B (rear face) of the NMSB, as applicable.

Does this intend either (a) or (b)?

(a) Accomplish the Part A (front face) and to accomplishing depending on findings, Part B (rear face), or

(b) Accomplish the Part B (rear face).

B. ANA would like EASA to approve to use tools (Tool No, RRT029542-1 and RRT029541, RRT026594, HU43262) described in AMM task (R72-31-13-00A-520A-A, R72-31-13-00A-720A-A) and EMM task (72-31-10-030, 72-31-10-430-801) to remove and install the fan disc bolt at the Part A (front face) inspection of NMSB 72-AJ467 as an alternative to the tools (Extension bar and breaking bar, breaking bar head, socket) described in NMSB72-AJ467. ANA has these tools and has experience using these tools to remove and install the fan disc bolt.

**EASA response:**

***A. ANA understanding is correct.***



**B. EASA confirms that ‘Protector’ RRT026594 is already called out in the published NMSB initial issue.**

*Similar feedback was received by RR during the ballot period of the NMSB and it was already agreed to consider introducing the method ANA requested (including the detailed tools) as an alternative to the method currently defined in the NMSB for removing the single fan bolt for front face inspection access at a future revision. As RR is now revising the NMSB to add other clarifications / improvement, the requested method, as well as the tooling, is expected to be embodied within that revision. The Final AD allows the use of accomplishment instructions contained in ‘later approved revisions’ (see Remarks section) of the NMSB.*

*No changes have been made to the Final AD in response to these comments.*

**Commenter 4: Virgin Atlantic Airways Ltd. – Mark Smyth – 28/12/2016****Comment # 4**

This PAD only mentions inspections IAW SB’s 72-J535 (shop) and 72-AJ467 (On Wing). Virgin Completed the inspections IAW TV 167516 and TV167348 prior to the SB’s being issued. We believe we should be able to take credit for the inspections completed IAW the TV’s.

The PAD states : The use of later approved revisions of the SB’s is acceptable for compliance with the requirements of the AD. If the AD cannot be changed, can the SB 72-AJ467 be reviewed to add the TV’s as a means of compliance the SB could be up issued quoting the TV as a means of compliance.

**EASA response:****Comment understood. Note that paragraph (5) ‘Credit’ states:****Credit:**

- (5) Inspections and corrective actions on an engine, accomplished before the effective date of this AD in accordance with the instructions of the NMSB (on wing), or that meet the intent of the NMSB, or RR NMSB TRENT 1000 72-J353 (in-shop), are acceptable to comply with the initial requirements of paragraphs (1) and (4) of this AD, for that engine.

*The wording ‘or that meet the intent of the NMSB’ in this paragraph enables operators to demonstrate (to the competent authority) that a specific RR TV meets the intent of the NMSB, and therefore equals compliance with the AD requirement.*

*No changes have been made to the Final AD in response to this comment.*

