

COMMENT RESPONSE DOCUMENT

EASA PAD No. 24-043

[Published on 12 April 2024 and officially closed for comments on 10 May 2024]

Commenter 1: Deutsche Lufthansa AG – Peter Brudler – 08/05/2024

Comment # 1

1. We are not satisfied with the content clarity of Special Procedure 15, which is a document referenced in the SB (see screenshot below). Special Procedure 15 describes the steps to follow for fan blades that were rejected by phased array inspection (on-wing inspection method).

NOTE: Common causes for fan blade rejections by phased array inspection are provided during training and details are included in the training video (DV231567) and the Operation, Maintenance, Storage and Disposal Manual.

- (1) LP compressor blades rejected from phased array inspection in accordance with Section 3.D should be clearly marked as reject. Mark the location of the rejection on the aerofoil surface.
- (2) The rejected LP compressor blades should be sent to an overhaul facility for further investigation in accordance with Special Procedure 15, Engine Manual Task 72-00-00-280-815.
- (3) Details of rejected LP compressor blades must be recorded in accordance with Fig.49 and Fig.50 of this NMSB 72-AH465, as applicable.
- (4) Copies of all sheets from Appendix 3 figures 47 to 50, as applicable, must accompany the rejected LP compressor blade to the overhaul facility.

From the shop point of view, the document should include a flowchart to make the interpretation of the different steps easier. This would help to prevent any interpretation errors, which is something relevant considering that this Special Procedure 15 is indirectly mandated by the incoming EAD via SB 72-AH465 R9.

2. In Appendix 3 Step 6 A. (11) a note is given that after 6 fan blades, the sensitivity is to be checked, in order to avoid a re-inspection of all 26 fan blades.

It is mentioned that in case of a new dB value within the tolerance is therefore established, it shall be continued with this new dB value.

Question:

What is to be done in case after every 6 fan blades the dB value differs in such way that there is a bigger deviation of more than +/- 1dB ?

Example:.



1) 24dB (Start value after 1st adjustment)

1. Insp after 6ea Blades à +0,5db à new insp neue Insp. Gain of 23,5dB
2. Insp after additional 6ea Blades à +0,5dB à new insp neue Insp. Gain 24dB (would be in limit)
3. Insp after additional 6ea Blades à +0,5dB à new insp neue Insp. Gain 24,5dB?

Would this value still in limit, as this vaule is within +/- 1dB to the previous limit acceptable or is the value not acceptable anymore as this value differs too much to the initial one ?

We are not confident how to do the interpretation in the SBE, Rev 09.

Screenshot:

(11) Repeat Appendix 3, section 4 for post inspection calibration. Record the post inspection calibration gains on Results Sheet in Fig.47 (100%, 100%+6dB with correction factor) and Fig.48 (100%, 100%+6dB with correction factor – 3dB) as applicable.

Post inspection gains from (steps 8 and 11) must be within ± 1 dB from their respective pre-inspection values. If the gain difference is larger than ± 1 dB, repeat the inspection procedure from Appendix 3, sections 3, 4 and 5 for all 26 blades.

NOTE: To avoid repeating the inspection of all 26 blades, a periodic sensitivity check is recommended.

- The check can be performed for blade batches of 6 using the working standard as instructed in Appendix 3, section 4, steps A.(3) to A.(8).
- If the new gain in steps A.(4) and A.(8) of Appendix 3, section 4 is within ± 1 dB from the previous values, the inspection shall be continued with the new inspection gain – from step A.(8) of Appendix 3, section 4 for suction side inspection, and – from step 4 of Appendix 3, section 5.B for the pressure side inspection. Otherwise, repeat the inspection procedure from Appendix 3, sections 3, 4 and 5 for this batch of 6 blades.
- Normalisation is not required during the periodic sensitivity check using the working standard but is required in the post-inspection calibration.

3. From our point of view the P/N and S/N are to be noted down far too often! This is time consuming with no additional benefit.

EASA response:



Comment noted: Deutsche Lufthansa AG raised a comment challenging the content of Revision 9 of RRD NMSB RB.211-72-AH465. The technical content of this Non-Modification Service Bulletin was approved under the authority of RRD Design Organisation Approval EASA.21J.035 and therefore EASA recommends submitting this comment to your Rolls Royce Service Representative. EASA considers that the comment does not compromise the intent and accuracy of the Fan Blade inspection, and do not compromise the safety objective achieved by the Final AD and NMSB RB.211-72-AH465.

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

