

## COMMENT RESPONSE DOCUMENT

EASA PAD No. 20-097

[Published on 25 June 2020 and officially closed for comments on 09 July 2020]

### Commenter 1: Boeing Asia Pacific Aviation Services – Lim Kim Heng – 02/07/2020

#### Comment # 1

Please note that the rating of the engines are re-rated occasionally, due to operational needs, which allow them to be fitted either on B787-8 or B787-9 [and] vice-visa. Appreciate, if you advise the following query, when handling this coming AD:

- A. With reference to SB 73-AK581 Rev 1, there was no life limit mention for the pump where it was fitted on G2 engine which is identified in the effectivity (added in this PAD). Does it mean that the pump fitted on G2 at the time of the AD being effective, can be used indefinitely? (no life limit).
- B. Item (2), stated in the PAD 20-097, mention that the rating at the effective date of this AD will determine the life limit for that pump, and its life limit remain even if there is a rating change on the engine. The question will be, if a fuel pump that at 15500FH fitted on J2 and the engine get re-rated or cannibalised to a G2 engine one day before the AD effective date, this pump will not have a life limit, is this correct? What is stopping an operator to transfer all high FH pump re-installed onto G2 engine and hence reduce the no. of pump needed to be replaced at the same time still complied with this AD.
- C. Please advise if there is a safety margin for those pump installed on G2 engine at the time of the AD being effective? Does it mean that the pump now do not have any life limit and it remain no limit even if it is transfer to J2 engines after the AD effective date?

#### EASA response:

- A. **Comment agreed. As long as an engine is operated at rating G2, the fuel pump life limit does not apply. However, if that engine (or the fuel pump) is operated at 'affected' rating D (which includes D/01 and D01A), D2, J2 or K2, the life limit applies. If, at the time of re-rating to any of these 'affected' ratings, the pump has reached or exceeded the limit, it must be replaced before operation of the engine. The Final AD has been amended to make this clear.**
- B. **Comment not agreed. See EASA answer to point A. above. If the fuel pump is moved from any 'affected' rating engine to another engine (i.e. other ratings as specified in the AD Applicability) and continues to be operated at other ratings, the life limit does not apply and will therefore not**



*be exceeded. However, as soon as the engine is operated at any of the 'affected' ratings, or the pump installed and operated on an 'affected' rating engine, the fuel pump life limit must be applied again.*

*Paragraph (2) of the AD has been amended to explain these principles.*

*C. Comment noted. See EASA answer to points A. and B. above.*

**Commenter 2: Singapore Aero Engine Services Private Limited – Malek Abdul Aziz – 03/07/2020**

**Comment # 2**

The Applicability paragraph states all Trent 1000 Pack B and C ratings. However in NMSB 73-AK581, the effectivity paragraph states Trent 1000-D, D/01, D/01A, D2, J2 and K2 only. The life limits for the Fuel pumps given in the SB is also for the few ratings only. How do we account for the life-limit of other ratings not mentioned in the AD?

**EASA response:**

*Comment noted. The AD applies to the engines for which installation of the affected fuel pump is eligible. Any of these engines can be operated with rating D, D/01, D01A, D2, J2 or K2. During such period(s), the fuel pump life limit must be taken into consideration to determine compliance with the AD. See also EASA answer to Comment #1, points A. and B. above.*

**Commenter 3: All Nippon Airways – Yotaro Morioka – 08/07/2020**

**Comment # 2**

- A. In Applicability section, it seems to be typo Trent100-AE on Applicability. It should be Trent1000-AE.
- B. In Reason section, could you please change "all Trent 1000 models" to "applicable Trent 1000 models"? For example, in applicability section, Trent 1000-D3 is not included so it is not all Trent 1000 models.

For the reason described above, this AD retains the requirements of EASA AD 2020-0124, which is superseded, expands the Applicability to include all Trent 1000 models (ratings) and requires implementation of the new and reduced life limits.



C. In Required Action(s) and Compliance Time(s) (2) section, could you please add more clear explanation? I write case 1) and case 2) on below so could you please advise?

- 1) In case Fuel Pump convert from Trent 1000 D2 to Trent 1000 H2, we should keep Trent 1000 D2 threshold or apply Trent 1000 H2 threshold. Which is correct?
- 2) In case Fuel Pump convert from Trent 1000 H2 to Trent 1000 D2, we should keep Trent 1000 H2 threshold or apply Trent 1000 D2 threshold. Which is correct?

**Engine Model (Rating) Change:**

- (2) The rating (model) of the engine as it is on the effective date of this AD determines whether any (and which) life limit applies. Changing the rating of an engine after the effective date of this AD does not affect compliance with this AD, unless the new rating, if specified in section 1.D.(2) of the NMSB, introduces a different or new life limit for the affected part.

**EASA response:**

- A. Comment agreed. The Final AD has been amended to correct the typographical error.**
- B. Comment agreed. The Final AD has been amended to refer to 'additional' models.**
- C. Comment noted; in case 1, when changing from D2 to H2, the life limit does not apply anymore, as long as the engine is operated at H2 rating. In case 2, when changing from H2 to D2, the life limit applies. Paragraph (2) of the AD has been amended for clarification.**

