

## COMMENT RESPONSE DOCUMENT

EASA PAD No. 19-009

[Published on 21 January 2019 and officially closed for comments on 18 February 2019]

### Commenter 1: RUAG Schweiz – RUAG Schweiz – 21/01/2019

#### Comment # 1

I work in a Diamond Service Center as planner and as Airworthiness Review Staff and my opinion is that this AD is not necessary.

The Part M already requires to review the AMP every year.

Since AustroEngine revised the ALS (EMM chapter 4), the owners (or their CAMO) have anyhow to incorporate the new life limit for timing chain and for the injectors.

Who will performed the Airworthiness Review of affected aircraft will check if the AMP is updated, since is one of his duties as ARS.

Otherwise we will have ADs for every interval change in the AMMs.

#### EASA response:

**Comment not agreed. The AD requires to accomplish all task included in the ALS, before exceeding their due date. This is required from the effective date of the AD, even before the AMP is amended and approved. A detailed explanation why EASA issues AD to mandate ALS revision is available in the EASA Website – Frequently Asked Questions, more specifically “Why does EASA issue ADs for Airworthiness Limitations Section (ALS) tasks?” at this <https://www.easa.europa.eu/faq/23797>.**

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

### Commenter 2: Ethiopian Airlines – Shimelis Dejene– 29/01/2019

#### Comment # 2



The reason for the issuance of this PAD is to handle the cases of premature engine timing chain and for the fuel injectors. As a precautionary action it is prescribed a time limit for the components. It is being told by Austro Engine that investigation is ongoing and the respective Service Bulletin which will MSB-E4-025-r1 will be revised pending further investigation results.

Ethiopian is operator in harsh environment and one of high altitude airports in the world. Irrespective of such, Ethiopian didn't face any significant failures on any of the 17 AE300 engines being operated including engines that have been operated beyond the conservative threshold set for the Scheduled Injector Replacement by the SB. The only case the that Austro Engine has recommended us to recommend to perform a compression check and change the injectors for trouble shooting was the case of ET-AOH, which reported by pilots as "RPM oscillation above and below the normal limit & Engine load drop to 70 % during full power setting" on Wednesday, October 11, 2017. Even this was from seal failures imparting oil forming coke.

Based on this , I would like to request the technical substantiation that has let Austro Engine/EASA to prescribe a time limit for the timing chain and for the fuel injectors. In addition, I would like to request EASA to provide us the quantified probability of the failure rate based on the your data. I attached the inventories of Ethiopian fuel injectors with utilization to aid my cause.

Once again, I would like to request EASA to escalate to the Time Limits / Maintenance Checks being proposed and eagerly waiting your feedback.

**EASA response:**

**Comment not agreed. EASA cannot provide the data requested, which contains propriety data. No changes have been made to the Final AD in response to this comment.**

**Commenter 3: URBE AERO GMBH – Stefan Ennengel – 08/02/2019**

**Comment # 3**

The compliance time of Austro Engine Temporary Revision (TR) MM-TR-MDC-E4-454 dated 03 October 2018 and time of compliance described in Mandatory Service Bulletin (MSB) MSB-E4-025/3 dated 09.Jan.2019, especially the compliance time now for the new life limitation of the **Fuel injectors with more than 900FH at date of issuance**, seems not clearly described within the PAD or can be misunderstood or misleading.

It's understood now that Mandatory Service Bulletin (MSB) MSB-E4-025/3, dated 09.Jan.2019, which is referenced under the definitions of this AD and **gives clearly intervals for Injectors with more the 900FH** can be used as acceptable method of compliance of this AD. Therefore, the approved AMP must be revised, within 12 months of issuance of the AD, to include these new limitations of the fuel injectors and using the intervals described within Austro Engine MSB-E4-025/3 dated 08 January 2019 as part of the to be approved AMP. This is an acceptable method of compliance to fulfil the requirements per Paragraph Required Action (s) and Compliance Time(s) of the new AD and using within the AMP the intervals given for injectors with more than 900FH as per MSB-E4-025/3 can be considered as **no deviation to the TC Holder s ICA's**.



Please confirm we understood the PAD 19-009 correctly or please clarify. If we did understand the PAD not correctly kindly ask you to consider noting additionally the compliance time of Mandatory Service Bulletin (MSB) MSB-E4-025/3, dated 09.Jan.2019 as acceptable means of compliance **for Injectors with more than 900FH** to be in compliance with the new AD.

**EASA response:**

*Comment noted: the AD actually requires implementation of the life limits as identified in the ALS (i.e., the TR MM-TR-MDC-E4-454 and the MSB-E4-025/3) from the effective date of the AD.*

*Example 1: a fuel injector, having 750 FH on the effective date of the AD, must be replaced before exceeding 150 FH from the effective date of the AD.*

*Example 2: a fuel injector, having 820 FH on 01 October 2018, must be replaced before exceeding 1150 FH since new, but not later than 01 October 2019 (ref. MSB-E4-025/3 section 1.4, which is acceptable as stated in Note 1 of the AD).*

*In both cases, the replacement must be accomplished even if the AMP has not yet been updated as required by paragraph (2) of the AD.*

*The AD also requires updating the AMP within 12 months after the effective date of the AD.*

*Additional information are available in the EASA Website – Frequently Asked Questions, more specifically “Why does EASA issue ADs for Airworthiness Limitations Section (ALS) tasks?” at this [link](#).*

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

**Commenter 4: Austrocontrol – Mark Wrathall – 29/01/2019**

**Comment # 4**

There seems to be a conflict between the PAD saying the Timing chain must be removed at 900, and AD 2017-0103 paragraph 4 which says a timing chain can be 945H old at engine installation.

**EASA response:**

*Comment agreed. AD 2017-0103 has been revised, removing the engine timing chain replacement requirement now addressed by this new AD. The final AD has been updated accordingly, removing the credit paragraph (paragraph (3) of PAD 19-009).*

