


EASA	COMMENT RESPONSE DOCUMENT
	EASA PAD No. 13-166 [Published on 13 November 2013 and officially closed for comments on 11 December 2013]

Commenter 1: Cathay Pacific (Dragonair) – Joe Chu – 20.11.2013

Comment # 1

1. Paragraph 5 and Paragraph 8 - contradiction on the requirement for THSA which has accumulated or exceeded 67 500FH since its first installation. Paragraph 5 mandates a “do not installation” requirement while paragraph 8 mandates a “installation with condition” requirement.
2. Paragraph 8 - The inspection requirement and FH/FC limit since first installation when a THSA having accumulated or exceeded 67 500 FH is installed after it has been modified /inspected in accordance with Airbus approved aeroplane modification instructions.
 - a. Does the FH/FC since first installation of this specific THSA reset to “zero” after the modification /inspection in accordance with Airbus approved aeroplane modification instructions and that it is allowed to continue to be in service for a further 48000FH until the SDI test fails.
 - b. If “no” from a., does the THSA continue the service with the existing FC/FH since first installation and it must be replaced within 12 months after the effective date of this AD?
 - c. Will it be the subjected to the Compliance Time limit as per table 1 of the PAD?
 - d. Will it be the subjected to the Repetitive SDI intervals limit as per table 2 of the PAD?

EASA response:

1. **Comment agreed. Paragraph (5) is deleted and paragraph (7) of the Final AD [was: paragraph (8) in the PAD] has been amended accordingly.**
 2. **Answers as follows:**
 - a. **These Airbus instructions are not yet available and the benefit in terms of FC or FH is not yet determined.**
 - b. **No reset to zero is anticipated, THSA total FC and FH will have to be tracked.**
 - c. **Not yet determined.**
 - d. **Not yet determined. As soon as the modification procedure will be available, this AD is expected to be revised accordingly. The objective of this AD is to remove from service parts that have exceeded 67 500 FH, not to scrap these parts at first stage but to anticipate profit of the modification procedure when available.**
- No changes have been made to the Final AD in response to the No.2 (a. through d.) comments.**

Commenter 2: Lufthansa Technik AG – Henning Jochmann – 27.11.2013**Comment # 2**

After analyzing the PAD 13-166 Lufthansa has some general remarks concerning §5 and §8 of the actual PAD Version 13-166. In §5 the PAD postulates: “From effective date of this AD, do not install on any aeroplane a THSA having accumulated or exceeded 67 500 FH since first installation on an aeroplane”.

This §5 is contrary to §8. Because in §8 it is allowed to install a THSA which have accumulated or exceeded 67 500 FLH provided the THSA has been modified/inspected in accordance with the dedicated approved documents. The PAD must become clearer in §5 (maybe with a reference to §8).

Please be informed, that §8 is the most important aspect for all airlines around the world. So please update this PAD to make absolutely clear, that installation of a THSA having accumulated or exceeded 67 500 FLH is allowed under the defined circumstances and please make sure, that §5 and §8 are not contradictory.

EASA response:

Comments agreed. See answer to comment #1, point 1. above.

Commenter 3: Air France – Patrick Theodet – 29.11.2013**Comment # 3**

Please find below AIR FRANCE comments on PAD 13-166, relative to THSA inspections.

AA - SB A320-27-1227 introduces several inspection, with specific threshold/intervals, according to THSA ageing. Those inspections are already incorporated in the MRBR, with different intervals.

Question: Does the Agency contemplate to mandate MRBR evolution, to make it match with AD / SB requirements ?

BB - THSA tracking data.

AD related to THSA will now require full THSA traceability data. AD 2012-0175 for lower spline inspections corrosion has led to check and ensure of correct calendar day tracking. So far, no other criteria has mandated full FH / FC traceability. AFR manage 396 THSA, for its own fleet as well as for customers. Obviously, FH and FC are recorded and tracked, for each serial number. The release of an AD based on these parameter will introduce the need for an exhaustive check, to ensure of data coherence. It is of course understood that, in case of lack of traceability, AIRBUS SIL 05.009 introduces calculation rules to rebuilt history.

Comment: Due to the number of THSA to be checked for history accuracy, AFR expects to use the SIL rules on a very last chance basis, for cost effectiveness. AFR quantifies time needed to rebuilt/check full THSA history to 3 months from now. Whereas it is noted in the PAD that a 4 months grace period is granted in table 1 and 2, AFR suggests however in addition, that the AD release date (or effective date) could take into account the time required to complete the history analysis.

EASA response:

AA – It is neither contemplated to change, nor to mandate MRBR task, in order to match with SB instruction i.e. AD requirements. In fact, this AD is expected to have a limited validity, because it is the first step in the determination of a THSA life limit or overhaul by a determined amount of FH and/or FC. Once determined, this THSA life limit or time-between-overhaul will be mandated (directly by AD or through an ALS revision), and the current AD will then be superseded. To ease integration of maintenance activities, Airbus will certainly consolidate different maintenance source requirements (AD & MRBR)

within the Maintenance Planning Document (MPD).

BB – This AD was published as PAD on November 13, 2013. Airbus SB A320-27-1227 (original issue) was published in July 2013. As such, EASA considers that operators have been given sufficient time.

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

Commenter 4: UTC AEROSPACE SYSTEMS – Clara Moreira – 03.12.2013

Comment # 4

On behalf of United Technologies Corporation Aerospace Systems (UTAS), please note that we would like to comment on the Proposed AD 13-166 during its timing for open public consultation.

- A. For Item 1), we would like to propose simplified wording as follows: “*Within 4 months after the effective date of this AD, and for all THSA that have accumulated more than 48 000 flight hours (FH) or 30 000 flight cycles (FC), whichever occurs first since first installation on an aeroplane, accomplish a special detailed inspection (SDI) of the THSA in accordance with the instructions of Airbus SB A320-27-1227 Revision 01. Repeat this SDI as per table 2*”.
- B. For item 3), we would like to propose simplified wording as follows: “*Within 12 months after the effective date of this AD, replace any THSA exceeding 67 500 FH since first installation, with a serviceable THSA in accordance with the instructions of Airbus SB A320-27-1227 Revision 01*”.
- C. For UTAS section 8) should be removed from this AD, as this contradicts with sections 3) & 5) that clearly state no unit above 67500 FH can fly after 13-Dec-2014.
- D. UTAS is design authority of the THSA, and has not issued any technical publication (VSB or CMM) that defines the inspection or the modification of the THSA which could allow its “installation on an aeroplane of a THSA having accumulated or exceeded 67 500 FH”.
- E. The THSA is on condition unit with no traceability required to operators so far. To help with difficulties for operators to assess life of units, Airbus has issued a Service Information Letter based on Monte-Carlo Counting Method (SIL 05-009) to assign a life to a component with incomplete history. We think it would be beneficial for EASA referencing this SIL in PAD 13-166.
- F. For your information, we have transmitted to Airbus detailed engineering analysis in regards of ageing of the THSA. This document demonstrates fatigue limit also in term of flight cycles for the lower attachment point, this has not been yet reflected in the Airbus SB A320-27-1227 published in July 2013, as the flight cycles threshold has not been yet reached by the fleet. We rely on Airbus to amend their SB to publish these FC limits in due time to get this limit reflected in a future revision of this Airworthiness Directive.

EASA response:

Comments partially agreed.

- A. The suggestion to amend the text of paragraph (1) is not accepted, as this does not conform to current EASA AD writing standards.**
- B. The suggestion to amend the text of paragraph (3) is not accepted. It should be noted the proposal does not take into account a THSA (either currently installed on an aeroplane, or held as spare) that will only exceed the 67 500 FC limit at any time after the 12 months since AD effective date. In that case, the replacement would be allowed when (or just before) reaching that limit, i.e. after expiry of the 12 months compliance time, hence the ‘whichever occurs later’. The text, as proposed by the commenter, does not conform to current EASA AD writing standards.**
- D. EASA is aware that, at this time, no approved THSA modification exists that would allow “installation on an aeroplane of a THSA having accumulated or exceeded 67 500 FH”. However, such a modification is anticipated and paragraph (7) of the Final AD [was: paragraph (8) in the PAD] takes that**

eventuality into account, hence the clear statement to 'contact Airbus to obtain the necessary approved modification instructions'.

E.. See answer to comment #3 above.

F. Activities are in progress by Airbus to finalize FC limitation for endurance aspect (completion expected not before 2015).

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

C. The suggestion regarding paragraph (8) is accepted. See also answer to comment #1, point 1. above.

Commenter 5: AVIANCA – Marcio Righi – 05.12.2013

Comment # 5

Regarding the instructions given at PAD 13-166, I would like to inform that paragraph 5 and 8 are disagreeing between each other.

Paragraph 5 prohibits the installation of THSA with more than 67500FH, while the paragraph 8 gives conditions for this installation. In addition of that, the paragraph 8 does not mention the exactly requirement, modification or maintenance procedure to support an installation of a THSA with more than 67500FH.

EASA response:

Comment agreed. See answer to comment #1, point 1. above.

Commenter 6: China Eastern Airlines Co. Ltd. – Ye Haoran – 11.12.2013

Comment # 6

Refer to PAD 13-166, CES has known EASA will introduce the repetitive inspections of the THSA and a life limit for the THSA. CES has some comments on it as below:

1. Does the special detailed inspection (SDI) required in paragraph (1) include the spectrometric analysis with the sample of oil collected? If Yes, it is difficult to replace the THSA before next flight because it will spend some days to get the result of spectrometric test.
2. Following the statement in paragraph (8), if the operator contacts AIRBUS to obtain the necessary approved modification instruction, can it constitute terminating action for the life limit for the THSA required in paragraph (5)? It is necessary the operator request EASA to approve the Alternative Methods of Compliance later?

EASA response:

1. *The SDI includes the spectrometric analysis with the sample of oil collected. Note that SB A320-27-1227 allows releasing THSA 4 months pending spectrometric analysis results. No changes have been made to the Final AD in response to this comment.*
2. *Comment agreed. See answer to comment #1 above.*