

COMMENT RESPONSE DOCUMENT

EASA PAD No. 19-093

[Published on 24 May 2019 and officially closed for comments on 21 June 2019]

Commenter 1: Oman Air – Saleh Amer Al Hajri – 26/05/2019

Comment # 1

Oman Air would like to highlight a concern in the wording of the PAD 19-093 “Corrective Action(s):” Paragraph 4 & 5.

1. De-activation & deferring replacement of components on a normal practice is done in accordance of the Operator approved MEL for both Hangar/ Base Maintenance Engineer and Line Maintenance Engineer. We have noticed that the PAD contained “in accordance with the instructions of the applicable SB.” This passage poses an administration problem for records and reference for Line Maintenance Engineer (LME), These Engineers do not refer to SB for daily Certificate of release of the flight. On the other hand, It is a common practice that they refer to the Approved MEL for discussion with pilots, to achieve concurrence and dispatch the flight in accordance with MEL shared engineering and flight operations restrictions. Should the engineer refer to an SB the pilot might not accept it as their department does not refer to SB in their normal practice and not responsible for it.

2. Should the aircraft be dispatched with de-activation of a component, the normal practice is that the approve MEL revision and step reference is mentioned in the Certificate of release of the flight (Aircraft Technical Log) once applied. This is then dissipated to all concerned departments to furnish all the necessary requirement to insure that the operational restriction such as ETOPS, RVSM, etc are taken into consideration for the next schedule, Engineering department to arrange ground time, parts and Labor to perform the part replacement to relief an MEL application.

Should the Certificate of release of the flight (Aircraft Technical Log) say that the defer replacement / De-activation done in accordance with the SB, the operator may lose the synchronization necessary to communicate the aircraft current status necessary to further maintain a safe operations, as other departments within the airline are not familiar with SB being a line maintenance reference for deactivation and replacement.

Thus we would like to re-emphasize the necessity of using the defer replacement / De-activation in accordance with Approved MEL or Temporary Revision MEL as advised by the SB A330-28-3132.

EASA response:

Comment acknowledged. EASA PAD 19-093R1 refers to the AOT for the source of the MMEL amendments. The amended MMEL procedures will only be applicable if a pump has been temporally deactivated (under approved MMEL) prior to replacement.

No changes have been made to the revised PAD in response to this comment.



Commenter 2: Singapore Air – Mohamed Khasrul – 28/05/2019**Comment # 2**

I would like to seek clarification on para (2) and Table 2 of PAD 19-093.

Depending on the FH accumulated by an affected part at affected B location on that specific date (in Table 2), inspect each affected part within 12 months after each specific date in Table 2.

Consider a scenario whereby the effective date is 01 June 2019.

Date	FH Accumulated by Affected Part	Compliance due (12 months from Date)
01 June 2019	50,000 or more	01 June 2020
01 December 2019	40,000 or more	01 December 2020
01 June 2020	30,000 or more	01 June 2021
01 December 2020	20,000 or more	01 December 2021

1. Based on table above, if an affected part accumulates 39,990 FH as of 01 December 2019, the compliance due will not be 01 December 2020 as it has not accumulated 40,000 FH or more. Instead it will be due on 01 June 2021. Please advise if this interpretation is correct.

2. Also, based on the above scenario, what is the compliance due if an affected part has not accumulated 20,000 FH as of 01 December 2020?

EASA response:

It was realised that compliance times for paragraph (2) as specified in EASA PAD 19-093 were too complex and it was decided to simplify them and now only refer to FH Accumulated by Affected Part on the effective date of the AD. The scenario of an affected part with less than 20 000 FH is also part of the new compliance times.

PAD 19-093 has been revised in response to this comment.



Commenter 3: HNA Aviation Technik Company – LEO – 29/05/2019**Comment # 3**

A. As for serviceable part, for the pumps have been inspected based on AOT A28L006-17 or installed according to the relevant AMM with inspection requirement of AOT before the effective date of this new AD, is that equal to the serviceable part as well? However, this sort of pumps was not mentioned in Definitions of serviceable part. We suggest that adding the applicable AOT in this Definitions of serviceable part.

B. As for Required Action(s) and Compliance Time(s)(2), the affected pump with TSN not reach 20000FH was not mentioned in table 2. Is that meant no inspection requirement for pumps below 20000FH at the effective date of this AD? If not, what should we do to this kind of pumps? what compliance time should be applied to this kind of pumps?

C. As for Required Action(s) and Compliance Time(s)(2), the different inspection threshold based on several ranking of TSN for pump, such as 50000FH, 40000FH, 30000FH and 20000FH. However, this arrangement on parts is hard to be fulfilled by fleet maintenance planning, especially for the real situation that one aircraft might fitted with different pumps with various TSN. So we intend to perform this one time inspection of location B for whole fleet within an uniform threshold, such as within 12 months after the effective date of this AD. In other word, some of pumps would be inspected in advance before the compliance time in table 2. For example, a pump with TSN 25000FH will be inspected within 12 months after the effective date of this AD. Is it acceptable to satisfy this AD? if yes, we hope a credit term might be added in AD regarding to this kind of cases.

EASA response:

A. Comment agreed. The reference of the AOT is now part of serviceable part Definition.

B Comment agreed. See second part of EASA answer to Comment #2.

C. Comment agreed. See first part of EASA answer to Comment #2.

PAD 19-093 has been revised in response to this comment.

Commenter 4: Aeroflot Russian Airlines – Anastasia Evdokimova – 29/05/2019**Comment # 4**

EASA issued PAD 19-093 that requires the Inspection of Affected Parts Installed at Affected B Locations [at the collector cell 121QA1(2), 122QA1(2), 100QA1(2)(3)(4) and 101QA1(2)(3)(4)] in accordance with paragraph (2) of this AD. However there is an ambiguity in how to apply the compliance time.



1. Could you please clarify how to apply Affected Parts Installed at Affected B Locations inspection compliance for the following examples (current FH Accumulated by Affected Part indicated below):

- Affected Part has accumulated 52,000 FH,
- Affected Part has accumulated 49,000 FH,
- Affected Part has accumulated 33,000 FH,
- Affected Part has accumulated 25,000 FH
- Affected Part has accumulated 16,000 FH?

2. Could you please inform what “specific date” in paragraph (2) do you mean, on which it’s necessary to calculate the FH Accumulated by Affected Part, to determine the compliance time of the inspection?

EASA response:

Comment acknowledged. See EASA answer to Comment #2.

PAD 19-093 has been revised in response to this comment.

Commenter 5: Sabena Aerospace Engineering – David Vercammen – 29/05/2019

Comment # 5

EASA PAD 19-093 refers to Airbus SB’s A330-28-3132, SB A340-28-4142 and SB A340-28-5062, all in their original issue.

Sabena had found that SB A330-28-3132 original issue contains incorrect configuration information for some A330-300 model aircraft, for example MSN 116, MSN 127 and MSN 231.

Airbus has been contacted concerning this issue. Per Airbus Tech Request Dossier nbr. 80629715, Airbus has confirmed the discrepancy for the related aircraft and as a consequence Airbus will provide Sabena Aerospace Engineering with an Airbus Technical Adaptation (TA).

The affected aircraft should belong to SB configuration 002, instead of configuration 001 as noted in SB A330-28-3132 R00.

Because the Proposed EASA AD 19-093 requirements cannot be complied with “as is” due to this discrepancy, Sabena Aerospace wishes to request EASA to include reference to the Airbus Technical Adaptation in the final EASA AD, in order to create a way to achieve compliance to the final EASA AD for the affected aircraft.



To date, the Airbus Technical Adaptation has not yet been received by Sabena Aerospace Engineering. Therefore we propose to provide the Airbus Technical Adaptation reference as soon as possible upon receipt.

Could EASA introduce the expected Airbus Technical Adaptation (TA) in the final EASA AD once it is received?

EASA response:

Comment not agreed. Airbus confirm that an SB revision will be published that would solve the issue covered at the moment by the TA.

No changes have been made to the revised PAD in response to this comment.

Commenter 6: Air France – Karim Patel – 29/05/2019

Comment # 6

According to EASA PAD 19-093, please consider the following , in paragraph (2) Table 2 – Fuel pump Inspection threshold for affected parts located at affected B locations :

I find that deadlines depending on FH accumulated by fuel pumps will be difficult to manage by operator/MRO, due to multiple positions on A/C, so possible different ageing.

I suggest that the most restrictive deadline should be applied.

That means Effective Date of this AD+12 months.

It will allow to cover all the part ageing, and, according to Airbus SB 28-3132 / 28-4142, if pump in case 3 without breakthrough is found, so a re-inspection within 30 months will be done.

For other cases (0, 1, 2), no more action required, as per SB instructions.

EASA response:

Comment agreed. See EASA answer to comment #3.



Commenter 7: Iberia – Carlos Marjaliza Fernández – 12/06/2019
Comment # 7

Re checking the subject PAD and the related AIRBUS associated SBs, we have some doubts on the fuel pumps inspection thresholds defined. This what is reflected in the PAD:

Inspection of Affected Parts Installed at Affected B Locations:

- (2) For Group 1 aeroplanes: Within 12 months after each date as specified in Table 2 of this AD, depending on the FH accumulated by an affected part located at affected B locations on that specific date, as applicable, inspect each affected part in accordance with the instructions of the applicable SB.

Table 2 – Fuel Pump Inspection Threshold for Affected Parts Located at Affected B Locations

Date	FH Accumulated by Affected Part
Effective date of this AD	50 000 or more
6 months after the effective date of this AD	40 000 or more
12 months after the effective date of this AD	30 000 or more
18 months after the effective date of this AD	20 000 or more

And this is what Airbus answered us some weeks ago:



In answer to your request related to Mandatory Service Bulletin 28-3132 (*Fuel - Boost Pump - Inspection for cavitation erosion damage*), Airbus would like to provide to Iberia the below information:

Please find below an example:

Milestone	T0	+6 months	+12 months	+18 months
Start Date	06.03.2019	06.09.2019	06.03.2020	06.09.2020
Target	All Pumps above 50 0000 FH at T0	All Pumps above 40 0000 FH at T0	All Pumps above 30 0000 FH at T0	All Pumps above 20 0000 FH at T0
Grace period	12 months Limit 06.03.2020	12 months Limit 06.09.2020	12 months Limit 06.03.2021	12 months Limit 06.09.2021
Resume for inspection scope	06.03.2019 To 06.03.2020	06.09.2019 To 06.09.2020	06.03.2020 To 06.03.2021	06.09.2020 To 06.09.2021

As said for pump under 20 000 FH at T0:

- soon 20 000 FH limit
 - inspection starts at + 18 months from 20 000 FH

- for maximum + 30 months (18 months + 12 months) from 20 000 FH

Airbus kindly request to fulfill ISB requirements. Note that above example is based on a T0 for 06.03.2019. T0 is in fact the AD issuance (not dispatched for now but expected soon).

We understand that in previous communication wording "right before grace period of 12 months" is somehow misleading and we regret burden. Intend is to say that even if AD is not released for now, there is no critical situation on Main Pumps cases and release date should occur soon.

The point is that what we understand from the PAD wording is that, at each specific date, we will need to check the fuel pumps TSN and inspect them within 12 months. This is not exactly what AIB answered us.

As it's difficult for me to explain our confusion, I would like to explain with an example:

- Effective date of AD: 06/03/2019
- Fuel pump TSN at effective date of AD: 38.000 FH
- Daily FH average: 15,5 FH/day
- As per AIB answer, the inspection timeline is: From 06/03/2020 (and not before) until 06/03/2021
- As per our PAD understanding, the inspection timeline is: From 06/09/2019 (and not before) until 06/09/2020. Explanation: At 06/09/2019, the fuel pump will have (based on daily average) $38.000 \text{ FH} + 15,5 \text{ FH/day} \times 180 \text{ days} = 40.790 \text{ FH} (>40.000 \text{ FH})$.



EASA response:

Comment acknowledged. See EASA answer to Comment #2.

PAD 19-093 has been revised in response to this comment.

Commenter 8: Cathay Pacific Airways – Peter Pang – 21/06/2019
Comment # 8

Cathay Pacific have reviewed the EASA Proposed AD issued on 24 May 2019, PAD No. 19-093, regarding the Airbus A330 Fuel system and would like to provide the following input.

- A. Paragraph 1 of the PAD requires “inspect each affected part at affected A locations in accordance with the instructions of the applicable SB”, however, the original inspection as per EASA AD 2017-0224 was performed as per Airbus AOT A28L006-17. Can credit for inspection performed as per Airbus AOT A28L006-17 under EASA AD 2017-0224 be claimed as satisfying compliance for this paragraph? If so, can language to this effect be added into the AD?
- B. Paragraph 2 requires inspection of affected B locations units in accordance with Table 2, Cathay would like to seek clarification if the inspection can be performed earlier than the stated intervals. Is it within compliance of the paragraph if all affected B locations units are inspected within the strictest time limit (12 months from effective date of this AD) regardless of accumulated FH? The current language of the paragraph implies that operators have to plan inspection inputs on units based on a rolling predicted accumulated FH at the 4 future dates. This requirement will be very difficult for operators to satisfy, having to schedule inspection on units to hit an exact FH window at a future date (for example a unit which will predictively accumulate 30000 FH 12 months after the effective date of the AD), as aircraft usage does often change due to operational requirements. If performing the inspection earlier than the interval stated in Table 2 is within compliance of this paragraph, can language to this effect be added into the AD?
- C. Paragraph 7 states “it is allowed to install on any aeroplane an affected part in an affected A location, provided it is a serviceable part, as defined in this AD and that, following installation, it is inspected as required by this AD” while Paragraph 8 states “it is allowed to install on any aeroplane an affected part in an affected B location, provided it is a serviceable part, as defined in this AD”, Cathay would like to seek clarification on requirements for units which have been swapped between locations. If a unit originally installed in affected B location is removed & installed in affected A location, does the due date of the next repeat inspection as required by this AD begin when the unit is installed at affected A location or does it begin when the unit was originally installed in affected B location? Conversely, if a unit originally installed in affected A location is removed & installed in affected B location, is repeat inspection no longer required on this unit?



EASA response:

- A. Comment agreed. Paragraph (1) is a retained requirement coming from EASA AD 2017-0224. The original text has been retained and taken over.**
 - B. Comment acknowledged. See EASA answer to Comment #3, point C.**
 - C. Comment agreed. Serviceable parts Definition has been amended and paragraphs (6) and (7) for 'Switching Pump Location has been inserted in order to facilitate that purpose.**
- PAD 19-093 has been revised in response to this comment.**

Commenter 9: Delta Air Lines – Pat Burnside – 02/07/2019**Comment # 9**

Although Delta Air Lines is a US Operator and is not based in an EU country the FAA has begun referencing the EASA AD directly in FAA AD. As a result Delta Air Lines would like EASA to consider our comments.

For PAD 19-093 Delta Air Lines has the following comments.

A. For paragraph (2) and Table 2:

It is not clear what the inspection limit is for Group 1 aircraft with affected parts installed in Location B with less than 20 000 FH.

The SB A330-28-3132 R0 is not clear either but based on the SB Table 5 Config 01 it seems the limit for Location B is 20 000 FH.

B. For paragraph (3) and (5):

Case 1, 2, 3 and breakthrough are not defined in SB A330-28-3132 only in the AOT A28L006-17. The AOT defines Case 3: Severe Erosion as “Base material is heavily eroded with pitting and single, multiple deep cavities or breakthrough.” In other words Case 3 = Breakthrough which is confusing when trying to comply with paragraph (3) which allows continued flight with Case 3 erosion and paragraph (5) which does NOT allow continued flight with Breakthrough.

C. For paragraphs (7) and (8):

It is not clear what the limitations are for moving a pump from between locations A to B or B to A. For example if moving a pump from Location B FIN 121QA1 with Case 2 (i.e. no repetitive inspections) to Location A FIN 112QA1 the pump would need to start 1000 FH inspections - but from when (last inspection or from install)?



EASA response:

- A. Comment agreed. A compliance time for fuel pumps which, on the effective date of the AD, have accumulated less than 20 000 FH has been added. PAD 19-093 has been revised in response to this comment.**
- B. Comment acknowledged. Case 3 erosion and Breakthrough are actually not the same. The various erosion cases from 1 to 3 and Breakthrough are now defined in Eaton Aerospace Ltd SB 8810-28-06 Revision 2 and no longer in Airbus AOT A28L006-17 at Revision 4. In addition, at B Locations, a pump with Case 3 erosion is acceptable, whereas a pump with a Breakthrough is not. No changes have been made to the revised PAD in response to this comment.**
- C. Comment agreed. In addition to the 'Part Installation' paragraph, a new paragraph has been added to facilitate switching pumps locations. See also EASA answer to Comment #8, point C. PAD 19-093 has been revised in response to this comment.**

