

COMMENT RESPONSE DOCUMENT

EASA PAD No. 22-166R2

[Published on 14 April 2023 and officially closed for comments on 28 April 2023]

Commenter 1: Air New Zealand – Eddy Rajkumar – 19/04/2023

Comment # 1

1. With reference to AD Paragraph (1) – Inspection: seeing as AOT A32N030-23 has been defined as AOT 2 in the AD, can credit be taken for A/C that have accomplished the AOT specifically? AOT 2 accomplishes the inspection requirement of AD Paragraph (1) [as well as Para (5) if relays are required to be replaced]. Air NZ A/C that are applicable to AOT A32N030-23 have successfully accomplished the inspection but will still be listed in Table 1 of Appendix 1 of the proposed AD. This will define these A/C as Group 1a and will unnecessarily undergo another inspection IAW AD Paragraph (1).
2. It appears the timescale for AD Paragraph (4) is very restrictive – i.e. “before next flight after AD effective date”. To process a MMEL revision, seek local approval, and implement into an Operator’s MEL can be very time consuming depending on the size of the revision. On that note, please be aware the referenced MMEL Revision dated 05-Apr-2023 is not yet available from Airbus. Without this visibility, I suspect many operators would not know the size of the impending MMEL revision that is to be implemented “before next flight after AD effective date”. Would EASA consider installing a Compliance Time around Paragraph (4) – say one month?
3. Can EASA kindly clarify the intent of Paragraph (2) and (3) versus Paragraph (7) of the proposed AD? It seems Paragraph (7) is already addressed by Paragraph (2) and (3).

EASA response:

- 1) ***Comment not agreed. The inspection required by paragraph (1) does not reference any specific publication according which this required inspection has to be performed. Furthermore, the ‘Required Action and Compliance Time’ section begins by the standard sentence “Required as indicated, unless accomplished previously”, which allows an aircraft already inspected before the effective date of the AD, and for which the aircraft configuration in that area has not been modified since that inspection, not to be inspected again.***
- 2) ***Comment not agreed. The AD does not require an MEL update within a particular compliance, but the transfert of an MMEL amendment into the operator’s MEL.***

- 3) Comment not agreed. While paragraph (2) and (3) cover requirements after a BSCU fault signature is triggered (the BSCU is installed), paragraph (7) addresses parts installation requirements, independent of a BSCU fault signature triggered (BSCU to be installed). No changes have been made to the Final AD in response to this comment.**

Commenter 2: Interglobe Aviation Limited (Indigo) – Ashwin KOLHATKAR – 17/04/2023

Comment # 2

In Revision 2 of the PAD, “MMEL Amendment 2” Paragraph has been deleted. Though the PAD mentions that “MMEL Amendment 1” and “MEL Amendment 2” Paragraphs have been amended, no reasoning has been provided.

The PAD is therefore not clear on whether the MMEL restrictions incorporated vide Para 4 of the PAD shall continue even after “Modification” of the affected aircraft as per Para 5 or are the MMEL restrictions is to be removed post modification.

In fact, this issue was taken up earlier (see attached Email) with your kind office and it was then clarified that the revised AD would lift all the restrictions “Including MMEL Limitations”. Excerpts from that mail are pasted below.

“Please be informed that above mentioned AD is currently being revised in this regard and is expected to be released end of December 2022 / beginning of 2023. This revision is expected to lift the restrictions (including MMEL limitations) for the aircraft equipped with the suppressed relays in the 24GG/25GG positions.”

If the MMEL Amendment is no longer required, then we suggest EASA to retain the contents of Para “MMEL Amendment 2” in this PAD. On the other hand, if EASA wants the MMEL Amendment to be retained even after the modification, then this fact should be clearly mentioned in appropriate paragraph of the Final AD.

To put the above in perspective, we would like EASA to clearly mention in the Final AD whether the MMEL Amendment has to be removed; or retained as it is, post modification of the aircraft.

EASA response:

Comment partially agreed.

EASA decided a new consultation of the PAD as this final version has been significantly amended from the one initially consulted. The requirements previously under “MMEL Amendment 1” and “MEL Amendment 2” sections were not deemed accurate enough following the evolution of the safety issue encountered since the initial consultation.



Regarding the AD structure, please note that :

- **the position of the 'MMEL amendment' paragraph right after the BSCU replacement is selected on purpose**
- **the MMEL revision are considering the various possible configurations of the aircraft and identify the associated dispatch limitation.**

Therefore, and to answer your question, an aircraft with the type 2 relays installed is also eligible to some specific dispatch conditions, and consequently the MMEL revision is also applicable to it. As for this configuration (aircraft fitted with type 2 relays), the MMEL revision supports some dispatch condition relief, compared to the previous MER mandatement, it is in your operator interest to transpose into your MEL.

An explanation was added in the reason paragraph in response to this comment.

Commenter 3: British Airways – Geremi Mattei – 26/04/2023

Comment # 3

A) We have noticed that the effectivity of the MMEL is different from the effectivity of the Affected MSN as per Appendix 1 of the PAD. The BAW MMEL does have an effectivity 11026-11603 while the Appendix 1 is up to MSN 11295. Can Airbus clarify why the effectivity of the BAW MMEL is beyond the affected MSN effectivity?

- B) In addition would be possible to add in paragraph (4) MMEL Amendment a note for Group 2 aircraft advising that the MMEL restrictions are not applicable to this group?
Although this might seem obvious it would make it easier for the operator to manage if this is stated in the AD.

EASA response:

- A) **Comment noted. BAW MEL applicability lists all BAW Neo MSN and is independent of the Appendix 1 of the AD list MSN which has MSN post MOD with potential installation of a relay type 1 instead of 2.**
- B) **Comment not agreed.**

The paragraph 4 requires to transpose within the operator MEL only the Master Minimum Equipment List (MMEL) items listed in the Appendix 2 of this AD (or in the MMEL Revision dated 05 April 2023.). If any of MMEL Items are relevant to Group 2 aeroplanes, they are applicable in principle. Those MMEL items are assumed to support more restrictive dispatch conditions than the ones enforced by the mandated MER (iaw AD 2022-0032R1).



Please note that for this particular Group, the dispatch conditions supported by the MMEL revision are the same as the ones which were in place before the issue on BSCU 307 raised up (i.e before the MER mandated by the AD 2022-0032R1).

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

Commenter 4: Lufthansa Technik AG – Stefan Haberkorn – 26/04/2023

Comment # 4

From the technical point of view it is unclear why the requirements have been changed significantly in regard to EAD 2022-0032R1, PAD 22-166R1.

The new requirements are not consistent with the technical and continuously updated background information provided in TFU 32.42.00184. They are also not in accordance with the AMOC Approval 10080566 Rev. 2.

All root cause investigations focused on the BSCU standard and on the unsuppressed relays (P/N E0244-28A0) in FIN position 24GG and 25GG and not on the aircraft type – A320 CEO or NEO Family.

The TFU 32.42.00184 stated:

“Additionally it was noted that **all events recorded** either during production stage or in-service **only occurred on aircraft equipped with BSCU -307 and fitted with unsuppressed relays (P/N E0244-28A0)** introduced by MOD 161939 (no similar issue was detected when BSCU -107 or suppressed relays P/N E0669D28A0 were installed).”

That means also no similar issue was detected when a BSCU -307 and suppressed relays P/N E0669D28A0 were installed.

Therefore, it is not clear why A320 family CEO airplanes equipped with BSCU -307 and suppressed relays P/N E0669D28A0 are not subject to MEL restrictions while on A320 family NEO airplanes equipped with BSCU -307 and suppressed relays P/N E0669D28A0, these MEL restrictions should apply.

On A320 family CEO airplanes a BSCU -307 can be installed as spare according to IPC. And A320 family CEO airplanes have been removed from the AD applicability as it has been determined that type 1 relay is no longer installed on those airplanes.

The TFU 32.42.00184 stated further:

“NOTE: in November 2022 **EASA agreed to** revise the AD and **alleviate the in-service restriction for aircraft fitted with suppressed relays.**

In 2023, due to the Quality Escape TO/D/ST/23-00006 affecting the relays installed at 24GG/25GG FIN location (see below), the publication of AD 2022-0032 revision was delayed. A new AD is now contemplated and will:

Supersede AD 2022-0032



Alleviate Restrictions associated to the above mentioned mitigations for aircraft fitted with suppressed relays in 24GG/25GG FIN location

Mandate retrofit of the relays as per SB 92-1149

Mandate the inspection (and relay replacement if needed) of AOT A32N030-23.”

Therefore I request to review the requirements again and to consider the following suggestions:

Groups:

PAD 22-166R2: Group 1a aeroplanes are those that have an affected BSCU and a type 1 relay installed.

That means aeroplanes post MOD 161939 and pre MOD 171984 or post MOD 171984 on MSN listed in table 1 of Appendix 1 **and a BSCU -307 is installed** (regardless which is the BSCU basic Part Number based on the modification status – pre or post MOD 165148)

PAD 22-166R2 Group 1b aeroplanes are those that have a non-affected BSCU and a type 1 relay installed.

That means aeroplanes post MOD 161939 and pre MOD 171984 or post MOD 171984 on MSN listed in table 1 of Appendix 1 **and a BSCU -307 is not installed** (regardless which is the BSCU basic Part Number based on the modification status – pre or post MOD 165148)

PAD 22-166R2: Group 2 aeroplanes are those that are not Group 1a or 1b (see Note 1 of this AD).

That means airplanes pre MOD 161939 or post MOD 171984 on MSN not listed in table 1 of Appendix 1 regardless which BSCU is installed.

PAD 22-166R2: An aeroplane having an MSN listed in Table 1 of Appendix 1 of this AD is considered to be a Group 1a aeroplane, until the accomplishment of the inspection, as required by paragraph (1) of this AD, has taken place and determined which relay is installed on that aeroplane.

Comment:

Even if such an airplane could also be a Group 1b aeroplane depending on BSCU installation status it can be accepted as an assumption because of immediate required action in case a BSCU fault signature is triggered. This is an unscheduled event and the related TSM task does not require to check the relay installation status, but only the BSCU replacement in case a -307 is installed.

PAD 22-166R2:

MMEL Amendment:

(4) Before next flight after the effective date of this AD, implement the instructions of the MMEL update, as defined in this AD, on the basis of which the operator's MEL must be amended, inform all flight crews, and, thereafter, operate the aeroplane accordingly.

(A) I suggest the following changes:

MMEL Amendment 1:

(4) *For Group 1a and Group 1b aeroplanes:* Before next flight after the effective date of this AD, implement the instructions of the MMEL update, as defined in this AD, on the basis of which the operator's MEL must be amended, inform all flight crews, and, thereafter, operate the aeroplane accordingly.

PAD 22-166R2:

Modification:

(5) For Group 1a and 1b aeroplanes: Within the compliance time as specified in Table 1 of this AD, as applicable, replace each type 1 relay with a type 2 relay in accordance with the instructions of the SB (for the MSN not listed in Table 1 of the Appendix 1 of this AD), or in accordance with the instructions of the AOT 2 (for the MSN listed in Table 1 of the Appendix 1 of this AD), as applicable (see Note 3 of this AD).

Table 1 – Relay Replacement

Group	Compliance Time (after the effective date of this AD)
1a	Within 12 months
1b	Within 24 months

Note 3: Following the modification, the aeroplane is considered to be a Group 2 aeroplane.

(B) I suggest the following changes:

Modification:

(5) For Group 1a and 1b aeroplanes: Within the compliance time as specified in Table 1 of this AD, as applicable, replace each type 1 relay with a type 2 relay in accordance with the instructions of the SB (for the MSN not listed in Table 1 of the Appendix 1 of this AD), or in accordance with the instructions of the AOT 2 (for the MSN listed in Table 1 of the Appendix 1 of this AD), as applicable (see Note 3 of this AD).

Group 1a and Group 1b compliance time (after effective date of this AD) within 12 months

MMEL Amendment 2:

(6) *After modification of an aeroplane as required by paragraph (5) of this AD the aeroplane is considered to be a Group 2 aeroplane. the MEL changes implemented through the MMEL update, as required by paragraph (4) of this AD, are no longer necessary, provided that the MEL is updated with an MMEL revision published after the effective date of this AD.*

PAD 22-166R2:

Part(s) Installation:



(6) Do not install a relay P/N E0244-28A0 at FIN positions 24GG and 25GG on any aeroplane, as required by paragraph (6.1) or (6.2) of this AD, as applicable:

(6.1) For Group 1a and 1b aeroplanes: After modification of the aeroplane as required by paragraph (5) of this AD.

(6.2) For Group 2 aeroplanes: From the effective date of this AD.

(7) For Group 1a: From the effective date of this AD, it is allowed to install a BSCU on an aeroplane, provided it is a serviceable BSCU, as defined in this AD.

(8) For Group 1b aeroplanes: From the effective date of this AD, do not install an affected BSCU on an aeroplane.

(C) I suggest the following changes:

Part(s) Installation:

(7) Do not install a relay P/N E0244-28A0 at FIN positions 24GG and 25GG on any aeroplane, as required by paragraph (6.1) or (6.2) of this AD, as applicable:

(7.1) For Group 1a and 1b aeroplanes: After modification of the aeroplane as required by paragraph (5) of this AD.

(7.2) For Group 2 aeroplanes: From the effective date of this AD.

(8) For Group 1a and Group 1b: From the effective date of this AD, it is allowed to install a BSCU on an aeroplane, provided it is a serviceable BSCU, as defined in this AD.

Reason: MMEL Amendment 1: applies to group 1a and Group 1b aeroplanes and it is not defined in both groups which is the BSCU basic Part Number based on the modification status – pre or post MOD 165148.

(D) I suggest the following changes:

Appendix 2 - Effectivity: - with BSCU P/N E21327307 and the unsuppressed relays (P/N E0244-28A0) in FIN position 24GG and 25GG -

EASA response:

From a general point of view, as explained in the Reason paragraph the A320 CEO population, is not affected by the safety issue, as homogeneously fitted with Type 2 relays, therefore no need to consider this fleet in any of this AD requirements, as well as requiring any of the MMEL Items applicable to it. The MMEL Items applicable to the CEO fleet are part of the MMEL revision referenced through this AD but they do not address a potential unsafe condition. They are therefore not included among the mandated MI.

The AD paragraph 1 targets an aircraft sub-group affected by configuration management issue (which is a non-compliance to be considered as possibly unsafe, as per 21.A.3B), cascading into a potential airworthiness issue. Therefore, the inspection in paragraph 1 identified the existence, or not, of the risk and the eventual additional requirements to fulfill.



Considering that the configuration issue can be tackled by the airworthiness issue treatment is inaccurate as not all the aircraft fitted with Type 1 relay and BSCU -307 would have a warning message triggered within the next 12 months. In other words, without the paragraph 1, it results for that aircraft sub-group being exposed to the safety risk 12 additional months.

In addition, the commenter might have noted that the compliance times associated to the inspection of this aircraft sub-group and the replacement of the relay for the group 1a are identical, precisely to avoid any additional constraint complying with Paragraph 1 and 5.

(A) Comment not agreed. See answer B) to commenter 3.

(B) Comment not agreed. See answer B) to commenter 3.

(C) Comment not agreed. This would allow Group 1b aeroplanes to become Group 1a aeroplanes, which is not intended.

(D) Comment not agreed. See answer B) to commenter 3.

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

