

## COMMENT RESPONSE DOCUMENT

EASA PAD No. 20-043

[Published on 27 February 2020 and officially closed for comments on 12 March 2020]

**Commenter 1: Cathay Pacific – Gawin Lau – 02/03/2020**

### Comment # 1

- A. For the grouping in this PAD, it is based on aeroplanes instead of FIN position. There are 3ea GSM installed on an aeroplane and may have the chance to have a mix of affected parts P/N: 70902-5 installed with screws P/N: NAS1101-3H8 and bolts P/N: EWB0420D-3H-3 on different FIN positions. Therefore, this datum aeroplane with a mixed screws and bolts GSMs cannot be fitted in any Groups.
- B. Paragraph (4) Terminating Action: Modification of an aeroplane in accordance with instruction of the applicable SB constitutes terminating action for the repetitive screw replacement as required by paragraph (1) or (2) of this AD, as applicable for that aeroplane. However, does the replacement of new bolt P/N: EWB0420D-3H-3, in accordance with the instructions of the AOT A29L010-19 Rev 01 as required in Paragraph (3) considered as terminating action? If so, will EASA specify it in Paragraph (4) Terminating Action?
- C. Paragraph (5), (6) & (7) Part Installation:
- If we found an aeroplane that have GSM P/N: 70902-5 with a mixed screws and bolts on different FIN position, it is impossible to apply the aeroplane applicability into which paragraph.
  - The screw P/N: NAS1101-3H8 and bolts P/N: EWB0420D-3H-3 are not LRU (line replaceable unit) and I checked EATON CMM 29-11-10 Rev 02 issue date 15-Oct-2009 that bolt P/N: EWB0420D-3H-3 can only be installed on P/N: 70902-5. Another words, there has no document allows screw P/N: NAS1101-3H8 to be installed on GSM P/N: 70902-5. However, from AOT A29L010-19 Rev 01 and this PAD 20-043 are suggesting there is still a chance to have P/N: 70902-5 installed with screws P/N: NAS1101-3H8. Since there has no GSM P/N change or any approved documents (e.g. EASA Form 1 ARC) to show which screws P/N: NAS1101-3H8 and bolts P/N: EWB0420D-3H-3 are installed on serviceable GSM P/N: 70902-5, how does EASA suggest to control or verify any spares (brand new / second hand units) P/N: 70902-5 with unknown screws / bolts P/N part installation on aeroplane?

### EASA response:

**A. Comment agreed. The definitions of Affected Parts and Groups of aeroplanes have been simplified in the Final AD.**



- B. Comment partially agreed. A sentence has been added in paragraph (3) itself which clarifies that, following installation on an aeroplane of new bolts P/N EWB0420D-3H-3, attaching the manual valves of each affected part having P/N 70902-5, no further action is required for the affected parts P/N 70902-5 on that aeroplane.**
- C. Comment partially agreed. As per OEM CMM, it cannot be excluded that screws P/N NAS1101-3H8 can be fitted on GSM P/N 70902-5. In addition, as per Airbus AOT instructions, it can be determined which kind of fastener is installed. Following the inspection results, the instructions for replacement have to be accomplished, for compliance with the Final AD. Finally, regarding spare parts, the applicable AMM has been updated and new procedure has been set up to make sure that similar attention is paid on the manifold at time of installation. No changes have been made to the Final AD in response to this comment.**

**Commenter 2: Lufthansa Technik – Christoph Heinen – 10/03/2020**

**Comment # 2**

- A. Group 4:** The last sentence “An aeroplane that has...” should be removed. With the Airbus production mod or the applicable SB embodied it was still possible to replace the GSM with a 70902-5 which could have had the wrong screws installed even though the A/C remained in that configuration. Anyways, without this sentence, all cases are covered. If you meant to say “provided that the GSM was never replaced thereafter”, this should be written in a unambiguous way.
- B. Note 1:** It could easily be the case, that the FC accumulated by the GSM (and potentially the screws) is higher than the FC accumulated by the A/C and thus exceeding 10000FC for initial replacement since new.
- C. Terminating Action:** The headline “Terminating Action” is misleading since this is related only to §1 and §2 and not terminating the complete AD. Instead it should be
- Modification:
- (4) Modification of an aeroplane in accordance with the instructions of the applicable SB cancels the requirement for the repetitive screw replacement of paragraph (1) or (2) of this AD, as applicable for that aeroplane.

**EASA response:**

- A. Comment agreed. See EASA answer to Comment#1,A above.**



- B. Comment partially agreed. For paragraph 1, the compliance time for the initial screw replacement is at the screw level. The other values (FC accumulated by GSM or aeroplane in the worst case) are mentioned for flexibility, as it is expected that, in certain cases, the FC accumulated by the screws are unknown.**
- C. Comment not agreed. Heading (Terminating Action) and the content of paragraph (4) are correct. Actually, there is no Terminating Action for the entire AD, as the paragraphs related to Part Installation remain applicable for post Mod or post SB aeroplanes.**
- No changes have been made to the Final AD in response to points B. and C. of this comment.**

**Commenter 3: Sabena Aerospace – Eric De Gieter – 11/03/2020**

Per EASA PAD 20-043 (page 2/4): “it was also determined that it cannot be excluded that, on an aeroplane having a GSM P/N 70902-5 installed, originally with special bolts P/N EWB0420D-3H-3, the bolts were later replaced with standard screws NAS1101-3H8.”

Can it be excluded that on GSM P/N 70902-6 the bolts were later replaced with standard screws NAS1101-3H8?

**EASA response:**

**Comment partially agreed. It can never be excluded that for GSM P/N 70902-6, the bolts were later replaced with standard screws NAS1101-3H8. But this would be against maintenance recommendations. As for GSM P/N 70902-5, the maintenance instructions included inconsistencies which could have led to installation of standard screws NAS1101-3H8 on that GSM. Those instructions have been amended. In addition, the Final AD contains Part Installation paragraphs which prohibit installation GSM P/N 70902-5 with screws NAS1101-3H8 on an aeroplane.**

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

**Commenter 4: American Airlines – Jim Robinson – 11/03/2020**

**Comment # 4**

PAD 20-043 proposes to mandate Airbus AOT A29L010-19 rev. 01. This AOT requires operators to identify Ground Service Manifolds (GSMs) by part number to determine whether the Manual Valve attachment screws must be replaced. The unsafe condition is known fatigue failure of the NAS1101-



3H8 fasteners that attach the Manual Valves, which can cause loss of hydraulic power in one or more hydraulic systems. American Airlines agrees with the need to accomplish the intended replacements and the 10,000 flight cycle repeating requirement.

However, there is difficulty complying with the AOT as written, because the dataplates on the Blue and Yellow System GSMs are not accessible. This is due to the configuration of the mounting bracket. It is easy, however, to differentiate between the NAS1101-3H8 fasteners that are subject to fatigue and the EWB0420D-3H-x fasteners that are not. Revision 1 to the AOT incorporates figures 2 and 3, which clearly display the identifying features of each.

While American Airlines is subject FAA regulation, we would like to offer the recommendation that the EASA PAD be revised to focus on identifying the fasteners and replacing the fasteners that are subject to fatigue failure, rather than identifying the GSM part number. Eaton has already acknowledged that some 70902-5 GSMs may have NAS1101-3H8 fasteners installed, and AOT revision 01 identifies the fasteners as the determining factor when deciding whether the fasteners need to be renewed or not. The manufacturer's part number of the manifold turns out to be a secondary attribute. A more definite focus on the source of the unsafe condition may prevent assumptions and possible errors that could lead to inadvertent violations of mandated actions that are issued to ensure safe operation of our aircraft.

American Airlines recommends that the AD require replacement of fasteners shown in figure 2 of AOT A29L010-19 rev 01 (and repeated and 10,000 FC), while fasteners shown in figure 3 do not need to be replaced.

**EASA response:**

***Comment partially agreed. For GSM P/N 70902-3 and P/N 70902-4, as per design, the manual valve attachment screws are standard screws NAS1101-3H8. As for GSM P/N 70902-5, it could be that, inadvertently, some are equipped with standard screws NAS1101-3H8. However, clearly, if a GSM P/N 70902-5 has a manual valve attached with bolts P/N EWB0420D-3H-3, replacement action is not required by the Final AD. As for the determination, if GSM P/N 70902-5 has a manual valve attached with bolts P/N EWB0420D-3H-3 or standard screws NAS1101-3H8, EASA no longer put it in an AD as a requirement. Instructions for the determination are in Airbus documentation and EASA consider it is sufficient. EASA AD concentrates on what must be required, in that case replacement of screws NAS1101-3H8.***

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



**Commenter 5: Delta Air Lines – Neil Duggan – 12/03/2020****Comment # 5****Reference:**

- (A) PAD No.: 20-043, 27 Feb 2020
- (B) Airbus Alert Operators Transmission (AOT) A29L010-19, Revision 01, 18 Feb 2020
- (C) Airbus Alert Operators Transmission (AOT) A29L010-19, Revision 00, 18 Dec 2019
- (D) Airworthiness Directive (AD) No.: 2019-0314, effective date 03 Jan 2020

The reference (A) PAD defines group 1 airplanes as those that have the affected part P/N 70902-3 or 70902-4 installed, and the airplane has not accomplished the screw replacement per reference (C) AOT A29L010-19, revision 00. The compliance time of the reference (A) PAD matches that of the reference (B) AOT: before 10,000 flight cycles (FC) since first installation of the bolts on the airplane, or within 1,300 flight hours (FH) after 03 Jan 2020 (for the Green and Yellow hydraulic circuit GSMs) and 2,300 FH after 03 Jan 2020 (for the Blue hydraulic circuit GSM).

The previously issued reference (D) AD 2019-0314 has a compliance time of before the airplane exceeds 10,000 FC or within 1,300 FH after 03 Jan 2020. This differed from the corresponding reference (C) AOT. The reference (C) AOT has a two-step compliance time. It specifies that the screw replacement on the blue hydraulic circuit GSM be accomplished within 1,000 after it is accomplished on the green and yellow hydraulic circuit GSMs. It also includes cautions to not accomplish the green/yellow and the blue circuits at the same time.

Delta supports the removal of this requirement to accomplish the Green/Yellow hydraulic circuits at separate visits from the Blue hydraulic circuit. The GSMs are not classified as Extended Operations (ETOPS) significant systems as determined by MSG-4 or similar risk methodology. It is therefore not necessary to avoid dual maintenance. Delta prefers to accomplish these conveniently at the same visit. The time of accomplishment of the reference (A) PAD needs to be clarified to clearly address that maintenance can be accomplished at the same maintenance visit.

**EASA response:**

***Comment agreed. Indeed, the Final AD does not (neither does PAD 20-043) require accomplishment of the required actions in two steps compliance times. The latest Airbus AOT revision is in line with the Final AD which does not need to be amended.***

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

