

COMMENT RESPONSE DOCUMENT

EASA PAD No. 19-024

[Published on 14 February 2019 and officially closed for comments on 28 February 2019]

Commenter 1: Sabena Aerospace – Erwin Heremans – 14/02/2019

Comment # 1

Par. 3.3 (AIM) of AOT A32L012-18 is requesting a check for the Part and Serial Number of the Fee Fall Actuators installed on aircraft to determine, if they are affected.

In order to comply with this Par 3.3, I asked Airbus if it is acceptable to review the aircraft AIR or Maintenance Records in lieu of performing a physical check on aircraft to determine the P/N and S/N of the Fee Fall Actuators (5GF/6GF/7GF).

Airbus confirmed that it is acceptable to use the maintenance records to confirm the PN & SN of the Freefall actuators installed on each A/C MSN, but if the maintenance records are incomplete, inconsistent or not available, then the only option would be for the operator to check PN & SN physically on A/C.

Question: Please confirm that the Airbus recommendation is acceptable for EASA to perform the identification of the FFA's.

EASA response:

Comment acknowledged. Note that the Final AD does not actually require an inspection to identify P/N or s/n, as it is assumed the operator is aware of these. Therefore, it is at the discretion of the operator how to determine whether or not an affected part is installed on an aeroplane, either by physical P/N inspection, or a records check, provided those records can be relied upon and accurately reflect the physical mod-status of that aeroplane.

A Note has been added to the Final AD in response to this comment.



Commenter 2: Etihad Airways – Ahmed Eltom – 14/02/2019**Comment # 2**

It is neither mentioned in the PAD nor the AOT that checking of aircraft records can be considered acceptable to determine affected FFA, provided that the data is consistent. We had very few removals and we can confirm that the records are correct.

Please advise if such remark can be added, or physical verification remains the chosen way to determine effectivity.

4.2.2 INSPECTION REQUIREMENTS

- Check the part and serial numbers of the Free fall actuators installed on A/C to determine if they are listed in Appendix 3.
- If any actuator installed on A/C is listed in Appendix 3, then the A/C MSN is affected.
- If the A/C MSN is affected, perform a test of the Landing Gear Freefall system as per Appendix 1 and in accordance with the timescales in Section 4.1.1.

EASA response:

Comment acknowledged. See EASA answer to Comment #1 above.

A Note has been added to the Final AD in response to this comment.

Commenter 3: Czech Airlines Technics – David Němec – 14/02/2019**Comment # 3**

I would like to report you discrepancy I have found between Airbus AOT A32L012-18 and EASA PAD 19-024.

* AOT (“Para 4.2.2 Inspection requirements”) prohibits installation of pre-mod units identified in its Appendix 3 which has been manufactured between years 2001 and 2002, however PAD (“Definitions: Serviceable FFA & Required Actions and Compliance Times: Corrective Actions (2)”) prohibits installation of units manufactured before 2006, this causes 4 years gap. Could you please in collaboration with Airbus either extend effectivity of referred AOT (to cover AR02404 units manufactured before 2006), or to change the effectivity of future AD (to be in line with AOT) to prevent the



mentioned effectivity 4 years gap? This may cause future potential problems with second hand spare parts to many airlines as well as MROs and pool providers having parts manufactured between 2002 and 2006 and discussions about understanding of these two documents between the parties.

EASA response:

Comment acknowledged. The definition of 'Serviceable FFA' was shared with, and agreed by Airbus. EASA confirm that FFA P/N AR02404 having a year of manufacture 2006 or later are serviceable parts for the purpose of this AD. Airbus will assess the need to amend their AOT.

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

Commenter 4: Virgin Australia – Ruchira Heendeniya – 14/02/2019

Comment # 4

If operators are allowed to perform a maintenance records check to determine the effectivity of this AD, please add a sentence similar to below:

Eg: "A review of airplane maintenance records is acceptable in lieu of physical inspection if the part numbers can be conclusively determined from that review".

EASA response:

Comment acknowledged. See EASA answer to Comment #1 above.

A Note has been added to the Final AD in response to this comment.



Commenter 5: Singapore Airlines – Mohamed Khasrul – 15/02/2019
Comment # 5

Can a review of maintenance records to identify installed FFA P/N and S/N comply be an alternative means of compliance to the inspection requirements of PAD 19-024?

EASA response:

Comment acknowledged. See EASA answer to Comment #1 above.

A Note has been added to the Final AD in response to this comment.

Commenter 6: Airbus Defence and Space – Enrique Lara – 15/02/2019
Comment # 6

We're analyzing PAD 19-024 and we have a doubt regarding part identification. We would like to clarify if a review of aircraft delivery/maintenance records is acceptable to determine if the aeroplane has an affected FFA installed or it's necessary to physically check on the aircraft the P/Ns and S/Ns of installed FFAs to determine if the aircraft is affected by the AD.

EASA response:

Comment acknowledged. See EASA answer to Comment #1 above.

A Note has been added to the Final AD in response to this comment.



Commenter 7: Philippine Airlines – Noriel M. Purigay – 19/02/2019**Comment # 7**

Reference to subject EASA PAD, PAL is planning for a possible compliance of AOT A32L012-18 for PAL affected A340 aircraft within month of February. PAL would like to confirm if AD will also incorporate credits for AOT compliance done before AD effectivity.

EASA response:

Comment acknowledged. EASA confirm that accomplishment of the AOT before final AD issuance is acceptable and there will be no need to repeat the actions. This is confirmed by the general statement in the final AD: ‘Required as indicated, unless accomplished previously’, which is mentioned in each EASA AD.

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

Commenter 8: TAP Air Portugal – Tiago Cordeiro – 19/02/2019**Comment # 8**

Concerning EASA PAD 19-024, please do correct NOTE 1 after TABLE 1, where it states:

“Note 1: The FH specified in Table 1 of this AD are those accumulated by an affected FFA since first installation on an aeroplane.”

It should instead refer to the inspection interval and not the time accumulated since first installed (as far as I can tell it is not an issue for the AD), as stated in the AIRBUS AOT A32L012-18 Rev. 0.

EASA response:

Comment agreed. The FH are those accumulated since previous inspection and are not related to FH accumulated by an affected FFA since first installation on an aeroplane.

Note 1 was deleted from the Final AD in response to this comment.



Commenter 9: Singapore Airlines – Mohamed Khasrul – 21/02/2019**Comment # 9**

- A. If the review of maintenance records is acceptable to replace the physical identification, then it is accurate for para (1) of the PAD to be applicable for Group 1 aeroplanes only (affected FFA installed).
- B. If checking P/N and S/N through maintenance records cannot be used in lieu of the physical identification, should the requirement in para (1) be for both Group 1 and Group 2 aeroplanes?
- C. If the initial inspection is done and the aircraft is found to be in Group 2 aeroplane configuration, is the repeat inspection still required for this aircraft?
- D. Since this is a FFA batch issue, will replacement to a serviceable FFA (P/N: TY3409-01A or P/N: AR02404 with year of manufacture 2006 or later) terminate the inspection requirements of para (1)?

EASA response:

- A. Comment acknowledged. A Note has been added to the Final AD in response to this comment.**
- B. Comment acknowledged. Maintenance records check can be used in lieu of the physical identification, so question is no longer relevant.**
- C. Comment acknowledged. EASA confirm that Group 2 aeroplanes are equipped with not affected FFA. Therefore, the test of the freefall system as per Airbus AOT A32L012-18 is not required on aeroplanes having all LG fitted with a not affected FFA.**
- D. Comment agreed. EASA confirm that installation of a serviceable FFA constitutes terminating action for the repetitive test as required by the Final AD, provided the aeroplane remains in that configuration. The Final AD has been amended accordingly.**

Commenter 10: Thomas Cook Airlines Scandinavia – Henrik Pedersen-Jagd – 22/02/2019**Comment # 10**

Is a records review acceptable to confirm if an affected FFA is installed or not?

EASA response:

Comment acknowledged. See EASA answer to Comment #1 above.



A Note has been added to the Final AD in response to this comment.

Commenter 11: Lufthansa Technik AG – Steffen Widmer – 26/02/2019

Comment # 11

- A. Paragraph (1) of PAD 19-024 mandates to accomplish the initial inspection within 90 days and then repeat the inspection at intervals not exceeding 3000 FH or 9 months for A330, A340-200 and -300, or 2025 FH or 9 months for A340-500 and -600 (w.o.f.).

Note 1 of PAD 19-024 reads following: “The FH specified in Table 1 of this AD are those accumulated by an affected FFA since first installation on an aeroplane.”

Following calculation example: An FFA is initially checked with a total counter of 25000 FH. Repetitive inspection is then immediately 22000 FH respectively 22975 FH overdue because note 1 speaks of 3000 respectively 2025 total accumulated FH since first installation.

Paragraph (1) speaks of intervals whereas note 1 talks about accumulated total FH. These two statements don’t match. If note 1 would read: “The FH specified in Table 1 of this AD are those accumulated by an affected FFA since initial inspection on an aeroplane.” it would be much clearer.

Please clarify how to understand this note and what EASA is intending with this note.

- B. In addition to the above statement, LHT discovered a typo regarding the ALS Part 3 references in paragraph (3). The A330 CMR task should read 323000-00001-1-C instead of 323000-00001-1-1-C.

EASA response:

A. Comment agreed. See EASA answer to Comment # 8. Note 1 was deleted in the Final AD in response to this comment.

B. Comment agreed. Correct CMR ref. number is 323000-00001-1-C for A330 aeroplanes. The final AD has been amended in response to this comment.



Commenter 12: Qantas Airways Limited – Tomo Sugano – 27/02/2019**Comment # 12****References:**

Ref [1] EASA PAD 19-024 issued on 14-Feb-2019

Ref [2] Airbus AOT A32L012-18 issued on 29-Jan-2019

With regard to Ref [1] PAD (hereafter referred to as the PAD), Qantas Airways would like to consult EASA on the following points:

- A. The PAD defines a 'Serviceable Free Fall Actuator (FFA)' as "FFA P/N TY3409-01A, or FFA P/N AR02404 having a year of manufacture 2006 or later." We do track component manufacture dates in our electronic Maintenance Information System (MIS). However, we believe that it is best and least unambiguous if the finalised AD clarifies the precise S/N's or S/N ranges corresponding to P/N AR02404 units manufactured in 2006 or later.
- B. The PAD Requirement Para (1) contains Note 1, which reads "The FH specified in Table 1 of this AD are those accumulated by an affected FFA since first installation on an aeroplane." We are unable to positively ascertain what exactly EASA meant by this Note. We request that the finalised AD provide clarification for this Note.
- C. Compared to the PAD requirements, Ref [2] AOT requirements are more restrictive in that the AOT entirely disapproves FFA P/N AR02404 units as Serviceable FFAs (regardless of manufacture dates), and that the AOT has declared the downgrade of the two-way interchangeability between P/N AR02404 and P/N TY3409-01A to one-way interchangeability in advance of the IPC revision for the aim to "Prevent the installation of pre Mod actuator(s) PN AR02404 on aircraft fitted with post mod actuator(s) PN TY3409-01A in advance of the revision of the IPC." Although the AD requirements will prevail over the AOT, which is also 'mandatory' for operator compliance as per the OEM definition, it has created undesirable disagreement between the two documents of mandatory nature. It can cause operators to comply with the most restrictive requirements for conservatism, which is the AOT in this particular case. This is despite the earlier statement by Airbus through their AOT Webinar that the upcoming AD requirements are expected to be completely aligned with those of the AOT. We believe Airbus should revise the AOT before EASA issue the finalised AD, so the revised AOT will be referenced in the AD.

EASA response:

- A. Comment not agreed. The definition of a serviceable FFA in the final AD is acceptable and enforceable. No changes have been made to the Final AD in response to this comment.**
- B. Comment agreed. See EASA answer to Comment # 8. Note 1 was deleted in the Final AD in response to this comment.**
- C. Comment acknowledged. See EASA answer to Comment # 3. In addition, Airbus AOT does not disapprove installation of P/N AR02404 but provide restrictions (§4.2.2 states "If only a Part Number AR02404 actuator is available, please contact Airbus for guidance." And "From the**



issuance date of this AOT, do not install any pre Mod part number AR02404 in place of a post mod part number TY3409-01A.”). No changes have been made to the Final AD in response to this comment.

Commenter 13: Wamos Air – Wenhao Cheng – 28/02/2019

Comment # 13

According to AOT 32L012-78, in case we have an affected unit which has failed the test of the freefall system within 90 days effective Interval. It has been stated that the unit has to be sent to vendor so as to be upgraded. Once this affected unit has been upgraded, would it has the same PN or it would has the new one (TY3409-01A)? If so, would it be necessary to repeat AOT test iaw the repetitive intervals?

EASA response:

Comment acknowledged. As for the management of an affected FFA that failed the test, it is up to an operator to decide what to do with it. EASA confirm that only affected part are subject to the repetitive test. FFA having been upgraded and re-identified as P/N TY3409-01A are not subject to any requirement of this final AD.

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

Commenter 14: Delta Air Lines – Heather Goetz – 28/02/2019

Comment # 14

References:

- /1/ EASA PAD 19-024
- /2/ Airbus Retrofit Information Letter (RIL) LR32M18008932 R00; dated 29Jan19
- /3/ Triumph Service Bulletin AR2404-32-L3409-1 REV Original; dated 21Feb11
- /4/ Airbus Alert Operations Transmission (AOT) A32L012-18 REV 00; dated 29Jan19

After reviewing reference documents /1/, /2/, /3/ and /4/, Delta Air Lines is submitting the following comments to reference /A/:



- A. Reference /2/ Appendix 3 only lists serial numbers for actuators manufactured in calendar years 2001 and 2002 while reference /2/ states that 'further investigations conducted with the vendor concluded that it is necessary to test a specific batch of FFA P/N AR02404 manufactured in 2001-2002'. Reference /1/ states that 'units manufactured in other years are still being investigated' (presumably calendar years 2003, 2004 and 2005), showing that additional changes may be required based on the investigation results. Delta requests that more information be provided on actuator(s) (P/N AR02404) manufactured in calendar years 2003, 2004 and 2005 prior to final AD release so that the scope of work can be adequately assessed. This will also allow a better understanding if suspect FFAs are limited to the serial numbers documented in reference /B/ Appendix 3 or if those parts manufactured in subsequent calendar years are suspect as well and will provide guidance on how DAL should handle current on-wing and spare units for P/N AR02404 not manufactured in calendar years 2001 and 2002. Additionally, details regarding the change from two-way interchangeability to one-way interchangeability for pre-mod actuator P/N AR02404 should be added to the final AD.
- B. Given the date of manufacture for the A330-200/-300 fleet, Delta maintains that the risk of having a failure after approximately 14 years of operating the aircraft is relatively low given that only one occurrence of this failure has occurred in-flight; recognizing that the FFA is a secondary system only utilized in the event of a green hydraulic failure. With respect to the proposed 'Identification / Inspection compliance time of 90 days after the effective date of this AD', DAL proposes a revised initial identification compliance time of 360 days after the effective date of the AD with repetitive test intervals calculated in cycles instead of flight hours for landing gear actuators. This allows operators and EASA an opportunity to better understand the impact to the fleet and scope of work without sacrificing fleet safety. Additionally, maintenance requirements to properly configure the aircraft for the required inspection and test are unrealistic to perform at the proposed A-check interval as indicated in reference /2/ and will require a minimum of 20 hours ground time. Additional time will be required to perform an R&R of the actuator (minimum 16 hours) in the event of test failure.
- C. Delta requests that reference /3/ be added to the final AD for compliance instructions with the following corrections:
- Section 1(L) References: Correct CMM reference for P/N TY3409-01A from 32-33-20 to 32-33-18.
 - Section 1(M) Other Publications Affected: Correct CMM reference for P/N TY3409-01A from 32-33-20 to 32-33-18.
 - Step 3B(10) Accomplishment Instructions: Correct to read as follows:
 WAS: Put an applicable length of the shrink sleeving M230536-106-8 on the soldered connection of the white wire that was soldered on the diode (D4). Apply sufficient heat to shrink the shrink sleeving (8).
 IS: Put an applicable length of the shrink sleeving M23053-6-106-8 on the soldered connection of the white wire that was soldered on the diode (D4). Apply sufficient heat to shrink the shrink sleeving (8).
 - Step 3B(13) Accomplishment Instructions: Correct to read as follows:
 WAS: Put an applicable length of the shrink sleeving M230536-106-8 on the soldered connection of the white wire that was soldered on the diode (D5). Apply sufficient heat to shrink the shrink sleeving (8).



IS: Put an applicable length of the shrink sleeving M23053-6-106-8 on the soldered connection of the white wire that was soldered on the diode (D5). Apply sufficient heat to shrink the shrink sleeving (8).

- Step(s) 3C(7), Step 3C(11), Step 3C(15), Step 3C(19) Accomplishment Instructions: Verify torque values provided in Nm and lbf-in are correct.

155 Nm = 1371 lbf in not 1327 lbf in

165 Nm = 1460 lbf in not 1770 lbf in

- Step 3C(24) Accomplishment Instructions: Correct to read as follows:

WAS: Do the tests as written in the Testing and Fault Isolation section of the Goodrich Component Maintenance Manual 32-33-20.

IS: Do the tests as written in the Testing and Fault Isolation section of the Goodrich Component Maintenance Manual 32-33-18.

- Step 3C(28) Accomplishment Instructions: Correct to read as follows:

WAS: Make a record of the serial number and the date of manufacture written on the installed nameplate 80413130. Remove and discard the nameplate 80413130.

IS: Make a record of the serial number and the date of manufacture written on the installed nameplate CH3409-0001. Remove and discard the nameplate 80413130.

- Step 3C(29) Accomplishment Instructions: Correct to read as follows:

WAS: Apply the primer and the white paint (as written in REPAIR section of the Goodrich Component Maintenance Manual 32-33-20) to the new motor assemblies and repair the paint that was damaged during the installation of the new motors.

IS: Apply the primer and the white paint (as written in REPAIR section of the Goodrich Component Maintenance Manual 32-33-18) to the new motor assemblies and repair the paint that was damaged during the installation of the new motors.

- Step 3C(30) Accomplishment Instructions: Correct to read as follows:

WAS: Do the tests that follow as written in the Testing and Fault Isolation section of the Goodrich Component Maintenance Manual 32-33-20 after the paint is applied.

IS: Do the tests that follow as written in the Testing and Fault Isolation section of the Goodrich Component Maintenance Manual 32-33-18 after the paint is applied.

- D. Delta requests that a terminating action be added to the final AD content. Delta proposes that terminating action for the AD include installation of FFA P/N TY3409-01A per reference /3/ modification.
- E. Delta requests that the FOC date of April 29, 2019 within reference /2/ be removed and a FOC upgrade to P/N TY3409-01A be given for all FFA P/N AR02404 that fail in the manner given within the AD, with no effective end date.



- F. For reference /4/ DAL requests that only those items detailed in section 4.2.2 Inspection Requirements be made mandatory within the final AD; with the following updates:
- For reference /4/ DAL requests that section 4.1.1 Accomplishment Timescale for testing reflect 360 days after the AD effective date and follow on repetitive inspections be calculated in cycles for landing gear actuators.
 - For reference /4/ DAL requests that section 4.1.2 be updated to coincide with the 16 man hours that are reflected in reference /3/ for replacement of the actuator and update testing man hours from 1.2 to 20 hours to account for aircraft configuration requirements.
 - Change 'From the issuance date of this AOT' to 'From the AD effective date' within section 4.2.2 Inspection Requirements.
- G. Delta requests that language be added to the final AD to allow for credit for accomplishment of actions completed prior to the AD effective date.

EASA response:

- A. Investigation performed so far highlights the affected population as mentioned in Airbus AOT and related AD. Investigation is still on going to define appropriate actions as needed. Regarding the change from two-way interchangeability to one-way interchangeability for pre-mod actuator P/N AR0240; IPC will be modified accordingly.**
- B. Comment not agreed. The results of the risk assessment shows affected aeroplanes should be subject to repetitive test within the compliance times specified in the final AD.**
- C. Comment not agreed. The commenter's reference /3/ is part of the instructions of the Airbus AOT (reference /4/) and therefore does not need to be explicitly mentioned in the AD. EASA transmitted the comments on the Triumph SB to Airbus, who will request Triumph to incorporate the necessary changes in the next revision of Triumph SB AR2404-32-L3409-1.**
- D. Comment agreed. See EASA answer to Comment # 9, point D.**
- E. Comment noted. This is a commercial aspect, which should be addressed to Airbus.**
- F. Comments noted. There is (in Europe) no regulation or rule of any kind to specify that an AD and the referenced service publication must contain identical compliance times. Typically, an EASA AD specifies what to do and when, whereas it refers to such publication(s) for the 'how to' instructions to accomplish the required action(s).**
- G. Comment acknowledged. See EASA answer to Comment # 7.**
- No changes have been made to the Final AD in response to points B, C, E, F and G of this comment.**

