



COMMENT RESPONSE DOCUMENT

EASA PAD No. 17-153

[Published on 24 October 2017 and officially closed for comments on 21 November 2017]

Commenter 1: Etihad Airways – Borja Dosal Roiz – 25/10/2017

Comment # 1

Etihad would like EASA to be aware of the release of Airbus OIT 999.0020/16 (released in July 2016).

This OIT states that the manufacturer of the FCPC (Airbus Avionics) will no further develop future software updates under FCPC platforms 2K0 and 2K1. Furthermore, Airbus SB A330-27-3222 allows the installation of FCPC 2K2 software P15/M24 in place of FCPC hardware 2K0/2K1.

As mentioned in Airbus OIT 999.0020/16, Airbus Avionics is already planning the future release of new FCPC 2K2 software standards like P17/M26 and this standard will not be mixable with EASA PAD 17-153 compliant FCPC 2K0/2K1 software P16/M25.

For the reasons described above, Etihad would like EASA to include some of this OIT information on the upcoming AD in order to help operators to prepare for the future and, not only comply with the upcoming requirements of EASA PAD 17-153, but also be ready for next FCPC compliant upgrades by directly exchanging their FCPC hardware 2K0 and 2K1 with the compliant hardware 2K2 software P15/M24.

EASA response:

Comment not agreed. At the moment, there is an airworthiness issue related to aeroplanes equipped with FCPC as specified in the final AD. The required corrective actions only cover that unsafe condition. If new FCPCs are developed later by Airbus, a new (P)AD will be issued only if a new unsafe condition is identified that would require the use of that new FCPC. If not, no new AD will be published and Airbus will apply for an AMOC to allow installation of these new FCPCs.

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

Commenter 2: Avianca – Carlos Backes – 25/10/2017

Comment # 2



Will PAD 17-153 supersede AD 2015-0124?

EASA response:

Comment understood. The final AD related to EASA PAD 17-153 does not supersede EASA AD 2015-0124R2. But, paragraph (3) provides the necessary Credit to remain in compliance with EASA AD 2015-0124 (any revision).

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

Commenter 3: Delta Air Lines Inc. – James Lord – 22/11/2017

Comment # 3

A. We request the following changes to PAD 17-153:

Under the Applicability paragraph:

Applicability: (WAS)

Airbus A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342 and A330-343 aeroplanes, all manufacturer serial numbers (MSN), if equipped with Flight Control Primary Computer (FCPC) having software standard P13/M22 (hardware 2K2), P14/M23 (hardware 2K1) or M23 (hardware 2K0), or earlier standard.

Applicability: (IS)

Airbus A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342 and A330-343 aeroplanes, manufacturer serial numbers (MSN) as listed in Service Bulletin A330-27-3222 or SB A330-27-3223, if equipped with Flight Control Primary Computer (FCPC) having software standard P13/M22 (hardware 2K2), P14/M23 (hardware 2K1) or M23 (hardware 2K0), or earlier standard.

Substantiation for this change: The Operator must only be held accountable for aircraft where the airworthiness concern exists. This equates to the effectivity list of Service Bulletin (SB) A330-27-3222. If the operator is made accountable for aircraft outside of this effectivity, which would be new deliveries, whether these aircraft is deemed as Not Applicable (N/A) or Complied With (C/W) the Operator is forced to incur costs to produce and maintain records for these aircraft. This burden adds no value to the Operator or the Safety Agency.

Aircraft produced with software standard P15/M24 are responsibility of Airbus not the Operators. This is accounted for when the aircraft is granted its Airworthiness Certificate while the aircraft is under the control and ownership of Airbus.



Service Bulletin A330-27-3222 provides a list of production aircraft that will be delivered with the P15/M24 software standard. The FCPC with the P15/M24 software standard and all previous FCPC software standards are not interchangeable or intermixable. The aircraft manuals (IPC) are issued with the FCPC P15/M24 software standard as the only allowed part for aircraft delivered with this standard.

From A330-27-3222: Operator Responsibility

(2) Effectivity by MSN

0012 0017 0030 0037 0045 0050 0054-0055 0060 0062 0064-0065 0070-0072 0082-0083 0086-0087 0095-0096 0098-0099 0102 0106 0109 0111-0113 0116 0118 0120-0122 0127 0132 0138 0140 0143-0144 0148 0153 0155 0162 0165 0171-0172 0177 0181 0195 0200 0206 0209 0211 0219 0222-0224 0226 0229-0232 0234 0238 0240-0241 0244 0247-0251 0253-0256 0258-0259 0261-0262 0265-0267 0269 0271-0272 0275-0277 0279 0281 0283-0288 0290-0291 0293 0295-0296 0300-0301 0303 0305-0306 0308-0309 0311-0317 0320 0322-0324 0326 0328 0330 0333-0334 0337-0340 0342-0346 0348-0351 0353 0356-0358 0361-0362 0364-0366 0368-0370 0372 0375 0380 0382 0384 0386 0388-0389 0392-0393 0396-0398 0400-0401 0403-0405 0407-0409 0412 0418-0423 0425 0427-0428 0432 0437 0439 0441 0443-0444 0448 0451-0452 0454-0456 0458 0461-0463 0465-0466 0469 0472-0473 0476-0477 0479-0481 0484 0486-0487 0489-0491 0493-0494 0496-0498 0500-0513 0515-0516 0518-0519 0521-0522 0524-0527 0529-0530 0532-0533 0535-0536 0539 0542 0548-0553 0555 0558 0564-0565 0567-0568 0570-0571 0573-0574 0576 0578-0579 0581 0584 0587-0588 0591 0593 0595 0597 0600 0602-0603 0605 0607 0609-0610 0612 0614 0616 0618 0620-0621 0623 0625 0627 0629 0631-0638 0640-0642 0644-0645 0647-0650 0652-0659 0661-0667 0669-0671 0673-0676 0678-0680 0682-0684 0686-0688 0690-0693 0695-0697 0699-0701 0703-0705 0707-0709 0711-0714 0716-0718 0720-0722 0724-0726 0728-0730 0732-0735 0737-0739 0741-0743 0745-0747 0749-0752 0754-0756 0758-0760 0769-0770 0772-0774 0776-0778 0780-0782 0784-0786 0788-0789 0791-0792 0795-0797 0799 0801-0803 0805-0807 0809-0811 0813-0815 0817-0828 0830-0834 0836 0838-0843 0845 0847 0849-0855 0857-0863 0865-0869 0873-0877 0879 0881-0885 0887-0893 0895-0896 0898-0901 0903-0909 0911 0913-0916 0918-0920 0922-0923 0925-0928 0930-0932 0934-0937 0939-0952 0954 0956-0959 0961-0971 0973-0980 0982-0986 0988-0992 0994-0998 1000-1004 1006-1016 1018-1023 1025-1026 1028-1029 1031-1039 1041-1049 1051-1055 1057-1063 1065-1067 1069-1078 1080-1082 1084-1090 1092-1101 1103-1108 1110 1112 1114-1116 1118 1120 1123-1124 1126-1127 1129-1133 1135-1138 1141 1143 1145-1151 1153 1155-1157 1159-1161 1163-1165 1167-1175 1177-1178 1180-1181 1183-1184 1186-1193 1195-1196 1198-1206 1208-1241 1243-1252 1254-1256 1258-1272 1274-1521 1523-1651 1653-1660 1662-1681 1684-1701 1703-1704 1706 1708-1716 1718-1769 1787 1799 1808 1822 1830 1848

From A330-27-3222: Airbus Responsibility

This modification is embodied before delivery on A330-200 aircraft Manufacturer Serial Number (MSN) 1771 thru 1785, 1805, 1823, 1835 thru 1847, 1854 and subsequent, on A330-300 aircraft MSN 1770 and subsequent and on A330-200F aircraft MSN 1772 and subsequent.

B. Under the Modification/Replacement paragraph:

Modification/Replacement: (WAS)



(1) For Group 1 aeroplanes: Within 12 months after the effective date of this AD, modify or replace the three FCPCs, by installing software standards as specified in Table 1 of this AD, in accordance with the instructions of the applicable Airbus SB.

Modification/Replacement: (IS)

(1) For Group 1 aeroplanes: Within 12 months after the effective date of this AD, modify or replace the three FCPCs, by installing software standard P15/M24, P16/M25, M25 or respective Later Software Standard as specified in Table 1 of this AD, or subsequent Service Bulletin, in accordance with the instructions of the applicable Airbus SB.

Substantiation for this change: The software standard for the FCPC has not been stable since AF447. It is clear that Airbus is actively reevaluating each input to the FCPC. First it was a specific engine failure mode at take-off that could cause a transient loss of elevator control leading to a pitch down movement, then it was erroneous.

Airspeed that if the A/P were engaged with similar but erroneous airspeed data could cause an unexpected abrupt pitch command, then it was to improve aircraft behavior in the case of undetected erroneous Radio Altimeter information, then it was to address blocked AOA vanes by improving AOA probe monitoring. This software standard has changed approximately every two years. It is inevitable that Airbus will determine that there is another unsafe condition that needs to be addressed by another software standard likely before this standard has been installed across the fleet. Adding the term “or relative Later Software Standard” will allow Operators, without the need for an AMOC, to immediately stop installs of P15/M24 and move to the latest software standard.

C. A paragraph to Clean-up Superseded ADs:

A paragraph in the AD is needed to state that this new AD “supersedes” all previous ADs against the FCPCs. EASA should list all the previous ADs that are superseded by this AD and state that Operators are no longer responsible for compliance with the superseded ADs.

Substantiation for this change: A statement as such, in the new AD, will relieve Operators from the cost burden of maintaining compliance documents for ADs that are superseded and no longer have any effect on the safety of the aircraft.

The series of Airbus Service Bulletins for FCPC software standards includes any required prerequisites just as SB A330-27-3222 does. In effect, all previous software standards are included in the P15/M24 software standard.

EASA response:

A: Comment not agreed. EASA agrees that not all aeroplanes need corrective action. However, we consider this AD must be applicable to all aeroplanes and not only to some specific aeroplane MSNs. Please note paragraph (4.2) which prohibits installation of any software or hardware of a version earlier than the one listed in Table 1 of this AD. This requirement justifies the Applicability to all aeroplanes.

B: Comment not agreed. EASA cannot give credit for non-existing parts and covering documentation. See also EASA response to Comment #1.



C: Comment not agreed. At the moment, previous EASA AD 2015-0124 R2 for FCPC cannot be superseded by this final AD as it does not cover all aeroplanes covered by EASA AD 2015-0124 R2. For older ADs, EASA and Airbus will coordinate to understand under which condition these ADs could be superseded.

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

Note: ***When writing an EASA response, the responder should express first whether EASA agrees, partially agrees, or disagrees with the submitted comment /change proposal and should explain the grounds of the response. [e.g. “we disagree. Vibration trend monitoring is successful in detecting cracked HPT seals, /... / and is the most practical way to prevent an unsafe condition due to cracked HPT seals”, or “we agree. We have amended the Final AD accordingly”]. Unless EASA (partially) agrees with a comment, a statement should be added (for each comment) that ‘No changes have been made to the Final AD in response to this comment’.***

