

 <b>適航指令發布單</b> <b>Airworthiness Directive Issuance Form</b>			
民航局 AD 編號 AD number	CAA-2015-06-011B	發布日期 Date issued	2016/9/5
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	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), and Airbus A340-211, A340-212, A340-213, A340-311, A340-312 A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all MSN.		
主旨摘要	Flight Controls - Flight Control Primary Computer - Modification / Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authorities <input type="checkbox"/> FAA <input type="checkbox"/> Germany LBA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> CAA-NL <input type="checkbox"/> Brazil <input type="checkbox"/> UK CAA <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> Japan CAB <input type="checkbox"/> DGAC <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____		
	設計國 AD 編號 Original AD number	2015-0124R2	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	ATA 27. This AD revises EASA AD 2015-0124R1(CAA-2015-06-011A) dated 02 February 2016. Ref. Publications: Airbus SB A330-27-3205 original issue dated 09 March 2015. and Airbus SB A330-27-3207 original issue dated 30 June 2015. and Airbus SB A330-27-3208 [expected to be issued in April 2017]. and Airbus SB A340-27-4195 original issue dated 24 November 2015. and Airbus SB A340-27-4196 original issue dated 24 November 2015. and Airbus SB A340-27-5064 original issue dated 01 June 2016.		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			



## Airworthiness Directive

**AD No.:** 2015-0124R2

**Issued:** 31 August 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

### Design Approval Holder's Name:

AIRBUS

### Type/Model designation(s):

A330 and A340 aeroplanes

**Effective Date:** Revision 2: 07 September 2016  
Revision 1: 09 February 2016  
Original Issue: 01 July 2015

**TCDS Numbers:** EASA.A.004 and EASA.A.015

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2015-0124R1 dated 02 February 2016.

## ATA 27 – Flight Controls – Flight Control Primary Computer – Modification / Replacement

### Manufacturer(s):

Airbus (formerly Airbus Industrie)

### Applicability:

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), and

Airbus A340-211, A340-212, A340-213, A340-311, A340-312 A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all MSN.

### Reason:

It was determined that, when there are significant differences between all airspeed sources, the flight controls of an Airbus A330 or A340 aeroplane will revert to alternate law, the autopilot (AP) and the auto-thrust (A/THR) automatically disconnect, and the Flight Director (FD) bars are automatically removed. Further analyses have shown that, after such an event, if two airspeed sources become similar while still erroneous, the flight guidance computers will display the FD bars



again, and enable the re-engagement of AP and A/THR. However, in some cases, the AP orders may be inappropriate, such as an abrupt pitch command.

This condition, if not corrected, may, under specific circumstances, result in reduced control of the aeroplane.

In order to prevent such events, EASA issued AD 2010-0271 to require an amendment of the Airplane Flight Manual (AFM) to ensure that flight crews apply the appropriate operational procedure.

Since EASA AD 2010-0271 was issued, new Flight Control Primary Computer (FCPC) software standards were developed that inhibit autopilot engagement under unreliable airspeed conditions. Consequently, EASA issued AD 2011-0199 (later revised) for A330 and A340-200/300 aeroplanes, and AD 2013-0107 for A340-500/600 aeroplanes, to require a software standard upgrade of the three FCPCs by either modification or replacement.

Since EASA AD 2011-0199R1 and AD 2013-0107 were issued, new FCPC software standards were developed to correct aeroplane behaviour in case of undetected erroneous (Radio Altimeter) RA information and to introduce other improvements. In addition, the new FCPC software standards also implement enhanced Angle of Attack (AOA) monitoring in order to better detect cases of AOA blockage, including multiple AOA blockage.

Prompted by these developments, EASA issued AD 2015-0124 (later revised) to require the latest software standard upgrade of the three FCPCs, either by modification or replacement. At the time, some of the Airbus SBs as specified in Table 1 (originally, Appendix 1) of this AD were not yet available.

Since EASA AD 2015-0124R1 was issued, Airbus published SB A340-27-5064, and for this reason, this AD is revised to introduce the date of publication of this SB. This AD also contains some editorial changes to meet the latest AD writing standards, without changes to the technical content.

There is still one SB that remains unavailable at this time. It is expected that this AD will be revised again when this SB is published.

#### **Required Action(s) and Compliance Time(s):**

Required as indicated, unless accomplished previously:

- (1) Within the compliance time defined in Table 1 of this AD, as applicable, modify or replace the three FCPCs, as specified in Table 1 of this AD, in accordance with the instructions of the applicable Airbus SB, as identified in Table 1 of this AD.



Table 1 – Software Standard Updates

<b>Software Standard</b>	<b>FCPC Hardware Standard(s)</b>	<b>Airbus SB</b>	<b>Compliance Time</b> (after 01 July 2015 [the effective date of this AD at original issue])
P13/M22	2K2	SB A330-27-3205	Within 9 months
P14/M23	2K1	SB A330-27-3207	
M23	2K0	SB A330-27-3207	
MRTT 3	2K2	SB A330-27-3208	Within 24 months
L24	2K1 or 2K0	SB A340-27-4195	Within 15 months
L23	2K2	SB A340-27-4196	
W13	2K2	SB A340-27-5064	

- (2) After modification of an aeroplane as required by paragraph (1) of this AD, the operational procedures as specified in Table 2 of this AD, as applicable, are no longer required and can be removed from the AFM of that aeroplane.

Table 2 – Operational Procedures

<b>Aeroplane Type</b>	<b>AFM Temporary Revisions (TR)</b>	<b>Required by</b>
A330	AFM TR 4.02.00/46 Issue 3	EASA AD 2009-0012-E
A340	AFM TR 4.02.00/54 Issue 3	
A330	AFM TR 149	EASA AD 2010-0271
A340	AFM TR 150	
A330	AFM TR 37 Issue 1.0	EASA AD 2012-0069
A340	AFM TR 38 Issue 1.0	

- (3) After modification of an aeroplane as required by paragraph (1) of this AD, the operational dispatch restrictions as previously imposed by EASA AD 2010-0109R1 (TR to the Master Minimum Equipment List (MMEL) as specified in paragraph (2) of that AD) are no longer required and can be removed from the MMEL of that aeroplane.
- (4) Installation of an upgraded software standard of the FCPC approved after the effective date of this AD is equal to compliance with the requirements of paragraph (1) of this AD, provided the conditions as specified in paragraphs (4.1) and (4.2) of this AD are met.
- (4.1) The upgraded software standard of the FCPC must be approved by EASA, or approved under Airbus Design Organisation Approval (DOA); and
- (4.2) The installation must be accomplished in accordance with aeroplane modification instructions approved by EASA, or approved under Airbus DOA.



- (5) An aeroplane modified as required by paragraph (1) of this AD, or as specified in paragraph (4) of this AD, as applicable, remains compliant with the modification requirement of paragraph (8) of EASA AD 2010-0081R1 for that aeroplane.
- (6) An aeroplane modified as required by paragraph (1) of this AD, or as specified in paragraph (4) of this AD, as applicable, remains compliant with the requirements of EASA AD 2011-0199R1 and EASA AD 2013-0107 for that aeroplane.
- (7) An A330 aeroplane modified in service in accordance with the instructions of Airbus SB A330-27-3156 (commercial designation MRTT), modified as required by paragraph (1) of this AD, or as specified in paragraph (4) of this AD, as applicable, remains compliant with the modification requirements of EASA AD 2012-0271 for that aeroplane.
- (8) An aeroplane with Airbus mod 202680 (installation of FCPC P13M22 2K2) embodied in production is not affected by the requirements of paragraph (1) of this AD, provided it is determined that no FCPC having an earlier standard has been installed on that aeroplane since its Airbus date of manufacture.

#### **Ref. Publications:**

Airbus SB A330-27-3205 original issue dated 09 March 2015.

Airbus SB A330-27-3207 original issue dated 30 June 2015.

Airbus SB A330-27-3208 [expected to be issued in April 2017].

Airbus SB A340-27-4195 original issue dated 24 November 2015.

Airbus SB A340-27-4196 original issue dated 24 November 2015.

Airbus SB A340-27-5064 original issue dated 01 June 2016.

The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.

#### **Remarks:**

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. The original issue of this AD was posted on 16 April 2015 as PAD 15-044 for consultation until 14 May 2015 and republished as PAD 15-044R1 on 01 June 2015 for consultation until 15 June 2015. The Comment Response Document can be found at <http://ad.easa.europa.eu>.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS – Airworthiness Office – Airworthiness Office,  
E-mail: [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com).

