


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2010-0109R1</p> <p>Date: 21 June 2012</p> <p>Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.</p>
<p>This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 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 [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p>	
<p>Type Approval Holder's Name :</p> <p>AIRBUS</p>	<p>Type/Model designation(s) :</p> <p>A330 and A340 aeroplanes</p>
<p>TCDS Number : EASA.A.004, EASA.A.015</p>	
<p>Foreign AD : Not applicable</p>	
<p>Revision : This AD revises EASA AD 2010-0109 dated 28 June 2010, which superseded EASA AD 2008-0010R1 dated 07 October 2008.</p>	
ATA 27	Flight Controls – Flight Control Primary Computer (FCPC) – Dispatch restriction and Operational Test
<p>Manufacturer(s): Airbus (formerly Airbus Industrie)</p>	
Applicability:	<p>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 serial numbers.</p> <p>Airbus A340-211, A340-212, A340-213, A340-311, A340-312, A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all serial numbers.</p>
Reason:	<p>On A330/A340 aeroplanes, the Flight Control Primary Computer 2 (FCPC2) and FCPC3 are supplied with power from the 2PP bus bar. Electrical transients on the 2PP bus bar occur, in particular during engine n.2 failure on A330 aeroplanes or engine n.3 failure on A340 aeroplanes. Such electrical transients lead to a FCPC2 reset. FCPC3 reset does not occur thanks to the introduction of second electrical power supply to FCPC3 from 1PP bus bar associated to the Electrical Contactor Management Unit (ECMU) standard 5.</p> <p>During the evaluation of specific engine failure cases at take-off on Airbus flight simulators, it has been evidenced that with FCPC1 inoperative, in the worst case, when FCPC2 and FCPC3 resets occur during rotation at take off, a transient loss of elevator control associated with a temporary incorrect flight control law reconfiguration could occur. This condition leads to a movement of the elevators to the zero position, which induces a pitch down movement instead of a pitch up movement needed to lift off. In addition, it leads to a limitation of the pilot control on pitch axis and limits the pilot capacity to counter the pitch down movement during this flight phase, which constitutes an unsafe</p>

	<p>condition.</p> <p>To prevent such condition, Emergency Airworthiness Directive (EAD) 2008-0010-E was issued to prohibit aeroplanes dispatch with FCPC1 inoperative (from GO to NO-GO) for certain aeroplane configurations. For other configurations, dispatch is allowed when the integrity of the FCPC3 second electrical power supply is ensured.</p> <p>EASA AD 2008-0010R1 was issued to :</p> <ul style="list-style-type: none"> - For A340-500/-600, alleviate the dispatch restriction on aeroplanes fitted with new FCPC Standard W11 (part number (P/N) LA2K2B100GA0000) <p>and</p> <ul style="list-style-type: none"> - For A330 and A340-200/-300, to take into account the possibility to embody in service a new FCPC3 second electrical power supply equivalent to the production one. <p>EASA AD 2010-0109, which superseded EASA AD 2008-0010R1 retaining its requirements, was issued to extend the applicability to the newly certified models A330-223F and A330-243F.</p> <p>Since that AD was issued, new FCPC software standards have been developed that prevent the above-mentioned failure scenario.</p> <p>For the reason described above, this AD is revised to specify that after installation of FCPC software in accordance with Airbus SB A330-27-3156 or Airbus SB A330-27-3164 (Airbus modification 200285) or Airbus SB A330-27-3176 or Airbus SB A330-27-3177 or Airbus SB A340-27-4174 or Airbus SB A340-27-4162, as applicable to aeroplane model, the operational limitation requirements of this AD are no longer applicable.</p>
Effective Date:	<p>Revision 01 : 28 June 2012</p> <p>Original issue : 12 July 2010</p>
Required Action(s) and Compliance Time(s):	<p>(1) The following operational limitation is required as indicated after 16 January 2008 [effective date of AD 2008-0010R1]:</p> <p><u>(1.1) For aeroplanes identified in the Applicability section of this AD, except A330-223F and A330-243F aeroplanes and:</u></p> <ul style="list-style-type: none"> - A330 and A340-200/-300 aeroplanes on which Airbus modification 44385 has been embodied either in production or in service by Airbus Service Bulletin (SB) A330-27-3159 or SB A340-27-4158 AND Airbus modification 44431 has been embodied either in production or in service by Airbus SB A330-24-3011 or SB A340-24-4019, and - A340-500/-600 aeroplanes on which Airbus modification 57698 has been embodied either in production or in service by Airbus SB A340-27-5046, <p><u>Dispatch restriction:</u></p> <p>Dispatch with the FCPC "PRIM 1" inoperative (item numbered 27-93-01-A) in the associated MMEL) is prohibited.</p> <p><u>Note 1:</u> This dispatch restriction applies notably to A330 and A340-200/-300 aeroplanes which have embodied Airbus SB A330-27-3040 or A340-27-4046 in service.</p> <p><u>(1.2) For A330 and A340-200/-300 aeroplanes, except A330-223F and A330-243F aeroplanes, on which:</u></p> <ul style="list-style-type: none"> - Airbus modification 44385 has been embodied either in production or in service by Airbus SB A330-27-3159 or SB A340-27-4158, AND

- Airbus modification 44431 has been embodied either in production or in service by Airbus SB A330-24-3011 or SB A340-24-4019,

- a) Dispatch with the FCPC "PRIM 1" inoperative (item numbered 27-93-01-A) in the associated MMEL) is allowed provided that the operational test of the FCPC3 second electrical power supply is successfully performed in accordance with the instructions of Airbus All Operators Telex (AOT) A330-27A3158 or AOT A340-27A4157, as applicable, before the first flight of the MMEL interval.
 - b) If the test is not successful, repair in accordance with instructions of Airbus AOT A330-27A3158 or AOT A340-27A4157, as applicable, before dispatch with FCPC "PRIM 1" inoperative (item numbered 27-93-01-A) in the associated MMEL).
- (2) The following operational limitation is required as indicated after 12 July 2010 [the effective date of this AD at original issue] **for A330-223F and A330-243F aeroplanes:**
- a) Dispatch with the FCPC "PRIM 1" inoperative (item numbered 27-93-01-A) in the associated MMEL) is allowed provided that the operational test of the FCPC3 second electrical power supply is successfully performed in accordance with the instructions of Airbus AOT A330-27A3158, before the first flight of the MMEL interval.
 - b) If the test is not successful, repair in accordance with the instructions of Airbus AOT A330-27A3158, before dispatch with FCPC "PRIM 1" inoperative (item numbered 27-93-01-A) in the associated MMEL).

Note 2: These operational limitations are included in the following Temporary Revision (TR) of the Master Minimum Equipment List (MMEL):

A330 TR 01-27/01Z Issue 01 for A330-200/-300 aeroplane pre-mod 44385 or post-SB A330-27-3040 (NO-GO),

A330 TR 01-27/02Z Issue 01 for A330-200/-300 aeroplane with mechanical rudder and post-mod 44385 (GO-IF),

A330 TR 01-27/03Z Issue 01 for A330-200/-300 aeroplane with electrical rudder and post-mod 44385 (GO-IF),

A340 TR 01-27/01Z Issue 01 for A340-500/-600 aeroplane (NO-GO),

A340 TR 01-27/02Z Issue 01 for A340-200/-300 aeroplane pre-mod 44385 or post-SB A340-27-4046 (NO-GO),

A340 TR 01-27/03Z Issue 01 for A340-200/-300 aeroplane with mechanical rudder and post-mod 44385 (GO-IF),

A340 TR 01-27/04Z Issue 01 for A340-300 aeroplane with electrical rudder and post-mod 44385 (GO-IF).

- (3) Incorporation of the appropriate MMEL TR or inserting the above dispatch restrictions or a copy of this AD into the Aircraft Operations Manual (AOM) and strict adherence to the above dispatch restrictions by the flight crew is acceptable to comply with the requirements of this AD.
- (4) Aeroplanes on which Airbus modification 200285 has been embodied in production are not affected by the operational limitations as specified in this AD.
- (5) After modification of an aeroplane in service in accordance with the instructions of A330-27-3156 Original issue, Revision 01, Revision 02, Revision 03, or Revision 04 or Airbus SB A330-27-3164 or Airbus SB A330-27-3176 Original issue, Revision 01, or Revision 02, or Airbus SB A330-27-3177 or Airbus SB A340-27-4174 or Airbus SB A340-27-4162,

	as applicable to aeroplane model, the operational limitations as specified in this AD are no longer required for that aeroplane.
Ref. Publications:	<p>Airbus A330 MMEL TR 01-27/01Z Issue 01, Airbus A330 MMEL TR 01-27/02Z Issue 01, Airbus A330 MMEL TR 01-27/03Z Issue 01, Airbus A340 MMEL TR 01-27/01Z Issue 01, Airbus A340 MMEL TR 01-27/02Z Issue 01, Airbus A340 MMEL TR 01-27/03Z Issue 01, Airbus A340 MMEL TR 01-27/04Z Issue 01, or any later JAA accepted revision of this MMEL TRs or any general MMEL revision including this procedure.</p> <p>Airbus AOT A330-27A3158 Original issue dated 09 January 2008, Airbus AOT A340-27A4157 Original issue dated 09 January 2008, Airbus SB A330-27-3159 Original issue dated 17 July 2008, Airbus SB A340-27-4158 Original issue dated 17 July 2008, Airbus SB A340-27-5046 Original issue dated 19 September 2008, Airbus SB A330-24-3011 Original issue dated 05 June 1996 Airbus SB A340-24-4019 Original issue dated 05 June 1996, Airbus SB A330-27-3156 Original issue dated 28 May 2010, Revision 01 dated 08 August 2011, Revision 02 dated 21 October 2011, Revision 03 dated 22 December 2011, and Revision 04 dated 06 April 2012. Airbus SB A330-27-3164 Original issue dated 20 August 2010, Airbus SB A330-27-3176 Original issue dated 26 July 2011, Revision 01 dated 27 March 2012, and Revision 02 dated 24 April 2012, Airbus SB A330-27-3177 Original issue dated 21 December 2011, Airbus SB A340-27-4174 Original issue dated 21 November 2011, Airbus SB A340-27-4162 Original issue dated 10 January 2012.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The required actions and the risk allowance have granted the issuance of a Final AD with Request for Comments, postponing the public consultation process after publication. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu . 4. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS SAS – Airworthiness Office - EIAL. Fax: +33 5 61 93 45 80; E-mail: airworthiness.A330-A340@airbus.com .