


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2015-0009</p> <p>Date: 16 January 2015</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>
This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with 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 [EU 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].	
Design Approval Holder's Name: AIRBUS	Type/Model designation(s): A330 and A340-200/-300 aeroplanes
TCDS Number:	EASA.A.004, EASA.A.015
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2012-0244R1 dated 25 January 2013, which superseded EASA AD 2012-0070 dated 25 April 2012, including the Correction dated 26 April 2012.
ATA 29	Hydraulic Power – High Pressure Manifold Check Valves – Inspection / Modification
Manufacturer(s):	Airbus (formerly Airbus Industrie)
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 manufacturer serial numbers (MSN) except those on which Airbus modification 203972 has been embodied in production, and</p> <p>Airbus A340-211, A340-212, A340-213, A340-311, A340-312 and A340-313 aeroplanes, all MSN.</p>
Reason:	<p>An A330 operator experienced a Yellow hydraulic circuit low level due to a loose check valve, Part Number (P/N) CAR401. During the inspection on the other two hydraulic systems, the other three check valves P/N CAR401 were also found to be loose with their lock wire broken in two instances. Airbus A340 aeroplanes are also equipped with P/N CAR401 high pressure manifold check valves.</p> <p>Additional cases of P/N CAR401 check valve loosening have been reported on aeroplanes having accumulated more than 1 000 flight cycles (FC). The check valve fitted on the Yellow hydraulic system is more affected, due to additional system cycles induced by cargo door operation.</p> <p>This condition, if not detected and corrected, could result in hydraulic leaks, possibly leading to the loss of all three hydraulic systems and consequent loss of control of the aeroplane.</p>

	<p>To address this unsafe condition, EASA issued Emergency AD 2009-0223-E to require an inspection programme to detect any check valve loosening and, if necessary, to apply the applicable corrective actions.</p> <p>EASA AD 2010-0145, which superseded EASA EAD 2009-0223-E retaining its requirements, was issued to expand the applicability to the newly certified models A330-223F and A330-243F.</p> <p>Prompted by further reported in-service events of check valve P/N CAR401 loosening before reaching the threshold of 700 FC, EASA AD 2011-0139, which superseded EASA AD 2010-0145, retaining its requirements, was issued to:</p> <ul style="list-style-type: none"> - extend the requirement to identify the P/N CAR401 check valves to all aeroplanes, and - reduce the inspection threshold for aeroplanes fitted with check valve P/N CAR401, either installed in production through Airbus modification 54491, or installed in service through Airbus Service Bulletin (SB) A330-29-3101 or Airbus SB A340-29-4078. <p>EASA AD 2012-0070, which superseded EASA AD 2011-0139, retaining its requirements, was issued to require an increased torque value of the check valve tightening and High Pressure (HP) manifold re-identification.</p> <p>Since EASA AD 2012-0070 was issued, additional in-service events have been reported on aeroplanes fitted with check valves on which the increased torque value had been applied. Based on those events, it has been concluded that the action to re-torque the check valves with an increased value is not a satisfactory terminating action for addressing the issue of those check valves.</p> <p>To address that, EASA issued AD 2012-0244, which partially retained the requirements of EASA AD 2012-0070, which was superseded. Additionally, for aeroplanes equipped with P/N CAR401 on which the increased torque value had been applied, EASA AD 2012-0244 required repetitive inspections of the check valves and HP manifolds. Finally, EASA AD 2012-0244 also required application of a lower torque value when a check valve P/N CAR401 is installed on an aeroplane.</p> <p>Note: The reporting and the torque value increase requirements for check valves P/N CAR401 of EASA AD 2012-0070 were no longer part of EASA AD 2012-0244.</p> <p>EASA AD was revised to clarify which actions are required for P/N CAR401 check valves, depending on applied (or not) torque value.</p> <p>Since EASA AD 2012-0244R1 was issued, Airbus developed an improved check valve P/N CAR402, which is embodied in production through Airbus modification 203972, and in service through associated Airbus SB A330-29-3125, or Airbus SB A340-29-4096, as applicable to aeroplane type. In addition, these SBs provide instructions about the torque value (between 230 and 250 Nm) and re-identification of HP manifolds after check valve P/N CAR402 installation.</p> <p>For the reasons described above, this AD retains the requirements of EASA AD 2012-0244R1, which is superseded, and requires the installation of check valves P/N CAR402 as terminating action to the repetitive inspections.</p>
Effective Date:	30 January 2015

<p>Required Action(s) and Compliance Time(s):</p>	<p>Required as indicated, unless accomplished previously:</p> <p>Re-statement of the requirements of EASA AD 2012-0070 and EASA AD 2012-0244R1:</p> <ol style="list-style-type: none"> (1) For aeroplanes equipped with P/N CAR400 check valves, or equipped with P/N CAR401 check valves on which the increased torque value of 400 Nm <u>has never been applied</u>: Within 900 Flight Hours (FH) after 08 August 2011 [the effective date of EASA AD 2011-0139], accomplish a visual inspection of the check valves on Blue, Green and Yellow hydraulic systems to identify their P/N in accordance with the instructions of Airbus SB A330-29-3111 Revision 02, or Airbus SB A340-29-4086 Revision 02, as applicable to aeroplane type. (2) If during the inspection as required by paragraph (1) of the AD, it is identified that check valves P/N CAR401 are installed on all three hydraulic systems, before next flight, inspect the Yellow and Blue hydraulic system check valves and, depending on findings, apply the applicable corrective actions, before next flight, in accordance with the instructions of Airbus SB A330-29-3111 Revision 02, or Airbus SB A340-29-4086 Revision 02, as applicable to aeroplane type. (3) Within 900 FH after accomplishment of the actions as required by paragraph (2) of this AD, and, thereafter, at intervals not to exceed 900 FH, perform the inspection programme on Green, Yellow and Blue hydraulic system check valves and, depending on findings, apply the applicable corrective actions, before next flight, in accordance with the instructions of SB A330-29-3111 Revision 02, or SB A340-29-4086 Revision 02, as applicable to aeroplane type. (4) If during the inspection as required by paragraph (1) of the AD, it is identified that check valves P/N CAR401 are not installed on all three hydraulic systems, no immediate further action is required, except if a check valve P/N CAR400 is replaced with a check valve P/N CAR401, before next flight after that replacement, the aeroplane configuration must be inspected to determine if all three hydraulic systems are equipped with check valves P/N CAR401, in which case the requirements of paragraphs (2) and (3) of this AD must be accomplished. (5) Inspections and corrective actions accomplished before 08 August 2011 [the effective date of EASA AD 2011-0139], in accordance with the instructions of Airbus All Operators Telex (AOT) A330-29A3111 at original issue or Revision 01, or AOT A340-29A4086 at original issue or Revision 01, as applicable to aeroplane type, are acceptable to comply with the initial inspection programme as required by paragraph (2) of this AD. After 08 August 2011 [the effective date of EASA AD 2011-0139], all inspections and corrective actions, as required by paragraph (3) of this AD, must be accomplished in accordance with the instructions of Airbus SB A330-29-3111 Revision 02, or Airbus SB A340-29-4086 Revision 02, as applicable to aeroplane type. (6) For aeroplanes equipped with P/N CAR401 check valves on which the increased torque value of 400 Nm <u>has been applied</u>: Note: This increased torque value was applied with Airbus modification 201384 in production, or through Airbus SB A330-29-3119 or Airbus SB A340-29-4091, as applicable, in-service. <ol style="list-style-type: none"> (6.1) Within 1 000 FH after 29 November 2012 [the effective date of EASA AD 2012-0244 at original issue], and, thereafter, at intervals not to exceed 900 FH, visually inspect the Green, Blue and Yellow high pressure manifolds and check valves P/N CAR401 in accordance with the instructions of Airbus AOT
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	<p>A29L001-12.</p> <p>(6.2) If, during any inspection as required by paragraph (6.1) of this AD, a discrepancy is found, before next flight, accomplish the applicable corrective actions in accordance with the instructions of Airbus AOT A29L001-12.</p> <p>(7) Accomplishment of corrective actions as required by paragraph (2), or (3), or (6.2) of this AD, as applicable, does not constitute terminating action for the repetitive inspections required by this AD.</p> <p>(8) From 29 November 2012 [the effective date of EASA AD 2012-0244 at original issue], at each replacement of a check valve with a check valve P/N CAR401, apply a torque of 141 to 143 Nm (103.98 to 105.45 lbf.ft) during installation on an aeroplane.</p> <p>New requirements introduced by this AD:</p> <p>(9) Within 36 months after the effective date of this AD, modify the Green, Blue and Yellow high pressure hydraulic manifolds by replacing each check valve P/N CAR401 with an improved check valve P/N CAR402 in accordance with the instructions of Airbus SB A330-29-3125, or Airbus SB A340-29-4096, as applicable to aeroplane type.</p> <p>(10) Modification of an aeroplane as required by paragraph (9) of this AD constitutes terminating action for the repetitive inspections required by this AD.</p> <p>(11) Do not install a check valve P/N CAR401 on any aeroplane, as required by paragraph (11.1) or (11.2) of this AD, as applicable.</p> <p>(11.1) For an aeroplane that, on the effective date of this AD, has a check valve P/N CAR401 installed: After modification of an aeroplane as required by paragraph (9) of this AD.</p> <p>(11.2) For an aeroplane that, on the effective date of this AD, do not have a P/N CAR401 installed: From the effective date of this AD.</p>
Ref. Publications:	<p>Airbus AOT A330-29A3111 original issue dated 02 September 2009, or Revision 01 dated 08 October 2009.</p> <p>Airbus SB A330-29-3111 Revision 02 dated 23 June 2011.</p> <p>Airbus SB A330-29-3119 original issue dated 19 April 2011, or Revision 01 dated 09 December 2011, or Revision 02 dated 09 March 2012.</p> <p>Airbus AOT A340-29A4086 original issue dated 02 September 2009, or Revision 01 dated 08 October 2009.</p> <p>Airbus SB A340-29-4086 Revision 02 dated 23 June 2011.</p> <p>Airbus SB A340-29-4091 original issue dated 19 April 2011, or Revision 01 dated 09 December 2011.</p> <p>Airbus AOT A29L001-12 dated 11 October 2012.</p> <p>Airbus SB A330-29-3125 original issue dated 08 August 2014.</p> <p>Airbus SB A340-29-4096 original issue dated 08 August 2014.</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. This AD was posted on 23 October 2014 as PAD 14-156 for consultation until 20 November 2014. The Comment Response Document can be found at http://ad.easa.europa.eu/.

	<ol style="list-style-type: none">3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification 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 – Airworthiness Office – EIAL; E-mail: airworthiness.A330-A340@airbus.com.
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