


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2014-0077</p> <p>Date: 27 March 2014</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 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].	
Design Approval Holder's Name: AIRBUS	Type/Model designation(s): A340-500/-600 aeroplanes
TCDS Number:	EASA.A.015
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2013-0074 dated 20 March 2013.
ATA 27	Flight Controls – Trimmable Horizontal Stabilizer Actuator – Operational and Functional Tests / Replacement
Manufacturer(s):	Airbus (formerly Airbus Industrie)
Applicability:	Airbus A340-541, A340-542, A340-642 and A340-643 aeroplanes, all manufacturer serial numbers.
Reason:	<p>During endurance qualification tests on A380 Trimmable Horizontal Stabilizer Actuator (THSA), a partial loss of the no-back brake (NBB) efficiency was experienced. Due to design similarity, the same tests were initiated by the supplier on the THSA type fitted on A330/A340 fleet. During these tests, a similar partial loss of the NBB efficiency was identified on one THSA part number (P/N) 47175, installed only on A340-500/-600 aeroplanes.</p> <p>The THSA non-reversibility is ensured by the power gear-train from the hydraulic motors, where pressure-off brakes (POB) are installed, to the ball screw and the NBB. In addition, an Enhanced Runaway Protection (ERP) device specific to the THSA P/N 47175 cuts off both hydraulic supplies to the motors when flight control primary computer(s) detect a runaway of the THSA.</p> <p>Investigation results concluded that this particular malfunction was due to auto-contamination (ageing/endurance issue) of the surfaces of the NBB carbon friction disks, leading to a partial loss of braking efficiency in some specific aerodynamic load conditions.</p> <p>This condition, if not detected and corrected, could lead, in case the hydraulic motors cannot keep the ball screw in its last commanded position, to an uncommanded movement of the THS, possibly resulting in reduced control of the aeroplane under specific aerodynamic loads.</p> <p>A330 and A340-200/-300 series aeroplanes are not affected by this issue</p>

	<p>because they are fitted with a different THSA P/N.</p> <p>For the reasons described above, Airbus published Alert Operators Transmission (AOT) A27L004-13 to instruct operators to accomplish repetitive operational tests of the THSA ERP and repetitive functional tests of the THSA POB, and EASA issued AD 2013-0074 to require accomplishment of those actions and, depending on findings, accomplishment of applicable corrective actions.</p> <p>Since that AD was issued, the risk assessment has been reevaluated and it was determined that the compliance time for the initial operational test of the THSA ERP must be reduced.</p> <p>For the reasons described above, this AD retains the requirements of EASA AD 2013-0074, which is superseded, but requires the initial operational tests of the THSA ERP to be accomplished earlier.</p>						
Effective Date:	03 April 2014						
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Operational tests of the THSA ERP: within 3 months after the effective date of this AD, and, thereafter, at intervals not to exceed 10 000 flight hours (FH), accomplish an operational test of the THSA ERP in accordance with the instructions of Airbus AOT A27L004-13.</p> <p>(2) Functional tests of the THSA POB: initially, within the compliance time defined in Table 1 of this AD, as applicable, and thereafter at intervals not to exceed 4 000 FH, accomplish a functional test of the THSA POB in accordance with the instructions of Airbus AOT A27L004-13.</p> <p style="text-align: center;">Table 1 - Initial Functional Test</p> <table border="1"> <tr> <th></th><th>Compliance time (whichever occurs later, A or B)</th></tr> <tr> <td>A</td><td>Before the THSA accumulates 2 000 flight cycles (FC) since first installation on an aeroplane</td></tr> <tr> <td>B</td><td>within 2 000 FH after 03 April 2013 [the effective date of EASA AD 2013-0074]</td></tr> </table> <p>(3) If, during any test as required by paragraph (1) or (2) of this AD, an ERP or POB fails, before next flight, accomplish the applicable corrective actions in accordance with the instructions of Airbus AOT A27L004-13.</p> <p>(4) Replacement of the THSA, or accomplishment of corrective actions as required by paragraph (3) of this AD does not constitute terminating action for the repetitive tests required by this AD.</p> <p>(5) From the effective date of this AD, following installation of a replacement THSA, accomplish the following actions:</p> <p>(5.1) The initial operational test of the THSA ERP as required by paragraph (1) of this AD must be accomplished before the THSA accumulates 10 000 FH since installation of the replacement THSA</p> <p>(5.2) The initial functional test of the THSA POB, as required by paragraph (2) of this AD, must be accomplished within the compliance time defined in Table 2 of this AD, as applicable.</p> <p>(5.3) After the initial tests, as required by paragraph (5.1) and (5.2) of this AD, respectively, the test intervals as specified in paragraphs (1) and (2) of this AD must be applied.</p>		Compliance time (whichever occurs later, A or B)	A	Before the THSA accumulates 2 000 flight cycles (FC) since first installation on an aeroplane	B	within 2 000 FH after 03 April 2013 [the effective date of EASA AD 2013-0074]
	Compliance time (whichever occurs later, A or B)						
A	Before the THSA accumulates 2 000 flight cycles (FC) since first installation on an aeroplane						
B	within 2 000 FH after 03 April 2013 [the effective date of EASA AD 2013-0074]						

	<p>Table 2 - Initial Functional Test Post Replacement</p> <table> <tr> <td></td><td>Compliance time (whichever occurs later, A or B)</td></tr> <tr> <td>A</td><td>Before the THSA accumulates 2 000 FC since first installation on an aeroplane</td></tr> <tr> <td>B</td><td>within 4 000 FH since installation of the replacement THSA</td></tr> </table> <p>(6) Accomplishment of A340 Maintenance Review Board Report (MRBR) task 27.90.00/17 is an acceptable alternative for compliance with the requirements of paragraph (1) of this AD.</p> <p>(7) Accomplishment of A340 MRBR task 27.40.00/15 is an acceptable alternative for compliance with the requirements of paragraph (2) of this AD.</p>		Compliance time (whichever occurs later, A or B)	A	Before the THSA accumulates 2 000 FC since first installation on an aeroplane	B	within 4 000 FH since installation of the replacement THSA
	Compliance time (whichever occurs later, A or B)						
A	Before the THSA accumulates 2 000 FC since first installation on an aeroplane						
B	within 4 000 FH since installation of the replacement THSA						
Ref. Publications:	<p>Airbus AOT A27L004-13 dated 04 March 2013 or AOT A27L004-13 R1 dated 20 February 2014.</p> <p>The use of later approved revisions of this document 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 06 March 2014 as PAD 14-046 for consultation until 20 March 2014. No comments were received during the consultation period. 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 – Airworthiness Office – EIAL; E-mail: airworthiness.A330-A340@airbus.com. 						