


EASA	AIRWORTHINESS DIRECTIVE	
	AD No.: 2015-0089	
	Date: 22 May 2015	
<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 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].</p>		
Design Approval Holder's Name:	Type/Model designation(s):	
AIRBUS	A330 and A340 aeroplanes	
TCDS Numbers:	EASA.A.004 and EASA.A.015	
Foreign AD:	Not applicable	
Supersedure:	None	
ATA 34	Navigation – Angle of Attack Sensors – Replacement	
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), and</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 MSN.</p>	
Reason:	<p>An occurrence was reported where an Airbus A321 aeroplane encountered a blockage of two Angle of Attack (AOA) probes during climb, leading to activation of the Alpha Protection (Alpha Prot) while the Mach number increased. The flight crew managed to regain full control and the flight landed uneventfully. It was determined that the affected AOA probes are also fitted on A330 and A340 aeroplanes.</p> <p>When Alpha Prot is activated due to blocked AOA probes, the flight control laws order a continuous nose down pitch rate that, in a worst case scenario, cannot be stopped with backward sidestick inputs, even in the full backward position. If the Mach number increases during a nose down order, the AOA value of the Alpha Prot will continue to decrease. As a result, the flight control laws will continue to order a nose down pitch rate, even if the speed is above minimum selectable speed, known as VLS.</p> <p>This condition, if not corrected, could result in loss of control of the aeroplane.</p>	

	<p>Investigation results indicated that aeroplanes equipped with certain UTC Aerospace (UTAS, formerly known as Goodrich) AOA sensors, or equipped with certain SEXTANT/THOMSON AOA sensors, appear to have a greater susceptibility to adverse environmental conditions than aeroplanes equipped with the latest Thales AOA sensor, Part Number (P/N) C16291AB, which was designed to improve AOA indication behaviour in heavy rain conditions.</p> <p>EASA has determined that replacement of these AOA sensors is a necessary precautionary measure to improve the safety level of the aeroplane.</p> <p>For the reasons described above, this AD requires modification of the aeroplanes by replacement of the affected P/N sensors, and, after modification, prohibits (re-)installation of those P/N AOA sensors. This AD also requires repetitive detailed visual inspections (DET) and functional heating tests of certain Thales AOA sensors and provides an optional terminating action for those inspections.</p>
Effective Date:	01 June 2015
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) For aeroplanes on which UTAS P/N 0861ED or P/N 0861ED2 AOA sensors are installed, within 22 months after the effective date of this AD, replace the Captain and First Officer AOA sensors with Thales P/N C16291AB AOA sensors in accordance with the instructions of Airbus SB A330-34-3315, or SB A340-34-4294, or SB A340-34-5105, as applicable, depending on aeroplane type. (2) For aeroplanes on which SEXTANT/THOMSON P/N 45150320 AOA sensors are installed, within 22 months after the effective date of this AD, replace each SEXTANT/THOMSON P/N 45150320 AOA sensor with a Thales P/N C16291AB AOA sensor in accordance with the instructions of Airbus SB A330-34-3228, or SB A340-34-4234, as applicable, depending on aeroplane type. (3) For an aeroplane on which one or more Thales P/N C16291AA AOA sensors are installed, before exceeding 17 000 flight hours (FH) accumulated by each Thales AOA sensor since its first installation on an aeroplane, or within 6 months after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 3 800 FH, accomplish a DET and a functional heating test of each P/N C16291AA AOA sensor in accordance with the instructions of Airbus SB A330-34-3215 Revision 02 (or later), or SB A340-34-4215 Revision 02 (or later), or SB A340-34-5062 Revision 01 (or later), as applicable depending on aeroplane type. (4) If, during any DET or functional heating test as required by paragraph (3) of this AD, discrepancies are detected, replace all affected AOA sensors with Thales P/N C16291AA AOA sensors that have passed a DET and a functional heating test in accordance with the instructions of Airbus SB A330-34-3215 Revision 02 (or later), or SB A340-34-4215 Revision 02 (or later), or SB A340-34-5062 Revision 01 (or later), as applicable, depending on aeroplane type, or with Thales P/N C16291AB AOA sensors, in accordance with the instructions of Airbus SB A330-34-3215 Revision 02 (or later), or SB A340-34-4215 Revision 02 (or later), or SB A340-34-5062 Revision 01 (or later), as applicable, depending on aeroplane type. (5) An aeroplane with Airbus modification (mod) 58555 (installation of Thales P/N C16291AB AOA sensors) but without Airbus mod 46921 (installation of UTAS AOA sensors) embodied in production, is not affected by the requirements of paragraphs (1) through (4) of this AD, provided it is determined that no AOA sensor having a P/N as listed in Table 1 of this AD has been installed on that aeroplane since its date of manufacture.

- (6) Modification of an aeroplane by replacing each Thales P/N C16291AA AOA sensor with a Thales P/N C16291AB AOA sensor in accordance with the instructions of Airbus SB A330-34-3228, or SB A340-34-4234, or SB A340-34-5070, as applicable depending on aeroplane type, constitutes terminating action for the repetitive DET and functional heating tests as required by paragraph (3) of this AD for that aeroplane.

Conditions for installation of an AOA sensor on an aeroplane:

- (7) For an aeroplane on which only Thales P/N C16291AB AOA sensors are installed, from the effective date of this AD, or after modification of the aeroplane as specified in paragraph (6) of this AD, as applicable, do not install a Thales P/N C16291AA AOA sensor on that aeroplane.
- (8) For an aeroplane on which Thales P/N C16291AA and/or Thales P/N C16291AB AOA sensors are installed, from the effective date of this AD, or after modification of the aeroplane as required by paragraph (2) of this AD, as applicable, do not install any AOA sensor with a P/N as listed in Table 1 of this AD on that aeroplane.
- (9) After modification of an aeroplane as required by paragraph (1) of this AD, do not install any AOA sensor with a P/N as listed in Table 1 of this AD on that aeroplane, with the exception that it remains allowed to install a UTAS P/N 0861ED AOA sensor in the standby position of that aeroplane.

Table 1

AOA Sensor Manufacturer	P/N
SEXTANT/THOMSON	P/N 45150320
UTAS (formerly Goodrich)	P/N 0861ED
	P/N 0861ED2

- (10) Installation of AOA sensors having a P/N approved after the effective date of this AD is equal to compliance with the requirements of paragraph (1) or (2) of this AD, as applicable, provided the conditions as specified in paragraphs (10.1) and (10.2) of this AD are met.
- (10.1) The AOA sensor P/N must be approved by EASA, or approved under Airbus DOA; and
- (10.2) The installation must be accomplished in accordance with aeroplane modification instructions approved by EASA, or approved under Airbus DOA.

Ref. Publications:

Airbus SB A330-34-3315 original issue dated 26 March 2015.
 Airbus SB A330-34-3228 original issue dated 07 October 2009.
 Airbus SB A330-34-3215 Revision 02 dated 29 March 2010.

Airbus SB A340-34-4294 original issue dated 26 March 2015.
 Airbus SB A340-34-4234 original issue dated 07 October 2009.
 Airbus SB A340-34-4215 Revision 02 dated 29 March 2010.

Airbus SB A340-34-5105 original issue dated 26 March 2015.
 Airbus SB A340-34-5062 Revision 01 dated 29 March 2010.
 Airbus SB A340-34-5070 original issue dated 09 October 2009.

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

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 15 April 2015 as PAD 15-042 for consultation until 29 April 2015. The Comment Response Document can be found at http://ad.easa.europa.eu/.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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Superseded