


EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2015-0174
	Date: 24 August 2015 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.
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): A310 and A300-600 aeroplanes
TCDS Number: EASA.A.172	
Foreign AD: Not applicable	
Supersedure: This AD supersedes EASA AD 2012-0088 dated 25 June 2012.	
ATA 22, 31	Auto Flight / Instruments – Stop Rudder Input Warning Device – Installation / Activation
Manufacturer(s): Airbus (formerly Airbus Industrie)	
Applicability:	Airbus A300-B4-601, A300-B4-603, A300B4-620, A300B4-622, A300B4-605R, A300B4-622R, A300C4-605R variant F, A300C4-620, A300F4-605R and A300F4-622R aeroplanes, all manufacturer serial numbers (MSN); A310-203, A310-203C, A310-204, A310-221, A310-222, A310-304, A310-308, A310-322, A310-324 and A310-325 aeroplanes, all MSN.
Reason:	In 2001, an Airbus A300B4-605R aeroplane suffered an accident shortly after takeoff, after flying into the wake vortices of the preceding aeroplane. The accident investigation revealed that, as a reaction to and with intentions to counter the roll disturbance that had been induced onto the aeroplane by the wake turbulence, the pilot flying commanded 5 full or nearly full-available-deflections opposite-rudder inputs (i.e. 4 rudder reversals), which resulted in high aerodynamic loads to be exerted on the fin, leading to the rupture of the vertical stabilizer attachment fittings and consequent in-flight separation of the vertical stabilizer. It was determined that the resulting loads at the time of the 5 th rudder inputs were in excess of the ultimate load capability of the aeroplane, which was certified in accordance with the applicable airworthiness standards. While such a use of sequential opposite rudder inputs was admitted by regulators and large transport aircraft designers as unexpected and inappropriate non-conventional piloting techniques, two other previous occurrences revealed retrospectively a similar behaviour from pilots (i.e. use of rudder reversals) as an attempt to recover from an upset situation.

	<p>In addition, an international survey among a worldwide population of airline transport pilots, conducted in 2006 by the U.S. Federal Aviation Administration (FAA) together with the International Air Transport Association (IATA), and published end of 2010, discloses that the rudder is still reported to be used or considered for use by pilots in ways they have not been trained and in situations that sometimes contradict the guidance of the industry's common Airplane Upset Recovery Training Aid. This training aid was developed by an aviation industry working group and the FAA, and was initially published in 1998, and revised in 2004 and 2008.</p> <p>Multiple sequential opposite-rudder pedal inputs were reported and are of a major concern in that they characterize an overuse that could invalidate some of the certification assumptions because, although the current standards in Part (FAR, JAR, CS) 25 address large pedal inputs - i.e. from maximum rudder deflection available to neutral - at airspeeds up to the design dive airspeed (V_D), the standards do not address the loads imposed by rudder reversals.</p> <p>While the FAA and the European Aviation Safety Agency (EASA) are working conjointly to determine whether and to what extent large aeroplane certification standards can be improved with regards to excessive and improper use of rudder, EASA approved an Airbus design change, involving the installation of a Stop Rudder Inputs Warning (SRIW) system, that monitors rudder inputs and triggers aural and visual warnings as soon as one dangerous rudder doublet is detected. This change has been assessed by EASA against the intent of two National Transportation Safety Board (NTSB) safety recommendations that were issued after the aforementioned 2001 accident.</p> <p>Consequently, and as a response to the two NTSB recommendations, EASA issued AD 2012-0088 to require installation and activation of the SRIW on all A310 series and A300-600 series aeroplanes.</p> <p>In addition, that AD required, prior to or concurrent with modification of an aeroplane with the introduction of the SRIW, upgrades of the Flight Control Computer (FCC) and Flight Warning Computer (FWC), to introduce the SRIW logic and SRIW aural capability, respectively.</p> <p>Since EASA AD 2012-0088 was issued, Airbus revised Service Bulletin (SB) A300-22-6054 to incorporate technical changes prompted by the evolution of the electrical definition and to add access to working areas.</p> <p>For the reason described above, this AD retains the requirements of EASA AD 2012-0088, which is superseded, and requires additional actions for A300-600 aeroplanes introduced with Airbus SB A300-22-6054 at Revision 06.</p>
Effective Date:	07 September 2015
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 48 months after 09 July 2012 [the effective date of EASA AD 2012-0088], accomplish the following actions concurrently, as specified in paragraphs (1.1) and (1.2) of this AD: <ol style="list-style-type: none"> (1.1) Install the SRIW device, in accordance with the instructions of Airbus SB A300-22-6054 Revision 06, or SB A310-22-2063 Revision 02, as applicable to aeroplane model. (1.2) Activate the SRIW device in accordance with the instructions of Airbus SB A300-22-6055 or SB A310-22-2064, as applicable to aeroplane model. (2) Prior to, or concurrent with, modification of an aeroplane as required by paragraph (1) of this AD, accomplish the following actions on that aeroplane, as specified in paragraphs (2.1) and (2.2) of this AD:

	<p>(2.1) Upgrade the FCC to introduce the SRIW logic, in accordance with the instructions of Airbus SB A300-22-6056 or SB A310-22-2065, as applicable to aeroplane model.</p> <p>(2.2) Upgrade the FWC to introduce the SRIW aural capability, in accordance with the instructions of Airbus SB A300-31-6140 or SB A310-31-2144, as applicable to aeroplane model.</p> <p>(3) For an A300-600 aeroplane which, before the effective date of this AD, has been modified in accordance with the instructions of Airbus SB A300-22-6054 at original issue, or Revision 01, or Revision 02, or Revision 03, or Revision 04, or Revision 05, accomplishment of the “additional work 1” and/or “additional work 2” actions, as applicable, in accordance with the instructions of Airbus SB A300-22-6054 at Revision 06 is acceptable to comply with the requirements of paragraph (1.1) of this AD for that aeroplane.</p>
Ref. Publications:	<p>Airbus SB A300-22-6054 Revision 04 dated 04 December 2013, or Revision 05 dated 20 February 2014, or Revision 06 dated 23 May 2014, or Revision 07 dated 02 December 2014.</p> <p>Airbus SB A300-22-6055 original issue dated 18 November 2011, or Revision 01 dated 31 May 2012, or Revision 02 dated 28 March 2013, or Revision 03 dated 03 July 2013, or Revision 04 dated 20 September 2013, or Revision 05 dated 04 December 2013, or Revision 06 dated 20 February 2014, or Revision 07 dated 23 May 2014, or Revision 08 dated 20 November 2014.</p> <p>Airbus SB A300-22-6056 original issue dated 25 April 2012 or Revision 01 dated 21 August 2012.</p> <p>Airbus SB A300-31-6140 original issue dated 04 May 2012, or Revision 01 dated 16 August 2012.</p> <p>Airbus SB A310-22-2063 Revision 02 dated 23 May 2014, or Revision 03 dated 09 September 2014, or Revision 04 dated 18 February 2015, or Revision 05 dated 09 June 2015.</p> <p>Airbus SB A310-22-2064 original issue dated 18 November 2011, or Revision 01 dated 31 May 2012, or Revision 02 dated 19 September 2013, or Revision 03 dated 23 May 2014, or Revision 04 dated 09 September 2014, or Revision 05 dated 18 February 2015, or Revision 06 dated 08 June 2015.</p> <p>Airbus SB A310-22-2065 original issue dated 25 April 2012, or Revision 01 dated 21 August 2012.</p> <p>Airbus SB A310-31-2144 original issue dated 04 May 2012, or Revision 01 dated 16 August 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. This AD was posted on 23 July 2015 as PAD 15-097 for consultation until 20 August 2015. No comments were received during the consultation period. 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 SAS – EIAW (Airworthiness Office) E-mail: continued.airworthiness-wb.external@airbus.com.