EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2012-0088 **Date: 25 June 2012** 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 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].

Design Approval Holder's Name:	**Type/Model designation(s):**
AIRBUS	A310 and A300-600 aeroplanes

TCDS Number:	France N° 145
Foreign AD:	Not applicable
Supersedure:	None

ATA 22, 31	**Auto Flight / Instruments – Stop Rudder Inputs Warning (SRIW) Device – Installation / Activation**
Manufacturer(s):	Airbus (formerly Airbus Industrie)
Applicability:	Airbus model A300B4-601, A300B4-603, A300B4-620, A300B4-622, A300B4-605R, A300B4-622R, A300F4-605R, A300F4-622R, A300C4-620 and A300C4-605R variant F aeroplanes, all manufacturer serial numbers (MSN); and Airbus model 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 5th 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. 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. 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. 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. For all the reasons mentioned above, and as a response to the two NTSB recommendations, this AD is issued by EASA to require installation and activation of the SRIW on all A310 series and A300-600 series aeroplanes. In addition, this AD requires, 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.
Effective Date:	09 July 2012
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within 48 months after the effective date of this AD, accomplish the following actions, as specified in paragraphs (1.1) and (1.2) of this AD, concurrently: (1.1) Modify the aeroplane to install the SRIW device, in accordance with the Accomplishment Instructions of Airbus Service Bulletin (SB) A300-22-6054 original issue, or SB A310-22-2063 original issue, as applicable to aeroplane Model. (1.2) Activate the SRIW device, in accordance with the Accomplishment Instructions of Airbus SB A300-22-6055 original issue, or SB A310-22-2064 original issue, 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: (2.1) Upgrade the FCC to introduce the SRIW logic, in accordance with the Accomplishment Instructions of Airbus SB A300-22-6056 original issue, or SB A310-22-2065 original issue, as applicable to aeroplane Model. (2.2) Upgrade the FWC to introduce the SRIW aural capability, in accordance with the Accomplishment Instructions of Airbus SB A300-31-6140 original issue, or SB A310-31-2144 original issue, as applicable to aeroplane Model.

Ref. Publications:	Airbus A300-600 Service Bulletins: SB A300-22-6054, SB A300-22-6055, SB A300-22-6056 and SB A300-31-6140, all at original issue. Airbus A310 Service Bulletins: SB A310-22-2063, SB A310-22-2064, SB A310-22-2065 and SB A310-31-2144, all at original issue. The use of later approved revisions of these documents is acceptable for compliance with requirements of this AD.
Remarks:	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted on 07 September 2011 as PAD 11-098 for consultation until 05 October 2011. 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, 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 – EIAW (Airworthiness Office, Telephone: + 33 5 61 18 41 39, Fax: + 33 5 61 93 44 51).