EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2010-0002 **Date: 05 January 2010** 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].

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

TCDS Number:	France N°145
Foreign AD :	Not applicable
Supersedure :	This AD supersedes EASA AD 2009-0166 dated 31 July 2009.

ATA 55	**Stabilizers – Rudder Side Shell Skin – Inspection**
Manufacturer(s):	Airbus (formerly Airbus Industrie)
Applicability:	Airbus A310 and A300-600 aeroplanes, all certified models, all manufacturer serial numbers, if equipped with a Carbon Fibre Reinforced Plastic (CFRP) rudder having a Part Number (P/N) and serial number (s/n) as listed in Appendix A of this AD.
Reason:	Surface defects were visually detected on the rudder of an A319 and an A321 in-service aeroplane. Investigation has determined that the defects reported on both rudders corresponded to areas that had been reworked in production. The investigation confirmed that the defects were as a result of de-bonding between the skin and honeycomb core. Such reworks were also performed on some rudders fitted on A310 and A300-600 aeroplanes. An extended de-bonding, if not detected and corrected, may degrade the structural integrity of the rudder. The loss of the rudder leads to degradation of the handling qualities and reduces the controllability of the aeroplane. To address this unsafe condition, EASA issued AD 2009-0166 to require inspections of specific areas and, depending on findings, the application of corrective actions for those rudders where production reworks have been identified. This new AD retains the requirement of EASA AD 2009-0166, which is superseded, and requires for the vacuum loss hole restoration : - a local ultrasonic inspection for reinforced area instead of the local thermographic inspection, which is maintained for non-reinforced areas, and - additional work performance for rudders on which this thermographic inspection has been performed in the reinforced area.

Effective Date:	19 January 2010
Required Action(s) and Compliance Time(s):	Required as indicated: (1) For rudders with a honeycomb core density of 24 kg/m^3 as identified in Appendix A to this AD, apply the following actions for the locations defined in Airbus All Operators Telex (AOT) A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable: (1.1) **Reinforced area location**: Unless already accomplished, within 8 months from 14 August 2009 [the effective date of AD 2009-0166], perform Vacuum Loss inspection on the rudder reinforced area in accordance with the instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable. (1.2) **Trailing edge area location**: (1.2.1) Unless already accomplished, within 24 months from 14 August 2009 [effective date of AD 2009-0166], perform Elasticity Laminate Checker inspection on the rudder trailing edge area in accordance with instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable. (1.2.2) Repeat two further times the inspection as defined in paragraph (1.2.1) of this AD at intervals not to exceed 4 500 flight cycles (FC) but not less than 4 000 FC from the last inspection. (1.3) **Other areas locations (lower rib/upper edge/leading edge/other locations)**: (1.3.1) Unless already accomplished, within 8 months from 14 August 2009 [the effective date of AD 2009-0166], perform Elasticity Laminate Checker inspection on the other areas (lower rib/upper edge/leading edge/other locations) in accordance with instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable. (1.3.2) Repeat the inspection defined in paragraph (1.3.1) of this AD at intervals not exceeding 8 months from the last inspection. (1.3.3) Unless already accomplished, within 24 months from 14 August 2009 [the effective date of AD 2009-0166], perform Vacuum Loss inspection on these areas (lower rib/upper edge/leading edge/other locations) in accordance with the instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable. (1.3.4) Accomplishment of the inspection required by paragraph (1.3.3) cancels the initial and repetitive inspections required by paragraph (1.3.1) and (1.3.2) of this AD. (1.4) In case of findings during the inspections as required by paragraphs (1.1), (1.2) or (1.3) of this AD, before next flight, contact Airbus to get further instructions and apply the associated instructions and corrective actions in accordance with the approved data provided. (1.5) In case of no findings during the inspections as required by paragraphs (1.1) or (1.3.3) of this AD, before next flight, restore the vacuum loss holes as per the option selected (temporary restoration with self adhesive patches, temporary restoration with resin or permanent restoration), in accordance with AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable, and apply associated instructions until performance of permanent

restoration.

(1.6) Within 10 days after accomplishment of each inspection as required by paragraphs (1.1), (1.2) and (1.3) of this AD, report the inspection results, including no findings, to Airbus.

(2) For rudders not having a honeycomb core density of 24 kg/m^3 as identified in Appendix A to this AD, apply the following actions for the locations defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable:

For the purpose of this AD a "**Reference Date**" is 14 August 2009 [the effective date of AD 2009-0166] or the date when the rudder will accumulate 13 000 FC from its first installation on an aeroplane, whichever occurs later.

(2.1) **Reinforced area location**:

Unless already accomplished, within 8 months from the Reference Date, perform Vacuum Loss inspection on the rudder reinforced area in accordance with instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable.

(2.2) **Trailing edge area location**:

(2.2.1) Unless already accomplished, within 24 months from the Reference Date, perform Elasticity Laminate Checker inspection on the rudder trailing edge area in accordance with instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable.

(2.2.2) Repeat two further times the inspection defined in paragraph (2.2.1) of this AD at intervals not to exceed 4 500 FC but not less than 4 000 FC from the last inspection.

(2.3) **Other areas locations (lower rib/upper edge/leading edge/other locations)** :

(2.3.1) Unless already accomplished, within 8 months from the Reference Date, perform Elasticity Laminate Checker inspection on the other areas (lower rib/upper edge/leading edge/other locations) in accordance with instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable.

(2.3.2) Repeat the inspection defined in paragraph (2.3.1) of this AD at intervals not exceeding 8 months from the last inspection.

(2.3.3) Unless already accomplished, within 24 months from the Reference Date, perform Vacuum Loss inspection on these areas (lower rib/upper edge/leading edge/other locations) in accordance with instructions defined in Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable.

(2.3.4) Accomplishment of the inspection required by paragraph (2.3.3) of this AD cancels the initial and repetitive inspections required by paragraph (2.3.1) and (2.3.2) of this AD.

(2.4) In case of findings during the inspections as required by paragraphs (2.1), (2.2) or (2.3) of this AD, before next flight, contact Airbus to get further instructions and apply the associated instructions and corrective actions in accordance with the approved data provided.

(2.5) In case of no findings during the inspections as required by paragraphs (2.1) or (2.3.3) of this AD, before next flight, restore the vacuum loss holes as per the option selected (temporary restoration with self adhesive patches, temporary restoration with resin or permanent restoration), in accordance with AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable, and

	apply associated instructions until performance of permanent restoration. (2.6) Within 10 days after accomplishment of each inspection as required by paragraphs (2.1), (2.2) and (2.3) of this AD, report the results, including no findings, to Airbus. (3) All rudders that have passed the inspection, before 14 August 2009 [the effective date of AD 2009-0166], in accordance with the instructions of Airbus AOT A310-55A2048 at original issue or AOT A300-55A6047 at original issue, as applicable, or through Sampling campaign for Rudder P/N A554-71500-016-91 (s/n HF-1059) and Rudder P/N A554-71500-014-00 (s/n HF-1087), are compliant with the associated requirements of paragraphs (1) or (2) of this AD for the areas inspected. Additional areas requiring inspection are defined in Airbus AOT A310-55A2048 Revision 01 or AOT A300-55A6047 Revision 01. For these additional areas the requirements of paragraphs (1) or (2) of this AD are applicable. For all areas, the repetitive inspections required by paragraphs (1) or (2) of this AD remain applicable. (4) All rudders that have passed the inspection, before the effective date of this AD, in accordance with the instructions of Airbus AOT A310-55A2048 Revision 01 or AOT A300-55A6047 Revision 01, as applicable, are compliant with the associated requirements of paragraphs (1) or (2) of this AD for the areas inspected. The repetitive inspections required by this AD remain applicable. (5) For rudders on which temporary restoration with resin or permanent vacuum loss hole restoration has been performed before the effective date of this AD in reinforced area as per paragraph (1.5) or (2.5) of this AD and in accordance with the instructions of Airbus AOT A310-55A2048 at original issue or Revision 01 or AOT A300-55A6047 at original issue or Revision 01, as applicable, within 4 500 FC from restoration date, perform an ultrasonic inspection in accordance with the instructions of Airbus AOT A310-55A2048 Revision 02 or AOT A300-55A6047 Revision 02, as applicable. (6) After the effective date of this AD, do not install any rudder listed in Appendix A to this AD on an aeroplane, unless in compliance with the requirements of this AD.
Ref. Publications :	AIRBUS All Operators Telex A310-55A2048 original issue, Revision 01 or Revision 02. AIRBUS All Operators Telex A300-55A6047 original issue, Revision 01 or Revision 02. The use of later approved revisions of these documents is acceptable for compliance with the 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 27 November 2009 as PAD 09-134 for consultation until 25 December. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research 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 – EAW (Airworthiness Office, Telephone: + 33 5 61 93 36 96, Fax: + 33 5 61 93 44 51).

Appendix A

Rudder Part Number	Affected rudder Serial Number	Core density 24kg.m-3
A554-71500-016-91	HF-1017	X
A554-71500-016-91	HF-1020	
A554-71500-016-91	HF-1059	
A554-71500-016-91	HF-1061	
A554-71500-016-91	HF-1064	
A554-71500-014-00	HF-1087	X
A554-71500-014-00	HF-1119	X
A554-71500-016-00	HF-1189	X
A554-71500-016-00	HF-1203	X
A554-71500-016-00	HF-1266	X
A554-71500-026-00	TS-1405	
A554-71710-000-00	TS-2001	
A554-71710-000-00	TS-2004	
A554-71710-000-00	TS-2007	
A554-71710-000-00	TS-2009	
A554-71710-000-00	TS-2011	
A554-71710-000-00	TS-2012	
A554-71710-000-00	TS-2013	
A554-71710-000-00	TS-2014	
A554-71710-000-00	TS-2016	
A554-71710-000-00	TS-2017	
A554-71710-000-00	TS-2018	
A554-71710-000-00	TS-2020	
A554-71710-000-00	TS-2021	
A554-71710-000-00	TS-2022	
A554-71710-000-00	TS-2024	
A554-71710-000-00	TS-2025	
A554-71710-000-00	TS-2026	
A554-71710-000-00	TS-2028	
A554-71710-000-00	TS-2029	
A554-71710-002-00	TS-2031	
A554-71710-002-00	TS-2032	
A554-71710-002-00	TS-2035	
A554-71710-002-00	TS-2040	
A554-71710-002-00	TS-2041	
A554-71710-002-00	TS-2044	
A554-71710-002-00	TS-2046	
A554-71710-004-00	TS-2050	
A554-71710-004-00	TS-2056	
A554-71710-004-00	TS-2058	
A554-71710-004-00	TS-2060	
A554-71710-004-00	TS-2062	
A554-71710-004-00	TS-2065	
A554-71710-004-00	TS-2066	
A554-71710-004-00	TS-2074	
A554-71710-004-00	TS-2075	
A554-71710-004-00	TS-2076	
A554-71710-004-00	TS-2079	