	<b>AIRWORTHINESS DIRECTIVE</b> <b>No F-2005-111 R1</b>		Distribution: <b>B</b>	Issue date: <b>December 21, 2005</b>	Page : <b>1/4</b>
	This Airworthiness Directive is published by the DGAC on behalf of EASA, Airworthiness Authority of the State of Design for the affected product, part or appliance.			<i>Translation of « Consigne de Navigabilité » of same number. In case of difficulty, reference should be made to the French issue.</i>	
Direction générale de l'aviation civile France  GSAC publication	<b>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive, unless otherwise agreed with the Authority of the State of Registry.</b>				
Corresponding foreign Airworthiness Directive(s): <b>Not applicable</b>			Airworthiness Directive(s) replaced: <b>F-2005-111 original issue</b>		
Person in charge of airworthiness: <b>AIRBUS SAS</b>			Type(s): <b>A310 and A300-600 aircraft</b>		
Type certificate(s) No. <b>72</b> TCDS No <b>145</b>					
ATA chapter:  <b>22</b>	Subject: <b>Auto-pilot - New flight augmentation computer (FAC) standard</b>				

## 1. **EFFECTIVITY:**

- AIRBUS A310 aircraft, all certified models and all serial numbers, except for aircraft on which AIRBUS Service Bulletin (SB) A310-22-2058 (or AIRBUS modification 12931) has been embodied,
- AIRBUS A300-600 aircraft, all certified models and all serial numbers, except for aircraft on which AIRBUS SB A300-22-6050 (or AIRBUS modification 12932) has been embodied,

## 2. **REASONS:**

### **Background:**

An A300-600 aircraft flying with Auto-Pilot 1, Pitch Trim 1 and 2 engaged, was unable to hold the vertical speed selected by the crew.

A maintenance check later revealed that this situation was due to an open circuit between Flight Control Computer 1 (FCC 1) and Flight Augmentation Computer 1 (FAC 1).

If left uncorrected, this failure could lead to a potential out-of-trim situation and, in case of auto-pilot disconnection, to a sudden pitch attitude change.


### **Purpose of this Airworthiness Directive (AD):**

A new recently certified THALES AVIONICS FAC standard PN B471ABM5 (A310 aircraft) and B471AAM8 (A300-600 aircraft) restores the full capability of the FAC auto-trim monitoring function.

The installation of these PN's is rendered mandatory by this Airworthiness Directive (AD) at the threshold defined in the paragraph 3.

Compliance to this AD cancels the requirements of AD's 2001-463, 2001-017-329, 2003-165, F-2003-243 R1 and, for AIRBUS A310 and A300-600 aircraft, 2000-115-304 R4.

This Revision 1 corrects the Applicability of paragraph 3.2.2.

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### 3. MANDATORY ACTIONS AND COMPLIANCE TIMES:

#### 3.1. FAC replacement:

- 3.1.1. **A310 A/C pre SB A310-22-2052 (or pre mod. 12277) and pre-BS A310-22-2058 (or pre mod. 12931).  
A300-600 A/C pre SB A300-22-6041 (or pre mod. 12277) and pre SB A300-22-6050 (or pre mod. 12932).**

Within two years from the effective date of this AD at original issue, replace the two FAC' s of the aircraft in accordance with the instructions of SB A310-22-2058 or SB A300-22-6050 as applicable.

- 3.1.2. **A310 aircraft that are post SB A310-22-2052 (or post mod. 12277) and pre SB A310-22-2058 (or pre mod. 12931).  
A300-600 aircraft that are post SB A300-22-6041 (or post mod. 12277) and pre SB A300-22-6050 (or pre mod. 12932).**

Within three years from the effective date of this AD at original issue, replace the two FAC' s of the aircraft in accordance with the instructions of SB A310-22-2058 or SB A300-22-6050 as applicable.

Accomplishment of SB A310-22-2058 or SB A300-22-6050 requires the cancellation of the modification called by SB A310-22A2056 or A300-22A6048 respectively.

**Note:** On A310 and A300-600 aircraft, no further actions are required after replacement of both FAC's in accordance with SB A310-22-2058 or A300-22-6050.

#### 3.2. Reminder of earlier AD requirements:

##### 3.2.1. Reminder of AD 2000-115-304 R4 requirements:


**A310 A/C pre SB A310-22-2052 (or pre mod. 12277) and pre BS A310-22-2058 (or pre mod. 12931).  
A300-600 A/C pre SB A300-22-6041 (or pre-mod. 12277) and pre SB A300-22-6050 (or pre-mod. 12932).**

- a. Within 500 flight hours following the Pitch Trim system maintenance check performed in accordance with the requirements of AD 2000-007-301, check for the integrity of the FCC/FAC as for the activation logic of the auto-trim function, by checking the correct operation of this function. Correct any anomaly noticed before the next flight following these findings, in accordance with the instructions of SB's A310-22A2053 Revision 01 or A300-22A6042 Revision 01.
- b. Repeat this procedure at intervals not exceeding 500 flight hours.
- c. Inform AIRBUS SAS of all findings, whatever they may be.

##### 3.2.2. Reminder of AD 2003-165 and of AD F-2003-243 R1 requirements:

**A310-200 aircraft that are post SB A310-22-2052 (or post mod. 12277) and pre SB A310-22-2058 (or pre mod. 12931).  
A300-600 aircraft not equipped with trim tank that are post SB A300-22-6041 (or post mod. 12277) and pre-BS A300-22-6050 (or pre mod. 12932).**

- a. Before next flight following the effective date of AD 2003-243 at original issue, unless already accomplished within less than one week, perform the following actions:
  - a.1. Check the integrity of the autotrim function for all possible combinations of autopilot and pitch trim as per paragraph 4.2 of AIRBUS AOT A300-22A6046 dated March 06, 2003 for A300-600 aircraft or AIRBUS AOT A310-22A2055 dated March 06, 2003 for A310 aircraft.

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a.2. Repeat this check at intervals not exceeding one week.

a.3. In addition, perform this check before next flight:

- after replacement of either FAC or FCC,
- after removal/installation of either FAC or FCC for any maintenance or troubleshooting action,
- after removal/installation of either FAC or FCC for repair on the rack connectors of either FAC or FCC,
- after pitch trim MMEL dispatch condition.

b. Before May 31, 2003, unless already accomplished, perform the following actions:

b.1 For all aircraft concerned except for MSN 344, embody the modification called by Service Bulletin A310-22A2056 or SB A300-22A6048 as applicable.

b.2 For aircraft MSN 344, embody the modification defined in Service Bulletins A300-22A6048 and A300-22-6045.

c. Within two weeks after the effective date of AD 2003-243 at original issue, in order to check the correct activation of the autotrim monitoring function, perform the test prescribed in section 7.1 of AIRBUS AOT A300-22A6049 dated June 12, 2003 for A300-600 aircraft or in section 7.1 of AIRBUS AOT A310-22A2057 dated June 12, 2003 for A310 aircraft.

c.1. A positive result of this test cancels the actions prescribed in section 3.2.2.a. of this AD. However MMEL Temporary Revision or next MMEL revision still applies.

c.2. Should test results be negative, within one week after having performed the test, modify or repair the aircraft in accordance with an approved modification or repair solution, in order to achieve the correct activation of the autotrim monitoring function.

Contact AIRBUS to obtain the appropriate approved modification or repair design data.

Continue to perform the actions prescribed in section 3.2.2.a. of this AD until correct activation of the autotrim function is achieved.

d. In case of inoperative pitch trim, apply MMEL TR or next MMEL revision.

#### **4. REFERENCE PUBLICATIONS:**

AIRBUS Service Bulletins:

A310-22-2058

A300-22-6050

A300-22A6048

A300-22-6045

A310-22A2056

A310-22-2052

A300-22-6041

A310-22A2053 R1

A300-22A6042 R1


Any later approved revision of these SB's is acceptable.

AOT A300-22A6046

AOT A310-22A2055

AOT A300-22A6049

AOT A310-22A2057.

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5. **EFFECTIVE DATES:**

Original issue : July 16, 2005

Revision 1 : December 31, 2005.

6. **REMARK:**

For questions concerning the technical contents of this AD's requirements, contact:

AIRBUS SAS - Office of Airworthiness - EAW - Fax: 33 5 61 93 45 80.

7. **APPROVAL:**

This AD Revision is approved under EASA reference No 2005-6440 dated December 13, 2005.