



CIVIL AVIATION AUTHORITY
CZECH REPUBLIC
Airworthiness Division

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AIRWORTHINESS DIRECTIVE

Number: CAA-AD-T-053/2003

Date of issue: June 24, 2003

AIRBUS
A300-600, A310

AIRCRAFT - AUTOTRIM FUNCTION - INSPECTION

Applicability:

- AIRBUS A300-600 with SB 22A6048
- AIRBUS A310-200 with SB 22A2056

Effective date: upon receipt

Compliance: Required as indicated DGAC AD U2003-243(B).

Remarks: The compliance of this AD must be recorded in Aircraft Logbook, where applicable the requirements of this AD must be integrated into Aircraft Technical Documentation. Address inquiries concerning this AD to: Civil Aviation Authority, Airworthiness Division, Ruzyně Airport, 160 08 Prague 6, Czech Republic, tel.: 420 2 33320922, fax: 420 2 20562270.

Ing. Pavel MATOUŠEK
Director

DGAC AD No U2003-243(B) - AIRBUS - A300-600 and A310 aircraft

SUBJECT: A300-600 AND A310 - AUTOTRIM FUNCTION - PIN PROGRAMMING ACTIVATION (ATA 22)

1. EFFECTIVITY:

- AIRBUS A300-600 with SB 22A6048
- AIRBUS A310-200 with SB 22A2056

2. REASONS:

An A300-600 dispatched under MMEL condition with pitch trim 1 inoperative experienced an undetected slow pitch trim movement in the nose down direction after autopilot 2 engagement in level change/climb mode. This undetected pitch trim movement led to an out-of-trim condition and aircraft nose down attitude, resulting in aircraft acceleration to VMO. The crew engaged the vertical speed mode, leading to autothrust speed mode and subsequent thrust reduction with further nose down effect. The crew took over by disconnecting the autopilot and the autothrottle.

On ground, an open circuit was found in the connection responsible for transmitting autotrim signals between Flight Control Computer 2 (FCC2) and Flight Augmentation Computer 2 (FAC2). In this case the FAC does not receive the FCC signal leading to erroneous slow nose down autotrim orders by the FAC. Expertise of the current FAC software design has shown that the monitoring function that should have led to automatic disengagement of the autopilot in such a situation did not operate properly due to a software defect specific to these FAC part numbers (PN B471ABM4 and PN B471AAM7).

When in the flight condition where the autotrim monitoring function of the FAC is ineffective (clean configuration, Mach number higher or equal to 0,45), an erroneous slow nose down autotrim order may lead to an out-of-trim situation. If this situation is not promptly detected and corrected by the crew, this may result in significant load factor increase and potential reduced controllability of the aircraft.

Further to this event, application of the Service Bulletins (SB) 22A6048 on A300-600 and 22A2056 on A310-200 has been mandated per DGAC CN 2003-165(B). The aim of these SBs was to ensure the correct activation of the C6 comparator function within the Flight Augmentation Computer (FAC). During implementation of these SBs, it was detected that the aircraft configuration as quoted in the SBs did not correspond to some configurations of aircraft in service. This can lead to a situation where the test required in the SBs to ensure correct activation of the C6 comparator is ineffective.

The aim of this Airworthiness Directive (AD) is to ensure by a check of the FAC pin programming wires that the C6 comparator function of the autotrim monitoring is correctly activated.

3. MANDATORY ACTIONS AND COMPLIANCE TIME:

3.1 Before next flight after the effective date of this AD, unless already accomplished within less than one week, perform the following actions:

3.1.1 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 6, 2003 for A300-600 aircraft or AIRBUS AOT A310-22A2055 dated March 6, 2003 for A310 aircraft.

3.1.2 Repeat this check at intervals not exceeding one week.

3.1.3 In addition, perform this check:

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.

3.2 Within two weeks after the effective date of this AD, in order to check the correct activation of the autotrim monitoring function, perform the test prescribed in section 7.1 of AOT A300-22A6049 for A300-600 aircraft or in section 7.1 of AOT A310-22A2057 for A310 aircraft.

3.2.1 A positive result of this test cancels the actions prescribed in section 3.1 of this AD.

3.2.2 In case the result of the test is negative, within one week after having performed the test, modify or repair the aircraft according to 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 3.1 of this AD until correct activation of the autotrim function is achieved.

REF.: - AIRBUS AOT A300-22A6046 dated March 06, 2003

-AIRBUS AOT A310-22A2055 dated March 06, 2003

- AIRBUS AOT A300-22A6049 dated June 12, 2003

- AIRBUS AOT A310-22A2057 dated June 12, 2003.

EFFECTIVE DATE: UPON RECEIPT OF THIS AD FROM JUNE 20, 2003.

For further information, please contact:

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