



No.	CF-2009-35R1	1/3
Issue Date	14 April 2010	

AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to **Canadian Aviation Regulation (CAR) 521 Division X**. Pursuant to **CAR 605.84** and the further details of **CAR Standard 625, Appendix H**, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with **CAR 605.84** and the above-referenced **Standard**.

This AD has been issued by the Continuing Airworthiness Division (AARDG), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

- Number:** CF- 2009-35R1
- Subject:** Angle of Attack Transducer – Heating Element Degradation and Inaccurate Calibration
- Effective:** 5 May 2010
- Revision:** This revision supersedes Airworthiness Directive (AD) CF-2009-35
- Applicability:** All Bombardier Inc. Model CL-600-2C10, CL-600-2D15 and CL-600-2D24 aircraft equipped with Thales Angle of Attack (AOA) transducers, Part Number (P/N) C16258AA.
- Compliance:** As indicated unless already accomplished.
- Background:** The heating capability of several AOA transducer heating elements removed from in-service aircraft has been found to be below the minimum requirement. Also, it was discovered that a large number of AOA transducers repaired in an approved maintenance facility were not calibrated accurately.

Inaccurate calibration of the AOA transducer and/or degraded AOA transducer heating elements can result in early or late activation of the stall warning, stick shaker and stick pusher by the Stall Protection Computer (SPC).

This directive mandates a periodic inspection of the inrush current to verify the AOA heating capability and replacement of the inaccurately calibrated AOA transducers.

Revision 1 clarifies the corrective actions instructions in paragraphs 1.1.1 and 1.1.2.

- Corrective Actions:**
- 1. Angle of Attack Transducers Calibration Part Number (P/N) C16258AA**
 - 1.1 Within 6 000 hours air time from the effective date of the original issue of this directive (16 September 2009), perform the following in accordance with the Accomplishment Instructions of Bombardier Service Bulletin (SB) 670BA-27-053, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada:

Inspect the part number and the serial number (S/N) of each of the AOA transducers P/N C16258AA installed on the aircraft.

 - 1.1.1 If the S/N is not listed in paragraph 1. A.(1) of SB 670BA-27-053, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, or if a different part number is installed, proceed to Paragraph 2 of this directive.

Pursuant to **CAR 202.51** the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address.

To request a change of address, contact the **Civil Aviation Communications Centre (AARC)** at Place de Ville, Ottawa, Ontario K1A 0N8, or 1-800-305-2059, or www.tc.gc.ca/civilaviation/communications/centre/address.asp



1.1.2 If the P/N and the S/N are listed in paragraph 1.A.(1) of SB 670BA-27-053, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, and the serial number has a suffix "A" (reference: Thales SB C16258A-27-002), proceed to Paragraph 2 of this directive.

1.1.3 If the P/N and the S/N are listed in paragraph 1.A.(1) of the SB 670BA-27-053, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, replace the AOA transducer in accordance with the Accomplishment Instructions, Part 2 Paragraph B.(2) of the above mentioned SB or its later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

1.2 As of the effective date of the original issue of this directive 16 September 2009, no person shall install a replacement AOA Transducer P/N C16258AA with a S/N listed in paragraph 1.A.(1) of Bombardier SB 670BA-27-053, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, unless the serial number has the suffix "A" (reference: Thales SB C16258A-27-002).

2. Angle of Attack Transducers Heating Element Degradation P/N C16258AA

2.1 Inspection for Inrush Current

In accordance with the schedule in Table 1 below, measure the inrush current of the installed AOA transducers in accordance with the Accomplishment Instructions, Part A, of Bombardier SB 670BA-27-051, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Table 1	
Accumulated Angle of Attack transducer Hours Air Time on the Effective Date of this directive.	Compliance Schedule for Initial Inrush Current Inspection
Less than 6 500 hours air time	Before the AOA transducer has 7 500 hours air time
More than or equal to 6 500 but not greater than 7 500 hours air time	Within 500 hours air time from the effective date of this directive but no later than 8 000 hours air time
More than or equal to 7 500 hours air time	Within 250 hours air time from the effective date of this directive

2.2 Replacement and Repeat Inspection Requirements:

2.2.1 If the installed AOA transducers inspected as per Table 1 have an inrush current less than 1.60 Amps, before further flight, replace them in accordance with the Accomplishment Instructions, Paragraph 2, Part C, of Bombardier SB 670BA-27-051, dated 14 May 2009 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. Repeat the inspection of the newly installed transducers in accordance with the schedule in Table 2 of this directive.

2.2.2 If the AOA transducers inspected as per Table 1 have an inrush current more than or equal to 1.60 Amps, repeat the inspection of the transducers in accordance with the schedule in Table 2 of this directive.

Table 2	
Last Angle of Attack Inrush Current Measurement (Amps)	Compliance Schedule for Repeat Inspection
More than or equal to 1.90	Within 2 000 hours air time after the last measurement.
More than or equal to 1.80 but less than 1.90	Within 1 500 hours air time after the last measurement.
More than or equal to 1.70 but less than 1.80	Within 1 000 hours air time after the last measurement.
More than or equal to 1.60 but less than 1.70	Within 500 hours air time after the last measurement.
New AOA Transducer	Within 2 000 hours air time after the installation date.

Authorization: For Minister of Transport, Infrastructure and Communities

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

Contact: Mr. Gordanko Jeremic, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail CAWWEBFeedback@tc.gc.ca or any Transport Canada Centre.