



No.	CF-2008-35R1	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-2008-35R1
- Subject:** Angle of Attack Transducer – Heating Element Degradation and Inaccurate Calibration
- Effective:** 5 May 2010
- Revision:** This revision supersedes Airworthiness Directive (AD) CF-2008-35
- Applicability:** All Bombardier Inc. Model CL-600-2B19, serial number 7003 and subsequent equipped with Thales AOA transducers.
- Compliance:** As indicated unless already accomplished.
- Background:** The heating capability of several Angle Of Attack (AOA) transducer heating elements removed from in-service aircraft 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 of this directive 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) 45150340 and P/N C16258AA
 - 1.1 Within 900 hours air time from the effective date of the original issue of this directive (05 January 2009), perform the following in accordance with the Accomplishment Instructions of Bombardier Service Bulletin (SB) 601R-27-154 dated 1 December 2008 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada:

Inspect the serial number of each of the AOA transducers P/N 45150340 or P/N C16258AA installed on the aircraft.

 - 1.1.1 If the serial number is not listed in paragraph 1. A.(1) of the SB 601R-27-154 dated 1 December 2008 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, or if 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

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1.1.2 If the P/N and serial number are listed in one of the tables in paragraph 1.A.(1) of the SB 601R-27-154 dated 1 December 2008 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, and has a suffix "A" (reference: Thales SB 45150340-31-004 and C16258A-27-002), proceed to Paragraph 2 of this directive.

1.1.3 If the P/N and serial number are listed in one of the tables in paragraph 1.A.(1) of the SB 601R-27-154 dated 1 December 2008 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, replace the AOA transducer in accordance with the Accomplishment Instructions, Part B, of the SB.

1.2 As of the effective date of the original issue of this directive (05 January 2009), no person shall install a replacement Angle of Attack Transducer P/N 45150340 or P/N C16258AA with a serial number listed in paragraph 1.A.(1) of Bombardier SB 601R-27-154 dated 1 December 2008 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, unless the serial number has the suffix "A" (reference: Thales SB 45150340-31-004 and C16258A-27-002).

2. Angle of Attack Transducers Heating Element Degradation

2.1 In accordance with the schedule in Table 1 below, measure the inrush current of the installed angle of attack transducers in accordance with the Accomplishment Instructions, Part A, of Bombardier SB 601R-27-153 dated 17 October 2008 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 Inrush Current Inspection
Less than 6500 hours air time	Before the AOA transducer has 7,500 hours air time
More than or equal to 6500 but not greater than 7500 hours air time	Within 1000 hours air time from the effective date of this directive but no later than 7750 hours air time
More than 7500 hours air time	Within 250 hours air time from the effective date of this directive

2.2 Replacement requirements:

2.2.1 If the installed AOA transducers inspected as per Table 1 have an inrush current below 1.60 Amps, within 1000 hours air time from the effective date of this directive, replace them in accordance with the Accomplishment Instructions Part C of Bombardier SB 601R-27-153 dated 17 October 2008 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. Repeat the inspection of the transducers in accordance with the schedule in Table 2.

2.2.2 If both installed AOA transducers have an inrush current 1.60 amps or above, repeat the inspection in accordance with the schedule in Table 2.

2.2.3 If both installed AOA transducers inspected per Table 1 have an inrush current below 1.60 amps, accomplish one of the following:

2.2.3.1 Before further flight, replace one of the two vanes on the aircraft with a serviceable unit and replace the other vane within 1000 hours air time after the inspection. Repeat the inspection of the transducers in accordance with the schedule in Table 2; or,

NOTE: If both AOA transducers are degraded (below 1.6 Amps) only one needs to be replaced and the aircraft may be dispatched with one serviceable unit for a period of 1000 hours air time.

2.2.3.2 Dispatch the aircraft for a maximum of 1000 hours air time with the following limitations:

- a) Operations are not conducted in visible moisture (including standing water and slush) in any form,
- b) Operations are not conducted in known or forecast icing conditions,
- c) Both Ice Detection Systems are operative; and,
- d) Operations are conducted in day VMC conditions only.

Table 2	
Last Angle of Attack Inrush Current Measurement (Amps)	Compliance Schedule for Repeat Inspection
More than or equal to 1.90	Within 2000 hours air time after the last measurement.
More than or equal to 1.80 but less than 1.90	Within 1500 hours air time after the last measurement.
More than or equal to 1.70 but less than 1.80	Within 1000 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.

Authorization: For Minister of Transport, Infrastructure and Communities

ORIGINAL SIGNED BY

Derek Ferguson
Acting 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.