



No.	CF-2001-46	1/2
Issue Date	3 December 2001	

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) 593**. 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), Aircraft Certification Branch, Transport Canada, Ottawa, telephone (613) 952-4357.

Number: CF-2001-46

Subject: Bombardier DHC-8-300 – Angle of Attack Sensor

Effective: 31 December 2001

Applicability: Bombardier Inc. DHC-8 Aircraft Models 301, 311, 314 and 315, Serial Numbers 100 through 583.

Compliance: Compliance is required as indicated unless already accomplished.

Background: The manufacturer of the angle of attack (AOA) vane has determined that viscous damper leakage in some vanes can cause the vane to stick against the upper or the lower vane travel stop. Although no problems with sticking AOA vanes have been reported on the DHC-8 aircraft, a sticking vane would provide the stall warning system with an incorrect angle of attack reading. This would be expected to occur at airspeeds below approximately 110 kts; above 110 kts, the airflow would unstick the vane.

Corrective Actions: 1. Initially, within 1000 hours air time, but not later than 6 months of the effective date of this directive, carry out the following:

- (a) Determine if MOD 'J' has been incorporated in both right and left AOA sensors, Part Number (P/N) 861CAB. If Mod 'J' has been incorporated in both AOA sensors, no further action is required.
- (b) On each AOA sensor that does not have Mod 'J' installed, conduct an AOA sensor vane movement test to evaluate sticking against both the upper and the lower vane travel end stops. Conduct the tests in accordance with the Accomplishment Instructions of Bombardier Alert Service Bulletin A8-27-94 dated 25 October 2001 or later revisions approved by the Director, Aircraft Certification, Transport Canada.
- (c) If the test results of the gram gauge reading from either the upper or the lower vane position exceeds 170 grams, replace the applicable AOA vane within five calendar days in accordance with the above-referenced ASB.
- (d) If the test results of the gram gauge reading from either the upper or the lower vane position is between 110 and 170 grams, replacement of the AOA sensor may be delayed. However, the applicable AOA sensor must be replaced within 1000 hours air time or 6 months, whichever occurs first, from the date of the initial vane movement test.
- (e) If the test results of the gram gauge reading from both the upper and lower vane positions are less than 110 grams, the applicable AOA sensor vane does not require replacement. However, as detailed in paragraph 2 below, a repeat vane movement test is required.

2. For those AOA vanes that are not Mod 'J' and are not replaced in accordance with the requirements of paragraph 1(c) or 1(d) above, carry out the following:

- (a) Repeat the AOA sensor vane movement test, detailed in paragraph 1(b) above, prior to accumulating 5000 hours air time or 24 months, whichever occurs first, from the date of the initial test.
 - (b) If both the gram gauge readings from the repeat AOA sensor vane movement test are again less than 110 grams, the applicable AOA sensor does not require replacement and no further tests are required.
 - (c) If either of the gram gauge readings from the repeat AOA sensor vane movement tests exceed 170 grams, replace the AOA sensor within five calendar days.
 - (d) If either of the gram gauge readings from the repeat AOA sensor vane movement test is between 110 and 170 grams, replace the AOA sensor within 1000 hours air time or 6 months, whichever occurs first.
3. From the effective date of this directive, no person shall install a pre-Mod 'J' status AOA sensor (P/N 861CAB) on any aircraft.

Authorization: For Minister of Transport



B. Goyaniuk
Chief, Continuing Airworthiness

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