



No.	CF-2002-25	1/2
Issue Date	25 April 2002	

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-2002-25

Subject: Bombardier DHC-8 Series 400 – Pitch Trim Control

Effective: 31 May 2002

Applicability: Bombardier Inc. DHC-8 Models 400, 401 and 402, serial numbers 4001 through 4065.

Compliance: As indicated below unless already accomplished.

Background: Two unrelated but recurring malfunctions have been identified with the pitch trim system. The first malfunction involves loss of the autopilot pitch trim, which then requires that the autopilot be disengaged and the aircraft flown manually. With the second malfunction, loss of manual pitch trim can occur due to the pitch trim system being disabled by the monitoring/modeling circuitry in the Flight Control Electronic Control Unit (FCECU). These pitch trim system malfunctions can, under adverse conditions, significantly increase flight crew workload.

Corrective Actions: **Part A – Auto Pilot Pitch Trim - Applicable to serial numbers 4001 through 4058**

1. Prior to 31 July 2002, incorporate Modsum 4-113405 by replacing/reworking FGM1 and FGM 2 P/N C12429AA06 with/to FGM P/N C12429AA07 and perform a Return to Service Procedure. Bombardier Service Bulletin 84-22-04 Auto Pilot - Flight Guidance Module (FGM) – Introduction of Software V666 – Modsum 4-113405 dated 29 November 2001, or later revisions, approved by the Chief, Continuing Airworthiness, Transport Canada provides approved instructions for incorporating Modsum 4-113405.
2. As an interim procedure, until such time as Modsum 4-113405 is implemented, the procedure detailed in Bombardier Service Letter DH8-400-SL-22-001D dated 08 November 2001 can be used as an approved maintenance procedure to confirm that the AP pitch trim function is serviceable and to restore use of the auto pilot following an autopilot pitch trim failure. This autopilot pitch trim failure is characterized by an “AP PITCH TRIM FAIL” message on the PFD, followed by an “AUTO TRIM FAIL” message after the AP has been manually disengaged.

Part B – Manual Pitch Trim - Applicable to serial numbers 4001 through 4065

3. Prior to 31 January 2003, incorporate Modsum 4-113392 by removing Flight Control Electronic Control Units (FCECU) that have either Part Number (P/N) 398500-1001 or P/N 398500-1003 and replacing with FCECU P/N 398500-1005. Bombardier Service Bulletin 84-27-14 Flight Controls – Flight Control Electronic Control Unit Upgrade – Modsum 4-113392 dated 16 January 2002, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, provides approved instructions for replacing the affected FCECUs.

4. As an interim procedure, until such time as Modsum 4-113392 is incorporated, the procedure detailed in Bombardier Service Letter DH8-400-SL-27-003 dated 22 May 2001 can be used as an approved maintenance procedure to confirm that the pitch trim system is serviceable following loss of manual pitch trim. This pitch trim failure is characterized by illumination of the "PITCH TRIM" Caution Light and concurrent loss of pitch trim function, during a manual pitch trim input by the flight crew.

Authorization: For Minister of Transport



B. Goyaniuk
Chief, Continuing Airworthiness

Contact: Mr. Ian McLellan, Continuing Airworthiness, Ottawa, telephone (613) 952-4362, facsimile (613) 996-9178 or e-mail mclelli@tc.gc.ca or any Transport Canada Centre.