



No.	CF-2012-02R1	1/2
Issue Date 12 October 2012		

# 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-2012-02R1
- Subject:** Rudder Control System – Seizure of the Rudder Feel Trim Unit
- Revision:** Supersedes Airworthiness Directive CF-2012-02, dated 23 January 2012
- Effective:** 26 October 2012
- Applicability:** Bombardier Inc. DHC-8 aeroplanes models 400, 401 and 402, serial numbers (S/N) 4001, 4003 and subsequent, equipped with Rudder Feel Trim Unit (RFTU) part number (P/N) 399500-1007, serial numbers 0008 through 0509, including serial numbers with the suffix “A”.
- Compliance:** As indicated below, unless already accomplished.
- Background:** There have been several reported incidents on DHC-8 Series 400 aeroplanes where the movement of the rudder pedals have been impeded. An investigation showed that the Rudder Feel Trim Unit (RFTU) trunnion shaft was corroded. The root cause of the corrosion was a quality escape where cadmium plating on the trunnion bushing was not removed. Corrosion in the trunnion bushing seized the trunnion and caused difficulties in controlling the rudder movement.
- This condition, if not corrected, could cause a rudder control jam or a large and rapid alternating rudder input leading to a structural failure of the vertical fin.
- This AD is issued to replace the affected RFTUs to limit the possibility of binding and replace the affected RFTUs with units that have been reworked with conformal bushings to terminate the lubrication requirements.
- This AD was revised to expand the applicability and revise compliance times.
- Corrective Actions:**
- A. Within 200 hours air time or 2 months, whichever occurs first, from the effective date of this AD, inspect the S/N of the RFTU in accordance with the Accomplishment Instructions of Bombardier Aerospace Service Bulletin (SB) 84-27-60, dated 12 July 2012, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
    1. If the RFTU's S/N is not in the range from 0008 thru 0509 or if the S/N has a suffix “B”, no further action is required.

Note: Inspection of the RFTU serial number may be conducted visually on the aeroplane or by checking the maintenance records.

  - 2. If the RFTU's S/N is in the range from 0008 thru 0509, including those with a suffix “A”, perform an operational check of the RFTU for any sign of rough

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](http://www.tc.gc.ca/civilaviation/communications/centre/address.asp)

movement or seizure of the trunnion and centre shaft in accordance with the Accomplishment Instructions, Paragraph 3.B, Part A of the above mentioned SB.

- a. If rough movement or seizure of the RFTU trunnion and centre shaft is found, before further flight, replace the RFTU in accordance with the Accomplishment Instructions, Paragraph 3.B, Part B, of the above mentioned SB.
  - b. If no rough movement or seizure of the RFTU trunnion and centre shaft is found, lubricate the RFTU in accordance with the Accomplishment Instructions, Paragraph 3.B, Part C of the above mentioned SB. Repeat the lubrication of the RFTU at intervals not to exceed 600 hours air time, or 3 months, whichever occurs first until the RFTU is replaced with a unit that has a S/N outside of the affected range or a S/N with the suffix "B".
- B. Within 5000 hours air time or 3 years, whichever occurs first, from the effective date of this AD, replace all affected RFTUs with units that have a S/N outside of the affected range or a S/N with the suffix "B" in accordance with the Accomplishment Instructions, Paragraph 3.B, Part B of the above mentioned SB.
- C. As of the effective date of this AD, no person shall install a RFTU P/N 399500-1007 with S/N from 0008 thru 0509, including S/N with suffix "A" on an aeroplane.

**Authorization:** For the Minister of Transport, Infrastructure and Communities

*ORIGINAL SIGNED BY*

Robin Lau  
Acting Chief, Continuing Airworthiness

**Contact:** Gordanko Jeremic, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail [ADs@tc.gc.ca](mailto:ADs@tc.gc.ca) or any Transport Canada Centre.