



# AIRWORTHINESS DIRECTIVE

*This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.*

**Number:**

CF-2021-28

**Effective Date:**

19 August 2021

**ATA:**

32

**Type Certificate:**

A-142

**Subject:**

Landing Gear – Nose Wheel Steering Hydraulic Motor – Potential Jam Due to Wear

**Applicability:**

De Havilland Aircraft of Canada Limited (formerly Bombardier Inc.) model DHC-8-401 and -402 aeroplanes, serial numbers 4001 and 4003 through 4622.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

Operators have reported incidents of nose wheel steering (NWS) hydraulic motors jammed during pushback or towing caused by worn out piston rod shoes. An investigation revealed that the hydraulic motor jam was, in fact, caused by worn out piston rod shoes. The investigation also identified a design change introduced by the hydraulic motor supplier that corrected this condition. This change was not documented, thereby resulting in a loss of configuration control for this component. A NWS hydraulic motor jam has never occurred while the motor was in an active state. However, this condition, if not corrected, could lead to runway excursion and loss of directional control of the aeroplane.

This AD mandates the re-identification of redesigned NWS hydraulic motors already installed on the aeroplane, or replacement of the original NWS hydraulic motor with the redesigned motor, part number (P/N) RS1267-5 to address the above-mentioned unsafe condition.

**Corrective Actions:**

**Part I – NWS Hydraulic Motor Re-Identification or Replacement**

Within 12 000 flight hours (FH) or 72 months, whichever occurs first, from the effective date of this AD, perform the re-identification or replacement of the NWS hydraulic motor, as applicable, in accordance with Section 3.B. of the Accomplishment Instructions of De Havilland Aircraft of Canada Service Bulletin (SB) 84-32-164, Revision A, dated 13 May 2021, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

The re-identification or replacement of the NWS hydraulic motor in accordance with the Accomplishment Instructions of De Havilland Aircraft of Canada SB 84-32-164, Initial Issue, dated 20 April 2020, also meets the intent of this paragraph.

**Part II – Installation Prohibition of Affected Part**

From the effective date of this AD, installation of NWS hydraulic motor P/Ns RS1267-1, RS1267-1 MOD SB 32-13, RS1267-2, RS1267-2 MOD SB 32-13 and RS1267-3 as a replacement part on De Havilland Aircraft of Canada Limited model DHC-8-401 and DHC-8-402 aeroplanes is prohibited.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Philip Tang  
Acting Chief, Continuing Airworthiness  
Issued on 5 August 2021

**Contact:**

Mihaela Kramer, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail [TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca](mailto:TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca) or any Transport Canada Centre.