



# 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) to ADs.*

**Number:**

CF-2018-01R1

**Effective Date:**

4 February 2019

**ATA:**

32

**Type Certificate:**

A-142

**Subject:**

Landing Gear – Nose Landing Gear Drag Strut Lock Link Wear

**Applicability:**

Bombardier Inc. model DHC-8-400, -401 and -402 aeroplanes, serial numbers 4001 through 4585, and 4587.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

A landing incident took place whereby the aeroplane's nose landing gear (NLG) was locked in a partially-extended position, leading to gear collapse upon NLG touch down. The investigation revealed that the NLG was locked in this position due to the bushings on the lock link of the NLG locking mechanism becoming loose. This condition was present due to insufficient interference fit which resulted in some bushing outer diameter wear and fretting. A dislodged bushing will also cause the bushing sealant to break. Broken sealant allows moisture ingress and corrosion that can accelerate free play buildup. Excessive free play at the lock link can result in the inability to fully retract or deploy the NLG, resulting in a risk of NLG collapse on landing.

Bombardier Inc. has developed an inspection to identify and correct this condition. The original version of this AD required a repetitive inspection and corrective actions based on the inspection findings.

Revision 1 of this AD is issued to modify the NLG with a lower lock link with improved bushing retention and greasing provisions. Implementing this modification is a terminating action to this AD. The modification has been introduced in production, therefore the applicability of this AD has been reduced. Clarifications have also been made to the retained text of the original version.

**Corrective Actions:**

1. Inspect, and if necessary repair or replace before further flight, the NLG lower lock link in accordance with the accomplishment instructions of Bombardier Inc. Service Bulletin (SB) 84-32-153, Revision A, dated 27 February 2018, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. Compliance with SB 84-32-153, initial revision, dated 22 September 2017, before the effective date of this AD, also satisfies the requirements of this paragraph.
2. Initial compliance is required as follows:
  - a. For aeroplanes with NLG lower lock links that have accumulated 7200 total flight cycles or less as of 24 January 2018, the effective date of the original version of this AD, comply with paragraph 1 before accumulating 8000 total flight cycles.

- b. For aeroplanes with NLG lower lock links that have accumulated more than 7200 total flight cycles as of 24 January 2018, the effective date of the original version of this AD, comply with paragraph 1 within 800 flight cycles.
3. Thereafter, repeat the inspection in accordance with paragraph 1 at intervals not to exceed 1600 flight cycles on the NLG lower lock link.
4. If the NLG lower lock link is repaired or replaced in accordance with one of the following methods, the next inspection is required in accordance with the initial compliance times in paragraph 2, measured from the time of repair or replacement:
  - a. Repaired in accordance with Bombardier Inc. Repair Drawing 8/4-32-0338;
  - b. Repaired in accordance with the Goodrich Aerospace Canada Ltd. Component Maintenance Manual (CMM) Part Number (P/N) 47300, 32-21-03;
  - c. Replaced with a serviceable lock link with P/N 47324-1 (SCR-093-17-B); or
  - d. Replaced with a new serviceable lock link with P/N 47324-1.
5. Within 8000 flight cycles or 48 months, whichever occurs first, from the effective date of this AD, replace the existing lower lock link with the new configuration lower lock link having P/N 47324-3, in accordance with the accomplishment instructions of SB 84-32-154 Revision A dated 21 November 2018, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. Compliance with SB 84-32-154 Initial Issue, dated 4 June 2018, before the effective date of this AD, also satisfies the requirements of this paragraph.

Note: The initial and repeat inspections identified in paragraphs 2 and 3 above are not required on lower lock links with P/N 47324-3.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Rémy Knoerr  
Chief, Continuing Airworthiness  
Issued on 21 January 2019

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