



No.	CF-1993-08R3	1/3
Date	30 March 2000	

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 AN 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, AIRCRAFT CERTIFICATION BRANCH, TRANSPORT CANADA, OTTAWA.

CF-1993-08R3 BOMBARDIER

Applies to Bombardier Inc. (formerly Canadair) Models CL-215-1A10 and CL-215-6B11 aircraft, serial numbers 001 through 1125, and spare axles with part number 160-223-1, -2, -3 or -4.

Compliance is required as indicated.

Fatigue cracking has been found on several main landing gear (MLG) wheel axles. In three instances this resulted in complete failure of the axle and separation of the wheel from the aircraft. Since each gear has only a single wheel, this could result in loss of control of the aircraft during take-off or landing.

It has been determined that all failed axles had been reworked beyond the dimensions specified in the Overhaul Manual (PSP 298) and the wheel inner bearing surface had been chrome plated. In addition, in the case of some axles, it was not possible to determine their remaining service life in relation to the life limit published in the applicable Canadair Time Limits/Maintenance Checks manual (PSP 295 or PSP 395). Therefore, irrespective of flight hours, the axles of all affected aircraft must be examined to determine whether they have been chrome plated, reworked beyond the overhaul limits or have an unknown service life. Axles affected by any of these three factors must be repetitively inspected for cracks and their service life must be reduced.

This revision has been issued to determine the service history of affected MLG axles and to define the maximum number of land landings before the MLG axles require replacement.

To determine the service history of the left and right MLG wheel axles, to detect cracks and to prevent wheel loss, accomplish the following:

Part A. Identification and Inspection of Chrome Plated Axles

1. Identification

- (a) Before further flight after 16 August 1994, unless already accomplished in accordance with a previous issue of this directive, determine whether the inner bearing surface of each left and right MLG wheel axle as been reworked by chrome plating. The procedures are defined in Canadair Alert Service Bulletin (ASB) 215-A462, dated 2 June 1993, or later revisions approved by the Director, Aircraft Certification, Transport Canada.
- (b) If axles are found to have been reworked by chrome plating, conduct the inspection of section A.2 below.
- (c) If axles are found not to be chrome plated, continue with Part B below.

2. Inspection

- (a) Initially before further flight after the effective date of this directive, unless already accomplished within the last 150 land landings, and thereafter at intervals not to exceed 150 land landings on each MLG wheel axle determined in section A.1 above to have been reworked by chrome plating the inner bearing surface, accomplish an ultrasonic inspection in accordance with Canadair ASB 215-A462 Revision 3, dated 17 January 2000. Previous ultrasonic inspections accomplished in accordance with earlier issues of this ASB are acceptable.
- (b) Cracked axles must be removed from service before further flight.

Part B. Identification and Inspection of Axles with Unknown Service Life or Rework Beyond Overhaul Limits

1. Identification

- (a) Within 150 land landings after the effective date of this directive, unless already accomplished, determine whether either MLG axle has been reworked beyond the dimensions in the Overhaul Manual (PSP 298) and whether the number of land landings accomplished with either axle is known.
- (b) If axles have been reworked beyond the dimensions specified in the Overhaul Manual or rework dimensions cannot be determined or if the axles have an unknown service life, conduct the inspection of section B.2 below.

2. Inspection

- (a) Initially within 150 land landings after the effective date of this directive, unless already accomplished within the last 150 land landings, and thereafter at intervals not to exceed 150 land landings on each MLG wheel axle determined in section B.1 above to have been reworked beyond the Overhaul Manual limits or to have an unknown service life, accomplish an ultrasonic inspection in accordance with Canadair ASB 215-A462 Revision 3, dated 17 January 2000. Previous ultrasonic inspections accomplished in accordance with earlier issues of this ASB are acceptable.
- (b) Cracked axles must be removed from service before further flight.

Part C. Maximum Permitted Service Life of Axles

- 1. Within 1050 land landings after the effective date of this directive, remove, make unserviceable and replace with a serviceable axle, any axle:
 - (a) that has been chrome plated, or
 - (b) that has been reworked beyond the Overhaul Manual limits, or
 - (c) that has unknown rework dimensions, or
 - (d) that has an unknown service life.
- 2. For axles for which none of the criteria listed in the above paragraph C.1 apply, the life limit published in the applicable Canadair Time Limits/Maintenance Checks manual (PSP 295 or PSP 395) applies.