

EMERGENCY AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

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DATE: September 17, 2003
AD #: 2003-19-51

Transmitted as follows is emergency airworthiness directive (AD) 2003-19-51, for the attention of all owners and operators of certain Bombardier Model CL-600-2C10 (Regional Jet Series 700 & 701) and CL-600-2D24 (Regional Jet Series 900) series airplanes.

Background

Transport Canada Civil Aviation (TCCA), which is the airworthiness authority for Canada, recently notified the FAA that an unsafe condition may exist on certain Bombardier Model CL-600-2C10 (Regional Jet Series 700 & 701) and CL-600-2D24 (Regional Jet Series 900) series airplanes. The lower panel of the door of the right-hand main landing gear (MLG) of a Model CL-600-2C10 series airplane departed the airplane during landing. The airplane was able to land safely, though the departed panel damaged the trailing edge flap and punctured the rear fuselage near the floor level, below the engine pylon. Investigation revealed cracking of the hinge lug of the door panel, which led to detachment of adjacent fasteners and increased loading on the remaining fasteners. This condition, if not corrected, could result in failure of the lower panel of the MLG door, the lower panel's departure from the airplane, and consequent damage to airplane structure, which could adversely affect the airplane's continued safe flight and landing.

The left- and right-hand MLG doors on certain Model CL-600-2C10 (Regional Jet Series 700 & 701) and CL-600-2D24 (Regional Jet Series 900) series airplanes are identical to the affected right-hand MLG door on the affected Model CL-600-2C10 series airplane. Therefore, the MLG doors on all of these airplanes may be subject to the same unsafe condition.

TCAA has issued Canadian airworthiness directive CF-2003-23R1, dated September 16, 2003, to ensure the continued airworthiness of these airplanes in Canada.

FAA's Conclusions

This airplane model is manufactured in Canada and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, TCCA has kept the FAA informed of the situation described above. The FAA has examined the findings of TCCA, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

Explanation of the Requirements of the Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of this same type design registered in the United States, this airworthiness directive (AD) is issued to require repetitive detailed inspections for cracking or deformation, or pulled or missing fasteners, on the lower panel of the left- and right-hand MLG doors, as applicable. These inspections are required to be accomplished in accordance with Figures 1, 2, and 3 of this AD.

Necessary corrective action may involve repair of the lower panel of the MLG door, or replacement with a new or serviceable lower panel. The repair of the lower panel of the MLG door, if accomplished, is required to be accomplished in accordance with a method approved by the FAA or TCCA (or its delegated agent). The replacement of the lower panel of the MLG door, if accomplished, is required to be accomplished in accordance with Task Cards 32-12-01-000-801-A01 and 32-12-01-400-801-A01 of the CRJ 700/900 Regional Jet Aircraft Maintenance Manual. In lieu of repair or replacement, this AD provides for removing the affected door panel assembly; revising the Configuration Deviation List (CDL), Appendix 1, of the airplane flight manual to include new limitations; and operating the airplane in accordance with those CDL limitations.

This AD also requires that operators report the results of the inspections to the airplane manufacturer. Because the cause of the cracking is not known, these required inspection reports will help determine the extent of the cracking or other discrepancies in the affected fleet. The need for further corrective action will be evaluated based on the results of these reports.

Interim Action

We consider this AD interim action. If final action is later identified, we may consider further rulemaking then.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this AD effective in less than 30 days.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this AD.

2003-19-51 BOMBARDIER, INC. (Formerly Canadair): Docket No. 2003-NM-209-AD.

Applicability: Model CL-600-2C10 (Regional Jet series 700 & 701) series airplanes, serial numbers (S/Ns) 10003 through 10999 inclusive; and Model CL-600-2D24 (Regional Jet series 900) series airplanes, S/Ns 15002 through 15990 inclusive; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the lower panel of the main landing gear (MLG) door, the lower panel's departure from the airplane, and consequent damage to airplane structure, which could adversely affect the airplane's continued safe flight and landing, accomplish the following:

Initial Compliance Time

(a) Perform the initial inspection in paragraph (b) of this AD at the applicable time specified in paragraph (a)(1) or (a)(2) of this AD.

(1) For airplanes with less than 1,500 total flight cycles as of receipt of this AD: Do the inspections before the accumulation of 1,050 total flight cycles, or within 50 flight cycles after receipt of this AD, whichever is later.

(2) For airplanes with 1,500 or more total flight cycles as of receipt of this AD: Do the inspections within 10 flight cycles after receipt of this AD.

Inspections

(b) Perform detailed inspections of the lower panel, P/N CC670-10520, of the left- and right-hand MLG doors for the conditions and in the areas specified in paragraphs (b)(1), (b)(2), (b)(3), and (b)(4) of this AD; and Figures 1, 2, and 3 of this AD.

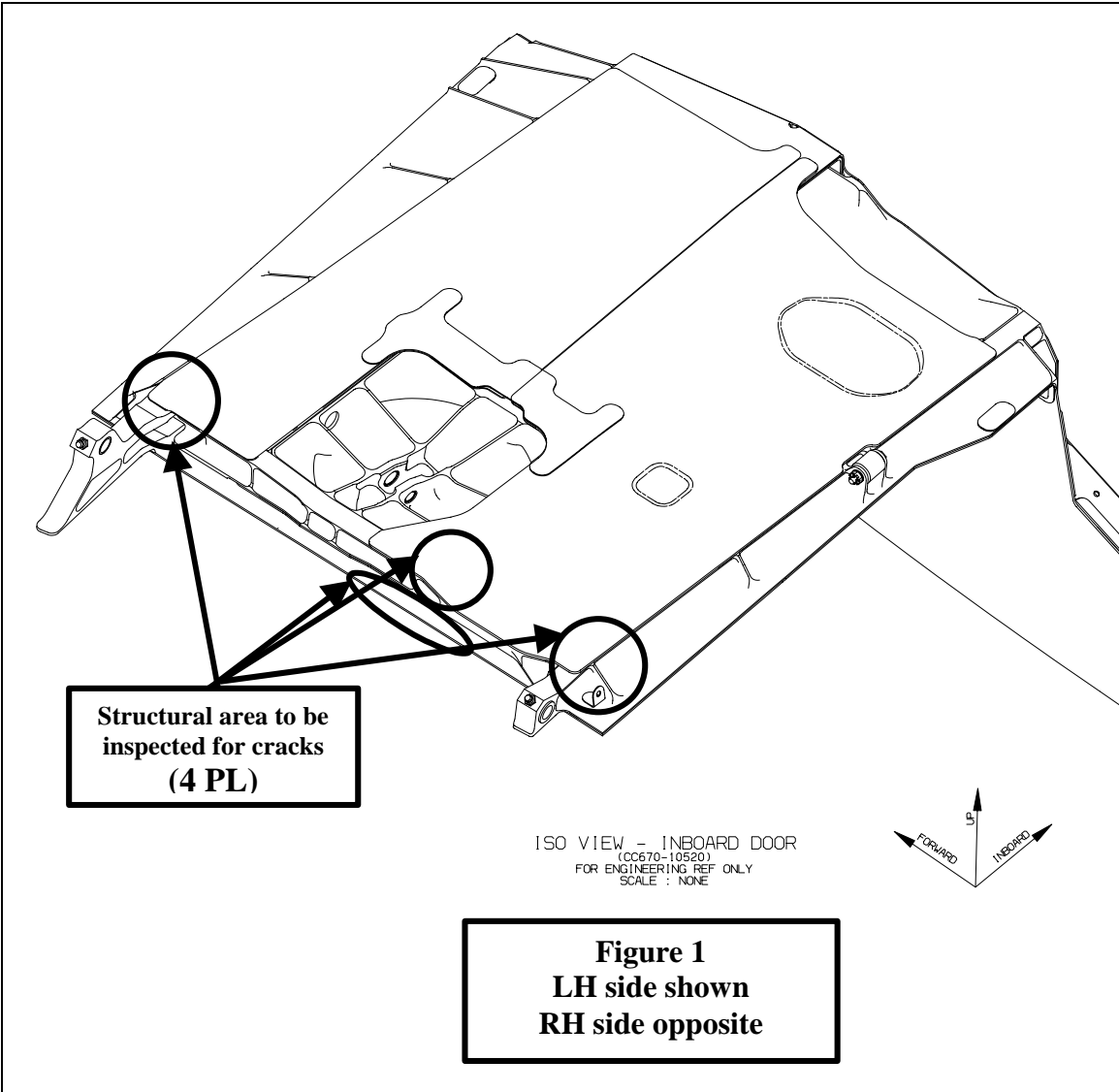
Note 1: For the purposes of this AD, a detailed inspection is defined as: “An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required.”

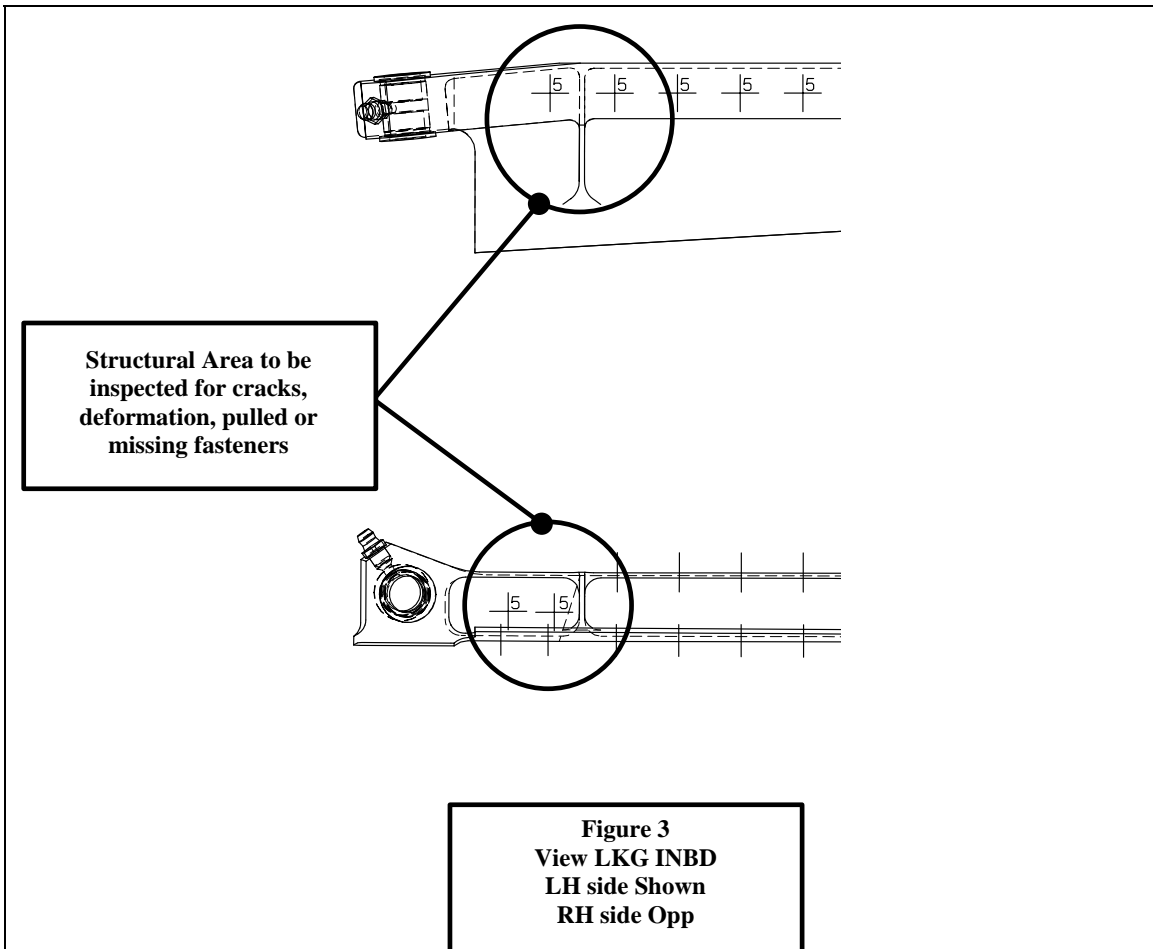
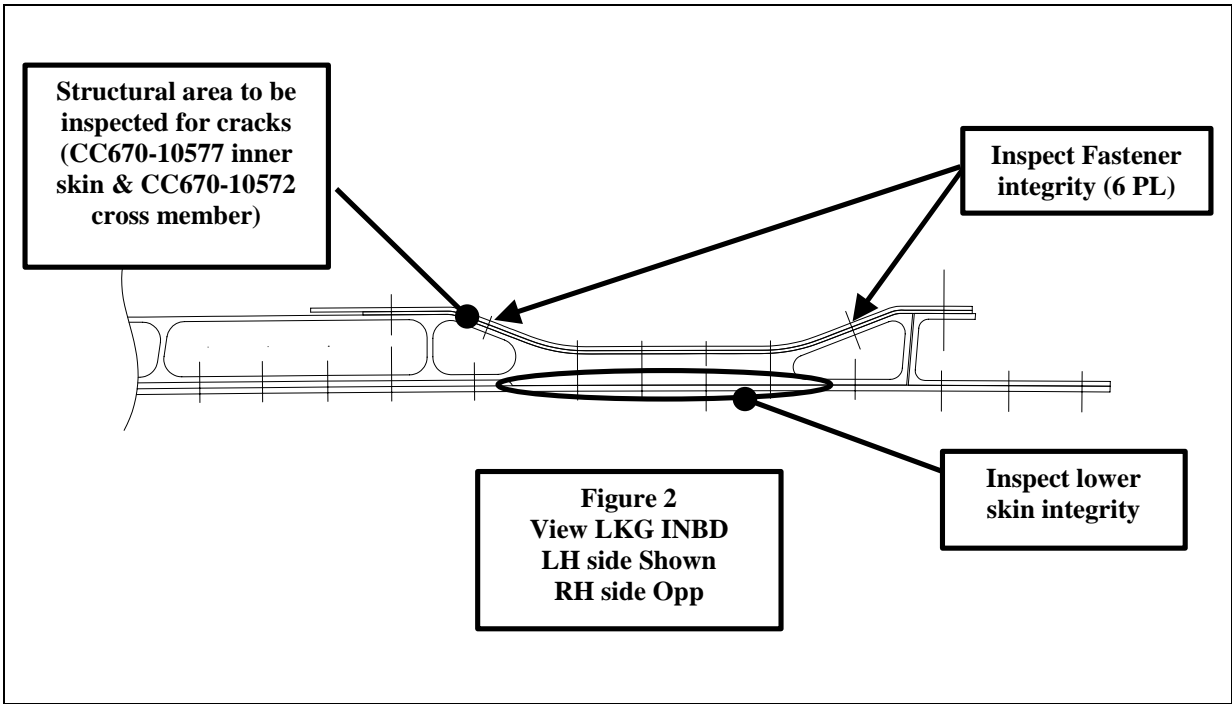
(1) Inspect the cross member, part number (P/N) CC670-10572, of the MLG door lower panel for cracking or deformation, in accordance with Figure 2 of this AD.

(2) Inspect the inner skin, P/N CC670-10577, of the MLG door lower panel at the cross member (P/N CC670-10572) for cracking or deformation, or pulled or missing fasteners, in accordance with Figure 2 of this AD.

(3) Inspect the outer skin, P/N CC670-10574, of the MLG door lower panel at the cross member (P/N CC670-10572) for cracking or deformation, or pulled or missing fasteners, in accordance with Figure 2 of this AD.

(4) Inspect the forward member, P/N CC670-10570, and aft member, P/N CC670-10571, of the MLG door lower panel, for cracking or deformation, or pulled or missing fasteners, in accordance with Figure 3 of this AD. Figures 1 through 3 of this AD follow.





Repetitive Inspections

(c) If no cracking or deformation, or pulled or missing fastener, as applicable, is found during any inspection required by paragraph (b) or (c) of this AD, repeat the inspections thereafter at intervals not to exceed 100 flight cycles.

Corrective Actions

(d) If any cracking or deformation, or pulled or missing fastener, as applicable, is found during any inspection in accordance with paragraph (b) or (c) of this AD: Before further flight, accomplish paragraph (d)(1), (d)(2), or (d)(3) of this AD.

(1) Repair the damage in accordance with a method approved by either the Manager, New York Aircraft Certification Office (ACO), FAA; or Transport Canada Civil Aviation (or its delegated agent); and accomplish repetitive inspections in accordance with a method and at a repetitive interval approved by same.

(2) Replace the lower panel assembly, P/N CC670-10520, of the affected MLG door with a new or serviceable lower panel assembly having the same P/N, in accordance with Task Cards 32-12-01-000-801-A01 and 32-12-01-400-801-A01 of the CRJ 700/900 Series Regional Jet Aircraft Maintenance Manual; and repeat the inspections specified in paragraph (b) of this AD at intervals not to exceed 100 flight cycles.

(3) Remove the lower panel assembly, P/N CC670-10520, of the affected MLG door, and accomplish paragraph (d)(3)(i) or (d)(3)(ii), as applicable.

(i) For Model CL600-2C10 (Regional Jet series 700 & 701) series airplanes: Revise the Configuration Deviation List (CDL), Appendix 1, of the airplane flight manual (AFM), to include the following limitations. This may be accomplished by inserting a copy of this AD into the CDL of the AFM.

“For Model CL600-2C10 series airplanes: If one or both door panel assemblies, part number CC670-10520, is missing:

- 1) Take-off Weight is reduced by 202.5 kg/door, or 450 lb/door
- 2) Enroute Climb is reduced by 445.5 kg/door, or 990 lb/door
- 3) Landing Weight is reduced by 202.5 kg/door, or 450 lb/door
- 4) Fuel Consumption is increased by +3.42% on fuel used/door
- 5) Cruise Airspeed is limited to not more than 0.78 Mach.”

(ii) For Model CL-600-2D24 (Regional Jet series 900) series airplanes: Revise the CDL, Appendix 1, of the AFM, to include the following limitations. This may be accomplished by inserting a copy of this AD into the CDL of the AFM.

“For Model CL600-2D24 series airplanes: If one or both door panel assemblies, part number CC670-10520, is missing:

- 1) Take-off Weight is reduced by 245 kg/door, or 540 lb/door
- 2) Enroute Climb is reduced by 551 kg/door, or 1,215 lb/door
- 3) Landing Weight is reduced by 245 kg/door, or 540 lb/door
- 4) Fuel Consumption is increased by +3.42% on fuel used/door
- 5) Cruise Airspeed is limited to not more than 0.78 Mach.”

Reporting Requirement

(e) Submit a report of the findings (both positive and negative) of the inspections required by paragraph (b), (c), or (d) of this AD, as applicable, to Bombardier Aerospace Technical Help Desk; fax (514) 855-8501; at the applicable time specified in paragraph (e)(1) or (e)(2) of this AD. The report must include the inspection results, a description of any discrepancies found, the airplane serial number, and the number of landings and flight hours on the airplane. Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120 0056.

(1) If the inspection is done after receipt of this AD: Submit the report within 5 days after the inspection.

(2) If the inspection was done prior to receipt of this AD: Submit the report within 5 days after receipt of this AD.

Parts Installation

(f) As of the effective date of this AD, no person may install a lower panel assembly, P/N CC670-10520, on the left- or right-hand MLG door on any airplane, unless the lower panel assembly has been inspected as required by paragraph (b) of this AD and found to be free of cracking or deformation, or pulled or missing fasteners.

Alternative Methods of Compliance

(g) In accordance with 14 CFR 39.19, the Manager, New York ACO, is authorized to approve alternative methods of compliance for this AD.

Note 2: The subject of this AD is addressed in Canadian airworthiness directive CF-2003-23R1, dated September 16, 2003.

Effective Date

(h) AD 2003-19-51, issued on September 17, 2003, becomes effective upon receipt.

For further information contact: Serge Napoleon, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York 11581; telephone (516) 256-7512; fax (516) 568-2716.

Issued in Renton, Washington, on September 17, 2003.

Michael J. Kaszycki,
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Aircraft Certification Service.