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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-1229; Directorate Identifier 2009-NM-106-AD; Amendment 39-16471; AD 2010-21-11]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

A specific batch of nose landing gear (NLG) and NLG door selector valves, part number (P/N) 601R75146-1 (Kaiser Fluid Technologies P/N 750006000), may have had their end caps incorrectly lock-wired and/or incorrectly torqued during assembly. This condition can lead to the end cap backing off, with consequent damage to a seal and internal leakage within the valve. Subsequently, if electrical power is transferred or removed from the aircraft before the NLG safety pin is installed, any pressure, including residual pressure, in the No. 3 hydraulic system can result in an uncommanded NLG retraction and/or uncommanded opening of the NLG doors. There have been six cases reported on CL[-]600-2B19 aircraft, one of which resulted in the collapse of the NLG at the departure gate.

\* \* \* \* \*

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective November 18, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 18, 2010.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7318; fax (516) 794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on January 5, 2010 (75 FR 258). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

A specific batch of nose landing gear (NLG) and NLG door selector valves, part number (P/N) 601R75146-1 (Kaiser Fluid Technologies P/N 750006000), may have had their end caps incorrectly lock-wired and/or incorrectly torqued during assembly. This condition can lead to the end cap backing off, with consequent damage to a seal and internal leakage within the valve. Subsequently, if electrical power is transferred or removed from the aircraft before the NLG safety pin is installed, any pressure, including residual pressure, in the No. 3 hydraulic system can result in an uncommanded NLG retraction and/or uncommanded opening of the NLG doors. There have been six cases reported on CL[-]600-2B19 aircraft, one of which resulted in the collapse of the NLG at the departure gate.

This [Canadian] directive mandates [an inspection of the NLG and NLG selector valves to determine the serial number and marking of the part and] a check [to determine the torque value and correct lockwire installation] of the [affected] NLG and NLG door selector valves installed on all aircraft in the Applicability section \* \* \*. Depending on the results, replacement, rework and/or additional identification of the valves may be required.

You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Request for Model Designation Consistency**

Comair, Inc. states that in the NPRM, the Summary, Discussion, and paragraph (e), refer to the airplanes as Model "CL600-2B19" instead of "CL-600-2B19."

From this comment, we infer that Comair, Inc. requests that we revise the identified sections of the NPRM for model designation consistency. In the Summary, Discussion, and paragraph (e) of this AD, we are quoting from Canadian Airworthiness Directive CF-2009-19, dated April 29, 2009. However, for clarity, we have made the change to "CL[-]600-2B19" in the specified sections of this AD.

### **Request To Revise Proposed Costs of Compliance**

Air Wisconsin Airlines states that the Costs of Compliance section of the NPRM indicates only the number of affected airplanes and does not take into consideration that there are two units installed on each airplane, making it a total of 1,304 affected components.

From these statements we infer that Air Wisconsin Airlines is requesting that we revise the Costs of Compliance section of the AD to include the actual number of affected valves. We agree with Air Wisconsin Airlines that the Costs of Compliance needs to be revised to include the cost for both the

selector valve of the NLG and the door selector valve. We have revised the cost of parts to \$80 to reflect 2 valves per product (\$40 per valve). For clarification, the term "affected product" in the Costs of Compliance section of this AD refers to the affected number of airplanes of U.S. registry.

### **Request for Credit for Compliance With Bombardier Service Bulletin 601R-32-090**

Air Wisconsin Airlines states that the problem of the door selector valves of the NLG having their end caps incorrectly lock-wired and/or incorrectly torqued during assembly first came to its attention through Bombardier Service Bulletin 601R-32-090. Air Wisconsin Airlines states that Bombardier Service Bulletin 601R-32-104, dated March 3, 2009, was issued to supersede Bombardier Service Bulletin 601R-32-090 to expand the effectivity of the campaign. Air Wisconsin Airlines states that the proposed AD should give credit for those valves that have already complied with Bombardier Service Bulletin 601R-32-090.

We agree with Air Wisconsin Airlines request to receive credit for actions completed in accordance with Bombardier Service Bulletin 601R-32-090, Revision B, dated December 12, 2006; and Revision C, dated March 3, 2009. We have added new paragraph (f)(4) accordingly.

### **Request To Revise the Applicability**

Air Wisconsin Airlines requests that we revise the applicability in paragraph (c) of the proposed AD to "NLG and NLG selector valves, P/N 750006000 (601R75146-1) identified in Bombardier S/B 601R-32-104 dated March 3, 2009 when installed on Bombardier \* \* \* Model CL-600-2B19 \* \* \* airplanes \* \* \*" The commenter provides no justification for this requested change.

We disagree with Air Wisconsin Airlines' request to revise the applicability in paragraph (c) of this AD. We have determined that identifying each airplane by serial number and not by the valve serial number is the best way to control the airworthiness of the fleet and to ensure compliance with the AD.

According to general FAA policy, if an unsafe condition results from the installation of a particular component in only one particular make and model of airplane, the AD should apply to the airplane model, not the component. The reason for this is simple: If the AD applies to the airplane model equipped with the item, operators of those airplanes will be notified directly of the unsafe condition and the action required to correct it. While we assume that operators can identify the airplane models they operate, they may not be aware of specific items installed on the airplanes. Therefore, specifying the airplane models in the applicability as the subject of the AD prevents an operator's "unknowing failure to comply" with the AD. We recognize that an unsafe condition may exist in an item that is installed in many different airplanes. In that case, we consider it impractical to issue an AD against each airplane; in fact, many times, the exact models and numbers of airplanes on which the item is installed may be unknown. Therefore, in those situations, the AD would apply to the item and usually indicates that the item is known to be "installed on, but not limited to," various airplane models. We have not changed the AD in this regard.

### **Request To Extend the Compliance Time for the Inspection**

Air Wisconsin Airlines requests that we extend the compliance time for the inspection in the NPRM. Air Wisconsin Airlines states that the problem of the door selector valves of the NLG having their end caps incorrectly lock-wired and/or incorrectly torqued during assembly first came to its attention in 2003 through Bombardier Service Bulletin 601R-32-090, which affected 645 units. Air Wisconsin Airlines also states that Bombardier Service Bulletin 601R-32-104, dated March 3, 2009, expanded the effectivity to include 2,126 units. Air Wisconsin Airlines states that it has been working on this issue and it has a substantial number of valves in compliance, but since this issue has been around for almost 7 years without any regulatory influence, the short compliance time of within 1,600 flight hours or 18 months after the effective date of this AD, whichever occurs first, cannot be

justified. Air Wisconsin Airlines states that a longer compliance window should be given considering the number of units affected and the insufficient amount of spares available to ensure compliance within the time provided by a directive.

We disagree with Air Wisconsin Airlines' request to extend the compliance time for the inspection. In developing an appropriate compliance time for the inspection, we considered the safety implications, parts availability, and normal maintenance schedules for the timely accomplishment of the modification. We have determined that the compliance time will ensure an acceptable level of safety and allow the modification to be done during scheduled maintenance intervals for most affected operators. In addition, Bombardier, Inc. recommends a compliance time of 1,600 flight hours or 18 months. We have determined that an adequate supply of valves is available in order for operators to accomplish the required actions within the compliance time specified in this AD. However, operators may apply for an alternative method of compliance (AMOC) in accordance with the provisions specified in paragraph (g)(1) of this AD. We have not changed the AD in this regard.

### **Requests To Allow Review of Maintenance Records in Lieu of Inspection**

Comair, Inc. and Air Wisconsin Airlines request that a review of airplane maintenance records be acceptable in lieu of an inspection to determine serial number and identification markings of the selector valve. Air Wisconsin Airlines states that a records check is sufficient to locate valves requiring inspection.

We agree with the commenters' request that a review of airplane maintenance records is acceptable for determining the serial number and identification markings of the selector valve. We have changed paragraph (f)(1) of this AD to allow a review of maintenance records in lieu of the inspection required by that paragraph.

### **Request To Clarify Paragraph (f)(2) of the NPRM**

Comair, Inc. proposes revised wording for paragraph (f)(2) of the NPRM. The suggested wording clarifies that either the selector valve of the NLG or the door selector valve could have certain serial numbers or identified markings since paragraph (f)(2) identifies both valves.

We agree with Comair, Inc. that the suggested wording is more accurate. We have revised paragraph (f)(2) of this AD as suggested.

### **Request To Remove Compliance Time of Before Further Flight From Paragraph (f)(3) of the NPRM**

Comair, Inc. and Air Wisconsin Airlines request that the compliance time of, "before further flight," be removed from paragraph (f)(3) of the NPRM.

Air Wisconsin Airlines states that the compliance time of "before further flight" specified in paragraph (f)(3) of the NPRM is not in Canadian Airworthiness Directive CF-2009-19, dated April 29, 2009, or in any of the service information listed in that Canadian AD. Air Wisconsin Airlines also states that there does not appear to be enough time and available spare parts in order to do the inspections, remove all the affected serial numbers which fail the test, and send them to the vendor for repair.

Comair, Inc. states that a compliance time of "before further flight" seems contrary or restrictive when the actions specified in paragraph (f)(1) of the NPRM are done. Comair Inc. states that it has already performed a records review and determined which valves have a serial number range specified in Bombardier Service Bulletin 601R-32-104, dated March 3, 2009, and which valves do not have a suffix "T" or "SB750006000-1" marking, as documented on FAA Form 8130-3. Comair, Inc. also states that a compliance time of "before further flight" would require it to ground its airplanes on the effective date of the final rule because it has already determined which valves require action.

We partially agree with the commenters. We agree that there could be a misunderstanding in reading this AD based on the understanding that paragraph (f)(3) of this AD is a stand-alone paragraph. However, we disagree with Comair Inc.'s statement that the compliance time of "before further flight" would require Comair Inc. to ground its airplanes. The intent of this AD is to permit operators to do the identification check within the specified compliance time of "within 1,600 flight hours or 18 months after the effective date of this AD, whichever occurs first." We have revised paragraph (f)(3) of this AD for clarity. In addition, operators may apply for an AMOC in accordance with the provisions specified in paragraph (g)(1) of this AD.

### **Request To Eliminate Ink Stamping of the Valve**

Air Wisconsin Airlines states that the requirement in Tactair Service Bulletin SB750006000-1, Revision E, dated July 31, 2008 (which was referred to in Bombardier Service Bulletin 601R-32-104, dated March 3, 2009, as an additional source of guidance), includes an instruction to ink stamp the service bulletin number on the valve. Air Wisconsin states that this action does not provide an added level of safety, and that this would only lead to confusion, and a meaningless issue of non-compliance should the marking ever become eradicated. Air Wisconsin also states that it is unnecessary to mark the valve.

From these statements, we infer that Air Wisconsin Airlines is requesting that we revise the AD to eliminate unnecessary part markings. We disagree. Valves that are not inked-stamped must be inspected to fulfill the requirements of this AD. An ink-stamped valve demonstrates that the valve has been inspected and modified. We have not made changes to this AD in this regard.

### **Explanation of Change Made To This AD**

We have revised this AD to identify the legal name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

### **Conclusion**

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

### **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a NOTE within the AD.

### **Explanation of Change to Costs of Compliance**

Since issuance of the NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified hourly labor rate.

## **Costs of Compliance**

We estimate that this AD will affect 652 products of U.S. registry. We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$80 per product (2 valves per product/\$40 per valve). Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$107,580, or \$165 per product.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39–AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:



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**2010-21-11 Bombardier, Inc.:** Amendment 39-16471. Docket No. FAA-2009-1229; Directorate Identifier 2009-NM-106-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective November 18, 2010.

**Affected ADs**

- (b) None.

**Applicability**

- (c) This AD applies to Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes, serial numbers 7003 and subsequent; certificated in any category.

**Subject**

- (d) Air Transport Association (ATA) of America Code 32: Landing Gear.

**Reason**

- (e) The mandatory continuing airworthiness information (MCAI) states:

A specific batch of nose landing gear (NLG) and NLG door selector valves, part number (P/N) 601R75146-1 (Kaiser Fluid Technologies P/N 750006000), may have had their end caps incorrectly lock-wired and/or incorrectly torqued during assembly. This condition can lead to the end cap backing off, with consequent damage to a seal and internal leakage within the valve. Subsequently, if electrical power is transferred or removed from the aircraft before the NLG safety pin is installed, any pressure, including residual pressure, in the No. 3 hydraulic system can result in an uncommanded NLG retraction and/or uncommanded opening of the NLG doors. There have been six cases reported on CL[-]600-2B19 aircraft, one of which resulted in the collapse of the NLG at the departure gate.

This [Canadian] directive mandates [an inspection of the NLG and NLG selector valves to determine the serial number and marking of the part and] a check [to determine the torque value and correct lockwire installation] of the [affected] NLG and NLG door selector valves installed on all aircraft in the Applicability section \* \* \*. Depending on the results, replacement, rework and/or additional identification of the valves may be required.

**Actions and Compliance**

- (f) Unless already done, do the following actions.

- (1) Within 1,600 flight hours or 18 months after the effective date of this AD, whichever occurs first: Do an inspection to determine the serial number and identification markings on the selector valve of the NLG and the door selector valve of the NLG, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-32-104, dated March 3, 2009. A review of airplane maintenance records is acceptable in lieu of this inspection if the serial number and identification

markings of the selector valve and the door selector valve can be conclusively determined from that review.

(2) For any airplane having either the selector valve of the NLG or the door selector valve of the NLG that have a serial number outside the range 0001 through 2126 inclusive, suffix "T" identification, or "SB750006000-1" marking, no further action is required for that valve.

(3) If, during any inspection required by paragraph (f)(1) of this AD, any selector valve of the NLG or any door selector valve of the NLG is found that does not have any serial number or identification marking specified in paragraph (f)(2) of this AD: Before further flight after doing the inspection required by paragraph (f)(1) of this AD, inspect to determine the torque value and correct lockwire installation of the valve, and modify (replace, rework, or re-identify) the valve, as applicable, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-32-104, dated March 3, 2009.

(4) For airplanes having part number (P/N) 601R75146-1 (Tactair P/N 750006000), serial number 001 thru 0767: Modification of the valve accomplished before the effective date of this AD in accordance with Bombardier Service Bulletin 601R-32-090, Revision B, dated December 12, 2006; and Bombardier Service Bulletin Revision C, dated March 3, 2009; are considered acceptable for compliance with the requirements of this AD for that valve.

### **FAA AD Differences**

**Note 1:** This AD differs from the MCAI and/or service information as follows: No differences.

### **Other FAA AD Provisions**

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7300; fax (516) 794-5531. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

### **Related Information**

(h) Refer to MCAI Canadian Airworthiness Directive CF-2009-19, dated April 29, 2009; and Bombardier Service Bulletin 601R-32-104, dated March 3, 2009; for related information.

### **Material Incorporated by Reference**

(i) You must use Bombardier Service Bulletin 601R-32-104, dated March 3, 2009, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of the service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; e-mail [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on September 29, 2010.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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