

[Federal Register: May 21, 2010 (Volume 75, Number 98)]  
[Rules and Regulations]  
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[DOCID:fr21my10-4]

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2010-0169; Directorate Identifier 2009-NM-102-AD; Amendment 39-16305; AD 2010-10-26]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Model CL-600-1A11 (CL-600), CL-600-2A12 (CL-601), and CL-600-2B16 (CL-601-3A, CL-601-3R, and CL-604 Variants) Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an existing 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.

\* \* \* \* \*

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

**DATES:** This AD becomes effective June 25, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 25, 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 February 25, 2010 (75 FR 8559), and proposed to supersede AD 2007-14-02, Amendment 39-15124 (72 FR 38004, July 12, 2007).

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.

Although there have been no such cases reported on the Challenger models covered by this directive, there have been six cases reported on the CRJ (CL600-2B19) aircraft, one of which resulted in the collapse of the NLG at the departure gate.

This directive mandates a check of the 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.

This [MCAI] revision corrects a Service Bulletin number in the Corrective Actions table.

#### Notes:

1. The check is required whether or not an aircraft has previously been checked in accordance with AD CF-2006-16R1 (now superseded and cancelled by this AD). This is necessary since, following the issuance of AD CF-2006-16R1, it has been determined that the serial number (S/N) range of the affected valves requires expansion from the previous upper limit of S/N 0767 to S/N 2126 and the exact location of each of these additional valves is unknown.

2. Valves that have a S/N with suffix "T" have been manufactured by Tactair Fluid Controls Inc. and do not require any corrective action.

3. Valves manufactured by Kaiser Fluid Technologies, P/N 750006000, with S/N 0001 through 2126, and ink stamp "SB750006000-1", have already been checked and reworked as necessary and do not require any additional corrective action.

4. The Illustrated Parts Catalog, for each of the models covered in the Applicability section \* \* \*, gives instructions not to install a valve manufactured by Kaiser Fluid Technologies, P/N 750006000, with S/N 0001 through 2126, if the marking "SB750006000-1" is not ink stamped on the valve.

5. CL-600-2B16 (CL-605) aircraft, S/Ns 5701 and subsequent, are not affected by this directive. They were delivered with valves, P/N 750006000, that have either a S/N with suffix "T" or have the ink stamp marking "SB750006000-1".

We have clarified the applicability of this AD by removing serial numbers 5666 through 5699 that were included in AD 2007-14-02. Those serial numbers do not exist for the affected airplane models in this AD. 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 received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

### **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.

### **Costs of Compliance**

We estimate that this AD will affect about 82 products of U.S. registry.

The actions that are required by AD 2007-14-02 and retained in this AD take about 1 work-hour per product, at an average labor rate of \$85 per work hour. Based on these figures, the estimated cost of the currently required actions is \$85 per product.

We estimate that it will take about 1 work-hour per product to comply with the new basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the new basic requirements of this AD to U.S. operators to be \$6,970, or \$85 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 removing Amendment 39-15124 (72 FR 38004, July 12, 2007) and adding the following new AD:



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**2010-10-26 Bombardier, Inc.:** Amendment 39-16305. Docket No. FAA-2010-0169; Directorate Identifier 2009-NM-102-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective June 25, 2010.

**Affected ADs**

- (b) This AD supersedes AD 2007-14-02, Amendment 39-15124.

**Applicability**

(c) This AD applies to Bombardier, Inc. airplanes, certificated in any category, identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD.

(1) Model CL-600-1A11 (CL-600), serial numbers 1004 through 1085 inclusive.

(2) Model CL-600-2A12 (CL-601), serial numbers 3001 through 3066 inclusive.

(3) Model CL-600-2B16 (CL-601-3A, CL-601-3R, and CL-604), serial numbers 5001 through 5194 inclusive, and serial numbers 5301 through 5665 inclusive.

**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.

Although there have been no such cases reported on the Challenger models covered by this directive, there have been six cases reported on the CRJ (CL600-2B19) aircraft, one of which resulted in the collapse of the NLG at the departure gate.

This directive mandates a check of the 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.

This [MCAI] revision corrects a Service Bulletin number in the Corrective Actions table.

Notes:

1. The check is required whether or not an aircraft has previously been checked in accordance with AD CF-2006-16R1 (now superseded and cancelled by this AD). This is necessary since, following the issuance of AD CF-2006-16R1, it has been determined that the serial number (S/N) range of the affected valves requires expansion from the previous upper limit of S/N 0767 to S/N 2126 and the exact location of each of these additional valves is unknown.

2. Valves that have a S/N with suffix "T" have been manufactured by Tactair Fluid Controls Inc. and do not require any corrective action.

3. Valves manufactured by Kaiser Fluid Technologies, P/N 750006000, with S/N 0001 through 2126, and ink stamp "SB750006000-1", have already been checked and reworked as necessary and do not require any additional corrective action.

4. The Illustrated Parts Catalog, for each of the models covered in the Applicability section \* \* \*, gives instructions not to install a valve manufactured by Kaiser Fluid Technologies, P/N 750006000, with S/N 0001 through 2126, if the marking "SB750006000-1" is not ink stamped on the valve.

5. CL-600-2B16 (CL-605) aircraft, S/Ns 5701 and subsequent, are not affected by this directive. They were delivered with valves, P/N 750006000, that have either a S/N with suffix "T" or have the ink stamp marking "SB750006000-1".

## **Compliance**

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## **RESTATEMENT OF REQUIREMENTS OF AD 2007-14-02 WITH NEW SERVICE INFORMATION BUT NO CHANGES TO ACTIONS:**

### **Inspection and Corrective Action**

(g) For airplanes having serial numbers (S/Ns) as identified in the service bulletins specified in Table 1 of this AD, as applicable: Within 500 flight hours or 12 months after August 16, 2007 (the effective date AD 2007-14-02), whichever occurs first, inspect to determine the manufacturer part numbers (P/Ns) and serial numbers of the selector valves of the nose landing gear (NLG) and nose gear door. A review of airplane maintenance records is acceptable in lieu of this inspection if the serial numbers of the selector valves can be conclusively determined from that review. For any subject selector valve having Tactair Fluid Controls P/N 750006000 and a S/N from 0001 through 0767 inclusive, before further flight, do related investigative (including a general visual inspection for proper installation of the lock wire of the end cap) and corrective actions; in accordance with the applicable service bulletin identified in Table 1 of this AD. After the effective date of this AD, use only the applicable service bulletin specified in Table 2 of this AD.

**Table 1 – Bombardier Service Bulletins**

<b>Model –</b>	<b>Bombardier Service Bulletin –</b>	<b>Revision –</b>	<b>Dated –</b>
CL-600-1A11 (CL-600) airplanes	600-0721	01	February 20, 2006
CL-600-2A12 (CL-601), and CL-600-2B16 (CL-601-3A and CL-601-3R) airplanes	601-0558	01	February 20, 2006
CL-600-2B16 (CL-604) airplanes)	604-32-021	02	February 20, 2007

**Table 2 – Bombardier Service Bulletins for Actions in Paragraph (g) of this AD**

<b>Model –</b>	<b>Bombardier Service Bulletin –</b>	<b>Revision –</b>	<b>Dated –</b>
CL-600-1A11 (CL-600) airplanes	600-0721	03	February 23, 2009
CL-600-2A12 (CL-601), and CL-600-2B16 (CL-601-3A and CL-601-3R) airplanes	601-0558	03	February 23, 2009
CL-600-2B16 (CL-604) airplanes	604-32-021	04	February 23, 2009

Note 1: Operators should be aware that selector valves having Bombardier P/N 601R75146-1 may be supplied by different manufacturers and have different manufacturer part numbers. Only airplanes having selector valves manufactured by Tactair Fluid Controls, having P/N 750006000, are subject to the investigative and corrective actions specified in paragraph (g) of this AD.

Note 2: For the purposes of this AD, a general visual inspection is: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to ensure visual access to all surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

Note 3: The service bulletins identified in Table 1 of this AD refer to Tactair Fluid Controls Service Bulletin SB750006000-1, Revision A, dated September 6, 2005, as an additional source of guidance for doing the related investigative and corrective actions required by this AD.

### **Actions Accomplished According to Previous Issue of Service Bulletin**

(h) Actions accomplished before August 16, 2007, in accordance with Bombardier Service Bulletin 604-32-021, Revision 01, dated February 20, 2006 (for Model CL-600-2B16 (CL-604) airplanes), are considered acceptable for compliance with the corresponding actions specified in paragraph (g) of this AD.

### **NEW REQUIREMENTS OF THIS AD:**

#### **Actions**

(i) Unless already done, do the following actions.

(1) Within 250 flight hours or within 6 months after the effective date of this AD, whichever occurs first: Do an inspection of the selector valve of the NLG and the door selector valve of the NLG to determine if P/N 601R75146-1 (Kaiser Fluid Technologies P/N 750006000) is installed, in accordance with the Accomplishment Instructions of the applicable service bulletin specified in Table 3 of this AD. Doing the inspection required by this paragraph terminates the inspection required by paragraph (g) of this AD.

**Table 3 – Bombardier Service Bulletins for Actions in Paragraph (i) of this AD**

<b>Model –</b>	<b>Bombardier Service Bulletin –</b>	<b>Revision –</b>	<b>Dated –</b>
CL-600-1A11 (CL-600) airplanes	600-0721	03	February 23, 2009
CL-600-2A12 (CL-601), and CL-600-2B16 (CL-601-3A and CL-601-3R) airplanes	601-0558	03	February 23, 2009
CL-600-2B16 (CL-604) airplanes	604-32-021	04	February 23, 2009

(2) If, during any inspection required by paragraph (i)(1) of this AD, any selector valve having P/N 601R75146-1 (Kaiser Fluid Technologies P/N 750006000) and having a S/N from 0001 through 2126 inclusive without a suffix "T" is found, and the valve is not ink-stamped with the marking "SB750006000-1": Before further flight, do a general visual inspection for proper installation of the lock wire of the end cap, and replace it with a serviceable selector valve as applicable, in accordance with the Accomplishment Instructions of the applicable service bulletin specified in Table 3 of this AD.

(3) Doing the actions before the effective date of this AD in accordance with the applicable service bulletin specified in Table 4 of this AD is acceptable for compliance with the corresponding actions specified in this AD.

**Table 4 – Credit Service Bulletins**

<b>Service Bulletin</b>	<b>Revision Level</b>	<b>Date</b>
Bombardier Service Bulletin 600-0721	02	June 16, 2008
Bombardier Service Bulletin 601-0558	02	June 16, 2008
Bombardier Service Bulletin 604-32-021	03	June 16, 2008

**FAA AD Differences**

Note 4: This AD differs from the MCAI and/or service information as follows: No differences.

**Other FAA AD Provisions**

(j) 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

(k) Refer to MCAI Canadian Airworthiness Directive CF-2009-21R1, dated May 20, 2009; Bombardier Service Bulletin 600-0721, Revision 03, dated February 23, 2009; Bombardier Service Bulletin 601-0558, Revision 03, dated February 23, 2009; and Bombardier Service Bulletin 604-32-021, Revision 04, dated February 23, 2009; for related information.

## Material Incorporated by Reference

(l) You must use the service information contained in Table 5 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

**Table 5 – Material Incorporated by Reference**

<b>Document</b>	<b>Revision</b>	<b>Date</b>
Bombardier Service Bulletin 600-0721	03	February 23, 2009
Bombardier Service Bulletin 601-0558	03	February 23, 2009
Bombardier Service Bulletin 604-32-021	04	February 23, 2009

(1) The Director of the Federal Register approved the incorporation by reference of this 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 May 6, 2010.

Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.