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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0790; Product Identifier 2018-NM-078-AD; Amendment 39-19629; AD 2019-08-08]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2010-14-05, which applied to certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. AD 2010-14-05 required inspection for the part numbers of the system and brake accumulators, and repetitive replacement of affected accumulators. This AD adds requirements for relocating the accumulators and revising the existing maintenance or inspection program to incorporate new or more restrictive airworthiness limitations. This AD also adds optional terminating action for certain airplanes. This AD was prompted by reports of on-ground hydraulic accumulator screw cap or end cap failure that resulted in the loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective June 27, 2019.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 27, 2019.

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email ac.yul@aero.bombardier.com; internet http://www.bombardier.com. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0790.

Examining the AD Docket

You may examine the AD docket on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0790; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Darren Gassetto, Aerospace Engineer, Mechanical Systems & Administrative Services, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:
Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2010-14-05, Amendment 39-16350 (75 FR 37994, July 1, 2010) ("AD 2010-14-05"). AD 2010-14-05 applied to certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. The NPRM published in the Federal Register on September 14, 2018 (83 FR 46670). The NPRM was prompted by reports of on-ground hydraulic accumulator screw cap or end cap failure that resulted in the loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. The NPRM proposed to continue to require inspection for the part numbers of the system and brake accumulators, and repetitive replacement of affected accumulators. The NPRM also proposed to require relocating the accumulators and revising the existing maintenance or inspection program to incorporate new or more restrictive airworthiness limitations. The NPRM also proposed to add optional terminating action for certain airplanes. We are issuing this AD to address failure of one of the brake accumulator screw caps/end caps, which could result in impact damage causing loss of both hydraulic systems No. 2 and No. 3, and the consequent loss of both braking and nose wheel steering, the potential for a runway excursion, and damage to the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2009-39R1, dated October 13, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. The MCAI states:

> Seven cases of on-ground hydraulic accumulator screw cap or end cap failure have been experienced on CL-600-2B19 (CRJ) aircraft, resulting in loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. The lowest number of flight cycles accumulated at the time of failure, to date, has been 6991 flight cycles.
>
> Although there have been no failures to date on any CL-600-1A11, CL-600-2A12 or CL-600-2B16 aircraft, the same accumulators as those installed on the CL-600-2B19, Part Numbers (P/N) 08-60163-002 and 08-60164-002 are installed on some of the aircraft listed in the Applicability section of this directive.
>
> Notes:

1. Earlier accumulators, P/Ns 2770571-102, 2770571-103, 2770571-104 and 2770571-105, were installed in production on the following aircraft: CL-600-1A11 [all Serial Numbers (S/Ns)], CL-600-2A12 (all S/Ns) and CL-600-2B16 (S/Ns 5001 through 5194 and 5301 through 5524 only). These accumulators do not require inspection or replacement. However, if any of the accumulators with the above P/Ns have been replaced in-service by P/Ns 08-60163-002 and 08-60164-002, these latter accumulators require replacement.

2. Prior to issuance of [Canadian] AD CF-2009-39, the only accumulators ever installed in production on CL-600-2B16 aircraft, S/Ns 5525 through 5665 and 5701 through 5908, are P/Ns 08-60163-002 and 08-60164-002; these accumulators require replacement.

3. After issuance of [Canadian] AD CF-2009-39 [which corresponds to FAA AD 2010-14-05], accumulators with P/Ns specified in Note 2, above, began to feature various S/N suffixes. Only accumulators with S/N suffix "TNAE" do not require replacement, but they are subject to other mandatory actions detailed in this AD.

4. Stainless steel accumulators P/Ns 601R75139-3 (11094-4) and 601R75139-1 (11093-4) were installed in production on CL-600-2B16 aircraft, S/Ns 5909 and subsequent. These accumulators do not require replacement, but they are subjected to other mandatory actions detailed in this AD.

A detailed analysis of the systems and structure in the potential line of trajectory of a failed screw cap/end cap for each accumulator, P/Ns 08-60163-002 and 08-60164-002, has been conducted. On the Challengers, it has been identified that the worst case scenario would be a failure of system No. 1, 2 or 3 accumulator screw caps/end caps (depending on the model), resulting in a potential uncontrolled fire in a non-designated fire zone.

The original version of this [Canadian] AD gave instructions to perform identification and records checks, where applicable, and replace accumulators, P/Ns 08-60163-002 and 08-60164-002 within the time compliance specified.

* * * * *

You may examine the MCAI in the AD docket on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0790.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Refer to Latest Service Information

Bombardier requested that we refer to the latest version of the service information: Bombardier Challenger CL-605 Time Limits/Maintenance Checks (TLMC), Revision 19, dated May 29, 2018.

We agree to refer to the latest service information. The specific tasks required by paragraph (j) of this AD have not changed in the latest available service information. The current version of the Bombardier Challenger CL-605 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations,

is Revision 20, dated November 19, 2018. We have changed all references accordingly in this final rule, with credit provided in paragraph (l)(6) of this AD for the prior accomplishment of Revision 18, dated December 4, 2017, and Revision 19, dated May 29, 2018.

The current version of the Bombardier Challenger CL-604 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, is Revision 31, dated November 19, 2018. We have changed all references accordingly in this final rule, with credit provided in paragraph (l)(5) of this AD for the prior accomplishment of Revision 30, dated December 4, 2017.

Request for Minor Editorial Changes

Bombardier requested several minor changes to the NPRM, including correcting a typographical error in an email address, updating the address for Bombardier, updating the airplane identity to match the models and variants as listed on the current type certificate data sheet (TCDS), and clarifying part numbers and service bulletin numbers. We agree and have revised this AD accordingly.

Request To Revise Model Callout

Bombardier asked us to change "604 Variants" to "604 Variant" in the SUMMARY and "Actions Since AD 2010-14-05 Was Issued" section of the NPRM.

We disagree with this request because there are multiple variants for the CL-600-2B16 airplanes. We have not changed this final rule regarding this issue.

Comment Regarding TLMC Revision Status

Bombardier noted that the TLMC revisions listed in figure 2 to paragraph (j) of this AD are the latest versions published on the customer website and not when the tasks were introduced. No change was requested or made.

Request To Clarify Applicability

Bombardier requested that we revise the applicability for Model CL-600-2B16 airplanes in paragraph (c)(5) of the proposed AD by changing serial numbers "5701 and subsequent" to "5701 through 5988."

We agree to make this change. We have determined that production for this model ended with serial number 5988; therefore, there is no change to the affected airplanes in this AD.

Request To Revise Certain Airplanes Subject to Accumulator Relocation

Bombardier requested that we revise the affected airplanes identified in paragraph (i)(4) of the proposed AD, from "S/Ns 5701 and subsequent" to "S/Ns 5701 to 5982."

We agree with the request. We have determined that accumulators on airplanes with serial numbers after 5982 have been relocated. We have revised paragraph (i)(4) of this AD accordingly.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. We have determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

The following Bombardier service information describes procedures for replacing hydraulic system accumulators with new, overhauled, or refurbished accumulators. These documents are distinct since they apply to different airplane models.

Service Bulletin 600-0742, Revision 04, dated June 11, 2015.

Service Bulletin 601-0597, Revision 04, dated June 11, 2015.

Service Bulletin 604-29-008, Revision 04, dated June 11, 2015.

Service Bulletin 605-29-001, Revision 04, dated June 10, 2015.

The following Bombardier service information describes procedures for relocating hydraulic system accumulators. These documents are distinct since they apply to different airplane models in different configurations.

Service Bulletin 600-0764, dated October 8, 2015.

Service Bulletin 600-0767, dated August 25, 2016.

Service Bulletin 601-0633, dated October 8, 2015.

Service Bulletin 601-0637, dated August 25, 2016.

Service Bulletin 604-29-013, Revision 02, dated April 18, 2016.

Service Bulletin 605-29-006, Revision 02, dated April 19, 2016.

The following Bombardier Time Limits/Maintenance Checks describe certain systems life limits of the safe life items. These documents are distinct since they apply to different airplane models in different configurations.

Section 5-10-20, Time Limits (Systems), of the Bombardier Challenger 600 Time Limits/Maintenance Checks, PSP 605, Revision 39, dated January 8, 2018.

Section 5-10-20, Time Limits (Systems), of the Bombardier Challenger 601 Time Limits/Maintenance Checks, PSP 601-5, Revision 46, dated January 8, 2018.

Section 5-10-20, Time Limits (Systems), of the Bombardier Challenger 601 Time Limits/Maintenance Checks, PSP 601A-5, Revision 42, dated January 8, 2018.

Section 5-10-11, Life Limits (Systems), of the Bombardier Challenger CL-604 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 31, dated November 19, 2018.

Section 5-10-11, Life Limits (Systems), of the Bombardier Challenger CL-605 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 20, dated November 19, 2018.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 130 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs for Required Actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Retained actions: 20 work-hours × $85 per hour = $1,700	$7,717	$9,417	$1,224,210.

New actions: Up to 170 work-hours × $85 per hour = Up to $14,450	Up to $41,635	Up to $56,085	Up to $7,291,050.

For the new maintenance/inspection program revision, we have determined that this action takes an average of 90 work-hours per operator, although we recognize that this number may vary from operator to operator. In the past, we have estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet, we have determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, we estimate the total cost per operator to be $7,650 (90 work-hours x $85 per work-hour).

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all known costs in our cost estimate.

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

We have 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 that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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.

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 Airworthiness Directive (AD) 2010-14-05, Amendment 39-16350 (75 FR 37994, July 1, 2010), and adding the following new AD:

2019-08-08 Bombardier, Inc.: Amendment 39-19629; Docket No. FAA-2018-0790; Product Identifier 2018-NM-078-AD.

(a) Effective Date

This AD is effective June 27, 2019.

(b) Affected ADs

This AD replaces AD 2010-14-05, Amendment 39-16350 (75 FR 37994, July 1, 2010) ("AD 2010-14-05").

(c) Applicability

This AD applies to the Bombardier, Inc., airplanes, certificated in any category, identified in paragraphs (c)(1) through (c)(5) of this AD.

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

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

(3) Model CL-600-2B16 airplanes (601-3A Variant), serial numbers 5001 through 5134 inclusive.

(4) Model CL-600-2B16 airplanes (601-3R Variant), serial numbers 5135 through 5194 inclusive.

(5) Model CL-600-2B16 airplanes (604 Variant), serial numbers 5301 through 5665 inclusive and 5701 through 5988 inclusive.

Note 1 to paragraph (c) of this AD: Certain Model CL-600-2B16 (604 Variant) airplanes might be referred to by the marketing designation CL-605.

(d) Subject

Air Transport Association (ATA) of America Code 29, Hydraulic power.

(e) Reason

This AD was prompted by reports of on-ground hydraulic accumulator screw cap or end cap failure that resulted in the loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. We are issuing this AD to address failure of one of the brake accumulator screw caps/end caps, which could result in impact damage causing loss of both hydraulic systems No. 2 and No. 3, and the consequent loss of both braking and nose wheel steering, the potential for a runway excursion, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Part Number Inspection and Accumulator Replacement, With Revised Formatting, Service Information, and Affected Part Numbers

This paragraph restates the requirements of paragraph (g) of AD 2010-14-05, with revised formatting, service information, and affected part numbers. Do the following actions as applicable.

(1) Within 50 flight hours after August 5, 2010 (the effective date of AD 2010-14-05), inspect to determine the part numbers of the system accumulators numbers 1, 2, and 3, and brake accumulators numbers 2 and 3 that are installed on the airplane. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of each accumulator can be conclusively determined from that review. If all of the installed accumulators have part number (P/N) 2770571-102, 2770571-103, 2770571-104, 2770571-105, 601R75139-3 (11094-4), or 601R75139-1 (11093-4), no further action is required by paragraph (g) of this AD.

(2) Except as provided in paragraph (g)(1) of this AD: At the applicable time in paragraph (g)(2)(i), (g)(2)(ii), or (g)(2)(iii) of this AD, replace the accumulator with a new, overhauled, or refurbished accumulator with the same part number, in accordance with the Accomplishment Instructions of the applicable service bulletin listed in figure 1 to paragraphs (g)(2) and (g)(3) of this AD.

(i) For each accumulator having P/Ns 08-60163-002 (601R75138-1), and 08-60164-002 (601R75138-3), as applicable, that has accumulated more than 3,650 total flight cycles as of August 5, 2010 (the effective date of AD 2010-14-05): Replace the accumulator within 100 flight cycles after August 5, 2010.

(ii) For each accumulator having P/N 08-60163-002 (601R75138-1), and 08-60164-002 (601R75138-3), as applicable, that has accumulated 3,650 total flight cycles or fewer as of August 5, 2010: Replace the accumulator before the accumulation of 3,750 total flight cycles on the accumulator.

(iii) For each accumulator having P/N 08-60163-002 (601R75138-1), and 08-60164-002 (601R75138-3), as applicable, for which it is not possible to determine the number of flight cycles accumulated: Replace the accumulator within 100 flight cycles after August 5, 2010.

Figure 1 to paragraphs (g)(2) and (g)(3) of this AD –
Service bulletins for accumulator replacement

Airplane Model –	**Bombardier Service Bulletin –**	**Revision –**	**Dated –**
CL-600-1A11 (600)	600-0742	04	June 11, 2015
CL-600-2A12 (601) CL-600-2B16 (601-3A and 601-3R Variants)	601-0597	04	June 11, 2015
CL-600-2B16 (604 Variant)	604-29-008	04	June 11, 2015
CL-600-2B16 (605*)	605-29-001	04	June 10, 2015

*Model CL-600-2B16 (604 Variant), referred to by the marketing designation CL-605.

(3) Thereafter, before the accumulation of 3,750 total flight cycles on any accumulator having P/Ns 08-60163-002 (601R75138-1), and 08-60164-002 (601R75138-3), as applicable, replace the accumulator with a new, overhauled, or refurbished accumulator having the same part number, in accordance with the Accomplishment Instructions of the applicable service bulletin listed in figure 1 to paragraphs (g)(2) and (g)(3) of this AD.

(h) New Provision of This AD: Terminating Action for Certain Accumulators

For each accumulator with one of the part number and serial number (S/N) suffixes listed in paragraphs (h)(1) through (h)(4) of this AD, the repetitive replacement specified in paragraphs (g)(2) and (g)(3) of this AD is not required.

(1) P/N 08-60163-002 with S/N suffix TNAE.

(2) P/N 08-60164-002 with S/N suffix TNAE.

(3) P/N 601R75139-3 (11094-4).

(4) P/N 601R75139-1 (11093-4).

(i) New Requirement of This AD: Relocation of Accumulators

Within 60 months or 2,400 flight cycles, whichever occurs first after the effective date of this AD, relocate the hydraulic system accumulators as specified in paragraphs (i)(1) through (i)(4) of this AD, as applicable. Relocation of the hydraulic system accumulators as required by this paragraph does not terminate any repetitive replacement required by paragraph (g)(2) or (g)(3) of this AD.

(1) For Model CL-600-1A11 (600) airplanes, S/Ns 1004 through 1085 inclusive: Relocate accumulators as specified in paragraphs (i)(1)(i) and (i)(1)(ii) of this AD.

(i) Relocate hydraulic system Nos. 1 and 2 accumulators, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 600-0764, dated October 8, 2015.

(ii) Relocate hydraulic system No. 3 accumulator, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 600-0767, dated August 25, 2016.

(2) For Model CL-600-2A12 (601) airplanes, S/Ns 3001 through 3066 inclusive, and Model CL-600-2B16 (601-3A and 601-3R Variants) airplanes, S/Ns 5001 through 5194 inclusive: Relocate accumulators as specified in paragraphs (i)(2)(i) and (i)(2)(ii) of this AD.

(i) Relocate hydraulic system Nos. 1 and 2 accumulators, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601-0633, dated October 8, 2015.

(ii) Relocate hydraulic system No. 3 accumulator, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601-0637, dated August 25, 2016.

(3) For Model CL-600-2B16 (604 Variant) airplanes, S/Ns 5301 through 5665 inclusive: Relocate hydraulic system No. 3 accumulator, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 604-29-013, Revision 02, dated April 18, 2016.

(4) For Model CL-600-2B16 (605) airplanes, S/Ns 5701 through 5982 inclusive and subsequent (i.e., Model CL-600-2B16 (604 Variant), referred to by the marketing designation CL-605): Relocate hydraulic system No. 3 accumulator, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 605-29-006, Revision 02, dated April 19, 2016.

(j) New Requirement of This AD: Revision of Maintenance/Inspection Program

Within 50 flight hours after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the tasks specified in figure 2 to paragraph (j) of this AD.

Figure 2 to paragraph (j) of this AD: *Time Limits/Maintenance Checks (TLMC) tasks*

Airplane model	TLMC manual number	Section	Part number/task number
CL-600-1A11 (600)	Bombardier Challenger 600 Time Limits/Maintenance Checks, PSP 605, Revision 39, dated January 8, 2018	5-10-20, Time Limits (Systems)	601R75138-1 (08-60163-002) with "TNAE" after the S/N
			601R75138-3 (08-60164-002) with "TNAE" after the S/N
CL-600-2A12 (601)	Bombardier Challenger 601 Time Limits/Maintenance Checks, PSP 601-5, Revision 46, dated January 8, 2018	5-10-20, Time Limits (Systems)	601R75138-1 (08-60163-002) with "TNAE" after the S/N
			601R75138-3 (08-60164-002) with "TNAE" after the S/N
CL-600-2B16 (601-3A and 601-3R Variants)	Bombardier Challenger 601 Time Limits/Maintenance Checks, PSP 601A-5, Revision 42, dated January 8, 2018	5-10-20, Time Limits (Systems)	601R75138-1 (08-60163-002) with "TNAE" after the S/N
			601R75138-3 (08-60164-002) with "TNAE" after the S/N
CL-600-2B16 (604 Variant)	Bombardier Challenger CL−604 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 31, dated November 19, 2018	5-10-11, Life Limits (Systems)	29-10-00-101
			29-10-00-102
CL-600-2B16 (605*)	Bombardier Challenger CL-605 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 20, dated November 19, 2018	5-10-11, Life Limits (Systems)	29-10-00-101
			29-10-00-102

*Model CL-600-2B16 (604 Variant), referred to by the marketing designation CL-605.

(k) No Alternative Actions or Intervals

After the maintenance or inspection program has been revised as required by paragraph (j) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (n)(1) of this AD.

(l) Credit for Previous Actions

(1) Replacement of an accumulator with a new accumulator having the same part number is also acceptable for compliance with the requirements of paragraphs (g)(2) and (g)(3) of this AD, if done before August 5, 2010 (the effective date of AD 2010-14-05), in accordance with the applicable service bulletin listed in figure 3 to paragraph (l)(1) of this AD. This service information is not incorporated by reference in this AD.

Figure 3 to paragraph (l)(1) of this AD – *Previous service bulletins for AD 2010-14-05*

Airplane Model –	Bombardier Service Bulletin –	Revision –	Dated –
CL-600-1A11 (600)	600-0742	Basic	November 10, 2008
		01	July 6, 2009
CL-600-2A12 (601) CL-600-2B16 (601-3A and 601-3R Variants)	601-0597	Basic	November 10, 2008
		01	July 6, 2009
CL-600-2B16 (604 Variant)	604-29-008	Basic	November 10, 2008
		01	July 6, 2009
CL-600-2B16 (605*)	605-29-001	Basic	November 10, 2008
		01	July 6, 2009

*Model CL-600-2B16 (604 Variant), referred to by the marketing designation CL-605.

(2) Replacement of an accumulator with a new accumulator having the same part number is also acceptable for compliance with the requirements of paragraphs (g)(2) and (g)(3) of this AD, if done before the effective date of this AD in accordance with the applicable service bulletin listed in figure 4 to paragraph (l)(2) of this AD.

Figure 4 to paragraph (l)(2) of this AD – *Previous service bulletins for this AD*

Airplane Model –	Bombardier Service Bulletin –	Revision –	Dated –
CL-600-1A11 (600)	600-0742	02**	May 10, 2010
		03*	April 10, 2012
CL-600-2A12 (601) CL-600-2B16 (601-3A and 601-3R Variants)	601-0597	02**	May 10, 2010
		03*	April 10, 2012
CL-600-2B16 (604 Variant)	604-29-008	02**	May 10, 2010
		03*	April 10, 2012
CL-600-2B16 (605***)	605-29-001	02**	May 10, 2010
		03*	April 10, 2012

*This service information is not incorporated by reference in this AD.

**This service information was incorporated by reference in AD 2010-14-05.

***Model CL-600-2B16 (604 Variant), referred to by the marketing designation CL-605.

(3) This paragraph provides credit for actions required by paragraph (i)(3) of this AD, if those actions were performed before the effective date of this AD, in accordance with Bombardier Service Bulletin 604-29-013, dated April 30, 2015; or Bombardier Service Bulletin 604-29-013, Revision 01, dated October 19, 2015. This service information is not incorporated by reference in this AD.

(4) This paragraph provides credit for actions required by paragraph (i)(4) of this AD, if those actions were performed before the effective date of this AD, in accordance with Bombardier Service Bulletin 605-29-006, dated April 30, 2015; or Bombardier Service Bulletin 605-29-006, Revision 01, dated October 19, 2015. This service information is not incorporated by reference in this AD.

(5) For Model CL-600-2B16 (604 Variant) airplanes: This paragraph provides credit for the actions required by paragraph (j) of this AD, if those actions were performed before the effective date of this AD using Section 5-10-11, Life Limits (Systems), of the Bombardier Challenger CL-604 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 30, dated December 4, 2017. This service information is not incorporated by reference in this AD.

(6) For Model CL-600-2B16 (605) airplanes: This paragraph provides credit for the actions required by paragraph (j) of this AD for, if those actions were performed before the effective date of this AD using Section 5-10-11, Life Limits (Systems), of the Bombardier Challenger CL-605 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 18, dated December 4, 2017; or Revision 19, dated May 29, 2018. This service information is not incorporated by reference in this AD.

(m) Special Flight Permit

Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the airplane can be modified, provided the following conditions are met:

(1) An engineering recommendation must be obtained via the Bombardier process Service Request for Product Support Action (SRPSA) at SRPSA@aero.bombardier.com.

(2) Approval of the special flight permit must be obtained from the Flight Standards District Office.

(n) Other FAA AD Provisions

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOC 15-76R1 and AMOC 15-53, approved previously for AD 2010-14-05, are approved as AMOCs for the corresponding provisions of paragraph (g)(2) of this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(o) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2009-39R1, dated October 13, 2017, for related information. This MCAI may be found in the AD docket on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0790.

(2) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Mechanical Systems & Administrative Services, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (p)(5) and (p)(6) of this AD.

(p) Material Incorporated by Reference

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on June 27, 2019.

(i) Bombardier Service Bulletin 600-0742, Revision 04, dated June 11, 2015.

(ii) Bombardier Service Bulletin 600-0764, dated October 8, 2015.

(iii) Bombardier Service Bulletin 600-0767, dated August 25, 2016.

(iv) Bombardier Service Bulletin 601-0597, Revision 04, dated June 11, 2015.

(v) Bombardier Service Bulletin 601-0633, dated October 8, 2015.

(vi) Bombardier Service Bulletin 601-0637, dated August 25, 2016.

(vii) Bombardier Service Bulletin 604-29-008, Revision 04, dated June 11, 2015.

(viii) Bombardier Service Bulletin 604-29-013, Revision 02, dated April 18, 2016.

(ix) Bombardier Service Bulletin 605-29-001, Revision 04, dated June 10, 2015.

(x) Bombardier Service Bulletin 605-29-006, Revision 02, dated April 19, 2016.

(xi) Section 5-10-11, Life Limits (Systems), of the Bombardier Challenger CL-604 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 31, dated November 19, 2018.

(xii) Section 5-10-11, Life Limits (Systems), of the Bombardier Challenger CL-605 Time Limits/Maintenance Checks, Part 2, Airworthiness Limitations, Revision 20, dated November 19, 2018.

(xiii) Section 5-10-20, Time Limits (Systems), of the Bombardier Challenger 600 Time Limits/Maintenance Checks, PSP 605, Revision 39, dated January 8, 2018.

(xiv) Section 5-10-20, Time Limits (Systems), of the Bombardier Challenger 601 Time Limits/Maintenance Checks, PSP 601-5, Revision 46, dated January 8, 2018.

(xv) Section 5-10-20, Time Limits (Systems), of the Bombardier Challenger 601 Time Limits/Maintenance Checks, PSP 601A-5, Revision 42, dated January 8, 2018.

(4) For service information identified in this AD, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email ac.yul@aero.bombardier.com; internet http://www.bombardier.com.

(5) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(6) You may view this 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/cfr/ibr-locations.html.

Issued in Des Moines, Washington, on April 25, 2019.

Dionne Palermo,

Acting Director, System Oversight Division,

Aircraft Certification Service.