



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2023-1219; Project Identifier MCAI-2023-00004-T]

RIN 2120-AA64

#### Airworthiness Directives; Bombardier, Inc., Airplanes

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes. This proposed AD was prompted by a determination that a combination of system faults and procedural actions will cause the ground spoilers to deploy in the air. This proposed AD would require revising the existing airplane flight manual (AFM) to add revised procedures. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m.,

Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1219; 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 NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For service information identified in this NPRM, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email: [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); website: [bombardier.com](https://www.bombardier.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

**FOR FURTHER INFORMATION CONTACT:** William Reisenauer, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-1219; Project Identifier MCAI-2023-00004-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to William Reisenauer, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov). Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### **Background**

Transport Canada, which is the aviation authority for Canada, has issued Transport Canada AD CF-2023-01, dated January 4, 2023 (Transport Canada AD CF-2023-01) (also referred to as the MCAI), to correct an unsafe condition on certain Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes. The MCAI states that, during an in-service event, a combination of system faults and procedural actions caused the ground spoilers to deploy in the air. During this event, the WOW (weight on wheels)

INPUT Caution message had posted on the engine indication and crew alerting system (EICAS) after takeoff. The WOW INPUT message persisted, even after the flightcrew executed the WOW INPUT Quick Reference Handbook (QRH) procedure. During this time, the GND SPLRS (ground spoilers) NOT ARMED message also posted, and the flightcrew consequently manually armed the ground spoilers as required by procedure. An investigation by Bombardier, Inc., revealed that a fault occurred in the proximity sensor electronic unit (PSEU), which erroneously indicated ON GROUND while the airplane was in the air.

The FAA is proposing this AD to address possible ground spoiler deployment leading to reduced controllability of the airplane, or excessive loss of altitude on final approach. You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2023-1219.

#### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed the following service information, which specifies revised Abnormal Procedures of the AFM for Ground Spoilers Unsafe and Weight-on-Wheels Input Fault procedures. These documents are distinct since they apply to different airplane models and configurations.

- Sub-sub-section K., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, Revision 125, dated March 14, 2022. (For obtaining Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.)

- Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System,” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger

604 Airplane Flight Manual-Publication No. PSP 604-1, Revision 125, dated March 14, 2022. (For obtaining Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.)

- Sub-sub-section L., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, Revision 63, dated March 14, 2022. (For obtaining Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.)

- Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System,” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, Revision 63, dated March 14, 2022. (For obtaining Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.)

- Sub-sub-section L., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, Revision 28, dated March 14, 2022. (For obtaining Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.)

- Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, Revision 28, dated March 14, 2022. (For obtaining Bombardier Challenger 650 Airplane Flight Manual-Publication No.

PSP 650-1, use Document Identification No. CH 650 AFM.)

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.

### **FAA's Determination**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

### **Proposed AD Requirements in this NPRM**

This proposed AD would require revising the existing AFM to add revised procedures.

Transport Canada AD CF-2023-01 requires operators to "advise all flight crews" of revisions to the AFM, and thereafter to "operate the affected aircraft accordingly." However, this proposed AD would not specifically require those actions as those actions are already required by FAA regulations. FAA regulations require operators furnish to pilots any changes to the AFM (for example, 14 CFR 121.137), and to ensure the pilots are familiar with the AFM (for example, 14 CFR 91.505). As with any other flightcrew training requirement, training on the updated AFM content is tracked by the operators and recorded in each pilot's training record, which is available for the FAA to review. FAA regulations also require pilots to follow the procedures in the existing AFM including all updates. 14 CFR 91.9 requires that any person operating a civil aircraft must comply with the operating limitations specified in the AFM. Therefore, including a requirement in this proposed AD to operate the airplane according to the revised AFM

would be redundant and unnecessary.

### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 44 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

#### **Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
1 work-hour X \$85 per hour = \$85	\$0	\$85	\$3,740

### **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.

The FAA is 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**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

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

(2) Would not affect intrastate aviation in Alaska, and

(3) Would 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.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 airworthiness directive:

**Bombardier, Inc.:** Docket No. FAA-2023-1219; Project Identifier MCAI-2023-00004-T.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc., Model CL-600-2B16 (604 Variant)

airplanes, certificated in any category, serial numbers (S/N) 5301 through 5665 inclusive, 5701 through 5988 inclusive, and 6050 through 6174 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code: 27, Flight Controls.

**(e) Unsafe Condition**

This AD was prompted by a determination that a combination of system faults and procedural actions will cause the ground spoilers to deploy in the air. The FAA is issuing this AD to address possible ground spoiler deployment in the air leading to reduced controllability of the airplane, or excessive loss of altitude on final approach.

**(f) Compliance**

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

**(g) Revision of Existing AFM**

Within 60 days after the effective date of this AD: Do the applicable actions specified in paragraph (g)(1) through (3) of this AD.

(1) For Model CL-600-2B16 (604 variant) airplanes, S/N 5301 through 5665 inclusive: Revise the existing airplane flight manual (AFM) to incorporate the information specified in paragraphs (g)(1)(i) and (ii) of this AD of Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, Revision 125, dated March 14, 2022.

(i) Sub-sub-section K., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES.

(ii) Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System,” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES.

Note 1 to paragraph (g)(1): For obtaining Bombardier Challenger 604 Airplane

Flight Manual-Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.

(2) For Model CL-600-2B16 (604 variant) airplanes, S/N 5701 through 5988 inclusive: Revise the existing AFM to incorporate the information specified in paragraphs (g)(2)(i) and (ii) of this AD of Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, Revision 63, dated March 14, 2022.

(i) Sub-sub-section L., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES.

(ii) Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System,” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES.

Note 2 to paragraph (g)(2): For obtaining Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.

(3) For Model CL-600-2B16 (604 variant) airplanes, S/N 6050 through 6174 inclusive: Revise the existing AFM to incorporate the information specified in paragraphs (g)(3)(i) and (ii) of this AD of Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, Revision 28, dated March 14, 2022.

(i) Sub-sub-section L., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES.

(ii) Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES.

Note 3 to paragraph (g)(3): For obtaining Bombardier Challenger 650 Airplane

Flight Manual-Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.

**(h) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Validation 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 responsible Flight Standards Office, as appropriate. If sending information directly to the International Validation Branch, send it to the attention of the person identified in paragraph (i)(2) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, International Validation Branch, FAA; or Transport Canada; or Bombardier, Inc.'s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(i) Additional Information**

(1) Refer to Transport Canada AD CF-2023-01, dated January 4, 2023, for related information. This Transport Canada AD may be found in the AD docket at regulations.gov under Docket No. FAA-2023-1219.

(2) For more information about this AD, contact William Reisenauer, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

**(j) 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 this AD specifies otherwise.

(i) Sub-sub-section K., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, Revision 125, dated March 14, 2022.

Note 4 to paragraph (j)(2)(i): This note applies to paragraphs (j)(2)(i) and (ii) of this AD. For obtaining Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.

(ii) Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System,” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 604 Airplane Flight Manual-Publication No. PSP 604-1, Revision 125, dated March 14, 2022.

(iii) Sub-sub-section L., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, Revision 63, dated March 14, 2022.

Note 5 to paragraph (j)(2)(iii): This note applies to paragraphs (j)(2)(iii) and (iv) of this AD. For obtaining Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.

(iv) Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1.

“Landing Gear, Wheel and Brake System,” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 605 Airplane Flight Manual-Publication No. PSP 605-1, Revision 63, dated March 14, 2022.

(v) Sub-sub-section L., “Ground Spoilers Unsafe,” of sub-section 1. “Flight Controls,” of Section 05-11, “Flight Controls,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, Revision 28, dated March 14, 2022.

Note 6 to paragraph (j)(2)(v): This note applies to paragraphs (j)(2)(v) and (vi) of this AD. For obtaining Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.

(vi) Sub-sub-section H., “Weight-on-Wheels Input Fault,” of sub-section 1. “Landing Gear, Wheel and Brake System” of Section 05-16, “Landing Gear, Wheel and Brake System,” of Chapter 5 - ABNORMAL PROCEDURES of Bombardier Challenger 650 Airplane Flight Manual-Publication No. PSP 650-1, Revision 28, dated March 14, 2022.

(3) For service information identified in this AD, contact Bombardier, Inc., Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email: [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); website: [bombardier.com](http://bombardier.com).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to:

[www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on June 28, 2023.

Michael Linegang, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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