

information, or degrade the presentation and pilot awareness of essential flight information displayed on the HUD, such as alerts, airspeed, attitude, altitude and direction, approach guidance, wind-shear guidance, TCAS resolution advisories, and unusual-attitude recovery cues.

e. The EFVS image and the HUD symbols, which are spatially referenced to the pitch scale, outside view, and image, must be scaled and aligned (*i.e.*, conformal) to the external scene and, when considered singly or in combination, must not be misleading, cause pilot confusion, or increase workload. Airplane attitudes or cross-wind conditions may cause certain symbols, such as the zero-pitch line or flight-path vector, to reach field-of-view limits such that they cannot be positioned conformably with the image and external scene. In such cases, these symbols may be displayed, but with an altered appearance (*e.g.*, “ghosting”) which makes the pilot aware that they are no longer displayed conformally.

f. A HUD system that displays EFVS images must, if previously certified, continue to meet all of the requirements of the original approval.

3. The safety and performance of the pilot tasks associated with the use of the pilot-compartment view must be not be degraded by the display of the EFVS image. Pilot tasks, which must not be degraded by the EFVS image, include:

a. Detection, accurate identification, and maneuvering, as necessary, to avoid traffic, terrain, obstacles, and other hazards of flight.

b. Accurate identification and utilization of visual references required for every task relevant to the phase of flight.

4. Use of EFVS for instrument approach operations must be in accordance with the provisions of the applicable § 91.176 operational rule. Appropriate limitations must be stated in the Operating Limitations section of the Airplane Flight Manual to prohibit the use of the EFVS for functions that have not been found to be acceptable.

Issued in Des Moines, Washington, on October 29, 2018.

**Victor Wicklund,**

*Manager, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service.*

[FR Doc. 2018–24104 Filed 11–2–18; 8:45 am]

**BILLING CODE 4910–13–P**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

[Docket No. FAA–2018–0585; Product Identifier 2018–NM–070–AD; Amendment 39–19481; AD 2018–22–08]

**RIN 2120–AA64**

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

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD–700–1A10 and BD–700–1A11 airplanes. This AD was prompted by reports that non-conforming FIREX squib wire harness connectors may have been installed, which could result in FIREX squib wire harness connectors being connected to the wrong FIREX bottle connectors on affected aircraft. This AD requires a visual inspection of the connections between the FIREX squib wire harness connectors and FIREX bottle connectors, installation of split ring lanyards on the FIREX squib wire harness connectors, and corrective actions if necessary. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective December 10, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of December 10, 2018.

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514–855–5000; fax 514–855–7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@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–2018–0585.

**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–2018–0585; 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:** John DeLuca, Aerospace Engineer, Avionics and Electrical Systems Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516–228–7369; fax 516–794–5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model BD–700–1A10 and BD–700–1A11 airplanes. The NPRM published in the **Federal Register** on July 6, 2018 (83 FR 31491). The NPRM was prompted by reports that non-conforming FIREX squib wire harness connectors may have been installed, which could result in FIREX squib wire harness connectors being connected to the wrong FIREX bottle connectors on affected aircraft. The NPRM proposed to require a visual inspection of the connections between the FIREX squib wire harness connectors and FIREX bottle connectors, installation of split ring lanyards on the FIREX squib wire harness connectors, and corrective actions if necessary.

We are issuing this AD to address this wiring discrepancy, which, in the event of an engine fire, could result in misrouting the supply of fire extinguishing agent to the wrong engine, or limit the supply from both FIREX bottles to only one engine, which could result in the inability to extinguish an engine fire.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF–2018–08R1, dated March 2, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc., Model BD–700–1A10 and BD–700–1A11 airplanes. The MCAI states:

Bombardier Inc. has been made aware that non-conforming squib connector wire harnesses may have been installed on one of the two engine FIREX bottle installations on some of the affected aeroplanes. The subject non conformity of squib connector wire

length can allow cross connection between the two squib connectors on one of the engine FIREX bottles, preventing proper function of the engine FIREX system.

In the event of an engine fire, this wiring discrepancy may potentially misroute the supply of fire extinguishing agent to the wrong engine, or limit the supply from both FIREX bottles to only one engine, hence impacting the operational safety of the aeroplane.

Bombardier Inc. issued service bulletins (SB) 700-26-011, 700-26-5003, 700-26-6003, and 700-1A11-26-004, for the affected model aeroplanes, to address the potentially unsafe condition caused by the non-conforming FIREX bottle squib connector wiring.

The original version of this [Canadian] AD was issued to mandate compliance with the above-mentioned SBs, as applicable.

Revision 1 of this [Canadian] AD is issued to correct an error in the applicability section of the original AD.

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-2018-0585.

**Comments**

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

**Request To Refer to Revised Service Information**

Bombardier requested that the NPRM be updated to reference the current revision of certain service information to avoid issuing an Alternate Means of Compliance (AMOC) following the release of this AD. Bombardier noted that four service bulletins referred to in the NPRM have been revised. Bombardier stated that the latest revisions correct a minor error in the original weight and balance section. Bombardier also noted that a previous

revision to the service information included mention of the Canadian AD CF-2018-08R1, as well as a clarifying note in the close-out instruction of the service information for operator convenience and ease of use.

We agree with the commenter’s request. Because the revised service information does not include any additional actions, we have updated the preamble and figure 1 to paragraph (g) of this AD to refer to the revised service information.

Bombardier also requested that we revise the NPRM to include previous revisions of the service information as credit for operators who have already accomplished the required actions to avoid issuance of AMOCs following the release of this AD.

We agree with the commenter’s request. Because the previous revisions of the service information do not include any additional actions, we have revised paragraph (h) of this AD to provide credit for actions accomplished prior to the effective date of this AD using the applicable Bombardier service information identified in paragraphs (h)(1) through (h)(12) of this AD.

**Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule 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 final rule.

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

Bombardier, Inc. issued the following service information:

- Bombardier Service Bulletin 700-1A11-26-004, Revision 03, dated August 24, 2018.
- Bombardier Service Bulletin 700-26-011, Revision 03, dated August 24, 2018.
- Bombardier Service Bulletin 700-26-5003, Revision 03, dated August 24, 2018.
- Bombardier Service Bulletin 700-26-6003, Revision 03, dated August 24, 2018.

This service information describes procedures for a visual inspection of the connections between the FIREX squib wire harness connectors and the FIREX bottle connectors to determine whether the connectors are installed correctly, and installation of split ring lanyards on the FIREX squib wire harness connectors. This service information also describes procedures for reconnecting incorrectly installed connectors to the appropriate mating connectors and an operational test of the fire extinguishing system. These documents are distinct since they apply to different airplane models in different configurations. 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 358 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

**ESTIMATED COSTS**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection/Modification .....	2 work-hours × \$85 per hour = \$170 .....	\$55	\$225	\$80,550

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

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 the 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 adding the following new airworthiness directive (AD):

**2018-22-08 Bombardier, Inc.:** Amendment 39-19481; Docket No. FAA-2018-0585; Product Identifier 2018-NM-070-AD.

#### (a) Effective Date

This AD is effective December 10, 2018.

#### (b) Affected ADs

None.

#### (c) Applicability

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers 9001 through 9839 inclusive, and serial number 9998.

#### (d) Subject

Air Transport Association (ATA) of America Code 26, Fire protection.

#### (e) Reason

This AD was prompted by reports that non-conforming FIREX squib wire harness connectors may have been installed, which could result in FIREX squib wire harness connectors being connected to the wrong FIREX bottle connectors on affected aircraft. We are issuing this AD to address this wiring discrepancy, which, in the event of an engine fire, could result in misrouting the supply of fire extinguishing agent to the wrong engine, or limit the supply from both FIREX bottles to only one engine, which could result in the inability to extinguish an engine fire.

#### (f) Compliance

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

#### (g) Required Actions

Within 1,000 flight hours or 15 months, whichever occurs first, after the effective date of this AD, perform a visual inspection for correct connections between the FIREX squib wire harness connectors and FIREX bottle connectors, and install split ring lanyards on the FIREX squib wire harness connectors, in accordance with the Accomplishment Instructions of the applicable service information listed in figure 1 to paragraph (g) of this AD. If any incorrect connections are found: Before further flight, re-connect the connectors to the appropriate mating connectors and do an operational test of the fire extinguishing system, in accordance with the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD.

**Figure 1 to paragraph (g) of this AD – Service Information Applicability**

Airplane Model	Bombardier Service Information
BD-700-1A10	Service Bulletin 700-26-011, Revision 03, dated August 24, 2018
BD-700-1A10	Service Bulletin 700-26-6003, Revision 03, dated August 24, 2018
BD-700-1A11	Service Bulletin 700-1A11-26-004, Revision 03, dated August 24, 2018
BD-700-1A11	Service Bulletin 700-26-5003, Revision 03, dated August 24, 2018

#### (h) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information listed in paragraphs (h)(1) through (h)(12) of this AD.

- (1) Bombardier Service Bulletin 700-1A11-26-004, dated December 28, 2017.
- (2) Bombardier Service Bulletin 700-1A11-26-004, Revision 01, dated February 15, 2018.
- (3) Bombardier Service Bulletin 700-1A11-26-004, Revision 02, dated July 27, 2018.

- (4) Bombardier Service Bulletin 700-26-011, dated December 28, 2017.
- (5) Bombardier Service Bulletin 700-26-011, Revision 01, dated February 15, 2018.
- (6) Bombardier Service Bulletin 700-26-011, Revision 02, dated July 27, 2018.
- (7) Bombardier Service Bulletin 700-26-5003, dated December 28, 2017.

(8) Bombardier Service Bulletin 700–26–5003, Revision 01, dated February 15, 2018.

(9) Bombardier Service Bulletin 700–26–5003, Revision 02, dated July 27, 2018.

(10) Bombardier Service Bulletin 700–26–6003, dated December 28, 2017.

(11) Bombardier Service Bulletin 700–26–6003, Revision 01, dated February 15, 2018.

(12) Bombardier Service Bulletin 700–26–6003, Revision 02, dated July 27, 2018.

#### (i) Other FAA AD Provisions

The following provisions also apply to this AD:

(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, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516–228–7300; fax 516–794–5531. 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.

(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, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

#### (j) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF–2018–08R1, dated March 2, 2018, 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–2018–0585.

(2) For more information about this AD, contact John DeLuca, Aerospace Engineer, Avionics and Electrical Systems Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516–228–7369; fax 516–794–5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

#### (k) 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) Bombardier Service Bulletin 700–1A11–26–004, Revision 03, dated August 24, 2018.

(ii) Bombardier Service Bulletin 700–26–011, Revision 03, dated August 24, 2018.

(iii) Bombardier Service Bulletin 700–26–5003, Revision 03, dated August 24, 2018.

(iv) Bombardier Service Bulletin 700–26–6003, Revision 03, dated August 24, 2018.

(3) 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; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) 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.

(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, call 202–741–6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on October 22, 2018.

**Michael Kaszycki**,

*Acting Director, System Oversight Division, Aircraft Certification Service.*

[FR Doc. 2018–23687 Filed 11–2–18; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

**[Docket No. FAA–2018–0027; Product Identifier 2017–NM–118–AD; Amendment 39–19482; AD 2018–22–09]**

**RIN 2120–AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for all The Boeing Company Model 787 series airplanes. This AD was prompted by reports that, under certain conditions, the automatic dependent surveillance-broadcast (ADS–B) out function and air traffic control/traffic alert and collision avoidance system (ATC/TCAS) functions can transmit incorrect data. This AD requires an inspection or records review to determine if certain software is installed, the installation of new software for the integrated surveillance system (ISS) operational program software (OPS) if necessary, a software check, and applicable on-condition actions. For certain airplanes, this AD also requires the installation of new software for the ISS OPS, ISS option selection software (OSS) file, and ISS airline selectable option (ASO) file;

and installation of a new ISS definition file database within the displays and crew alerting (DCA) system. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective December 10, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of December 10, 2018.

**ADDRESSES:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110–SK57, Seal Beach, CA 90740–5600; telephone 562–797–1717; internet <https://www.myboeingfleet.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–2018–0027.

#### **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–2018–0027; 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:** Nelson O. Sanchez, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206–231–3543; email: [nelson.sanchez@faa.gov](mailto:nelson.sanchez@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 787 series airplanes. The NPRM published in the **Federal Register** on February 9, 2018 (83 FR 5741). The NPRM was prompted by reports that, under certain conditions, the ADS–B out function and ATC/TCAS functions can transmit incorrect data. The NPRM