

# Rules and Regulations

Federal Register

Vol. 77, No. 239

Wednesday, December 12, 2012

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2012-0421; Directorate Identifier 2012-NM-042-AD; Amendment 39-17284; AD 2012-25-03]

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 certain The Boeing Company Model 757 airplanes. This AD was prompted by a report of in-flight fracture of the right windshield (window 1) on the flight deck and multiple reports of electrical arcs at the terminal blocks of the flight deck windshields resulting in smoke and fire. This AD requires repetitive inspections of electrical heat terminals on the left and right windshields for damage, and corrective actions if necessary. This AD allows replacing an affected windshield with a windshield equipped with different electrical connections, which would terminate the repetitive inspections for that windshield. We are issuing this AD to prevent smoke and fire in the flight deck, which can lead to loss of visibility, and injuries to or incapacitation of the flightcrew.

**DATES:** This AD is effective January 16, 2013.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of January 16, 2013.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707,

MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

#### Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, 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:** Elias Natsiopoulos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6478; fax: 425-917-6590; email: [Elias.Natsiopoulos@faa.gov](mailto:Elias.Natsiopoulos@faa.gov).

#### 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 published in the **Federal Register** on April 25, 2012 (77 FR 24643). That NPRM proposed to require repetitive inspections of electrical heat terminals on the left and right windshields for damage, and corrective actions if necessary. That NPRM also proposed to allow replacing an affected windshield with a windshield equipped with different electrical connections, which would terminate the repetitive inspections for that windshield.

##### Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (77 FR 24643,

April 25, 2012) and the FAA's response to each comment.

#### Support for the NPRM (77 FR 24643, April 25, 2012)

The Air Line Pilots Association, International stated that the proposed actions will enhance safety, and that it supports the intent and language of the NPRM (77 FR 24643, April 25, 2012).

UPS stated that it agrees with the intent of the NPRM (77 FR 24643, April 25, 2012).

#### Requests To Issue Superseding AD or Withdraw NPRM (77 FR 24643, April 25, 2012)

FedEx and UPS recommended superseding AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), to add the additional inspection requirements described in Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011, instead of issuing a new AD that would require accomplishing the actions proposed in the NPRM (77 FR 24643, April 25, 2012). FedEx stated that issuing this new AD will impose an additional burden on the operators. UPS stated that the addition of new requirements for the J5 terminal in the NPRM conflicts with the requirements of AD 2010-15-01. UPS stated that issuing a superseding AD would ease tracking and avoid conflicting requirements.

United Airlines (United) stated that an additional inspection is not warranted and that more issues are likely to arise by disturbing the terminals. We infer that United is requesting that we withdraw the NPRM (77 FR 24643, April 25, 2012).

We do not agree with the commenters' requests. The additional inspection requirements of this AD apply only to Model 757 airplanes; and AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), applies to Model 757, 767, and 777 airplanes. Superseding AD 2010-15-01 would delay accomplishment of the actions required by this AD, which would be inappropriate in light of the unsafe condition identified on the J1 and J4 upper windshield electrical power terminal connections on Model 757 airplanes.

In regard to United's comment, the unsafe condition identified in the J1 and J4 upper windshield electrical power terminal connections significantly

outweighs the potential for an operator to inadvertently create a new problem during the accomplishment of the actions required by this AD.

As for UPS's concern about conflicting J5 terminal requirements between AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), and this AD, we point out that accomplishing the actions required by this AD terminates the requirements of AD 2010-15-01 for Model 757 airplanes only. Paragraphs (h) and (l) of this AD provide further clarification regarding this issue.

We have not changed the AD in this regard.

#### **Request To Include Additional Airplane Model in This AD**

The National Transportation Safety Board (NTSB) requested that the NPRM (77 FR 24643, April 25, 2012) also apply to Model 747, 767, and 777 airplanes, because a similar window design is used on these models, as stated in NTSB Safety Recommendation A-07-50, dated September 4, 2007. (See [http://www.nts.gov/doclib/reclatters/2007/A07\\_49\\_50.pdf](http://www.nts.gov/doclib/reclatters/2007/A07_49_50.pdf)).

In addition, the NTSB stated that AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), was applicable to certain Model 757, 767, and 777 airplanes—not just Model 757 airplanes. The NTSB noted that there is another AD action similar to AD 2010-15-01 for Model 747 airplanes.

We disagree to add Model 747, 767, and 777 airplanes to the applicability of this AD. AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), which is applicable to certain Model 757, 767, and 777 airplanes, addresses an unsafe condition on the lower windshield terminals. There were four reported Model 757 windshield upper terminal overheat/arcing events. We have not received any reports of upper terminal overheat/arcing events on Model 767 and 777 airplane windshields, and only one reported upper terminal overheat/arcing event on a Model 747 airplane windshield. Boeing increased the specified torque for installation of the windshield terminals for Model 747, 767, and 777 airplanes and communicated this information to operators. Due to the number of reported events on Model 757 airplanes and the lower specified torque for windshield installations on Model 757 airplanes, this AD is applicable to that model only. We have not changed the AD in this regard.

#### **Requests To Improve Inspection Procedures**

American Airlines (AAL) and the NTSB requested that we revise the NPRM (77 FR 24643, April 25, 2012) to provide instructions for more effective inspections in detecting and correcting all failure modes of the windshield electrical terminal connections.

AAL stated that it is concerned that the NPRM (77 FR 24643, April 25, 2012) does not offer a comprehensive solution to flight deck window heat smoke events, and that inspection of the J1, J4, and J5 electrical terminals for loose connections might not prevent electrical arcs at the windshield side of the terminal blocks. AAL stated that its analysis and service history have shown that damage of the solder joints inside the windshield terminal blocks are the primary root cause of the smoke and odor events in the flight deck window heat system. AAL stated that the NPRM should also address the electrical connections at the windshield side of the terminal block, specifically the use of unclenched, low temperature solder joints connecting the braid wire to the terminal block.

The NTSB stated that it agrees that windshield heat system terminal blocks J1 and J4 should be added to the NPRM (77 FR 24643, April 25, 2012), but that the FAA needs to revise the NPRM to ensure that the inspections are effective in detecting and correcting the potential problem involving loose electrical connections. The NTSB cited two serious incidents that it investigated during 2010, which involved in-flight fires and electrical odors that the actions required in AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010) (which requires inspection of terminal block J5) did not adequately address.

We partially agree. We agree with AAL that the required inspection would not detect arcing events in the solder joints inside the terminal blocks of the PPG Aerospace (PPG) windshields. However, we disagree with AAL's suggestion to revise this AD to address the solder joints connecting the braid wire to the terminal block inside the windshield; this is not feasible, as there are currently no non-destructive inspection methods developed to detect and correct damage inside the windshield terminal block. Electrical current through a loose electrical connector will generate heat which can compromise the adjacent solder joint. The requirements of paragraphs (g), (h), and (i) of this AD focus on proper connection of screw/lug connectors, which will protect against smoke/fire

events at the connector and damage to the adjacent solder joint.

We disagree with the NTSB that the inspections required by this AD are not effective. We point out that the screw/lug-type connection is partially exposed to flight deck activities and can be bumped during cleaning of the windshield or by any clipboards/books or other articles placed on the glare shield. Therefore, while the inspections required by AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), and this new AD might not eliminate all occurrences of terminal overheat/arcing, they should reduce the likelihood of events as demonstrated since the issuance of AD 2010-15-01.

The most straightforward way to eliminate overheat/arcing events, and to terminate the detailed inspections required by this AD, is replacing the screw/lug-type windshields with windshields having pin/socket-type power connections. This option is specified in paragraph (k) of this AD. However, we also consider a properly installed screw/lug connector to provide an adequate conductive path to prevent overheating of the electrical connection. This is addressed in the requirements of paragraphs (g), (h), and (i) of this AD. In addition, if we were to add a requirement that operators must do that replacement, we would need to issue a supplemental NPRM, and therefore, would delay issuance of the final rule. To delay this final rule would be inappropriate, since we have determined that an unsafe condition exists and the actions required by this AD adequately address the identified unsafe condition. We have not changed the AD in this regard.

#### **Requests for Additional Terminating Action**

Boeing requested that GKN Aerospace (GKN) windshields having part numbers (P/Ns) 141T4800-15 and 141T4800-16 (with pin/socket terminals) be approved as optional parts for the terminating action specified in paragraph (k) of the NPRM (77 FR 24643, April 25, 2012).

We agree with the commenter's request, because we have approved alternative methods of compliance (AMOCs) for paragraphs (f), (g), (h), and (i) of AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), to allow installation of GKN windshields having P/Ns 141T4800-15 and 141T4800-16 for Model 757 airplanes only.

We have added new paragraphs (n)(3) and (n)(4) to this AD, which state that AMOCs approved previously in accordance with AD 2010-15-01 are approved as AMOCs for the actions

specified in paragraphs (g), (h), (i), (j), and (k) of this AD.

In addition, AAL stated that installation of a GKN flight deck windshield having P/N 141T4800 should be included as a terminating action to the inspection requirements stated in the NPRM (77 FR 24643, April 25, 2012). AAL stated that the P/N 141T4800 window does not incorporate the solder joint, which causes an extreme arcing ignition source and possible glass damage.

We partially agree. We agree with AAL that damaged solder joints are a cause of electrical arcs, because the heat caused by a loose terminal exceeds the rated melting point of the solder, which could result in high voltage arcing that might damage the windshield glass. We disagree with AAL to include all GKN windshields having P/N 141T4800 as terminating action for this AD because some of these have screw/lug heat terminals and some have pin/socket heat terminals. A main cause of an overheated terminal, and resultant melting of the solder and subsequent arcing, is a loose, cross-threaded, or incorrectly installed screw. Since we have received reports of arcing/smoking on GKN windshields having P/N 141T4800 with screw/lug heat terminals, we have determined that these windshields do not provide an acceptable level of safety without accomplishing the repetitive inspections required by this AD and cannot be included as a terminating action for this AD. Windshields with pin/socket heat terminals are terminating action as specified in paragraphs (k) and (n)(4) of this AD. We have not changed the AD in this regard.

#### **Request To Change the Compliance Time**

FedEx recommended retaining the 500-flight-hour or 150-day compliance time, whichever occurs first, as specified in Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011, for certain inspections, in lieu of the 500 flight hours proposed by the NPRM (77 FR 24643, April 25, 2012). FedEx stated that some airplanes have a low average utilization rate (3.3 or less flight hours per day) and it is possible to reach 150 days before 500 flight hours.

We do not agree to change the compliance time. We have determined that the 150-day compliance time is too restrictive, and a compliance time of 500 flight hours for the initial and certain other inspections addresses the identified unsafe condition soon enough to ensure an adequate level of safety. As we noted in the NPRM (77 FR 24643,

April 25, 2012), this difference between Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011, and this AD was coordinated with Boeing. We have not changed the AD in this regard.

#### **Request To Change Repetitive Inspection Interval**

FedEx recommended having one repetitive inspection interval for both GKN and PPG windows. FedEx recommended a repetitive inspection interval of 6,000 flight hours or 24 months, whichever occurs first. FedEx stated that this will help operators manage the repetitive inspection interval without the need to require maintenance “to check on the manufacturer of the windows and/or part numbers.”

We disagree with having the same repetitive inspection interval for both GKN and PPG windows. Having this one inspection interval would reduce the repetitive inspection interval for the GKN-manufactured windshields from 12,000 flight hours or 48 months, to 6,000 flight hours or 24 months, whichever occurs later. The reason for the longer repetitive inspection interval for the GKN windshields is that the frequency of overheat/arcing events on the GKN windshields with screw/lug-type electrical connections is significantly lower and the effects are not as severe as those of the PPG windshields. FedEx may choose to inspect all its airplanes at the more restrictive interval, if desired, to simplify its maintenance program. We have not changed the AD in this regard.

#### **Requests To Change the Replacement Window Inspection Requirements**

FedEx and UPS requested we delete the requirements of paragraph (i) of the NPRM (77 FR 24643, April 25, 2012). In eliminating paragraph (i) from the NPRM, FedEx also suggested that we change the repetitive inspection intervals specified in paragraphs (g)(1) and (g)(2) of the NPRM to “every 500 flight hours” (reduced from 6,000 or 12,000 flight hours, as proposed) or 150 days (reduced from 24 or 48 months, as proposed), whichever comes first, to address the unsafe condition. FedEx and UPS stated that it is difficult for the operators to meet the requirements of paragraph (i) of the NPRM, especially if the windshield is removed due to pilot and/or maintenance write-ups and/or non-routine findings during operation.

We do not agree to remove paragraph (i) of the AD, or to change the repetitive inspection intervals of paragraphs (g)(1) and (g)(2) of the NPRM (77 FR 24643, April 25, 2012). However, we have

revised paragraph (i) of this AD to limit the inspection to windshields that are replaced and connections that are re-assembled in accordance with the requirements of this AD. The current Boeing Model 757 airplane maintenance manual (AMM) provides instructions for tasks associated with the windshield heating system, including replacement of a windshield with another windshield with screw/lug electrical connectors and for testing of the window heater element loop resistance. These tasks specify the correct torque for assembly of the windshield electrical terminal connections. We find that re-inspecting windshields after replacement or disassembly as part of routine maintenance is not necessary since the AMM specifies the proper torque.

We have revised (and reformatted) paragraph (i) of this AD to clarify that the inspections are done on windshields replaced or connections re-assembled in accordance with the service information specified in this AD. Therefore, this AD only requires re-inspection of windshield terminal installations on airplanes on which corrective actions required by this AD must be done.

#### **Request for Clarification of Re-Assembly**

UPS questioned whether popping off the plastic cover on the Wallace-Black and Cory/Tri-Star lug connectors to gain access for visual inspection is a “re-assembly” when the cover is popped back on. UPS stated that if it is a re-assembly, then another re-inspection is required at 500 flight hours, which starts a repetitive inspection loop that cannot be terminated. UPS stated that the only conceivable reason for “re-assembling” any J1, J4, or J5 connection would be for a finding of an improper assembly (i.e., cross-threading, gapping, low screw torque, loose screw), and that these issues have been adequately addressed in AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), and in the previous inspections of the NPRM (77 FR 24643, April 25, 2012).

We agree to provide clarification. Removing and installing the cover, as described in Figure 1 and Figure 2 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 15, 2011, is not considered “re-assembly” for the requirements specified in paragraph (i) of this AD. We have not changed the AD in this regard.

#### **Request To Revise the AMM**

UPS requested that the Boeing AMM be revised to include the re-inspection

requirements of paragraph (i) of the NPRM (77 FR 24643, April 25, 2012), or that a requirement similar to a critical design configuration control limitation/airworthiness limitation (CDCCL/AWL) be added to the appropriate AMM section. UPS stated that the re-inspection requirements in paragraph (i) of the NPRM include unscheduled maintenance activities, and UPS, like other operators, has no means to identify and impose a required re-inspection when the re-inspection is not in the instructions for continued airworthiness (ICAs), namely, the AMM. UPS stated that having the operator change its manual to include a “unique” requirement is not a viable solution.

We disagree with the request. However, as previously stated, we have removed the requirement to inspect windows replaced during normal maintenance. We find that the safety of the fleet of affected airplanes will be ensured by the revised requirements of paragraph (i) of this AD. In addition, if we were to add a requirement to include a CDCCL or AWL in the maintenance program instead of the inspection specified in paragraph (i) of this AD, we would need to issue a supplemental NPRM, and therefore, would delay issuance of the final rule. To delay this final rule would be inappropriate, since we have determined that an unsafe condition exists and the actions required by this AD, including the inspections specified in paragraph (i) of this AD, must be conducted to ensure continued safety. We have not changed the AD in this regard.

**Request for Temporary Repair for Missing Terminal Covers**

UPS requested approval to operate with missing plastic protective terminal covers on the lug-screw-style

connectors. UPS stated that, with the increased amount of inspection activity required on these terminals, it is common for the plastic protective covers to be missing. UPS stated that Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 15, 2011, specifies the inspection of these covers for signs of heat damage. UPS stated that there is no provision for a missing cover. UPS requested that provisions be made for dispatching an airplane with a simple temporary repair for those instances when a cover is missing; since failure to resolve this minor point will result in grounded airplanes for the sake of an inexpensive cover.

We partially agree. We disagree with granting approval to operate with missing plastic protective terminal covers on the lug-screw-style connectors in this AD. We agree that the availability of an alternative to seal the windshield terminal(s) would provide relief if the type design part is missing from the terminal and it is not readily available at the time it is needed. According to Boeing, the use of Dow Corning RTV-3145 sealant, also called DC-3145 potting compound, would be acceptable to use in place of the missing cover. The procedure to apply the DC-3145 sealant is specified in the Boeing Standard Wiring Practices Manual, Chapter 20-60-08. Operators can submit a request for an AMOC, including the specific details of when and how this substitution would be used, in accordance with the procedures specified in paragraph (n) of this AD. We have not changed the AD in this regard.

**Additional Changes Made to This AD**

We have added new paragraph (c)(3) to this AD to state that installation of

Supplemental Type Certificate (STC) ST01920SE ([http://rgl.faa.gov/Regulatory-and-Guidance-Library/rgstc.nsf/0/082838ee177dbf62862576a4005cdfc0/\\$FILE/ST01920SE.pdf](http://rgl.faa.gov/Regulatory-and-Guidance-Library/rgstc.nsf/0/082838ee177dbf62862576a4005cdfc0/$FILE/ST01920SE.pdf)) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01920SE is installed, a “change in product” AMOC approval request is not necessary to comply with the requirements of 14 CFR 39.17. For all other AMOC requests, the operator must request approval for an AMOC in accordance with the procedures specified in paragraph (n) of this AD.

**Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the 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 (77 FR 24643, April 25, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 24643, April 25, 2012).

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

**Costs of Compliance**

We estimate that this AD affects 664 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
Detailed inspection of windshields .....	3 work-hours × \$85 per hour = \$255 per inspection cycle.	\$0	\$255 per inspection cycle.	\$169,320 per inspection cycle.

We estimate the following costs to do any necessary corrective actions that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these corrective actions.

**ON-CONDITION COSTS**

Action	Labor cost	Parts cost	Cost per product
Windshield replacement and changes to related wiring including lug replacement.	9 work-hours × \$85 per hour = \$765 per windshield.	\$19,687 per windshield	\$20,452 per windshield.

### 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

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 adding the following new airworthiness directive (AD):

**2012–25–03 The Boeing Company:**  
Amendment 39–17284; Docket No. FAA–2012–0421; Directorate Identifier 2011–NM–042–AD.

#### (a) Effective Date

This AD is effective January 16, 2013.

#### (b) Affected ADs

This AD affects AD 2010–15–01, Amendment 39–16367 (75 FR 39804, July 13, 2010).

#### (c) Applicability

This AD applies to The Boeing Company airplanes, certificated in any category, as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model 757–200, –200PF, and –200CB series airplanes identified in Boeing Special Attention Service Bulletin 757–30–0019, Revision 3, dated December 16, 2011.

(2) Model 757–300 airplanes identified in Boeing Special Attention Service Bulletin 757–30–0020, Revision 3, dated December 16, 2011.

(3) Installation of Supplemental Type Certificate (STC) ST01920SE ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/082838ee177dbf62862576a4005cdfc0/\\$FILE/ST01920SE.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/082838ee177dbf62862576a4005cdfc0/$FILE/ST01920SE.pdf)) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01920SE is installed, a "change in product" alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17. For all other AMOC requests, the operator must request approval for an AMOC in accordance with the procedures specified in paragraph (n) of this AD.

#### (d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 30, Ice and Rain Protection.

#### (e) Unsafe Condition

This AD was prompted by a report of in-flight fracture of the right windshield (window 1) on the flight deck and multiple reports of electrical arcs at the terminal blocks of the flight deck windshields resulting in smoke and fire. We are issuing this AD to prevent smoke and fire in the flight deck, which can lead to loss of visibility, and injuries to or incapacitation of the flightcrew.

#### (f) Compliance

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

#### (g) Inspection and Repair

Within 500 flight hours after the effective date of this AD, except as required by paragraph (h) of this AD: Do a detailed inspection for damage of the wiring and electrical terminal blocks (J1, J4, and J5 terminals) at the left and right flight deck

window 1 windshield, and do all applicable corrective actions, by accomplishing all the applicable actions specified in the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757–30–0019, Revision 3, dated December 16, 2011 (for Model 757–200, –200PF, and –200CB series airplanes); or Boeing Special Attention Service Bulletin 757–30–0020, Revision 3, dated December 16, 2011 (for Model 757–300 series airplanes). Except as provided by paragraph (j) of this AD, do all applicable corrective actions before further flight. Repeat the detailed inspection thereafter at the applicable interval specified in paragraph (g)(1) or (g)(2) of this AD. Doing the replacement specified in paragraph (k) of this AD terminates the repetitive inspection requirements of this paragraph for that replaced flight deck windshield.

(1) For flight deck windshields manufactured by GKN Aerospace (GKN) with screw/lug electrical connections, repeat the detailed inspection thereafter at intervals not to exceed 12,000 flight hours or 48 months, whichever occurs later.

(2) For flight deck windshields manufactured by PPG Aerospace (PPG) with screw/lug electrical connections, repeat the detailed inspection thereafter at intervals not to exceed 6,000 flight hours or 24 months, whichever occurs later.

#### (h) Compliance Time Exception for Previous Inspection

For airplanes on which inspections of the J1, J4, and J5 terminals specified in the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757–30–0019, Revision 2, dated April 19, 2010 (for Model 757–200, –200PF, and –200CB series airplanes); or Boeing Special Attention Service Bulletin 757–30–0020, Revision 2, dated March 31, 2010 (for Model 757–300 series airplanes); were accomplished before the effective date of this AD: Do the actions required by paragraph (g) of this AD at the applicable compliance time specified in paragraphs (h)(1) and (h)(2) of this AD. Repeat the inspection thereafter at the applicable intervals specified in paragraph (g)(1) or (g)(2) of this AD.

(1) For flight deck windshields manufactured by GKN with screw/lug electrical connections: At the later of the times specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this AD.

(i) Within 12,000 flight hours or 48 months, whichever occurs later, after accomplishing the inspection.

(ii) Within 500 flight hours after the effective date of this AD.

(2) For flight deck windshields manufactured by PPG with screw/lug electrical connections: At the later of the times specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD.

(i) Within 6,000 flight hours or 24 months, whichever occurs later, after accomplishing the inspection.

(ii) Within 500 flight hours after the effective date of this AD.

#### (i) Inspection for Replaced Windshield or Re-Assembled Heat Power Connection

(1) For airplanes on which any windshield is replaced after the effective date of this AD

with a windshield that uses screws and lugs for electrical heat connection, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes): Do the actions required by paragraph (g) of this AD within 500 flight hours after the windshield replacement; and thereafter at the applicable interval specified in paragraph (g)(1) or (g)(2) of this AD.

(2) For airplanes on which any windshield heat power connection is re-assembled after the effective date of this AD on windshields that use screws and lugs for windshield heat connections, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes): Do the actions required by paragraph (g) of this AD within 500 flight hours after the connection re-assembly; and thereafter at the applicable interval specified in paragraph (g)(1) or (g)(2) of this AD.

#### (j) Exception to Compliance Time for Certain Windshield Replacement

If, during the inspection required by paragraph (g) or (i) of this AD, the screw is found cross threaded: Do the applicable actions specified in paragraph (j)(1) or (j)(2) of this AD.

(1) If the terminal lug is loose and cannot be tightened: Before further flight, replace that windshield, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes).

(2) If the terminal lug is tight or can be tightened: Replace that windshield within 500 flight hours after the inspection, in accordance with the Accomplishment Instructions Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011 (for Model 757-300 series airplanes).

#### (k) Optional Terminating Action

Replacing a flight deck windshield that uses screws and lugs for the electrical connections with a flight deck windshield that uses pins and sockets for the electrical connections, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 3,

dated December 16, 2011 (for Model 757-300 series airplanes); ends the repetitive inspection requirements of paragraph (g) of this AD for that windshield.

#### (l) Related AD Termination

Accomplishing the actions required by this AD terminates the requirements of paragraphs (g), (j), and (k) of AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), for that airplane only.

#### (m) Credit for Previous Actions

This paragraph provides credit for the actions required by this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 757-30-0019, Revision 2, dated April 19, 2010 (for Model 757-200, -200PF, and -200CB series airplanes); or Boeing Special Attention Service Bulletin 757-30-0020, Revision 2, dated March 31, 2010 (for Model 757-300 series airplanes); which are not incorporated by reference in this AD.

#### (n) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), 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 ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be emailed to: [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

(2) 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.

(3) AMOCs approved previously in accordance with AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), that are associated with the J5 (lower) terminal only are approved as AMOCs for the actions specified in paragraphs (g), (h), (i), (j), and (k) of this AD for the J5 (lower) terminal only.

(4) AMOCs approved previously in accordance with AD 2010-15-01, Amendment 39-16367 (75 FR 39804, July 13, 2010), that install windows with pin/socket electrical connectors (both upper and lower) are approved as AMOCs for the actions specified in paragraphs (g), (h), (i), (j), and (k) of this AD.

#### (o) Related Information

(1) For more information about this AD, contact Elias Natsiopoulos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6478; fax: 425-917-6590; email: [Elias.Natsiopoulos@faa.gov](mailto:Elias.Natsiopoulos@faa.gov).

(2) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone

206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

#### (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.

(i) Boeing Special Attention Service Bulletin 757-30-0019, Revision 3, dated December 16, 2011.

(ii) Boeing Special Attention Service Bulletin 757-30-0020, Revision 3, dated December 16, 2011.

(3) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

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

(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 Renton, Washington, on November 30, 2012.

#### Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 2012-29714 Filed 12-11-12; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2012-0496; Directorate Identifier 2011-NM-263-AD; Amendment 39-17283; AD 2012-25-02]

RIN 2120-AA64

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

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

**ACTION:** Final rule.