

[Federal Register Volume 78, Number 164 (Friday, August 23, 2013)]  
[Rules and Regulations]  
[Pages 52419-52422]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2013-19460]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2012-0931; Directorate Identifier 2011-NM-128-AD; Amendment 39-17555; AD 2013-16-17]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all The Boeing Company Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes. This AD was prompted by a structural re-evaluation by the manufacturer, which identified elements within the wing trailing edge flap area that qualify as structural significant items (SSIs). This AD requires revising the maintenance inspection program to include inspections that will give no less than the required damage tolerance rating (DTR) for certain SSIs, and repairing any cracked structure. We are issuing this AD to detect and correct fatigue cracking of the wing trailing edge structure, which could result in compromised structural integrity of the airplane.

**DATES:** This AD is effective September 27, 2013.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of September 27, 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:** Berhane Alazar, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6577; fax: 425-917-6590; email: Berhane.Alazar@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 September 6, 2012 (77 FR 54856). That NPRM proposed to require revising the maintenance inspection program to include inspections that will give no less than the required damage tolerance rating for certain SSIs, and repairing cracked structure.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (77 FR 54856, September 6, 2012) and the FAA's response to each comment.

### **Request To Add Compliance Time Allowance**

Boeing requested that we add a compliance time allowance to paragraph (c)(2) of the NPRM (77 FR 54856, September 6, 2012) for the determination of the alternative inspection requirements for each SSI affected by a repair or alteration that prohibits the ability to accomplish the inspections required by paragraph (g) of the NPRM. Boeing requested that we add to paragraph (c) of this AD a compliance period of 12 months and associated language similar to that in paragraph (j) of AD 2008-11-03, Amendment 39-15525 (73 FR 29407, May 21, 2008). Boeing justified its request by stating that the following ADs allow up to 12 months to determine the alternative inspection requirements should a repair or alteration prohibit the required inspection, and that including similar language in the NPRM will assist the operator.

Paragraph (e) of AD 98-11-03 R1, Amendment 39-10983 (64 FR 989, January 7, 1999).

Paragraph (j) of AD 2008-11-03, Amendment 39-15525 (73 FR 29407, May 21, 2008).

Paragraph (i) of AD 2008-09-13, Amendment 39-15494 (73 FR 24164, May 2, 2008).

We partially agree with the commenter's request. We agree with adding an allowance similar to that requested by the commenter because operators might have existing repairs that affect the ability to accomplish the SSI inspections. We disagree with adding that allowance to paragraph (c)(2) of this AD. That paragraph is an applicability provision. We have added a new paragraph (h) to this AD to address SSIs that have been repaired or altered before the effective date of this AD such that the repair or design change affects the ability to accomplish the actions required by paragraph (g) of this AD. We have reidentified subsequent paragraphs accordingly.

### **Request To Add Repetitive Inspection Wording**

Boeing requested that we revise paragraph (g)(2) of the NPRM (77 FR 54856, September 6, 2012) to add the following wording:

Repeat the applicable inspection thereafter at the intervals necessary to obtain the required DTR specified in Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010.

Boeing stated that the NPRM does not address the repetitive inspection requirements after the initial inspections are accomplished. Boeing requested the wording revision in order to maintain consistency with the wording contained in paragraph (i) of AD 2008-11-03, Amendment 39-15525 (73 FR 29407, May 21, 2008); and paragraph (h) of AD 2008-09-13, Amendment 39-15494 (73 FR 24164, May 2, 2008).

We do not agree with the commenter's request because the repetitive inspection and methodology requirements are specified in the DTR forms of Boeing Document D6-48040-2, Supplemental Structural Inspection Document for Model 727 Airplanes, Appendix A, dated December 2010. By requiring incorporation of inspections into the maintenance program that provide no less than the required DTR, we are ensuring that the appropriate repetitive inspections will be accomplished. We have not changed this final rule in this regard.

### **Request To Address Transferred Airplanes**

Boeing requested that we add a new section to the NPRM (77 FR 54856, September 6, 2012) titled "Inspection Program for Transferred Airplanes," and the associated language similar to that in paragraph (l) of AD 2008-11-03, Amendment 39-15525 (73 FR 29407, May 21, 2008); and paragraph (k) of AD 2008-09-13, Amendment 39-15494 (73 FR 24164, May 2, 2008); in order to maintain consistent language throughout these ADs.

The AD paragraphs referenced by the commenter refer to the establishment of a maintenance program for accomplishing the required inspections before a transferred airplane can be added to an air carrier's operation. We disagree with the commenter's request because this is not necessary. This AD is a threshold-based program for all airplanes referenced in the AD applicability. This AD mandates a maintenance program, and new operators would be required to comply with paragraph (g) of this AD, which requires revising the maintenance program. Operators may request approval of an alternative method of compliance (AMOC) for transferred airplanes under the provisions of paragraph (k) of this AD. We have not changed this final rule in this regard.

### **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 (77 FR 54856, September 6, 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 54856, September 6, 2012).

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

### **Costs of Compliance**

We estimate that this AD affects 206 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
Revise maintenance program	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$17,510

Compliance with this AD is a method of compliance with the FAA aging airplane safety final rule (AASFR) (70 FR 5518, February 2, 2005) ([http://www.faa.gov/aircraft/air\\_cert/design\\_approvals/transport/Aging\\_Aircraft/media/AgingAirplaneSafetyFinalRule.pdf](http://www.faa.gov/aircraft/air_cert/design_approvals/transport/Aging_Aircraft/media/AgingAirplaneSafetyFinalRule.pdf)) for certain baseline structure of Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes. The AASFR requires certain operators to incorporate damage tolerance inspections into their maintenance inspection programs. These requirements are described in paragraph (c)(1) of section 121.1109 of the Federal Aviation Regulations (14 CFR 121.1109 (c)(1)) and paragraph (b)(1) of section 129.109 of the Federal Aviation Regulations (14 CFR 129.109(b)(1)). Accomplishment of the actions required by this AD will meet the requirements of these regulations for certain baseline structure. The costs for accomplishing the inspection portion of this AD were accounted for in the regulatory evaluation of the AASFR.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD.

#### **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):



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**2013-16-17 The Boeing Company:** Amendment 39-17555 ; Docket No. FAA-2012-0931;  
Directorate Identifier 2011-NM-128-AD.

**(a) Effective Date**

This AD is effective September 27, 2013.

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to all The Boeing Company Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, certificated in any category.

(2) This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections, methods, and compliance times). Compliance with these actions is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance (AMOC) according to paragraph (k) of this AD. The request should include a description of changes to the required actions that will ensure the continued operational safety of the airplane.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 57, Wings.

**(e) Unsafe Condition**

This AD was prompted by a structural re-evaluation by the manufacturer, which identified elements within the wing trailing edge flap area that qualify as structural significant items (SSI). We are issuing this AD to detect and correct fatigue cracking of the wing trailing edge structure, which could result in compromised structural integrity of the airplane.

**(f) Compliance**

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

**(g) Maintenance Program Revision**

(1) Before the accumulation of 55,000 total flight cycles, or within 12 months after the effective date of this AD, whichever occurs later: Revise the maintenance program to incorporate inspections that provide no less than the required damage tolerance rating (DTR) for each SSI listed in Boeing

Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010. The required DTR value for each SSI is identified in Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010. The revision to the maintenance inspection program must include and must be implemented in accordance with the procedures in Section 3.0, "Flap and Support Structure (Flap Structure) SSI Information," of Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010; and in accordance with the procedures in Section 5.0, "Damage Tolerance Rating (DTR) System Application," and Section 6.0, "SSI Discrepancy Reporting," of Boeing Document D6-48040-1, Supplemental Structural Inspection Document (SSID), Volume 1, Revision H, dated June 1994.

(2) The initial compliance time for the inspections is before the accumulation of 55,000 total flight cycles, or within 3,000 flight cycles after 12 months from the effective date of this AD, whichever occurs later.

#### **(h) Actions for SSI Items Repaired or Altered Before the Effective Date of This AD**

For any SSI that has been repaired or altered before the effective date of this AD such that the repair or design change affects the ability to accomplish the actions required by paragraph (g) of this AD: Before further flight, obtain FAA approval of an alternate inspection, in accordance with the procedures specified in paragraph (k) of this AD, or do the actions specified in paragraphs (h)(1) and (h)(2) of this AD as an approved method of compliance for the requirements of paragraph (g) of this AD.

(1) At the initial compliance time specified in paragraph (g) of this AD, identify each repair or design change to that SSI.

(2) Within 12 months after the identification of a repair or design change required by paragraph (h)(1) of this AD, assess the damage tolerance characteristics of each SSI affected by each repair or design change to determine the effectiveness of the applicable SSID inspection for that SSI and, if not effective, incorporate a revision into the maintenance inspection program to include a damage-tolerance-based alternative inspection program for each affected SSI. Thereafter, inspect the affected structure in accordance with the alternative inspection program. The inspection method and compliance times (i.e., threshold and repetitive intervals) of the alternative inspection program must be approved in accordance with the procedures specified in paragraph (k) of this AD.

#### **(i) Repair**

If any cracked structure is found during any inspection specified in Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010, before further flight, repair the cracked structure using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

#### **(j) No Alternative Actions or Intervals**

After accomplishing the revision required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used other than those specified in Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010, unless the actions or intervals are approved as an AMOC in accordance with the procedures specified in paragraph (k) of this AD.

#### **(k) 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.

(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) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

#### **(l) Related Information**

For more information about this AD, contact Berhane Alazar, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6577; fax: 425-917-6590; email: Berhane.Alazar@faa.gov.

#### **(m) 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) Section 5.0, "Damage Tolerance Rating (DTR) System Application," of Boeing Document D6-48040-1, Supplemental Structural Inspection Document for Model 727 Airplanes, Volume 1, Revision H, dated June 1994. The revision date of this document is identified on only the title page of this document.

(ii) Section 6.0, "SSI Discrepancy Reporting," of Boeing Document D6-48040-1, Supplemental Structural Inspection Document for Model 727 Airplanes, Volume 1, Revision H, dated June 1994. The revision date of this document is identified on only the title page of this document.

(iii) Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010. The date appears only on the title page of this document.

(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, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at 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 August 1, 2013.

Jeffrey E. Duven,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.