[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0931; Directorate Identifier 2011-NM-128-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt 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 proposed 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). This proposed AD would 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. We are proposing 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: We 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 http://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.

For service information identified in this proposed 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. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2012-0931; Directorate Identifier 2011-NM-128-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

In the early 1980s, as part of its continuing work to maintain the structural integrity of older transport category airplanes, the FAA concluded that the incidence of fatigue cracking may increase as these airplanes reach or exceed their design service objective (DSO). In light of this, and as a result of increased utilization, and longer operational lives, we determined that a supplemental structural inspection program (SSIP) was necessary to maintain the continued structural integrity for all airplanes in the transport fleet.

Since the establishment of the SSI Supplemental Structural Inspection Document (SSID) D6-48040-1, we have received information from the manufacturer, which identified elements within the wing trailing edge flap area, which qualified as SSI. An SSI is defined as a structural part or component that contributes significantly to carry flight, ground, pressure, or control loads, and whose failure could affect the structural

integrity necessary for the safety of the airplane, and whose damage tolerance or safe-life characteristics it is necessary, therefore, to establish or confirm. Uncorrected fatigue cracks in these structural elements could result in compromised structural integrity of the airplane.

Issuance of FAA Advisory Circular (AC)

On March 7, 2008, we issued AC 91-56B, "Continuing Structural Integrity Program for Airplanes," (http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/list/AC%2091-56B/$FILE/AC%2091-56B.pdf). That AC provides guidance material to manufacturers and operators for use in developing a continuing structural integrity program to ensure safe operation of older airplanes throughout their operational lives. This guidance material applies to transport airplanes that were certified under the fail-safe requirements of part 4b ("Airplane Airworthiness, Transport Categories") of the Civil Air Regulations or damage tolerance structural requirements of part 25 ("Airworthiness Standards: Transport Category Airplanes") of the Federal Aviation Regulations (FARs) (14 CFR part 25), and that have a maximum gross weight greater than 75,000 pounds. The procedures set forth in that AC are applicable to transport category airplanes operated under subpart D ("Special Flight Operations") of part 91 ("General Operating and Flight Rules") of the FARs (14 CFR part 91); part 121 ("Operating Requirements: Domestic, Flag, and Supplemental Operations") of the FARs (14 CFR part 121); part 125 ("Certification and Operations: Airplanes Having a Seating Capacity of 20 or More Passengers or a Maximum Payload of 6,000 Pounds or More and Rules Governing Persons Onboard Such Aircraft") of the FARs (14 CFR part 125); and part 135 ("Operating Requirements: Commuter and On-Demand Operations and Rules Governing Persons On Board Such Aircraft") of the FARs (14 CFR part 135). The objective of the SSIP was to establish inspection programs to ensure timely detection of fatigue cracking.

Development of the SSIP

In order to evaluate the effect of increased fatigue cracking with respect to maintaining fail-safe design and damage tolerance of the structure of The Boeing Company Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, Boeing conducted a structural reassessment of those airplanes, using damage tolerance evaluation techniques. Boeing accomplished this reassessment using the criteria contained in FAA AC 91-56B, dated March 7, 2008, (http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/list/AC%2091-56B/$FILE/AC%2091-56B.pdf), as well as Amendment 25-45, effective December 1, 1978, of section 25.571 ("Damage-tolerance and fatigue evaluation of structure") of the FARs (14 CFR 25.571). During the reassessment, members of the airline industry participated with Boeing in working group sessions and developed the SSIP for Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes. Engineers and maintenance specialists from the FAA also supported these sessions. Subsequently, based on the working group's recommendations, Boeing developed the Supplemental Structural Inspection Document (SSID) D6-48040-1.

Other Related Rulemaking

On May 12, 1998, the FAA issued AD 98-11-03, Amendment 39-10530 (63 FR 27455, May 19, 1999), which is applicable to all The Boeing Company Model 727 series airplanes. On December 30, 1998, the FAA issued AD 98-11-03 R1, Amendment 39-10983 (64 FR 989, January 7, 1999), to revise the maintenance inspection program to include inspections that will give no less than the required damage tolerance rating for each SSI, and repair of cracked structure. AD 98-11-03 R1 requires that the maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each SSI, and repair of cracked structure. That action was prompted by a structural re-evaluation by the manufacturer that identified

additional structural elements for which, if damage were to occur, supplemental inspections may be required for timely crack detection. The actions required by that AD are intended to ensure the continued structural integrity of The Boeing Company Model 727 fleet.

Relevant Service Information

We reviewed Boeing Document D6-48040-2, Supplemental Structural Inspection Document For Model 727 Airplanes, Appendix A, dated December 2010, which identifies SSIs within the wing trailing edge flap area that need inspection to ensure timely detection of fatigue damage. The inspection requirements identified in Boeing Document D6-48040-2, Appendix A, Supplemental Structural Inspection Document For Model 727 Airplanes, dated December 2010, are intended to be accomplished in conjunction with, not as a replacement for, the existing approved structural inspection program.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require revising the maintenance inspection program to include inspections that will give no less than the required damage tolerance rating for each SSI, repetitive inspections to detect cracks in SSIs, and repair of any cracked structure. Before any airplane that is subject to this proposed AD can be added to an air carrier's operations specifications, a program for doing the inspections required by this proposed AD must be established.

Costs of Compliance

We estimate that this proposed AD affects 206 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Revise maintenance program	1 work-hour X $85 per hour = $85	$0	$85	$17,510

Compliance with this proposed AD would be a method of compliance with the FAA aging airplane safety final rule (AASFR) (70 FR 5518, February 2, 2005) for certain baseline structure of Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes. The AASFR final rule 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 FARs (14 CFR 121.1109 (c)(1)) and paragraph (b)(1) of section 129.109 of the FARs (14 CFR 129.109(b)(1)). Accomplishment of the actions required by this proposed AD will meet the requirements of these CFR sections for certain baseline structure. The costs for accomplishing the inspection portion of this proposed AD were accounted for in the regulatory evaluation of the AASFR final rule.

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

We 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) 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.

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 (AD):

The Boeing Company: Docket No. FAA-2012-0931; Directorate Identifier 2011-NM-128-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(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 (j) 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) Revise Maintenance Program

(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 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) 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 (j) of this AD.

(i) 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 alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j) of this AD.

(j) 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.

(k) Related Information

(1) 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, Washington 98057-3356; phone: 425-917-6577; fax: 425-917-6590; email: Berhane.Alazar@faa.gov.

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

Issued in Renton, Washington, on August 24, 2012.

Ali Bahrami,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2012-21944 Filed 09/05/2012 at 8:45 am; Publication Date: 09/06/2012]