



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0141; Directorate Identifier 2013-NM-024-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 certain The Boeing Company Model 727-100 series airplanes. This proposed AD is intended to complete certain mandated programs intended to support the airplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program. For certain airplanes, this proposed AD would require repetitive inspections for cracking in stringers or frames until modification, and repair if necessary. We are proposing this AD to detect and correct cracking in stringers or frames originating at or near stringer-to-frame attachment fastener holes, which could result in reduced structural integrity of the airplane, and decompression of the cabin.

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, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this 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> by searching for and locating Docket No. FAA-2014-0141; 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: Chandra Ramdoss, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: (562) 627-5239; fax: (562) 627-5210; email: chandraduth.ramdoss@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-2014-0141; Directorate Identifier 2013-NM-024-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

As described in FAA Advisory Circular 120-104 (http://www.faa.gov/documentLibrary/media/Advisory_Circular/120-104.pdf), several programs have been developed to support initiatives that will ensure the continued airworthiness of aging airplane structure. The last element of those initiatives is the requirement to establish a limit of validity (LOV) of the engineering data that support the structural maintenance program under 14 CFR 26.21. This proposed AD is the result of an assessment of the previously established programs by Boeing during the process of establishing the LOV for The Boeing Company Model 727 airplanes. The actions specified in this proposed AD are necessary to complete certain programs to ensure the continued airworthiness of aging airplane structure and to support an airplane reaching its LOV.

Fatigue tests conducted by the manufacturer show that repeated pressurization cycles result in fatigue cracks at some of the stringer-to-frame connections along the crown of the fuselage. Undetected cracking at the stringer-to-frame connections along the crown of the fuselage, and the lack of stringer-to-body frame tie clips in the crown area of the fuselage, could result in damage to wire bundles and control cables for the flight control system, reduced structural integrity of the airplane, and decompression of the cabin.

Related Rulemaking

On January 16, 1990, we issued AD 90-06-09, Amendment 39-6488 (55 FR 8370, March 7, 1990), which applied to certain Boeing Model 727 series airplanes. AD 90-06-09 required structural modifications specified in Section 3 of Boeing Document D6-54860, “Aging Airplane Service Bulletin Structural Modification and Inspection Program – Model 727,” Revision C, dated December 11, 1989. AD 90-06-09 was prompted by a report by the Model 727 Structures Working Group. The actions required by AD 90-06-09 were intended to prevent structural failure of the airplane. One of the requirements of AD 90-06-09 was to do the modification in accordance with Boeing Service Bulletin 727-53-0041, Revision 4 dated July 27, 1973, prior to the accumulation of 60,000 flights or 4 years whichever occurs later.

On March 23, 1994, we issued AD 94-07-08, Amendment 39-8866 (59 FR 14545, March 29, 1994), which applied to certain Boeing Model 727 series airplanes. AD 94-07-08 required structural inspections specified in section 4 and appendices A.4 and B.4 of Boeing Document Number D6-54860, “Aging Airplane Service Bulletin Structural Modification and Inspection Program – Model 727,” Revision G, dated March 5, 1993, and corrective actions if necessary. The corrective actions included doing small repairs and modifications. AD 94-07-08 was prompted by reports of incidents involving fatigue cracking and corrosion. The actions required by

AD 94-07-08 included only post-modification visual inspections per Boeing Service Bulletin 727-53-0041, Revision 5, dated January 25, 1990.

This proposed rule requires repetitive inspections on those airplanes that have not yet accomplished the modification that is required by AD 90-06-09.

Relevant Service Information

We reviewed Boeing Service Bulletin 727-53-0041, Revision 6, dated September 5, 1991. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2014-0141.

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 accomplishing the actions specified in the service information described previously.

Costs of Compliance

We estimate that this proposed AD affects 2 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
Inspection and repetitive inspections	60 work-hours X \$85 per hour = \$5,100 per inspection cycle	\$0	\$5,100 per inspection	\$10,200 per inspection

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

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Modification	600 work-hours X \$85 per hour = \$51,000 per inspection cycle	Up to \$11,481	Up to \$62,481 per modification

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-2014-0141; Directorate Identifier 2013-NM-024-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

This AD applies to The Boeing Company Model 727-100 series airplanes, certificated in any category, as identified in Boeing Service Bulletin 727-53-0041, Revision 6, dated September 5, 1991, unless previously modified in accordance with the service information specified in paragraphs (c)(1), (c)(2) or (c)(3) of this AD.

- (1) Boeing Service Bulletin 727-53-0041, Revision 4, dated July 27, 1973.
- (2) Boeing Service Bulletin 727-53-0041, Revision 5, dated January 25, 1990.
- (3) Boeing Service Bulletin 727-53-0041, Revision 6, dated September 5, 1991.

Note 1 to paragraph (c) of this AD: Boeing Service Bulletin 727-53-0041, Revision 4, dated July 27, 1973 is specified in Boeing Document D6-54860 “Aging Airplane Service Bulletin Structural Modification Program – Model 727,” Revision C, dated December 11, 1989 as mandated by AD 90-06-09, Amendment 39-6488 (55 FR 8370, March 7, 1990).

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD is intended to complete certain mandated programs intended to support the airplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program. We are issuing this AD to detect and correct cracking in stringers or frames originating at or near stringer-to-frame attachment fastener holes, which could result in reduced structural integrity of the airplane, and decompression of the cabin.

(f) Compliance

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

(g) Inspections

Before the accumulation of 16,000 total flight cycles, or within 3,000 flight cycles after the effective date of this AD, whichever occurs later, do a high frequency eddy current inspection and a general visual inspection for cracking in stringers and frames originating at or near stringer-to-frame attachment fastener holes, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 727-53-0041, Revision 6, dated September 5, 1991. Repeat the inspections thereafter at intervals not to exceed 6,000 flight cycles until the modification specified by paragraph (h) of this AD is accomplished. If any crack is found during any inspection required by paragraph (g) of this AD: Before further flight, repair or modify the affected stringer-to-frame attachment locations, in accordance with Part V, “Repair Data” of the Accomplishment Instructions of Boeing Service Bulletin 727-53-0041, Revision 6, dated September 5, 1991.

(h) Modification

Modifying the affected stringer-to-frame attachment locations, in accordance with Part IV, “Preventive Modification Data,” of the Accomplishment Instructions of Boeing Service Bulletin 727-53-0041, Revision 6, dated September 5, 1991, terminates the repetitive inspections required by paragraph (g) of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles 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 paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-LAACO-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, Los Angeles Aircraft Certification Office (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.

(j) Related Information

(1) For more information about this AD, contact Chandra Ramdoss, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: (562) 627-5239; fax: (562) 627-5210; email: chandraduth.ramdoss@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, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this 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.

Issued in Renton, Washington, on March 5, 2014.

Suzanne Masterson,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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