



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-1021; Project Identifier AD-2020-00847-T; Amendment 39-21412; AD 2021-03-09]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 727 series airplanes. This AD was prompted by a determination that excessive sealant coating on internal wing Structural Significant Items (SSIs) may not reveal cracks during inspections required by AD 98-11-03 R1. This AD requires revising the existing maintenance or inspection program, as applicable, to incorporate inspections that will give no less than the required damage tolerance rating (DTR) for certain SSIs of the wing. This AD also requires repetitive inspections for cracking of the affected SSIs and repair if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600

Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1021.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1021; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Mohit Garg, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: mohit.garg@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 727 airplanes. The NPRM published in the Federal Register on November 27, 2020 (85 FR 75969). The NPRM was prompted by a determination that excessive sealant coating on internal wing SSIs may not reveal cracks during inspections required by AD 98-11-03 R1, Amendment 39-10983 (64 FR 989, January 7, 1999) (AD 98-11-03 R1). The NPRM proposed to

require revising the existing maintenance or inspection program, as applicable, to incorporate inspections that will give no less than the required DTR for certain SSIs of the wing. The NPRM also proposed to require repetitive inspections for cracking of the affected SSIs and repair if necessary.

The FAA is issuing this AD to address excessive sealant coating on internal wing SSIs that may prevent the detection of cracks during inspections. This condition, if not addressed, could result in propagation of structural cracks that could lead to the inability of a wing SSI to sustain limit load and result in loss of control of the airplane.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The FAA has considered the comment received. Boeing indicated its support for the NPRM.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020; and Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020. In combination, this service information

describes repetitive inspections for cracking of internal wing SSIs. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 40 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

The FAA has determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although the agency recognizes that this number may vary from operator to operator. In the past, the FAA has estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the average total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

Estimated costs*

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	48 work-hours X \$85 per hour = \$4,080 per inspection cycle	\$0	\$4,080 per inspection cycle	\$163,200 per inspection cycle

* Table does not include estimated costs for revising the existing maintenance or inspection program.

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs 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.

The FAA is 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) Will not affect intrastate aviation in Alaska, and
- (3) 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:

2021-03-09 The Boeing Company: Amendment 39-21412 ; Docket No. FAA-2020-1021; Project Identifier AD-2020-00847-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected Airworthiness Directives (ADs)

This AD affects AD 98-11-03 R1, Amendment 39-10983 (64 FR 989, January 7, 1999) (AD 98-11-03 R1).

(c) Applicability

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

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Unsafe Condition

This AD was prompted by a determination that excessive sealant coating on internal wing Structural Significant Items (SSIs) may not reveal cracks during inspections required by AD 98-11-03 R1. The FAA is issuing this AD to address excessive sealant coating on internal wing SSIs that may prevent the detection of cracks during inspections. This condition, if not addressed, could result in propagation of structural cracks that could lead to the inability of a wing SSI to sustain limit load and result in loss of control of the airplane.

(f) Compliance

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

(g) Maintenance or Inspection Program Revision, Repetitive Inspections, and Repair

(1) Prior to reaching the applicable time specified in paragraph (g)(2)(i) or (ii) of this AD, incorporate a revision into the existing maintenance or inspection program, as applicable, that provides no less than the required damage tolerance rating (DTR) for each SSI of the wing listed in Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020; and Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020.

(2) At the applicable time specified in paragraph (g)(2)(i) or (ii) of this AD, perform initial inspections to detect cracks in the SSIs identified in Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020; and Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020.

(i) For Model 727-100C and 727-200F series airplanes: Inspect prior to the accumulation of 46,000 total flight cycles, or within 12 months after the effective date of this AD, whichever occurs later.

(ii) For all airplanes except for those airplanes identified in paragraph (g)(2)(i) of this AD: Inspect prior to the accumulation of 55,000 total flight cycles, or within 3,000 flight cycles measured from the date 12 months after the effective date of this AD, whichever occurs later.

(3) At the intervals specified in in Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020; and Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020, as applicable, repeat the inspections required by paragraph (g)(2) of this AD.

(4) If any cracked structure is found during any inspections required by paragraph (g) of this AD, repair before further flight using an FAA-approved method or using a method approved in accordance with the procedures specified in paragraph (j) of this AD. Within 12 months after repair, incorporate a revision into the maintenance or inspection program, as applicable, to include a damage-tolerance-based alternative inspection program for the repaired structure. Thereafter, inspect the affected structure in accordance with the alternative program. The inspection method and compliance times (i.e., threshold and repetitive intervals) of the alternative program must be approved in accordance with the procedures specified in paragraph (j) of this AD.

(h) No Alternative Actions or Intervals

After the existing maintenance or inspection program has been revised as required by paragraph (g)(1) of this AD, no alternative actions (e.g., inspections) or intervals may be used 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.

(i) Terminating Action for Certain Inspections Required by AD 98-11-03 R1

Accomplishing the revision required by paragraph (g)(1) of this AD and the initial inspections identified in Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020; and Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020, as required by paragraph (g)(2) of this AD, terminate the corresponding SSI inspections specified in Boeing Document No. D6-48040-1, Volumes 1 and 2, "Supplemental Structural Inspection Document" (SSID), Revision H, dated June 1994, as required by AD 98-11-03 R1.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) 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, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 98-11-03 R1 are approved as AMOCs for the corresponding provisions of this AD for the SSIs identified in Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020; and Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020.

(k) Related Information

For more information about this AD, contact Mohit Garg, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard,

Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: mohit.garg@faa.gov.

(I) 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 727 Supplemental Structural Inspection Document D6-48040-1, Volume I, Temporary Revision 08-1001, dated February 2020.

(ii) Boeing 727 Supplemental Structural Inspection Document D6-48040-1, Volume II, Temporary Revision 11-1001, dated February 2020.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 28, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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