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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. 99-NM-105-AD; Amendment 39-12703; AD 2002-07-09]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD), applicable to all Boeing Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, that currently requires repetitive inspections to find cracking of the lower skin panel at the lower row of fasteners in certain lap joints of the fuselage, and repair, if necessary. This amendment limits the applicability of the existing AD, adds certain repetitive inspections, revises certain compliance times, and adds certain modifications. This amendment is prompted by the FAA's determination that, in light of additional crack findings, certain modifications of the fuselage lap joints are necessary. The actions specified by this AD are intended to find and fix fatigue cracking of the fuselage lap joints, which could result in sudden fracture and failure of the lower skin lap joints, and rapid decompression of the airplane.

**DATES:** Effective May 17, 2002.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of May 17, 2002.

**ADDRESSES:** The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, PO Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Walt Sippel, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2774; fax (425) 227-1181.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 99-04-22, amendment 39-11047 (64 FR 7774, February 17, 1999), which is applicable to all Boeing Model 727, 727-100, 727-200, 727C, 727-100C, and 727-200F series airplanes, was published in the Federal Register on July 12, 2001 (66 FR 36516). The action proposed to continue to require repetitive inspections to find cracking of the lower skin panel at the lower row of fasteners in certain lap joints of the fuselage, and repair, if necessary. The action also proposed to limit the applicability of the existing AD, add certain repetitive inspections, revise certain compliance times, and add certain modifications.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

### **Clarify Compliance Time Paragraph (d)(2)**

Several commenters request that paragraph (d)(2) of the proposed rule be changed to include the phrase "whichever is later" at the end of the specified compliance time.

The FAA agrees with the commenters, as "whichever is later" was inadvertently omitted from the paragraph (d)(2) of the proposed rule. We have clarified the compliance time in paragraph (d)(2) of the final rule to state, "Accomplish the modification prior to 55,000 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever is later."

### **Credit for Original Issue of Service Bulletin**

One commenter asks that credit be given for actions done in accordance with Boeing Alert Service Bulletin 727-53A0222, dated July 27, 2000. Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001, was cited in the proposed rule as the appropriate source of service information for accomplishment of certain actions.

The FAA agrees, as there are no major changes between the original issue and Revision 1 of the service bulletin. We have inserted a new Note 5 in the final rule that gives credit for inspections done per the original issue of the service bulletin. Subsequent notes have been renumbered accordingly.

### **Editorial Changes**

Editorial changes to the proposed rule as requested by one commenter are specified below, and the FAA responses follow:

- A statement should be added to the final rule specifying that it supersedes the actions specified in AD 99-04-22. As written, compliance is required with both the old AD and the new proposed rule, when obviously the new rule supersedes the old rule.

We do not agree. The preamble of the proposed rule states that it is a supersedure of AD 99-04-22, and throughout the preamble the reasons for superseding that AD are discussed at length. No change to the final rule is necessary in this regard.

- The heading preceding paragraph (a) of the proposed rule should be changed from "Repetitive Inspections" to "Inspections" or "Initial and Repetitive Inspections." The existing heading implies the initial inspections are not included when in fact they are.

We agree and have changed the heading for paragraph (a) of this final rule to "Initial and Repetitive Inspections."

- Paragraph (a) of the proposed rule omits the inspection method. The proposed AD should add the method as follows, "Inspections should be accomplished per Part I of the Accomplishment Instructions of Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001."

We agree and have changed paragraph (a) of the final rule to refer to Part I of the Accomplishment Instructions of the service bulletin for the inspection method. In addition, for clarification, we have cited Section 1.E., "Compliance," for the location of the tables identified before the reference to Paragraph 1., Planning Information, as Section 1.E. is a subsection within the Planning Information. Paragraph (b) of the proposed rule also referenced only Paragraph 1., Planning Information and has been changed for clarification. Paragraph (d) of the final rule also has been changed for clarification to refer to Part II of the Accomplishment Instructions of the service bulletin for accomplishment of the modification and to cite Section 1.E., "Compliance." Additionally, paragraph (d)(2) of the final rule has been changed for clarification to read, "For airplanes that have accumulated 35,000 or more but fewer than or equal to 54,999 flight cycles on the effective date of this AD."

- Paragraph (a)(2) specifies the wrong type of inspection. The reference to a high frequency eddy current (HFEC) inspection is incorrect. The correct reference should be a medium frequency eddy current (MFEC) inspection.

The FAA agrees that the reference to a HFEC inspection is incorrect, and we have changed paragraph (a)(2) of the final rule to specify a MFEC inspection.

- Paragraphs (b)(1) and (b)(2) of the proposed rule can be combined to simplify the proposed rule without changing the intent. This new paragraph would list the applicability as, ". . . the airplane has accumulated fewer than 45,000 total flight cycles . . ." Both paragraphs have identical inspection methods, but the applicability is different. Instead of stating that airplanes from 0 to 35,000 flight cycles need inspection per method "A," and airplanes from 35,000 to 45,000 flight cycles need the same inspection, the proposed AD should combine the paragraphs to say airplanes from 0 to 45,000 flight cycles need inspection per method "A."

The FAA does not agree. Paragraph (b) of the final rule specifies lap joints identified in Table H of Section 1.E., "Compliance," of the service bulletin. Table H has different inspection procedures for airplanes that have accumulated fewer than 35,000 total flight cycles, and airplanes that have accumulated 35,000 or more, but fewer than 45,000 total flight cycles. We have inserted a new Note 4 in the final rule that explains this. Subsequent notes have been renumbered accordingly.

- Paragraph (b)(3) has a typographical error. The reference to "fewer than 54,999 flight cycles" should be "fewer than 55,000 flight cycles." As written, airplanes with 54,999 flight cycles are omitted because paragraph (b)(4) includes airplanes with 55,000 flight cycles and up.

The FAA agrees that airplanes having 54,999 total flight cycles were inadvertently omitted from the proposed rule and we have revised paragraph (b)(3) of the final rule accordingly.

- The heading preceding paragraph (d) of the proposed rule should be changed from "Modification/Inspections" to "Modification/Post Modification Inspections." This change helps the reader to understand the differences between the inspections in paragraphs (a), (b), and (d) of the proposed rule without having to read the details to determine those differences.

The FAA agrees and we have changed the heading for paragraph (d) of this final rule to "Modification/Post-Modification Inspections."

- As a final note, the commenter states that it is not affected by the "Concurrent Modifications" section specified in the proposed rule that affects airplanes modified per a supplemental type certificate.

## **Terminating Action**

One commenter states that the proposed rule needs a statement that accomplishment of the modification terminates the pre-modification inspections per paragraphs (a) and (b) in the modified area only. It is clear the post-modification inspections are required.

The FAA partially agrees. The modification required by paragraph (d) of the final rule terminates the repetitive inspection requirements of paragraph (b) of the final rule only. The repetitive inspections required by paragraph (a) of the final rule are not terminated because the modification in paragraph (d) applies to Model 727-200 series airplanes specified in Table H of the referenced service bulletin only. Paragraph (d) of the final rule has been changed to specify that accomplishment of that paragraph terminates the repetitive inspections required by paragraph (b) of this final rule.

## **Freighter Airplanes**

One commenter's statements on the subject of freighter airplanes affected by the proposed rule and the FAA responses follow:

- There is no differentiation made between Boeing purpose-built freighters and passenger airplanes in the proposed rule, and there is no lap joint modification provided for in the referenced service bulletin for Model 727-100C or -200 freighter airplanes.

The FAA agrees that no differentiation is made between freighter and passenger airplanes in the proposed rule. Although the commenter makes no request for a specific change to the final rule, for clarification, freighter airplanes differ from passenger airplanes in that the fuselage skin is thicker in certain areas and the operational characteristics are not the same, and the FAA received no reports that multiple site damage (MSD) is an emerging problem for freighter configurations. For these reasons, no modification is required at this time for freighter airplanes. To assure awareness of an emerging MSD problem, the FAA is requiring that the freighter airplanes continue to be inspected.

- A low frequency eddy current inspection (LFEC) is required by the proposed rule on the lower lap joint skin at 300-cycle intervals after the airplane reaches the 55,000 flight cycle mark. The commenter feels this inspection requirement is unduly restrictive, given that there is no terminating action for the freighter models.

We infer that the commenter wants the LFEC inspection requirement removed; however, we do not agree that the repetitive inspection interval for freighter airplanes is at 300 flight cycles for airplanes that have accumulated 55,000 or more total flight cycles. This requirement is for passenger airplanes, as specified in paragraph (b) of the final rule, which references Table H in the referenced service bulletin. Paragraph (b) of this final rule has been changed to specify that it is applicable only to Model 727-200 series airplanes.

- The proposed AD should provide terminating action for the LFEC inspection at 300 flight cycles on the Model 727-100C series airplane in the form of a lap joint modification.

As stated previously, the modification specified in the final rule is for Model 727-200 passenger airplanes only, as specified in paragraph (d) of this final rule. Should MSD emerge as a problem, the FAA may consider further rulemaking action which could include a requirement for a modification.

## **Out-of-Service/Retired Airplanes**

One commenter states that, based on its current Model 727 series airplane utilization versus retirement plan, it anticipates that it will only have one airplane subject to the modification, and that airplane will be taken out of service six days before the compliance deadline. Another commenter states that it has already incorporated the external LFEC inspection on its airplanes, as specified in the proposed rule; and plans to retire all Model 727 series airplanes from service before the internal inspections or modifications would be required by the proposed AD.

The commenter makes no specific request to change the final rule. The FAA advises that, should any of these airplanes be returned to service after the compliance period ends, the actions in the final rule must be done before the first flight.

## **Compliance Plan**

One commenter paraphrases paragraph (c) of the proposed rule and notes that the compliance plan required by that paragraph must be submitted for each airplane. The commenter states that this paragraph will result in the generation of submittals to the FAA which will quickly become useless, given the dynamics of airplane maintenance planning and scheduling. The commenter adds that the FAA states in the preamble of the proposed rule that the compliance plan is necessary to verify that all operators will be able to meet the deadlines imposed by the proposed AD. The commenter states that no lasting purpose is served by this information since operators are not required to submit revisions to the compliance plan. Additionally, the commenter notes that it is the operator's responsibility to maintain its airplanes in compliance with the requirements of any AD, and recommends that paragraph (c) of the proposed rule be deleted.

One commenter states that, although not convinced that the compliance planning in the proposed rule is the appropriate method to resolve compliance conflicts with complex ADs, it does not object to the compliance plan.

We partially agree with the commenters as follows:

We do not agree to delete paragraph (c) of the final rule. As specified in the preamble of the proposed rule, we recognize that doing the lap joint modification will require a lengthy maintenance visit, within a relatively short compliance time. This makes it necessary for operators to do compliance planning to ensure that when the compliance deadline is reached all the required actions have been done on all affected airplanes. Although plans and schedules can change over time, a compliance plan ensures that the operator is aware of the complexity of the actions required by this final rule at the start rather than at the end of the compliance period.

We agree that the requirements specified in paragraph (c) of the final rule can be changed to exclude operators that have previously done the modification required by paragraph (d) of the final rule. For operators that have not yet done the modification, we have changed the requirement to provide dates and maintenance events (e.g., letter checks) to submitting only estimated dates. Paragraph (c) of the final rule has been changed accordingly.

## **Change Paragraph (k)**

One commenter notes that paragraph (k) of the proposed rule provides details regarding FAA approval for repairs to cracks. The commenter adds that the text in that paragraph indicates that the repair method is to be approved by the Manager of the Seattle Aircraft Certification Office (ACO), but the "Differences" section in the preamble of the proposed rule indicates that, ". . . the repair of those conditions be accomplished per a method approved by the FAA, or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative (DER) who has been authorized by the Manager, Seattle ACO, to make such findings." Therefore, paragraph (k) does not reflect the same repair approval as the "Differences" section. The commenter recommends that paragraph (k) be changed to add the repair approval by a Boeing Company DER.

The FAA does not agree with the commenter. The differences section of the proposed rule specifies that the disposition of "certain" repair conditions be accomplished by a method approved by the FAA or a Boeing Company DER. Paragraph (e) of the final rule specifies repair of cracking or corrosion per a method approved by the FAA or a Boeing Company DER because the repair of damaged structure is within the scope of a Boeing DER delegated authorization. FAA Notice

8110.72, "Structural Designated Engineering Representative (DER) Approvals of Alternative Methods of Compliance (AMOC) to Airworthiness Directives and AD Mandated Repairs," states that, "Type certificate holder DER can be delegated to approve repairs when the FAA determines that the intent of the AD was to restore the airplane, found to have damaged structure, into compliance with the airplane type certification basis or other defined airworthiness standard."

Paragraph (k) of this final rule requires concurrent modification of the airplane structure of supplemental type certificate (STC) and type certificate holders. Because not every STC holder has a company DER that is authorized to approve repairs, and independent DERs working for the STC holder are not Boeing DERs and have limited data in their possession, we cannot delegate AMOC authority to those DERs. Therefore, we cannot include in paragraph (k) the same provision that is specified in paragraph (e) of the final rule. No change to the final rule is necessary in this regard.

### **Allow for External LFEC Inspection**

One commenter states that its experience with accomplishing the internal inspection indicates certain areas are not accessible for the MFEC inspection. The commenter adds that it performs an external LFEC inspection in these areas, although the referenced service bulletin, the existing AD, and the proposed rule do not account for this. The commenter recommends that these documents should allow for continued external LFEC inspections in these limited areas of restricted access.

The FAA infers that the commenter is referring to the MFEC inspections required by paragraphs (a) and (b) of the final rule. The service bulletin and the proposed rule do allow for repetitive external LFEC inspections in certain areas; however, the commenter does not specify the areas where it performs the external LFEC inspections in lieu of the MFEC inspections. Although we recognize the commenter's concerns, the commenter did not clarify or provide substantiating data in its request. The FAA may approve a request for an alternative method of compliance under the provisions of paragraph (l)(1) of the final rule if data are submitted to substantiate the commenter's request. No change to the final rule is necessary in this regard.

### **Conclusion**

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### **Cost Impact**

There are approximately 900 Model 727 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 700 airplanes of U.S. registry will be affected by this AD.

The inspections that are currently required by AD 99-04-22 take approximately 8 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the currently required actions is estimated to be \$480 per airplane.

The FAA estimates that the inspections required by this AD will impose the following costs, given an average labor rate of \$60 per work hour:

<b>Service information and inspection method</b>	<b>Work hours</b>	<b>Costs per inspection cycle</b>
Boeing SB 727-53A0222—External LFEC	16	\$960
Boeing SB 727-53A0222—Internal Detailed and MFEC (Passenger Airplanes)	120	7,200
Boeing SB 727-53A0222—Internal Detailed and MFEC (Cargo Airplanes)	40	2,400
AEI SB 00-01	12	720
PEMCO SB 727-53-0007	12	720
ATS SB 727-001	12	720
Federal Express SB 00-029	12	720

The FAA estimates that, during the 10-year period after issuance of the AD, worldwide operators will be required to modify 360 Model 727 series airplanes. The modification required by the AD takes approximately 1,200 work hours to accomplish, at an average labor rate of \$60 per work hour. The worldwide cost impact of the required modification is estimated to be \$37,413,000 over 10 years, or an average of \$3,741,000 per year. The highest impact year is the first year after issuance of the AD; an estimated 56 Model 727 series airplanes would require modification in that year. The affected Model 727 airplanes operated by U.S. operators comprise approximately 78 percent of the total worldwide costs. Therefore, the highest cost impact of the modification in any given year is estimated to be \$4,527,000 for U.S. operators.

The compliance plan that is required by this AD takes approximately 24 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the compliance plan on U.S. operators is estimated to be \$1,008,000, or \$1,440 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

### **Regulatory Impact**

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (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); 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-11047 (64 FR 7774, February 17, 1999), and by adding a new airworthiness directive (AD), amendment 39-12703, to read as follows:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "[www.airweb.faa.gov/rgl](http://www.airweb.faa.gov/rgl)"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2002-07-09 Boeing:** Amendment 39-12703. Docket 99-NM-105-AD. Supersedes AD 99-04-22, amendment 39-11047.

**Applicability:** Model 727 series airplanes, as listed in Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001, certificated in any category.

**Note 1:** This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (1)(1) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To find and fix fatigue cracking in the lower skin panel at the lower row of fasteners of the fuselage lap joints, which could result in sudden fracture and failure of the lap joints, and rapid decompression of the airplane; accomplish the following:

## Initial and Repetitive Inspections

(a) Do either an external low frequency eddy current (LFEC) inspection to find cracking, or both internal detailed and medium frequency eddy current (MFEC) inspections to find cracking or corrosion, in the lower skin panels of the lower row of fasteners of the fuselage lap joints per Part I of the Accomplishment Instructions of Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001. Do the applicable inspection at the earlier of the times specified in paragraphs (a)(1) and (a)(2) of this AD on the lap joints identified in Tables A through H and J through N of Section 1.E., "Compliance," of Paragraph 1, Planning Information, of the service bulletin. Except as provided by paragraph (b) of this AD, after doing the applicable initial inspection, repeat that inspection at the intervals specified in Tables A through G or J through N of the service bulletin.

(1) At the latest of the times specified for the initial inspection in Tables A through H (for Groups 1, 2, 3, and 5 airplanes), or Tables J through N (for Groups 3 and 4 airplanes), as applicable, of Section 1.E., "Compliance," of the service bulletin, except where the compliance time in the service bulletin specifies a compliance time interval based on "the release of this service bulletin," this AD requires compliance within the interval specified in the service bulletin "after the effective date of this AD."

(2) Within 600 flight cycles after the last LFEC inspection or 7,000 flight cycles after the last MFEC inspection, if any, is accomplished in accordance with AD 99-04-22, amendment 39-11047.

**Note 2:** Groups 1-5 are defined in the effectivity section of the service bulletin.

**Note 3:** For the purposes of this AD, a detailed inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to find damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

(b) For Model 727-200 series airplanes: The repetitive inspection intervals for lap joints identified in Table H of Section 1.E., "Compliance," of Paragraph 1, Planning Information, of Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001, decrease with increasing flight cycles. Perform the repetitive inspections listed in Table H of the service bulletin at the thresholds and intervals specified in paragraph (b)(1), (b)(2), (b)(3), or (b)(4) of this AD, as applicable.

**Note 4:** Table H of Boeing Service Bulletin 727-53A0222, Revision 1, has different inspection procedures for airplanes that have accumulated fewer than 35,000 total flight cycles, and airplanes that have accumulated 35,000 or more, but fewer than 45,000 total flight cycles.

(1) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated fewer than 35,000 total flight cycles: Perform LFEC inspections at intervals not to exceed 600 flight cycles, or detailed internal visual and MFEC inspections at intervals not to exceed 7,000 flight cycles.

(2) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 35,000 or more, but fewer than 45,000 total flight cycles: Perform LFEC inspections at intervals not to exceed 600 flight cycles, or detailed internal visual and MFEC inspections at intervals not to exceed 7,000 flight cycles.

(3) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 45,000 or more, but fewer than 55,000 total flight cycles: Perform detailed internal visual and MFEC inspections at intervals not to exceed 2,000 flight cycles.

(4) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 55,000 or more total flight cycles: Perform LFEC inspections at intervals not to exceed 300-flight-cycle intervals.

**Note 5:** Inspections done prior to the effective date of this AD per Boeing Alert Service Bulletin 727-53A0222, dated July 27, 2000, are considered acceptable for compliance with the applicable action specified in this amendment.

## **Compliance Plan**

(c) For airplanes on which the modification required by paragraph (d) of this AD has not been done as of the effective date of this AD: Within 3 months after the effective date of this AD, submit a plan to the FAA identifying a schedule for compliance with paragraph (d) of this AD. This schedule must include, for each of the operator's affected airplanes, the estimated dates when the required actions will be accomplished. For the purposes of this paragraph, "FAA" means the Principal Maintenance Inspector (PMI) for operators that are assigned a PMI, or the cognizant Flight Standards

District Office for other operators. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

**Note 6:** Operators are not required to submit revisions to the compliance plan required by paragraph (c) of this AD to the FAA.

### **Modification/Post-Modification Inspections**

(d) For Model 727-200 series airplanes: Do the modification listed in Table H of Section 1.E., "Compliance," of Paragraph 1, Planning Information, of Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001; per Part II of the Accomplishment Instructions of the service bulletin, at the threshold specified in paragraph (d)(1), (d)(2), or (d)(3) of this AD, as applicable. Within 35,000 flight cycles after doing the modification, do the post-modification inspections for cracking in the skin, per Part III of the Accomplishment Instructions of the service bulletin. Accomplishment of this paragraph terminates the repetitive inspections required by paragraph (b) of this AD.

(1) For airplanes that have accumulated fewer than 35,000 total flight cycles on the effective date of the AD: Accomplish the modification prior to 48,000 total flight cycles.

(2) For airplanes that have accumulated 35,000 or more, but fewer than 55,000 total flight cycles on the effective date of the AD: Accomplish the modification prior to 55,000 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever is later.

(3) For airplanes that have accumulated 55,000 or more total flight cycles on the effective date of the AD: Accomplish the modification within 2,000 flight cycles after the effective date of this AD.

### **Repair**

(e) If any cracking or corrosion is found during any inspection required by paragraph (a), (b), or (d) of this AD: Before further flight, repair per Boeing Service Bulletin 727-53A0222, Revision 1, including Appendix A, dated March 15, 2001. Where the service bulletin specifies to contact Boeing for repair instructions, repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Company DER who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the approval letter must specifically reference this AD.

### **Concurrent Modifications**

(f) For Model 727-200 series airplanes modified per supplemental type certificate (STC) SA1368SO or SA1797SO: Concurrent with the modification of the fuselage lap joints required by paragraph (d) of this AD, do the inspection for cracking of the lower row of fasteners in the lower skin of the lap joints, and the modification specified in Aeronautical Engineers Inc. Service Bulletin AEI 00-01, Revision A, dated May 7, 2001, per the service bulletin.

(g) For Model 727-200 series airplanes modified per STCs SA1444SO and SA1509SO: Concurrent with the modification of the fuselage lap joints required by paragraph (d) of this AD, do the inspection for cracking of the lower row of fasteners in the lower skin of the lap joints, and the modification specified in PEMCO Service Bulletin 727-53-0007, Revision 1, dated June 6, 2001, per the service bulletin.

(h) For Model 727-200 series airplanes modified per STC SA00015AT: Concurrent with the modification of the fuselage lap joints required by paragraph (d) of this AD, do the inspection for cracking of the lower row of fasteners in the lower skin of the lap joints, and the modification specified in Aircraft Technical Service, Inc., Service Bulletin ATS 727-001, dated May 7, 2001, per the service bulletin.

(i) For Model 727-200 series airplanes modified per STC SA176SO: Concurrent with the modification of the fuselage lap joints required by paragraph (d) of this AD, do the inspection for cracking of the lower row of fasteners in the lower skin of the lap joints, and the modification specified in Federal Express Corporation Service Bulletin 00-029, Revision A, including Attachment A, dated May 16, 2001, per the service bulletin.

(j) Within 2,200 flight cycles after doing the applicable modification specified in paragraph (f), (g), (h), or (i) of this AD, do the post-modification inspection for cracking in the skin per the applicable service bulletin specified in Table 1, below. Repeat the applicable inspection after that at intervals not to exceed 2,200 flight cycles. Table 1 follows:

**TABLE 1.—SERVICE BULLETINS**

<b>Service Bulletin</b>	<b>Date</b>
Aeronautical Engineers Inc. Service Bulletin AEI 00–01, Revision A	May 7, 2001.
Aircraft Technical Service, Inc., Service Bulletin ATS 727–001	May 7, 2001.
Federal Express Corporation Service Bulletin 00–029, Revision A, including Attachment A	May 16, 2001.
PEMCO Service Bulletin, 727–53–0007, Revision 1	June 6, 2001.

## **Repair**

(k) If any cracking is found during any inspection required by paragraph (f), (g), (h), or (i) of this AD: Before further flight, repair per the applicable service bulletin as provided in Table 1 in paragraph (j) of this AD. Where cracks exceed the limits provided in the service bulletin, and the bulletin specifies to contact the provider of the service bulletin for repair instructions, prior to further flight, repair per a method approved by the Manager, Seattle ACO. If any cracking is found during any inspection required by paragraph (j) of this AD: Before further flight, repair per a method approved by the Manager, Seattle ACO. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the approval letter must specifically reference this AD.

## **Alternative Methods of Compliance**

(1)(1) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA PMI, who may add comments and then send it to the Manager, Seattle ACO.

(2) Alternative methods of compliance, approved previously per AD 99-04-22, amendment 39-11047, are approved as alternative methods of compliance with this AD.

**Note 7:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

## Special Flight Permits

(m) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

## Incorporation by Reference

(n) Except as provided by paragraphs (c), (e), and (k) of this AD, the actions shall be done in accordance with the following service bulletins, as applicable:

**TABLE 2.—SERVICE BULLETINS**

<b>Service Bulletin</b>	<b>Date</b>
Aeronautical Engineers Inc. Service Bulletin AEI 00–01, Revision A	May 7, 2001.
Aircraft Technical Service, Inc., Service Bulletin ATS 727–001	May 7, 2001
Boeing Service Bulletin 727–53A0222, Revision 1, including Appendix A	March 15, 2001.
Federal Express Corporation Service Bulletin 00–029, Revision A, including Attachment A	May 16, 2001.
PEMCO Service Bulletin 727–53–0007, Revision 1	June 6, 2001.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, PO Box 3707, Seattle, Washington 98124-2207.

Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

## Effective Date

(o) This amendment becomes effective on May 17, 2002.

Issued in Renton, Washington, on April 2, 2002.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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