

[Federal Register: October 5, 2005 (Volume 70, Number 192)]  
[Rules and Regulations]  
[Page 58002-58005]  
From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr05oc05-6]

---

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2005-21085; Directorate Identifier 2004-NM-252-AD; Amendment 39-14307; AD 2005-20-13]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 727 Airplanes**

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

**ACTION:** Final rule.

---

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Boeing Model 727 airplanes. This AD requires a one-time inspection of the lower lobe frames of body section 43 to find open holes between stringers 17L and 17R and to record their location; repetitive high frequency eddy current (HFEC) inspections for cracks of all open holes; and related investigative and corrective actions if necessary. This AD also includes an optional terminating action of installing rivets in all open tooling holes and all unused lining holes, which would terminate the repetitive open-hole HFEC inspections once a hole is plugged with a rivet. This AD results from reports of cracks at open tooling holes in the lower lobe frames of body section 43. We are issuing this AD to detect and correct cracks in the frames, which could result in cracks in the skin panels and rapid decompression of the airplane.

**DATES:** This AD becomes effective November 9, 2005.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of November 9, 2005.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** Daniel F. Kutz, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6456; fax (425) 917-6590.

## **SUPPLEMENTARY INFORMATION:**

### **Examining the Docket**

You may examine the airworthiness directive (AD) docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to all Boeing Model 727 airplanes. That NPRM was published in the Federal Register on May 2, 2005 (70 FR 22618). That NPRM proposed to require a one-time inspection of the lower lobe frames of body section 43 to find open holes between stringers 17L and 17R and to record their location; repetitive high frequency eddy current (HFEC) inspections for cracks of all open holes; and related investigative and corrective actions if necessary. That NPRM also proposed to include an optional terminating action of installing rivets in all open tooling holes and all unused lining holes, which would terminate repetitive open-hole HFEC inspections once a hole is plugged with a rivet.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Request To Clarify the Frequency of the General Visual Inspection**

Two commenters request that we clarify the frequency of the general visual inspection. The commenters point out that the summary of the NPRM specifies a one-time inspection, but this inspection is not clearly explained in either the preamble or the body of the NPRM. The commenters state that the general visual inspection of all body section 43 frames between stringers 17L and 17R is needed only one time to identify and record all locations of open holes, including liner attachment holes. If repeat inspections are needed, the record of the hole locations will indicate exactly where open holes are located.

We agree with the commenters. Both the NPRM and Boeing Alert Service Bulletin 727-53A0227, dated September 16, 2004 (which was cited as the applicable source of service information for the actions in the NPRM), are unclear about the frequency of the general visual inspection. The compliance table in paragraph 2.E. "Compliance" of the service bulletin states that the general visual inspection is to be repetitive. Figures 1 through 5 of the service bulletin instruct operators to record the locations of all open holes and to keep this information. We understood that, once all the open hole locations were identified and recorded, repeating the general visual inspection would not be necessary. This is not clear in the NPRM. Therefore, we have revised paragraph (g) of the final rule to clarify that the general visual inspection is a one-time inspection, and the HFEC inspection is repetitive. We have also clarified the Summary section to reflect this change. These changes do not increase the scope of the NPRM since these actions were already specified in the service bulletin and the NPRM specified to do all inspections in accordance with the service bulletin.

## **Request To Remove Requirement To Inspect Certain Open Holes Previously Modified**

The commenter, the airplane manufacturer, requests that we specify that open holes used for lining attachments (liner attach holes) are not subject to the repetitive inspection requirements proposed in the NPRM if the terminating modification of AD 90-20-14, amendment 39-6730 (55 FR 37864, September 14, 1990), was accomplished for that hole. The commenter states that the proposed actions in the NPRM and the requirements of AD 90-20-14 conflict. AD 90-20-14 provides for the installation of a reinforcement angle and strap along the inner flange of the lower lobe frames in body section 43, which is terminating action for the repetitive inspections of in-use liner attach holes in that AD. The commenter states that the NPRM, as written, would require repeat inspections of all open liner attach holes, regardless of whether or not these reinforcement angles and straps are installed. The manufacturer has not received any reports of cracking at in-use liner attach holes in frames that have the reinforcements installed in accordance with AD 90-20-14, and the commenter contends that HFEC repetitive inspections are not necessary if these reinforcements are installed. The commenter also notes that the HFEC inspections specified in Boeing Alert Service Bulletin 727-53A0227 are an alternative method of compliance (AMOC) with the inspections required by paragraph A. of AD 90-20-14 and are the preferred method of inspection.

We partially agree with the commenter. We agree that it is not necessary to accomplish the repetitive inspections specified in paragraph (g) of the NPRM for in-use liner attach holes where the frame has been reinforced in accordance with AD 90-20-14. We agree with the commenter's technical justification. We disagree with completely eliminating all inspections of in-use liner attach holes. Boeing Service Bulletin 727-53-0068, Revision 4, dated September 14, 1989, which is cited as the applicable source of service information for the actions in AD 90-20-14, specifies post-modification inspections of the in-use liner attach holes with the frame reinforcement modification installed. We have added a new paragraph (j) and Table 1 to the final rule to specify that repetitive inspection intervals for in-use liner attach holes are extended where the frame has been reinforced in accordance with AD 90-20-14. We have re-identified subsequent paragraphs accordingly.

### **Explanation of Additional Changes**

We have simplified paragraph (h)(2) of the final rule by referring to paragraph (k) of the final rule for repair methods.

We have revised the applicability to identify model designations as published in the most recent type certificate data sheet for the affected models.

We have revised this action to clarify the appropriate procedure for notifying the principal inspector before using any approved AMOC on any airplane to which the AMOC applies.

### **Conclusion**

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### **Costs of Compliance**

There are about 1,038 airplanes of the affected design in the worldwide fleet. This AD affects about 616 airplanes of U.S. registry. The inspection takes between 8 and 15 work hours per airplane per inspection cycle, depending on the configuration of the airplane. The average labor rate is \$65 per work hour. Based on these figures, the estimated cost of this AD for U.S. operators is between \$320,320 and \$600,600, or between \$520 and \$975 per airplane, per inspection cycle.

For operators that choose to do the optional terminating action of installing rivets in all open tooling holes and all unused lining holes, the actions take between 13 and 23 work hours per airplane, depending on the configuration of the airplane. The average labor rate is \$65 per work hour. Based on these figures, the estimated cost of the optional terminating action is between \$845 and \$1,495 per airplane.

### **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 have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

### **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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

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

*We post ADs on the internet at [www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)*

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).

**2005-20-13 Boeing:** Amendment 39-14307. Docket No. FAA-2005-21085; Directorate Identifier 2004-NM-252-AD.

## Effective Date

- (a) This AD becomes effective November 9, 2005.

## Affected ADs

- (b) Accomplishing the inspections in paragraph (g) of this AD is an alternative method of compliance (AMOC) for the inspections required by paragraph A. of AD 90-20-14, amendment 39-6730, if accomplished in accordance with the requirements of paragraph (k)(2) of this AD.

## Applicability

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

## Unsafe Condition

- (d) This AD was prompted by reports of cracks at open tooling holes in the lower lobe frames of body section 43. We are issuing this AD to detect and correct cracks in the frames, which could result in cracks in the skin panels and rapid decompression of the airplane.

## Compliance

- (e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## Service Bulletin Reference

- (f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of Boeing Alert Service Bulletin 727-53A0227, dated September 16, 2004.

## Inspections

- (g) Before the accumulation of 40,000 total flight cycles, or within 3,500 flight cycles after the effective date of this AD, whichever occurs later: Do a one-time general visual inspection of the

lower lobe frames to find open holes between stringer 17L and stringer 17R of body section 43, record their locations, and keep these records for future reference when accomplishing the actions in this AD; and do a high-frequency eddy current (HFEC) inspection for cracks of all open holes, including lining holes. Repeat the HFEC inspection at intervals not to exceed 3,500 flight cycles until the optional terminating action in paragraph (i) of this AD is accomplished. Do all inspections in accordance with the service bulletin.

**Corrective Action**

(h) If any crack is found during any inspection required by paragraph (g) or (j) of this AD: Before further flight, do the applicable corrective action in paragraph (h)(1) or (h)(2) of this AD.

(1) If the crack is less than 0.063 inch in length, do the corrective action and related investigative action in Figure 6 of the service bulletin.

(2) If the crack is 0.063 inch in length or greater, repair the crack using a method approved in accordance with paragraph (k) of this AD. Chapters 51-40-3 and 53-10-4 of the Boeing 727 Structural Repair Manual (SRM) are approved methods. Except for these SRMs, for a repair method to be approved, the approval must specifically reference this AD.

**Optional Terminating Action**

(i) Installing rivets in all open tooling holes, and all unused lining holes, according to Part 2 of the Work Instructions of the service bulletin terminates the repetitive inspection requirements of paragraph (g) of this AD only for those holes plugged with rivets. Terminating action for the repetitive inspection requirements of paragraph (g) of this AD is not permitted for all lining holes without installed rivets, except as provided by paragraph (j) of this AD.

**Extended Intervals for Repetitive HFEC Inspections**

(j) For open holes that are in use for lining installation only: Doing the applicable actions in Table 1 of this AD extends the intervals of the repetitive HFEC inspections required by paragraph (g) of this AD.

**TABLE 1.—EXTENDED INTERVALS FOR REPETITIVE HFEC INSPECTIONS**

<b>If the modification specified in paragraph C. of AD 90–20–14—</b>	<b>Then—</b>
(1) Was done before the effective date of this AD.	Do the initial HFEC inspection required by paragraph (g) of this AD at the time specified in that paragraph. Do the repetitive HFEC inspections required by paragraph (g) of this AD thereafter at intervals not to exceed 20,000 flight cycles.
(2) Has not been done before the effective date of this AD.	Do the modification specified in paragraph C. of AD 90–20–14 at the same time as the initial HFEC inspection required by paragraph (g) of this AD, and repeat the HFEC inspection thereafter at intervals not to exceed 20,000 flight cycles.

**AMOCs**

(k)(1) The Manager, Seattle Aircraft Certification Office (ACO), has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) The inspection methods specified in paragraph (g) of this AD are AMOCs to the inspection methods required by paragraph A. of AD 90-20-14, amendment 39-6730. Inspection thresholds and repetitive intervals are not included in or affected by this AMOC. All other provisions of AD 90-20-14 that are not specifically mentioned above remain fully applicable and must be met.

(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 an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who 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.

(4) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

### **Material Incorporated by Reference**

(1) You must use Boeing Alert Service Bulletin 727-53A0227, dated September 16, 2004, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on September 26, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-19842 Filed 10-4-05; 8:45 am]

BILLING CODE 4910-13-P