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[Page 54920-54923]  
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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 2001-NM-281-AD; Amendment 39-12491; AD 2001-22-12]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that is applicable to all Boeing Model 727 series airplanes. This action requires repetitive inspections for migration or corrosion of the outer hinge pins that attach the horizontal stabilizer to the vertical fin, and various follow-on actions, if necessary. This action also provides other repetitive inspections for cracking or corrosion of the hinge pins, which terminate the required repetitive inspections for migration or corrosion; these inspections are optional for airplanes on which no migration or corrosion is found. This action is necessary to find and fix corrosion or cracking in the hinge pins of the horizontal stabilizer, which could lead to structural degradation of the hinge of the horizontal stabilizer and result in loss of the horizontal stabilizer and consequent loss of controllability of the airplane. This action is intended to address the identified unsafe condition.

**DATES:** Effective November 15, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of November 15, 2001.

Comments for inclusion in the Rules Docket must be received on or before December 31, 2001.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2001-NM-281-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: [9-anm-iarcomment@faa.gov](mailto:9-anm-iarcomment@faa.gov). Comments sent via fax or the Internet must contain "Docket No. 2001-NM-281-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined 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.

**FOR FURTHER INFORMATION CONTACT:** Walter 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:** The FAA has received reports of cracks and corrosion in the outer hinge pins that attach the horizontal stabilizer to the vertical fin on several Boeing Model 727 series airplanes. The cracks in the outer hinge pins, which are made of 4330 steel, have been attributed to stress corrosion. These cracks often initiate in corroded areas of the hinge pin not protected by chrome plating. Corrosion has also been found on inner fail-safe hinge pins. Corrosion or cracking in the outer hinge pins of the horizontal stabilizer could lead to structural degradation of the stabilizer hinge joint and consequent loss of the horizontal stabilizer, which would result in loss of controllability of the airplane.

### **Explanation of Relevant Service Information**

The FAA has reviewed and approved Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001, which describes procedures for repetitive detailed visual inspections for migration or corrosion of the outer hinge pins of the horizontal stabilizer, and various follow-on actions, if necessary. The follow-on actions include:

- A torque test (referred to in the service bulletin as a "torque check") of the nut on the outer hinge pins, and reduction of the torque values for the nut on the outer hinge pins, if necessary.
- Repetitive detailed visual and magnetic particle inspections for corrosion or cracking of the outer and inner hinge pins (which also involves removal of outer and inner hinge pins, as necessary, and application of corrosion preventative compound or grease on the hinge pins).
- Replacement of migrated, cracked, or broken hinge pins with new or serviceable hinge pins.

Accomplishment of the repetitive detailed visual and magnetic particle inspections for corrosion or cracking of the outer and inner hinge pins, as necessary, including all associated actions, eliminates the need for the repetitive detailed visual inspections for migration or corrosion of the hinge pins.

### **Explanation of the Requirements of the Rule**

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design, this AD is being issued to find and fix corrosion or cracking in the outer hinge pins of the horizontal stabilizer, which could lead to structural degradation of the hinge of the horizontal stabilizer and result in loss of the horizontal stabilizer and consequent loss of controllability of the airplane. This AD requires accomplishment of the actions specified in the service bulletin described previously, except as discussed below.

### **Differences Between This AD and Service Bulletin**

This AD differs from the referenced service bulletin in the following ways:

- The service bulletin specifies that the manufacturer may be contacted for disposition of repair conditions. However, this AD requires the repair of those conditions to 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 who has been authorized by the Manager, Seattle Aircraft Certification Office, to make such findings.
- The referenced service bulletin recommends accomplishment of the repetitive detailed visual and magnetic particle inspections for corrosion or cracking of the outer and inner hinge pins; and provides initial and repetitive compliance times for these inspections. However, for airplanes on which no migrated, cracked, broken, or corroded hinge pins are found, this AD provides for accomplishment of the repetitive detailed visual and magnetic particle inspections as an option which terminates the requirement for repetitive inspections for pin migration or corrosion.

### **Interim Action**

This is considered to be interim action. The FAA is currently considering requiring, for all airplanes, accomplishment of the inspections in Part 3 and Part 4 of the service bulletin, which--as described above--are specified in this AD as optional for airplanes on which no migrated, cracked, broken, or corroded hinge pins are found. However, the planned compliance time for such inspections is sufficiently long so that notice and opportunity for prior public comment will be practicable.

### **Determination of Rule's Effective Date**

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

### **Comments Invited**

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2001-NM-281-AD." The postcard will be date-stamped and returned to the commenter.

## **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.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, 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 adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

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

*We post ADs on the internet at "av-info.faa.gov"*

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).

**2001-22-12 Boeing:** Amendment 39-12491. Docket 2001-NM-281-AD.

*Applicability:* All Model 727 series airplanes, 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 (f) 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 corrosion or cracking in the hinge pins of the horizontal stabilizer, which could lead to structural degradation of the hinge of the horizontal stabilizer and result in loss of the horizontal stabilizer and consequent loss of controllability of the airplane, accomplish the following:

## **One-Time Inspection and Torque Test, and Follow-On Actions (Certain Airplanes)**

(a) For outer hinge pins that attach the horizontal stabilizer to the vertical fin on which the actions in Boeing Service Bulletin 727-55-0086, Revision 1, dated June 23, 1988, have NOT been accomplished prior to the effective date of this AD: Within 90 days after the effective date of this AD, do a one-time detailed visual inspection for migration or corrosion of the outer hinge pins, per Part 1 of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001. If no migration or corrosion of an outer hinge pin is found, before further flight, do a torque test (referred to in the service bulletin as a "torque check") of the nuts on the outer hinge pins to determine the existing torque values and if any hinge pins are cracked or broken, per Boeing Alert Service Bulletin 727-55A0090, Revision 1.

**Note 2:** Boeing Service Bulletin 727-55-0086, Revision 1, dated June 23, 1988, recommends a one-time inspection and application of primer to prevent corrosion on the outer hinge pins of the horizontal stabilizer on all Boeing Model 727 series airplanes. That service bulletin also specifies a reduction of torque values for installing the nuts of the outer hinge pins, which is intended to prevent stress corrosion cracking.

**Note 3:** For the purposes of this AD, a detailed visual inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect 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."

(1) For any outer hinge pin that is not migrated, cracked, broken, or corroded, torque the nut on the outer hinge pin within the limits specified in Boeing Alert Service Bulletin 727-55A0090, Revision 1, per that service bulletin, and within 180 days after accomplishment of paragraph (a) of this AD, do the initial inspection in paragraph (b) of this AD, and applicable follow-on actions.

(2) For any migrated, cracked, or broken outer hinge pin that is not corroded: Do paragraph (c) of this AD.

(3) For any corroded outer hinge pin: Do paragraph (d) of this AD.

### **Repetitive Inspections**

(b) For outer hinge pins of the outer horizontal stabilizer on which the actions in Boeing Service Bulletin 727-55-0086, Revision 1, dated June 23, 1988, HAVE been accomplished prior to the effective date of this AD, and airplanes identified in paragraph (a)(1) of this AD: Within 90 days after the effective date of this AD, except as provided by paragraph (a) of this AD, do a detailed visual inspection for migration or corrosion of both the outer and inner hinge pins, per Part 2 of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001. If no migration or corrosion of a hinge pin is found, repeat the inspection every 180 days, per Boeing Alert Service Bulletin 727-55A0090, Revision 1, until paragraph (e) of this AD is accomplished.

### **Follow-On Corrective Actions: Migrated, Cracked, or Broken Hinge Pin**

(c) If any migration of the hinge pin or a cracked or broken hinge pin is found during an inspection per paragraph (a) or (b) of this AD, but NO corrosion is found: Before further flight, do all actions in Part 4 of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001, per paragraph (e) of this AD.

**Note 4:** Parts 1 and 2 of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, refer to Figures 4 and 5 of that service bulletin as follow-on corrective actions for certain conditions. Figures 4 and 5 of that service bulletin specify accomplishment of Parts 3 and 4, respectively, of the Work Instructions of that service bulletin.

### **Follow-On Corrective Actions: Corrosion**

(d) If any corrosion of a hinge pin is found during an inspection per paragraph (a) or (b) of this AD: Do paragraph (d)(1) or (d)(2) of this AD, as applicable.

(1) If corrosion is found on the inner hinge pin only: Before further flight, do all actions in Part 3 of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001, per paragraph (e) of this AD.

(2) If corrosion is found on the outer hinge pin: Before further flight, do all actions in Part 4 of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001, per paragraph (e) of this AD.

### **Optional Inspections**

(e) Accomplishment of detailed visual and magnetic particle inspections for corrosion or cracking including all associated actions (such as removal of outer, inner, or outer AND inner hinge pins, as applicable, and application of corrosion preventative compound or grease), per Part 3 or 4, as

applicable, of the Work Instructions of Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 2001; AND accomplishment of applicable follow-on actions per paragraphs (e)(1) and (e)(2) of this AD, as applicable; terminates the repetitive inspections required by paragraph (b) of this AD.

(1) If any corrosion or cracking is found, replace the outer, inner, or outer AND inner hinge pins, as applicable, with new or serviceable pins, per Boeing Alert Service Bulletin 727-55A0090, Revision 1, EXCEPT, where the service bulletin specifies to contact Boeing for appropriate action, before further flight, 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 Designated Engineering Representative 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 Manager's approval letter must specifically reference this AD. And,

(2) Repeat the inspections in Part 3 or 4 of the service bulletin, as applicable, at the applicable time specified in the "REPEAT INSPECTIONS" column of the table under paragraph 1.E. "Compliance" of Boeing Alert Service Bulletin 727-55A0090, Revision 1.

### **Alternative Methods of Compliance**

(f) 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 Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

**Note 5:** 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**

(g) 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**

(h) Except as provided by paragraph (e)(1) of this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 727-55A0090, Revision 1, dated September 20, 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, P.O. 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**

(i) This amendment becomes effective on November 15, 2001.

Issued in Renton, Washington, on October 24, 2001.

**Ali Bahrami,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 01-27214 Filed 10-30-01; 8:45 am]

**BILLING CODE 4910-13-U**