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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2008-1117; Directorate Identifier 2008-NM-106-AD; Amendment 39-16026; AD 2009-20-03]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Boeing Model 727 airplanes. This AD requires inspections for cracking of the left- and right-side shear ties and web posts of the kickload beam and the adjacent structure in the vertical stabilizer, and corrective actions if necessary. This AD results from a report of cracking of the left- and right-side web posts and shear ties of the kickload beam. We are issuing this AD to detect and correct cracking of the left- and right-side web posts and shear ties of the kickload beam, which, when coupled with failures in the adjacent structure, could result in structural failure of the vertical stabilizer, and loss of control of the airplane.

**DATES:** This AD is effective November 3, 2009.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of November 3, 2009.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is the Document

Management Facility, 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:** Berhane Alazar, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6577; fax (425) 917-6590.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to all Boeing Model 727 airplanes. That NPRM was published in the Federal Register on October 29, 2008 (73 FR 64284). That NPRM proposed to require inspections for cracking of the left- and right-side shear ties and web posts of the kickload beam and the adjacent structure in the vertical stabilizer, and corrective actions if necessary.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received from the commenters.

### **Support for the AD**

Boeing concurs with the contents of the NPRM.

### **Request To Revise Method of Determining Compliance Times**

ASTAR Air Cargo (ASTAR) states that the flight hours/flight cycles compliance methods are inconsistent. ASTAR states that it will have 24 airplanes that will need to be initially inspected within 4,000 flight hours or 3,000 flight cycles if it uses the flight-hour compliance method specified in the NPRM. However, ASTAR asserts that it will have only eight airplanes that will need to be initially inspected within 4,000 flight hours or 3,000 flight cycles if it uses the flight-cycles compliance method.

From this comment, we infer that ASTAR requests that we revise the method we used to determine the compliance times proposed in the NPRM. We disagree. We acknowledge that the time each airplane will reach the required compliance time will vary depending on each operator's particular utilization. However, we have confirmed that there is no inconsistency with the method used to determine the compliance time.

We point out that the manufacturer recommended the flight-cycle/flight-hour method for determining the compliance time in Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008. This recommendation was based on the average utilization rate and age of the affected airplanes yet to be inspected, as well as the age of the airplanes on which the subject unsafe condition was identified.

In developing an appropriate compliance time, we considered the safety implications, the manufacturer's recommendation, the time necessary to complete the rulemaking process, and the operators' normal maintenance schedules for timely accomplishment of the required actions. In light of these items, we have determined that the method for determining the initial compliance time is appropriate. However, paragraph (l) of the final rule provides an affected operator the opportunity to apply for an adjustment of the compliance time if the operator also presents data that justify the adjustment. We do not find it necessary to change the final rule in this regard.

Also, from this comment, we infer there is a misunderstanding that an operator has a choice between using the total flight cycles or the total flight hours on an airplane to determine the applicable compliance time. This AD does not provide such an option. To clarify, the "Condition" column of Table 1 in paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, specifies, "All airplanes with more than 52,000 total flight hours or 39,000 total flight cycles." This condition means that for a given airplane that has accumulated more than either the specified flight hours or flight cycles, the corresponding compliance time is within 4,000 flight hours or 3,000 flight cycles, whichever occurs first, as specified in Table 1 of paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008.

Due to the issues discussed previously in this section, we have clarified the compliance time table specified in paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, by adding new paragraphs (i) and (j) to this AD, described below. We have reidentified the subsequent paragraphs accordingly. We have also revised paragraph (f) of this AD to refer to paragraphs (i) and (j) of this AD.

Paragraph (i) of this AD specifies that the "Condition" column of Table 1 of paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, refers to total flight hours and total flight cycles "at the date on this service bulletin," but that this AD applies to the airplanes with the specified total flight hours and total flight cycles as of the effective date of this AD.

Paragraph (j) of this AD specifies that the "Condition" in the first row of Table 1 in paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, applies to airplanes with less than 52,000 total flight hours "or" 39,000 total flight cycles, but that for this AD, the first row of the table is applicable to airplanes with less than 52,000 total flight hours "and" less than 39,000 total flight cycles.

## **Request To Revise Cost Estimate**

FedEx Express states that Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, provides two options for accessing the required inspection area specified in the NPRM. FedEx Express explains that the first option is to remove an access panel and proceed down the manholes to the inspection area inside the vertical stabilizer, and the second is to remove the number 2 engine and the aft section of the intake duct. FedEx Express asserts that the second option requires an additional 34 work-hours to the inspection, which will increase the time the airplanes must be out of service for heavy maintenance. The additional time in maintenance concerns FedEx Express for economic reasons.

FedEx Express further points out that the NPRM specifies that 10 work-hours are necessary to do the required inspection; however, FedEx Express reiterates that the number of required work-hours depends on the access method used.

From these comments, we infer that FedEx Express requests that we revise the cost estimate provided in the NPRM to include separate labor costs for inspection based on which option is used. We do not agree to revise the proposed cost estimate. We acknowledge that access option 2 in Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, would take significantly more time and could increase the airplane down-time. However, the cost information below describes only the direct costs of the specific actions required by this AD. Based on the best data available, the manufacturer provided the number of work hours (10) necessary to do the required actions. This number represents the time necessary to perform only the actions actually required by this AD. We recognize that, in doing the actions required by an AD, operators might incur incidental costs in addition to the direct costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs such as the time required to gain access and close up, time necessary for planning, or time necessitated by other administrative actions. Those incidental costs, which might vary significantly among operators, are almost impossible to calculate. We have not changed the final rule in this regard.

## Request To Verify Adequate Replacement Parts

FedEx Express points out that limited numbers of web post and shear tie kickload beams are available according to the Boeing Parts Page on Boeing's Web site. Further, FedEx Express asserts that the Boeing Parts Page did not provide any information about the timeline for stock replenishment of these parts.

From this comment, we infer that FedEx Express is requesting verification that adequate replacement parts will be available to operators. Since replacement of web post and shear tie kickload beams is required only under certain conditions, the total number of replacement parts needed cannot be determined until inspections required by the AD are done. Therefore, we cannot predict the total number of parts needed prior to issuance of the AD.

We have investigated this issue further and have determined that operators may produce their own parts in accordance with Section 21.303 ("Replacement and Modification Parts") of the Federal Aviation Regulations (14 CFR 21.303) so that the actions required by this AD can be accomplished within the specified compliance time. We have revised paragraph (f) of this final rule to specify that, as an alternative to using the parts specified in Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, operators may fabricate their own parts in accordance with FAA-approved Boeing data.

## Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

## Interim Action

We consider this AD interim action. If final action is later identified, we might consider further rulemaking then.

## Costs of Compliance

We estimate that this AD affects 364 airplanes of U.S. registry. The following table provides the estimated costs for U.S. operators to comply with this AD.

<b>Estimated Costs</b>						
<b>Action</b>	<b>Work hours</b>	<b>Average labor rate per hour</b>	<b>Parts</b>	<b>Cost per product</b>	<b>Number of U.S.- registered airplanes</b>	<b>Fleet cost</b>
Inspection	10	\$80	\$0	\$800, per inspection cycle	364	\$291,200, per inspection cycle

## 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**

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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

### **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 AD:



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**2009-20-03 Boeing:** Amendment 39-16026. Docket No. FAA-2008-1117; Directorate Identifier 2008-NM-106-AD.

**Effective Date**

(a) This airworthiness directive (AD) is effective November 3, 2009.

**Affected ADs**

(b) None.

**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 results from a report of cracking of the left- and right-side web posts and shear ties of the kickload beam. We are issuing this AD to detect and correct cracking of the left- and right-side web posts and shear ties of the kickload beam, which, when coupled with failures in the adjacent structure, could result in structural failure of the vertical stabilizer, and loss of control of the airplane.

**Compliance**

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

**Inspections and Corrective Actions**

(f) At the times specified in paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008 ("the service bulletin"), except as provided by paragraphs (g), (h), (i), and (j) of this AD: Do the inspections to detect cracking of the left- and right-side web posts and shear ties of the kickload beam, by doing all of the actions specified in Part 2 and the applicable corrective actions specified in Part 3 of the Accomplishment Instructions of the service bulletin, except as provided by paragraph (k) of this AD. Do all applicable corrective actions before further flight. Repeat the inspections thereafter at the intervals specified in paragraph 1.E. of the service bulletin. As an alternative to using the parts specified in Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, operators may fabricate their own parts in accordance with FAA-approved Boeing data.

**Clarifications and Exception to the Specified Compliance Times**

(g) To determine the compliance times for airplanes having exactly 52,000 total flight hours or 39,000 total flight cycles, for the purposes of this AD, these airplanes are grouped with airplanes having "less than" 52,000 total flight hours or 39,000 total flight cycles, as specified in paragraph

1.E., "Compliance," of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008.

(h) Where Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, specifies a compliance time after the date on the service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

(i) Where the "Condition" column of Table 1 of paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, refers to airplanes having accumulated the specified total flight hours and total flight cycles "at the date on this service bulletin," this AD requires compliance for airplanes having accumulated the specified total flight hours and total flight cycles as of the effective date of this AD.

(j) The "condition" in the first row of Table 1 of paragraph 1.E. of Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, applies to airplanes "with less than 52,000 total flight hours or 39,000 total flight cycles." For this AD, the first row of Table 1 is applicable to airplanes "with less than 52,000 total flight hours and less than 39,000 total flight cycles."

### **Exception to the Specified Corrective Actions**

(k) If any cracking is found during any inspection required by this AD, and Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, specifies contacting Boeing for appropriate action: Before further flight, repair the cracking or damage using a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

### **Alternative Methods of Compliance (AMOCs)**

(1)(1) The Manager, Seattle ACO, FAA, ATTN: Berhane Alazar, Aerospace Engineer, Airframe Branch, ANM-120S, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6577; fax (425) 917-6590; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(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.

### **Material Incorporated by Reference**

(m) You must use Boeing Special Attention Service Bulletin 727-55-0093, dated March 12, 2008, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(4) You may also review copies of the 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, 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 15, 2009.

Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.