

[Federal Register: April 7, 2006 (Volume 71, Number 67)]
[Rules and Regulations]
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[DOCID:fr07ap06-3]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-23672; Directorate Identifier 2005-NM-237-AD; Amendment 39-14544; AD 2006-07-17]

RIN 2120-AA64

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

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

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Boeing transport category airplanes. This AD requires determining if the terminal fittings of the spars of the wings are made of 7079 aluminum alloy material. For any positive finding, the AD requires doing repetitive inspections for cracks and corrosion of all exposed surfaces of the terminal fitting bores; doing repetitive inspections for cracks, corrosion, and other surface defects, of all exposed surfaces, including the flanges, of the terminal fitting; applying corrosion inhibiting compound to the terminal fittings; and repairing or replacing any cracked, corroded, or defective part with a new part. This AD also provides for an optional terminating action for the repetitive inspections. This AD results from reports of cracking of the terminal fittings of the spars of the wings. We are issuing this AD to detect and correct stress-corrosion cracking of the terminal fittings, which could result in the failure of one of the terminal fitting connections. Such a failure, combined with a similar failure of one of the other three terminal fittings, could result in the inability of the airplane structure to carry fail-safe loads, which could result in loss of structural integrity of the wing attachment points.

DATES: This AD becomes effective May 12, 2006.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of May 12, 2006.

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 certain Boeing transport category airplanes. That NPRM was published in the Federal Register on January 25, 2006 (71 FR 4069). That NPRM proposed to require determining if the terminal fittings of the spars of the wings are made of 7079 aluminum alloy material. For any positive finding, the NPRM proposed to require doing repetitive inspections for cracks and corrosion of all exposed surfaces of the terminal fitting bores; doing repetitive inspections for cracks, corrosion, and other surface defects, of all exposed surfaces, including the flanges, of the terminal fitting; applying corrosion inhibiting compound to the terminal fittings; and repairing or replacing any cracked, corroded, or defective part with a new part. The NPRM also proposed to provide an optional terminating action for the repetitive inspections.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comment received. The commenter, Boeing, supports the NPRM.

Conclusion

We have carefully reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

Interim Action

This AD is considered to be interim action. The inspection reports that are required by this AD will enable the manufacturer to obtain better insight into the extent of the cracking and corrosion of the terminal fittings of the front and rear spars of the wings in the fleet, and to develop additional action if necessary to address the unsafe condition. If additional action is identified, we may consider further rulemaking.

Costs of Compliance

There are about 302 airplanes of the affected design in the worldwide fleet. This AD will affect about 157 airplanes of U.S. registry. The determination of forging number/material identification will take about 4 work hours per airplane, at an average labor rate of \$65 per work hour. Based on these figures, the estimated cost of the AD for U.S. operators is \$40,820, or \$260 per airplane.

Accomplishing the fluorescent dye penetrant and detailed inspections, if required, will take about 16 work hours per airplane, at an average labor rate of \$65 per work hour. Based on these figures, we estimate the cost of the inspections to be \$1,040 per airplane, 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

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**

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).

2006-07-17 Boeing: Amendment 39-14544. Docket No. FAA-2006-23672; Directorate Identifier 2005-NM-237-AD.

Effective Date

- (a) This AD becomes effective May 12, 2006.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Boeing Model 727, 727C, 727-100, 727-100C, and 727-200 series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 727-57A0185, Revision 1, dated November 3, 2005.

Unsafe Condition

(d) This AD results from reports of cracking of the terminal fittings of the front and rear spars of the wings. We are issuing this AD to detect and correct stress-corrosion cracking of the terminal fittings, which could result in the failure of one of the terminal fitting connections. Such a failure, combined with a similar failure of one of the other three terminal fittings, could result in the inability of the airplane structure to carry fail-safe loads, which could result in loss of structural integrity of the wing attachment points.

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.

Determination of Type of Terminal Fittings, Repetitive Inspections, and Corrective Actions

(f) Within 24 months after the effective date of this AD, determine if the terminal fittings of the front and rear spars of the wings are made of 7079 aluminum alloy material by either inspecting the forging number or doing a conductivity test, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 727-57A0185, Revision 1, dated November 3, 2005.

(1) If the forging number is that identified in Table 1 of this AD, or if the terminal fitting material is not made of 7079 aluminum alloy: No further action is required by this AD for that terminal fitting only.

**TABLE 1.—FORGING NUMBERS OF TERMINAL FITTINGS
NOT MADE OF 7079 ALUMINUM ALLOY**

Forging number of terminal fittings	Location
(i) 65-16214-3	Rear spar of left wing.
(ii) 65-16213-3	Front spar of left wing.
(iii) 65-16214-4	Rear spar of right wing.
(iv) 65-16213-4	Front spar of right wing.

(2) If any forging number other than those identified in Table 1 of this AD is found, or if any forging material is made of 7079 aluminum alloy, or if the material cannot be determined: Within 24 months after the effective date of this AD, do the inspections specified in Table 2 of this AD and apply corrosion inhibiting compound (CIC) to the terminal fittings, and before further flight, repair or replace any cracked, corroded, or defective part found during the inspections. Repeat the inspections thereafter at intervals not to exceed 60 months for the first two repeat intervals, and then thereafter at intervals not to exceed 30 months. Do the inspections, application of CIC, and repair in accordance with the service bulletin, except as provided by paragraphs (h) and (i) of this AD. Do the replacement in accordance with paragraph (g) of this AD.

TABLE 2.—INSPECTIONS

Do—	For—	Of—
(i) A fluorescent dye penetrant inspection	Cracks and corrosion	All exposed surfaces of the terminal fitting bores.
(ii) A detailed inspection	Cracks, corrosion, and other surface defects	All exposed surfaces, including the flanges, of the terminal fitting.

Optional Terminating Action

(g) Replacement of any terminal fitting of the front and rear spars of the wings with a new terminal fitting not made of 7079 aluminum alloy, in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, ends the repetitive inspections required by paragraph (f)(2) of this AD for that terminal fitting only. For the replacement to be approved by the Manager, Seattle ACO, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

Exception to Service Information

(h) Where the service bulletin specifies to contact Boeing for appropriate action: Before further flight, repair the cracked, corroded, or defective part using a method approved in accordance with the procedures specified in paragraph (l) of this AD, or replace in accordance with paragraph (g) of this AD.

(i) Although the note in paragraph 3.B.7. of the service bulletin specifies procedures for a fluorescent dye penetrant inspection of the body fitting bore and repair if necessary, those procedures are not required by this AD.

Parts Installation

(j) As of the effective date of this AD, no person may install any terminal fitting having forging number 65-16213-1/-2 or 65-16214-1/-2, or install any terminal fitting material made of 7079 aluminum alloy, on any airplane.

Reporting

(k) Submit a report of the findings (both positive and negative) of the initial inspection required by paragraph (f)(2) of this AD to Boeing Commercial Airplanes, Attention: Manager, Airline Support, P.O. Box 3707, Seattle, WA 98124-2207, at the applicable time specified in paragraph (k)(1) or (k)(2) of this AD. The report must include the operator's name, inspection results, a detailed description of any discrepancies found, the airplane serial number, and the number of flight cycles and flight hours on the airplane. Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120-0056.

(1) If the inspection was done after the effective date of this AD: Submit the report within 30 days after the inspection.

(2) If the inspection was accomplished prior to the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

Alternative Methods of Compliance (AMOCs)

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

(2) 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.

(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 Alert Service Bulletin 727-57A0185, Revision 1, dated November 3, 2005, 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.

Issued in Renton, Washington, on March 24, 2006.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 06-3197 Filed 4-6-06; 8:45 am]

BILLING CODE 4910-13-P