



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0187; Product Identifier 2018-NM-172-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede Airworthiness Directive (AD) 2005-20-01, which applies to all The Boeing Company Model 737-100, -200, -200C,-300, -400, and -500 series airplanes. AD 2005-20-01 requires repetitive inspections of the vertical stiffeners at left buttock line (LBL) and right buttock line (RBL) 6.15 for cracks; and replacement of both stiffeners with new, improved stiffeners if any stiffener is found cracked. Since we issued AD 2005-20-01, we have received reports of cracks found in the left and right side keel beam upper chords when replacing vertical stiffeners. In addition, we have determined that the replacement stiffener installation degraded the fault current bonding path and could introduce an ignition source in the fuel tank in the event of an electrical hot short or a lightning strike. This proposed AD would require, depending on airplane configuration, replacing the vertical stiffeners at LBL and RBL 6.15 on the rear spar of the wing center section, installing angle and bonding jumpers, installing brackets, applying sealant, and applying paint. We are proposing this AD to address the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0187.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0187; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Galib Abumeri, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5324; fax: 562-627-5210; email: Galib.Abumeri@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-0187; Product Identifier 2018-NM-172-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We issued AD 2005-20-01, Amendment 39-14294 (70 FR 56358, September 27, 2005) (“AD 2005-20-01”), for all The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2005-20-01 requires repetitive inspections of the vertical stiffeners at LBL and RBL 6.15 for cracks; and replacement of both stiffeners with new, improved stiffeners if any stiffener is found cracked. AD 2005-20-01 also allows replacement of both stiffeners at LBL and RBL 6.15 with new, improved stiffeners, which terminates the repetitive inspections. AD 2005-20-01 resulted from reports of cracks in the aft vertical stiffeners at LBL and RBL 6.15 on the rear spar

of the wing center section. We issued AD 2005-20-01 to address cracks in the vertical stiffeners at LBL and RBL 6.15, which could result in damage to the keel beam structure and consequently reduce the capability of the airplane to sustain flight loads.

Actions Since AD 2005-20-01 Was Issued

Since we issued AD 2005-20-01, Boeing discovered that the replacement stiffener installation had degraded fault current bonding because the existing rivets (which provide an inherent bond path for fault currents and ground returns) had been replaced with non-conductive finish K-code fasteners in transition fit holes. The replacement fasteners are not adequate in maintaining required fault current bonding path and could introduce an ignition source in the fuel tank in the event of an electrical hot short or a lightning strike.

In addition to the above described electrical bonding issues, we received a report of cracks in the left side and right side keel beam upper chords when the aft vertical stiffeners were replaced. Boeing determined that the actual stresses on aft vertical stiffeners at LBL and RBL 6.15 exceed those used to design the structure and can cause fatigue cracks in the stiffeners. If the aft vertical stiffeners have cracks or are severed, the fatigue damage may extend into the adjacent keel beam structure and could reduce the limit load capability of the keel beam structure. Boeing has determined the inspections described in Boeing Alert Service Bulletin 737-57A1269, dated December 4, 2003; and Revision 1, dated September 16, 2004; do not provide sufficient inspection intervals for timely crack detection in the aft vertical stiffeners. AD 2005-20-01 requires the actions specified in Boeing Alert Service Bulletin 737-57A1269, dated December 4, 2003; and Revision 1, dated September 16, 2004. As a result, Boeing issued Alert Service Bulletin 737-57A1339 RB, dated April 16, 2018, which describes procedures for inspecting the vertical stiffeners and keel beam upper chord structures. AD 2018-10-12, Amendment 39-19288 (83 FR 23775, May 23, 2018) (“AD 2018-10-12”) requires the actions specified in Boeing Alert Service Bulletin 737-57A1339 RB, dated April 16, 2018. After

we issued AD 2018-10-12, Boeing issued Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018, which provides procedures for replacing the vertical stiffeners with new, improved stiffeners.

Accomplishment of the vertical stiffener replacements at LBL and RBL 6.15, described in Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018, as specified in paragraph (g) of this proposed AD, eliminates the need to do the stiffener inspection described in Boeing Alert Service Bulletin 737-57A1339 RB, dated April 16, 2018.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018. This service information describes procedures for replacing the vertical stiffeners at LBL and RBL 6.15 on the wing center section rear spar with new, improved stiffeners, installing angle and bonding jumpers, installing brackets, applying sealant, and applying paint.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain none of the requirements of AD 2005-20-01. This proposed AD would require accomplishing the actions specified in the service information described previously except as discussed under "Differences Between this Proposed AD and the Service Information," and except for any differences identified as

exceptions in the regulatory text of this proposed AD. For certain airplanes, replacing the vertical stiffeners with new, improved stiffeners, would terminate the need for the repetitive inspections required by AD 2018-10-12. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0187.

Differences Between this Proposed AD and the Service Information

Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018, specifies, for certain airplanes, to do a concurrent action consisting of a final one-time surface high frequency eddy current inspection of the keel beam upper chord and general visual inspection of the angle at LBL 6.50 and RBL 6.50, and all related applicable actions, as specified in Boeing Alert Requirements Bulletin 737-57A1339 RB, dated April 16, 2018. We have determined that action is already mandated by AD 2018-10-12. All requirements of AD 2018-10-12 remain in effect.

Costs of Compliance

We estimate that this proposed AD affects 171 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Stiffener replacement, angle and bonding jumper installation, bracket installation, and sealant and paint application	Up to 257 work-hours X \$85 per hour = \$21,845	\$14,730	Up to \$36,575	Up to \$6,254,325

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.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 the proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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.

List of Subjects in 14 CFR Part 39

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

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 removing Airworthiness Directive (AD) 2005-20-01, Amendment 39-14294 (70 FR 56358, September 27, 2005), and adding the following new AD:

The Boeing Company: Docket No. FAA-2019-0187; Product Identifier 2018-NM-172-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2005-20-01, Amendment 39-14294 (70 FR 56358, September 27, 2005) (“AD 2005-20-01”). This AD terminates certain requirements of

AD 2018-10-12, Amendment 39-19288 (83 FR 23775, May 23, 2018) (“AD 2018-10-12”).

(c) Applicability

This AD applies to all The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Unsafe Condition

This AD was prompted by reports of cracks in the aft vertical stiffeners at left buttock line (LBL) and right buttock line (RBL) 6.15 on the rear spar of the wing center section and of cracks found in the left and right side keel upper chords when replacing vertical stiffeners. This AD was also prompted by possible degradation of the fault current bonding path due to the replacement vertical stiffener installation. We are issuing this AD to address cracks in vertical stiffeners at LBL and RBL 6.15, which could result in damage to the keel beam structure and consequently reduce the capability of the airplane to sustain flight loads. We are also issuing this AD to address a potential ignition source in the fuel tank due to insufficient bonding, which could lead to a fuel tank explosion and subsequent loss of the airplane.

(f) Compliance

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

(g) Required Actions for Group 1 and 3 through 8 Airplanes

For airplanes identified as Group 1 and 3 through 8 in Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018: Except as specified by paragraph (j) of this AD, at the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018, do all applicable actions, identified in, and in accordance with, the

Accomplishment Instructions of Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018. Depending on the airplane configuration, applicable actions include replacing the vertical stiffeners at LBL and RBL 6.15 on the rear spar of the wing center section, installing angle and bonding jumpers, installing brackets, applying sealant, and applying paint.

(h) Required Actions for Group 2 Airplanes

For airplanes identified as Group 2 in Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018: Within 120 days after the effective date of this AD, do actions to correct the unsafe condition, using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(i) Terminating Action for Repetitive Inspections of Aft Vertical Stiffener Required by AD 2018-10-12

Accomplishment of the stiffener replacement required by paragraph (g) of this AD terminates only the repetitive inspections of the aft vertical stiffeners required by paragraph (h) of AD 2018-10-12 for that airplane only. All other requirements of paragraph (h) of AD 2018-10-12 remain in effect.

(j) Exceptions to Service Information Specifications

(1) For purposes of determining compliance with the requirements of this AD: Where Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018, uses the phrase “the Revision 2 date of this service bulletin,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Service Bulletin 737-57A1269, Revision 2, dated October 11, 2018, specifies contacting Boeing for repair instructions: This AD requires doing the repair before further flight using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(k) Credit for Previous Actions

This paragraph provides credit only for the stiffener replacement required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the service information identified in paragraph (k)(1) or (k)(2) of this AD.

(1) Boeing Alert Service Bulletin 737-57A1269, dated December 4, 2003, which is not incorporated by reference in this AD.

(2) Boeing Alert Service Bulletin 737-57A1269, Revision 1, dated September 16, 2004, which was incorporated by reference in AD 2005-20-01.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (m)(1) of this AD. Information may be emailed to:

9-ANM-LAACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(m) Related Information

(1) For more information about this AD, contact Galib Abumeri, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5324; fax: 562-627-5210; email: Galib.Abumeri@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on March 22, 2019.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.

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