



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9523; Directorate Identifier 2016-NM-134-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) 2014-12-13, which applies to all The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2014-12-13 currently requires repetitive inspections for cracking of the main landing gear (MLG) beam, and the rear spar upper chord and rear spar web; and repair if necessary. Since we issued AD 2014-12-13, we received reports of additional cracking in the inspar upper skin, rear spar web and rear spar upper chord. This proposed AD would expand the inspection area and add related investigative and corrective actions if necessary. 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 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9523.

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-2016-9523; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Payman Soltani, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5313; fax: 562-627-5210; email: payman.soltani@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-9523; Directorate Identifier 2016-NM-134-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD 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

On June 6, 2014, we issued AD 2014-12-13, Amendment 39-17874 (79 FR 39300, July 10, 2014) (“AD 2014-12-13”), for all The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2014-12-13 requires repetitive inspections for cracking of the aft support fitting for the MLG beam, the rear spar upper chord and rear spar web in the area of rear spar station (RSS) 224.14; and repair if necessary. AD 2014-12-13 resulted from reports of cracks found in the aft support fitting, the rear spar upper chord, and the rear spar web. We issued AD 2014-12-13 to detect and correct cracking of the aft support fitting for the MLG beam, the rear spar upper chord and rear spar web in the area of RSS 224.14, which could grow and result in a fuel leak and possible fire.

Other Related Rulemaking

On October 11, 2015, we issued AD 2015-21-08, Amendment 39-18301 (80 FR 65921, October 28, 2015) (“AD 2015-21-08”), for certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2015-21-08 was prompted by a report that an operator discovered a crack in a certain section of the inspar upper skin, just forward of the rear spar on the right wing. AD 2015-21-08 requires repetitive eddy current inspections for any cracking in the inspar upper skin, and related investigative and corrective actions if necessary. We issued AD 2015-21-08 to detect and correct any cracking in the inspar upper skin and rear spar upper chord, which could result in the inability of the structure to carry limit load, or result in a fuel leak, which could prevent continued safe flight and landing.

Actions Since AD 2014-12-13 and 2015-21-08 Were Issued

Since we issued AD 2014-12-13 and AD 2015-21-08, an operator discovered a 2.375-inch-long crack in the inspar upper skin at wing buttock line (WBL) 157, just forward of the rear spar on the right wing and adjacent to the inspection area specified in Boeing Special Attention Service Bulletin 737-57-1318, dated May 15, 2013 (the source of service information for the actions required by AD 2014-12-13). Two additional smaller cracks were found in the skin at two holes common to the rear spar in the same area. Subsequent inspections revealed that the right rear spar upper chord was almost completely severed and the left rear spar chord was completely severed. Rear spar web cracks were also noted on both wings. The affected airplane had accumulated 51,548 total flight cycles.

After the initial report of the inspar upper skin crack, additional reports of inspar upper skin cracking were found in the same area. Inspar upper skin cracking at this location is the subject of AD 2015-21-08, which correlates with Boeing Alert Service Bulletin 737-57A1326, dated September 22, 2015; and Boeing Alert Service Bulletin

737-57A1328, dated July 22, 2016. Although skin cracking is addressed outside of Boeing Special Attention Service Bulletin 737-57-1318, dated May 15, 2013, analysis shows that rear spar upper chord cracking can negatively influence the inspar upper skin cracking condition. In addition to influencing skin cracking, rear spar upper chord cracking can also influence cracking at other mating structures.

In addition, since Boeing Alert Service Bulletin 737-57A1318, dated May 15, 2013, has been issued, multiple operators have also reported cracking in the MLG beam forward support fitting, which was found while doing repairs to address cracked chords. Therefore, the MLG beam forward support fitting has been added to the inspection area, and the inspection threshold and intervals have been shortened, as specified in Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016. The service information describes procedures for repetitive high frequency eddy current (HFEC) open hole inspections for any cracking in the forward support fitting, the aft support fitting, the rear spar upper chord, and the rear spar web at the 12 fastener holes (locations 1-12). The service information also describes the option of HFEC open hole inspections for any cracking in the forward support fitting and the aft support fitting, and HFEC surface inspections for any cracking in the rear spar upper chord and rear spar upper web, as applicable, and related investigative and corrective actions.

We also reviewed Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016. The service information describes procedures for repetitive eddy current inspections of the left and right wing for any cracking in the inspar upper skin and the repair parts if applicable, and related investigative and corrective actions.

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

Although this proposed AD does not explicitly restate the requirements of AD 2014-12-13, this proposed AD would retain all of the requirements of AD 2014-12-13. Those requirements are referenced in the service information identified previously, which, in turn, is referenced in paragraphs (g) and (h) of this proposed AD. This proposed AD would also require accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between this Proposed AD and the Service Information." 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-2016-9523.

The phrase "related investigative actions" is used in this proposed AD. Related investigative actions are follow-on actions that (1) are related to the primary action, and (2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

The phrase “corrective actions” is used in this proposed AD. Corrective actions correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Differences Between this Proposed AD and the Service Information

Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016; and Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016; specify to contact the manufacturer for certain instructions, but this proposed AD would require accomplishment of repair methods, modification deviations, and alteration deviations in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

Costs of Compliance

We estimate that this proposed AD affects 471 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
HFEC open hole inspections	82 work-hours X \$85 per hour = \$6,970 per inspection cycle	\$0	\$6,970 per inspection cycle	\$3,282,870 per inspection cycle
Eddy current inspection	14 work-hours X \$85 per hour = \$1,190 per inspection cycle	\$0	\$1,190 per inspection cycle	\$560,490 per inspection cycle

Estimated costs for optional actions

Action	Labor cost	Parts cost	Cost per product
Inspection	Up to 41 work-hours X \$85 per hour = \$3,485 per inspection cycle	\$0	Up to \$1,641,435 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

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 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) 2014-12-13, Amendment 39-17874 (79 FR 39300, July 10, 2014), and adding the following new AD:

The Boeing Company: Docket No. FAA-2016-9523; Directorate Identifier 2016-NM-134-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 2014-12-13, Amendment 39-17874 (79 FR 39300, July 10, 2014). This AD affects AD 2015-21-08, Amendment 39-18301 (80 FR 65921, October 28, 2015).

(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 additional cracking in the inspar upper skin at Wing Buttock Line (WBL) 157 and in the skin at two holes common to the rear spar in the same area, and rear spar web cracks were also noted on both wings. Subsequent inspections revealed that the right rear spar upper chord was almost completely severed and the left rear spar upper chord was completely severed. We are issuing this AD to detect and correct cracking of the forward and aft support fittings for the main landing gear (MLG) beam, the rear spar upper chord and rear spar web in the area of rear spar station (RSS) 224.14, which could grow and result in a fuel leak and possible fire.

(f) Compliance

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

(g) Required Actions for Group 1 Airplanes

For airplanes identified as Group 1 in Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016: At the applicable time specified in table 1 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016, except as required by paragraph (j)(3) of this AD, do

applicable inspections and corrective actions using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(h) Required Actions for Groups 2-7 Airplanes

For airplanes identified as Groups 2-7 in Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016: At the applicable time specified in table 2 through table 9 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016, except as required by paragraph (j)(3) of this AD: Do high frequency eddy current (HFEC) open hole inspections for any cracking in the forward support fitting, the aft support fitting, the rear spar upper chord, and the rear spar web at the 12 fastener holes (locations 1–12); or HFEC open hole inspections for any cracking in the forward support fitting and the aft support fitting, and HFEC surface inspection for any cracking in the rear spar upper chord and rear spar upper web; as applicable, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016. Do all applicable related investigative and corrective actions before further flight. Thereafter, repeat the HFEC inspection at the applicable time specified in table 2 through table 9 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016. Options provided in Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016, for accomplishing the inspection are acceptable for the corresponding requirements of this paragraph provided that the inspections are done at the applicable times in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016.

(i) Eddy Current Inspection

For airplanes identified in Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016: At the applicable time specified in table 1 and table 2 of paragraph 1.E.,

“Compliance,” of Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016, except as required by paragraph (j)(2) of this AD, do an eddy current inspection of the left and right wings for any cracking in the inspar upper skin, and at the repair parts if applicable, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016. Do all related investigative and corrective actions before further flight. Thereafter, repeat the eddy current inspection at the applicable time specified in table 1 and table 2 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016.

(j) Exceptions to the Service Information

(1) If any cracking is found during any inspection required by this AD, and Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016, specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(2) Where Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016, specifies a compliance time “after the Original Issue date of this service bulletin,” paragraph (i) of this AD requires compliance within the specified compliance time after the effective date of this AD.

(3) Where Boeing Alert Service Bulletin 737-57A1318, Revision 1, dated July 22, 2016, specifies a compliance time “after the Revision 1 date of this service bulletin, whichever occurs later,” paragraphs (g) and (h) of this AD require compliance within the specified compliance time after the effective date of this AD.

(k) Terminating Action

Accomplishing the initial inspections and applicable related investigative and corrective actions required by paragraphs (g), (h), and (i) of this AD, as applicable, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin

737-57A1318, Revision 1, dated July 22, 2016; and Boeing Alert Service Bulletin 737-57A1328, dated July 22, 2016, terminates all requirements of AD 2015-21-08.

(l) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 737-57A1318, May 15, 2013, which was incorporated by reference in AD 2014-03-06, Amendment 39-17743 (79 FR 39300, July 10, 2014).

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles Aircraft Certification Office (ACO), ANM-120L, 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 ACO, send it to the attention of the person identified in paragraph (n)(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, 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.

(4) Except as required by paragraph (j) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (m)(4)(i) and (m)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or sub-step is labeled “RC Exempt,” then the RC requirement is removed from that step or sub-step. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(n) Related Information

(1) For more information about this AD, contact Payman Soltani, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5313; fax: 562-627-5210; email: payman.soltani@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on December 16, 2016.

Ross Landes, Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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