



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9188; Directorate Identifier 2016-NM-102-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) 2007-26-04, which applies to certain Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2007-26-04 currently requires repetitive inspections for cracking around the heads of the fasteners on the forward fastener row of certain areas of a certain circumferential butt splice, and repair if necessary; and also requires a preventive modification, which eliminates the need for the repetitive inspections. Since we issued AD 2007-26-04, an evaluation by the design approval holder (DAH) indicating that the forward skin panel at a circumferential butt splice between certain stringers is subject to widespread fatigue damage (WFD). This proposed AD would remove the mandatory modification. It would add repetitive inspections of the skin for cracking at the aft fastener column and a one-time inspection for defects of the production countersunk rivets, and require corrective actions if necessary. It would also add an optional skin trim-out repair, which would terminate certain inspections. We are proposing this AD to prevent cracking of the station (STA) 259.5 circumferential butt splice, which could result in loss of structural integrity of the fuselage skin and possible loss of cabin pressure.

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: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; 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-2016-9188.

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-2016-9188; 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: Wade Sullivan, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6430; fax: 425-917-6590; email: wade.sullivan@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-2016-9188; Directorate Identifier 2016-NM-102-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

Fatigue damage can occur locally, in small areas or structural design details, or globally, in widespread areas. Multiple-site damage is widespread damage that occurs in a large structural element such as a single rivet line of a lap splice joining two large skin panels. Widespread damage can also occur in multiple elements such as adjacent frames or stringers. Multiple-site damage and multiple-element damage cracks are typically too

small initially to be reliably detected with normal inspection methods. Without intervention, these cracks will grow, and eventually compromise the structural integrity of the airplane. This condition is known as widespread fatigue damage. It is associated with general degradation of large areas of structure with similar structural details and stress levels. As an airplane ages, WFD will likely occur, and will certainly occur if the airplane is operated long enough without any intervention.

The FAA's WFD final rule (75 FR 69746, November 15, 2010) became effective on January 14, 2011. The WFD rule requires certain actions to prevent structural failure due to WFD throughout the operational life of certain existing transport category airplanes and all of these airplanes that will be certificated in the future. For existing and future airplanes subject to the WFD rule, the rule requires that DAHs establish a limit of validity (LOV) of the engineering data that support the structural maintenance program. Operators affected by the WFD rule may not fly an airplane beyond its LOV, unless an extended LOV is approved.

The WFD rule (75 FR 69746, November 15, 2010) does not require identifying and developing maintenance actions if the DAHs can show that such actions are not necessary to prevent WFD before the airplane reaches the LOV. Many LOVs, however, do depend on accomplishment of future maintenance actions. As stated in the WFD rule, any maintenance actions necessary to reach the LOV will be mandated by airworthiness directives through separate rulemaking actions.

In the context of WFD, this action is necessary to enable DAHs to propose LOVs that allow operators the longest operational lives for their airplanes, and still ensure that WFD will not occur. This approach allows for an implementation strategy that provides flexibility to DAHs in determining the timing of service information development (with FAA approval), while providing operators with certainty regarding the LOV applicable to their airplanes.

On December 10, 2007, we issued AD 2007-26-04, Amendment 39-15806 (72 FR 71216, December 17, 2007) (“AD 2007-26-04”), for certain Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2007-26-04 currently requires repetitive inspections for cracking around the heads of the fasteners on the forward fastener row of certain areas of the STA 259.5 circumferential butt splice, and repair if necessary; and also requires a preventive modification, which eliminates the need for the repetitive inspections. AD 2007-26-04 resulted from a report of multiple cracks in the fuselage skin of a Model 737-200 airplane, at the forward fastener row of the STA 259.5 circumferential butt splice between stringers 19 and 24. We issued AD 2007-26-04 to prevent cracking of the STA 259.5 circumferential butt splice, which could result in loss of structural integrity of the fuselage skin and possible loss of cabin pressure.

Actions Since AD 2007-26-04 was Issued

Since we issued AD 2007-26-04, an evaluation by the DAH indicated that the forward skin panel at STA 259.5 circumferential butt splice between stringers 19L and 24L is subject to WFD.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 737-53A1267, Revision 1, dated March 8, 2016 (“ASB 737-53A1267 R1”). The service information describes procedures for detailed inspections and high frequency eddy current (HFEC) surface inspections of the skin around the fastener heads for any crack on the forward and aft fastener columns, left and right sides, at STA 259.5 circumferential butt splice; a detailed inspection for any defect of the production countersunk rivet heads on both forward and aft fastener columns, left and right sides, at STA 259.5 circumferential butt splice; and corrective actions, including a skin trim-out repair and other repairs. 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 these same type designs.

Proposed AD Requirements

Although this proposed AD does not explicitly restate the requirements of AD 2007-26-04, this proposed AD would retain certain requirements of AD 2007-26-04. Those requirements are referenced in the service information identified previously, which, in turn, is referenced in 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-2016-9188.

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.

Explanation of Applicability

Model 737 airplanes having line numbers 1 through 291 have a limit of validity (LOV) of 34,000 total flight cycles, and the actions proposed in this NPRM, as specified in ASB 737-53A1267 R1, would be required at a compliance time occurring after that LOV. Although operation of an airplane beyond its LOV is prohibited by

14 CFR 121.1115 and 129.115, this proposed AD would include those airplanes in the applicability in the event the LOV is extended in the future.

Differences Between this Proposed AD and the Service Information

ASB 737-53A1267 R1, specifies 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 115 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
Inspections	28 work-hours X \$85 per hour = \$2,380 per inspection cycle	\$0	\$2,380 per inspection cycle	\$273,700 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for the optional skin-trim-out repair specified in this proposed AD.

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) 2007-26-04, Amendment 39-15806 (72 FR 71216, December 17, 2007), and adding the following new AD:

The Boeing Company: Docket No. FAA-2016-9188; Directorate Identifier 2016-NM-102-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 2007-26-04, Amendment 39-15806 (72 FR 71216, December 17, 2007) (“AD 2007-26-04”).

(c) Applicability

This AD applies to The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1267, Revision 1, dated March 8, 2016 (“ASB 737-53A1267 R1”).

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the forward skin panel at station (STA) 259.5 circumferential butt splice between stringers 19L and 24L is subject to widespread fatigue damage (WFD). We are issuing this AD to prevent cracking of the STA 259.5 circumferential butt splice, which could result in loss of structural integrity of the fuselage skin and possible loss of cabin pressure.

(f) Compliance

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

(g) Actions for Group 2 Airplanes

For airplanes identified as Group 2 in ASB 737-53A1267 R1: Within 120 days after the effective date of this AD, inspect the airplane and do all applicable corrective actions using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(h) Inspections for Group 1 Airplanes

For airplanes identified as Group 1 in ASB 737-53A1267 R1: Except as specified in paragraph (j)(1) of this AD, at the applicable time specified in paragraph 1.E. "Compliance" of ASB 737-53A1267 R1, do the applicable actions specified in paragraphs (h)(1) and (h)(2) of this AD; and do all applicable corrective actions; in accordance with the Accomplishment Instructions of ASB 737-53A1267 R1, except as specified in paragraph (j)(2) of this AD. Do all applicable corrective actions before further flight. Repeat the applicable inspections specified in paragraph (h)(1) of this AD thereafter at the applicable intervals specified paragraph 1.E., "Compliance," of ASB 737-53A1267 R1, except as provided by paragraph (i) of this AD.

(1) Do detailed inspections and high frequency eddy current (HFEC) surface inspections of the skin around the fastener heads for any crack on the forward and aft

fastener columns, left and right sides, at STA 259.5 circumferential butt splice, in accordance with Parts 1, 2, 6, 7, 8, and 9 of the Accomplishment Instructions of ASB 737-53A1267 R1, as applicable.

(2) Do a one-time detailed inspection for any defect of the production countersunk rivet heads on both forward and aft fastener columns, left and right sides, at STA 259.5 circumferential butt splice, in accordance with Part 3 of the Accomplishment Instructions of ASB 737-53A1267 R1.

(i) Optional Terminating Repairs

(1) For airplanes identified as Group 1, Configuration 1 in ASB 737-53A1267 R1: Doing the skin trim-out repair specified in Part 5 of the Accomplishment Instructions of ASB 737-53A1267 R1 terminates the repetitive inspections required by paragraph (h) of this AD that are specified in Part 1 of the Accomplishment Instructions of ASB 737-53A1267 R1 only; all other repetitive inspections required by paragraph (h) of this AD must be done, except as provided by paragraph (i)(2) of this AD.

(2) For airplanes identified as Group 1, Configuration 1 in ASB 737-53A1267 R1: Doing the skin repair specified in Part 4 of the Accomplishment Instructions of ASB 737-53A1267 R1, terminates the repetitive inspections required by paragraph (h) of this AD that are specified in Part 1 and Part 2 of the Accomplishment Instructions of ASB 737-53A1267 R1 for the repaired area only; all other repetitive inspections required by paragraph (h) of this AD must be done, except as provided by paragraph (i)(1) of this AD.

(j) Exceptions to Service Information

(1) Where paragraph 1.E., “Compliance,” of ASB 737-53A1267 R1, specifies a compliance time “after the Revision 1 date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Although ASB 737-53A1267 R1, specifies to contact Boeing for appropriate action, and specifies that action as “RC” (Required for Compliance), this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles Aircraft Certification Office (ACO), 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 (l)(1) of this AD. Information may be emailed to:

9-ANM-LAACO-ACO-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) AMOCs approved previously for AD 2007-26-04 are approved as AMOCs for the corresponding provisions of this AD.

(5) Except as required by paragraph (j)(2) of this AD: For service information that contains steps that are labeled as RC, the provisions of paragraphs (k)(5)(i) and (k)(5)(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.

(l) Related Information

(1) For more information about this AD, contact Wade Sullivan, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6430; fax: 425-917-6590; email: wade.sullivan@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-66-5680; 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 September 30, 2016.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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