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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-6430; Directorate Identifier 2015-NM-176-AD; Amendment 39-18781; AD 2017-02-02]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2005-13-30, for all The Boeing Company Model 737-100, -200, and -200C series airplanes. AD 2005-13-30 required repetitive inspections to detect discrepancies of certain fuselage skin panels located just aft of the wheel well, and repair if necessary. This new AD adds new fuselage skin inspections for cracking, inspections to detect missing or loose fasteners and any disbonding or cracking of bonded doublers, permanent repairs of time-limited repairs, related investigative and corrective actions if necessary, and skin panel replacement. This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the fuselage skin is subject to widespread fatigue damage (WFD), and reports of cracks at the chem-milled steps in the fuselage skin. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 23, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 23, 2017.

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister 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 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-2016-6430.

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-2016-6430; 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 (phone: 800-647-5527) is Docket 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: Jennifer Tsakoumakis, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2005-13-30, Amendment 39-14167 (70 FR 36829, June 27, 2005) ("AD 2005-13-30"). AD 2005-13-30 applied to all Boeing Model 737-100, -200, and -200C series airplanes. The NPRM published in the Federal Register on May 11, 2016 (81 FR 29202) ("the NPRM"). The NPRM was prompted by an evaluation by the DAH indicating that the fuselage skin is subject to WFD, and reports of cracks at the chem-milled steps in the fuselage skin. The NPRM proposed to require fuselage skin inspections for cracking, inspections to detect missing or loose fasteners and any disbonding or cracking of bonded doublers, permanent repairs of time-limited repairs, related investigative and corrective actions if necessary, and skin panel replacement. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin panels, which could cause rapid decompression of the airplane.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Revise Compliance Time

Boeing requested that we revise paragraph (i)(4) of the proposed AD to specify that the exception to the service information is for airplanes on which an operator has a record that a skin panel was replaced with a production skin panel "before" 59,000 total flight cycles, instead of "at or before" 59,000 total flight cycles, because of limit of validity (LOV) issues. Boeing also requested that we revise the condition statement regarding the time the skin panel was replaced in paragraph (m) of the proposed AD from "after" 59,000 total flight cycles to "at or after" 59,000 total flight cycles; and in paragraphs (m)(1) and (m)(2) of the proposed AD from "at or before" to "before." Boeing explained that if a skin panel is replaced at or after 59,000 total flight cycles, no additional safety inspections would be needed due to the LOV. Boeing stated that upon reaching the LOV the airplane will be retired domestically and no longer supported by Boeing.

Boeing also requested that we revise the compliance time for the skin panel replacement in paragraph (i)(4) of the proposed AD to a time approved by the FAA through the alternative method of compliance (AMOC) process instead of the time specified in the service information. Boeing stated that since a Boeing Commercial Airplanes Organization Designation Authorization (ODA)

representative cannot approve extensions to the compliance times required by an AD, the AMOC approval would have to come from the FAA.

We partially agree with Boeing's requests. We agree to change the identification of the affected airplanes as requested by Boeing in paragraphs (i)(4), (m), (m)(1), and (m)(2) of this AD. These changes will address the LOV issues expressed by Boeing. We do not agree with changing the compliance time from the applicable time for the next inspection as specified in the service information. We have determined that this is an appropriate compliance time and provides an acceptable level of safety. It also provides operators with sufficient information for maintenance planning purposes.

Request To Revise Instructions for Skin Panel Replacement

Boeing requested that we revise paragraph (m) of the proposed AD, which specifies replacing the applicable skin panels and doing all applicable related investigative and corrective actions, with replacing the skin panels in accordance with Part 8 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1065, Revision 3, dated June 30, 2015 ("SASB 737-53-1065, R3").

We agree with replacing the skin panels in accordance with Part 8 of the Accomplishment Instructions of SASB 737-53-1065, R3. Part 8 of the Accomplishment Instructions of SASB 737-53-1065, R3 adequately specifies the required actions. We have revised paragraph (m) of this AD accordingly.

Request To Add Service Information Paragraph Part References

Boeing requested that we revise paragraphs (j)(1)(ii), (j)(2)(ii), and (k) of the proposed AD by adding the service information paragraph part references. Boeing stated that paragraph (h) of the proposed AD includes the part reference.

We do not agree with Boeing's requests. Paragraph (h) of this AD, in part, specifies the specific service information paragraph reference for doing repairs that are terminating action for the repetitive inspections at the repaired locations only. We determined that this reference is needed for clarity. We do not agree that the other references are needed for clarity. We have not changed this AD in this regard.

Request To Clarify Post-modification Airworthiness Limitation Inspections

Boeing requested that we revise paragraph (l) of the proposed AD to specify that table 6 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3 is for post-modification airworthiness limitation inspections at the modified locations. Boeing explained that since airworthiness limitation inspections are required by maintenance and operational rules, it is unnecessary to mandate them in this AD.

We agree with Boeing's request. We have revised paragraph (l) of this AD accordingly.

Request To Revise the NPRM To Address Certain Repaired Areas

For airplanes subject to the requirements of paragraph (h) of the proposed AD, Boeing requested that we add a paragraph that specifies that inspections are not required in areas that are spanned by an FAA-approved repair that has met certain conditions. Boeing submitted specific conditions. Boeing stated that its request is to address elimination of inspections for repairs that have been accomplished for damage other than chem-mill cracking.

We do not agree with Boeing's request. Paragraph (h) of this AD specifies to do the applicable inspections and related investigative and corrective actions specified in the Accomplishment Instructions of SASB 737-53-1065, R3. This service information already contains the criteria Boeing

proposed. Therefore, the criteria do not need to be repeated in this AD. We have not changed this AD in this regard.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed SASB 737-53-1065, R3. The service information describes procedures for inspection and repair of the fuselage skin panels between body station (BS) 727 and BS 1016, and between stringers S-14 and S-25; and also describes procedures for skin panel replacement. 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.

Costs of Compliance

We estimate that this AD affects 9 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection [actions retained from AD 2005-13-30]	Up to 88 work-hours × \$85 per hour = \$7,480 per inspection cycle	\$0	Up to \$7,480 per inspection cycle	Up to \$67,320 per inspection cycle.
Inspection [new action]	Up to 1,914 work-hours × \$85 per hour = \$162,690 per inspection cycle	0	Up to \$162,690 per inspection cycle	Up to \$1,464,210 per inspection cycle.
Skin panel replacement [new action]	688 work-hours × \$85 per hour = \$58,480	96,000	\$154,480	\$1,390,320.

We estimate the following costs to do any necessary repairs that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Time-limited repair	24 work-hours × \$85 per hour = \$2,040	(1)	¹ \$2,040
Permanent repair	43 work-hours × \$85 per hour = \$3,655	(1)	¹ 3,655
Permanent repair inspection	7 work-hours × \$85 per hour = \$595	(1)	¹ 595

¹ We have received no definitive data that will enable us to provide parts cost estimates for the on-condition actions specified in this AD.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

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),
- (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.

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 removing Airworthiness Directive (AD) 2005-13-30, Amendment 39-14167 (70 FR 36829, June 27, 2005), and adding the following new AD:



2017-02-02 The Boeing Company: Amendment 39-18781; Docket No. FAA-2016-6430; Directorate Identifier 2015-NM-176-AD.

(a) Effective Date

This AD is effective March 23, 2017.

(b) Affected ADs

This AD replaces AD 2005-13-30, Amendment 39-14167 (70 FR 36829, June 27, 2005) ("AD 2005-13-30").

(c) Applicability

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

(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 indicating that the fuselage skin is subject to widespread fatigue damage, and reports of cracks at the chem-milled steps in the fuselage skin. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin panels, which could cause rapid decompression of the airplane.

(f) Compliance

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

(g) Actions for Group 1 Airplanes

For Group 1 airplanes identified in Boeing Special Attention Service Bulletin 737-53-1065, Revision 3, dated June 30, 2015 ("SASB 737-53-1065, R3"): Within 120 days after the effective date of this AD, accomplish actions to correct the unsafe condition (e.g., inspections, repairs, modifications, and related investigative and corrective actions) using a method approved in accordance with the procedures specified in paragraph (o) of this AD.

(h) Inspections, Related Investigative and Corrective Actions

Except for Group 1 airplanes identified in SASB 737-53-1065, R3: At the applicable times specified in tables 1 and 2 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3, except as required by paragraphs (i)(1) and (i)(2) of this AD, do the applicable inspections to detect cracks in

the fuselage skin panels; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraphs (i)(3) and (i)(4) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the applicable inspections thereafter at the applicable intervals specified in SASB 737-53-1065, R3. Accomplishment of a repair in accordance with "Part 3: Repair" of the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraph (i)(3) of this AD, is terminating action for the repetitive inspections required by this paragraph at the repaired locations only.

(i) Exceptions to SASB 737-53-1065, R3

(1) Where SASB 737-53-1065, R3 specifies compliance times "after the Revision 3 date of this service bulletin," this AD requires compliance within the specified compliance times after the effective date of this AD.

(2) The Condition column of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3 refers to airplanes in certain configurations as of the "issue date of Revision 3 of this service bulletin." However, this AD applies to airplanes in the specified configurations "as of the effective date of this AD."

(3) Where SASB 737-53-1065, R3 specifies contacting Boeing for repair instructions or work instructions, before further flight, repair or perform the work instructions using a method approved in accordance with the procedures specified in paragraph (o) of this AD, except as required by paragraph (i)(4) of this AD.

(4) For airplanes on which an operator has a record that a skin panel was replaced with a production skin panel before 59,000 total flight cycles: At the applicable time for the next inspection as specified in tables 1 and 2 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3, except as provided by paragraphs (i)(1) and (i)(2) of this AD, perform inspections and applicable corrective actions using a method approved in accordance with the procedures specified in paragraph (o) of this AD.

(j) Actions for Airplanes With a Time Limited Repair Installed

Except for Group 1 airplanes identified in SASB 737-53-1065, R3: Do the applicable actions required by paragraphs (j)(1) and (j)(2) of this AD.

(1) For airplanes with a time limited repair installed as specified in Boeing Special Attention Service Bulletin 737-53-1065, Revision 2, dated April 19, 2001: At the applicable times specified in table 3 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3, except as provided by paragraphs (i)(1) and (i)(2) of this AD, do the actions specified in paragraphs (j)(1)(i) and (j)(1)(ii) of this AD.

(i) Do the applicable inspections to detect missing or loose fasteners and any disbonding or cracking of bonded doublers; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraph (i)(3) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the applicable inspections thereafter at the applicable intervals specified in SASB 737-53-1065, R3.

(ii) Make the time limited repair permanent; and do all applicable related investigative and corrective actions; in accordance the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraph (i)(3) of this AD. Do all applicable related investigative and corrective actions before further flight. Accomplishing the permanent repair required by this paragraph terminates the inspections required by paragraph (j)(1)(i) of this AD for the permanently repaired area only.

(2) For airplanes with a time limited repair installed as specified in SASB 737-53-1065, R3: At the applicable times specified in table 4 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3, do the actions specified in paragraphs (j)(2)(i) and (j)(2)(ii) of this AD.

(i) Do the applicable inspections to detect missing or loose fasteners and any disbonding or cracking of bonded doublers; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraph (i)(3) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the applicable inspections thereafter at the applicable intervals specified in SASB 737-53-1065, R3.

(ii) Make the time limited repair permanent; and do all applicable related investigative and corrective actions; in accordance the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraph (i)(3) of this AD. Do all applicable related investigative and corrective actions before further flight. Accomplishing the permanent repair required by this paragraph terminates the inspections required by paragraph (j)(2)(i) of this AD for the permanently repaired area only.

(k) Modification of Certain Permanent Repairs

Except for Group 1 airplanes identified in SASB 737-53-1065, R3: For airplanes with an existing time limited repair that was made permanent as specified in Boeing Special Attention Service Bulletin 737-53-1065, Revision 2, dated April 19, 2001, at the applicable times specified in table 5 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3, except as required by paragraph (i)(1) of this AD, modify the existing permanent repair; and do all applicable related investigative and corrective actions; in accordance the Accomplishment Instructions of SASB 737-53-1065, R3, except as required by paragraph (i)(3) of this AD. Do all applicable related investigative and corrective actions before further flight.

(l) Post-Modification Inspections

Table 6 of paragraph 1.E., "Compliance," of SASB 737-53-1065, R3 specifies post-modification airworthiness limitation inspections in compliance with 14 CFR 25.571(a)(3) at the modified locations, which support compliance with 14 CFR 121.1109(c)(2) or 129.109(b)(2). As airworthiness limitations, these inspections are required by maintenance and operational rules. It is therefore unnecessary to mandate them in this AD. Deviations from these inspections require FAA approval, but do not require an alternative method of compliance.

(m) Skin Panel Replacement

Except for Group 1 airplanes identified in SASB 737-53-1065, R3: At the later of the times specified in paragraphs (m)(1) and (m)(2) of this AD, replace the applicable skin panels, in accordance with the Part 8 of the Accomplishment Instructions of SASB 737-53-1065, R3. Doing the skin panel replacement required by this paragraph terminates the inspection requirements of paragraph (h) of this AD for that skin panel only, provided the skin panel was replaced with a production skin panel at or after 59,000 total flight cycles.

(1) Before 60,000 total flight cycles, but not before 59,000 total flight cycles.

(2) Within 6,000 flight cycles after the effective date of this AD, but not before 59,000 total flight cycles.

(n) Credit for Previous Actions

This paragraph provides credit for the actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service

Bulletin 737-53-1065, Revision 2, dated April 19, 2001, which was incorporated by reference in AD 2005-13-30.

(o) 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 (p) 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) AMOCs approved previously for AD 2005-13-30, are approved as AMOCs for the corresponding provisions of paragraph (h) of this AD.

(p) Related Information

For more information about this AD, contact Jennifer Tsakoumakis, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

(q) Material Incorporated by Reference

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Special Attention Service Bulletin 737-53-1065, Revision 3, dated June 30, 2015.

(ii) Reserved.

(3) For Boeing 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 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this 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.

(5) You may view this 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on January 11, 2017.
Michael Kaszycki,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.