[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-2462; Directorate Identifier 2014-NM-224-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 adopt a new airworthiness directive (AD) for certain The Boeing Company Model 737-100, -200, -200C, -300, -400, -500 series airplanes. This proposed AD was prompted by reports of cracked antenna support channels, skin cracking underneath the number 2 very high frequency (VHF) antenna, and cracking in the frames attached to the internal support structure. This proposed AD would require repetitive inspections to determine the condition of the skin and the internal support structure, and follow-on actions including corrective action as necessary. We are proposing this AD to detect and correct skin cracking of the fuselage which could result in separation of the number 2 VHF antenna from the airplane and rapid depressurization of the cabin.

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 proposed 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 206-766-5680; 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-2015-2462.

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-2015-2462; 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: Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6447; fax: 425-917-6590; email: wayne.lockett@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-2015-2462; Directorate Identifier 2014-NM-224-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

We have received reports of cracked antenna support channels, skin cracking underneath the number 2 VHF antenna, and cracking in the frames attached to the internal support structure. The cracking is caused when the nose gear is let down, resulting in turbulent airflow around the antenna. The turbulent airflow causes vibration in the antenna, which results in the skin, as well as the internal support structure and frames, to crack due to fatigue. This condition, if not corrected, could result in separation of the antenna from the airplane and rapid depressurization of the cabin.

Related Service Information under 1 CFR part 51

We reviewed Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. The service information describes procedures for repetitive inspections to determine the condition of the skin and the internal support structure, and follow-on actions including corrective action as necessary. 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 of this NPRM.

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 require accomplishing the actions specified in the service information identified previously, except as discussed under "Differences Between this Proposed AD and the Service Information."

Difference between this Proposed AD and the Service Information

Tables 7, 8, and 9 in paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, specify post-modification and post-repair inspections, which may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) of the Federal Aviation Regulations 14 CFR 121.1109(c)(2) or 129.109(b)(2)). However, this NPRM does not propose to require those post-modification and post-repair inspections. This difference has been coordinated with Boeing.

Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions 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.

Explanation of "RC (Required for Compliance)" Steps in Service Information

The FAA worked in conjunction with industry, under the Airworthiness Directive Implementation Aviation Rulemaking Committee (ARC), to enhance the AD system. One enhancement was a new process for annotating which steps in the service information are required for compliance with an AD. Differentiating these steps from other tasks in the service information is expected to improve an owner's/operator's understanding of crucial AD requirements and help provide consistent judgment in AD compliance. The steps identified as RC (required for compliance) in any service information identified previously have a direct effect on detecting, preventing, resolving, or eliminating an identified unsafe condition.

For service information that contains steps that are labeled as Required for Compliance (RC), the following provisions apply: (1) 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, and an alternative method of compliance (AMOC) is required for any deviations to RC steps, including substeps and identified figures; and (2) 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.

Costs of Compliance

We estimate that this proposed AD affects 609 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	33 work-hours X $85 per hour = $2,805 per inspection cycle	$0	$2,805 per inspection cycle	$1,708,245 per inspection cycle

We estimate the following costs to do any necessary [repairs/modifications] that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these repairs/modifications.

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair and Preventive Modification	63 work-hours X $85 per hour = $5,355	$10,432	Up to $15,787

According to the manufacturer, some of the costs of this proposed 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 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 this 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 adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2015-2462; Directorate Identifier 2014 NM-224-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(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 Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports of cracked antenna support channels, skin cracking underneath the number 2 VHF antenna, and cracking in the frames attached to the internal support structure. We are issuing this AD to detect and correct skin cracking of the fuselage that could result in separation of the antenna from the airplane and rapid depressurization of the cabin.

(f) Compliance

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

(g) Inspection and Follow-on Actions: Group 1

For airplanes identified as Group 1 in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: Within 120 days after the effective date of this AD, inspect for cracking at the number 2 VHF antenna location, and do all applicable follow-on actions, using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(h) Inspection and Follow-on Actions: Groups 2 through 6, Configurations 1 through 3

For airplanes identified as Groups 2 through 6, configurations 1 through 3 in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: Within 1,250 flight cycles after the effective date of this AD, do an external detailed inspection for cracking of the fuselage skin, as applicable, and do all corrective actions, in accordance with Part 1 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. Thereafter, at the applicable time specified in paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, except as required by paragraph (l)(1) of this AD: Do all applicable actions specified in paragraphs (h)(1) through (h)(4) of this AD.

(1) Repeat the Part 1 inspection specified in paragraph (h) of this AD until the accomplishment of paragraphs (k)(1) and (k)(2) of this AD, as applicable.

(2) Inspect for cracking at the number 2 VHF antenna location using internal and external detailed inspections, internal and external high frequency eddy current (HFEC) inspections, and an HFEC open-hole inspection, in accordance with Part 2 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. Repeat the inspections until the accomplishment of paragraphs (k)(1) and (k)(2) of this AD, as applicable.

(3) Repair any crack found, in accordance with Part 3 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, except as required by paragraph (l)(2) of this AD.

(4) Do a preventive modification, in accordance with Part 4 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737 53 1159, Revision 1, dated October 20, 2014, except as specified in paragraph (l)(2) of this AD. The accomplishment of this preventive modification terminates the inspections required by paragraphs (g), (g)(1), and (h)(2) of this AD.

(i) Inspection and Follow-on Actions: Groups 3 through 6, Configuration 4

For airplanes identified as Groups 3 through 6, Configuration 4, in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: At the applicable time specified in table 10 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014; Do an external detailed inspection for cracking at the outer row of fasteners common to the internal repair doubler, and do an internal general visual inspection for cracking on the modified internal support structure of the number 2 VHF antenna, skin, and surrounding stringers, channel, and frames, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

(1) If any cracking is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(2) If no cracking is found, repeat the inspections at the time specified in table 10 of paragraph 1.E., "Compliance," of Boeing SB 737-53-1159, Revision 1, dated October 20, 2014.

(j) Post Repair/Post Modification Inspections

For airplanes identified as Group 2, Configuration 1, and Groups 3 through 6, Configurations 1 through 3, in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: The post-repair/post-modification inspections specified in tables 7 through 9 of paragraph 1.E., "Compliance" of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, are not required by this AD.

Note 1 to paragraph (j) of this AD: The post-repair/post-modification inspections specified in tables 7 through 9 of paragraph 1.E., "Compliance" of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) for the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 14 CFR 129.109(b)(2)).

(k) Terminating Action Provisions

The following describes terminating action for the airplane groups and configurations, as identified in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

(1) For airplanes in Group 2, Configuration 2; and Groups 3 through 6, Configuration 2: Accomplishment of the inspections specified in paragraph (h)(2) of this AD terminates the repetitive inspection requirements of paragraph (h)(1) of this AD.

(2) For airplanes in Group 2, Configuration 1, and Groups 3 through 6, Configuration 1, 2, and 3: Accomplishment of the repair specified in paragraph (h)(3) of this AD terminates the repetitive inspections specified in paragraph (h)(1) and (h)(2) of this AD.

(3) For airplanes in Group 2, Configuration 1; and Groups 3 through 6, Configurations 1 and 3: Accomplishment of the preventive modification specified in

paragraph (h)(4) of this AD terminates the initial and repetitive inspections specified in paragraphs (h), (h)(1), and (h)(2) of this AD.

(l) Exception to Service Bulletin Specifications

(1) Where Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014 compliance is "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. Do the inspection, in accordance with the Accomplishment Instructions of the Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

(2) Where Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, specifies to contact Boeing for appropriate action, and specifies that action as "RC" (Required for Compliance): Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(m) 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 (n)(2) of this AD.

(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 required by this AD if it is approved by Boeing Commercial Airplanes

Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) 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) 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. 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 Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6447; fax: 425-917-6590; email: wayne.lockett@faa.gov.

(2) For information on AMOCs, contact Nenita Odesa, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5210; fax: 562-627-5234; email: nenita.odesa@faa.gov.

(3) 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 206-766-5680; 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.

Issued in Renton, Washington on July 10, 2015.

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