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[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2026-1335; Project Identifier AD-2025-00825-T; Amendment 39-23511; AD 2026-22-09]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 787-8, 787-9, and 787-10 airplanes. This AD was prompted by reports that the low range radio altimeter (LRRA) system has an increased rate of non-computed data (NCD) outputs at low altitudes during approach and landing, which could cause unreliable altimeter function. This AD requires replacing the left and right LRRA transmit and receive coaxial cables with larger gauge coaxial cables. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2026-1335; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any

comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

• For Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website myboeingfleet.com.

• You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at regulations.gov under Docket No. FAA-2026-1335.

FOR FURTHER INFORMATION CONTACT: Frank Carreras, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3539; email: Frank.Carreras@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 787-8, 787-9, and 787-10 airplanes. The NPRM was published in the *Federal Register* on February 24, 2026 (91 FR 8794). The NPRM was prompted by reports that the LRRA system has an increased rate of NCD outputs at low altitudes during approach and landing, which could cause unreliable altimeter function. In the NPRM, the FAA proposed to require replacing the left and right LRRA transmit and receive coaxial cables with larger gauge coaxial cables. The FAA is issuing this AD to address unreliable data

output or in-service disruptions of LRRA functions. The unsafe condition, if not addressed, could result in loss of continued safe flight and landing.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from the Air Line Pilots Association, International (ALPA) and Boeing who supported the NPRM without change.

The FAA received additional comments from seven commenters, including Air Canada, American Airlines (American), EVA Air, the Foundation for Aviation Safety, Turkish Airlines, United Airlines (United), and an anonymous commenter. The following presents those comments and the FAA's response.

Request to Reference Revised Service Information

Air Canada and United requested the FAA revise the proposed AD to specify that Boeing Alert Service Bulletin B787-81205-SB340062-00, Issue 002, dated August 11, 2025 (Issue 002 of the Service Bulletin) may be used to accomplish the proposed actions. United noted that Issue 002 of the Service Bulletin corrects the required material kits and consumables and updates the installation instructions.

EVA Air requested that the FAA confirm accomplishment of Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 002, dated August 11, 2025 (Issue 002 of the Requirements Bulletin), is acceptable for compliance with the proposed AD. EVA stated it identified multiple deviations and practical implementation issues with Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024 (Issue 001 of the Requirements Bulletin).

Turkish Airlines requested that the FAA revise the applicability of the proposed AD to reference Issue 002 of the Requirements Bulletin. Turkish Airlines stated that, due to technical problems in Issue 001 of the Requirements Bulletin, it accomplished some

actions using Issue 001 along with approved repair data, and continued implementation using Issue 002 of the Requirements Bulletin.

The FAA agrees that Issue 002 of the Service Bulletin may be used for accomplishing the actions required by this AD. Tables 1 and 2 of the Accomplishment Instructions of Issue 001 of the Requirements Bulletin refer to Issue 001 of the Service Bulletin or "later approved issues" as accepted procedures. Further, the FAA reviewed Issue 002 of the Service Bulletin, which updates work instructions for Group 4 airplanes, revises task tables and illustrations, and updates industry support information without expanding the scope of the AD. Therefore, operators may use the procedures in Issue 002 of the Service Bulletin for compliance with requirements of this AD. The FAA has determined no change to this AD is necessary in regard to Air Canada's and United's requests.

The FAA disagrees with EVA Air's and Turkish Airline's requests. Changes in Issue 002 of the Service Bulletin do not affect the required for compliance (RC) steps in Issue 001 of the Requirements Bulletin. Therefore, Boeing has not released Issue 002 of the Requirements Bulletin. However, as noted in the previous paragraph, later approved issues of the service bulletin provide accepted procedures, and this meets the intent of the requests from EVA Air and Turkish Airlines.

Request to Extend Compliance Time

American, Turkish Airlines, and an anonymous commenter requested that the FAA extend the compliance time of the proposed AD. American stated that Boeing quoted a lead time exceeding 500 days for the required cables, which would shorten the available time to accomplish the proposed requirements. Turkish Airlines stated that it shared its kit needs with Boeing in March 2025 but continued to experience kit supply problems. The anonymous commenter stated that moving the compliance date slightly after the effective date of the final rule would allow operators adequate time to

incorporate the required modifications into scheduled maintenance cycles without unnecessary operational disruption.

The FAA disagrees with extending the compliance time. In developing an appropriate compliance time for this action, the FAA considered the recommendations of the manufacturer, the urgency associated with the subject unsafe condition, the availability of required parts, and the practical aspect of accomplishing the required modification within a period of time that corresponds to the normal scheduled maintenance for most affected operators. Further, the FAA has determined that operators have sufficient time within the 5-year compliance period to accomplish the required coaxial cable installation. However, under the provisions of paragraph (i) of this AD, the FAA will consider requests for approval of an extension of the compliance time if sufficient data are submitted to substantiate that the new compliance time would provide an acceptable level of safety. The FAA has not changed this AD in regard to this comment.

Request to Reduce Compliance Time

The Foundation for Aviation Safety noted that the unsafe condition is critical and questioned whether it is necessary to allow up to five years to accomplish the proposed actions that are estimated to take approximately 28 hours.

As discussed in the previous comment, the FAA has determined that the compliance time, as proposed, represents an appropriate amount of time in which the required actions can be performed in a timely manner within the affected fleet while still maintaining an adequate level of safety. The FAA has not changed this AD in regard to this comment.

Request to Allow Continued Operation Under Visual Flight Rules (VFR)

An anonymous commenter requested that the FAA consider permitting continued operation of affected airplanes on routes where both the departure and arrival airports are

forecasted to maintain VFR conditions, since pilots operating under VFR rely primarily on visual references rather than sole dependence on radio altimeter data during approach and landing. The commenter stated this approach would maintain safety objectives while minimizing economic and scheduling impacts on operators and passengers during the transition period.

The FAA disagrees because the FAA has determined that LRRA coaxial cables must be replaced to address the unsafe condition. The LRRA is needed for everyday operations including continued operation of affected aircraft on routes where both departure and arrival airports are forecast to maintain VFR conditions. Further, this AD does not prohibit operations of the affected airplanes. The FAA has not changed this AD in regard to this comment.

Additional Changes Made to This Final Rule

Issue 002 of the Service Bulletin includes an update to the estimated work-hours. Therefore, the FAA has revised the Costs of Compliance section in this final rule.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024. This material specifies procedures for replacing the existing left and right BMS13-65 Type 0G LRRA transmit and receive coaxial cables with larger gauge Type 0J coaxial cables. This material 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

The FAA estimates that this AD affects 169 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replacement	31 work-hours X $85 per hour = $2,635	$15,170	$17,805	$3,009,045

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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.

The FAA is 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

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) Will not affect intrastate aviation in Alaska, and

(3) 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 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 adding the following new airworthiness directive:

2026-22-09 The Boeing Company: Amendment 39-23511; Docket No. FAA-2026-1335; Project Identifier AD-2025-00825-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 787-8, 787-9, and 787-10 airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024.

(d) Subject

Air Transport Association (ATA) of America Code 34, Navigation.

(e) Unsafe Condition

This AD was prompted by reports that the low range radio altimeter (LRRA) system has an increased rate of non-computed data (NCD) outputs at low altitudes during approach and landing. The FAA is issuing this AD to address unreliable data output or in-service disruptions of LRRA functions. The unsafe condition, if not addressed, could result in loss of continued safe flight and landing.

(f) Compliance

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

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the "Compliance" paragraph of Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin B787-81205-SB340062-00, Issue

01, dated December 23, 2024, which is referred to in Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024.

(h) Exception to Requirements Bulletin Specifications

Where the Compliance Time columns of the tables in the "Compliance" paragraph of Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024, refer to the Issue 001 date of Requirements Bulletin B787-81205-SB340062-00 RB, this AD requires using the effective date of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520, Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) 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 Company Organization Designation Authorization (ODA) that has been authorized by the Manager, AIR-520, Continued Operational Safety Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Additional Information

(1) For more information about this AD, contact Frank Carreras, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3539; email: Frank.Carreras@faa.gov.

(2) Material identified in this AD that is not incorporated by reference is available at the address specified in paragraph (k)(3) this AD.

(k) Material Incorporated by Reference

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

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

(i) Boeing Alert Requirements Bulletin B787-81205-SB340062-00 RB, Issue 001, dated December 23, 2024.

(ii) [Reserved]

(3) For Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website myboeingfleet.com.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA,

visit www.archives.gov/federal-register/cfr/ibr-locations or email

fr.inspection@nara.gov.

Issued on October 27, 2026.

Brian Knaup,
Acting Deputy Director, Integrated Certificate Management Division,
Aircraft Certification Service.
[FR Doc. 2026-22817 Filed: 11/6/2026 8:45 am; Publication Date: 11/9/2026]