



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1497; Project Identifier AD-2023-00516-T]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2019-25-17, which applies to all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes. AD 2019-25-17 requires revising the existing airplane flight manual (AFM) to prohibit selection of certain runways for airplanes equipped with certain software. Since the FAA issued AD 2019-25-17, Boeing has developed new software to address the unsafe condition. This proposed AD would retain the requirements of AD 2019-25-17. This proposed AD would also require installing the new software and performing a software configuration check, which would terminate the AFM revision. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA 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 [regulations.gov](https://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.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1497; 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 NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- 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 90740-5600; telephone 562-797-1717; website myboeingfleet.com.

- You may view this service information 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](https://www.regulations.gov) by searching for and locating Docket No. FAA-2023-1497.

FOR FURTHER INFORMATION CONTACT: Douglas Y. Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3548; email: Douglas.Tsuji@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include

“Docket No. FAA-2023-1497; Project Identifier AD-2023-00516-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Douglas Y. Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3548; email: Douglas.Tsuji@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2019-25-17, Amendment 39-21016 (84 FR 71304, December 27, 2019) (AD 2019-25-17), for all the Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER (Model 737 NG) series airplanes (although the scope of the AD requirements is limited to operation at specific runways in the U.S., Colombia, and Guyana). AD 2019-25-17 was prompted by reports of Display Units (DU) blanking due to Display Electronics Unit (DEU) software errors on Model 737 NG airplanes flying into runway PABR in Barrow, Alaska. The investigation revealed that the problem occurs when a certain combination of software is installed and a susceptible runway with a 270-degree true heading is selected for instrument approach, although only seven runways worldwide have latitude and longitude values that cause the blanking behavior. AD 2019-25-17 requires revising the existing AFM to prohibit selection of certain runways for airplanes equipped with certain software. AD 2019-25-17 was issued to address unscheduled diversions and Boeing Business Jet flights into the affected airports. The software errors and consequent display blanking, if not addressed, could prevent continued safe flight and landing.

Actions Since AD 2019-25-17 Was Issued

The preamble to AD 2019-25-17 specifies that the FAA considers the requirements “interim action” and that the manufacturer is developing a software update to address the unsafe condition. That AD explains that the FAA might consider further rulemaking if a software update is developed, approved, and available. Boeing has developed new software common display system (CDS) DEU operational program software (OPS) block point 2015A, which corrects the DU blanking issue. The FAA has determined that further rulemaking is indeed necessary; this proposed AD follows from that determination.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020. This service information specifies procedures for installing the CDS DEU OPS block point 2015A and performing a software configuration check. 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.

Proposed AD Requirements in this NPRM

This proposed AD would retain all of the requirements of AD 2019-25-17. This proposed AD would also require accomplishing the actions in the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020, already described, except for any differences identified as exceptions in the regulatory text of this proposed AD, and except as specified under "Difference Between Service Information and Proposed AD." Accomplishment of the new actions specified in this proposed AD would terminate the AFM revision required by AD 2019-25-17. For information on the procedures and compliance times, see this service information at regulations.gov under Docket No. FAA-2023-1497.

Difference Between Service Information and Proposed AD

The effectivity of Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020, is limited to Model 737 NG airplanes having certain line numbers. This AD, however, applies to all of these airplanes to ensure that the unsafe condition is addressed on all airplanes subject to the unsafe condition. For

airplanes on which the latest software was installed in production, paragraph (j) of this proposed AD would provide for terminating action for the AFM revision requirements of paragraph (g) of this proposed AD.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 1,739 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Revise AFM (retained action from AD 2019-25-17)	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$147,815
Install software and perform configuration check (new proposed actions)	2 work-hours X \$85 per hour = \$170	Up to \$975	Up to \$1,145	Up to \$1,991,155

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

The FAA has 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) Would not affect intrastate aviation in Alaska, and
- (3) Would 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:

- a. Removing Airworthiness Directive (AD) 2019-25-17, Amendment 39-21016 (84 FR 71304, December 27, 2019), and

- b. Adding the following new AD:

The Boeing Company: Docket No. FAA-2023-1497; Project Identifier AD-2023-00516-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2019-25-17, Amendment 39-21016 (84 FR 71304, December 27, 2019) (AD 2019-25-17).

(c) Applicability

This AD applies to all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 31, Instruments.

(e) Unsafe Condition

This AD was prompted by reports of display electronic unit (DEU) software errors on airplanes with a selected instrument approach to a specific runway. The FAA is proposing this AD to address the potential for all six DUs to blank, which can prevent continued safe flight and landing.

(f) Compliance

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

(g) Retained AFM Revision, with No Changes

This paragraph restates the requirements of paragraph (g) of AD 2019-25-17, with no changes. Within 14 days after December 27, 2019 (the effective date of AD 2019-25-17), revise the Miscellaneous Limitations section of the existing airplane flight manual (AFM) to include the information in figure 1 to paragraph (g) of this AD. This may be done by inserting a copy of figure 1 to paragraph (g) of this AD into the Miscellaneous Limitations section of the existing AFM.

Figure 1 to paragraph (g) – AFM revision

Common Display System	(Required by AD 2019-25-17)
The following is applicable only if configured with CDS BP15 and FMC U12 or later. Do not select the following runways in the FMC ARRIVALS page, as it may result in blanking of all six display units:	
82V RW26	Pine Bluffs, Wyoming, USA
KBJJ RW28	Wayne County, Ohio, USA
KCIU RW28	Chippewa County, Michigan, USA
KCNM RW26	Cavern City, New Mexico, USA
PABR RW25	Barrow, Alaska, USA
SKLM RW28	La Mina, La Guajira, Colombia
SYCJ RW29	Cheddi Jagan, Georgetown, Guyana

(h) Software Update

Except as specified in paragraph (i) of this AD: At the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020.

Note 1 to paragraph (h): Guidance for accomplishing the actions required by paragraph (h) of this AD can be found in Boeing Alert Service Bulletin 737-31A1880, Revision 1, dated September 16, 2020, which is referred to in Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020.

(i) Exceptions to Service Information Specifications

Where the Compliance Time columns of the tables in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020, use the phrase “Within 12 months - after the Revision 1 date of Requirements Bulletin 737-31A1880 RB,” this AD requires using “Within 12 months after the effective date of this AD.”

(j) Terminating Action for AFM Revision

Accomplishment of the actions specified by paragraph (h) of this AD by an operator's entire affected fleet terminates the actions required by paragraph (g) of this AD, and the AFM revision required by paragraph (g) of this AD may be removed from the AFM.

(k) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Requirements Bulletin 737-31A1880 RB, dated April 17, 2020, which is not incorporated by reference in this AD.

(l) Special Flight Permit

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the airplane to a location where the actions required by this AD can be performed, provided the airplane is operated in accordance with the AFM limitation required by paragraph (g) of this AD.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, 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 certification office, send it to the attention of the person identified in paragraph (n)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-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 responsible Flight Standards 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 Company Organization Designation Authorization (ODA) that has been authorized by the Manager, 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.

(n) Related Information

(1) For more information about this AD, contact Douglas Y. Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3548; email: Douglas.Tsuji@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (o)(3) and (4) of this AD.

(o) 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 Alert Requirements Bulletin 737-31A1880 RB, Revision 1, dated September 16, 2020.

(ii) [Reserved]

(3) 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 90740-5600; telephone 562 797 1717; website myboeingfleet.com.

(4) You may view this service information 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 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, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on July 13, 2023.

Victor Wicklund, Deputy Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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