[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1649; Project Identifier AD-2022-00905-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 adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-8 and 747-8F series airplanes. This proposed AD was prompted by a report that all six Integrated Display Units (IDUs) became blank when new flight plan data was entered in the Flight Management System (FMS), and by a determination that indication of decaying airspeed in certain scenarios is required. This proposed AD would require installing updated software. 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. 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 under Docket No. FAA-2023-1649; 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 Westminster 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 Street, 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 by searching for and locating Docket No. FAA-2023-1649.

FOR FURTHER INFORMATION CONTACT: Douglas Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; telephone: 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-2023-1649; Project Identifier AD-2022-00905-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 this 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 NPRM.

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 Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; telephone: 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 has received a report indicating all six IDUs became blank when new flight plan data was entered in the FMS. It was determined that the Jeppesen airport map database (AMDB) had an error in the data structure tied to the Sydney airport (YSSY). The Electronic Flight Instrumentation System (EFIS)/Engine Indicating and Crew

Alerting System (EICAS) Interface Units (EIUs) were unable to process the data structure, resulting in the displays blanking. Jeppesen subsequently fixed the AMDB to address the issue with YSSY and additional airport codes with an incorrect data structure. The current EIU software is unable to process incorrect data structures, which results in an EIU fault that cannot be cleared by the automated reset function of an EIU. After five resets the EIU defaults to shut down, resulting in all six IDUs, which are controlled by the EIUs, becoming blank. The EIU shut down can also result in an autothrottle disconnect and a degraded autopilot mode. The problem can occur on the ground when an airport code with an incorrect data structure in the AMDB is entered as an origin or destination and the flight plan is then put into operation by the FMS. In flight, the problem can occur when an airport code with an incorrect data structure in the AMDB is entered as the selected diversion airport.

Additionally, the existing software does not provide an earlier indication of decaying airspeed during the landing phase for flap settings 25 and 30. The revised software specified in this proposed AD provides an earlier threshold for triggering the low airspeed alerting EICAS Caution message.

This condition, if not addressed, could result in loss of all flight deck displays (Primary Flight Display (PFD)/EICAS/Navigation Display (ND), not including standby displays) combined with potential impact to the autopilot and auto-throttle functionality and lack of crew visibility of any subsequent system failures, which can prevent continued safe flight and landing; it could also result in inadequate alerting of decaying airspeed, unacceptably low airspeed, and loss of control of the airplane.

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 747-31A2544 RB, dated March 31, 2020. This service information specifies procedures for installing Integrated Display System (IDS) 804 software in each of the six LCD IDUs and in each of the three EIUs, if not already installed; followed by installing IDS 805 software, which includes EIU software part number COL3F-0034-E805 and Liquid Crystal Display (LCD) software part number 3177-COL-DL8-05.

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 ADDRESSES section.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the service information already described except for any differences identified as exceptions in the regulatory text of this proposed AD. For information on the procedures and compliance times, see this service information at regulations.gov under Docket No. FAA-2023-1649.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 19 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
Software Installation	Up to 6 work-hours X $85 per hour = Up to $510	Up to $650	Up to $1,160	Up to $22,040

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 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) 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 adding the following new airworthiness directive:

The Boeing Company: Docket No. FAA-2023-1649; Project Identifier AD-2022-00905-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) 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 747-8 and 747-8F series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 747-31A2544 RB, dated March 31, 2020.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a report that all six Integrated Display Units (IDUs) became blank when new flight plan data was entered in the Flight Management System (FMS), and by a determination that indication of decaying airspeed in certain scenarios is required. The FAA is issuing this AD to address problems with the Electronic Flight

Instrumentation System (EFIS)/Engine Indicating and Crew Alerting System (EICAS) Interface Units (EIUs), which control the IDUs. The unsafe condition, if not addressed, could result in loss of all flight deck displays (Primary Flight Display (PFD)/EICAS/Navigation Display (ND), not including standby displays) combined with potential impact to the autopilot and auto-throttle functionality and lack of crew visibility of any subsequent system failures, which can prevent continued safe flight and landing; it could also result in inadequate alerting of decaying airspeed, unacceptably low airspeed, and loss of control of the airplane.

(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 747-31A2544 RB, dated March 31, 2020, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 747-31A2544 RB, dated March 31, 2020.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 747-31A2544, dated March 31, 2020, which is referred to in Boeing Alert Requirements Bulletin 747-31A2544 RB, dated March 31, 2020.

(h) Exceptions to Service Information Specifications

(1) Where the Compliance Time column of the table in the "Compliance" paragraph of Boeing Alert Requirements Bulletin 747-31A2544 RB, dated March 31, 2020, uses the phrase "the original issue date of Requirements Bulletin 747-31A2544 RB," this AD requires using "the effective date of this AD."

(2) For Group 2 airplanes identified in Boeing Alert Requirements Bulletin 747-31A2544 RB, dated March 31, 2020: The concurrent requirements specified in Action 1 of Table 1 of the Accomplishment Instructions of Boeing Alert Requirements Bulletin 747-31A2544 RB, dated March 31, 2020, do not apply.

(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 certification office, send it to the attention of the person identified in paragraph (j) 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, 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) Related Information

For more information about this AD, contact Douglas Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; telephone: 206-231-3548; email: douglas.tsuji@faa.gov.

(k) 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 747-31A2544 RB, dated March 31, 2020.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Boulevard., 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 Street, 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, fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on July 26, 2023.

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

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