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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-2137; Project Identifier AD-2023-00297-T; Amendment 39-22932; AD 2025-01-08]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY:

Federal Aviation Administration (FAA), DOT.

ACTION:

Final rule.

SUMMARY:

The FAA is superseding Airworthiness Directive (AD) 2019-22-02, which applied to all The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes. AD 2019-22-02 required identifying the part number, and the serial number if applicable, of the Captain's and First Officer's seats, and applicable on-condition actions for affected seats. AD 2019-22-02 also required a one-time detailed inspection and repetitive checks of the horizontal movement system (HMS) of the Captain's and First Officer's seats, and applicable on-condition actions. This AD was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. This AD requires the actions in AD 2019-22-02 and adds an inspection of previously omitted part numbers. The FAA is issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective March 19, 2025.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 19, 2025.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2024-2137; 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 Westminister Boulevard, MC 110-SK57, Seal Beach, CA 90740-5600; phone 562-797-1717; websitemyboeingfleet.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-2024-2137.

FOR FURTHER INFORMATION CONTACT:

Courtney Tuck, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone 206-231-3986; email Courtney.K.Tuck@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend [14 CFR part 39](#) to supersede AD 2019-22-02, Amendment 39-19781 ([84 FR 67854](#), December 12, 2019) (AD 2019-22-02). AD 2019-22-02 applied to all The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes. The NPRM published in the **Federal Register** on September 9, 2024 ([89 FR 73014](#)). The NPRM was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. In the NPRM, the FAA proposed to continue to require the actions in AD 2019-22-02 and add an inspection of previously omitted part numbers. The FAA is issuing this AD to address uncommanded fore and aft movement of the Captain's and First Officer's seats. An uncommanded fore or aft seat movement during a critical part of a flight, such as takeoff or landing, could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

Discussion of Final Airworthiness Directive

Comments

The FAA received a comment from the Air Line Pilots Association, International, who supported the NPRM without change.

The FAA received additional comments from United Parcel Service Co. (UPS). The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Correct Service Date

United requested that the date on Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, be corrected to read October 19, 2018. UPS commented that table 1 to paragraph (j) in the proposed AD lists Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, with the incorrect date of October 18, 2018.

The FAA agrees that Boeing Service Bulletin 747-25-3653, Revision 1, called out three times in table 1 to paragraph (j) of this AD, should have the revision date of October 19, 2018, not October 18, 2018. The correct date has been reflected in this AD.

Request To Add Missing Ipeco Service Bulletin Issue to Table 1

UPS requested that all references in table 1 to paragraph (j) in the proposed AD related to IPECO SB 258-25-08 should say "IPECO SB 258-25-08, Issue 4 or later." UPS noted that in table 1 to paragraph (j) in the proposed AD for IPECO P/N 3A258-0041-01-1 or 3A258-0042-01-1, only Issues 5 and 6 of IPECO SB 258-25-08 are identified for installation. Boeing Service Bulletin 747-25-3644, Revision 1, dated July 17, 2018, also listed the accomplishment of IPECO SB 258-25-08, Issue 4, along with Issues 5 and 6. Issues 4, 5, and 6 of this service bulletin all list the same work steps for accomplishment for the IPECO P/N 3A258-0041-01-1 or 3A258-0042-01-1 seats.

The FAA agrees with the request and has included in this AD Ipeco SB 258-25-08, Issue 4, dated April 25, 2014, in Table 1 to paragraph (j) of this AD for Ipeco P/N 3A258-0041-01-1 or 3A258-0042-01-1.

Request To Clarify Intent of Service Bulletin 747-25-3644

UPS stated that paragraph (j) lacks details to ensure the operators understand the intent of table 1 to paragraph (j) in the proposed AD for Service Bulletin 747-25-3644. UPS therefore requested that table 1 to paragraph (j) in the proposed AD state that no further actions are required if the operator has completed either action in the applicable IPECO service bulletin or the performed manual override cable maintenance in accordance with the component maintenance manual.

The FAA disagrees to revise paragraph (j) of this AD. Boeing SB 747-25-3644 Revision 1, dated July 17, 2018, states that if the applicable Ipeco P/N has a serial number identified by the effectivity of the applicable Ipeco service bulletin and the manual override cable maintenance has been completed on the seat in accordance with the Ipeco CMM listed in the table, no further action is required for this seat. The Ipeco service bulletin also state whether the Ipeco service bulletin does not apply to those seats where maintenance logs show that the cables have been inspected, replaced, or adjusted per the applicable CMM. The FAA has not changed this AD as a result of this comment.

Request To Change the Wording in Column Headers

UPS requested that the wording "Installation per Boeing Special Attention SB" and "Installation per IPECO SB" for column headers should be titled "Work Accomplished in accordance with" UPS stated these documents are provided for guidance to the operators on how to comply with a safety issue.

The FAA agrees to change the headings for the first two columns of table 1 to paragraph (j) of this AD to "Actions done in accordance with Boeing Special Attention Service Bulletin" and "Actions done in

accordance with Ipeco Service Bulletin.”

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 Special Attention Service Bulletin 747-25-3644, Revision 2, dated January 27, 2023. This material specifies procedures for identification of the part number, and the serial number if applicable, of the Captain's and First Officer's seats, and applicable on-condition actions. On-condition actions include an inspection of each seat's fore and aft and vertical manual control levers for looseness, installation of serviceable seats, and a seat operational test after any cable adjustment. This material also adds Ipeco seat part numbers 3A258-0041-01-1Z and 3A258-0042-01-1Z.

The FAA also reviewed Boeing Special Attention Service Bulletin 747-25-3653, Revision 2, dated January 27, 2023. This material describes procedures for a detailed inspection and repetitive checks of the HMS (including for any Artus part and amendment numbers of the horizontal actuator of the HMS) for the Captain's and First Officer's seats for findings (e.g., evidence of cracks, scores, corrosion, dents, deformation, or visible wear; and incorrectly assembled microswitch assemblies, actuators, and limit switches), and applicable on-condition actions. The on-condition actions include clearing the seat tracks of foreign object debris (FOD), overhauling the HMS, and replacing the horizontal actuator. This material also describes procedures for an optional terminating action for the repetitive checks by installing a serviceable Captain's or First Officer's seat.

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

Estimated Costs for Required Actions per Seat

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Identification, seat (retained actions from AD 2019-22-02)	1 work-hour × \$85 per hour = \$85	\$0	\$85	Up to \$117,980.
Detailed inspection, HMS (retained actions from AD	1 work-hour × \$85 per hour = \$85	0	\$85	\$27,540.

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
2019-22-02)				
Checks, HMS (retained actions from AD 2019-22-02)	2 work-hours × \$85 per hour = \$170 per check cycle	0	\$170 per check cycle	\$55,080 per check cycle.

The FAA estimates the following costs to do any necessary on-condition actions that will be required. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated Costs of On-Condition Actions *

Action	Labor cost	Parts cost	Cost per product
Adjustment, control lever cable	1 work-hour × \$85 per hour = \$85	\$0	\$85.
Overhaul, HMS	11 work-hours × \$85 per hour = \$935	Up to \$5,824	Up to \$6,759.
Inspection of each seat's fore/aft and vertical manual control levers	1 work-hour × \$85 per hour = \$85 per seat	\$0	\$85 per seat.
Installation of serviceable seats	1 work-hour × \$85 per hour = \$85 per seat	\$0	\$85 per seat.
Clearing FOD	1 work-hour × \$85 per hour = \$85 per seat	\$0	\$85 per seat.
Replacement of the horizontal actuator	1 work-hour × \$85 per hour = \$85 per actuator	\$7,937 per actuator	\$8,022 per actuator.
Operational test, adjusted control lever cable	1 work-hour × \$85 per hour = \$85 per seat	\$0	\$85 per seat.

* The estimated cost for tooling to align an affected seat for adjustment of the control lever cable is up to \$46,064.

The FAA has received no definitive data that would enable the FAA to provide cost estimates for the optional terminating action for the repetitive checks specified in this AD.

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:

- a. Removing Airworthiness Directive (AD) 2019-22-02, Amendment 39-19781 ([84 FR 67854](#), December 12, 2019) (AD 2019-22-02); and
- b. Adding the following new AD:

(a) Effective Date

This airworthiness directive (AD) is effective March 19, 2025.

(b) Affected ADs

This AD replaces AD 2019-22-02, Amendment 39-19781 ([84 FR 67854](#), December 12, 2019) (AD 2019-22-02).

(c) Applicability

This AD applies to all The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 25, Equipment/furnishings.

(e) Unsafe Condition

This AD was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. The FAA is issuing this AD to address uncommanded fore and aft movement of the Captain's and First Officer's seats. The unsafe condition, if not addressed, could result in an uncommanded fore or aft seat movement during a critical part of a flight, such as takeoff or landing, and could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

(f) Compliance

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

(g) Seat Part Number Identification and On-Condition Actions

Except as specified by paragraphs (i) and (j) of this AD: At the applicable times specified in the "Compliance" paragraph of Boeing Special Attention Service Bulletin 747-25-3644, Revision 2, dated January 27, 2023, do an inspection to determine the part number, and serial number as applicable, of the Captain's and First Officer's seats, and all applicable on-condition actions identified in, and in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-25-3644, Revision 2, dated January 27, 2023. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number and serial number of the Captain's and First Officer's seats can be conclusively determined from that review.

(h) Detailed Inspection, and Repetitive Checks of Horizontal Movement System and On-Condition Actions

Except as specified by paragraph (i) and (j) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Special Attention Bulletin 747-25-3653, Revision 2, dated January 27, 2023, do all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Bulletin 747-25-3653, Revision 2, dated January 27, 2023. Actions identified as terminating action in Boeing Special Attention Service Bulletin 747-25-3653, Revision 2, dated January 27, 2023, terminate the applicable required actions of this AD, provided the terminating action is done in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-25-3653, Revision 2, dated January 27, 2023.

(i) Exceptions to Service Information Specifications

(1) Where the “Compliance” paragraph of Boeing Special Attention Bulletin 747-25-3653, Revision 2, dated January 27, 2023, refers to the original issue date of this bulletin, this AD requires using January 16, 2020 (the effective date of AD 2019-22-02).

(2) Where the “Compliance” paragraph of Boeing Special Attention Bulletin 747-25-3644, Revision 2, dated January 27, 2023, refers to 72 months after the original issue date of this service bulletin, this AD requires using 36 months after January 16, 2020 (the effective date of AD 2019-22-02).

(3) Where the “Compliance” paragraph of Boeing Special Attention Bulletin 747-25-3644, Revision 2, dated January 27, 2023, refers to the Revision 2 date of this service bulletin, this AD requires using the effective date of the AD.

(j) Acceptable Conditions for Compliance

If the airplane records show that an Ipeco Captain's or First Officer's seat meets all criteria specified in any row in table 1 to paragraph (j) of this AD, the actions specified in paragraphs (g) and (h) of this AD are not required for that seat.

Table 1 to Paragraph (j) – Alternative Acceptable Seats

Actions done in accordance with Boeing Special Attention Service Bulletin —	Actions done in accordance with Ipeco Service Bulletin—	Having Ipeco P/N—	And additional required conditions—
747-25-3644, Revision 1, dated July 17, 2018	None	3A258-0041-01-2 or 3A258-0042-01-2	No additional conditions required.
747-25-3644, Revision 1, dated July 17, 2018	097-25-02, Issue 1, dated October 2, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020	3A090-0027-01-1 or 3A090-0028-01-1	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-10-94, Revision 10, dated September 13, 2019, or

Actions done in accordance with Boeing Special Attention Service Bulletin —	Actions done in accordance with Ipeco Service Bulletin—	Having Ipeco P/N—	And additional required conditions—
			subsequent revisions up to and including Revision 15, dated August 10, 2021.
747-25-3644, Revision 1, dated July 17, 2018	107-25-03, Issue 1, dated October 2, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020	3A090-0055-01-1 or 3A090-0056-01-1	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-10-97, Revision 14, dated December 5, 2013, and subsequent revisions up to and including Revision 22, dated March 19, 2021.
747-25-3644, Revision 1, dated July 17, 2018	112-25-02, Issue 1, dated November 4, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 18, 2020; or Issue 4, dated May 7, 2021	3A090-0065-01-1 or 3A090-0066-01-1	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-11-01, Revision 9, dated September 20, 2013, and subsequent revisions up to and including Revision 18, dated December 19, 2021.
747-25-3644, Revision 1, dated July 17, 2018	209-25-02, Issue 1, dated November 13, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020	3A090-0075-01-1 or 3A090-0076-01-1	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-11-32, Revision 4, dated September 27, 2013, and subsequent revisions up to and including Revision 9, dated July 23, 2020.
747-25-3644, Revision 1, dated July 17, 2018	211-25-04, Issue 1, dated November 4, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020	3A090-0079-01-1 or 3A090-0080-01-1	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-10-79, Revision 23, dated September 5, 2013, and subsequent revisions up to and including Revision 31, dated July 23, 2020.
747-25-3644, Revision 1, dated	212-25-03, Issue 1, dated November 4,	3A090-0081-01-1 or	The manual override cable maintenance has been completed

Actions done in accordance with Boeing Special Attention Service Bulletin —	Actions done in accordance with Ipeco Service Bulletin—	Having Ipeco P/N—	And additional required conditions—
July 17, 2018	2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020	3A090-0082-01-1	on the seat in accordance with the Ipeco Component Maintenance Manual 25-10-80, Revision 9, dated September 27, 2013, and subsequent revisions up to and including Revision 15, dated July 23, 2020.
747-25-3644, Revision 1, dated July 17, 2018	258-25-08, Issue 4, dated April 25, 2014; or Issue 5, dated March 4, 2020; or Issue 6, dated January 28, 2021	3A258-0041-01-1 or 3A258-0042-01-1	Does not have a serial number identified by the effectivity of the referenced Ipeco Service Bulletins.
747-25-3644, Revision 1, dated July 17, 2018	258-25-08, Issue 4, dated April 25, 2014; or Issue 5, dated March 4, 2020; or Issue 6, dated January 28, 2021	3A258-0041-01-1 or 3A258-0042-01-1	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-11-38, Revision 21, dated December 12, 2013, or subsequent revisions up to and including Revision 53, dated December 4, 2023.
747-25-3644, Revision 1, dated July 17, 2018	258-25-08, Issue 6, dated January 28, 2021	3A258-0041-01-1Z or 3A258-0042-01-1Z	Does not have a serial number identified by the effectivity of the referenced Ipeco Service Bulletin.
747-25-3644, Revision 1, dated July 17, 2018	258-25-08, Issue 6, dated January 28, 2021	3A258-0041-01-1Z or 3A258-0042-01-1Z	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25-11-38, Revision 21, dated December 12, 2013, or subsequent revisions up to and including Revision 53, dated December 4, 2023.

Actions done in accordance with Boeing Special Attention Service Bulletin —	Actions done in accordance with Ipeco Service Bulletin—	Having Ipeco P/N—	And additional required conditions—
747-25-3653, Revision 1, dated October 19, 2018	None	3A258-0041-01-2, 3A258-0041-01-1Z, 3A258-0042-01-2 or 3A258-0042-01-1Z	No additional conditions required.
747-25-3653, Revision 1, dated October 19, 2018	258-25-13, Issue 3, dated November 27, 2017; or Issue 4, dated April 28, 2020, or Issue 5; dated November 1, 2021	3A258-0041-01-1 or 3A258-0042-01-1	Has a horizontal actuator with Artus part number AD8650503 at “Amendment C” or later.
747-25-3653, Revision 1, dated October 19, 2018	258-25-14, Issue 4, dated January 29, 2018; or Issue 5, dated April 28, 2020	3A258-0041-01-1 or 3A258-0042-01-1	Has a horizontal actuator with Artus part number AD8650503 at “Amendment C” or later.

(k) 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 (l) of this AD. Information may be emailed to: AMOC@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.

(4) AMOCs approved for AD 2019-22-02 are approved as AMOCs for the corresponding provisions of Boeing Special Attention Service Bulletin 747-25-3644, Revision 2, dated January 27, 2023, and

Boeing Special Attention Service Bulletin 747-25-3653, Revision 2, dated January 27, 2023, that are required by paragraphs (g) and (h) of this AD.

(5) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(5)(i) and (ii) of this AD 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. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. 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.

(l) Related Information

For more information about this AD, contact Courtney Tuck, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone 206-231-3986; email Courtney.K.Tuck@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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 Special Attention Service Bulletin 747-25-3644, Revision 2, dated January 27, 2023.

(ii) Boeing Special Attention Service Bulletin 747-25-3653, Revision 2, dated January 27, 2023.

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

(4) You may view this material 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 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 January 29, 2025.

Suzanne Masterson,

Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.

BILLING CODE 4910-13-P

Superseded