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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-40-AD; Amendment 39-13635; AD 2004-10-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-400, 747-400D, 747-400F, 757-200, 757-200PF, 757-200CB, 767-200, 767-300, and 767-300F Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing transport category airplane models, as listed above. This amendment requires a modification of the air data computer (ADC) system, which involves installing certain new circuit breakers, relays, and related components, and making various wiring changes in and between the flight deck and main equipment center. For certain airplanes, this amendment also requires accomplishment of various other actions prior to or concurrently with the modification of the ADC system. For certain airplanes, this amendment also contains an option that will extend the compliance time to accomplish the modification of the ADC system. This action is necessary to ensure that the flightcrew is able to silence an erroneous overspeed or stall aural warning. A persistent erroneous warning could confuse and distract the flightcrew and lead to an increase in the flightcrew's workload. Such a situation could lead the flightcrew to act on hazardously misleading information, which could result in loss of control of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective June 22, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 22, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

FOR FURTHER INFORMATION CONTACT: Elizabeth Zurcher, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6495; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing transport category airplane models was published in the Federal Register on July 17, 2003 (68 FR 42317). That action proposed to require a modification of the air data computer (ADC) system, which involves installing certain new circuit breakers, relays, and related components, and making various wiring changes in and between the flight deck and main equipment center. For certain airplanes, that action also proposed to require accomplishment of various other actions prior to or concurrently with the modification of the ADC system.

Actions Since Issuance of the Proposed Rule

- Since issuance of the proposed rule, we have reviewed and approved the following Boeing 757-34A0222, Revision 1, dated July 17, 2003 (for Model 757-200, -200PF, and -200CB series airplanes), which describes procedures for installing a circuit breaker and replacing an existing lightplate assembly with a new, improved lightplate assembly in the flight compartment; installing two relays and removing a certain relay in the main equipment center; making various wiring changes in the flight compartment and main equipment center; and performing tests of the flight data acquisition unit, flight data recorder system, and stall and overspeed warnings. These changes are intended to allow the flightcrew to silence an erroneous aural overspeed or stall warning by switching away from a failed ADC that is generating the warning. This service bulletin specifies that Boeing Service Bulletin 757-31-0059 must be accomplished either previously or concurrently. We have revised this final rule to include reference to Revision 1 of the service bulletin as the appropriate source of service information for the required modification (for Model 757-200, -200PF, and -200CB series airplanes).

- 767-34A0332, Revision 1, dated April 24, 2003 (for Model 767-200, -300, and -300F series airplanes), which describes procedures for modifying the air data switching system and doing a system functional test. These changes are intended to allow the flightcrew to silence an erroneous aural overspeed or stall warning by switching away from a failed ADC that is generating the warning. This service bulletin specifies that Boeing Service Bulletins 767-31-0091, 767-31-0098, 767-31-0099, 767-31-0100, or 767-31-0101, as applicable, must be accomplished either previously or concurrently. We have revised this final rule to include reference to Revision 1 of the service bulletin as the appropriate source of service information for the required modification (for Model 767-200, -300, and -300F series airplanes). Revision 1 of the service bulletin contains an increase in the work hour estimate for the change and test from 55 to 124 work hours.

We also have reviewed and approved the following Boeing special attention service bulletins:

- 747-31-2313, Revision 1, dated September 26, 2002 (for Model 747-400, -400D, and -400F series airplanes), which describes procedures for changing the termination of two wires on the MAWEA card file and for performing an operational test.
- 757-31-0068, Revision 1, dated August 29, 2002 (for Model 757-200, -200CB, and -200PF series airplanes), which describes procedures for changing two wires in wire bundle W1451 at the P51 warning electronics card file panel and for performing an operational test.
- 767-31-0149, Revision 1, dated November 7, 2002 (for Model 767-200, -300, and -300F series airplanes), which describes procedures for changing the wire termination on the left and right siren owl amplifier modules in the P51 warning electronics unit and for performing an operational test.

We have revised the final rule to reference these Boeing special attention service bulletins as the appropriate source of service information for the optional interim measure that has been added to the final rule.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Request To Extend Compliance Time

Several commenters request that the compliance time for modification that is specified in the proposed AD be extended from 24 months to compliance times that range between 42 to 72 months. The commenters cite significant out-of-service costs and logistical impact associated with a 24-month compliance time requirement. Some commenters suggest that there are FAA-approved service instructions (i.e., Boeing Special Attention Service Bulletin 747-31-2313, Revision 1, dated September 26, 2002; Boeing Special Attention Service Bulletin 757-31-0068, Revision 1, dated August 29, 2002; and Boeing Special Attention Service Bulletin 767-31-0149, Revision 1, dated November 7, 2002) that could be incorporated to allow flightcrews to silence aural overspeed warnings as an interim action. They propose that the FAA add an option to accomplish the interim action within 12 or 18 months and then accomplish the modification within 60 or 72 months after the effective date of the AD.

The FAA agrees with the commenters that operators could experience significant out-of-service cost and logistical impacts associated with a 24-month compliance time. We also agree that an optional interim action be added to allow flightcrews to silence aural overspeed warnings as specified in the Boeing special attention service bulletins described earlier. We find that, if the optional interim action is accomplished within 18 months, the required modification can be accomplished within 72 months after the effective date of this final rule and will maintain an acceptable level of safety without an additional burden to the operators. Therefore, we have added an option so that operators may accomplish the required modification in one of two ways:

1. Accomplish the required modification as originally proposed within 24 months after the effective date of the final rule; or

2. Accomplish the interim action specified in the applicable Boeing special attention service bulletin within 18 months after the effective date of the final rule and accomplish the required modification specified in the applicable Boeing service bulletin within 72 months after the effective date of the final rule. The following table lists the applicable service bulletins for the interim measure and required modification.

TABLE—APPLICABLE SERVICE BULLETINS

Boeing Service Bulletin	Model
Special Attention Service Bulletin 747-31-2313, Revision 1, dated September 26, 2002	747
Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001	747
Special Attention Service Bulletin 757-31-0068, Revision 1, dated August 29, 2002	757
Service Bulletin 757-34A0222, Revision 1, dated July 17, 2003	757
Special Attention Service Bulletin 767-31-0149, Revision 1, dated November 7, 2002	767
Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003	767

Accordingly, we have revised the final rule by adding the new compliance times to paragraph (a) of the final rule, adding the optional interim action as new paragraph (b) of the final rule, and moving the requirements for the modification (specified in paragraph (a) of the proposed AD) to paragraph (c) of the final rule.

Request for an Alternative Method of Compliance (AMOC) to the Proposed AD

One commenter requests that an AMOC be considered. The commenter states that its safety management has not identified the inability to silence an erroneous warning as a potential safety issue and questions if the severity of the failure and probability of an event justify the compliance time of the proposed AD. The commenter contends that the compliance time of 24 months will be costly and cause logistical and supply problems. The commenter suggests that AMOCs such as a flightcrew drill would be a way to maintain an acceptable level of safety without requiring the AD.

We do not agree that the flightcrew drill suggested by the commenter would be an acceptable AMOC primarily because it requires tripping circuit breakers, which is against standard practice and could result in the loss of other necessary airplane systems. However, under the provisions of paragraph (h) of the final rule, we may consider requests for approval of an AMOC if sufficient data are submitted to substantiate that such an AMOC would provide an acceptable level of safety. No change is necessary to the final rule in this regard.

Request To Withdraw the Proposed AD

One commenter states that, if there is a low frequency of erroneous audio warnings and an acceptable flightcrew drill is available to cancel the warnings, then it is questionable whether the proposed AD is required to maintain an acceptable level of compliance.

We infer from the commenter's statement that the commenter requests to withdraw the proposed AD. We do not agree with the request to withdraw the proposed AD. We find that sufficient data exist to demonstrate that an erroneous aural warning that cannot be silenced may cause the flightcrew to act based on misleading information. We consider this condition unsafe since it could result in incidents in which flightcrew actions based on hazardously misleading information result in loss of control of the airplane. We find that modification of the ADC system, as required by this AD, will adequately address the unsafe condition. No change is necessary to the final rule in this regard.

Request To Remove "Parts Installation" Paragraph

One commenter requests to remove the "Parts Installation" paragraph (paragraph (c) of the proposed AD). The commenter contends that paragraph (c) of the proposed AD is redundant to AD 96-07-09, amendment 39-9588 (61 FR 14608, April 3, 1996), which advises flightcrews to monitor the engine indication and crew alerting system (EICAS) for "status" level messages pertaining to impending engine fuel filter bypass and requires installation of upgraded EICAS computers.

We do not agree that paragraph (e) of the final rule (specified in paragraph (c) of the proposed AD) should be removed. Paragraph (c) of the proposed AD is not redundant to AD 96-07-09. AD 96-07-09 requires the installation of certain computers, while the intent of paragraph (e) of the final rule is to prevent an identified unsafe condition from being introduced into the fleet. However, we do find that the parts listed in Boeing Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001, may be used after the effective date of the final rule with an acceptable level of safety until the required modification. Therefore, we have removed Boeing Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001, from paragraph (e) of the final rule.

Request To Revise Compliance Time in "Parts Installation" Paragraph

One commenter requests that the compliance time of the "Parts Installation" paragraph (paragraph (c) of the proposed AD) be revised to "as of 24 months after the effective date of the AD." The commenter notes that the compliance time specified in paragraph (c) of the proposed AD implies that no "Existing Part Number" may be installed upon the effective date of the AD. The commenter states that this indicates existing parts are no longer useable immediately upon the effective date of the AD, regardless of the airplane modification status. The commenter believes the paragraph should state that existing parts could no longer be used following incorporation of the various service bulletins, not to exceed 24 months after the effective date of the AD.

We do not agree to revise the compliance time of paragraph (e) of the final rule (specified in paragraph (c) of the proposed AD). In general, once we have determined that an unsafe condition exists, our normal policy specifies not to allow that condition to be introduced into the fleet. In developing the technical information on which every AD is based, we consider the availability of spare parts that the AD will require to be installed. When we have determined that those (spare) parts are immediately available to operators, our policy prohibits installation of the unsafe parts after the effective date of the AD. However, as stated previously, we have removed Boeing Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001, from paragraph (e) of the final rule as its parts may be used after the effective date of the final rule with an acceptable level of safety until the modification required by this AD is accomplished. No additional change is made in this regard.

Request To Use Latest Versions of Certain Service Bulletins

Several commenters request that the proposed AD be revised to reference the latest versions of certain service bulletins, i.e., Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003; and Boeing Service Bulletin 757-34A0222, Revision 1, dated July 17, 2003. The commenters also request that earlier versions of these service bulletins be clearly stated as acceptable for accomplishment of the applicable actions.

We agree with the commenters that the latest revisions of the two service bulletins stated above should be referenced in this AD. Since the proposed AD was issued, Boeing has revised these two service bulletins and the FAA has approved both service bulletins. The new revisions correct minor errors relating to the position of the available ground studs and length of wiring only. Therefore, we also agree that previous incorporation of the original version of the service bulletins is acceptable for accomplishment of the applicable actions. We have revised the final rule to reference Boeing Service Bulletins 757-34A0222, Revision 1, dated July 17, 2003; and 767-34A0332, Revision 1, dated April 24, 2003; as appropriate sources of service information and have revised the applicability of the final rule to reference these service bulletins. There is no change in the airplane variable numbers in the effectivity of the service bulletins. However, operators should note that the estimated number of work hours for Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003, has been revised from 55 to 124 work hours to more accurately reflect the time required for the change/test. The manufacturer based its estimate of the work hours in the original service bulletin on a simple airplane configuration. Because most operators have more complex airplane configurations, Revision 1 of the service bulletin shows a revised estimate of 124 work hours for the change/test. Accordingly, we have revised the "Cost Impact" paragraph of the final rule.

Request To Refer to Later Revision of a Certain Service Bulletin

One commenter requests that the proposed AD refer to a later revision of a certain service bulletin. The commenter states that the proposed AD refers to Boeing Alert Service Bulletin 767-34A0332, dated January 10, 2002, and that they have received Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003. The commenter contends that Revision 1 of the service

bulletin has many deviations from their actual airplane configuration. The commenter states that they have asked Boeing to release a revised service bulletin and they were informed Boeing would issue Revision 2 of the service bulletin in late 2003. The commenter recommends that we refer to Revision 2 of the service bulletin in order for operators to accomplish the proposed AD smoothly.

We do not agree to refer to Revision 2 of Boeing Service Bulletin 767-34A0332. Revision 2 of the service bulletin has not been issued and Boeing does not expect to issue Revision 2 until late 2004. We cannot refer to a document that we have not reviewed and approved. We also cannot use the phrase, "or later FAA-approved revisions," in an AD when referring to the service document because doing so violates Office of the Federal Register (OFR) regulations for approval of materials "incorporated by reference" in rules. In general terms, we are required by these OFR regulations to publish either the service document contents as part of the actual AD language; or to submit the service document to the OFR for approval as "referenced" material, in which case we may only refer to such material in the text of an AD. The AD may refer to the service document only if the OFR approved it for "incorporation by reference." To allow operators to use later revisions of the referenced document (issued after publication of the AD), either we must revise the AD to reference specific later revisions, or operators must request approval to use later revisions as an alternative method of compliance with this AD under the provisions of paragraph (h) of this AD. No change is made to the final rule in this regard.

Request To Clarify Intent of Prior/Concurrent Actions

One commenter requests that the intent of the proposed AD, with respect to prior/concurrent service bulletin actions, be clarified by revising paragraph (b) of the proposed AD and adding a new paragraph after paragraph (b)(2) of the proposed AD. The commenter states the software versions specified in the service bulletins listed in Tables 2 and 3 of the proposed AD are outdated and have been revised many times since the service bulletins were issued. The commenter points out the proposed AD, as written, would require a reversion to older software and hardware. The commenter recommends revising paragraph (b) of the proposed AD to state "* * * accomplish paragraph (b)(1), (b)(2), or (b)(3) of this AD," and adding new paragraph (b)(3) as follows: "No additional work is necessary on airplanes that have been previously accomplished per the actions specified in Tables 2 and 3. Subsequent software and hardware changes made after implementation of service bulletins specified in Tables 2 and 3 are considered acceptable when accomplished per a later FAA-approved document."

We agree with the commenter that previous accomplishment of "prior/concurrent" service bulletins is acceptable for compliance. However, we do not agree with the commenter that the "proposed AD, as written, would require a reversion to older software and hardware." As stated in new paragraph (d) of the final rule (specified in paragraph (b) of the proposed AD), the actions in (d)(1) or (d)(2) of the final rule are to be accomplished "prior to or concurrently" with accomplishment of paragraph (c) of the final rule (specified in paragraph (a) of the proposed rule). Therefore, no more work is necessary on airplanes that previously accomplished the actions specified in Tables 2 and 3 of the final rule. We also do not agree with the commenter that software and hardware changes made per a later FAA-approved document be added as acceptable for compliance. When referencing a specific service bulletin in an AD, using the phrase, "or later FAA-approved document," violates Office of the Federal Register regulations for approving materials that are incorporated by reference. However, affected operators may request approval to use a later FAA-approved document as an alternative method of compliance, under the provisions of paragraph (h) of the final rule. No change to the final rule is necessary in this regard.

Request To Confirm Use of AMOC for Operator's Equivalent Procedures (OEPs)

One commenter requests confirmation that the use of OEPs will require AMOC approval and requests a name and address for AMOC submittal.

We do confirm that the use of OEPs requires AMOC approval as specified in paragraph (f) of the final rule (specified in paragraph (d) of the proposed AD): "An operator's "equivalent procedure" cannot be used unless the operator receives FAA approval for that procedure according to paragraph (h) of this AD." Requests for AMOCs should be sent to the Manager of the Seattle Aircraft Certification Office at the address listed in the "For Further Information Contact" paragraph in the preamble of this final rule. No change to the final rule is necessary in this regard.

Requests To Remove Certain Service Bulletins From the Proposed AD

One commenter requests that Boeing Service Bulletin 767-31-0101 be removed from Table 3 of the proposed AD. The commenter notes that Table 1 of the proposed AD specifies that Model 767-200 series airplanes listed in Boeing Service Bulletin 767-34A0332 are part of the applicability of the proposed AD. However, paragraph (b)(2) of the proposed AD specifies that all services bulletins listed in Table 3 must be accomplished prior to or concurrently with the actions required by paragraph (a) of the proposed AD. The commenter states that the wording in paragraph (b)(2) of the proposed AD will mandate accomplishment of Boeing Service Bulletin 767-31-0101 for Model 767-200 series airplanes that are not part of the applicability of the proposed AD as listed in Table 1. The commenter adds that its Model 767-200 series airplanes, which are listed in Service Bulletin 767-31-0101, are not part of the applicability of the proposed AD. The commenter contends that the primary intent of the proposed AD is to accomplish the service bulletins listed in Table 1 of the proposed AD and to accomplish concurrent requirements for airplanes that are part of the Table 1 applicability.

We do not agree with the commenter's request to remove Boeing Service Bulletin 767-31-0101 from Table 3 of the final rule. Although the commenter does not have airplanes listed in Service Bulletin 767-31-0101 that are part of the applicability of the final rule, there are Model 767-200 series airplanes for other operators affected by this final rule. We also do not agree that the wording in paragraph (b)(2) of the proposed AD (specified in paragraph (d)(2) of the final rule) will mandate accomplishment of Boeing Service Bulletin 767-31-0101 for Model 767-200 series airplanes that are not part of the applicability of this final rule. The intent of the AD is to accomplish the service bulletins listed in Table 1 of the AD and to accomplish concurrent requirements only on airplanes that are part of the Table 1 applicability. Paragraph (d)(2) of the final rule (specified in paragraph (b)(2) of the proposed rule) does not mandate accomplishment of the service bulletins listed in Tables 2 and 3 of the final rule for all the airplanes listed in the effectivity of the listed service bulletins, because the applicability of the final rule takes precedence over the effectivity listed in any service bulletin. Because the applicability statement in all AD actions lists all airplanes affected by that AD, all of the requirements stated in an AD are applicable only to the airplanes listed in the applicability, unless otherwise specified in the AD. However, we have revised the wording in paragraph (d)(2) of the final rule (specified in paragraph (b)(2) of the proposed rule) for clarity.

One commenter requests that all references to Boeing Service Bulletin 757-31-0059 be removed from the proposed AD. We infer from the commenter that it contends the references to Service Bulletin are redundant to AD 96-07-09, which was described previously under the heading "Request to Remove `Parts Installation' Paragraph."

We do not agree with the request to remove all references to Boeing Service Bulletin 757-31-0059 from the final rule. While Service Bulletin 757-31-0059 is related to AD 96-07-09, that AD does not require accomplishment of Service Bulletin 757-31-0059. Therefore, Boeing Service Bulletin 757-31-0059 is a required "prior to/concurrent" service bulletin for this final rule. No change is made to the final rule in this regard.

Request To Clarify Modification Steps in Paragraph (a)(3) of the Proposed AD

One commenter requests that paragraph (a)(3) of the proposed AD be clarified to indicate which steps are required for the modification. The commenter believes the intent of paragraph (a)(3) of the

proposed AD might be unclear because only certain steps of the Accomplishment Instructions of Boeing Alert Service Bulletin 767-34A0332 are listed. The commenter suggests revising paragraph (a)(3) of the proposed AD to read: "For Model 767-200, -300, and -300F series airplanes: Modify the air data switching system and do a systems functional test according to Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003."

We agree that paragraph (c)(3) of the final rule (specified in paragraph (a)(3) of the proposed AD) should be clarified to indicate which steps are required for the modification. Although we used wording referring only to the major steps of the service bulletin in the proposed AD, it was our intent to require all the steps of the service bulletin. Accordingly, we have revised paragraph (c)(3) of the final rule (specified in paragraph (a)(3) of the proposed AD) to state "For Model 767-200, -300, and -300F series airplanes: Modify the air data switching system and do a system functional test, according to Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003."

Request To Revise "Cost Impact" Paragraph

Two commenters contend that it would take 250 work hours per airplane to accomplish the proposed AD due to the access time required and the time to accomplish the wiring modifications (the proposed AD estimates 175 work hours for 747 series airplanes, 112 work hours for the 757 series airplanes, and 105 work hours for the 767 series airplanes). One commenter also notes that it has extensive "power-off" requirements for its 757 and 767 series airplanes. The other commenter states that for all 747, 757, and 767 series airplanes, the proposed AD also does not include costs for disturbed system checks, which it estimates at a minimum of 96 additional work hours.

We infer from the commenters that they request the "Cost Impact" paragraph of the proposed AD be revised. We do not agree. As stated previously under the heading "Request to Use Latest Versions of Certain Service Bulletins," we have revised the "Cost Impact" paragraph of the final rule for Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003, by revising the work hours from 55 to 124, to reflect more accurately the time required for the change/test. Our estimates typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. Disturbed system checks are part of close up and ensure that the airplane is in an airworthy condition, as required by the Federal Aviation Regulations and are not included in the cost estimate for the final rule. No additional changes are necessary to the final rule in this regard.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 1,872 airplanes of the affected designs in the worldwide fleet. The FAA estimates that 36 Model 747-400, -400D, and -400F series airplanes; 639 Model 757-200, -200CB, and -200PF series airplanes; and 244 Model 767-200, -300, and -300F series airplanes; of U.S. registry will be affected by this AD. Estimates of the costs to accomplish the required actions are provided in the following table:

TABLE—COST ESTIMATE FOR REQUIRED SERVICE BULLETINS

Boeing Service Bulletin—	Work hours Per airplane—	Hourly labor Rate (dollars)	Parts cost per airplane—	Cost per airplane—(dollars)
747-31-2163	2	65	None	130
747-31-2178	5	65	None	325
747-31-2179	2	65	None	130
747-31-2180	2	65	None	130
747-31-2217	2	65	None	130
747-34A2460	158	65	\$1,448– \$1,735	11,718– 12,005
747-45-2005	2	65	None	130
747-45-2010	2	65	None	130
757-31-0059	5	65	None	325
757-34A0222	107	65	\$12,571– \$12,953	19,526– 19,908
767-31-0091	7	65	None	455
767-31-0098	5	65	None	325
767-31-0099	24	65	None	1,560
767-31-0100	8	65	None	520
767-31-0101	6	65	None	390
767-34A0332	124	65	\$9,988– \$11,167	18,048– 19,227

We estimate that the total cost to accomplish all actions that are required for all airplanes affected by this AD may be as much as \$18,878,215.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Estimates of the costs to accomplish the optional interim actions are provided in the following table:

TABLE—COST ESTIMATE FOR OPTIONAL SERVICE BULLETINS

Boeing Service bulletin—	Work hours Per airplane—	Hourly labor rate—(dollars)	Parts cost per airplane—	Cost per airplane—(dollars)
747-31-2313	1	65	None	65
757-31-0068	2	65	None	130
767-31-0149	1	65	None	65

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-10-05 Boeing: Amendment 39-13635. Docket 2003-NM-40-AD.

Applicability: Airplanes as listed in Table 1 of this AD, certificated in any category. Table 1 of this AD follows:

TABLE 1—APPLICABILITY

Airplane Model—	As Listed in Boeing Service Bulletin—
747-400, 747-400D, 747-400F series airplanes.	Boeing Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001.
757-200, 757-200PF, 757-200CB series airplanes.	Boeing Service Bulletin 757-34A0222, Revision 1, dated July 17, 2003.
767-200, 767-300, and 767-300F series airplanes.	Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003.

Compliance: Required as indicated, unless accomplished previously.

To ensure that the flightcrew is able to silence an erroneous overspeed or stall aural warning, accomplish the following:

Compliance Times

(a) Except as provided by paragraph (a)(3) of this AD, do the actions specified in either paragraph (a)(1) or (a)(2) of this AD at the times specified in paragraphs (a)(1) and (a)(2) of this AD, as applicable.

(1) Within 24 months after the effective date of this AD, do the actions specified in paragraph (c) of this AD.

(2) Within 18 months after the effective date of this AD, do the actions in paragraph (b) of this AD; and within 72 months after the effective date of this AD, do the actions specified in paragraph (c) of this AD; except as provided by paragraph (a)(3) of this AD.

(3) Model 747-400, -400D, and -400F series airplanes equipped with three air data computers (ADCs) are required to accomplish paragraph (a)(1) of this AD.

Optional Interim Action

(b) Change the termination of the wires and perform an operational test, according to the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-31-2313, Revision 1, dated September 26, 2002 (for Model 747-400, -400D, and -400F series airplanes); Boeing Special Attention Service Bulletin 757-31-0068, Revision 1, dated August 29, 2002 (for Model 757-200, -

200CB, and -200PF series airplanes); and Boeing Special Attention Service Bulletin 767-31-0149, Revision 1, dated November 7, 2002 (for Model 767-200, -300, and -300F series airplanes); as applicable.

Modification of Air Data Computer (ADC) System

(c) Modify the ADC system, as specified in paragraph (c)(1), (c)(2), or (c)(3) of this AD, as applicable.

(1) For Model 747-400, -400D, and -400F series airplanes: Re-route wires associated with ADC overspeed warnings, replace the P1-1 and P3-1 module assemblies in the flight deck with improved module assemblies, install various wires in and between the flight deck and main equipment center of the airplane, and perform a test of the source select module and a system functional test, according to the Accomplishment Instructions of Boeing Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001.

Note 1: Boeing Service Bulletin 747-34A2460, Revision 2, refers to Boeing Component Service Bulletins 233U2200-31-01 and 233U2205-31-01, both dated April 20, 1995, as additional sources for instructions to change the ADC computer source select switch on the P1-1 and P3-1 panels, respectively.

(2) For Model 757-200, -200PF, and -200CB series airplanes: Install a circuit breaker and replace an existing lightplate assembly with a new, improved lightplate assembly in the flight compartment; install two relays and remove a certain relay in the main equipment center; make various wiring changes in the flight compartment and main equipment center; and perform tests of the flight data acquisition unit, flight data recorder system, and stall and overspeed warnings. Do these actions according to the Accomplishment Instructions of Boeing Service Bulletin 757-34A0222, Revision 1, dated July 17, 2003.

(3) For Model 767-200, -300, and -300F series airplanes: Modify the air data switching system and do a system functional test, according to the Accomplishment Instructions of Boeing Service Bulletin 767-34A0332, Revision 1, dated April 24, 2003.

Actions Required To Be Accomplished Prior to or Concurrently With Paragraph (c) of This AD

(d) Prior to or concurrently with accomplishment of paragraph (c) of this AD, accomplish paragraph (d)(1) or (d)(2) of this AD, as applicable.

(1) For Boeing Model 747-400, -400D, and -400F series airplanes: Do the actions specified in Table 2 of this AD, as applicable. Table 2 of this AD follows:

**TABLE 2.—BOEING MODEL 747-400, -400D, AND -400F SERIES AIRPLANES—
PRIOR/CONCURRENT ACTIONS**

For airplanes listed in—	Accomplish all actions associated with—	According to the Accomplishment Instructions of—
Boeing Service Bulletin 747-31-2179, dated May 26, 1994.	Replacing the three Electronic Flight Information System (EFIS)/Engine Indicating and Crew Alerting System (EICAS) interface units (EIU) in the main equipment center with improved EIUs and installing new software in six integrated display units (IDU) and three EIUs.	Boeing Service Bulletin 747-31-2179, dated May 26, 1994.

Boeing Service Bulletin 747-31-2180, dated March 17, 1994.	Replacing the three EIUs in the main equipment center with improved EIUs and installing new software in six IDUs and three EIUs.	Boeing Service Bulletin 747-31-2180, dated March 17, 1994.
Boeing Service Bulletin 747-31-2217, dated May 19, 1994.	Installing new software in six IDUs and three EIUs	Boeing Service Bulletin 747-31-2217, dated May 19, 1994.
Boeing Service Bulletins 747-31-2217, dated May 19, 1994; and 747-31-2178, dated July 1, 1993.	Replacing three EIUs with improved EIUs and installing new software in six IDUs and three EIUs.	Boeing Service Bulletin 747-31-2178, dated July 1, 1993.
Boeing Service Bulletins 747-31-2217, dated May 19, 1994; and 747-45-2005, dated February 8, 1990.	Replacing certain central maintenance computers (CMCs) with improved CMCs, modifying related wiring, and modifying the data loader control panel.	Boeing Service Bulletin 747-45-2005, dated February 8, 1990.
Boeing Service Bulletins 747-31-2217, dated May 19, 1994; and 747-45-2010, dated December 17, 1992.	Installing new software in the CMC	Boeing Service Bulletin 747-45-2010, dated December 17, 1992.
Boeing Service Bulletins 747-31-2217, dated May 19, 1994; and 747-31-2163, dated February 14, 1991.	Installing new software in six IDUs and three EIUs	Boeing Service Bulletin 747-31-2163, dated February 14, 1991.

Replacement of EICAS Computers

(2) For airplanes listed in Table 1 of this AD that are also identified in any of the service bulletins listed in Table 3 of this AD: Prior to or concurrently with accomplishment of the actions required by paragraph (c) of this AD, accomplish all actions associated with replacing the existing EICAS computers with improved EICAS computers, according to the Accomplishment Instructions of the applicable service bulletin specified in Table 3 of this AD. The actions include performing an EICAS readout comparison to ensure that the applicable software is used; replacing the existing EICAS computers with new, improved EICAS computers that can be upgraded with certain software; and making related wiring changes. Table 3 of this AD follows:

TABLE 3.—SERVICE BULLETINS FOR REPLACEMENT OF EICAS COMPUTERS

Boeing Service Bulletin (all including Appendices A, B, and C)—	Service bulletin revision level—	Service bulletin date—
757-31-0059	Revision 3	March 29, 2001.
767-31-0091	Revision 3	April 27, 2000.
767-31-0098	Revision 2	October 21, 1999.
767-31-0099	Revision 3	February 8, 2001.
767-31-0100	Revision 2	July 29, 1999.
767-31-0101	Original	July 6, 2000.

Parts Installation

(e) As of the effective date of this AD, no person may install, on any airplane, a part having a part number listed in the "Existing Part Number" column of the table under paragraph 2.E. of Boeing Alert Service Bulletins 757-31-0059, Revision 3, dated March 29, 2001; 767-31-0091, Revision 3, dated April 27, 2000; 767-31-0098, Revision 2, dated October 21, 1999; 767-31-0099, Revision 3, dated February 8, 2001; 767-31-0100, Revision 2, dated July 29, 1999; or 767-31-0101, dated July 6, 2000; or under paragraph II.D. of Boeing Service Bulletins 747-31-2163, dated February 14, 1991; 747-31-2178, dated July 1, 1993; 747-31-2179, dated May 26, 1994; 747-31-2180, dated March 17, 1994; 747-45-2005, dated February 8, 1990; or 747-45-2010, dated December 17, 1992.

Operator's "Equivalent Procedure"

(f) Where Boeing Alert Service Bulletin 747-34A2460, Revision 2, dated June 14, 2001; and Boeing Service Bulletin 757-34A0222, Revision 1, dated July 17, 2003; specify that certain actions may be accomplished per an operator's "equivalent procedure": These actions must be accomplished per the chapter of the applicable Boeing 747 or 757 Airplane Maintenance Manual specified in the applicable service bulletin. An operator's "equivalent procedure" cannot be used unless the operator receives FAA approval for that procedure according to paragraph (h) of this AD.

Actions Accomplished Per Previous Issue of Service Bulletins

(g) Actions accomplished before the effective date of this AD per Boeing Alert Service Bulletin 757-34A0222, dated March 28, 2002; and Boeing Alert Service Bulletin 767-34A0332, dated January 10, 2002; are considered acceptable for compliance with the corresponding actions specified in this AD.

Alternative Methods of Compliance

(h) In accordance with 14 CFR 39.19, the Manager, Seattle Aircraft Certification Office, FAA, is authorized to approve alternative methods of compliance for this AD.

Incorporation by Reference

(i) Unless otherwise specified in this AD, the actions shall be done in accordance with the service information included in Table 4, as follows:

TABLE 4.—SERVICE BULLETINS INCORPORATED BY REFERENCE

Boeing Service Bulletins	Revision	Date
Alert Service Bulletin 747-34A2460	2	June 14, 2001.
Service Bulletin 747-31-2163	Original	February 14, 1991.
Service Bulletin 747-31-2178	Original	July 1, 1993.
Service Bulletin 747-31-2179	Original	May 26, 1994.
Service Bulletin 747-31-2180	Original	March 17, 1994.
Service Bulletin 747-31-2217	Original	May 19, 1994.
Service Bulletin 747-45-2005	Original	February 8, 1990.
Service Bulletin 747-45-2010	Original	December 17, 1992.
Service Bulletin 757-31-0059, including Appendices A, B, and C	3	March 29, 2001.
Service Bulletin 757-34A0222	1	July 17, 2003.
Service Bulletin 767-31-0091, including Appendices A, B, and C	3	April 27, 2000.

Service Bulletin 767-31-0098, including Appendices A, B, and C	2	October 21, 1999.
Service Bulletin 767-31-0099, including Appendices A, B, and C	3	February 8, 2001.
Service Bulletin 767-31-0100, including Appendices A, B, and C	2	July 29, 1999.
Service Bulletin 767-31-0101, including Appendices A, B, and C	Original	July 6, 2000.
Service Bulletin 767-34A0332	1	April 24, 2003.
Special Attention Service Bulletin 747-31-2313	1	September 26, 2002.
Special Attention Service Bulletin 757-31-0068	1	August 29, 2002.
Special Attention Service Bulletin 767-31-0149	1	November 7, 2002.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Effective Date

(j) This amendment becomes effective on June 22, 2004

Issued in Renton, Washington, on May 5, 2004.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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