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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2015-7525; Directorate Identifier 2015-NM-064-AD; Amendment 39-18727; AD 2016-25-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 747-400, 747-400D, and 747-400F series airplanes; Model 757 airplanes; and Model 767-200, -300, -300F, and -400ER series airplanes. This AD was prompted by reports of uncommanded autopilot engagement events resulting in incorrect stabilizer trim adjustment during takeoff. This AD requires, depending on the model/configuration, installing an on-ground stabilizer autotrim inhibit system, relays and related wiring to open and close the flight control computer (FCC) analog output, and new operational program software (OPS) into the FCCs. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective January 31, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of January 31, 2017.

**ADDRESSES:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone: 206-544-5000, extension 1; fax: 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-7525.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-7525; or in person at the Docket Management Facility between 9

a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Fnu Winarto, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6659; fax: 425-917-6590; email: fnu.winarto@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 747-400, 747-400D, and 747-400F series airplanes; Model 757 airplanes; and Model 767-200, -300, -300F, and -400ER series airplanes. The NPRM published in the Federal Register on December 23, 2015 (80 FR 79735) ("the NPRM"). The NPRM was prompted by reports of uncommanded autopilot engagement events resulting in incorrect stabilizer trim adjustment during takeoff. The NPRM proposed to require, depending on the model/configuration for Model 747 airplanes, installing an on-ground stabilizer autotrim inhibit system, doing routine functional testing of the system, and doing corrective actions if necessary; for Model 757 airplanes and Model 767 airplanes, installing relays and related wiring to open and close the FCC analog output that controls the stabilizer trim adjustment, doing routine functional testing of the on-ground auto stabilizer trim inhibit system, and doing corrective actions if necessary; and for Model 767-300, and -300F series airplanes, installing new OPS into the FCCs. We are issuing this AD to prevent stabilizer mistrim, which could result in a high-speed rejected takeoff and runway overrun, or reduced controllability of the airplane after takeoff due to insufficient pitch control.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Support for the NPRM**

The Airline Pilots Association, International stated that it fully supports the intent of the NPRM.

### **Requests To Withdraw the NPRM**

United Parcel Service (UPS) requested that the NPRM be withdrawn until the actual root cause of the unsafe condition can be determined and a validated and confirmed solution is developed.

FedEx Express (FedEx) requested that we withdraw the NPRM. FedEx stated that the burden of the actions proposed in the NPRM is not justified based on data presented in Boeing Fleet Team Digest 757-FTD-22-12001 or its operational experience. FedEx believes this is an extremely isolated and unlikely anomaly on the Model 757 fleet. FedEx stated that it operates over 100 Model 757 aircraft and has completed over 210,000 flight cycles with no reports of uncommanded autopilot engagement.

We disagree with the commenters' request to withdraw the NPRM. The quantitative and qualitative risks analyzed for this identified unsafe condition present an unacceptable risk that must be addressed on both passenger and freighter models. The manufacturer also considers the condition

a safety issue and has developed an on-ground stabilizer autotrim inhibit system that addresses the unsafe condition. We have determined that it is necessary to proceed with issuance of this AD.

### **Requests To Clarify Root Cause**

Boeing requested that we revise the Discussion section of the NPRM. Boeing acknowledged that the root cause is unknown, but requested that we revise the speculation that "the erroneous autopilot engage request is believed to have come from the mode control panel (MCP) and to have been caused by contamination within the MCP." Boeing requested that we instead indicate that possible failures in the autopilot flight director system can cause an uncommanded engagement of the autopilot. Boeing stated that the revised statement would be less speculative.

We partially agree with the commenter's request. We agree that the revised statement would be less speculative. However, since the pertinent part of the Discussion section is not repeated in this final rule, no change is necessary to this final rule.

One commenter, Geoffrey Barrance, requested that we take immediate action to require examination for contamination of all MCPs on all affected airplanes. Mr. Barrance stated that the exposure to the problem will persist until all (or some critical part) of the actions specified by the NPRM are completed.

We do not agree with the commenter's request. As stated above, the manufacturer and the FAA agree that pointing to MCP contamination as the root cause is speculative. We concur with the manufacturer's conclusion that the on-ground stabilizer autotrim inhibit system of this AD mitigates possible failures in the autopilot flight director system. The compliance times specified in this AD are established to ensure an acceptable level of risk. We have not changed this final rule in this regard.

### **Request To Revise SUMMARY**

Boeing requested that we revise the SUMMARY of the NPRM to describe the specific Model 767 airplanes identified in the applicability of this AD, rather than using the term "Model 767 airplanes." Boeing stated that this will clarify that the applicability will not apply to future Model 767 series airplanes, such as the Model 767-2C, which will be designed to inhibit autopilot engagement on the ground with the flaps down, preventing the unsafe condition addressed by the NPRM.

We agree with the commenter's request. In the SUMMARY of this final rule we refer to "certain" airplanes, and we identify the subgroup of Model 767 airplanes by referring to the effectivity of the service information in paragraph (c) of this AD. We are not including future production airplanes in the applicability of this AD.

### **Request To Clarify Differences Between NPRM and Service Information**

United Airlines (UAL) requested that we revise the NPRM to specify using Boeing Special Attention Service Bulletin 747-22-2256, Revision 1, dated January 6, 2016 ("SASB 747-22-2256 R1"), and that we give credit for Boeing Special Attention Service Bulletin 747-22-2256, dated March 6, 2015.

We agree with UAL's request. We have revised paragraphs (c)(1) and (g) of this AD to specify using SASB 747-22-2256 R1, as an appropriate source of service information for accomplishing the required actions in these paragraphs. SASB 747-22-2256 R1 specifies doing functional testing of the automatic stabilizer trim inhibit system. Since paragraph (g) of the proposed AD specified doing the functional testing of the automatic stabilizer trim inhibit, there is no increase in the economic burden on any operator or increase of the scope of this AD. We added credit for using Boeing Special Attention Service Bulletin 747-22-2256, dated March 6, 2015, to paragraph (k) of this AD.

EVA Airways (EVA) requested that we consider the complexity of Boeing Special Attention Service Bulletin 747-22-2256, dated March 6, 2015, and noted that Boeing Information Notice 747-

22-2256 IN 02, dated June 10, 2015, has been issued to revise Boeing Special Attention Service Bulletin 747-22-2256, dated March 6, 2015.

We agree with the commenter's request. As previously stated, we have revised this AD to specify SASB 747-22-2256 R1 as an appropriate source of service information. This service information has incorporated the information in Boeing Information Notice 747-22-2256 IN 02, dated June 10, 2015. No further change is necessary in this regard in this final rule.

Boeing requested that we delete the "Differences Between this Proposed AD and the Service Information" section in the NPRM, which stated that, for Model 747 airplanes, the proposed AD would require doing post-modification routine functional testing of the on-ground stabilizer auto trim inhibit system, and corrective actions if necessary, at intervals not to exceed 1,500 flight hours. Boeing stated that SASB 747-22-2256 R1 now includes the functional testing of the on-ground stabilizer auto trim inhibit system.

We agree with Boeing that SASB 747-22-2256 R1 specifies doing the functional testing of the on-ground auto stabilizer trim inhibit system specified in "Differences Between this Proposed AD and the Service Information" in the NPRM, and in paragraph (i) of this AD. However, the "Differences Between this Proposed AD and the Service Information" section is not repeated in this final rule. We have not changed this final rule in this regard.

### **Effect of Winglets on Accomplishment of the Proposed Actions**

Aviation Partners Boeing (APB) stated that the installation of winglets per Supplemental Type Certificate (STC) ST01518SE does not affect the accomplishment of the manufacturer's service instructions.

We agree with APB that STC ST01518SE does not affect the accomplishment of the manufacturer's service instructions for Model 757 airplanes. Therefore, the installation of STC ST01518SE does not affect the ability to accomplish the actions required by this AD for Model 757 airplanes. Therefore, we have not changed this AD in this regard.

### **Requests To Address Airplanes Equipped With Aviation Partners Boeing (APB) Winglets**

All Nippon Airways (ANA), American Airlines (AA), APB, Boeing, Thompson Airways, UAL, and UPS requested that we revise the NPRM to address the Model 767 airplanes equipped with winglets installed under APB STC ST01920SE. The commenters explained that the Model 767 equipped with APB winglets have a different compliance time and modification specified in APB Service Bulletin AP767-22-005, Revision 1, dated June 16, 2015 ("SB AP767-22-005 R1"), than those that have not been modified by the APB STC.

We agree with the commenters' requests to revise this AD to address Model 767 airplanes equipped with APB winglets. The Model 767-300 and -300F series airplanes identified in Boeing Special Attention Service Bulletin 767-22-0143, Revision 1, dated July 6, 2015 ("SASB 767-22-0143 R1"), that have been modified with the installation of APB winglets are identified in SB AP767-22-005 R1.

We have revised applicability paragraph (c)(3) of this AD to exclude Model 767-300 and -300F series airplanes that are identified in SB AP767-22-005 R1. We have added a new paragraph (c)(5) to this AD to include Model 767-300 and -300F series airplanes with winglets installed per STC ST01920SE having part number (P/N) 2276-COL-AF2-03 installed, as identified in APB Service Bulletin AP767-22-005, dated May 8, 2015; or SB AP767-22-005 R1.

We have redesignated paragraph (j) of the proposed AD as paragraph (j)(1) of this AD and added paragraph (j)(2) to this AD to require the actions specified in SB AP767-22-005 R1, for Model 767 airplanes that are identified in paragraph (c)(5) of this AD. These actions were previously proposed in the NPRM; therefore, there is no increase in scope of the requirements of this AD and no supplemental comment period is necessary. We have also added paragraph (j)(3) to this AD which

states that, for airplanes identified in paragraph (c)(5) of this AD, no additional action is required by this AD.

### **Requests To Reference Revised Service Information and Provide Credit**

AIRDO Company, ANA, Boeing, British Airways, Thomson Airways, and UAL requested that we revise the NPRM to specify using Boeing Special Attention Service Bulletin 757-22-0096, Revision 1, dated February 8, 2016 ("SASB 757-22-0096 R1"); Boeing Special Attention Service Bulletin 767-22-0143, Revision 2, dated May 25, 2016 ("SASB 767-22-0143 R2"); certain Boeing Information Notices that provide revisions to the service information; and to provide credit for actions using the previous issues of service information.

We agree with the commenters' requests to reference the revised service information, which incorporates the revisions in the Boeing Information Notices, and to provide credit. This service information incorporates small editorial changes and requires no additional work on airplanes that have had prior revisions of this service information accomplished on them. We have revised paragraphs (c)(2) and (h) of this AD to reference SASB 757-22-0096 R1. We have revised paragraphs (c)(3) and (i) of this AD to reference SASB 767-22-0143 R2. In paragraph (k) of this AD, we have added credit for previous actions using Boeing Special Attention Service Bulletin 757-22-0096, dated March 23, 2015; and Boeing Special Attention Service Bulletin 767-22-0143, Revision 1, dated July 6, 2015.

### **Request To Approve Alternative Method of Compliance (AMOC)**

AAL requested that we approve SB AP767-22-005 R1, or later FAA-approved revisions, as an AMOC to the NPRM requirements. AAL also requested that we approve later FAA-approved revisions to the service information in the NPRM.

We do not agree with the commenter's requests. As stated previously, we have included SB AP767-22-005 R1 as a source of service information in this AD. AMOCs provide an alternative method of compliance to the methods required to be used in the associated AD. An AMOC is issued only after an AD has been issued and only after data are provided to show that the proposed alternative adequately addresses the unsafe condition.

Referring to specific service information in an AD and using the phrase "or later FAA-approved revisions" violates Office of the Federal Register regulations for approving materials that are incorporated by reference. However, operators may request approval to use a later revision of the referenced service information as an AMOC, under the provisions of paragraph (l) of this AD. We have not changed this AD in this regard.

### **Requests To Revise Compliance Times**

AAL, AIRDO Company, FedEx, British Airways, EVA Airways, Thomson Airways, and UAL requested that we revise the NPRM compliance times. The revision requests for the Model 747 airplanes 24-month compliance time range from 48 months to 60 months to the next scheduled heavy airplane check. The revision requests for the Model 757 airplanes 24-month compliance time range from 36 months to 48 months. The revision requests for the Model 767 airplanes 24-month compliance time is 36 months. UAL requested that operators installing the APB winglets in the near future, have 24 months instead of 16 months after the effective date of the AD to comply with the AD requirements. The commenters requested the compliance time changes to accommodate maintenance schedules, parts availability, and airplane down times.

We do not agree with the commenters' compliance time requests. In developing appropriate compliance times, we considered the safety implications, normal maintenance schedules for timely accomplishment of the modification, and parts availability. In light of these items, we have determined that the compliance times, as proposed, represent the maximum interval of time allowable

for the affected airplanes to continue to safely operate before the modification is done. In addition, since maintenance schedules vary among operators, there would be no assurance that the airplane would be modified during that maximum interval. The manufacturer has concurred with the compliance times as proposed. We have not changed this final rule in this regard. However, under the provisions of paragraph (l) of this AD, we will consider requests for approval of an extension of the compliance time if sufficient data are submitted to substantiate that the new compliance time would provide an acceptable level of safety. We have not changed this final rule in this regard.

### **Request To Conduct Compliance Time Risk Assessment**

Mr. Geoffrey Barrance requested that we do a risk assessment and probability safety analysis in setting the compliance time. Mr. Barrance stated that steps must be immediately taken to assess whether the specified compliance time is adequate to keep the fleet risk within proper limits.

We agree with the commenter. We have done an assessment of the risk posed by the identified unsafe condition. The compliance times following the effective date of this AD were determined to be appropriate. The manufacturer has concurred with the compliance times as proposed. No change to this final rule is needed in this regard.

### **Request To Revise Airplane Checklist**

Mr. Geoffrey Barrance requested that, until the modification of any specific airframe has been accomplished, we include an additional step in the pre-flight checklist to check that the stabilizer is in the correct position.

We agree that this step is necessary. However, the existing pre-flight checklist already requires checking the stabilizer position prior to departure. Therefore, no change is needed to this AD in this regard.

### **Request To Revise Cost Estimate**

UAL requested that we revise the cost estimate to reflect the additional financial burden imposed on the operator in order to comply with the NPRM. UAL stated that the compliance times do not coincide with UAL's maintenance intervals for heavy aircraft checks. UAL explained that, as a result, it will need to take a number of airplanes out of service for several days.

We do not agree with the commenter's request. In establishing the requirements of all ADs, we consider the cost impact to operators for parts and labor costs. We attempt to set compliance times that generally coincide with operators' maintenance schedules where possible in consideration of the safety risk. However, because operators' schedules vary substantially, we cannot accommodate every operator's optimal scheduling in each AD. Each AD has an allowable provision for individual operators to obtain approval for extensions of compliance times, based on a showing that the extension provides an acceptable level of safety. We have not changed this AD regarding this issue.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

## Related Service Information Under 1 CFR part 51

We reviewed the following service information. These documents are distinct since they apply to different airplane models in different configurations.

- SB AP767-22-005 R1. This service information describes procedures for modifying relays and wiring to open and close the FCC analog output that controls the stabilizer trim adjustment, and doing functional testing.
- SASB 747-22-2256 R1. This service information describes procedures for installing an on-ground stabilizer autotrim inhibit system, and doing functional testing.
- SASB 757-22-0096 R1. This service information describes procedures for modifying relays and wiring to open and close the FCC analog output that controls the stabilizer trim adjustment, and doing functional testing.
- SASB 767-22-0143 R2. This service information describes procedures for modifying relays and wiring to open and close the FCC analog output that controls the stabilizer trim adjustment, and doing functional testing.
- Boeing Special Attention Service Bulletin 767-22-0146, Revision 1, dated June 25, 2015. This service information describes procedures for installing new OPS into the FCCs.

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.

## Costs of Compliance

We estimate that this AD affects 1,220 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Model 747 series airplane modification (136 airplanes)	123 work-hours × \$85 per hour = \$10,455	\$2,714	\$13,169	\$1,790,984.
Model 747 series airplane functional test (136 airplanes)	4 work-hours × \$85 per hour = \$340	0	\$340 per test	\$46,240 per test.
Model 757 series airplane modification (678 airplanes)	83 work-hours × \$85 per hour = \$7,055	3,236	\$10,291	\$6,977,298.
Model 757 series airplane functional test (678 airplanes)	3 work-hours × \$85 per hour = \$255 per test	0	\$255 per test	\$172,890 per test.
Model 767 series airplane modification (406 airplanes)	121 work-hours × \$85 per hour = \$10,285	6,076	\$16,361	\$6,642,566.
Model 767 series airplane software modification (23 airplanes)	1 work-hour × \$85 per hour = \$85	0	\$85	\$1,955.
Model 767 series airplane functional test (406 airplanes)	5 work-hours × \$85 per hour = \$425 per test	0	\$425 per test	\$172,550 per test.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all available costs in our cost estimate.

We have received no definitive data that will enable us to provide cost estimates for the on-condition actions 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.

We are 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) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):





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**2016-25-01 The Boeing Company:** Amendment 39-18727; Docket No. FAA-2015-7525; Directorate Identifier 2015-NM-064-AD.

**(a) Effective Date**

This AD is effective January 31, 2017.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company airplanes, certificated in any category, identified in paragraphs (c)(1) through (c)(5) of this AD.

(1) Model 747-400, 747-400D, and 747-400F series airplanes, as identified in Boeing Special Attention Service Bulletin 747-22-2256, Revision 1, dated January 6, 2016 ("SASB 747-22-2256 R1").

(2) Model 757-200, -200PF, -200CB, and -300 series airplanes, as identified in Boeing Special Attention Service Bulletin 757-22-0096, Revision 1, dated February 8, 2016 ("SASB 757-22-0096 R1").

(3) Model 767-200, -300, -300F, and -400ER series airplanes, as identified in Boeing Special Attention Service Bulletin 767-22-0143, Revision 2, dated May 25, 2016 ("SASB 767-22-0143 R2"), except those Model 767-300 and -300F series airplanes with winglets installed in accordance with Supplemental Type Certificate (STC) ST01920SE ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/59027f43b9a7486e86257b1d006591ee/Body/0.48A!OpenElement&FieldElemFormat=gif](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/59027f43b9a7486e86257b1d006591ee/Body/0.48A!OpenElement&FieldElemFormat=gif)), and that are identified in Aviation Partners Boeing (APB) Service Bulletin AP767-22-005, Revision 1, dated June 16, 2015 ("SB AP767-22-005 R1").

(4) Model 767-300 and -300F series airplanes, as identified in Boeing Special Attention Service Bulletin 767-22-0146, Revision 1, dated June 25, 2015 ("SASB 767-22-0146 R1").

(5) Model 767-300 and -300F series airplanes with winglets installed per STC ST01920SE ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/59027f43b9a7486e86257b1d006591ee/Body/0.48A!OpenElement&FieldElemFormat=gif](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/59027f43b9a7486e86257b1d006591ee/Body/0.48A!OpenElement&FieldElemFormat=gif)) having part number (P/N) 2276-COL-AF2-03 installed, as identified in APB Service Bulletin AP767-22-005, dated May 8, 2015; or SB AP767-22-005 R1.

**(d) Subject**

Air Transport Association (ATA) of America Code 22, Auto flight.

**(e) Unsafe Condition**

This AD was prompted by reports of uncommanded autopilot engagement events resulting in incorrect stabilizer trim adjustment during takeoff. We are issuing this AD to prevent stabilizer

mistrim, which could result in a high-speed rejected takeoff and runway overrun, or reduced controllability of the airplane after takeoff due to insufficient pitch control.

**(f) Compliance**

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

**(g) Model 747 Airplane Modification and Repetitive Functional Testing**

For airplanes identified in paragraph (c)(1) of this AD: Within 24 months after the effective date of this AD, install new wiring and relays to reroute the four autotrim arm signals through new or existing air/ground determination source select switches, and do functional testing, in accordance with the Accomplishment Instructions of SASB 747-22-2256 R1. If the functional test fails, before further flight, do corrective actions, repeat the test, and do all applicable corrective actions until the functional test is passed, in accordance with the Accomplishment Instructions of SASB 747-22-2256 R1. Repeat the functional test of the automatic stabilizer trim system specified in step 250. of paragraph 3.B. of the Accomplishment Instructions of SASB 747-22-2256 R1, thereafter at intervals not to exceed 1,500 flight hours. If the functional test fails, before further flight, do corrective actions, repeat the test, and do all applicable corrective actions until the functional test is passed, in accordance with the Accomplishment Instructions of SASB 747-22-2256 R1.

**(h) Model 757 Airplane Modification and Repetitive Functional Testing**

For airplanes identified in paragraph (c)(2) of this AD: Within 24 months after the effective date of this AD, install wiring to inhibit the automatic stabilizer trim arm discrete when the airplane is on ground, install a two-position momentary contact test switch in the main equipment center, and do the functional test and all applicable corrective actions until the functional test is passed, in accordance with the Accomplishment Instructions of SASB 757-22-0096 R1. Repeat the functional test of the on-ground automatic stabilizer auto trim inhibit system and all applicable corrective actions specified in step 11. of paragraph 3.B. of the Accomplishment Instructions of SASB 757-22-0096 R1, thereafter at intervals not to exceed 1,500 flight hours. If the functional test fails, before further flight, do corrective actions, repeat the test, and do all applicable corrective actions until the functional test is passed, in accordance with the Accomplishment Instructions of SASB 757-22-0096 R1.

**(i) Model 767-200, -300, -300F, and -400ER Series Airplane Modification and Repetitive Functional Testing**

For airplanes identified in paragraph (c)(3) of this AD: Within 24 months after the effective date of this AD, install relays and wiring to open and close the flight control computer (FCC) analog output that controls the stabilizer trim adjustment, install a momentary action ground test switch, and do the functional testing and all applicable corrective actions, in accordance with the Accomplishment Instructions of SASB 767-22-0143 R2. Repeat the functional test of the on-ground automatic stabilizer auto trim inhibit system and all applicable corrective actions specified in steps 5.a. through 5.g. of Paragraph 3.B. of the Accomplishment Instructions of SASB 767-22-0143 R2, thereafter at intervals not to exceed 1,500 flight hours. If the functional test fails, before further flight, do corrective actions, repeat the test, and do all applicable corrective actions until the functional test is passed, in accordance with the Accomplishment Instructions of SASB 767-22-0143 R2.

#### **(j) Model 767-300 and -300F Series Airplane Modification**

(1) For airplanes identified in paragraph (c)(4) of this AD: Within 16 months after the effective date of this AD, install new operational program software into the FCCs, in accordance with the Accomplishment Instructions of SASB 767-22-0146 R1.

(2) For airplanes identified in paragraph (c)(5) of this AD: Within 16 months after the effective date of this AD, install new operational program software into the FCCs, in accordance with the Accomplishment Instructions of SB AP767-22-005 R1.

#### **(k) Credit for Actions Accomplished in Accordance With Previous Service Information**

(1) This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 747-22-2256, dated March 6, 2015.

(2) This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 757-22-0096, dated March 23, 2015.

(3) This paragraph provides credit for actions required by paragraph (i) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 767-22-0143, dated March 6, 2015; or Boeing Special Attention Service Bulletin 767-22-0143, Revision 1, dated July 6, 2015.

(4) This paragraph provides credit for actions required by paragraph (j) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 767-22-0146, dated March 24, 2015.

#### **(l) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), 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 local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (m)(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 local flight standards district office/certificate holding district 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 Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, 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) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (l)(4)(i) and (l)(4)(ii) 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 sub-step is labeled "RC Exempt," then the RC requirement is removed from that step or sub-step. 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.

### **(m) Related Information**

(1) For more information about this AD, contact Fnu Winarto, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6659; fax: 425-917-6590; email: fnu.winarto@faa.gov.

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

### **(n) 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) Aviation Partners Boeing Service Bulletin AP767-22-005, Revision 1, dated June 16, 2015.

(ii) Boeing Special Attention Service Bulletin 747-22-2256, Revision 1, dated January 6, 2016.

(iii) Boeing Special Attention Service Bulletin 757-22-0096, Revision 1, dated February 8, 2016.

(iv) Boeing Special Attention Service Bulletin 767-22-0143, Revision 2, dated May 25, 2016.

(v) Boeing Special Attention Service Bulletin 767-22-0146, Revision 1, dated June 25, 2015.

(3) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone: 206-544-5000, extension 1; fax: 206-766-5680; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on November 23, 2016.

Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.