

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [64 FR 47653 No. 169 09/01/99]

[Docket No. 99-NM-111-AD; Amendment 39-11282; AD 99-18-16]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain Boeing Model 747-400, 757-200, 767-200, and 767-300 series airplanes. This action requires repetitive checks to detect certain failures in the warning electronic unit (WEU) or modular avionic warning electronic assembly (MAWEA); repetitive tests to detect any failure of tactile, visual, or aural alert generated by the WEU or MAWEA; and corrective action, if necessary. This AD also provides for an optional terminating action for the repetitive checks and tests. This amendment is prompted by a report of a MAWEA power supply failure due to inadequate over-voltage protection. The actions specified in this AD are intended to detect and correct such a failure, which could result in loss of visual, aural, and tactile alerts to the flightcrew. Absence of such alerts could result in the flightcrew being unaware that an immediate or appropriate action should be taken in the event of an unsafe condition.

DATES: Effective September 16, 1999.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 16, 1999.

Comments for inclusion in the Rules Docket must be received on or before November 1, 1999.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 99-NM-111-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Sheila I. Mariano, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2675; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: The FAA has received a report that, during a production flight test of a Boeing Model 747-400 series airplane, the flight test group noticed a power supply failure on the status page of the engine indication and crew alerting system (EICAS). Investigation revealed that the automated bench test procedure for the modular avionic warning electronic assembly (MAWEA) overstressed the 5.7 volt over-voltage clamp circuit which resulted in the failure of the circuit to protect the warning cards in the MAWEA. A slow failure of the MAWEA power supply could result in the gradual degradation of available visual, aural, and tactile alerts. Absence of such alerts could result in the flightcrew not being aware and not taking immediate or appropriate action in the event of an unsafe condition (i.e., a fire, overspeed condition, autopilot disconnect, stall, not in takeoff configuration, or landing gear not extended).

The warning electronic unit (WEU) power supply units on certain Boeing 757-200, 767-200, and 767-300 series airplanes are identical to those on the MAWEA power supply on the affected Boeing Model 747-400 series airplanes. Therefore, all of these airplanes may be subject to the same unsafe condition.

Explanation of Relevant Service Information

The FAA has reviewed and approved Boeing Service Bulletins 747-31-2288, dated December 17, 1998, and Revision 1, dated January 28, 1999 (for Model 747-400 series airplanes); 757-31-0066, Revision 1, dated December 17, 1998 (for Model 757-200 series airplanes); and 767-31-0106, Revision 1, dated December 17, 1998 (for Model 767-200 and 767-300 series airplanes). These service bulletins describe procedures for replacement (including system functional tests) of the MAWEA or WEU power supply with a new power supply.

Explanation of the Requirements of the Rule

Since an unsafe condition has been identified that is likely to exist or develop on other Boeing Model 747-400, 757-200, 767-200, and 767-300 series airplanes of the same type design, this AD is being issued to detect and correct failure of the MAWEA or WEU, which could result in loss of any visual, aural, or tactile alert to the flightcrew when an unsafe condition exists. This AD requires repetitive checks of the status page on the EICAS display system for any MAWEA or WEU failure; repetitive system functional tests to detect the loss of any visual, aural, or tactile alert; and replacement of the MAWEA or WEU power supply with a new power supply, if necessary. This AD also provides for an optional terminating action for the repetitive checks and functional tests. The replacement, if accomplished, shall be accomplished in accordance with the service bulletins described previously.

Interim Action

This is considered to be interim action. The FAA may consider further rulemaking action to require the accomplishment of the optional terminating action currently specified in this AD. However, the proposed compliance time for accomplishment of that action is sufficiently long so that prior notice and time for public comment will be practicable.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 99-NM-111-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have substantial direct effects 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, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, 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:

SUPERSEDED

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



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

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, 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 FAR Subpart 39.3).

99-18-16 BOEING: Amendment 39-11282. Docket 99-NM-111-AD. Issued August 24, 1999.

Applicability: Model 747-400 series airplanes, line numbers 1121 through 1177 inclusive; Model 757-200 series airplanes, line numbers 761 through 828 inclusive; and Model 767-200 and 767-300 series airplanes, line numbers 668 through 723 inclusive; equipped with either a modular avionics warning electronic assembly (MAWEA) or a warning electronics unit (WEU) power supply, part number 285T0035-201; certificated in any category.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct failure of the MAWEA or WEU, which could result in a gradual degradation and eventual loss of visual, aural, or tactile alerts to the flightcrew, accomplish the following:

Model 747-400 Series Airplanes: Checks and Functional Tests

(a) For Model 747-400 series airplanes: Within 15 days after the effective date of this AD, check the status page of the engine indication and crew alerting system (EICAS) for any MAWEA failure; and perform the system functional tests required by paragraphs (a)(1), (a)(2), (a)(3), (a)(4), and (a)(5) of this AD to detect loss of any visual, aural, or tactile alert. Thereafter, repeat the EICAS status page check and the system functional tests before each flight.

NOTE 2: The following tests are an abbreviated version of Section 3, Work Instructions, of Boeing Service Bulletin 747-31-2288, dated December 17, 1998, and Revision 1, dated January 28, 1999.

(1) Perform a takeoff (T/O) configuration warning test to check the T/O configuration warning card, master monitors A and B, and left and right aural synthesizer cards.

(i) Set the parking brake.

(ii) Initiate the following central maintenance computer (CMC) ground test - 31 indication/recording: T/O warning.

(iii) Verify that the left and right master warning lights (MWL) illuminate and the siren is heard from both the left and right speakers.

(2) Perform an altitude alert test to check the crew alert module.

(i) Verify the parking brake is still set.

(ii) Set the selected altitude on the mode control panel (MCP) to approximately 400 feet above the current altitude.

(iii) Verify that the box around the current altitude on the altitude tape becomes bright white.

(iv) Set the selected altitude on the MCP to 10,000 feet.

(v) Verify the aural warning owl is not activated.

(3) Perform a stall warning test to check the left and right stall management module cards.

(i) Ensure that the air data computers (ADC) are operational.

(ii) Initiate the following CMC ground test – 27 stall warning: Left.

(iii) Verify that both stick shakers activate.

(iv) Initiate the following CMC ground test – 27 stall warning: Right.

(v) Verify that both stick shakers activate.

(4) Perform an autopilot (A/P) disconnect test to check the left and right clacker wailer card.

(i) Press and hold the A/P disconnect on either control wheel.

(ii) Verify the wailer aural is heard over the left and right speakers and MWL's.

(iii) Release the A/P disconnect switch.

(5) Perform a MAWEA card light emitting diode (LED) test per Airplane Maintenance Manual (AMM) task 31-51-00-715-014, "MAWEA operational test," to verify that no red LED on the MAWEA circuit cards illuminate.

NOTE 3: The EICAS status page check and the system functional tests are considered maintenance functions that require airplane log book entree and maintenance release prior to flight.

Model 757-200, 767-200, and 767-300 Series Airplanes: Checks and Functional Tests

(b) For Model 757-200, 767-200, and 767-300 series airplanes: Within 15 days after the effective date of this AD, check the status page of the EICAS for any WEU failure; and perform the Work Instructions in Section 3, Part 1, of Boeing Service Bulletin 757-31-0066, Revision 1, dated December 17, 1998 (for Model 757-200 series airplanes); or Boeing Service Bulletin 767-31-0106, Revision 1, dated December 17, 1998 (for Model 767-200 and 767-300 series airplanes); as applicable; to detect loss of any visual, aural, or tactile alert. Thereafter, repeat the EICAS status page check and the Work Instructions in Section 3, Part 1 of the applicable service bulletin before each flight.

NOTE 4: The EICAS status page check and performance of the Work Instructions in Section 3, Part 1, of the applicable service bulletin are considered maintenance functions that require airplane log book entree and maintenance release prior to flight.

Corrective Action

(c) If any failure of the MAWEA or WEU, as applicable, or the loss of any visual, aural, or tactile alert is detected during any test required by either paragraph (a) or (b) of this AD, prior to further flight, replace the power supply of the MAWEA or WEU with a new power supply, P/N 285T0035-202 Mod A, in accordance with either Boeing Service Bulletin 747-31-2288, dated December 17, 1998, or Revision 1, dated January 28, 1999 (for Model 747-400 series airplanes); 757-31-0066, Revision 1, dated December 17, 1998 (for Model 757-200 series airplanes); or 767-31-0106, Revision 1, dated December 17, 1998 (for Model 767-200 and 767-300 series airplanes); as applicable. Accomplishment of this action constitutes terminating action for the repetitive inspection requirements of this AD.

NOTE 5: Page 59 of Boeing Service Bulletin 747-31-2288, Revision 1, dated January 28, 1999, incorrectly references the Boeing 767 AMM as the appropriate source of service information for accomplishment of the removal and installation of the power supply. However, the correct reference is the Boeing 747 AMM.

Spares

(d) As of the effective date of this AD, no person shall install a MAWEA or WEU power supply, part number 285T0035-201, on any airplane.

Optional Terminating Action

(e) Replacement of the power supply of the MAWEA or WEU with a new power supply, P/N 285T0035-202 Mod A, in accordance with Boeing Service Bulletin 747-31-

2288, dated December 17, 1998, or Revision 1, dated January 28, 1999 (for Model 747-400 series airplanes); 757-31-0066, Revision 1, dated December 17, 1998 (for Model 757-200 series airplanes); or 767-31-0106, Revision 1, dated December 17, 1998 (for Model 767-200 and 767-300 series airplanes); as applicable; constitutes terminating action for the repetitive system functional tests and EICAS status page checks required by this AD.

Alternative Methods of Compliance

(f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

NOTE 6: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Manager, Seattle ACO.

Special Flight Permits

(g) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(h) The replacement, if accomplished, shall be done in accordance with Boeing Service Bulletin 747-31-2288, dated December 17, 1998, or Boeing Service Bulletin 747-31-2288, Revision 1, dated January 28, 1999; Boeing Service Bulletin 757-31-0066, Revision 1, dated December 17, 1998; or Boeing Service Bulletin 767-31-0106, Revision 1, dated December 17, 1998; as applicable. 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 Airplane Group, 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 Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(i) This amendment becomes effective on September 16, 1999.

FOR FURTHER INFORMATION CONTACT:

Sheila I. Mariano, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2675; fax (425) 227-1181.