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[Page 34646-34649]  
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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2004-19082; Directorate Identifier 2004-NM-79-AD; Amendment 39-14126; AD 2005-12-10]**

**RIN 2120-AA64**

**Airworthiness Directives; Boeing Model 747-200F and -400 Series Airplanes; Model 767-400ER Series Airplanes; and Model 777 Series Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Boeing Model 747-200F and -400 series airplanes; Model 767-400ER series airplanes; and Model 777 series airplanes. This AD requires replacing the frequency converter(s) used to supply electrical power for utility outlets (for the galley, medical equipment, or personal computers) with modified frequency converter(s). This AD also requires any specified action and related concurrent actions, as necessary. This AD is prompted by a report that a hard short condition between the frequency converter's output and its downstream circuit breakers will produce a continuous current that could cause the undersized output wiring to overheat. We are issuing this AD to prevent the overheating of the frequency converter's undersized output wiring, which could lead to the failure of a wire bundle, and consequent adverse effects on other systems sharing the affected wire bundle.

**DATES:** This AD becomes effective July 20, 2005.

The incorporation by reference of certain publications listed in the AD is approved by the Director of the Federal Register as of July 20, 2005.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

*Docket:* The AD docket contains the proposed AD, comments, and any final disposition. You can examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Washington, DC. This docket number is FAA-2004-19082; the directorate identifier for this docket is 2004-NM-79-AD.

**FOR FURTHER INFORMATION CONTACT:** Binh Tran, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6485; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with an AD for certain Boeing Model 747-200F and -400 series airplanes; Model 767-400ER series airplanes; and Model 777 series airplanes. That action, published in the Federal Register on September 13, 2004 (69 FR 55120), proposed to require replacing the frequency converter(s) used to supply power for utility outlets (for the galley, medical equipment, or personal computers) with modified frequency converter(s); and any other specified action and related concurrent actions, as necessary.

## **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been submitted on the proposed AD.

### **Request To Revise Applicability To List Frequency Converters**

One commenter asks " \* \* \* why not write the AD against the part instead of the aircraft?" and suggests that listing the frequency converter by manufacturer and part number may allow detection of similar problems on other aircraft and possible parts manufacturer approved (PMA) alternative units.

We disagree with revising the applicability. PMA parts frequently have a part numbering scheme different from that of the original manufacturer. For this reason, writing the AD against the part number may not accurately identify the PMA parts. Should we become aware of PMA parts that have similar characteristics as those addressed in this AD, we would consider further rulemaking.

The FAA's practice regarding unsafe conditions that result from the installation of a particular part in specific makes and models of airplanes is to issue an AD that applies to the affected airplane models. In doing so, U.S. operators of those airplanes will be notified directly of the unsafe condition and the action required to correct it. While we assume that operators can identify the airplane models they operate, they may not be aware of specific items installed on those airplanes. Therefore, specifying the airplane models in the applicability as the subject of the AD prevents an operator's "unknowing failure to comply" with the AD. We have not changed the final rule regarding this issue.

### **Request To Add Airplane Models to the Applicability of the AD**

One commenter requests that certain Boeing Model 767-300 series airplanes be added to the applicability of this AD. Boeing has published Boeing Service Bulletin 767-25-0334, Revision 1, dated June 19, 2003, which addresses the same unsafe condition on some Model 767-300 series airplanes that were also delivered with affected frequency converters.

We agree that the Model 767-300 series airplanes are affected by the unsafe condition. We inadvertently omitted the service bulletin in the proposed AD. However, we disagree with revising the applicability of this AD, because we are considering a separate rulemaking action for the Model 767-300 series airplanes. A notice of proposed rulemaking for the Model 767-300 series airplanes was published in the Federal Register on March 17, 2005 (70 FR 12986). If we revise the applicability of this AD to add Model 767-300 series airplanes, we would need to reissue this AD as a revised notice. In light of the time that would be needed to reissue the proposed AD, and in consideration of the amount of time that has already elapsed since we issued the original notice, we have determined that further delay of this AD is not appropriate.

## **Request for Change of Terminology**

One commenter requests that the phrase "continuous circuit" in the Summary section of the proposed AD be changed to "continuous current." The commenter provides no reason/justification.

We agree that the word should be changed, because the word "circuit" is incorrectly used in the phrase. We have revised the final rule to use the word "current."

## **Request To Revise the Description of the Unsafe Condition in the Discussion Section**

One commenter requests that we change "55 amps" to "180% rated current" in the Discussion section of the proposed AD. The commenter states that the value of 55 amps is accurate only for installations that use a specific output (a 3.5 KVA, 115VAC rated output). For the series of converters used on Boeing airplanes, a hard short circuit fault on the output of the converter will produce a fault current that is approximately 180% of the nominal rated output current. Since Boeing installations use multiple converter part numbers with different rated outputs, the short circuit fault current will vary depending on the converter used.

We partially agree with the commenter's request. The hard short circuit fault condition will produce a continuous output current of approximately 170% to 200% of nominal current. However, since that section of the preamble does not reappear in the final rule, no change to the final rule is necessary regarding this issue.

## **Correction in Estimated Costs for Cost of Compliance**

We provided a cost estimate in the proposed AD that used the cost of replacing converters under warranty, not the cost of replacing parts without a warranty. The cost impact information provided in the proposed AD is correct for parts that are still under warranty. However, we strive to provide a cost estimate that uses cost information for parts not under warranty. The cost of a replacement converter without a warranty is \$1,800. We have revised the cost impact information in this final rule to include the revised part cost.

## **Conclusion**

We have carefully reviewed the available data, including the comments that have been submitted, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

This AD will affect about 147 airplanes worldwide. The following table provides the estimated costs for U.S. operators to comply with this AD.

## ESTIMATED COSTS

Boeing model	Work hours hours	Average labor rate per hour	Parts	Cost per airplane	Number of U.S.–registered airplanes	Fleet cost
747–200F and –400 series airplanes.	5 per converter (1 converter on each airplane).	\$65	\$1,800	\$2,125	0	\$0
	5 per converter (2 converters on each airplane).	65	3,600	4,250	0	0
767–400ER series airplanes	2 per airplane	65	3,600	3,730	21	78,330
777 series airplanes	4 per airplane	65	7,200	7,460	8	59,680
Additional concurrent action for 777 series airplanes.	1 per airplane	65	1,800	1,865	6	11,190

Currently, there are no affected Model 747-200F or -400 series airplanes on the U.S. Register. However, an affected airplane that is imported and placed on the U.S. Register in the future would be subject to the costs specified above for those airplanes.

### 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

We have determined that 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); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD. See the ADDRESSES section for a location to examine the regulatory evaluation.

## **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):

# 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).

**2005-12-10 Boeing:** Amendment 39-14126. Docket No. FAA-2004-19082; Directorate Identifier 2004-NM-79-AD.

## Effective Date

- (a) This AD becomes effective July 20, 2005.

## Affected ADs

- (b) None.

## Applicability

- (c) This AD applies to the airplanes listed in Table 1 of this AD, certificated in any category:

**TABLE 1.—APPLICABILITY**

<b>Boeing model—</b>	<b>As listed in Boeing service bulletin—</b>
747-200F and -400 series airplanes	747-25-3313, Revision 1, dated May 15, 2003.
767-400ER series airplanes	767-25-0335, dated November 7, 2002.
777 series airplanes	777-25-0210, dated October 17, 2002.

## Unsafe Condition

(d) This AD was prompted by a report that a hard short condition between the frequency converter's output and its downstream circuit breakers will produce a continuous current, that could cause the undersized output wiring to overheat. We are issuing this AD to prevent the overheating of the frequency converter's output wiring, which could lead to the failure of a wire bundle, and consequent adverse effects on other systems sharing the affected wire bundle.

## Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## Replacement

(f) Within 18 months after the effective date of this AD, replace the frequency converter(s) used to supply electrical power to utility outlets (for the galley, medical equipment, or personal computers) with modified frequency converter(s); and do other applicable specified actions; by doing all of the

actions in the Accomplishment Instructions of the applicable service bulletin listed in Table 2 of this AD.

**TABLE 2.—APPLICABILITY SERVICE BULLETINS**

<b>For model—</b>	<b>Use Boeing service bulletin—</b>
747–200F and –400 series airplanes	747–25–3313, Revision 1, dated May 15, 2003.
767–400ER series airplanes	767–25–0335, dated November 7, 2002.
777 series airplanes	777–25–0210, dated October 17, 2002.

**Note 1:** Boeing Service Bulletin 747-25-3313, Revision 1, dated May 15, 2003, refers to JAMCO Service Bulletin CAW74-25-1697, dated June 7, 2002, as an additional source of information for procedures to remove and install certain galley frequency converters.

**Concurrent Service Bulletin**

(g) For airplanes listed as Group 3 in the Effectivity of Boeing Service Bulletin 777-25-0210, dated October 17, 2002: Prior to or concurrently with the actions in Boeing Service Bulletin 777-25-0210, dated October 17, 2002, deactivate the galley frequency converter in accordance with the Accomplishment Instructions of Monogram Systems Service Bulletin 872869-25-2098, dated May 1, 2002.

**Alternative Methods of Compliance (AMOCs)**

(h) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

**Material Incorporated by Reference**

(i) You must use the service information that is specified in Table 3 of this AD to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approves the incorporation by reference of those documents in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get copies of the service information, go to Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. To view the AD docket, go to the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC. To review copies of the service information, go to 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

**TABLE 3.—MATERIAL INCORPORATED BY REFERENCE**

<b>Service bulletin</b>	<b>Revision level</b>	<b>Date</b>
Boeing Service Bulletin 747–25–3313	1	May 15, 2003.
Boeing Service Bulletin 767–25–0335	Original	November 7, 2002.
Boeing Service Bulletin 777–25–0210	Original	October 17, 2002.
Monogram Systems Service Bulletin 872869–25–2098	Original	May 1, 2002.

Issued in Renton, Washington, on May 27, 2005.  
 Ali Bahrami,  
 Manager, Transport Airplane Directorate, Aircraft Certification Service.  
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