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[Page 8239-8241]  
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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2004-18999; Directorate Identifier 2003-NM-259-AD; Amendment 39-13975; AD 2005-04-03]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 747-400, -400D, and -400F 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 747-400, -400D, and -400F series airplanes. This AD requires replacing at least one flap control unit (FCU) in the main equipment center with a new or modified FCU. This AD is prompted by a report indicating that, after takeoff, an airplane was required to return to the airport because the autopilot disengaged. The report also indicated that, after selecting flaps for landing, the flaps indication display did not indicate the flap setting, requiring the airplane to land in alternate flap mode. We are issuing this AD to prevent disconnection of autoland/autopilot functions and loss of primary flaps control and flaps indication display due to disengagement of all three FCUs at the same time, which could lead to a non-normal high speed landing with the flaps retracted, increased pilot workload, and possible runway departure at high speeds during landing.

**DATES:** This AD becomes effective March 25, 2005.

The incorporation by reference of certain publications listed in the AD is approved by the Director of the Federal Register as of March 25, 2005.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. You can examine this information 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html)*.

*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-2004-18999; the directorate identifier for this docket is 2003-NM-259-AD.

**FOR FURTHER INFORMATION CONTACT:** Douglas Tsuji, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6487; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR Part 39 with an AD for certain Boeing Model 747-400, -400D, and -400F series airplanes. That action, published in the Federal Register on September 7, 2004 (69 FR 54060), proposed to require replacing at least one flap control unit (FCU) in the main equipment center with a new or modified FCU.

## **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.

### **Agrees With Proposed AD**

One commenter agrees with the proposed AD.

### **Request To Reduce the Compliance Time**

One commenter requests that the compliance time specified in paragraph (f)(1) of the proposed AD be reduced. The commenter states that the 60-month compliance time is too long and should be shortened substantially due to the potential severity of the situation (i.e., landing without flaps) and the nature of the proposed modifications. The commenter believes that the availability of parts necessary to complete the modifications is not an issue.

The FAA does not agree to reduce the compliance time specified in paragraph (f)(1) of the final rule. In developing the compliance time for this AD, we considered the average utilization rate of the affected fleet, the practical aspects of an orderly modification of the fleet during regular maintenance periods, and the availability of required parts as well as the safety implications of the identified unsafe condition. In addition, the low probability of the identified unsafe condition occurring (disengagement of all three flap control units (FCU) causing loss of primary flaps control and flaps indication display) and the existing operational manual bulletin that provides guidance to the crew for extending the flaps in alternate mode in the absence of indication are consistent with longer compliance times. Based on these factors, the proposed compliance time of 60 months after the effective date of the final rule was determined to be appropriate. Further, we arrived at the proposed compliance time with manufacturer concurrence. We have not changed the final rule in this regard.

### **Request To Remove Paragraph (g) of the Proposed AD**

One commenter requests that paragraph (g) of the proposed AD be removed. The commenter states that paragraph (g) of the proposed AD would require actions specified in Boeing Service Bulletin 747-27-2319, dated January 24, 1991, to be done before or concurrently with paragraph (f) of the proposed AD. The commenter notes that the actions in paragraph (f) of the proposed AD are to be done according to Boeing Alert Service Bulletin 747-27A2386, dated March 13, 2003, and that the alert service bulletin specifies in paragraph 1.B. that "you cannot make the changes in this service bulletin unless the changes given in Boeing Service Bulletin 747-27-2319 are made." Thus, the commenter believes there is no need for paragraph (g) of the proposed AD.

We do not agree to remove paragraph (g) of the final rule. We agree that paragraph (f) of the final rule requires the actions to be done "in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-27A2386, dated March 13, 2003" and that paragraph 1.B. of the alert service bulletin refers to the concurrent actions that are specified in paragraph (g) of the final rule. However, paragraph 1.B. of the alert service bulletin precedes the Accomplishment Instructions of the alert service bulletin. Because the Accomplishment Instructions of the alert service bulletin do not specify to do any concurrent action, paragraph (g) of the final rule is needed to clarify that the concurrent action must be done. We have not changed the final rule in this regard.

**Request for Clarification of Test**

One commenter points out that paragraph 3.B.2. of the Boeing Alert Service Bulletin 747-27A2386 specifies that a built-in test equipment (BITE) test be done according to Chapter 27-51-51 of the Boeing 747-400 airplane maintenance manual (AMM). The commenter notes that there is no BITE test in either 27-51-00/501 or 27-51-51/401 of the Boeing 747-400 AMM. The commenter contends the alert service bulletin refers to a test that does not exist and is not necessary. The commenter also states that the alert service bulletin specifies installing the FCU in accordance with Chapter 27-51-51 of the Boeing 747-400 AMM and that the referenced AMM specifies to do an operational test of the FCU that includes both a central maintenance computer initiated ground test and exercising the flaps through full travel to ensure proper operation and indication.

We infer from the comment that the commenter requests that the reference to the BITE test be clarified. We partially agree. We acknowledge that paragraph 3.B.2. of the alert service bulletin specifies a BITE test be done according to Chapter 27-51-51 of the Boeing 747-400 AMM. However, Chapter 27-51-51 of the Boeing 747-400 AMM refers to a BITE test only in the summary of the AMM procedure, but not within the body of the AMM procedure. Within the body of the AMM procedure, there is a "GROUND TEST," under the heading "OPERATIONAL TEST," that is to be done following installation of the FCU. Although the nomenclature within the Boeing documents may seem inconsistent, we consider the "GROUND TEST" specified in Chapter 27-51-51 of the Boeing 747-400 AMM to be part of the FCU BITE test. Furthermore, Chapter 27-51-51 of the Boeing 747-400 AMM includes all necessary testing that must be done following installation of a new FCU. In addition, because the final rule references only the alert service bulletin, there is no need to add a clarification of the BITE test to the final rule. We have not changed the final rule in this regard.

**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 as proposed.

**Costs of Compliance**

There are about 614 airplanes of the affected design worldwide. This AD will affect about 87 airplanes of U.S. registry. The following tables provide the estimated costs for U.S. operators to comply with this AD.

<b>Replacement</b>	<b>Work hours</b>	<b>Average labor rate per hour</b>	<b>Parts</b>	<b>Cost per airplane</b>
<b>Estimated Costs</b>				
With new –208 FCU	2	\$65	\$78,550	\$78,680
With modified –208 FCU	10	65	975	1,625

<b>Estimated Concurrent Service Bulletin Costs</b>				
With new –207 FCU	3	65	235,650	235,845
With modified –207 FCU	87	65	2,925	8,580

### **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).

**2005-04-03 Boeing:** Amendment 39-13975. Docket No. FAA-2004-18999; Directorate Identifier 2003-NM-259-AD.

## Effective Date

- (a) This AD becomes effective March 25, 2005.

## Affected ADs

- (b) None.

## Applicability

- (c) This AD applies to Model 747-400, -400D, and -400F series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-27A2386, dated March 13, 2003.

## Unsafe Condition

- (d) This AD was prompted by a report indicating that, after takeoff, an airplane was required to return to the airport because the autopilot disengaged. The report also indicated that, after selecting flaps for landing, the flaps indication display did not indicate the flap setting, requiring the airplane to land in alternate flap mode. We are issuing this AD to prevent disconnection of autoland/autopilot functions and loss of primary flaps control and flaps indication display due to disengagement of all three flap control units (FCUs) at the same time, which could lead to a non-normal high speed landing with the flaps retracted, increased pilot workload, and possible runway departure at high speeds during landing.

## 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.

## Replace FCU

- (f) At the earliest of the times specified in paragraphs (f)(1), (f)(2), and (f)(3) of this AD: Replace at least one FCU having P/N 285U0011-207 with a new or modified FCU having P/N 285U0011-208 in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-27A2386, dated March 13, 2003.

- (1) Within 60 months after the effective date of this AD.
- (2) Within 25,000 flight hours after the effective date of this AD.

(3) Within 4,000 flight cycles after the effective date of this AD.

**Note 1:** Boeing Alert Service Bulletin 747-27A2386, dated March 13, 2003, refers to Boeing Component Service Bulletin 285U0011-27-06, dated March 13, 2003, as an additional source of service information for modifying an FCU having P/N 285U0011-207 to P/N 285U0011-208.

#### **Actions Required Before or Concurrently With Paragraph (f)**

(g) For airplanes identified in Boeing Service Bulletin 747-27-2319, dated January 24, 1991: Before or concurrent with the accomplishment of paragraph (f) of this AD, replace the three FCUs having P/N 285U0011-205 or 285U0011-206 with new or modified FCUs having P/N 285U0011-207 in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-27-2319, dated January 24, 1991.

**Note 2:** Boeing Service Bulletin 747-27-2319, dated January 24, 1991, refers to Boeing Component Service Bulletin 285U0011-27-04, dated January 24, 1991, as an additional source of service information for modifying the FCUs having P/N 285U0011-205 or 285U0011-206 to P/N 285U0011-207.

#### **Parts Installation**

(h) As of the effective date of this AD, no person may install on any airplane an FCU having P/N 285U0011-205 or -206.

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

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

#### **Material Incorporated by Reference**

(j) You must use Boeing Alert Service Bulletin 747-27A2386, dated March 13, 2003; and Boeing Service Bulletin 747-27-2319, dated January 24, 1991; as applicable; 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 these documents in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. For copies of the service information, contact Boeing Commercial Airplanes, PO Box 3707, Seattle, Washington 98124-2207. For information on the availability of this material at the National Archives and Records Administration (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). You may view the AD docket at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC.

Issued in Renton, Washington, on February 3, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-2843 Filed 2-17-05; 8:45 am]

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