

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 18881 4/10/2000]

[Docket No. 2000-NM-87-AD; Amendment 39-11664; AD 2000-07-10]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-200B, -300, -400, -400D, and -400F 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 747-200B, -300, -400, -400D, and -400F series airplanes. This action requires repetitive inspections to detect cracking of fire extinguisher discharge tubes in certain engine struts, and corrective action, if necessary. For certain airplanes, this action also provides for a modification of the fire extinguisher discharge tubes, which constitutes terminating action for the repetitive inspections. This amendment is prompted by reports that cracked fire extinguisher discharge tubes have been found in the engine struts on certain airplanes. The actions specified in this AD are intended to detect and correct cracked fire extinguishing tubes in the engine struts. In the event of an engine fire, such cracked tubes could reduce the amount of fire extinguishing agent that can be delivered to the engine, and could result in a fire spreading from the engine to the wing of the airplane.

DATES: Effective April 25, 2000.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of April 25, 2000.

Comments for inclusion in the Rules Docket must be received on or before April 25, 2000.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2000-NM-87-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: Sulmo Mariano, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, Seattle Aircraft

**SUPPLEMENTARY INFORMATION:** The FAA has recently received reports indicating that several operators have found cracked fire extinguisher discharge tubes in the number 2 and number 3 struts on several Boeing Model 747-400 series airplanes that are equipped with General Electric (GE) CF6-80C2 series engines. Further investigation revealed similarly cracked fire extinguisher discharge tubes on Boeing Model 747-400 series airplanes equipped with Pratt & Whitney PW4000 series engines, which incorporate a similar tube installation. The cause of the cracking has been attributed to installation preload and flexing of the tube due to motion between the wing and the strut.

The subject fire extinguisher discharge tubes extend from the fire extinguisher bottles to the number 2 and number 3 engine struts, and are intended to deliver fire extinguishing agent to the engine in the event of an engine fire. Similar designs exist in Boeing Model 747-200B and -300 series airplanes equipped with GE CF6-80C2 series engines. A cracked tube could reduce the amount of fire extinguishing agent that can be delivered to the engine. In the worst case (a broken tube), no fire-extinguishing agent would be delivered to the engine. This condition, if not corrected, could result in a fire spreading from the engine to the wing of the airplane.

#### **Explanation of Relevant Service Information**

The FAA has reviewed and approved Boeing Alert Service Bulletin 747-26A2266, dated March 3, 2000. That alert service bulletin describes procedures for repetitive detailed visual inspections to detect cracking of fire extinguisher discharge tubes in the number 2 and number 3 engine struts. The alert service bulletin also describes procedures for replacement of any cracked tube with a new or serviceable tube.

The FAA also has reviewed and approved Boeing Service Bulletin 747-26-2233, dated May 11, 1995. That service bulletin applies to Model 747-400 series airplanes equipped with Pratt & Whitney PW4000 series engines and describes procedures for a modification of the fire extinguisher discharge tubes in the number 2 and number 3 engine struts, and a post-modification test of the fire extinguishing system to ensure that it functions properly. The modification is intended to prevent cracked fire extinguishing tubes by rerouting the fire extinguisher discharge tubes along the front spar and changing the orientation of two wire bundle clamps in the number 2 engine strut. Accomplishment of the modification eliminates the need for the repetitive inspections described previously on the subject airplanes.

#### **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 747-200B, -300, -400, -400D, and -400F series airplanes of the same type design, this AD is being issued to detect and correct cracked fire extinguishing tubes in the engine struts. In the event of an engine fire, such cracked tubes could reduce the amount of fire extinguishing agent that can be delivered to the engine, and could result in a fire spreading from the engine to the wing of the airplane. This AD requires repetitive detailed visual inspections to detect cracking of fire extinguisher discharge tubes in certain engine struts, and replacement of any cracked tube with a new or serviceable tube. These actions are required to be accomplished in accordance with Boeing Alert Service Bulletin 747-26A2266. For Boeing Model 747-400 series airplanes equipped with Pratt & Whitney PW4000 series engines, this AD also provides for a modification

of the fire extinguisher discharge tubes, which constitutes terminating action for the repetitive inspections. If accomplished, that modification is required to be accomplished in accordance with Boeing Service Bulletin 747-26-2233.

### **Explanation of Applicability**

Though Boeing Alert Service Bulletin 747-26A2266 specifies that it applies to airplanes having line numbers 679 through 1062 inclusive, this AD applies to airplanes having line numbers 679 through 1061 inclusive. The alert service bulletin states that the intent of Boeing Service Bulletin 747-26-2233 was accomplished (by service bulletin validation) prior to delivery on the airplane having line number 1062. As stated previously, accomplishment of Boeing Service Bulletin 747-26-2233 constitutes terminating action for the requirements of this AD for Boeing Model 747-400 series airplanes equipped with Pratt & Whitney PW4000 series engines. Therefore, the airplane with line number 1062 is not included in the applicability statement of this AD.

### **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 2000-NM-87-AD." The postcard will be date stamped and returned to the commenter.

### **Regulatory Impact**

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and

responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

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:

# AIRWORTHINESS DIRECTIVE

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



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

*AD's are posted on the internet at <http://av-info.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).

**2000-07-10 BOEING:** Amendment 39-11664. Docket 2000-NM-87-AD.

Applicability: Model 747-200B, -300 series airplanes equipped with General Electric (GE) CF6-80C2 series engines, and Model 747-400, 747-400D, and 747-400F series airplanes equipped with General Electric (GE) CF6-80C2 series engines or Pratt & Whitney PW4000 series engines; line numbers (L/N) 679 through 1061 inclusive; 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 (c) 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 cracked fire extinguishing tubes in the engine struts, which, in the event of an engine fire, could reduce the amount of fire extinguishing agent that can be delivered to the engine, and result in a fire spreading from the engine to the wing of the airplane, accomplish the following:

## **Repetitive Inspections and Corrective Actions**

(a) Within 30 days after the effective date of this AD, perform a detailed visual inspection to detect cracking of the fire extinguisher discharge tubes in the number 2 and number 3 engine struts, in accordance with Boeing Alert Service Bulletin 747-26A2266, dated March 3, 2000.

NOTE 2: For the purposes of this AD, a detailed visual inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror,

magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

(1) If no cracking is detected, repeat the inspection thereafter at intervals not to exceed 18 months.

(2) If any cracking is detected, prior to further flight, replace the cracked tube with a new or serviceable part, in accordance with Boeing Alert Service Bulletin 747-26A2266, dated March 3, 2000. Repeat the inspection required by paragraph (a) of this AD within 18 months after the replacement and thereafter at intervals not to exceed 18 months.

### **Optional Terminating Action**

(b) For Model 747-400 series airplanes, L/N 696 through 1061 inclusive, equipped with Pratt & Whitney PW4000 series engines: Modification of the fire extinguisher discharge tubes in the number 2 and number 3 struts, in accordance with Boeing Service Bulletin 747-26-2233, dated May 11, 1995, constitutes terminating action for the repetitive inspection requirements of this AD.

### **Alternative Methods of Compliance**

(c) 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 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

### **Special Flight Permits**

(d) 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**

(e) The inspections and replacement shall be done in accordance with Boeing Alert Service Bulletin 747-26A2266, dated March 3, 2000. If accomplished, the optional terminating action shall be accomplished in accordance with Boeing Service Bulletin 747-26-2233, dated May 11, 1995. 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.

**Effective Date**

(f) This amendment becomes effective on April 25, 2000.

**FOR FURTHER INFORMATION CONTACT:**

Sulmo Mariano, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2686; fax (425) 227-1181.

Issued in Renton, Washington, on March 30, 2000.

Donald L. Riggin, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

SUPERSEDED