

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. 2002-NM-85-AD; Amendment 39-13003; AD 2002-26-15]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 747 Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 747 series airplanes, that require repetitive inspections to detect evidence of wear damage in the area at the interface between the vertical stabilizer and fuselage skin, and corrective actions, if necessary. This amendment also provides for an optional terminating action for the repetitive inspections. The actions specified by this AD are intended to detect and correct wear damage of the fuselage skin, which could result in thinning and cracking of the fuselage skin, and consequent in-flight depressurization of the airplane. This action is intended to address the identified unsafe condition.

**DATES:** Effective February 10, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 10, 2003.

**ADDRESSES:** 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 Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 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:** Rick Kawaguchi, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1153; fax (425) 227-1181.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 747 series airplanes was published in the Federal Register on May 30, 2002 (67 FR

37734). That action proposed to require repetitive inspections to detect evidence of wear damage in the area at the interface between the vertical stabilizer and fuselage skin, and corrective actions, if necessary. That action also proposed to provide for an optional terminating action for the repetitive inspections.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

### **Request To Change Cost Impact**

One commenter states that the work hours cited in the cost impact section of the proposed AD are significantly understated. The commenter notes that the hours for access and restoration have been omitted from the cost figures, so the true cost impact is not specified. The commenter states that access and restoration tasks do not routinely occur during scheduled maintenance visits in this instance. The commenter adds that 18 hours are necessary to gain access, perform the inspection and terminating action, and restore the airplane. The commenter asks that the cost impact section be changed to 18 hours for these actions.

The FAA agrees that access to the area under the vertical seal is not a task normally accomplished during routine maintenance, and the work hours required for access and closeup should be added. We have changed the work hours for the inspection specified in the cost impact section to 12 work hours; the optional terminating action will require 6 work hours, as it can be done immediately following the inspection, before closeup.

### **Request To Change Limits for Allowable Skin Damage**

One commenter states that the definition of the limits for allowable skin damage as specified in the structural repair manual (SRM) was recently revised, and the damage limits have been reduced. The commenter adds that Section 3 of the referenced service bulletin specifies these new allowable damage limits in the Accomplishment Instructions. The commenter asks that the proposed AD be changed to refer to the service bulletin or list the revision date of the appropriate SRM to assure operators use the new limits for allowable damage.

We do not agree with the commenter. Operators should use the new allowable damage limits cited in the service bulletin or they may not be evaluating existing blendouts against the proper limits. However, we have determined that evaluation of existing blendouts against the old damage limits will not compromise an acceptable level of safety. Regarding new repairs, paragraph (a)(2) of the proposed AD requires that operators repair and refinish the skin per the service bulletin. In order to comply with this requirement, operators must use the allowable limits specified in the service bulletin. No change to the final rule is necessary in this regard.

### **Request Credit for Previous Inspections and Terminating Action**

One commenter asks that credit be given for the inspections and terminating action required by the proposed AD, if done before the effective date of the proposed AD per Boeing Service Bulletin 747-53-2192, dated July 21, 1981. The commenter states that the service bulletin referenced in the proposed AD includes a provision that specifies such credit.

We agree that credit can be given under certain explicit conditions. Service Bulletin 747-53-2192 specifies that, for airplanes having line numbers 0001 through 0414 inclusive, there is an option of using enamel coating or BMS 10-86 Teflon-filled coating. If operators can confirm that BMS 10-86 Teflon-filled coating was used, and the new allowable damage limits specified in Boeing Alert

Service Bulletin 747-53A2478 (referenced in the proposed AD as the appropriate source of service information for accomplishment of the actions specified) are met, then no more work is necessary. A new paragraph (c) has been added to this final rule to provide credit if the conditions are met.

### **Request Credit for Inspections Done per Certain Maintenance Procedures**

One commenter states that the Boeing Model 747 Maintenance Planning Document (MPD) recommends inspections of the affected areas of the fuselage skin at no greater than "D" check intervals. The commenter adds that the Corrosion Prevention and Control Program (CPCP) recommends inspections of the exterior surface of the fuselage skin for corrosion and other discrepancies at 5-year intervals. Based on these requirements, the commenter does the inspections required by the proposed AD earlier than the 6,000-flight-cycle compliance time specified for the repetitive inspections. The commenter also adds that, since the existing inspection programs already require inspections more frequently, there is no additional safety to be gained from promulgation of the proposed AD. The commenter asks that credit be given for the repetitive inspections required by paragraph (a)(1) of the proposed AD if done as part of these maintenance programs.

Based on operator reports of wear damage of the fuselage skin at the interface area of the vertical stabilizer seal and fuselage skin, we do not agree with the commenter that existing maintenance programs are providing acceptable levels of safety. Additionally, this area is not accessed by all operators during scheduled maintenance visits, as specified previously under "Request to Change Cost Impact," so no change to the final rule is necessary in this regard. However, under the provisions of paragraph (d) of the final rule, we may approve requests for alternate inspections if data are submitted to substantiate that the inspections are equivalent and that repairs and any existing wear meet the allowable damage limits specified in the referenced service bulletin.

### **Request To Change Paragraphs (a)(2) and (b)**

One commenter states that paragraph (b) of the proposed AD allows refinishing of the fuselage skin with BMS 10-86 Teflon-filled coating as terminating action for the proposed inspections. The commenter notes that there are other Teflon-filled coatings that are equivalent or better than BMS 10-86, and operators may already be using these "equivalent" coatings in their paint specifications. The commenter asks that, if the proposed AD is deemed necessary, paragraphs (a)(2) and (b) be changed to allow the use of other Teflon-filled coatings with equivalent abrasion resistant properties.

We do not agree with the commenter's request, as no supporting data were provided to us to substantiate the request. However, under the provisions of paragraph (d) of the final rule, we may approve requests for the use of other Teflon-filled coatings if data are submitted to substantiate that such coatings would provide an acceptable level of safety.

### **Request To Reconsider Terminating Action**

The commenter states that paragraphs (a)(2) and (b) of the proposed AD allow the one-time application of Teflon-filled paint coating as terminating action for the repetitive inspections required by paragraph (a)(1) of the proposed AD. The commenter states that the proposed AD seems to indicate that the external paint will never again be removed and replaced, but is reapplied on an irregular basis. The commenter adds that, if this problem is as serious as alleged, a one-time application of a Teflon-filled paint coating to the exterior of the airplane would not provide a realistic terminating action. The paint will have to be reapplied whenever the external paint is stripped and refinished.

We do not agree with the commenter. If the external paint is stripped, refinishing the skin with BMS 10-86 Teflon-filled coating is required to remain in compliance with paragraph (a)(2) of this AD. Therefore, no change to the final rule is necessary in this regard.

## Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## Cost Impact

There are approximately 1,104 Boeing Model 747 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 253 airplanes of U.S. registry will be affected by the AD, that it will take approximately 12 work hours per airplane (including time required to gain access and to close up) to accomplish the required inspection, and that the average labor rate is \$720 per work hour. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$182,160, or \$720 per airplane, per inspection cycle.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Should an operator elect to accomplish the proposed optional terminating action per paragraph (b) of this AD, it would take approximately 6 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the optional termination action would be \$360 per airplane.

## 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.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it 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



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).

**2002-26-15 Boeing:** Amendment 39-13003. Docket 2002-NM-85-AD.

**Applicability:** Model 747 series airplanes, as listed in Boeing Alert Service Bulletin 747-53A2478, dated February 7, 2002; 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 (d) 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 wear damage of the fuselage skin in the area at the interface between the vertical stabilizer and fuselage skin, which could result in thinning and cracking of the fuselage skin, and consequent in-flight depressurization of the airplane, accomplish the following:

## **Inspections for Damage/Corrective Actions**

(a) Prior to the accumulation of 15,000 total flight cycles, or within 1,200 flight cycles after the effective date of this AD, whichever occurs later: Perform a detailed inspection to detect evidence of wear damage of the fuselage skin at the interface area of the vertical stabilizer seal and fuselage skin, per Boeing Alert Service Bulletin 747-53A2478, dated February 7, 2002.

(1) If no wear damage of the fuselage skin is detected or any existing blendout is within the structural repair manual (SRM) allowable damage limits: Repeat the detailed inspection at intervals not to exceed 5,000 flight cycles.

(2) If any wear damage of the fuselage skin is detected or any existing blendout exceeds the allowable damage limits specified in the SRM: Before further flight, repair the vertical stabilizer seal interface and refinish the skin with BMS 10-86 Teflon-filled coating, per the alert service bulletin. Accomplishment of the repair and refinishing is terminating action for the repetitive inspections required by paragraph (a)(1) of this AD.

**Note 2:** For the purposes of this AD, a detailed 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."

## **Optional Terminating Action**

(b) Refinishing the fuselage skin with BMS 10-86 Teflon-filled coating, per Boeing Alert Service Bulletin 747-53A2478, dated February 7, 2002, terminates the repetitive inspections required by paragraph (a)(1) of this AD.

## **Previously Accomplished Inspections and Terminating Action**

(c) Inspections and terminating action done before the effective date of this AD per Boeing Service Bulletin 747-53-2192, dated July 21, 1981, are acceptable for compliance with the corresponding actions required by this AD, provided BMS 10-86 Teflon-filled coating was used, and the new allowable damage limits specified in Boeing Alert Service Bulletin 747-53A2478, dated February 7, 2002, are met.

## **Alternative Methods of Compliance**

(d) 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. 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**

(e) Special flight permits may be issued in accordance with §§ 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**

(f) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-53A2478, dated February 7, 2002. 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**

(g) This amendment becomes effective on February 10, 2003.

Issued in Renton, Washington, on December 24, 2002.

Charles D. Huber,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03-26 Filed 1-3-03; 8:45 am]

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