DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000–NM–377–AD; Amendment 39–13151; AD 2003–10–06]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 747 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 747 series airplanes, that requires repetitive inspections for cracking of the skin, bear strap, and sill chord of the lower lobe cargo door cutout, and repair, if necessary. For certain airplanes, the AD also provides an optional modification of the lower lobe cargo door cutout, which ends the pre-modification repetitive inspections, but necessitates new post-modification repetitive inspections after a certain time. The actions specified by this AD are intended to find and fix cracking of the skin, bear strap, and sill chord of the lower lobe cargo door cutout, which could lead to reduced structural integrity of the lower lobe cargo door cutout, and result in rapid depressurization of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective July 1, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 1, 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) 917–6434; fax (425) 917–6590.

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 as a supplemental notice of proposed rulemaking (NPRM) in the **Federal Register** on June 21, 2002 (67 FR 42207). That action proposed to require repetitive inspections for cracking of the skin, bear strap, and sill chord of the lower lobe cargo door cutout, and repair, if necessary. For certain airplanes, the action also proposed to provide an optional modification of the lower lobe cargo door cutout, which would end the pre-modification repetitive inspections, but would necessitate new post-modification repetitive inspections after a certain time. The action also proposed to expand the optional modification of the lower lobe cargo door cutout specified in the NPRM and reduce the compliance threshold for the existing post-modification 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.

One commenter concurs with the proposed rule.

Request To Allow Modification/Repair Per Structural Repair Manual (SRM)

Two commenters ask that accomplishment of the modification/repair required by the proposed AD per SRM Chapter 53–30–03, Figure 62, or Chapter 53–60–01, Figure 204, be allowed as terminating action for the repetitive inspections. The first commenter states that, according to information received from the manufacturer, repair per SRM Chapter 53–30–03, Figure 62, terminates the repetitive inspections specified in Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 2002 (referenced in the proposed rule as the appropriate source of service information for accomplishment of the inspections). The commenter adds that post-modification inspections are done per the Repair Assessment Program required by section 121.370 (''Repair assessment for pressurized fuselages'') of the Federal Aviation Regulations (14 CFR 121.370). The second commenter states that, according to information received from the manufacturer, the repair doubler installation is terminating action for the repetitive inspections, and post-repair inspections should be done per the inspection program defined in the SRM.

The FAA partially agrees with the commenters. We agree that repairs done per Revision 1 of the referenced service bulletin, and the post-repair inspections defined in the applicable SRMs and listed in the service bulletin, terminate the repetitive inspections required by paragraph (a) of the proposed AD for the repaired area only. We have changed paragraph (c) of the final rule (paragraph (b) of the proposed rule) to specify such terminating action. However, we have determined that compliance with section 121.370 of the Federal Aviation Regulations (14 CFR 121.370) does not meet the post-repair inspection requirements specified in this AD. This is because the repair assessment guidelines approved for Model 747 series airplanes are applicable only for normal skin surface structure, not for underlying stringers, frames, supporting structure and fuselage cutouts. Therefore, the Repair Assessment Program is not acceptable for doing the post-repair inspections required by this AD. No change to the final rule is necessary in this regard.

Request To Change Paragraph (b) or (d)

One commenter states that it has frequently found cracking in the area specified in the proposed AD, and has installed many repairs that were approved by a Boeing Company Designated Engineering Representative (DER) who will presumably be granted alternative method of compliance (AMOC) approval authority by the Manager of the Seattle Aircraft Certification Office (ACO). Since so many repairs have been installed, the commenter asks that paragraph (b) or (d) of the proposed AD be changed, or that a new repair paragraph be added. This would allow a repair previously approved per data meeting the type certification basis of the airplane approved by a Boeing DER who has been authorized by the Manager, Seattle ACO, to make such findings, as an acceptable repair method that meets the requirements of the proposed AD. The commenter adds that making this change would prevent operators with previously issued forms for approved repairs from resubmitting the forms with the AD number included.

We do not agree with the commenter. Repairs previously approved by a Boeing DER do require new approval as an AMOC. AMOC delegation to a DER requires findings of compliance that include all the design considerations, practices, and load cases used during the certification process, even if those defined in part 25 (''Airworthiness Standards: Transport Category Airplanes'') of the Federal Aviation Regulations (14 CFR part 25) are exceeded. A non-AMOC repair approval may or may not include all of these

considerations, and only complies with part 25 of the Federal Aviation Regulations (14 CFR part 25) as a minimum. For this reason, paragraph (e) of the final rule requires that repair approval must specifically refer to this AD. No change to the final rule is necessary in this regard.

Request for Credit for Modification Per Original Issue of Service Bulletin

One commenter states that paragraph (c) of the proposed AD describes optional modification and post-modification inspections per Revision 1 of the referenced service bulletin; however, the commenter notes that operators may already have done the modification of the area specified per the original issue of that service bulletin. The commenter adds that information received from the manufacturer suggests that airplanes modified per the original issue should have additional inspections and modifications. The manufacturer recommends (and the commenter agrees) that these actions should be done within 3,000 flight cycles or 18 months after the initial modification.

Although the commenter does not specifically ask for a change to the proposed AD, we infer that the commenter wants credit for airplanes previously modified per the original issue of the service bulletin, and confirmation that the additional actions recommended by the manufacturer are indeed required. We agree that any operator that has done the modifications per the original issue of the service bulletin is required to do additional inspections and modifications per Revision 1 of the service bulletin. With regard to actions accomplished per the original issue of the service bulletin that correspond to actions in Revision 1 of the service bulletin, we already give credit for actions accomplished before the effective date of an AD by means of the phrase ''Compliance: Required as indicated, unless accomplished previously,'' which appears in every AD. Therefore, no change to the final rule is necessary in this regard.

Request To Reference Existing AD and Relation to New AD

One commenter states that the proposed AD affects an area that is the subject of AD 94–15–18, amendment 39–8989 (59 FR 41233, August 11, 1994), and Boeing 747 Supplemental Structural Inspection Document (SSID) D6–35022, and can affect Structurally Significant Item (SSI) F–39E. The commenter asks that any related requirements between the new AD and the existing AD be discussed. The commenter adds that the effect of repairs, modifications, and duplication of inspections done per the existing AD should be reviewed, and a determination made of whether one set of AD requirements meets the existing AD requirements.

We have been informed by the manufacturer that the Boeing 747 SSID is being revised to remove the portions of SSI F–39 inspections that are required by this AD. This revision to the Boeing 747 SSID may be approved as an alternative method of compliance to AD 94–15–18, which would eliminate the potential for duplication of inspections. In addition, repairs and modifications done per the existing AD will not be affected by the requirements in this AD. Therefore, no change to the final rule is necessary in this regard.

Request To Withdraw Proposed AD

One commenter disagrees that the cracking found in the upper corners of the aft lower cargo door cutout constitutes an unsafe condition that warrants regulatory action. The commenter states that the cracks reported by Boeing in the referenced service bulletin were small and did not pose an imminent threat of rapid depressurization. The commenter notes that the robust structure of the lower lobe cargo door cutout mitigates threats from minor skin cracks. The commenter adds that cracks found on the commenter's airplanes were found as a result of routine maintenance inspection, proving that existing inspection and maintenance programs will detect cracking in the subject areas before an unsafe condition exists. The commenter states that a minor revision to the maintenance program would ensure adequate crack detection, without the need for additional regulatory action.

We do not agree with the commenter. Cracks over one inch in length have been found in both the fuselage skin and the adjacent bear strap. If cracks propagate into the sill chord, rapid decompression could occur. The door hinge fairing also covers up the area of cracking, making it unlikely that all cracks will be detected by routine maintenance inspections. No change to the final rule is necessary in this regard.

Request To Change Cost Impact Analysis

One commenter states that the FAA estimate of approximately 3 work hours to accomplish the proposed inspection does not include the time required to gain access and close-up. In the case of this AD, some of the associated access and close-up time, including removing and re-installing fasteners and fittings, is not incidental, and is only required for this particular inspection procedure. The commenter notes that those costs should be included in the cost impact analysis. The commenter adds that the other costs, such as access and closeup of seats, carpet, cargo handling equipment, floor panels, and insulation blankets, may be incidental during some scheduled heavy maintenance inspections, but would not be incidental if done during a special maintenance visit.

We do not agree to change the number of estimated work hours for the inspections. The number of work hours necessary to accomplish the inspections, specified as 3 in the cost impact information, is consistent with the service bulletin. This number represents the time necessary to perform only the inspections actually required by this AD. We recognize that, in accomplishing the requirements of any AD, operators may incur additional costs due to special circumstances when scheduling maintenance visits. However, because maintenance schedules vary significantly from operator to operator, the hours necessary for access and closeup time, including removing and re-installing fasteners, are almost impossible to calculate. Therefore, no change is made to the final rule in this regard.

Requests To Change Compliance Time

One commenter asks that the compliance time specified in paragraph (a)(2) of the proposed AD be changed from ''For airplanes with 13,000 or more total flight cycles as of the effective date of this AD: Do the inspection within 1,000 flight cycles or 1 year after the effective date of this AD, whichever is first,'' to ''For airplanes with 13,000 or more flight cycles as of the effective date of this AD: Do the inspection within 1,000 flight cycles after the effective date of this AD.'' If a calendar-driven timetable is used, to prevent unnecessary special maintenance visits, the commenter asks that paragraph (a)(2) be changed to, ''For airplanes with 13,000 or more flight cycles as of the effective date of this AD: Do the inspection within 1,000 flight cycles or 18 months after the effective date of this AD, whichever occurs first.'' The commenter states that the subject cracking is caused by fatigue, and such cracking is attributed to cyclic loading, not calendar time, so requiring a fatigue-related inspection based on calendar time is not justified. The commenter adds that most 747 operators currently use C-check inspection intervals of 18 months. Due to this fact, the commenter

notes that the one-year initial inspection interval specified in paragraph (a)(2) would impose special inspection visits on one-third of the fleet.

A second commenter also asks that the compliance time specified in paragraph (a)(2) of the proposed AD be changed to ''For airplanes with 13,000 or more flight cycles as of the effective date of this AD: Do the inspection within 1,300 flight cycles or 18 months after the effective date of this AD, whichever occurs first.'' The commenter adds that this compliance time supports maintenance flow.

The same commenter asks that the compliance time in paragraph (a)(1) of the proposed AD be changed to ''For airplanes with less than 13,000 flight cycles as of the effective date of this AD: Do the inspection prior to the accumulation of 13,000 flight cycles or within 1,300 flight cycles after the effective date of this AD, whichever occurs later.'' The commenter adds that this compliance time results in inspections and rework during scheduled A-checks.

We do not agree with the commenters. We have determined that a 1,000 flight cycle grace period for airplanes having more than 13,000 total flight cycles may not provide for an adequate level of safety for airplanes with low cycle usage. While there is some technical merit that a calendar-based compliance time should not apply to a fatigue issue, we have determined that the 1-year compliance time will ensure that the required inspections are completed in a timely manner, in particular, on airplanes that are well above the 13,000 total flight cycle threshold.

In developing an appropriate compliance time for the actions required by this AD, we considered not only those safety issues, but the manufacturer's recommendations and the practical aspect of accomplishing the inspection within an interval paralleling normal scheduled maintenance for the majority of affected operators. In light of the factors described previously, we consider ''within 1,000 flight cycles or 1 year after the effective date of this AD, whichever occurs first,'' to be an appropriate compliance time wherein safety will not be adversely affected. No change to the final rule is necessary in this regard.

Additional Change to Final Rule

Because the language in Note 3 of the proposed AD is regulatory in nature, that note has been redesignated as paragraph (b) of this final rule.

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 1,129 airplanes of the affected design in the worldwide fleet. The FAA estimates that 275 airplanes of U.S. registry will be affected by this AD, that it will take approximately 3 work hours per airplane to accomplish the inspection, and that the average labor rate is $60 per work hour. Based on these figures, the cost impact of this required inspection on U.S. operators is estimated to be $49,500, or $180 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.

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:

2003–10–06 Boeing: Amendment 39–13151. Docket 2000–NM–377–AD.

Applicability: Model 747 series airplanes, line numbers 1 through 1255 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 (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 find and fix cracking of the skin, bear strap, and sill chord of the lower lobe cargo door cutout, which could lead to reduced structural integrity of the lower lobe cargo door cutout, and result in rapid depressurization of the airplane, accomplish the following:

Repetitive Inspections

(a) Perform detailed and high frequency eddy current (HFEC) inspections to find cracking of the skin, bear strap, and sill chord at the upper aft and forward corners of the lower lobe cargo door cutout, per Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 2002. Do the initial inspections at the time shown in paragraph (a)(1) or (a)(2) of this AD, as applicable, and repeat the inspections at least every 3,000 flight cycles until paragraph (d) of this AD is accomplished.

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.''

(1) For airplanes with fewer than 13,000 total flight cycles as of the effective date of this AD: Do the inspection prior to the accumulation of 13,000 total flight cycles or within 1,000 flight cycles after the effective date of this AD, whichever is later.

(2) For airplanes with 13,000 or more total flight cycles as of the effective date of this AD: Do the inspection within 1,000 flight cycles or 1 year after the effective date of this AD, whichever is first.

Credit for Inspections Accomplished Per Original Issue of Service Bulletin

(b) Inspections accomplished prior to the effective date of this AD per Boeing Alert Service Bulletin 747–53A2448, including Appendix A, dated September 28, 2000, are considered acceptable for compliance with the applicable inspection(s) specified in paragraph (a) of this AD.

Repair

(c) If any crack is found during any inspection required by paragraph (a) of this AD: Before the next flight, repair per Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 2002, except as provided by paragraph (e) of this AD. Repairs and post-repair inspections done per Part 4 of the service bulletin end the repetitive inspections required by paragraph (a) of this AD for the repaired area only.

Optional Modification and Post-Modification Inspections

(d) If no crack is found during any inspection required by paragraph (a) of this AD, operators may accomplish paragraphs (d)(1) and (d)(2) of this AD.

(1) Do an optional modification of the lower lobe cargo door cutout (including removing the hinge fairing and its fasteners, oversizing fastener holes, and replacing existing fasteners with new fasteners and the grounding strap with a new strap) per Figure 4 or 7, as applicable, of Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 2002, except as provided by paragraph (e) of this AD. Such modification ends the repetitive inspections required by paragraph (a) of this AD.

(2) At the applicable compliance time and repetitive inspection interval specified in Figure 1 of Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 2002, perform detailed and HFEC inspections to find cracking of the skin at the upper aft and forward corners of the lower lobe cargo door cutout, per Figure 5 of the service bulletin. If any crack is found, before the next flight, repair per the service bulletin, except as provided by paragraph (e) of this AD.

Repair and Modification: Exception

(e) Where Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 2002, specifies to contact Boeing for repair or modification information: Repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved as required by this paragraph, the approval must specifically refer to 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 ACO. 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

(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) Except as provided by paragraphs (b) and (e) of this AD, the actions shall be done in accordance with Boeing Service Bulletin 747–53A2448, Revision 1, dated April 4, 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

(i) This amendment becomes effective on July 1, 2003.

Issued in Renton, Washington, on May 16, 2003.

Vi L. Lipski,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03–12840 Filed 5–23–03; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001–NM–231–AD; Amendment 39–13154; AD 2003–10–09]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 747–400 and –400F Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 747–400 and –400F series airplanes, that requires initial and, for certain airplanes, repetitive inspections of the rivets in the forward, top, and side panels of the nose wheel well (NWW) for discrepancies; and follow-on inspections and corrective action, if necessary. This amendment also provides eventual terminating action for the repetitive inspections. The actions specified by this AD are intended to find and fix discrepancies of the rivets in the NWW panels, which could result in failure of the rivets and consequent reduced structural integrity of the panels and rapid depressurization of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective July 1, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 1, 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) 917–6434; fax (425) 917–6535.

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 747–400 and –400F series