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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-214-AD; Amendment 39-14094; AD 2005-10-17]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 777-200 and -300 Series Airplanes

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

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 777-200 and -300 series airplanes, that requires modification of the bolt holes of the lower side of the body splice t-chord common to the paddle fittings of the lower wing panel. The modification includes performing a high frequency eddy current inspection of the fastener holes for cracks, repairing the hole if necessary, and replacing the fasteners with new inconel bolts. This action is necessary to prevent fatigue cracks in the lower t-chord at the bolt holes common to the paddle fittings that could result in fractures of one or more of the t-chord segments, which could lead to detachment of the lower wing panel and consequent loss of the wing. This action is intended to address the identified unsafe condition.

DATES: Effective June 23, 2005.

The incorporation by reference of a certain publication listed in the regulations is approved by the Director of the Federal Register as of June 23, 2005.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, 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.

FOR FURTHER INFORMATION CONTACT: Gary Oltman, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6443; 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 777-200 and -300 series airplanes was published in the Federal Register on June 16, 2004 (69 FR 33595). That action proposed to require modification of the bolt holes of the lower side

of the body splice t-chord common to the paddle fitting of the lower wing panel. The modification includes performing a high frequency eddy current inspection of the fastener hole for cracks, repairing the hole if necessary, and replacing the fasteners with new inconel bolts.

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.

Agreement With Proposed Modification

Two commenters generally agree with the proposal to mandate the modification specified in the proposed AD instead of allowing an option to accomplish repetitive inspections. One commenter notes that the work hours needed to do the modification are comparable to the work hours needed to do the inspection.

Request To Revise Compliance Times Based on "Sliding Scale" Equation

One commenter, the manufacturer, requests that the compliance times specified in paragraph (a) of the proposed AD be revised to be based on a "sliding scale" equation. The commenter states that the "sliding scale" equation determines compliance times based on an evaluation of the total flight cycles associated with the total flight hours. The commenter notes that the compliance times specified in paragraph (a) of the proposed AD were found to be adversely affecting operators who use airplanes on long missions. The commenter states that some airplanes are reaching the 60,000 total flight-hour threshold before reaching 8,000 total flight cycles. The commenter further contends that the cracks addressed in the proposed AD are largely a function of flight cycles, not flight hours, and that, for these airplanes, the proposed AD would mandate the modification before it is necessary.

We agree with the commenter to revise the compliance times specified in paragraph (a) of the final rule. However, we do not agree with the compliance time based on a "sliding scale" equation proposed by the commenter. That proposed compliance time would expand the compliance envelope for airplanes utilized on long missions but would reduce the compliance time for airplanes near the 20,000 flight-cycle and 60,000 flight-hour compliance envelope.

We held an ex-parte meeting with the commenter to discuss its proposed compliance time. The commenter presented data in support of a new "sliding scale" equation for the compliance time that differed from the equation proposed in the manufacturer's comment. The new proposed compliance time simply expanded the compliance time specified in the proposed AD. The new data were accepted and subsequently incorporated into Boeing Service Bulletin 777-57A0040, Revision 2, dated February 24, 2005. Boeing Service Bulletin 777-57A0040, Revision 1, dated July 10, 2003, was referenced as the appropriate source of service information for accomplishing the proposed actions. Revision 2 of the service bulletin contains the same actions for doing the modification as Revision 1 of the service bulletin.

We have revised paragraph (a) of the final rule to reference Revision 2 of the service bulletin as the appropriate source of service information for doing the actions, and we have revised paragraph (a)(1) of the final rule to specify the compliance times in the service bulletin. The service bulletin specifies the actions be done within approximately 20,000 total flight cycles, or 80,000 total flight hours, as shown in Figure 1 of the service bulletin.

We have also revised the applicability of the final rule to reference Revision 2 of the service bulletin. In addition, we added new paragraph (c) of the final rule to allow credit for actions done in accordance with Revision 1 of the service bulletin.

Request To Increase the Flight Hour Compliance Time

Several commenters request that the flight-hour compliance time specified in paragraph (a)(1) of the proposed AD be increased from 60,000 total flight hours to 65,000 total flight hours.

One commenter notes that, when its airplanes reach the 60,000 total flight-hour threshold, the airplanes will have only 12,000 total flight cycles, which is well below the 20,000 total flight-cycle threshold. The commenter states that increasing the flight-hour compliance time will allow accomplishing the modification at 65,000 total flight hours, which leaves approximately 7,000 flight cycles remaining before reaching the 20,000 total flight cycle threshold. The commenter also points out that it concurs with Boeing that the premature accomplishment of the modification would decrease the fatigue life of the affected area. The commenter notes that an airplane's productive life may be decreased if there is premature accomplishment of the modification because fatigue cracks may occur earlier than on airplanes that do not accomplish the modification prematurely. The commenter contends that increasing the flight-hour threshold will prevent premature accomplishment of the modification for airplanes having a low number of flight cycles.

One other commenter states that the issue addressed by the proposed AD is a fatigue concern and therefore the flight cycle compliance time is more relevant than the flight-hour compliance time. The commenter notes that Boeing is in agreement with the request to increase the compliance time to 65,000 flight hours. The commenter states that increasing the compliance time will allow it to accomplish the modification during heavy maintenance visits instead of light maintenance visits.

Another commenter states that further studies may show justification for greater increases in the compliance times.

We do not agree with the commenters' request to increase the flight-hour compliance time specified in paragraph (a)(1) of the final rule to 65,000 flight hours. The commenters did not provide data to substantiate that the change in compliance time would provide an acceptable level of safety. In addition, the manufacturer determined after further analysis that premature accomplishment of the modification is not an issue. However, as stated previously in the "Request to Revise Compliance Times Based on "Sliding Scale" Equation" paragraph, we have revised the compliance time specified in paragraph (a)(1) of the final rule to refer to the compliance time specified in Revision 2 of Boeing Service Bulletin 777-57A0040. The revised compliance time extends the compliance time threshold for certain airplanes.

In developing an appropriate compliance time for this action, we considered the urgency associated with the subject unsafe condition, the compliance times recommended by the manufacturer, and the practical aspect of accomplishing the required modification within a period of time that corresponds to the normal scheduled maintenance for most affected operators. In addition, according to the provisions of paragraph (d) of the final rule, we may approve requests to adjust the compliance time if the request includes data that substantiate that the new compliance time would provide an acceptable level of safety. No change is made to this final rule in this regard.

Request To Increase Flight Hour and Flight Cycle Compliance Time

One commenter requests that the compliance times specified in paragraph (a)(1) of the proposed AD be revised to "70,000 [total] flight hours or 10,000 [total] flight cycles, whichever comes first." The commenters state that this new compliance time would lessen the impact on operators that use high flight hour airplanes.

We partially agree with the request to revise the compliance times in paragraph (a)(1) of the final rule. The commenter did not provide data to substantiate that reducing the flight cycle threshold and increasing the flight hour threshold would provide an acceptable level of safety, and therefore, we have not revised the final rule in this regard. However, as stated previously in the "Request to Revise Compliance Times Based on "Sliding Scale" Equation" paragraph, we have revised the compliance time specified in paragraph (a)(1) of the final rule to refer to the compliance time specified in

Revision 2 of Boeing Service Bulletin 777-57A0040. Airplanes having 70,000 total flight hours and 10,000 total flight cycles would be compliant within the compliance time specified in Revision 2.

Request To Add Reference About the Early Accomplishment of the Modification

One commenter states it is concerned that the proposed AD does not include reference to flag note 2 of Figure 1 of Boeing Service Bulletin 777-57A0040, Revision 1, dated July 10, 2003, which states that "the full benefit of the modification will not be realized if the modification is accomplished too early in the airplane life." The commenter notes that, if the modification is done early and then cracks are discovered later, there may be future regulatory action. The commenter contends this would create an unnecessary burden to operators that accomplish the actions in the proposed AD.

We infer from the commenter's statement that it requests that a reference be added to the final rule regarding the early accomplishment of the modification as specified in Revision 1 of the service bulletin. However, as stated previously in the "Request to Revise Compliance Times Based on "Sliding Scale" Equation" paragraph, Revision 2 of the service bulletin is referenced as the appropriate source of service information for accomplishing the required actions in the final rule. Revision 2 of the service bulletin does not include flag note 2 of Figure 1 from Revision 1 of the service bulletin. After the manufacturer did further analysis, the manufacturer determined that the note is not necessary. We have not revised the final rule in this regard.

Request To Revise the Cost Impact

One commenter states that actions specified in the proposed AD will take 200 work hours and that the materials will cost \$24,000, for a total cost of \$464,266 per airplane.

We infer from the commenter's statement that it requests that the estimate be revised in the Cost Impact section of the final rule. We partially agree with the commenter to revise the Cost Impact section of the final rule. We have revised the work hour estimate in the final rule from approximately 34 work hours per airplane to 68 work hours per airplane. We do not agree to revise the work hour estimate to the commenter's work hour estimate of 200 work hours per airplane. The work hour estimate in the final rule represents only the time necessary to perform the specific actions actually required by the final rule. The work hour estimate typically does not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. The commenter's estimate of \$24,000 for materials is within the range specified in the Cost Impact section of the final rule, which specifies parts cost between approximately \$21,686 and \$24,803. We have not made a change to the parts cost estimate in the final rule in this regard.

Changes to Delegation Authority

Boeing has received a Delegation Option Authorization (DOA). We have revised this final rule to delegate the authority to approve an alternative method of compliance for any repair required by this AD (if specifically authorized) to the Authorized Representative for the Boeing DOA Organization rather than the Designated Engineering Representative (DER).

Conclusion

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

Cost Impact

There are approximately 262 airplanes of the affected design in the worldwide fleet. The FAA estimates that 73 airplanes of U.S. registry will be affected by this final rule, that it would take approximately 68 work hours per airplane to accomplish the required modification, and that the average labor rate is \$65 per work hour. Required parts will cost between approximately \$21,686 and \$24,803 per airplane. Based on these figures, the cost impact of the final rule on U.S. operators is estimated to be between \$1,905,738 and \$2,133, 279, or between \$26,106 and \$29,223 per airplane.

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.

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. 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.

This rulemaking is promulgated 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 AD.

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:

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).

2005-10-17 Boeing: Amendment 39-14094. Docket 2003-NM-214-AD.

Applicability

Model 777-200 and -300 series airplanes, certificated in any category, as identified in Boeing Service Bulletin 777-57A0040, Revision 2, dated February 24, 2005.

Compliance

Required as indicated, unless accomplished previously.

To prevent fatigue cracks in the lower t-chord at the bolt holes common to the paddle fittings that could result in fractures of one or more of the t-chord segments, which could lead to detachment of the lower wing panel and consequent loss of the wing, accomplish the following:

Modification of the Lower Paddle Fitting Bolt Holes/Fastener Replacement

(a) At the later of the times specified in paragraphs (a)(1) and (a)(2) of this AD, modify the bolt holes of the lower side of the body splice t-chord common to the paddle fittings of the lower wing panel (includes performing a high frequency eddy current inspection of the fastener hole for cracks, repairing the hole if necessary, and replacing the fasteners with new inconel bolts) by accomplishing all of the actions specified in "Part 2—Preventative Modification" of the Work Instructions of Boeing Service Bulletin 777-57A0040, Revision 2, dated February 24, 2005, except as provided by paragraph (b) of this AD. Any applicable repair must be accomplished before further flight.

(1) At the time specified in Figure 1 of the service bulletin. Where the service bulletin refers to compliance times as flight hours and flight cycles, this AD refers to the compliance times as total flight hours and total flight cycles.

(2) Within 1,500 days or 8,000 flight cycles after the effective date of this AD, whichever is first.

(b) If any crack is found during the modification required by paragraph (a) of this AD, and the service bulletin specifies to contact Boeing for additional instructions: Before further flight, repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or according to data meeting the certification basis of the airplane approved by an Authorized Representative for the Boeing Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

Actions Accomplished According to Previous Issue of Service Bulletin

(c) Actions accomplished before the effective date of this AD according to Boeing Service Bulletin 777-57A0040, Revision 1, dated July 10, 2003, are considered acceptable for compliance with the corresponding action specified in this AD.

Alternative Methods of Compliance

(d) In accordance with 14 CFR 39.19, the Manager, Seattle ACO, is authorized to approve alternative methods of compliance for this AD.

Incorporation by Reference

(e) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Service Bulletin 777-57A0040, Revision 2, dated February 24, 2005. 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. To get copies of the service information, go to Boeing Commercial Airplanes, 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 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.

Effective Date

(f) This amendment becomes effective on June 23, 2005.

Issued in Renton, Washington, on May 9, 2005.
Jeffrey E. Duven,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 05-9875 Filed 5-18-05; 8:45 am]
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