[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 57282 9/22/2000]

[Docket No. 2000-NM-259-AD; Amendment 39-11909; AD 2000-19-08]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 777 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to all Boeing Model 777 series airplanes. The existing AD requires repetitive detailed visual inspections to detect cracking of the coveskin on the outboard leading edge slats; a slat adjustment check; and corrective actions, if necessary. This amendment reduces the repetitive inspection interval, but also provides for an optional modification that would significantly increase the repetitive inspection interval. This amendment also revises the applicability of the existing AD to remove certain airplanes. This amendment is prompted by findings of increased vibration of the coveskins due to air leaking and resonating within the cavity between the fixed leading edge and the coveskin; the vibration can result in fatigue cracking and high fatigue loads. The actions specified in this AD are intended to detect and correct cracking and/or missing pieces of the coveskin on the outboard leading edge slats on the wings, which could result in skin separation or structural damage to the leading edge slats and consequent reduced controllability of the airplane.

DATES: Effective October 10, 2000.

The incorporation by reference of Boeing Alert Service Bulletin 777-57A0034, Revision 3, dated May 4, 2000, and Boeing Alert Service Bulletin 777-57A0034, Revision 4, dated July 20, 2000, as listed in the regulations, is approved by the Director of the Federal Register as of October 10, 2000.

The incorporation by reference of Boeing Alert Service Bulletin 777-57A0034, Revision 2, dated November 19, 1998, as listed in the regulations, was approved previously by the Director of the Federal Register as of March 8, 1999 (64 FR 8230, February 19, 1999).

Comments for inclusion in the Rules Docket must be received on or before November 21, 2000.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2000-NM-259-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain “Docket No. 2000-NM-259-AD” in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

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: Stan Wood, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2772; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: On February 9, 1999, the FAA issued AD 99-04-19, amendment 39-11044 (64 FR 8230, February 19, 1999), applicable to all Boeing Model 777 series airplanes, to require repetitive detailed visual inspections to detect cracking of the coveskin on the outboard leading edge slats; a slat adjustment check; and corrective actions, if necessary. That action was prompted by reports of fatigue cracking and/or missing pieces of the coveskin on the outboard leading edge slats. The actions required by that AD are intended to detect and correct such discrepancies, which could result in skin separation or structural damage to the leading edge slats and consequent reduced controllability of the airplane.

**Actions Since Issuance of Previous Rule**

Since the issuance of that AD, Boeing has conducted flight tests with instrumented slats. The testing revealed that the spanwise bulb seals of the slats can allow air to leak and resonate in the cavity between the fixed leading edge and the coveskin, which can cause the coveskin to vibrate. Testing also showed that this vibration resulted in fatigue loads much higher than expected. The vibration of the coveskin can also result in fatigue cracking of the slats. Undetected cracking of the slats could eventually lead to damage or skin separation on the slat trailing edge wedge of an outboard slat, and consequent loss of pieces of the trailing edge wedge. In addition, the maneuver margins and the speed margins to airplane stall will be decreased if a trailing edge wedge is lost or sufficiently damaged. A lost or sufficiently damaged wedge can cause the airplane to roll, with no warning, before the stall system operates.

Testing further revealed that the installation of foam inserts in the spanwise bulb seal resulted in increased compression and significantly reduced vibration of the coveskin.

**Explanation of Relevant Service Information**

The FAA has reviewed and approved Boeing Alert Service Bulletin 777-57A0034, Revision 3, dated May 4, 2000; and Revision 4, dated July 20, 2000. Revision 2 of this alert service bulletin was cited in AD 99-04-19 as the appropriate source of service information for the coveskin inspection and certain corrective actions.

Revision 3 of the alert service bulletin was issued to, among other things, recommend that an internal inspection and slat adjustment check be done only if a cracked slat is found. In addition, Revision 3 describes procedures for installing seal inserts into the spanwise bulb seals for the slats; if accomplished, the installation would significantly increase the repetitive inspection interval. Certain airplanes have received the seal inserts in production.

Revision 4 of the alert service bulletin was issued to recommend a compliance time(s) in terms of flight hours as well as flight cycles because the subject vibration occurs mainly during cruise, which is related to flight hours. Revision 4 also clarifies certain instructions for the slat adjustment check and internal inspection.

**Explanation of Requirements of Rule**

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of this same type design, this AD supersedes AD 99-04-19 to continue to require repetitive detailed visual inspections to detect cracking of the coveskin on the outboard leading edge slats; a slat adjustment check; and corrective actions, if necessary. This AD reduces the repetitive inspection interval, but also provides for an optional modification that would significantly increase the repetitive inspection interval. In addition, this AD removes certain airplanes from the applicability. The actions are required to be accomplished in accordance with the alert service bulletin described previously, except as discussed below.

**Differences Between AD and Relevant Service Information**

The alert service bulletin specifies that the manufacturer may be contacted for disposition of certain repair conditions. However, this AD requires the repair of those conditions to be accomplished in accordance with a method approved by the FAA.

**Interim Action**

This is considered to be interim action. The FAA is currently considering further rulemaking action to revise the applicability of this AD to include additional airplanes; however, the planned compliance time for the additional airplanes is sufficiently long so that notice and opportunity for prior public comment will be practicable.

**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.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

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-259-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 removing amendment 39-11044 (64 FR 8230, February 19, 1999), and by adding a new airworthiness directive (AD), amendment 39-11909, to read as follows:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

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

***We post ADs on the internet at "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).

**2000-19-08 BOEING:** Amendment 39-11909. Docket 2000-NM-259-AD. Supersedes AD 99-04-19, Amendment 39-11044.

Applicability: Model 777 series airplanes, certificated in any category; having line numbers 1 through 265 inclusive.

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 cracking and/or missing pieces of the coveskin on the outboard leading edge slats on the wings, which could result in skin separation or structural damage to the leading edge slats and consequent reduced controllability of the airplane, accomplish the following:

**Inspection**

(a) At the applicable time specified by paragraph (a)(1) or (a)(2) of this AD: Perform detailed visual inspections to detect cracking of the coveskin on the outboard leading edge slats of the left and right wings at slat numbers 1 through 6 inclusive, and 9 through 14 inclusive; in accordance with Boeing Alert Service Bulletin 777-57A0034, Revision 2, dated November 19, 1998; Revision 3, dated May 4, 2000; or Revision 4, dated July 20, 2000. Repeat the inspections thereafter at intervals not to exceed 100 flight cycles or 400 flight hours, whichever occurs first.

(1) For airplanes on which the repetitive inspections required by paragraph (a) of AD 99-04-19 HAVE been initiated prior to the effective date of this AD: Inspect at the earlier of the times specified by paragraphs (a)(1)(i) and (a)(1)(ii) of this AD.

(i) Within 350 flight cycles after the most recent inspection.

(ii) At the later of the times specified by paragraphs (a)(1)(ii)(A) and (a)(1)(ii)(B) of this AD.

(A) Within 100 flight cycles or 400 flight hours, whichever occurs first, after the most recent inspection.

(B) Within 30 days after the effective date of this AD.

(2) For airplanes on which the repetitive inspections required by paragraph (a) of AD 99-04-19 have NOT been initiated prior to the effective date of this AD: Inspect at the earlier of the times specified by paragraphs (a)(2)(i) and (a)(2)(ii) of this AD.

(i) Prior to the accumulation of 500 total flight cycles.

(ii) Prior to the accumulation of 2,000 total flight hours, or within 30 days after the effective date of this AD, whichever occurs later.

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."

**Corrective Action**

(b) If any cracking is detected during any inspection required by paragraph (a) of this AD, prior to further flight, accomplish all applicable corrective actions specified by and in accordance with Boeing Alert Service Bulletin 777-57A0034, Revision 2, dated November 19, 1998; Revision 3, dated April 4, 2000; or Revision 4, dated July 20, 2000. The corrective actions include stop drilling the crack and performing detailed visual inspections, slat adjustment checks, and replacement of the slats. Where the alert service bulletin specifies to contact Boeing for appropriate action: Prior to further flight, repair in accordance with a method approved by the Manager, Seattle Aircraft Certification Office, FAA. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the Manager's approval letter must specifically reference this AD. After the effective date of this AD, only Revision 4 of the alert service bulletin may be used.

**Optional Modification**

(c) Accomplishment of the actions specified by paragraphs (c)(1) and (c)(2) of this AD extends the repetitive inspection interval specified by paragraph (a) of this AD to 8,000 flight cycles.

(1) Install a seal insert into the spanwise bulb seals for the slats in accordance with Part 4 of Boeing Alert Service Bulletin 777-57A0034, Revision 3, dated May 4, 2000; or Revision 4, dated July 20, 2000.

(2) Within 750 days or 4,000 flight cycles, whichever occurs first, after installing the seal insert as specified by paragraph (c)(1) of this AD: Perform a detailed visual inspection of the interior structure of the coveskin at slat numbers 1 through 6 inclusive, and 9 through 14 inclusive, in accordance with Part 2 of the Accomplishment Instructions of the alert service bulletin.

**Alternative Methods of Compliance**

(d) (1) 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.

(2) Alternative methods of compliance, approved previously in accordance with AD 99-04-19, amendment 39-11044, are approved as alternative methods of compliance with paragraph (b) of this AD.

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 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**

(f) Except as provided by paragraph (b) of this AD: The actions shall be done in accordance with Boeing Alert Service Bulletin 777-57A0034, Revision 2, dated November 19, 1998; Boeing Alert Service Bulletin 777-57A0034, Revision 3, dated May 4, 2000; and Boeing Alert Service Bulletin 777-57A0034, Revision 4, dated July 20, 2000; as applicable.

(1) The incorporation by reference of Boeing Alert Service Bulletin 777-57A0034, Revision 3, dated May 4, 2000, and Boeing Alert Service Bulletin 777-57A0034, Revision 4, dated July 20, 2000, is approved by the Director of the Federal Register, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Alert Service Bulletin 777-57A0034, Revision 2, dated November 19, 1998, was approved previously by the Director of the Federal Register as of March 8, 1999 (64 FR 8230, February 19, 1999).

(3) 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 October 10, 2000.

FOR FURTHER INFORMATION CONTACT: Stan Wood, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2772; fax (425) 227-1181.

Issued in Renton, Washington, on September 14, 2000.
Donald L. Riggin, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.