

## Airworthiness Directive

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#### ▼ Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [64 FR 987 No. 4 01/07/99]

Docket No. 96-NM-264-AD; Amendment 39-10984; AD **98-11-04** R1

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100 and -200 Series Airplanes

**PDF Copy (If Available):**

#### ▼ Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule; correction.

**SUMMARY:** This amendment corrects information in an existing airworthiness directive (AD), applicable to all Boeing Model 737-100 and -200 series airplanes, that currently requires that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each Structural Significant Item, and repair of cracked structure. The actions specified in that AD are intended to ensure the continued structural integrity of the entire Boeing Model 737-100 and -200 fleet. This amendment corrects the requirements of the current AD by allowing operators not to change their programs if they determine that the existing inspections are effective for the new or affected SSI. This amendment is prompted by a review of the requirements of the existing AD.

**DATES:** Effective June 23, 1998.

The incorporation by reference of certain publications listed in the regulations was approved previously by the Director of the Federal Register as of June 23, 1998 (63 FR 27465, May 19, 1998).

FOR FURTHER INFORMATION CONTACT: Greg Schneider, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Washington; telephone (425) 227-2028; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: On May 12, 1998, the FAA issued AD **98-11-04**, amendment 39-10531 (63 FR 27465, May 19, 1998), which is applicable to all Boeing Model 737-100 and -200 series airplanes. That AD requires that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each Structural Significant Item (SSI), and repair of cracked structure. That action was prompted by a structural re-evaluation by the manufacturer which identified additional structural elements where, if damage were to occur, supplemental inspections may be required for timely detection. The actions required by that AD are intended to ensure the continued structural integrity of the entire Boeing Model 737-100 and -200 fleet.

AD **98-11-04** contains provisions regarding when operators must revise their maintenance or inspection program to address SSI's that are created or affected by repairs and design changes. As discussed in the preamble to the final rule, the FAA intended that such revisions be made only if a damage tolerance assessment indicates that such a change is necessary because existing inspections are ineffective for the SSI. Paragraph (d)(1) of the AD, applicable to repairs and design changes accomplished prior to the effective date of the AD, properly states the FAA's intent. However, the FAA inadvertently omitted a comparable provision in paragraph (g), which applies to repairs and design changes accomplished after the effective date of the AD. As adopted, paragraph (g) requires that operators revise their maintenance programs following repairs and design changes, regardless of whether a damage tolerance assessment indicates that the existing applicable inspection continue to be effective. Therefore, consistent with the FAA's intent, this correction is necessary to allow operators not to change their programs if they determine that the existing inspections are effective for the new or affected SSI.

Action is taken herein to correct these requirements of AD **98-11-04** and to correctly add the AD as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13).

The final rule is being reprinted in its entirety for the convenience of affected operators. The effective date remains June 23, 1998.

Since this action only corrects a current requirement, it has no adverse economic impact and imposes no additional burden on any person. Therefore, notice and public procedures hereon are unnecessary.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Correction**

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 39-10531 (63 FR 27465, May 19, 1998), and by adding a new airworthiness directive (AD), amendment 39-10984, to read as follows:

**▼ Regulatory Information**

**98-11-04 R1 BOEING:** Amendment 39-10984. Docket 96-NM-264-AD. Revises AD **98-11-04**, Amendment 39-10531.

Applicability: All Model 737-100 and -200 series airplanes (including Model 737-200C series airplanes), certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To ensure the continued structural integrity of the entire Boeing Model 737-100 and -200 fleet:

**NOTE 1:** Where there are differences between the AD and the Supplemental Structural Inspection Document, the AD prevails.

(a) For airplanes listed in Section 3.0 of Boeing Document No. D6-37089, "Supplemental Structural Inspection Document" (SSID), Revision B, dated February 18, 1987, and Revision C, dated January 1990: Within 12 months after August 9, 1991 (the effective date of AD 91-14-20, amendment 39-7061), incorporate a revision into the FAA-approved maintenance inspection program which provides no less than the required damage tolerance rating (DTR) for each Structural Significant Item (SSI) listed in that document. (The required DTR value for each SSI is listed in the document.) The revision to the maintenance program shall include and shall be implemented in accordance with the procedures in Sections 5.0 and 6.0 of the SSID. This revision shall be deleted following accomplishment of the requirements of paragraph (b) of this AD.

**NOTE 2:** For the purposes of this AD, an SSI is defined as a principal structural element that could fail and consequently reduce the structural integrity of the airplane.

(b) Prior to reaching the threshold specified in paragraph (c) of this AD, or within 12 months after the effective date of this AD, whichever occurs later, incorporate a revision into the FAA-approved maintenance or inspection program that provides no less than the required DTR for each SSI listed in Boeing Document No. D6-37089, "Supplemental Structural Inspection Document" (SSID), Revision D, dated June 1995 (hereinafter referred to as "Revision D"). (The required DTR value for each SSI is listed in the

document.) Except as provided to the contrary in paragraphs (c), (d), and (g) of this AD, the revision to the maintenance or inspection program shall include and shall be implemented in accordance with the procedures in Section 5.0, "Damage Tolerance Rating (DTR) System Application" and Section 6.0, "SSI Discrepancy Reporting" of Revision D. Upon incorporation of the revision required by this paragraph, the revision required by paragraph (a) of this AD may be deleted.

(c) Except as provided in paragraph (d), (e), or (g) of this AD, perform an inspection to detect cracks in all structure identified in Revision D at the time specified in paragraph (c)(1) or (c)(2) of this AD, as applicable.

(1) For Model 737-200C series airplanes: Inspect prior to the accumulation of 46,000 total flight cycles, or within 4,000 flight cycles measured from the date 12 months after the effective date of this AD, whichever occurs later.

**NOTE 3:** The requirements specified in paragraph (c)(1) of this AD only apply to airplanes listed as 737-200C on the type certificate data sheet. Paragraph (c)(1) does not apply to airplanes that have been modified from a passenger configuration to an all-cargo configuration by supplemental type certificate (STC). Paragraphs (c)(2) and (d) apply to those airplanes.

(2) For all airplanes, except for those airplanes identified in paragraph (c)(1) of this AD: Inspect prior to the accumulation of 66,000 total flight cycles, or within 4,000 flight cycles measured from the date 12 months after the effective date of this AD, whichever occurs later.

**NOTE 4:** Notwithstanding the provisions of paragraphs 5.1.1, 5.1.2, 5.1.6(e), 5.1.11, 5.1.12, 5.1.13, 5.2, 5.2.1, 5.2.2, 5.2.3, and 5.2.4 of the General Instructions of Revision D, which would permit operators to perform fleet and rotational sampling inspections, to perform inspections on less than whole airplane fleet sizes and to perform inspections on substitute airplanes, this AD requires that all airplanes that exceed the threshold be inspected in accordance with Revision D.

**NOTE 5:** Once the initial inspection has been performed, operators are required to perform repetitive inspections at the intervals specified in Revision D in order to remain in compliance with their maintenance or inspection programs, as revised in accordance with paragraph (b) of this AD.

(d) For airplanes on which the structure identified in Revision D has been physically altered in accordance with an STC prior to the effective date of this AD: Accomplish the requirements specified in paragraph (d)(1) or (d)(2) of this AD.

(1) Within 18 months after the effective date of this AD, assess the damage tolerance characteristics of each SSI created or affected by each STC to determine the effectiveness of the applicable Revision D inspection for each SSI and, if not effective, revise the FAA-approved maintenance or inspection program to include an inspection method for each new or affected SSI, and to include the compliance times for initial and repetitive

accomplishment of each inspection. Following accomplishment of the revision and within the compliance times established, perform an inspection to detect cracks in the structure affected by any design change or repair, in accordance with the new inspection method. The new inspection method and the compliance times shall be approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate.

**NOTE 6:** For purposes of this AD, an SSI is "affected" if it has been physically altered or repaired, or if the loads acting on the SSI have been increased or redistributed. The effectiveness of the applicable inspection method and compliance time should be determined based on a damage tolerance assessment methodology, such as that described in FAA Advisory Circular AC No. 91-56, Change 2, dated April 15, 1983.

(2) Accomplish paragraphs (d)(2)(i), (d)(2)(ii), and (d)(2)(iii) of this AD.

(i) Within 18 months after the effective date of this AD, submit a plan that describes a methodology for accomplishing the requirements of paragraph (d)(1) of this AD to the Manager, Seattle ACO, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; fax (425) 227-1181.

**NOTE 7:** The plan should include a detailed description of the: STC; methodology for identifying new or affected SSI's; method for developing loads and validating the analysis; methodology for evaluating and analyzing the damage tolerance characteristics of each new or affected SSI; and proposed inspection method. The plan would not need to include all of these elements if the operator can otherwise demonstrate that its plan will enable the operator to comply with paragraph (d)(2)(iii) of this AD.

(ii) Within 18 months after the effective date of this AD, perform a detailed visual inspection in accordance with a method approved by the Manager, Seattle ACO to detect cracks in all structure identified in Revision D that has been altered by an STC.

(A) If no crack is detected, repeat the detailed visual inspection thereafter at intervals not to exceed 18 months.

(B) If any crack is detected, prior to further flight, repair it in accordance with a method approved by the Manager, Seattle ACO.

(iii) Within 48 months after the effective date of this AD, revise the FAA-approved maintenance or inspection program to include an inspection method for each new or affected SSI, and to include the compliance times for initial and repetitive accomplishment of each inspection. The inspection methods and the compliance times shall be approved by the Manager, Seattle ACO. Accomplishment of the actions specified in this paragraph constitutes terminating action for the repetitive inspection requirements of paragraph (d)(2)(ii)(A) of this AD.

**NOTE 8:** Notwithstanding the provisions of paragraphs 5.1.17 and 5.1.18 of the General

Instructions of Revision D, which would permit deletions of modified, altered, or repaired structure from the SSIP, the inspection of SSI's that are modified, altered, or repaired shall be done in accordance with a method approved by the Manager, Seattle ACO.

(e) For airplanes on which the structure identified in Revision D has been repaired or physically altered by any design change other than an STC identified in paragraph (d), prior to the effective date of this AD: At the time of the first inspection of each SSI after the effective date of this AD in accordance with Revision D, identify each repair or design change to that SSI. Within 12 months after such identification, assess the damage tolerance characteristics of each SSI created or affected by each repair or design change to determine the effectiveness of the applicable SSID inspection for each SSI and, if not effective, revise the FAA-approved maintenance or inspection program to include an inspection method and compliance times for each new or affected SSI. The new inspection method and the compliance times shall be approved by the Manager, Seattle ACO.

**NOTE 9:** For the purposes of this AD, a design change is defined as any modification, alteration, or change to operating limitations.

(f) Except as provided in paragraph (d)(2)(ii)(B) of this AD, cracked structure found during any inspection required by this AD shall be repaired, prior to further flight, in accordance with an FAA-approved method.

(g) For airplanes on which the structure identified in Revision D is affected by any design change (including STC's) or repair that is accomplished after the effective date of this AD: Within 12 months after that modification, alteration, or repair, assess the damage tolerance characteristics of each SSI created or affected by each repair or design change to determine the effectiveness of the applicable SSID inspection for each SSI and, if not effective, revise the FAA-approved maintenance or inspection program to include an inspection method and compliance times for each new or affected SSI, and to include the compliance times for initial and repetitive accomplishment of each inspection. The new inspection method and the compliance times shall be approved by the Manager, Seattle ACO.

**NOTE 10:** Notwithstanding the provisions of paragraphs 5.1.17 and 5.1.18 of the General Instructions of Revision D, which would permit deletions of modified, altered, or repaired structure from the SIP, the inspection of SSI's that are modified, altered, or repaired shall be done in accordance with a method approved by the Manager, Seattle ACO.

(h) Before any airplane that is subject to this AD and that has exceeded the applicable compliance times specified in paragraph (c) of this AD can be added to an air carrier's operations specifications, a program for the accomplishment of the inspections required by this AD must be established in accordance with paragraph (h)(1) or (h)(2) of this AD, as applicable.

(1) For airplanes that have been inspected in accordance with this AD, the inspection of each SSI must be accomplished by the new operator in accordance with the previous operator's schedule and inspection method, or the new operator's schedule and inspection method, whichever would result in the earlier accomplishment date for that SSI inspection. The compliance time for accomplishment of this inspection must be measured from the last inspection accomplished by the previous operator. After each inspection has been performed once, each subsequent inspection must be performed in accordance with the new operator's schedule and inspection method.

(2) For airplanes that have not been inspected in accordance with this AD, the inspection of each SSI required by this AD must be accomplished either prior to adding the airplane to the air carrier's operations specification, or in accordance with a schedule and an inspection method approved by the Manager, Seattle ACO. After each inspection has been performed once, each subsequent inspection must be performed in accordance with the new operator's schedule.

(i) (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.

**NOTE 11:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(2) Alternative methods of compliance, approved previously in accordance with AD 91-14-20, amendment 39-7061, are not considered to be approved as alternative methods of compliance with this AD.

(j) 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.

(k) The actions specified in paragraphs (b) and (c) shall be done in accordance with Boeing Document No. D6-37089, "Supplemental Structural Inspection Document" (SSID), Revision D, dated June 1995, which contains the following list of effective pages:

	<b>Page Number</b>	<b>Revision Level</b>
	<b>Shown on Page</b>	<b>Shown on Page</b>
	List of Effective Pages	D
	Pages 1 thru 10	

(NOTE: The issue date of Revision D is indicated only on the title page; no other page of the document is dated.). This incorporation by reference was approved previously by the Director of the Federal Register, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51, as of June 23, 1998 (63 FR 27465, May 19, 1998). 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 FAA, the FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(l) The effective date of this amendment remains June 23, 1998.

▼ **Footer Information**

▼ **Comments**