U.S. DEPARTMENT OF TRANSPORATION
FEDERAL AVIATION ADMINISTRATION

Airworthiness Directive

95-12-17 BOEING: Amendment 39-9268. Docket 94-NM-159-AD.

Applicability: Model 737-100 and 200 series airplanes, line numbers 1 through 999, 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 use the authority provided in paragraph (h) to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition; or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any airplane from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent reduced structural integrity of the outboard chords, and subsequent rapid decompression of the airplane, accomplish the following:

(a) For airplanes on which the body station (BS) 727 frame upper outboard chord has been replaced in accordance with Boeing Service Bulletin 737-53-1088: Prior to the accumulation of 30,000 total flight cycles since replacement of the upper outboard chord, or within 4,500 flight cycles after the effective date of this AD, whichever occurs later, perform close visual, pulse echo shear wave (PESW), and high frequency eddy current (HFEC) inspections to detect cracks in the outboard chord of the frame at Body station (BS) 727 and in the outboard chord of stringer 18A, in accordance with Part I of the Accomplishment Instructions of either Boeing Alert Service Bulletin 737-53A1166, dated June 30, 1994; or Boeing Service Bulletin 737-53A1166, Revision 1, dated May 25, 1995.

(b) Repeat the inspections required by paragraph (a) of this AD as follows, until the optional terminating action described in paragraph (g) of this AD is accomplished:

(1) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 27,000 or more total flight cycles, but fewer than 50,000 total flight cycles, since the replacement of the outboard chord: Perform the next inspection within 15,000 flight cycles. Repeat the inspection thereafter at intervals not to exceed 15,000 flight cycles until the airplane has accumulated 50,000 or more total flight cycles since the replacement of the outboard chord; then perform the inspections required by paragraph (b)(2) of this AD.

(2) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 50,000 or more total flight cycles, but fewer than 60,000 total flight cycles, since the replacement of the outboard chord: Perform the next inspection within 7,500 flight cycles. Repeat the inspection thereafter at intervals not to exceed 7,500 flight cycles until the airplane has accumulated 60,000 or more total flight cycles since the replacement of the outboard chord; then perform the inspections required by paragraph (b)(3) of this AD.

(3) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 60,000 or more total flight cycles, but fewer than 70,000 total flight cycles, since the replacement of the outboard chord: Perform the next inspection within 5,000 flight cycles. Repeat the inspection thereafter at intervals not to exceed 5,000 flight cycles until the airplane has accumulated 70,000 or more total flight cycles since the replacement of the outboard chord; then perform the inspections required by paragraph (b)(4) of this AD.

(4) If, at the time of the most recent inspection required by paragraph (a) or (b) of this AD, the airplane has accumulated 70,000 or more total flight cycles since replacement of the outboard chord: Perform the next inspection within 3,000 flight cycles. Repeat the inspection thereafter at intervals not to exceed 3,000 flight cycles.

(c) For airplanes on which the BS 727 frame outboard chord has not been replaced or on which only the lower outboard chord has been replaced in accordance with Boeing Service Bulletin 737-53-1088: Perform close visual, PESW, and HFEC inspections to detect cracks in the outboard chord of the frame at BS 727 and in the outboard chord of stringer 18A, in accordance with Part I of the Accomplishment Instructions of either Boeing Alert Service Bulletin 737-53A1166, dated June 30, 1994; or Boeing Service Bulletin 737-53A1166, Revision 1, dated May 25, 1995. Perform these inspections initially at the time specified in paragraph (c)(1), (c)(2), (c)(3), or (c)(4), as applicable. Repeat these inspections thereafter at the intervals specified in paragraph (d) of this AD.

(1) For airplanes that have accumulated 27,000 or more total flight cycles, but fewer than 50,000 total flight cycles, as of the effective date of this AD: Inspect prior to the accumulation of 4,500 flight cycles after the effective date of this AD.

(2) For airplanes that have accumulated 50,000 or more total flight cycles, but fewer than 60,000 total flight cycles, as of the effective date of this AD: Inspect prior to the accumulation of 2,500 flight cycles after the effective date of this AD.

(3) For airplanes that have accumulated 60,000 or more total flight cycles, but fewer than 70,000 total flight cycles as of the effective date of this AD: Inspect prior to the accumulation of 1,500 flight cycles after the effective date of this AD.

(4) For airplanes that have accumulated 70,000 or more total flight cycles as of the effective date of this AD: Inspect prior to the accumulation of 500 flight cycles or within 90 days after the effective date of this AD, whichever occurs first.

(d) Repeat the inspections required by paragraph (c) of this AD as follows, until the optional terminating action described in paragraph (g) of this AD is accomplished:

(1) If, at the time of the most recent inspection required by paragraph (c) or (d) of this AD, the airplane has accumulated 27,000 or more total flight cycles, but fewer than 50,000 total flight cycles: Perform the next inspection within 15,000 flight cycles. Repeat the inspection thereafter at intervals not to exceed 15,000 flight cycles until the airplane has accumulated 50,000 or more total flight cycles; then perform the inspections required by paragraph (d)(2) of this AD.

(2) If, at the time of the most recent inspection required by paragraph (c) or (d) of this AD, the airplane had accumulated 50,000 or more total flight cycles, but fewer than 60,000 total flight cycles: Perform the next inspection within 7,500 flight cycles. Repeat the inspection thereafter at intervals not to exceed 7,500 flight cycles until the airplane has accumulated 60,000 or more total flight cycles; then perform the inspections required by paragraph (d)(3) of this AD.

(3) If, at the time of the most recent inspection required by paragraph (c) or (d) of this AD, the airplane had accumulated 60,000 or more total flight cycles, but fewer than 70,000 total flight cycles: Perform the next inspection within 5,000 flight cycles. Repeat the inspection thereafter at intervals not to exceed 5,000 flight cycles until the airplane has accumulated 70,000 or more total flight cycles; then perform the inspections required by paragraph (b)(4) of this AD.

(4) If, at the time of the most recent inspection required by paragraph (c) or (d) of this AD, the airplane had accumulated 70,000 or more total flight cycles: Perform the next inspection within 3,000 flight cycles. Repeat the inspection thereafter at intervals not to exceed 3,000 flight cycles.

(e) If any crack is found in the outboard chord of stringer 18A during any inspection required by this AD, repair prior to further flight, in accordance with either paragraph (e)(1) or (e)(2) of this AD.

(1) Boeing Service Bulletin 737-53A1166, Revision 1, dated May 25, 1995, or

(2) A method approved by the Manager, Seattle Aircraft Certification Office, FAA, Transport Airplane Directorate.

(f) If any crack is found in the outboard chord of the frame at BS 727 during any inspection required by this AD, accomplish paragraph (f)(1) or (f)(2) of this AD, as applicable, in accordance with either Boeing Alert Service Bulletin 737-53A1166, dated June 30, 1994; or Boeing Service Bulletin 737-53A1166, Revision 1, dated May 25, 1995.

(1) For any crack that extends from the forward edge of the chord or from the forward fastener hole, but that does not extend past the second fastener hole, accomplish either paragraph (f)(1)(i) or (f)(1)(ii) of this AD. Thereafter, perform initial and repetitive inspections in accordance with paragraphs (a) and (b) of this AD.

(i) Prior to further flight, install the time limited repair. Prior to the accumulation of 4,500 flight cycles or within 18 months, after accomplishing the time-limited repair, whichever occurs first, replace the outboard chord. Or

(ii) Prior to further flight, replace the outboard chord.

NOTE 2: Boeing Alert Service Bulletin 737-53A1166 references Boeing Service Bulletin 737-53-1088 as an additional source of service information for procedures to replace the chord.

(2) For any crack that extends from the forward edge of the chord, or from the forward fastener hole, and that extends past the second fastener hole, prior to further flight, replace the outboard chord in accordance with the alert service bulletin. Thereafter, perform initial and repetitive inspections in accordance with paragraphs (a) and (b) of this AD.

(g) Accomplishment of the following actions in accordance with either Boeing Alert Service Bulletin 737-53A1166, dated June 30, 1994, or Revision 1, dated May 25, 1995, constitutes terminating actions for the requirements of this AD:

(1) For airplanes on which no crack is found: Install the preventative modification in accordance with the alert service bulletin.

(2) For airplanes on which any crack is found: Prior to further flight, replace the cracked chord and install the preventative modification in accordance with the alert service bulletin.

(h) 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, Transport Airplane Directorate. 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.

(i) 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.

(j) The inspections and replacement shall be done in accordance with either Boeing Alert Service Bulletin 737-53A1166, dated June 30, 1994, including Addendum, or Boeing Service Bulletin 737-53A1166, Revision 1, dated May 25, 1995, including Addendum. 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.

(k) This amendment becomes effective on August 18, 1995.