



CIVIL AVIATION AUTHORITY
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AIRWORTHINESS DIRECTIVE

Number: CAA-AD-095/2003
Supersedes CAA-AD-104/2002
Date of issue: December 09, 2003
BOEING
737-100, -200, -200C, -300, -400, -500

AIRCRAFT - FLAP TRACKS - NONDESTRUCTIVE TEST INSPECTION

Applicability: All Model 737-100, -200, -200C, -300, -400, and - 500 series airplanes; certificated in any category.

Effective date: January 22, 2004

Compliance: Required as indicated FAA AD 2003-24-08.

Remarks: The compliance of this AD must be recorded in Aircraft Logbook, where applicable the requirements of this AD must be integrated into Aircraft Technical Documentation. Address inquiries concerning this AD to: Civil Aviation Authority, Airworthiness Division, Ruzyně Airport, 160 08 Prague 6, Czech Republic, tel.: 420 2 33320922, fax: 420 2 20562270.

Ing. Pavel MATOUŠEK
Director

2003-24-08 Boeing: Amendment 39-13377. Docket 2003-NM-249-AD. Supersedes AD 2002-22-05, Amendment 39-12929.

Applicability: All Model 737-100, -200, -200C, -300, -400, and -500 series airplanes; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct cracked, corroded, or fractured carriage spindles and to prevent severe flap asymmetry, which could result in reduced control or loss of controllability of the airplane, accomplish the following:

Requirements of AD 2002-22-05, Amendment 39-12929

Repetitive Inspections

(a) Do general visual and nondestructive test (NDT) inspections of each carriage spindle (two on each flap) of the left and right outboard mid-flaps to find cracks, fractures, or corrosion at the later of the times specified in paragraphs (a)(1) and (a)(2) of this AD, as applicable, per the Work Instructions of Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002. Repeat the inspection at least every 180 days until paragraph (d) or (f) of this AD is done.

(1) Before the accumulation of 12,000 total flight cycles or 8 years in-service on new or overhauled carriage spindles, whichever is first.

(2) Within 90 days after November 15, 2002 (the effective date of AD 2002-22-05).

Note 1: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

Corrective Action

(b) If any crack, fracture, or corrosion is found during any inspection required by paragraph (a) of this AD: Before further flight, do the applicable actions for that spindle as specified in paragraph (b)(1) or (b)(2) of this AD, per the Work Instructions of Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002. Then repeat the inspections required by paragraph (a) of this AD every 12,000 flight cycles or 8 years, whichever is first; on the overhauled or replaced spindle only until paragraph (d) or (f) of this AD is done.

(1) If any corrosion is found in the carriage spindle, overhaul the spindle.

(2) If any crack or fracture is found in the carriage spindle, replace with a new or overhauled carriage spindle.

New Actions Required by This AD

Compliance Times for New Actions

(c) The tables in paragraph 1.E., "Compliance" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, specify the compliance times for this AD. For carriage spindles that have accumulated the number of flight cycles or years in service specified in the "Threshold" column of the tables, accomplish the gap check and NDT and general visual inspections specified in paragraphs (d) and (f) of this AD within the corresponding interval after the effective date of this AD, as specified in the "Interval" column. Repeat the gap check and NDT and general visual inspections at the same intervals, except:

(1) The gap check does not have to be done at the same time as an NDT inspection; after doing an NDT inspection, the interval for doing the next gap check can be measured from the NDT inspection; and

(2) As carriage spindles gain flight cycles or years in service and move from one category in the "Threshold" column to another, they are subject to the repetitive inspection intervals corresponding to the new threshold category.

Work Package 2: Gap Check

(d) Perform a gap check of the inboard and outboard carriage of the left and right outboard mid-flaps to determine if there is a positive indication of a severed carriage spindle, in accordance with Work Package 2 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003. Accomplishment of the gap check terminates the repetitive inspection requirements of paragraphs (a) and (b) of this AD.

Work Package 2: Corrective Actions

(e) If there is a positive indication of a severed carriage spindle during the gap check required by paragraph (d) of this AD, before further flight, remove the carriage spindle and install a new or serviceable carriage spindle in accordance with Work Package 2 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003. If, as a result of the detailed inspection described in paragraph 4.b. of Work Package 2 of the service bulletin, a carriage spindle is found not to be severed and no corrosion or crack is present, it can be reinstalled on the mid-flap per the service bulletin.

Work Package 1: Inspections

(f) Perform a NDT inspection and general visual inspection for each carriage spindle of the left and right outboard mid-flaps to detect cracks, corrosion, or severed carriage spindles, in accordance with Work Package 1 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003. Accomplishment of these inspections terminates the repetitive inspection requirements of paragraphs (a) and (b) of this AD.

Work Package 1: Corrective Actions

(g) If any corroded, cracked, or severed carriage spindle is found during any inspection required by paragraph (f) of this AD, before further flight, remove the carriage spindle and install a new or serviceable carriage spindle in accordance with Work Package 1 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003.

Parts Installation

(h) Except as provided in paragraph (e) of this AD: As of the effective date of this AD, no person may install on any airplane a carriage spindle that has been removed as required by paragraph (e) or (g) of this AD, unless it has been overhauled per paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; except that, to be eligible for installation under this paragraph, the carriage spindle must have been overhauled per the requirements of paragraph (i) of this AD.

(i) During accomplishment of any overhaul specified in paragraph (h) of this AD, use the procedures specified in paragraphs (i)(1) and (i)(2) of this AD during application of the nickel plating to the carriage spindle in addition to those specified in Boeing 737 Standard Overhaul Practices Manual, Chapter 20-42-09.

(1) The maximum deposition rate of the nickel plating in any one plating/baking cycle must not exceed 0.002-inches-per-hour.

(2) Begin the hydrogen embrittlement relief bake within 10 hours after application of the plating, or less than 24 hours after the current was first applied to the part, whichever is first.

Exception to Reporting Recommendations in Service Bulletins

(j) Although the service bulletins recommend that operators report inspection findings to the manufacturer, this AD does not contain such a reporting requirement.

Alternative Methods of Compliance

(k)(1) In accordance with 14 CFR 39.19, the Manager, Seattle Aircraft Certification Office (ACO), FAA, is authorized to approve alternative methods of compliance (AMOCs) for this AD.

(2) Alternative methods of compliance, approved previously per AD 2002-22-05, amendment 39-12929, are approved as alternative methods of compliance for paragraphs (a) and (b) of this AD.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings.

Incorporation by Reference

(1) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 737-57A1277, dated July 25, 2002; and Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003.

(1) The incorporation by reference of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, 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 737-57A1277, dated July 25, 2002, was approved previously by the Director of the Federal Register as of November 15, 2002 (67 FR 66316, October 31, 2002).

(3) Copies may be obtained from 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 Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(m) This amendment becomes effective on December 4, 2003.

▼ Footer Information

Issued in Renton, Washington, on November 24, 2003.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.

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