



CIVIL AVIATION AUTHORITY  
CZECH REPUBLIC  
Airworthiness Division

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## AIRWORTHINESS DIRECTIVE

**Number: CAA-AD-087/2004**

Date of issue: September 17, 2004

**BOEING**

737-200, -200C, -300, -400, -500

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*This AD has been issued in accordance with Decision No.: 2/2003 of the Executive Director of the EASA (ADs issued by the state of design are automatically adopted in EU member states).*

### AIRCRAFT - SKIN PANELS OF FUSELAGE - INSPECTION

**Applicability:** Model 737-200, -200C, -300, -400, and -500 series airplanes, as listed in Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001; certificated in any category.

**Effective date:** October 28, 2004

**Compliance:** Required as indicated FAA AD 2004-18-06.

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*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

**2004-18-06 Boeing:** Amendment 39-13784. Docket 2001-NM-246-AD.

*Applicability:* Model 737-200, -200C, -300, -400, and -500 series airplanes, as listed in Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001; 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 request approval for an alternative method of compliance in accordance with paragraph (j) 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 find and fix fatigue cracking of certain upper and lower skin panels of the fuselage, which could result in sudden fracture and failure of the skin panels and consequent rapid decompression of the airplane, accomplish the following:

### **External Detailed and Eddy Current Inspections**

(a) For Groups 1 through 6 and Group 8 airplanes: Before the accumulation of 35,000 total flight cycles, or within 4,500 flight cycles after the effective date of this AD, whichever is later, do external detailed and eddy current inspections of the crown area and other known areas of fuselage skin cracking, per Part 1 and Figure 1 of the Work Instructions of Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001, except as provided by paragraph (i) of this AD. Repeat the external detailed and eddy current inspections at intervals not to exceed 4,500 flight cycles until paragraph (c), (d)(1)(ii), (e), (f), or (g) of this AD has been done, as applicable. Although paragraph 1.D. of the service bulletin references a reporting requirement, such reporting is not required by this AD.

**Note 2:** For the purposes of this AD, a detailed 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."

(b) For all airplanes: Before the accumulation of 40,000 total flight cycles, or within 4,500 flight cycles after the effective date of this AD, whichever is later, do an external detailed inspection of the lower lobe area and section 41 of the fuselage for cracking, per Part 2 and Figure 2 of the Work Instructions of Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001, except as provided by paragraph (i) of this AD. Repeat the inspection at intervals not to exceed 9,000 flight cycles until paragraph (d)(2) or (e) of this AD has been done, as applicable.

### **Preventive Modification**

(c) For Groups 3, 5, 6, and 8 airplanes: If no cracking is found during any inspection required by paragraph (a) of this AD, doing the preventive modification of the chem-milled pockets in the upper skin as specified in Part 5 of the Work Instructions of Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001, ends the repetitive external detailed and eddy current inspections required by paragraph (a) of this AD for the modified area only.

### **Corrective Actions**

(d) If any cracking is found during any inspection required by paragraph (a) or (b) of this AD, before further flight, do the actions specified in paragraphs (d)(1) and (d)(2) of this AD, as applicable, per the Work Instructions of Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001. Where the service bulletin specifies to contact Boeing for repair instructions, before further flight, repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative (DER) who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the approval letter must specifically reference this AD.

(1) Except as provided by paragraph (e) of this AD, for cracking of the crown area, do the repair specified in either paragraph (d)(1)(i) or (d)(1)(ii) of this AD.

(i) Do a time-limited repair per Part 4 of the Work Instructions of the service bulletin, then do the actions required by paragraph (f) of this AD at the times specified in that paragraph.

(ii) Do a permanent repair per Part 3 of the Work Instructions of the service bulletin. Installation of a permanent repair ends the repetitive inspections required by paragraph (a) of this AD for the repaired area only. Installation of the lap joint repair specified in paragraph (g) of AD 2002-07-08, amendment 39-12702, is considered acceptable for compliance with the corresponding permanent repair specified in this paragraph for the repaired areas only.

(2) Except as provided by paragraph (e) of this AD, for cracking of the lower lobe area and Section 41, repair per Part 2 of the Work Instructions of the service bulletin. Accomplishment of this repair ends the repetitive inspections required by paragraph (b) of this AD for the repaired area only.

### **Optional Repair Method**

(e) For cracking in any area specified in paragraphs (d)(1) and (d)(2) of this AD within the limitations of Chapter 53, Subject 53-30-3, Figure 48 (for Model 737-100 and -200 series airplanes), of the Boeing 737-100 and -200 Structural Repair Manual (SRM); Chapter 53, Subject 53-00-01, Figure 229 (for Model 737-300 airplanes), of the Boeing 737-300 SRM; Chapter 53, Subject 53-00-01, Figure 231 (for Model 737-400 series airplanes), of the Boeing 737-400 SRM; and Chapter 53, Subject 53-00-01, Figure 229 (for Model 737-500 series airplanes), of the Boeing 737-500 SRM; repair cracks per the applicable SRM. Accomplishment of the applicable repair terminates the repetitive inspections required by paragraphs (a) and (b) of this AD for the repaired area only.

### **Follow-on and Corrective Actions**

(f) If a time-limited repair is done, as specified in paragraph (d)(1)(i) of this AD: Do the actions specified in paragraphs (f)(1), (f)(2), and (f)(3) of this AD, at the times specified in paragraphs (f)(1), (f)(2), and (f)(3) of this AD, per the Work Instructions of Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001.

(1) Within 3,000 flight cycles after doing the repair: Do a detailed inspection of the repaired area for loose fasteners per Part 4 of the Work Instructions of the service bulletin. If any loose fastener is found, before further flight, replace with a new fastener per the service bulletin. Then repeat the inspection at intervals not to exceed 3,000 flight cycles until permanent rivets are installed in the repaired area, which ends the repetitive inspections for this paragraph.

(2) Within 4,000 flight cycles after doing the repair: Do inspections of the repaired area for cracking per Part 4 of the Work Instructions of the service bulletin. If any cracking is found, before further flight, repair per a method approved by the Manager, Seattle ACO, or per data meeting the type certification basis of the airplane approved by a Boeing Company DER who has been authorized by the FAA to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the approval letter must specifically reference this AD.

(3) Within 10,000 flight cycles after doing the repair: Make the repair permanent per Part 4 and Figure 20 of the Work Instructions of the service bulletin, which ends the repetitive inspections for the repaired area only.

### **Optional Terminating Action for Repetitive Eddy Current Inspections**

(g) Accomplishment of paragraph (b) or (c), as applicable, of AD 2003-14-06, amendment 39-13225, ends the repetitive eddy current inspections required by paragraph (a) of this AD for that skin panel only; however the repetitive external detailed inspections required by paragraph (a) of this AD are still required for all areas.

### **Credit for Actions Done Per Previous Service Bulletin**

(h) Inspections, repairs, and preventive modifications done before the effective date of this AD per Boeing Alert Service Bulletin 737-53A1210, dated December 14, 2000, are acceptable for compliance with the corresponding actions required by this AD.

### **Exception to Service Bulletin Procedures**

(i) For airplanes subject to the requirements of paragraphs (a) and (b) of this AD: Inspections are not required in areas that are spanned by an FAA-approved repair that has a minimum of 3 rows of fasteners above and below the chem-milled step. If an external doubler covers the chem-milled step, but does not span it by a minimum of 3 rows of fasteners above and below, in lieu of requesting approval for an alternative method of compliance (AMOC), one method of compliance with the inspection requirement of paragraphs (a) and (b) of this AD is to inspect all chemical-milled steps covered by the repair using internal nondestructive test (NDT) methods in accordance with Boeing 737 Non-Destructive Test NDT Manual, Part 6, Subject 53-30-20.

#### **Alternative Methods of Compliance**

(j)(1) An alternative method of compliance (AMOC) 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) AMOCs, approved previously in accordance with AD 2003-14-06, amendment 39-13225, for paragraphs (b) and (c) of AD 2003-14-06, are approved as AMOCs with paragraphs (a) and (g) of this AD for the applicable terminating action for the repetitive eddy current inspections only.

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 Permit**

(k) 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**

(l) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 737-53A1210, Revision 1, dated October 25, 2001, excluding Appendix A. 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 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**

(m) This amendment becomes effective on October 13, 2004.

#### **Footer Information**

Issued in Renton, Washington, on August 26, 2004.  
Kevin M. Mullin,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.  
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