



## AIRWORTHINESS DIRECTIVE

CIVIL AVIATION AUTHORITY  
CZECH REPUBLIC  
Airworthiness Division

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**Number: CAA-AD-091/2004**

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**BOEING**

737-100, -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 - HORIZONTAL STABILIZER - INGE PINS - INSPECTION

**Applicability:** Model 737-100, -200, -200C, -300, -400, and -500 series airplanes having line numbers 1 through 3132 inclusive; certificated in any category.

**Effective date:** November 01, 2004

**Compliance:** Required as indicated FAA AD 2004-19-10.

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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

**2004-19-10 Boeing:** Amendment 39-13804. Docket 2003-NM-90-AD.

*Applicability:* Model 737-100, -200, -200C, -300, -400, and -500 series airplanes having line numbers 1 through 3132 inclusive; certificated in any category.

*Compliance:* Required as indicated, unless accomplished previously

To prevent failure of the outer and inner hinge pins due to corrosion or cracking, which could allow the pins to migrate out of the joint and result in intermittent movement of the horizontal stabilizer structure and consequent loss of controllability of the airplane, accomplish the following:

(a) For all airplanes: Within 90 days after the effective date of this AD, perform a detailed inspection of the pivot hinge pin joints for corrosion and, with hand pressure, check for movement of the hinge pins within the joints of the horizontal stabilizer, per Part 1 of the Accomplishment Instructions of Boeing Alert Service Bulletin (ASB) 737-55A1077, dated December 6, 2001. Repeat the detailed inspections and check at intervals not to exceed 180 days until the initial inspection specified in paragraph (b), (d), (f), or (h) of this AD, as applicable, is performed.

**Note 1:** For the purposes of this AD, a detailed inspection is defined as: "An intensive 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."

(1) If no corrosion is found, and if the hinge pins cannot be moved with hand pressure, the hinge pins are serviceable.

(2) If any pin can be moved with hand pressure, before further flight, remove and inspect both pins on the left and right sides and perform follow-on corrective actions per Part 3 of the Accomplishment Instructions of the ASB.

(3) If any corrosion is found, before further flight, remove and perform a detailed inspection of the pin(s) per Figure 2 (inner pin) or Figure 3 (inner and outer pins), as applicable, of the Accomplishment Instructions of the ASB; and perform follow-on corrective actions, per the Accomplishment Instructions of the ASB.

(b) For Models 737-100, -200, and 200C series airplanes: Within 3,000 flight hours or 24 months after the effective date of this AD, whichever occurs first, perform a detailed inspection and magnetic particle inspection for corrosion and cracking of the horizontal stabilizer hinge pins, per Part 2 or Part 3 of the Accomplishment Instructions of Boeing ASB 737-55A1077, dated December 6, 2001.

(1) If no corrosion or cracking is found, before further flight, reinstall the pin unless the condition of the other pin in that joint requires that both pins be replaced. (See paragraphs (b)(3) and (b)(4) of this AD.)

(2) If an outer pin is cracked in the area that includes the tapered shank, the adjacent thread relief radius, or the threaded end, but the inner pin is damage free, before further flight, replace the outer pin with a new or serviceable pin, per the Accomplishment Instructions of the ASB.

(3) If an outer pin is cracked in the area that includes the straight shank or the head, before further flight, replace both the inner and outer pins with new or serviceable pins, per the Accomplishment Instructions of the ASB.

(4) If any cracks are found on an inner pin, before further flight, replace both the inner and outer pins with new or serviceable pins, per the Accomplishment Instructions of the ASB.

(5) On any pin, if corrosion is found on a threaded area or in the thread relief radius adjacent to the threads, before further flight, replace the pin with a new or serviceable pin, per the Accomplishment Instructions of the ASB.

(6) If any corrosion is found on an area of the pin that is not threaded or in a thread relief radius adjacent to threads, before further flight, accomplish the requirements of paragraph (b)(6)(i) or (b)(6)(ii) of this AD.

(i) Replace the pin with a new or serviceable pin, per the ASB.

(ii) 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 who has been authorized by the FAA to make such findings. For a repair method to be approved, the approval must specifically reference this AD.

(c) For Models 737-100, -200, -200C series airplanes: Thereafter, repeat the inspections required by paragraph (b) of this AD at the times specified in paragraph (c)(1) or (c)(2) of this AD, as applicable.

(1) If BMS 3-27 grease (Mastinox 6856K) is used, repeat the inspection at intervals not to exceed 6,000 flight hours or 48 months, whichever occurs first.

(2) If BMS 3-33 grease is used as a substitute for BMS 3-27 grease (Mastinox 6856K), repeat the inspections at intervals not to exceed 3,000 flight hours or 24 months, whichever occurs first.

(d) For Models 737-100, -200, and -200C series airplanes: Within 12,000 flight hours or 96 months after the effective date of this AD, whichever occurs first, perform a detailed inspection and magnetic particle inspection for corrosion and cracking of the horizontal stabilizer hinge pins, per Part 3 of the Accomplishment Instructions of Boeing ASB 737-55A1077, dated December 6, 2001.

(1) If no corrosion or cracking is found, before further flight, reinstall the pin unless the condition of the other pin in that joint requires that both pins be replaced. (See paragraphs (d)(3) and (d)(4) of this AD.)

(2) If an outer pin is cracked in the area that includes the tapered shank, the adjacent thread relief radius, or the threaded end, but the inner pin is damage free, before further flight, replace the outer pin with a new or serviceable pin, per the Accomplishment Instructions of the ASB.

(3) If an outer pin is cracked in the area that includes the straight shank and the head, before further flight, replace both the inner and outer pins with new or serviceable pins, per the Accomplishment Instructions of the ASB.

(4) If any cracks are found on an inner pin, before further flight, replace both the inner and outer pins with new or serviceable pins, per the Accomplishment Instructions of the ASB.

(5) On any pin, if corrosion is found on a threaded area or in the thread relief radius adjacent to the threads, before further flight, replace the pin with a new or serviceable pin, per the Accomplishment Instructions of the ASB.

(6) If any corrosion is found on an area of the pin that is not threaded or in a thread relief radius adjacent to threads, before further flight, accomplish the actions specified in paragraph (d)(6)(i) or (d)(6)(ii) of this AD.

(i) Replace the pin with a new or serviceable pin, per the ASB.

(ii) 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 who has been authorized by the FAA to make such findings. For a repair method to be approved, the approval must specifically reference this AD.

(e) For Models 737-100, -200, -200C series airplanes: Thereafter, repeat the inspections required by paragraph (d) of this AD at the times specified in paragraph (e)(1) or (e)(2) of this AD, as applicable.

(1) If BMS 3-27 grease (Mastinox 6856K) is used, thereafter, repeat the inspections at intervals not to exceed 12,000 flight hours or 96 months, whichever occurs first.

(2) If BMS 3-33 grease is used as a substitute for BMS 3-27 grease (Mastinox 6856K), thereafter, repeat the inspections at intervals not to exceed 6,000 flight hours or 48 months, whichever occurs first.

(f) For Model 737-300, -400, and -500 series airplanes: Within 4,000 flight hours or 24 months from the effective date of this AD, whichever occurs first, perform a detailed inspection and magnetic particle inspection for corrosion and cracking of the horizontal stabilizer hinge pins, per Part 2 or Part 3 of the Accomplishment Instructions of Boeing ASB 737-55A1077, dated December 6, 2001.

(1) If no corrosion or cracking is found, before further flight, reinstall the pin unless the condition of the other pin in that joint requires that both pins be replaced. (See paragraphs (f)(3) and (f)(4) of this AD.)

(2) If an outer pin is cracked in the area that includes the tapered shank, the adjacent thread relief radius, or the threaded end, but the inner pin is free of damage, before further flight, replace the outer pin with a new or serviceable pin, per the Accomplishment Instructions of the ASB.

(3) If an outer pin is cracked in the area that includes the straight shank or the head, before further flight, replace both the inner and outer pins with new or serviceable pins, per the Accomplishment Instructions of the ASB.

(4) If any cracks are found on an inner pin, before further flight, replace both the inner and outer pins with new or serviceable pins, per the Accomplishment Instructions of the ASB.

(5) On any pin, if corrosion is found on a threaded area or in the thread relief radius adjacent to the threads, before further flight, replace the pin with a new or serviceable pin, per the Accomplishment Instructions of the ASB.

(6) If any corrosion is found on an area of the pin that is not threaded or in a thread relief radius adjacent to threads, before further flight, accomplish the actions of paragraph (f)(6)(i) or (f)(6)(ii) of this AD.

(i) Replace the pin with a new or serviceable pin, per the ASB.

(ii) 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 who has been authorized by the FAA to make such findings. For a repair method to be approved, the approval must specifically reference this AD.

(g) For Model 737-300, -400, and -500 series airplanes: Thereafter, repeat the inspections required by paragraph (f) of this AD at the times specified in paragraph (g)(1) or (g)(2) of this AD, as applicable.

(1) If BMS 3-27 grease (Mastinox 6856K) is used, thereafter, repeat the inspections at intervals not to exceed 8,000 flight hours or 48 months, whichever occurs first.

(2) If BMS 3-33 grease is used as a substitute for BMS 3-27 (Mastinox 6856K), repeat the inspections at intervals not to exceed 4,000 flight hours or 24 months, whichever occurs first.

(h) For Model 737-300, -400, and -500 series airplanes: Within 16,000 flight hours or 96 months from the effective date of this AD, whichever occurs first, perform a detailed inspection and magnetic particle inspection for corrosion or cracking of the horizontal stabilizer hinge pins per Part 3 of the Accomplishment Instructions of Boeing ASB 737-55A1077, dated December 6, 2001.

(1) If no corrosion or cracking is found, before further flight, reinstall the pin unless the condition of the other pin in that joint requires that both pins be replaced. (See paragraphs (h)(3) and (h)(4) of this AD.)

(2) If an outer pin is cracked in the area that includes the tapered shank, the adjacent thread relief radius, or the threaded end, but the inner pin is damage free, before further flight, replace the outer pin with a new or serviceable pin.

(3) If an outer pin is cracked in the area that includes the straight shank or the head, before further flight, replace both the inner and outer pin with new or serviceable pins.

(4) If any cracks are found on an inner pin, before further flight, replace both the inner and outer pin with new or serviceable pins.

(5) On any pin, if corrosion is found on a threaded area or in the thread relief radius adjacent to the threads, before further flight, replace the pin with a new or serviceable pin.

(6) If any corrosion is found on an area of the pin that is not threaded or in a thread relief radius adjacent to threads, before further flight, accomplish the actions specified in paragraph (h)(6)(i) or (h)(6)(ii) of this AD.

(i) Replace the pin with a new or serviceable pin, per the ASB.

(ii) 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 who has been authorized by the FAA to make such findings. For a repair method to be approved, the approval must specifically reference this AD.

(i) For Model 737-300, -400, and -500 series airplanes: Thereafter, repeat the inspections required by paragraph (h) of this AD at the times specified in paragraph (i)(1) or (i)(2) of this AD, as applicable.

(1) If BMS 3-27 grease (Mastinox 6856K) is used, thereafter, repeat the inspections at intervals not to exceed 16,000 flight hours or 96 months, whichever occurs first.

(2) If BMS 3-33 grease is used as a substitute for BMS 3-27 (Mastinox 6856K), thereafter, repeat the inspections at intervals not to exceed 8,000 flight hours or 48 months, whichever occurs first.

### **Alternative Methods of Compliance**

(j)(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) 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 those findings. For a repair method to be approved, the approval must specifically reference this AD.

### **Incorporation by Reference**

(k) The actions shall be done in accordance with Boeing Alert Service Bulletin 737-55A1077, dated December 6, 2001. 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

### **Effective Date**

(l) This amendment becomes effective on November 1, 2004.

### **Footer Information**

Issued in Renton, Washington, on September 15, 2004.

Ali Bahrami,

Manager, Transport Airplane Directorate,

Aircraft Certification Service.

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