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## AIRWORTHINESS DIRECTIVE

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For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/B737/131 Amdt 3 and issues the following AD under subregulation 39.1 (1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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### Boeing 737 Series Aeroplanes

**AD/B737/131  
Amdt 4**

**Electrical Power**

**11/2004**

Applicability: All Model 737-100, -200, -300, -400 and -500 series aeroplanes.

- Requirement:
1. **For Model 737-100 and -200 series aeroplanes equipped with battery charger Boeing Part Number (P/N) 10-60701-1:**
    - a. Replace the battery charger with a new or serviceable battery charger, Boeing P/N 10-60701-3, in accordance with Chapter 21-10-111 of the Boeing 737 Airplane Maintenance Manual (AMM), and
    - b. Replace the battery with a new or reconditioned battery in accordance with Chapter 24-31-11 of the Boeing 737 AMM.

Incorporation of Boeing Alert Service Bulletin (ASB) 737-24A1136 dated 27 April 2000 or Revision 1 dated 24 January 2002 or Revision 2 dated 7 August 2003 is optional and allows the battery maintenance to be scheduled in accordance with the Boeing 737 Maintenance Planning Document (MPD).

2. **For Model 737-300, -400 and -500 series aeroplanes** - Replace the battery with a new or reconditioned battery in accordance with Chapter 24-31-11 of the Boeing 737 AMM.

Incorporation of ASB 737-24A1136 or Revision 1 or Revision 2 is optional and allows the battery maintenance to be scheduled in accordance with the 737 MPD.

3. **For all Model 737-100, -200, -300, -400 and -500 series aeroplanes** - Perform a test to determine the condition of the Generator Control Unit (GCU) diode CR910 in accordance with Boeing Telex Message M-7200-99-01528 dated 5 March 1999.
  - a. If the diode fails the Requirement 3 test, replace the GCU with a new or serviceable GCU and the battery with a new or reconditioned battery. Repeat the Requirement 3 diode test until successful completion of the test is achieved.
  - b. Once the Requirement 3 diode test has been successfully completed, repeat the diode test.

## Boeing 737 Series Aeroplanes

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Incorporation of ASB 737-24A1136 or Revision 1 or Revision 2 is optional terminating action for the Requirement 3.b repetitive testing of the diodes.

4. Battery chargers P/N 10-60701-1 may not be installed on any Model 737 series aeroplane as a replacement part.
5. **For Model 737-100 and -200 series aeroplanes equipped with battery charger Boeing P/N 10-60701-3** - Replace the aeroplane battery with a new or reconditioned aeroplane battery in accordance with Chapter 24-31-11 of the Boeing 737 AMM. Accomplishment of this replacement constitutes terminating action for Requirement 1.b.

Incorporation of ASB 737-24A1136 or Revision 1 or Revision 2 is optional and allows the battery maintenance to be scheduled in accordance with the 737 MPD.

6. **For all aeroplanes** - Determine the condition of diode CR910 of the GCU, in accordance with the "Alternative Test of Diode CR910", as specified in Boeing Telex Message M-7200-99-01528, dated 5 March 1999. Accomplishment of this action constitutes terminating action for Requirement 3.
  - a. If all diodes successfully pass "Alternative Test of Diode CR910", repeat the diode test.
  - b. If any diode fails the "Alternative Test of Diode CR910" - Replace the GCU with a new or serviceable GCU, and the aeroplane battery with a new or reconditioned aeroplane battery, and repeat the "Alternative Test of Diode CR910" for the replaced GCU in accordance with the telex message until successful completion of the test is achieved.

*Note 1: Any test performed, prior to the effective date of the original issue of this Directive, in accordance with Boeing Telex Message M-7200-99-01528 dated 19 February 1999 or 4 March 1999, is not acceptable for compliance with either Requirement 3 or 6.*

*Note 2: FAA AD 99-18-17 Amdt 39-1128 and FAA AD 99-24-08 Amdt 39-11432 together with FAA Alternate Method of Compliance (AMOC) letters 130S-00-257 dated 4 May 2000 and 130S-01-566 dated 4 October 2001 refer.*

Compliance: For Requirement 1.a. - Remains unchanged as "Prior to 5 December 1999".

For Requirement 1.b. - Remains unchanged as "Prior to 5 December 1999 (unless already accomplished within the previous 750 hours time in service) and thereafter, at intervals not to exceed 750 hours time in service" unless ASB 737-24A1136 or Revision 1 or Revision 2 has been incorporated where replacement may be scheduled in accordance with the 737 MPD.

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For Requirement 2 - Remains unchanged as "Prior to 5 December 1999 (unless already accomplished within the previous 750 hours time in service) and thereafter, at intervals not to exceed 750 hours time in service" unless ASB 737-24A1136 or Revision 1 or Revision 2 has been incorporated where replacement may be scheduled in accordance with the 737 MPD.

For Requirement 3 - Remains unchanged as "Prior to 5 December 1999".

For Requirement 3.a. - Before further flight.

For Requirement 3.b. - At intervals not to exceed 600 hours time in service until Requirement 6 is accomplished or Boeing ASB 737-24A1136 or Revision 1 or Revision 2 is incorporated.

For Requirement 4 - Remains unchanged "As of the effective date of the original issue of this Directive".

For Requirement 5 - Within 90 days after the effective date of this Amendment, or within 750 hours time in service after the last battery replacement accomplished in accordance with Requirement 1.a., whichever occurs later. Thereafter, replace the aeroplane battery with a new or reconditioned aeroplane battery at intervals not to exceed 750 hours time in service unless ASB 737-24A1136 or Revision 1 or Revision 2 has been incorporated where replacement may be scheduled in accordance with the 737 MPD.

For Requirement 6 - Within 90 days after 20 April 2000 (the effective date for Amendment 2), or within 90 days after accomplishment of the test required by Requirement 3, whichever occurs later (unless the "Alternative Test of Diode CR910", as specified in Boeing Telex Message M-7200-99-01528, was accomplished as compliance for Requirement 3).

For Requirement 6.a. - At intervals not to exceed 600 hours time in service until Boeing ASB 737-24A1136 or Revision 1 or Revision 2 is incorporated.

For Requirement 6.b. - Before further flight and thereafter, repeat the diode test at intervals not to exceed 600 flight hours until Boeing ASB 737-24A1136 or Revision 1 or Revision 2 is incorporated.

This Amendment becomes effective on 28 October 2004.

**Background:** The United States Federal Aviation Administration (FAA) issued AD 99-18-17 following an incident during which all electrical power was lost due to a combination of a weak or depleted battery and failure of a diode in the GCU.

## Boeing 737 Series Aeroplanes

AD/B737/131 Amdt 4 (continued)

This Directive, whilst including the requirements of FAA AD 99-18-17, also includes the requirements of superseding FAA AD 99-24-08. The Directive requires repetitive replacement of the battery and, in certain cases, replacement of the GCU. The Directive also requires repetitive testing of a GCU diode. These actions are intended to prevent failure of all electrically powered systems in the aeroplane, which could result in an inability to continue safe flight and landing.

This Amendment introduces optional service bulletins, which are considered terminating action for the repetitive diode testing and allows battery maintenance to be scheduled in accordance with the MPD.

Amendment 3 clarified the requirements for use of the "Alternative Test of Diode CR910".

Amendment 2 contained some minor formatting changes, introduced new requirements for some aeroplanes fitted with P/N 10-60701-3 battery chargers and adds a requirement for diode testing, which constitutes terminating action for Requirement 3.

Amendment 1 contained some minor editorial corrections and provided relief for operators that already had batteries on a 750 hour time in service replacement cycle.

Amendment 3 became effective on 13 July 2000.

Amendment 2 became effective on 20 April 2000.

Amendment 1 became effective on 24 November 1999.

The original issue of this Airworthiness Directive became effective on 13 October 1999.



James Coyne  
Delegate of the Civil Aviation Safety Authority

17 September 2004