

Instruments and Automatic Pilots

**AIRWORTHINESS DIRECTIVE**

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CAR 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.

**AD/INST/45                      Honeywell Air Data Inertial Reference Units                      6/2000 DM**

Applicability: Honeywell air data inertial reference units (ADIRU) having a serial number below 0841 and a part number (P/N) listed below:

<b>Aeroplane Manufacturer</b>	<b>Model</b>	<b>ADIRU P/N</b>
Boeing	757-300	HG2050AC02
	737-600	HG2050AC03
	737-700	HG2050AC04
	737-800	HG2050AC05
Airbus	A319-111, A319-112, A319-113, A319-114, A319-131, A319-132, A320-111, A320-211, A320-212, A320-214, A320-231, A320-232, A320-233, A321-111, A321-112, A321-131, A330-202, A330-301, A330-223, A330-321, A330-322, A330-323, A340-211, A340-311, A340-212, A340-312, A340-213, A340-313	HG2030AD09
Airbus	A330-202, A330-301, A330-223, A330-321, A330-322, A330-323, A340-211, A340-311, A340-212, A340-312, A340-213, A340-313	HG2030AD10

- Requirement:
1. Inspect the identification plate of the ADIRU to determine its modification status, in accordance with Honeywell Alert Service Bulletin (ASB) HG2030AD-34-A0009 (for an ADIRU having P/N HG2030AD09 or HG2030AD10) or ASB HG2050AC-34-A0008 (for an ADIRU having P/N HG2050AC02, HG2050AC03, HG2050AC04, or HG2050AC05), both dated 9 March 2000; as applicable.
  2. If any ADIRU having P/N HG2050AC02, HG2050AC03, HG2050AC04, or HG2050AC05 is not marked as modification 2 or 3 replace the ADIRU with an ADIRU specified in either Requirement 2.a. or 2.b. below, in accordance with Honeywell ASB HG2050AC-34-A0008, dated 9 March 2000.

- a. Replace with an ADIRU that has P/N HG2050AC03, HG2050AC04, or HG2050AC05; and that is marked as modification 2 or 3;

Or,

- b. Replace with a serviceable ADIRU that has P/N HG2050AC03, HG2050AC04, or HG2050AC05; and that is not marked as modification 2 or 3; and that has been determined to have accumulated less than 7,000 hours time in service in accordance with the ASB.
3. If any ADIRU having P/N HG2030AD09 or HG2030AD10 is not marked with modification 3 or 6, replace the ADIRU with an ADIRU specified in either Requirement 3.a. or 3.b. below, in accordance with Honeywell ASB HG2030AD-34-A0009, dated 9 March 2000.
    - a. Replace with an ADIRU having P/N HG2030AD09 or HG2030AD10 that is marked as modification 3 or 6;

Or,

- b. Replace with a serviceable ADIRU having P/N HG2030AD09 or HG2030AD10 that is not marked as modification 3 or 6, and that has been determined to have accumulated less than 7,000 hours time in service in accordance with the ASB.

*Note 1: For purposes of this Directive, a "serviceable" ADIRU is one that satisfies the replacement requirements of Requirement 2.b. or 3.b. and on which no critical inertial reference failure has occurred.*

Installation of all ADIRUs on the aeroplane that meet the criteria of the following subparagraphs constitutes terminating action for the requirements of this Directive:

- a. ADIRUs that have P/N HG2050AC03, HG2050AC04, or HG2050AC05; and that are marked as modification 2 or 3;
- b. ADIRUs that have P/N HG2030AD09 or HG2030AD10, and that are marked as modification 3 or 6.

*Note: FAA AD 2000-07-27 Amdt 39-11683 refers.*

Compliance: For Requirement 1 - Prior to the next flight following any critical inertial reference failure of an ADIRU.

For Requirement 2 - Before further flight.

For Requirement 3 - Before further flight.

This Airworthiness Directive becomes effective on 3 May 2000.

Background: The Federal Aviation administration has received reports of dual critical failures of inertial reference units on ADIRUs during flight. The actions specified in this Directive are intended to prevent loss of the main sources of attitude data, consequent high pilot workload, and a significant increase in the likelihood of pilot error.

This Directive requires inspection of a failed ADIRU to determine its modification status, and replacement of an unmodified failed ADIRU with a serviceable ADIRU. The Directive also provides for optional terminating action.



James Coyne  
Delegate of the Civil Aviation Safety Authority

27 April 2000