AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/FMS/3 and issues the following AD under subregulation 39.001(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.

Flight Management Systems

AD/FMS/3 Amdt 1	**Honeywell NZ-2000 and IC-800 Navigation Computers**	**6/2009**

Applicability: Honeywell NZ-2000 navigation computers and Honeywell IC-800 or IC-800E integrated avionics computers.

Note 1: These computers are known to be installed on, but not limited to, the following Transport Category aeroplanes:

Manufacturer	*Model*
Bombardier, Inc	*CL-600-2B16 (CL-601-3A, CL-601-3R and CL-604)*
Dassault Aviation	*Mystère-Falcon 900*
Gulfstream Aerospace Corporation	*G-1159A, G-IV and GV*
Lockheed	*382G series*
Hawker Beechcraft (formerly Raytheon Aircraft Company)	*BAe.125 Series 800A (including C-29A and U-125)*

Requirement: 1.   If not previously accomplished in accordance with the original issue of this Directive, determine if the installed NZ-2000 navigation computers and IC-800 or IC-800E integrated avionics computers serving flight management systems (FMS) have computer part numbers and software modification levels identified in Honeywell Technical Newsletter (TN) A23-6111-008, Revision 001, dated 22 February 2007.

Note 2: For purposes of this Directive, aeroplanes with FMS computers having a part number and software modification level identified in the newsletter are "affected aeroplanes."

2.   For any affected aeroplane, revise the Limitations Section of the applicable Aircraft Flight Manual (AFM) to incorporate the information included in Appendix A of TN A23-6111-008, Revision 001. This may be accomplished by inserting a copy of Appendix A of the newsletter into the AFM.

3.   Upgrade the applicable software as specified in Table 1.

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After upgrading the applicable software in accordance with Requirement 3, Requirements 1 and 2 are no longer necessary and the Requirement 2 AFM revision may be removed.

Table 1

Upgrade new software in -	In accordance with the Accomplishment Instructions of -	For -
The IC-800 or IC-800E integrated avionic computer (IAC), as applicable	Honeywell Alert Service Bulletin (ASB) 7017300-22-A6112, Revision 001, dated 7 February 2008	The IAC identified in ASB 7017300-22-A6112, Revision 001
The NZ-2000 navigation computer (NAV computer)	Honeywell ASB 7018879-34-A6060, Revision 001, dated 21 January 2008	The NAV computer identified in ASB 7018879-34-A6060, Revision 001
	Honeywell ASB 7018879-34-A6062, dated 12 June 2007	The NAV computer identified in ASB 7018879-34-A6062
	Honeywell ASB 7018879-34-A6063, dated 6 July 2007	The NAV computer identified in ASB 7018879-34-A6063

Actions accomplished before the effective date of this Amendment in accordance with Honeywell Service Bulletin 7017300-22-A6112, dated 22 June 2007, are acceptable for compliance with the software upgrade to the IC-800 or IC-800E IACs.

Later revisions of the above SB(s), approved by the United States Federal Aviation Administration (FAA) as an Alternate Method of Compliance (AMOC) to FAA AD 2009-08-01, are considered acceptable for compliance with the equivalent Requirements of this Directive.

Note 3: FAA AD 2009-08-01 Amdt 39-15874 refers.

Compliance: For Requirements 1 and 2 - Within 14 days after the effective date of this Amendment.

For Requirement 3 - Within 12 months after the effective date of this Amendment.

This Amendment becomes effective on 4 June 2009.

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Background: The FAA has received reports of in-flight unannunciated shifts of computed position in aeroplanes with Honeywell NZ-2000 navigation and IC-800 integrated avionics computers serving Honeywell FMSs. The computed position shift, attributed to a software design error induced during a previous software modification, occurs when the number of inertial reference units (IRUs) supplying data to the FMS degrades from 3 to 2 or from 2 to 1, or increases from 2 to 3 or from 1 to 2.

If the FMS system is coupled to an autopilot or flight director system, this shift in the FMS computed position could result in uncommanded deviations from the intended flight path of the aeroplane and, if those deviations are undetected by the flight crew, compromise terrain and/or traffic avoidance.

The original issue of this Directive required affected units to be identified and, if necessary, introduced a temporary revision to the AFM Limitations Section. This was considered an interim action, as the manufacturer was developing a modification that would address the unsafe condition.

This Amendment continues the Requirements of the original issue of the Directive and introduces a terminating action which allows the removal of the AFM temporary revision. The Amendment also adds the IC-800E IAC to the applicability and removes Hawker 800XP and 1000 from the list of possible affected aeroplanes.

The original issue of this Directive became effective on18 April 2007.

James Coyne
Delegate of the Civil Aviation Safety Authority

24 April 2009