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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2008-0899; Directorate Identifier 2008-NM-022-AD; Amendment 39-15874; AD 2009-08-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Honeywell Flight Management Systems (FMSs) Equipped With Honeywell NZ-2000 Navigation Computers and Honeywell IC-800 or IC-800E Integrated Avionics Computers; as Installed on Various Transport Category Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD), which applies to all Honeywell FMSs served by Honeywell NZ-2000 navigation computers and IC-800 integrated avionics computers. That AD currently requires identifying affected computers by part number and software modification level and revising the Limitations section of applicable airplane flight manuals to provide procedures for retaining optimum position determination and intended navigation. This new AD requires upgrading new software, which terminates the existing requirements. This AD results from reports of in-flight unannounced shifts of computed position in airplanes with the subject FMS computers. We are issuing this AD to prevent a shift in the FMS computed position, which could result in uncommanded deviations from the intended flight path of the airplane, and, if those deviations are undetected by the flight crew, compromised terrain/traffic avoidance.

**DATES:** This AD becomes effective May 14, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 14, 2009.

On April 18, 2007 (72 FR 15818, April 3, 2007), the Director of the Federal Register approved the incorporation by reference of Honeywell Technical Newsletter A23-6111-008, Revision 001, dated February 22, 2007.

**ADDRESSES:** For service information identified in this AD, contact Honeywell Technical Operations Center, 1944 East Sky Harbor Circle, Phoenix, Arizona 85034-3442; telephone (U.S. and Canada) 800-601-3099, (international) 602-365-3099; e-mail AeroTechSupport@Honeywell.com; Internet <http://www.honeywell.com>.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is the Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Daniel Bui, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5339; fax (562) 627-5210.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 2007-07-12, amendment 39-15009 (72 FR 15818, April 3, 2007). The existing AD applies to all Honeywell FMSs served by Honeywell NZ-2000 navigation computers and IC-800 integrated avionics computers. That NPRM was published in the Federal Register on August 21, 2008 (73 FR 49368). That NPRM proposed to retain the existing requirements of identifying affected airplanes by part numbers/modification levels and revising the Limitations section of the airplane flight manual. That NPRM also proposed to require uploading new software, which would terminate the existing requirements.

### **Actions Since NPRM Was Issued**

Since we issued the NPRM, Honeywell has published Alert Service Bulletin 7017300-22-A6112, Revision 001, dated February 7, 2008. In the NPRM, we referred to Honeywell Alert Service Bulletin 7017300-22-A6112, dated June 22, 2007, as the appropriate source of service information for accomplishing the proposed actions. The procedures in Revision 001 of this service bulletin are essentially the same as those in the original issue of this service bulletin. Revision 001 of this service bulletin includes instructions to load software onboard as an alternative to sending the unit to a service center to have the software loaded.

Therefore, we have revised this AD to refer to Honeywell Alert Service Bulletin 7017300-22-A6112, Revision 001, dated February 7, 2008, as the appropriate source of service information. We have also added a new paragraph (i) to this AD that specifies that actions done before the effective date of this AD in accordance with Honeywell Alert Service Bulletin 7017300-22-A6112, dated June 22, 2007, are acceptable for compliance with the requirements of this AD and re-identified subsequent paragraphs.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been received on the NPRM.

### **Request To Remove References to Service Bulletin**

Honeywell requests that we remove the references to Honeywell Service Bulletin 7018879-34-6061, Revision 001, dated January 21, 2008, from the NPRM because the service modifications

identified in this service bulletin are not affected by the identified unsafe condition and the modification works correctly.

We agree that Honeywell Service Bulletin 7018879-34-6061, Revision 001, dated January 21, 2008, is unnecessary. This service bulletin, which includes Modifications A and B, did not exhibit the FMS position jump problem that this AD addresses. This problem started when Modification C was incorporated into the affected units. Since Modifications A and B did not exhibit the FMS position jump problem, operators of these units are not required to incorporate the AFM revision procedures. Therefore, we have removed references to Honeywell Service Bulletin 7018879-34-6061, Revision 001, dated January 21, 2008, from this AD.

### **Request To Clarify Terminology**

Honeywell notes that the NPRM states that the new software should be "uploaded." This term may cause some confusion as very few of the affected airplanes have the capability to field-load the software. Honeywell recommends replacing the term "upload" with "upgrade."

We agree that this terminology may cause some confusion, and we have changed the "upload" terminology to "upgrade" throughout this AD.

### **Request To Change Contact Information of Manufacturer**

The manufacturer, Honeywell, has requested that we change the contact information for service information to Honeywell Technical Operations Center, 1944 East Sky Harbor Circle, Phoenix, Arizona 85034-3442; telephone (U.S. and Canada) 800-601-3099; (international) 602-365-3099; e-mail AeroTechSupport@Honeywell.com.

We agree, and we have provided the specific contact information for the manufacturer as requested.

### **Conclusion**

We have carefully reviewed the available data, including the comments that have been received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### **Costs of Compliance**

There are about 104 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD.

<b>Estimated Costs</b>					
<b>Action</b>	<b>Work hour</b>	<b>Average labor rate per hour</b>	<b>Cost per airplane</b>	<b>Number of U.S.-registered airplanes</b>	<b>Fleet cost</b>
AFM revision (required by AD 2007-07-12)	1	\$80	\$80	77	\$6,160
Terminating action (new required action)	1	\$80	\$80	77	\$6,160

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-15009 (72 FR 15818, April 3, 2007) and by adding the following new airworthiness directive (AD):



**2009-08-01 Honeywell, Inc.:** Amendment 39-15874. Docket No. FAA-2008-0899; Directorate Identifier 2008-NM-022-AD.

**Effective Date**

(a) This AD becomes effective May 14, 2009.

**Affected ADs**

(b) This AD supersedes AD 2007-07-12.

**Applicability**

(c) This AD applies to all Honeywell NZ-2000 navigation computers and Honeywell IC-800 or IC-800E integrated avionics computers; as installed on transport category airplanes, certificated in any category, including but not limited to the airplanes identified in Table 1 of this AD.

**Table 1 – Known Affected Airplanes**

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

**Unsafe Condition**

(d) This AD results from reports of in-flight unannounced shifts of computed position in airplanes with the subject flight management system (FMS) computers identified in paragraph (c) of this AD. We are issuing this AD to prevent a shift in the FMS computed position, which could result in uncommanded deviations from the intended flight path of the airplane and, if those deviations are undetected by the flight crew, compromised terrain/traffic avoidance.

**Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## Requirements of AD 2007-07-12

### Identification of Part Number/Modification Level

(f) Within 14 days after April 18, 2007 (the effective date of AD 2007-07-12): Determine if the installed NZ-2000 navigation computers and IC-800 or IC-800E integrated avionics computers serving FMSs have computer part numbers and software modification levels identified in Honeywell Technical Newsletter A23-6111-008, Revision 001, dated February 22, 2007. For purposes of this AD, airplanes with FMS computers having a part number and software modification level identified in the newsletter are "affected airplanes."

### Revision of Airplane Flight Manual (AFM)

(g) For any affected airplane: Within 14 days after April 18, 2007, revise the Limitations section of the applicable AFM to incorporate the information included in Appendix A of Honeywell Technical Newsletter A23-6111-008, Revision 001, dated February 22, 2007. This may be done by inserting a copy of Appendix A of the newsletter into the AFM.

### New Requirements of This AD

### Terminating Action

(h) Within 12 months after the effective date of this AD, upgrade the applicable software as specified in Table 2 of this AD. After upgrading the applicable software, the requirements of paragraphs (f) and (g) of this AD are no longer necessary, and the AFM revision required by paragraph (g) of this AD may be removed.

**Table 2 – Terminating Action**

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

## Credit for Actions Done According to Previous Issue of Service Bulletin

(i) Actions done before the effective date of this AD in accordance with Honeywell Service Bulletin 7017300-22-A6112, dated June 22, 2007, are acceptable for compliance with the requirements of paragraph (h)(1) of this AD.

## Alternative Methods of Compliance (AMOCs)

(j)(1) The Manager, Los Angeles Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to Attn: Daniel Bui, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5339; fax (562) 627-5210.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

## Material Incorporated by Reference

(k) You must use the service information contained in Table 3 of this AD to do the actions required by this AD, as applicable, unless the AD specifies otherwise. (The revision level of Honeywell Alert Service Bulletin 7017300-22A6112, Revision 001; and Honeywell Alert Service Bulletin 7018879-34-A6060, Revision 001; is identified only on the first page of these documents.)

**Table 3 – All Material incorporated by reference**

<b>Document</b>	<b>Revision</b>	<b>Date</b>
Honeywell Alert Service Bulletin 7017300-22A6112	001	February 7, 2008
Honeywell Alert Service Bulletin 7018879-34-A6060	001	January 21, 2008
Honeywell Alert Service Bulletin 7018879-34-A6062	Original	June 12, 2007
Honeywell Alert Service Bulletin 7018879-34-A6063	Original	July 6, 2007
Honeywell Technical Newsletter A23-6111-008	001	February 22, 2007

(1) The Director of the Federal Register approved the incorporation by reference of the service information contained in Table 4 of this AD under 5 U.S.C. 552(a) and 1 CFR part 51.

**Table 4 – New material incorporated by reference**

<b>Document</b>	<b>Revision</b>	<b>Date</b>
Honeywell Alert Service Bulletin 7017300-22A6112	001	February 7, 2008
Honeywell Alert Service Bulletin 7018879-34-A6060	001	January 21, 2008
Honeywell Alert Service Bulletin 7018879-34-A6062	Original	June 12, 2007
Honeywell Alert Service Bulletin 7018879-34-A6063	Original	July 6, 2007

(2) The Director of the Federal Register previously approved the incorporation by reference of the service information contained in Table 5 of this AD on April 18, 2007 (72 FR 15818, April 3, 2007).

**Table 5 – Material previously incorporated by reference**

<b>Document</b>	<b>Revision</b>	<b>Date</b>
Honeywell Technical Newsletter A23-6111-008	001	February 22, 2007

(3) For service information identified in this AD, contact Honeywell Technical Operations Center, 1944 East Sky Harbor Circle, Phoenix, Arizona 85034-3442; telephone (U.S. and Canada) 800-601-3099, (international) 602-365-3099; e-mail AeroTechSupport@Honeywell.com; Internet <http://www.honeywell.com>.

(4) You may review copies of the service information that is incorporated by reference at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(5) You may also review copies of the service information 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).

Issued in Renton, Washington, on March 30, 2009.

Stephen P. Boyd,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.