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 39.001(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.

Radio Communication and Navigation Equipment

AD/RAD/88 — Honeywell Communications and Mode S Transponder Units — 10/2007 DM

Applicability: Honeywell RCZ-833J, RCZ-833K, RCZ-851J, RCZ-851K and RCZ-854J communications (COM) units and Honeywell XS-856A, XS-856B and XS-857A Mode S transponder units with the following part numbers (P/N):

Communications Unit	P/N	Mode S Transponder	P/N
RCZ-833J	7510700-763	XS-856A	7517400-865
	7510700-863		7517400-885
RCZ-833K	7510700-765	XS-856B	7517400-866
	7510700-875		7517400-886
RCZ-851J	7510700-813	XS-857A	7517400-876
RCZ-851K	7510700-815		7517400-896
RCZ-854J	7510700-725		
	7510700-825		

Note 1: These units are known to be fitted to, but not limited to, the following aeroplane models:

Manufacturer	***Model***
British Aerospace	*Jetstream 4100 series*
Bombardier	*BD-700-1A10 and BD-700-1A11*
Cessna	*525, 550, 560 and 650 series*
Dassault	*Falcon 900EX and 2000EX series*
Embraer	*EMB-135 and EMB-145 series*
Learjet	*45*
Lockheed	*282-44A-05 (C130B) and 382G series*
Raytheon	*Hawker 800 (including U-125A), 800XP and 1000 series*

Requirement:

1. For aircraft equipped with Honeywell RCZ-833J, RCZ-833K, RCZ-851J, RCZ-851K or RCZ-854J COM units, with P/Ns listed in the applicability section of this Directive:

    a. If not previously accomplished in accordance with AD/RAD/84 - Amend the applicable Aircraft Flight Manual (AFM) by inserting the following statement into the Normal Procedures Section:

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> "After completion of any 4096 ATC Code change (also referred to as Mode A Code), check the status of the transponder. If the transponder indicates that it is in standby mode, re-select the desired mode (i.e. the transponder should be in the active mode)."

Amendment of the AFM Normal Procedures Section may be accomplished by inserting a copy of this Directive into the AFM.

b. If not previously accomplished in accordance with AD/RAD/84 - Modify the COM unit by incorporating Honeywell Service Bulletin (SB) Publication No A21-3851-005 dated 29 July 2005 or Honeywell SB Publication No A24-3851-002 dated 28 July 2005 as applicable.

Note 2: Accomplishment of the modification or replacement with a modified unit in accordance with the instructions contained in Honeywell Alert Service Bulletin (ASB) 7510700-23-A0048 dated 27 January 2006 and, as necessary, ASB 7517400-23-A6015 Revision 001 dated 29 July 2005 is an acceptable alternative to the Requirement1.b.modification.

c. Replace the XS-852E/F Mode S transponder of the COM unit with a new or modified XS-852E/F Mode S transponder that has MOD V installed, in accordance with Honeywell Alert Service Bulletin 7510700-23-A0047 Revision 001, dated July 29, 2005.

2. For aircraft equipped with Honeywell XS-856A, XS-856B or XS-857A Mode S Transponder Units, with P/Ns listed in the applicability section of this Directive:

a. Unless already accomplished in accordance with Requirement 1.a. - Amend the applicable Aircraft Flight Manual (AFM) by inserting the following statement into the Normal Procedures Section:

> "After completion of any 4096 ATC Code change (also referred to as Mode A Code), check the status of the transponder. If the transponder indicates that it is in standby mode, re-select the desired mode (i.e. the transponder should be in the active mode)."

Amendment of the AFM Normal Procedures Section may be accomplished by inserting a copy of this Directive into the AFM.

b. Unless already accomplished, replace the modification plate of the transponder with a new plate and test the transponder, in accordance with the Accomplishment Instructions of Honeywell ASB 7517400-23-A0017, dated 23 January 2006.

c. If the transponder fails the test specified in Requirement 2.b., install MOD Y into the transponder as specified in Requirement 2.d.

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d. Install MOD Y into the applicable Mode S transponder, in accordance with the Accomplishment Instructions of Honeywell ASB 7517400-23-A6016, dated 30 August 2005.

3. Remove the AFM amendment inserted in compliance with either Requirement 1.a. or 2.a.

4. COM units and Mode S Transponder units with P/Ns listed in the applicability section of this Directive may not be may not be installed on any aircraft, as a replacement spare, unless the applicable software modification has been installed in the transponder in accordance with Requirements 1.c. or 2.d.

Note 3: FAA AD 2006-19-04 Amdt 39-14761 and EASA AD 2007-0156, corrected 14 June 2007, refer.

Compliance: For Requirement 1.a. - Within 10 days after the effective date of this Directive.

For Requirement 1.b. - Within 30 days after the effective date of this Directive.

For Requirement 1.c. - Concurrent with the modification or replacement in accordance with Requirement 1.b., but no later than nine months after the effective date of this Directive.

For Requirement 2.a. - Within 10 days after the effective date of this Directive.

For Requirement 2.b. - Within nine months after the effective date of this Directive.

For Requirement 2.c - Before further flight after the test specified in Requirement 2.b.

For Requirement 2.d. - Before or concurrent with Requirement 2.a.

For Requirement 3 - After accomplishing the replacements or modifications specified in Requirements 1.b., 1.c., 2.b. and 2.d.

For Requirement 4 - As of the effective date of this Directive.

This Airworthiness Directive becomes effective on 8 August 2007.

Background: Both the United States Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA) has advised of a design deficiency which causes the transponder to revert to standby mode if a change of the 4096 ATC code (also referred to as the Mode A code) is not completed within 5 seconds.

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AD/RAD/88 (continued)

As a consequence, the Secondary Surveillance Radar (SSR) symbol and label associated with the aircraft's position will no longer be shown on the Air Traffic Control (ATC) ground radar display. Also, aircraft collision avoidance systems (ACAS) on board own and other aircraft will be compromised. Current operational procedures, typically, do not require the crew to recheck the transponder status after changing the 4096 ATC Code. This type of failure will increase ATC workload and will result in improper functioning of ACAS.

AD/RAD/84, which was based on EASA AD 2005-0021, required the amendment of the AFM and modification of the COM unit. This Directive supersedes AD/RAD/84 and, whilst continuing the requirements of that Directive, also requires the modification of associated Mode s transponders.

David Punshon
Delegate of the Civil Aviation Safety Authority

31 July 2007