

AIRWORTHINESS DIRECTIVE

On the commencement date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below repeals Airworthiness Directive (AD) AD/RAD/92 Amdt 1 and issues the following AD under subregulation 39.001 (1) of CASR and subsection 33 (3) of the *Acts Interpretation Act 1901*. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct an 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 (including Emergency Transmitters and Navigation Equipment)

**AD/RAD/92
Amdt 2**

**Rockwell Collins TDR-94/94D
Transponder/Honeywell AZ800/810 Air Data
Computer Selected Altitude Data Inputs**

18/2021

Applicability: Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) in Table 1 when installed in an aeroplane equipped with Honeywell AZ800 or AZ810 (all part numbers) air data computers (ADC) where the data bus interface between the Honeywell ADC and the Rockwell Collins transponder is providing the Selected Altitude data input to the transponder.

Table 1 - Transponders identified by Type and P/N

Type	P/N (all serial numbers)
TDR-94	622-9352-007, 622-9352-008 and 622-9352-108
TDR-94D	622-9210-007, 622-9210-008 and 622-9210-108

Note 1: These transponder/ADC combinations are known to be installed on, but not limited to, the following aeroplanes:

<i>Manufacturer</i>	<i>Model</i>
<i>Avions de Transport Régional (ATR)</i>	<i>ATR 42 and ATR 72 series</i>
<i>Bombardier (formerly Canadair)</i>	<i>CL-600-2A12 (601 Variant), CL-600-2B16 (601-3A and 601-3R Variants)</i>
<i>de Havilland Canada (DHC)</i>	<i>DHC-8, Series 100, 200 and 300, all models</i>
<i>Dassault Aviation</i>	<i>Mystère-Falcon 900 series</i>
<i>Gulfstream</i>	<i>G-IV</i>

Requirement:

1. Either:
 - a. Modify the transponder in accordance with the applicable Rockwell Collins Service Bulletin (SB) listed in Table 2 and Table 3.
- or

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- b. Replace the transponder, with a TDR-94 unit identified by P/N 622-9352-309 or -409, or a TDR-94D unit identified by P/N 622-9210-309 or -409, as applicable in accordance with an approved aeroplane modification.

Table 2 - TDR-94 Transponders

Current P/N	New P/N(options)	Rockwell Collins Service Bulletin (SB) instructions to be used for modification
622-9352-007	622-9352-309	TDR-94/94D-34-506506 as in force from time to time.
	622-9352-409	TDR-94/94D-34-507506 as in force from time to time.
622-9352-008	622-9352-309	TDR-94/94D-34-505506 as in force from time to time.
	622-9352-409	TDR-94/94D-34-507506 as in force from time to time.
622-9352-108	622-9352-409	TDR-94/94D-34-505506 as in force from time to time.

Table 3 - TDR-94D Transponders

Current P/N	New P/N (options)	Rockwell Collins SB instructions to be used for modification
622-9210-007	622-9210-309	TDR-94/94D-34-506506 as in force from time to time.
	622-9210-409	TDR-94/94D-34-507506 as in force from time to time.
622-9210-008	622-9210-309	TDR-94/94D-34-505506 as in force from time to time.
	622-9210-409	TDR-94/94D-34-507506 as in force from time to time.
622-9210-108	622-9210-409	TDR-94/94D-34-505506 as in force from time to time.

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Note 2: The words “as in force from time to time” require compliance with the most recent version of the referenced document.

2. Disable the Automatic Dependent Surveillance - Broadcast (ADS-B) function on TDR-94 transponders with P/N 622-9352-409 and TDR-94D transponders with P/N 622-9210-409 unless compliance with European Aviation Safety Agency (**EASA**) Acceptable Means of Compliance (AMC) 20-24 as in force from time to time or EASA Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance (CS-ACNS) as in force from time to time or United States of America Federal Aviation Administration (**FAA**) Code of Federal Regulations (CFR) 14CFR91.225 and 91.227 as in force from time to time has been demonstrated.
3. Transponders, identified by the Applicability Statement may not be installed in an aeroplane equipped with Honeywell AZ800 or AZ810 (all part numbers) ADC where the data bus interface between the Honeywell ADC and the transponder is providing the Selected Altitude data input to the transponder unless modified in accordance with Requirement 1.a.

Note 3: This Directive is not applicable to Avions de Transport Régional ATR-42 and ATR-72 aeroplanes on which the affected transponder and ADC installation has been done in accordance with an ATR design definition, although equipped with transponders and Honeywell AZ800 or AZ810 ADC as listed in the Applicability section of this Directive, since on these aeroplanes’ original architecture, the Selected Altitude is not provided by the ADC.

Note 4: This Directive is not applicable to de Havilland Canada DHC-8 Series 100, 200 and 300 aeroplanes, all models, on which the affected transponder and ADC installation has been done in accordance with the applicable de Havilland Canada Type Design definition, although equipped with affected transponders and Honeywell AZ800 or AZ810 ADC as listed in the Applicability section of this Directive, are exempt from having to meet the requirements of this Directive, since on these aeroplanes’ original architecture, the Selected Altitude is not provided by the ADC. This exemption does not apply to aeroplanes that have been modified to enable a digital link between the air data computer and the transponder.

Note 5: EASA AD 2009-0173R1 is the basis for this AD.

Compliance: For Requirement 1 - Within 60 days after the commencement date of this AD, unless previously accomplished in accordance with a previous issue of this AD.

For Requirement 2 - Concurrent with the accomplishment of the Requirement 1 modification of the aeroplane.

For Requirement 3 - After the commencement date of this AD.

Commencement: This AD commences on 10 September 2021.

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Background: The original issue of this Directive advised of a mismatch between the ARINC (formerly Aeronautical Radio Inc.) and General Aviation Manufacturers Association (GAMA) specifications for the Selected Altitude in Motion Bit of label 102 in certain Rockwell Collins TDR-94 transponders is causing incorrect transmission of the Mode-S Selected Altitude parameter.

This condition, if not corrected, could lead to invalid Selected Altitude data being transmitted to Mode S ground stations, creating disruptions in the Air Traffic Management process and potentially compromising aeroplane safety.

For the reasons described above, the original issue of this Directive required the modification or replacement of the affected transponders and prohibited reinstallation of unmodified units.

Amendment 1 of this AD continued those requirements and at the same time supplied relief from those requirements for operators of some DHC-8 aircraft.

Amendment 2 of this AD removes obsolete references and makes minor editorial changes to reflect current requirements.



David Punshon
Delegate of the Civil Aviation Safety Authority

27 August 2021