


EASA	AIRWORTHINESS DIRECTIVE							
	<b>AD No.: 2009-0173R1</b>							
	<b>Date: 30 September 2010</b>  Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.							
This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].								
<b>Type Approval Holder's Name :</b>  Rockwell Collins Inc.	<b>Type/Model designation(s) :</b>  TDR-94 and TDR-94D transponders							
ETSO Authorisation Number : EASA.210.280 Rev.C								
Foreign AD :               None								
Revision :                   This AD revises EASA AD 2009-0173 dated 05 August 2009.								
<b>ATA 34</b>	<b>Navigation – Mode S Transponder – Modification / Replacement</b>							
<b>Manufacturer(s):</b>	Rockwell Collins Inc.							
<b>Applicability:</b>	Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) as follows: <table border="1" data-bbox="518 1357 1433 1485"> <thead> <tr> <th>Type</th> <th>P/N (all serial numbers)</th> </tr> </thead> <tbody> <tr> <td>TDR-94</td> <td>622-9352-007, 622-9352-008 and 622-9352-108</td> </tr> <tr> <td>TDR-94D</td> <td>622-9210-007, 622-9210-008 and 622-9210-108</td> </tr> </tbody> </table> <p>when installed in an aeroplane operating in European Designated Mode S Airspace and 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.</p> <p>These transponder/ADC combinations are known to be installed on, but not limited to, the following aeroplanes:</p> <ul style="list-style-type: none"> <li>- ATR 42 and ATR 72 series; see exemption in paragraph (4) of this AD.</li> <li>- Bombardier (formerly Canadair) CL-600-2A12 (601 Variant) and CL-600-2B16 (601-3A and 601-3R Variants).</li> <li>- Bombardier (formerly De Havilland Canada) DHC-8 series 100, 200 and 300; see exemption in paragraph (5) of this AD.</li> <li>- Dassault Aviation Mystère-Falcon 900 series.</li> <li>- Gulfstream G-IV.</li> </ul> <p><b>Note:</b> For more information regarding Mode-S designated airspace, please consult the Eurocontrol website at <a href="http://www.eurocontrol.int/mode-s">www.eurocontrol.int/mode-s</a> and local Aeronautical Information Circulars (AIC).</p>		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
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Reason:	<p>A mismatch between the ARINC and 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 EHS Selected Altitude parameter.</p> <p>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.</p> <p>For the reasons described above, this new EASA AD requires the modification or replacement of the affected transponders and prohibits reinstallation of unmodified units.</p> <p>This AD has been revised to add paragraph (5), exempting certain DHC-8 aeroplanes from the requirement to comply with this AD.</p>																																
Effective Date:	<p>Revision 1: 14 October 2010</p> <p>Original issue: 19 August 2009</p>																																
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 12 months after 19 August 2009 [the effective date of the original issue of this AD], accomplish either paragraph (1.1) or (1.2):</p> <p>(1.1) Modify the transponder and the aeroplane in accordance with approved aeroplane modification instructions. Details of the transponder modification are provided in Table 1 and Table 2 of this AD.</p> <p>or</p> <p>(1.2) Replace the transponder, in accordance with approved aeroplane modification instructions, 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.</p> <p style="text-align: center;">Table 1 – TDR-94 Transponders</p> <table border="1" data-bbox="518 1196 1434 1576"> <thead> <tr> <th>Current P/N</th> <th>New P/N (options)</th> <th>Rockwell Collins Service Bulletin (SB) instructions to be used for modification</th> </tr> </thead> <tbody> <tr> <td rowspan="2">622-9352-007</td> <td>622-9352-309</td> <td>TDR-94/94D-34-506</td> </tr> <tr> <td>622-9352-409</td> <td>TDR-94/94D-34-507</td> </tr> <tr> <td rowspan="2">622-9352-008</td> <td>622-9352-309</td> <td>TDR-94/94D-34-505</td> </tr> <tr> <td>622-9352-409</td> <td>TDR-94/94D-34-507</td> </tr> <tr> <td>622-9352-108</td> <td>622-9352-409</td> <td>TDR-94/94D-34-505</td> </tr> </tbody> </table> <p style="text-align: center;">Table 2 – TDR-94D Transponders</p> <table border="1" data-bbox="518 1688 1434 2024"> <thead> <tr> <th>Current P/N</th> <th>New P/N (options)</th> <th>Rockwell Collins SB instructions to be used for modification</th> </tr> </thead> <tbody> <tr> <td rowspan="2">622-9210-007</td> <td>622-9210-309</td> <td>TDR-94/94D-34-506</td> </tr> <tr> <td>622-9210-409</td> <td>TDR-94/94D-34-507</td> </tr> <tr> <td rowspan="2">622-9210-008</td> <td>622-9210-309</td> <td>TDR-94/94D-34-505</td> </tr> <tr> <td>622-9210-409</td> <td>TDR-94/94D-34-507</td> </tr> <tr> <td>622-9210-108</td> <td>622-9210-409</td> <td>TDR-94/94D-34-505</td> </tr> </tbody> </table>	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-34-506	622-9352-409	TDR-94/94D-34-507	622-9352-008	622-9352-309	TDR-94/94D-34-505	622-9352-409	TDR-94/94D-34-507	622-9352-108	622-9352-409	TDR-94/94D-34-505	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-34-506	622-9210-409	TDR-94/94D-34-507	622-9210-008	622-9210-309	TDR-94/94D-34-505	622-9210-409	TDR-94/94D-34-507	622-9210-108	622-9210-409	TDR-94/94D-34-505
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	<p>(2) Rockwell Collins TDR 94 transponders with P/N 622-9352-409 and TDR94D transponders with P/N 622-9210-409 are ADS-B capable. Concurrent with accomplishment of the modification of the aeroplane as required by paragraph (1) of this AD, the ADS-B function must be disabled, unless compliance with EASA AMC 20-24 has been demonstrated.</p> <p>(3) After modification of an aeroplane as required by paragraphs (1) of this AD, do not install a transponder, as identified by P/N in the Applicability section of this AD, on that aeroplane.</p> <p><b>Exemptions:</b></p> <p>(4) 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 AD, are exempt from having to meet the requirements of this AD, since on these aeroplanes' original architecture, the Selected Altitude is not provided by the ADC.</p> <p>(5) 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 Bombardier Type Design definition, although equipped with affected transponders and Honeywell AZ800 or AZ810 ADC as listed in the Applicability section of this AD, are exempt from having to meet the requirements of this AD, 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.</p>
Ref. Publications:	<p>Rockwell Collins Service Bulletins:</p> <p>TDR-94/94D-34-505 dated 2 September 2008</p> <p>TDR-94/94D-34-506 dated 2 September 2008</p> <p>TDR-94/94D-34-507 dated 9 September 2008</p>
Remarks :	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</li> <li>2. The original issue of this AD was posted on 08 October 2008 as PAD 08-114 for consultation until 30 October 2008 and subsequently republished on 03 March 2009 as PAD 08-114R1 for extended consultation until 31 March 2009. The Comment Response Document can be found at <a href="http://ad.easa.europa.eu">http://ad.easa.europa.eu</a>.</li> <li>3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management &amp; Research Section, Certification Directorate, EASA; E-mail <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>4. For any question concerning the technical content of the requirements in this AD, please contact: Rockwell Collins Inc., 400 Collins Road NE, Cedar Rapids, Iowa 52498, United States of America, telephone +1-319-265-5467 Website: <a href="http://www.rockwellcollins.com">www.rockwellcollins.com</a> Email: <a href="mailto:response@rockwellcollins.com">response@rockwellcollins.com</a></li> </ol>