


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>							
	<p><b>AD No.: 2010-0003R1</b></p> <p><b>Date: 11 January 2010</b></p> <p>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.</p>							
<p>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].</p>								
<p><b>Type Approval Holder's Name :</b></p> <p>Rockwell Collins Inc.</p>	<p><b>Type/Model designation(s) :</b></p> <p>TDR-94 and TDR-94D transponders</p>							
<p>ETSO Authorisation Number : EASA.210.280 Rev.C</p>								
<p>Foreign AD :       None</p>								
<p>Revision :           This AD revises and replaces EASA AD 2010-0003 dated 05 January 2010, which superseded EASA AD 2007-0120 dated 03 May 2007.</p>								
<p><b>ATA 34</b></p>	<p><b>Navigation – Mode S Transponder Aircraft Type Mode Strapping – Check / Modification</b></p>							
<p>Manufacturer(s):</p>	<p>Rockwell Collins Inc.</p>							
<p>Applicability:</p>	<p>Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) as follows:</p> <table border="1" data-bbox="483 1391 1398 1615"> <thead> <tr> <th>Type</th> <th>P/N (all serial numbers)</th> </tr> </thead> <tbody> <tr> <td>TDR-94</td> <td>622-9352-008, 622-9352-108, 622-9352-308 and 622-9352-408</td> </tr> <tr> <td>TDR-94D</td> <td>622-9210-008, 622-9210-108, 622-9210-308 and 622-9210-408</td> </tr> </tbody> </table> <p>when installed in aeroplanes featuring weight-on-wheels input to the transponder and operated in European Mode S Designated Airspace.</p> <p>These transponders are known to be installed on, but not limited to, the following aeroplanes (see 'Required Actions' section of this AD for exemptions):</p> <ul style="list-style-type: none"> <li>- ATR42 and ATR72</li> <li>- Bombardier (Canadair) CL-600-2B16 (604 Variant)</li> <li>- Bombardier CL-600-2B19.(RJ100 and RJ200)</li> <li>- Cessna 525, s/n 525-0600 to 525-0684 (CJ1)</li> <li>- Cessna 525A, s/n 525A-0300 to 525A-0438 (CJ2)</li> <li>- Cessna 525B, s/n 525B-0001 through 525B-0293 (CJ3)</li> <li>- Cessna 560, s/n 560-0751 through 560-0802 (Citation Encore+)</li> <li>- Cessna 560XL, s/n 560-6001 and up (Citation XLS+)</li> <li>- Dassault Aviation Mystère-Falcon 50</li> </ul>		Type	P/N (all serial numbers)	TDR-94	622-9352-008, 622-9352-108, 622-9352-308 and 622-9352-408	TDR-94D	622-9210-008, 622-9210-108, 622-9210-308 and 622-9210-408
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TDR-94D	622-9210-008, 622-9210-108, 622-9210-308 and 622-9210-408							

	<ul style="list-style-type: none"> <li>- Dassault Aviation Mystère-Falcon 900</li> <li>- Dassault Aviation Falcon 900EX</li> <li>- Dassault Aviation Falcon 2000</li> <li>- Dassault Aviation Falcon 2000EX</li> <li>- Piaggio Aero Industries P.180 (Avanti and Avanti II)</li> <li>- SAAB 2000</li> </ul> <p><b>Note 1:</b> Aeroplanes which are operated at take-off rotation speeds not exceeding 100 knots are not affected by the requirements of this AD.</p> <p><b>Note 2:</b> For more information regarding Mode-S designated airspace, please consult the Eurocontrol website at <a href="http://www.eurocontrol.int/msa/public/standard_page/nv_modes_homepage.html">www.eurocontrol.int/msa/public/standard_page/nv_modes_homepage.html</a> and local Aeronautical Information Circulars (AIC).</p>
Reason:	<p>EASA AD 2007-0120, applicable to Bombardier (Canadair) CL-600-2B16 (604 Variant) aeroplanes, was issued to require the accomplishment of interim measures to prevent loss of detection of the aeroplane by Secondary Surveillance Radars (SSR) that do not process Mode A/C signals (i.e. Mode S only), caused by an anomaly in the Rockwell-Collins TDR94/94D Mode S Transponder.</p> <p>Further analysis by Rockwell Collins has shown that the problem was caused by an error in the air/ground override logic of the transponders. The analysis also revealed that the problem may exist in more aeroplanes than the single type to which AD 2007-0120 applies.</p> <p>This condition, if not corrected, could lead to further incidents of loss of aeroplane detection by SSR stations that do not process Mode A/C signals.</p> <p>To eliminate the problems described above, this new EASA AD supersedes AD 2007-0120 and requires a check of the setting of the transponder's Aircraft Type Mode Strapping and an aeroplane wiring change if an incorrect setting is found.</p> <p>This AD has been revised to refer to the latest issue of the approval holder's instructions and to correct typographical errors (P/N 922-9210-008 was shown instead of 622-9210-008) in paragraph (5) of this AD.</p>
Effective Date:	19 January 2010
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 3 months after the effective date of this AD, verify that the Aircraft Type Mode Strapping code is set to '0' (zero) or '1', as defined in Rockwell-Collins Service Letter TDR-94( ) SIL 07-2.</p> <p>(1.1) If the Aircraft Type Mode Strapping code is set to any other value than 0 or 1, modify the aeroplane by setting the transponder Aircraft Type Mode strapping code to '0', removing all connections to P1-20, P1-21 and P1-22 as specified in Rockwell Collins Service Information Letter TDR-94( ) SIL 07-2 (ref. 523-0810069-001000) dated 27 September 2007, in accordance with approved aeroplane modification instructions.</p> <p>(1.2) If the Aircraft Type Mode Strapping code is set to either 0 or 1, no further action is required.</p> <p><b>Note:</b> Aircraft Type Mode strapping code = 0 corresponds to P1-20, P1-21 and P1-22 discrete inputs not connected (not grounded). Aircraft Type Mode strapping code = 1 corresponds to P1-20 being connected to ground and P1-21 and P1-22 discrete inputs not connected.</p> <p><b>Exemptions:</b></p> <p>(2) <b>Dassault aeroplanes</b>, if modified in-service or during production in accordance with the instructions of Dassault Aviation, as applicable to</p>

aeroplane model and identified in table 1 of this AD below, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.

**Table 1 – Dassault aeroplane modifications**

<b>Aeroplane Model</b>	<b>Service Bulletin</b>	<b>Modification(s)</b>
Mystère-Falcon 50	F50-457	M2966 and M2968
Mystère-Falcon 900	F900-354	M3896
Falcon 900EX	F900EX-239	M3896
Falcon 2000	F2000-312	M2624 and M2632
Falcon 2000EX	F2000EX-043	M2624

- (3) **ATR 42 and ATR 72 aeroplanes**, which have P/N 622-9210-108 transponders installed in accordance with ATR modification 05614 in production, or in accordance with ATR Service Bulletin (SB) ATR42-34-0167 or ATR72-34-1094 in-service, as applicable to aeroplane model, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.
- (4) **SAAB 2000 aeroplanes**, which have P/N 622-9210-008 transponders installed in accordance with SAAB modifications 6231, 6243 and 6249 in production, or in accordance with SAAB SB 2000-34-066, 2000-34-072 and 2000-34-076 in-service, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.
- (5) **Bombardier Aerospace (Canadair) aeroplanes:**
- CL-600-2B16 (604 Variant)** aeroplanes which have P/N 622-9210-008 transponders installed and have incorporated the corrective actions suggested in the Bombardier Advisory Wire AW 604-34-0078 in accordance with the instructions of Bombardier Aerospace SB 604-34-054 [drawing 604-70482 Engineering Order (EO), Revision D-1] or via Service Request for Product Support Action (SRPSA), are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.
- CL-600-2B19 (RJ100 and RJ200)** aeroplanes which have P/N 622-9210-008 transponders installed in accordance with Bombardier Aerospace Modification TC601R16789 in production or in accordance with Bombardier Aerospace SB 601R-34-142 (Mod TC601R16790) in-service, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.
- (6) **Cessna Aircraft Company aeroplanes:**
- Cessna Model **525, 525A and 525B** aeroplanes which have P/N 622-9352-008 transponders installed in accordance with Cessna Engineering Change Records (ECRs) 55298, 58654, and 59567 in production, and Model **525B** aeroplanes which have P/N 622-9352-008 transponders installed in-service in accordance with Cessna Service Bulletin SB525B-34-03 or SB525B-34-08, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.
- Cessna Model **525, 525A, 525B, 560 and 560XL** aeroplanes which have P/N 622-9210-008 transponders installed in accordance with Cessna ECRs 55298, 58654, 59567, 56135, and 58032 in production, and Model **525B** aeroplanes which have P/N 622-9210-008 transponders installed in-service in accordance with Cessna Service Bulletin SB525B-34-03 or SB525B-34-08, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.

	<p>(7) <b>Piaggio Aero Industries aeroplanes:</b></p> <p><b>P.180 (Avanti)</b> aeroplanes which have P/N 622-9210-008 transponders installed in accordance with Piaggio modification 80-0773 in production or in-service in accordance with Piaggio SB-80-0227, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.</p> <p><b>P.180 (Avanti II)</b> aeroplanes which have P/N 622-9210-008 transponders installed in accordance with Piaggio modifications 80-0588 and 80-0598 in production, are not affected by this AD, as they are already compliant with the requirement of paragraph (1) of this AD.</p>
Ref. Publications:	Rockwell-Collins Service Information Letter TDR-94( ) SIL 07-2, document reference 523-0810069-001000, dated 27 September 2007, or TDR-94( ) SIL 07-2 Revision 1, doc.ref. 523-0810069-101000, dated 2 September 2008.
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 13 October 2008 as PAD 08-112 for consultation until 03 November 2008, subsequently republished on 03 March 2009 as PAD 08-112R1 for extended consultation until 31 March 2009, and republished again on 04 August 2009 as PAD 08-112R2 for extended consultation until 25 August 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>