


<b>EASA</b>	<b>PROPOSED AIRWORTHINESS DIRECTIVE</b>	
	<p><b>PAD No.: 06 - 170</b></p> <p><b>Date: 07 August 2006</b></p>	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
<b>Type Approval Holder's Name:</b>		<b>Type/Model designations:</b>
Various		Mode 'C' or Mode 'S' Transponder Systems which utilise Gilham code altitude input.
ETSOA Number: None		
Foreign AD: None.		
Supersedes: None		
<b>ATA 23</b>	<b>Communications - Transponder Systems</b>	
Manufacturers:	Various	
Applicability:	<p>All aircraft equipped with one or more Mode 'C' or Mode 'S' transponder systems which utilise Gilham code altitude input known to be installed on, but not limited to, the following:</p> <p>BAE 146 – all series</p> <p>Jetstream 31 – all series</p> <p>Boeing 747-200.</p>	
Reason:	<p>To identify incorrect transmission of altitude data from transponders which utilise Gilham coded altitude encoders as a sensor input. Where aircraft transponders accept dual Gilham coded altitude encoders, the transponder altitude data comparator is also checked for correct operation. Incorrect transmission of altitude data will compromise the performance of ACAS II. This directive is required following a number of incidents where incorrect transponder altitude resulted in loss of aircraft separation.</p>	
Effective Date:	Proposed: 14 days after final AD issue date.	
Compliance:	<p>Required not later than six months from the effective date of this Directive revision. For aircraft which have been checked in accordance with a Directive issued by a national aviation authority, compliance is required not later than 24 months from the initial check required by those Directives. REPEAT CHECK at intervals not exceeding 24 months.</p>	

	<p>Check the Mode 'C' or Mode 'S' transponder system(s) in accordance with paragraphs (1) through to (9) below, complying with all precautions detailed in the applicable maintenance manuals and correct all adverse findings prior to further flight.</p> <p>NOTE: Altitude testing may be restricted to the operating envelope of the aircraft.</p> <p>(1) Connect an air data test set to the No. 1 and No. 2 (where applicable) Pitot/Static system.</p> <p>(2) In the aircraft flight deck/cockpit, select the No. 1 Mode 'C' or Mode 'S' transponder (as applicable) and select Air Data source No. 1.</p> <p>(3) Select the air data test set to the following altitude reporting values: 1,000 feet; 4,100 feet; 15,700 feet and; 31,000 feet.</p> <p>(4) For each selected altitude, verify that the Mode 'C' or Mode 'S' transponder (as applicable) altitude reporting is within tolerance (<math>\pm 125</math> feet), and record the altitude as follows:</p> <p>1,000 feet = Actual reading (<math>\pm 125</math> feet) 4,100 feet = Actual reading (<math>\pm 125</math> feet) 15,700 feet = Actual reading (<math>\pm 125</math> feet) 31,000 feet = Actual reading (<math>\pm 125</math> feet)</p> <p>(5) In the aircraft flight deck/cockpit, select Air Data source No. 2 (if applicable) and repeat paragraphs (3) and (4) above.</p> <p>(6) In the aircraft flight deck/cockpit, select the No. 2 Mode 'C' or Mode 'S' transponder (if applicable) and select Air Data source No. 1 and repeat paragraphs (3) and (4) above.</p> <p>(7) In the aircraft flight deck/cockpit, select Air Data source No. 2 (if applicable) and repeat paragraphs (3) and (4) above.</p> <p>(8) Where aircraft have the availability of a third air data source, that provides altitude data to the transponder system, then repeat checks (3) and (4) above, for No. 1 and/or No.2 Mode C or Mode S transponder systems connected to Air Data source No. 3.</p> <p>(9) Confirm by inspection and reference to aircraft and equipment Maintenance Manuals and Wiring Diagrams, that, where dual Air Data sources are used, the transponder altitude data comparator function is enabled. Using appropriate test equipment, demonstrate that the comparator detects altitude data differences between the dual encoders of more than 600 feet.</p> <p>If the comparator function is not enabled or is unserviceable, rectify before further flight (this requirement is only applicable to aircraft which utilise dual Air Data sources).</p> <p>NOTE: The comparator function is only available when Mode S transponders are installed.</p>
Ref. Publications:	None
Remarks:	<p>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.</p> <p>2. The closing date for comments is 21 August 2006.</p>

	<p>3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a></p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact: Kevin Hallworth, Avionics Specialist. E-Mail: <a href="mailto:kevin.hallworth@easa.europa.eu">kevin.hallworth@easa.europa.eu</a></p>
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