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| <b>EASA</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>AIRWORTHINESS DIRECTIVE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><b>AD No.: 2013-0157</b></p> <p><b>Date: 19 July 2013</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 EU 748/2012, Part 21.A.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> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Design Approval Holder's Name:</b><br>SOCATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Type/Model designation(s):</b><br>TBM 700 aeroplanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TCDS Number: EASA.A.010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Foreign AD: Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Supersedure: This AD supersedes DGAC France AD 94-214(B) R2 dated 20 December 1995.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ATA 27</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Flight Controls – Elevator Trim Tab – Inspection / Modification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Manufacturer(s):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SOCATA (formerly EADS SOCATA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Applicability:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SOCATA TBM 700 aeroplanes, manufacturer serial numbers (MSN) 1 through 123 inclusive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Reason:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>In 1994, vibrations were reported on a TBM 700 aeroplane at flight level 170 upon reaching 190 knots indicated air speed (KIAS). Positive force applied to the control wheel, either nose up or nose down, did not stop oscillations. When the air speed was reduced to 180 KIAS, the vibration stopped.</p> <p>Subsequent investigations of the flight controls carried out by SOCATA revealed a slack at the trailing edge of the elevator trim tabs above the acceptable tolerances.</p> <p>This condition, if not detected and corrected, could lead to elevator flutter phenomenon, possibly resulting in loss of control of the aeroplane.</p> <p>To address this potential unsafe condition, SOCATA issued Service Bulletin (SB) 70-053-27 Revision 02 and DGAC France issued AD 94-214(B) (later revised to R2) to require repetitive inspections and, depending on findings, the accomplishment of corrective actions.</p> <p>After that AD was issued, further analyses, performed in the frame of an improvement of the TBM 700 Aircraft Maintenance Program, revealed that the inspection threshold and intervals could be extended. Prompted by these results, SOCATA issued SB 70-053-27 Revision 3.</p> |

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|                                            | <p>SOCATA also developed an optional terminating action to the repetitive inspections, by installation of a reinforced elevator trim tab actuator, through SOCATA modification MOD70-061-27 (embodied in production from MSN 124) and associated SOCATA SB 70-059-27.</p> <p>For the reasons described above, this AD retains the requirements of DGAC France AD 94-214(B) R2, which is superseded, but extends the inspection threshold and intervals. This AD also reduces the applicability to MSN below 124, and introduces an optional terminating action to the repetitive inspections required by this AD.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Effective Date:                            | 02 August 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Required Action(s) and Compliance Time(s): | <p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> <li>(1) Within 10 flight hours (FH) after 24 September 1994 [the effective date of DGAC France AD 94-214(B)R2], inspect the tightening torque of the rod attachment and the slack at the trailing edge of the left hand (LH) and right hand (RH) elevator trim tabs in accordance with the instructions of SOCATA SB 70-053-27 Revision 03.</li> <li>(2) Within 200 FH after the inspection as required by paragraph (1) of this AD, and, thereafter, at intervals not to exceed 200 FH or 12 months, whichever occurs first, inspect the slack at the trailing edge of the LH and RH elevator trim tabs in accordance with the instructions of SOCATA SB 70-053-27 Revision 03.</li> </ol> <p>Note: A non-cumulative tolerance as defined in SOCATA TBM 700 Maintenance Manual may be applied to the inspection interval specified in paragraph (2) of this AD.</p> <ol style="list-style-type: none"> <li>(3) If, during any inspection as required by paragraph (1) or (2) of this AD, the slack at the trailing edge is found greater than the tolerance specified in SOCATA SB 70-053-27 Revision 03, before next flight, accomplish the applicable corrective actions in accordance with the instructions of SOCATA SB 70-053-27 Revision 03.</li> <li>(4) Inspections and corrective actions, accomplished before the effective date of this AD in accordance with the instructions of SOCATA SB 70-053-27 at Revision 02, are acceptable to comply with the initial requirements of paragraphs (1) and (2) of this AD. After the effective date of this AD, the instructions of SOCATA SB 70-053-27 Revision 03 must be used.</li> <li>(5) Accomplishment of corrective actions, as required by paragraph (3) of this AD, does not constitute terminating action for the repetitive inspections as required by paragraph (2) of this AD.</li> <li>(6) Embodiment of modification MOD70-061-27 on an aeroplane in accordance with the instructions of SOCATA SB 70-059-27 constitutes terminating action for the repetitive inspections required by paragraph (2) of this AD for that aeroplane.</li> </ol> |
| Ref. Publications:                         | <p>SOCATA SB 70-053-27 Revision 02 dated November 1995, or Revision 03 dated November 2012.</p> <p>SOCATA SB 70-059-27 dated May 1997.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</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. This AD was posted on 19 June 2013 as PAD 13-083 for consultation until 17 July 2013. No comments were received during the consultation period.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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|  | <p>3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</p> <p>4. For any question concerning the technical content of the requirements in this AD, please contact:</p> <p>SOCATA, Direction des services, 65921 Tarbes Cedex 9, France.<br/>Tel.: +33 (0) 5 62 41 73 00, Fax: + 33 (0) 5 62 41 76 54.</p> <p>or for the U.S.A.</p> <p>SOCATA NORTH AMERICA, North Perry Airport, 7501 South Airport Road, Pembroke Pines, Florida 33023, The United States of America.<br/>Tel.: +1 (954) 893 1400, Fax: +1 (954) 964 4141.</p> |
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