

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2013-0227 Date: 23 September 2013 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 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].	
Design Approval Holder's Name: SOCATA	Type/Model designation(s): TBM 700 aeroplanes
TCDS Number:	EASA.A.010
Foreign AD:	Not applicable
Supersedure:	None
ATA 32	Landing Gears – Nose and Main Landing Gear Actuators – Inspection / Replacement
Manufacturer(s):	SOCATA (formerly EADS SOCATA)
Applicability:	SOCATA TBM 700 aeroplanes, all manufacturer serial numbers.
Reason:	During maintenance check, possible unscrewing of rod and piston during operation was detected on a landing gear actuator. Investigation showed that this was likely caused by maintenance operation not conforming with the procedure described in the SOCATA maintenance manual. Moreover, following in-service landing gear collapse, uncrimping of a right hand main landing gear (MLG) actuator ball joint was detected. Investigation revealed a manufacturing non-conformity of some actuator rod end assemblies. These conditions, if not detected and corrected, could lead to MLG or nose landing gear (NLG) failure during landing or roll-out and consequent damage to the aeroplane and injury to occupants. To address this potential unsafe condition, SOCATA issued Service Bulletin (SB) 70-197-32 to require a one-time inspection of the landing gear actuator piston/rod and SB 70-206-32 to require a one-time inspection of the landing gear actuator ball joint centering and, depending on findings, accomplishment of corrective actions. SOCATA also developed modification 70-0334-32, embodied in production to secure rod/piston assembly through addition of a pin and to reduce retraction/extension indication failure through improvement of switch kinematics. These modified actuators have a new part number (P/N). For the reasons described above, this AD requires a one-time inspection of the landing gear actuators piston/rod and ball joint centering and, depending on findings, accomplishment of applicable corrective actions.

Effective Date:	07 October 2013
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within 8 months after the effective date of this AD, for aeroplanes on which landing gear actuator P/N T700A3230050000 or P/N T700A323005000000 or P/N T700A323005300000 is installed, accomplish the following actions concurrently: (1.1) Perform a detailed visual inspection (DVI) of pistons/rods of the NLG and left hand (LH) and right hand (RH) MLG actuators and measure the distance (A) in accordance with the instructions of SOCATA SB 70-197-32. (1.2) Perform a DVI of ball joint centering of NLG and LH and RH MLG actuators and measure ball joint mismatch in accordance with the instructions of SOCATA SB 70-206-32. Note: For the purpose of this AD, distance (A) is defined in SOCATA SB 70-197-32. (2) If, during any inspection as required by paragraph (1.1) or (1.2) of this AD, any discrepancy is identified, before next flight, replace the affected actuator or rod end assembly, as applicable, with a serviceable part, as specified in Appendix 1 of this AD, in accordance with the instructions of SOCATA SB 70-197-32 or SB 70-206-32, as applicable. (3) From the effective date of this AD, installation on an aeroplane of a landing gear actuator P/N T700A3230050000 or P/N T700A323005000000 or P/N T700A323005300000 is allowed, provided that, following installation, the part passes the inspections as specified in paragraph (1) of this AD.
Ref. Publications:	SOCATA SB 70-197-32 original issue dated April 2013. SOCATA SB 70-206-32 original issue dated April 2013. The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.
Remarks:	- If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. - This AD was posted on 01 August 2013 as PAD 13-113 for consultation until 29 August 2013. No comments were received during the consultation period. - Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu. - For any question concerning the technical content of the requirements in this AD, please contact: SOCATA, Direction des services, 65921 Tarbes Cedex 9, France. Tel. +33 (0) 5 62 41 73 00, Fax : + 33 (0) 5 62 41 76 54. or for the U.S.A SOCATA NORTH AMERICA, North Perry Airport, 7501 South Airport Road, Pembroke Pines, Florida 33023, The United States of America. Tel.: +1 (954) 893 1400 Fax: +1 (954) 964 4141.

Appendix 1 – Corrective Actions

		Ball joint mismatch In accordance with SB 70-206-32	
		Equal or less than 0.3 mm (0.012 in)	Greater than 0.3 mm (0.012 in)
Distance (A) In accordance with SB 70-197-32	Less than 6 mm (0.236 in) if jam nut is 6 mm (0.236 in) thick, or less than 4 mm (0.157 in) if jam nut is 8 mm (0.315 in) thick	Replace the affected actuator with a serviceable part in accordance with the instructions of SOCATA SB 70-197-32.	Replace the affected actuator with a serviceable part in accordance with the instructions of SOCATA SB 70-197-32.
	Equal or greater than 6 mm (0.236 in) if jam nut is 6 mm (0.236 in) thick, or equal or greater than 4 mm (0.157 in) if jam nut is 8 mm (0.315 in) thick	No action required.	Replace the affected rod end assembly with a serviceable part in accordance with the instructions of SOCATA SB 70-206-32.