

**COMANDO DA AERONÁUTICA
DEPARTAMENTO DE PESQUISAS E DESENVOLVIMENTO
CENTRO TÉCNICO AEROESPACIAL**

TYPE CERTIFICATE DATA SHEET Nº EA-9307

Type Certificate Holder:

**EADS SOCATA
65921 – TARBES CEDEX 9
FRANCE**

EA-9307
Sheet 01

SOCATA
TBM 700 A
TBM 700 B
TBM 700 C1
TBM 700 C2

April 2005

This data sheet, which is part of Type Certificate No. 9307, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

I - Model TBM 700A (Normal Category), approved 25 August 1993;

Model TBM 700B (Normal Category), approved 06 April 2005;

Model TBM 700C1 (Normal Category), approved 06 April 2005;

Model TBM 700C2 (Normal Category), approved 06 April 2005.

ENGINE	Pratt & Whitney Canada PT6A-64
FUEL	Jet A, Jet A1, Jet B, JP4, JP5, JP8, anti-ice additive according to the specification MIL-I-27686 E or specification MIL-I-85470 in the following proportion: - Minimum content 0.06% by volume; - Maximum content 0.15% by volume.
ENGINE LIMITS	Takeoff and maximum continuous power 700 shp Gas generator rotation speed 39 000 rpm (104.1 %) Propeller rotation speed 2 000 rpm Interturbine maximum temperature 800° C Oil: Minimum pressure 413.69 kPa (60 psi) Maximum pressure 930.79 kPa (135 psi) Maximum temperature 104° C
OIL	See Section 2 “Limitations” of the EADS SOCATA TBM 700 Pilot’s Operating Handbook
PROPELLER AND PROPELLER LIMITS	Hartzell Propeller Inc. HC-E4N-3 / E9083 S (K) Diameter: not over 2.311 m (91 in), not under 2.286 m (90 in) Pitch setting at 0.76 m (30 in), sta.: Low : 21° Feather: 86° Reverse: -11°

AIRSPEED LIMITS (CAS)	Maximum operating (V_{MO}): 270 kcas (266 kias) Maneuvering (V_A): 160 kcas (158 kias) Flaps extended (V_{FE}) - Landing configuration: 120 kcas (122 kias) - Takeoff configuration: 180 kcas (178 kias) Maximum landing gear operation (V_{LO}): - Retraction: 130 kcas (128 kias) - Extension: 180 kcas (178 kias) Maximum landing gear extended (V_{LE}): 180 kcas (178 kias)
EMPTY WEIGHT C. G. RANGE	None
MINIMUM CREW	One pilot at 4.585m (180.5 in)
MAXIMUM PASSENGERS	Standard version Seats limits – up to 5 seats 1 seat at 4.585 m (180.5 in) 2 seats at 5.565 m (219.1 in) 2 seats at 6.585 m (259.3 in) } See *(1)
	1 seat at 4.585 m (180.5 in) 2 seats at 5.641 m (222.1 in) 2 seats at 6.916 m (272.3 in) } See *(2)
	1 seat at 4.534 m (178.5 in) 2 seats at 5.630 m (221.6 in) 2 seats at 6.785 m (267.1 in) } See *(3)
	1 seat at 4.534 m (178.5 in) 2 seats at 5.656 m (222.7 in) 2 seats at 6.785 m (267.1 in) } See *(4)
	Option n° 70-25-002A Seats limits – up to 6 seats (See Pilot's Operating Handbook Supplement 7)
	1 seat at 4.585 m (180.5 in) 2 seats at 5.507 m (216.8 in) 1 seat at 6.324 m (249.0 in) 2 places rear divan at 7.204 m (283.6 in) } See *(5)
	Option n° 70-25-002B or n° 70-25-002C Seats limits – up to 6 seats (See Pilot's Operating Handbook Supplement 7)
	1 seat at 4.585 m (180.5 in) 1 seat at 5.322 m (209.5 in) 1 seat at 5.666 m (223.1 in) 1 seat at 6.083 m (239.5 in) 2 places rear divan at 6.916 m (272.3 in) } See *(6)

**MAXIMUM PASSENGERS
(Cont.)**

- * (1) – Valid for S/N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification N° MOD 70-019-25 “improved upholstery”.
- * (2) – Valid for S/N 24, 26, 27, 29 to 32, 34, 36 and on, plus airplanes equipped as a retrofit with modification N° MOD 70-019-25 “improved upholstery”.
- * (3) – Valid for S/N 205, 240, 244 and on, equipped with option N° OPT70-01-029 or modification N° MOD-139-00 but without MOD70-148-25.
- * (4) – Valid for S/N 205, 240, 244 and on, equipped with option N° OPT70-01-029 or modification N° MOD-139-00 and fitted with MOD70-148-25.
- * (5) – Valid for S/N 7 only.
- * (6) – Valid for S/N 68 to 71, 76 to 204, 206 to 239, 241 to 243.

MAXIMUM BAGGAGE

- Front baggage at 3.250 m (128 in) – 50 kg (110 lb)
- Rear baggage at 7.560 m (297.6 in) – 100 kg (220 lb) } see *(1)
- Rear baggage at 7.695 m (303.0 in) – 100 kg (220 lb) } see *(2)
- Rear baggage at 7.695 m (303.0 in) – 45 kg (100 lb) } see *(3)
- Rear baggage at 7.695 m (303.0 in) – 35 kg (77 lb) } see *(4)
- Rear baggage at 7.850 m (309.0 in) – 35 kg (77 lb) } see *(5)
- Rear compartment at 8.366m (329.4 in) – 35 Kg (77 lb) } see *(6)

- * (1) - Valid for S/N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification n° MOD 70-019-25 “improved upholstery”.
- * (2) - Valid for S/N 24, 26, 27, 29 to 32, 34, 36 and on, plus airplanes equipped as a retrofit with modification n° MOD 70-019-25 “improved upholstery”, except airplanes equipped with option n° OPT70-01-029 or modification n° MOD-139-00 that are NOT fitted with partition net version B.
- * (3) - Valid for S/N 205, 240, 244 and on, equipped with option n° OPT70-01-029 or modification n° MOD-139-00 that are fitted with partition net version A.
- * (4) - Valid for S/N 68 to 71, 76 to 204, 206 to 239, 241 to 243 with option n° 70-25-002.
- * (5) - Valid for S/N 7 only.
- * (6) - Valid for S/N 205, 240, 244 and on.

**MAXIMUM OPERATING
ALTITUDE**

9 145 m (30 000 ft), airplanes not equipped with OPT 70-01-026;
9 450 m (31 000 ft), airplanes equipped with OPT 70-01-026.

S/N'S ELIGIBLE

Model TBM700A
001 to 125, 127, 128, 130 to 136, 138 to 142, 146 and 147;
Model TBM700B
126, 129, 137, 143 to 145, 148 to 204, 206 to 239, 241 to 243;
Model TBM700C1 and TBM700C2
205, 240, 244 and on.

C. G. RANGE
(Landing Gear Extended)

Model TBM700A, TBM700B and TBM700C1

+4.604 m (+181.3 in) to +4.951 m (+194.9 in) at 2 000 kg (4 409 lb) or less;
+4.664 m (+183.6 in) to +4.951 m (+194.9 in) at 2 835 kg (6 250 lb) or less;
+4.964 m (+184.8 in) to +4.936 m (+194.3 in) at 2 984 kg (6 579 lb) or less.

Straight line between points given.

Model TBM700C2

+4.604 m (+181.3 in) to +4.951 m (+194.9 in) at 2 000 kg (4 409 lb) or less;
+4.664 m (+183.6 in) to +4.951 m (+194.9 in) at 2 835 kg (6 250 lb);
+4.706 m (+184.8 in) to +4.936 m (+194.3 in) at 2 984 kg (6 579 lb);
+4.750 m (+187 in) forward limit at 3 186 kg (7 024 lb);
+4.750 m (+187 in) to 4.918 m (193.65 in) at 3 354 kg (7 394 lb).

Straight line between points given.

MAXIMUM WEIGHT

Model TBM700A, TBM700B, TBM700C1

Takeoff: 2 984 kg (6 579 lb)
Landing: 2 835 kg (6 250 lb)
Zero Fuel: 2 722 kg (6 001 lb)
Ramp: 3 000 kg (6 614 lb)

Model TBM700C2

Takeoff: 3 354 kg (7 394 lb)
Landing: 3 186 kg (7 024 lb)
Zero Fuel: 2 736 kg (6 032 lb)
Ramp: 3 370 kg (7 430 lb)

DATA PERTINENT TO ALL MODELS

**CONTROL SURFACE
MOVEMENTS:**

Elevator:	Up 30° ±1.5°	Down 10° ±1°
Elevator trim tab:	Up 20° ±1°	Down 15° ±1°
Rudder:	Right 35° ±1.5°	Left 26° ±1°
Rudder trim tab:	Right 13.5° ±1°	Left 9.5° ±1°
Aileron:	Up 15° ± 1°	Down 20° ± 1°
Aileron trim tab:	Up 14° ± 1°	Down 14° ± 1°
Spoiler:	Up 58° ± 2°	Down 20.5° ± 1°
Wing flaps:	Down 0° to 34°	

DATUM

3 m (118.1 in) ahead of front firewall face.

LEVELING MEANS

Cabin floor mounting rails

MEAN AERODYNAMIC CHORD

1.510 m (4.95 ft)

FUEL CAPACITY

1 100 liters (290.6 US gal) – two 550 liters (145.3 US gal) at 4.280 m (189.8 in).
Usable fuel: 1 066 liters (281.6 US gal).

OIL CAPACITY

System total capacity: 12 liters (12.7 US quarts) (Oil cooler included) at 2.090 m (82.3 in).

Usable capacity: 5.7 liters (6 US quarts).

CERTIFICATION BASISModel TBM700A, TBM700B, TBM700C1

RBHA 23 Brazilian Aeronautical Certification Regulations, which endorses the FAR Part 23, as amended by 23-1 through 23-34; except the following paragraph which are in the specified amendments:

- RBHA/FAR 23.783, amendment 23-36; and
- RBHA/FAR 23.807, amendment 23-36.

RBHA 36 which endorses the FAR Part 36 effective 1 December 1969, including amendments 36-1 through 36-17; and

SFAR 27, effective 1 February 1974, including amendments 27-1 through 27-6.

Model TBM700C2

RBHA 23 Brazilian Aeronautical Certification Regulations, which endorses the FAR Part 23, as amended by 23-1 through 23-34; except the following paragraph which are in the specified amendments:

- RBHA/FAR 23.783, amendment 23-36;
- RBHA/FAR 23.807, amendment 23-36;
- RBHA/FAR 23.49 , amendment 23-44;
- RBHA/FAR 23.561, amendment 23-44;
- RBHA/FAR 23.562, amendment 23-44; and
- RBHA/FAR 23.785, amendment 23-44.

RBHA 34 which endorses the FAR Part 34 effective 10 September 1990, including amendments 34-1 through 34-3; and

RBHA 36 which endorses the FAR Part 36 effective 1 December 1969, including amendments 36-1 through 36-22.

IMPORT ELIGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of an EASA/DGAC Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

“The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 9307 and is in condition of safe operation”.

The CTA Report H.10-1160-03, dated 06 April 2005 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes.

REQUIRED EQUIPMENT

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.

For TBM700A and TBM700B models, the “A and B versions” of the Pilot’s Operating Handbook must be at revision 11 or later revisions approved by EASA on behalf of the CTA.

**REQUIRED EQUIPMENT
(Cont.)**

For TBM700C1 model, the “C1 version” of the Pilot’s Operating Handbook must be at revision 3 or later revisions approved by EASA on behalf of the CTA.

For TBM700C2 model, the “C1 version” of the Pilot’s Operating Handbook must be at revision 3 or later revisions and Pilot’s Operating Handbook Supplement 41 revision 3 or later revisions, both approved by EASA on behalf of the CTA.

NOTES:**NOTE 1****Weight and balance.**

The current weight and balance report, including list of equipment included in certificated empty weight and loading instruction when necessary must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include unusable fuel of 27.22 kg (60 lb) at +4.820 m (+189.8 in) and full oil of 10.795 kg (23.8 lb) at 2.090 m (82.3 in).

NOTE 2**Markings and placards.**

The markings and placards specified in the Pilot’s Operating Handbook approved by EASA on behalf of the CTA must be displayed.

NOTE 3**Continuing Airworthiness.**

Airworthiness limitations are contained in the Chapter 4 of the TBM700 Aircraft Maintenance Manual approved by EASA/DGAC. These limitations may not be changed without CTA approval or EASA/DGAC approved for CTA.

Service Bulletins, Structural Repair Manuals and Overhaul and Maintenance Manuals, which contain a statement that the document is EASA/DGAC approved, are accepted by the CTA and are considered CTA approved.

NOTE 4

The differences of the Brazilian airplanes in relation to the basic EASA/DGAC type design are summarized below:

1. The Pilot’s Operating Handbook – Brazil; and
2. Markings and placards.

NOTE 5

SOCATA modification MOD70-091-52 “TBM700B – Wide Entrance Door” defines TBM700B model and integrates various modifications such as wider entrance door, increased maximum zero fuel weight, new upholstery, etc.

SOCATA modification MOD70-140-00 “Evolution TBM700 B to TBM700 C1” defines TBM700 C1 model and integrates various modifications such as rear unpressurised cargo compartment, reinforced structure, new air conditioning system, etc.

SOCATA modification MOD70-139-00 “Increased of TBM700 maximum take off weight” defines TBM700C2 model and allows an extended MTOW compared to TBM700A, TBM700B and TBM700C1 models. It is a modification applicable to s/n 205, 240, 244 and on. The retrofit is possible only for airplanes within the above range of serial numbers already equipped with SOCATA modification MOD70-140-00 (TBM700C1 model).