European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

TBM700

Type Certificate Holder:

SOCATA
65921 TARBES Cedex 9
FRANCE

Manufacturer:

SOCATA
65921 TARBES Cedex 9
FRANCE

For variants: TBM700 A
TBM700 B
TBM700 C1
TBM700 C2
TBM700 N

Issue 1: 14 July 2004
Issue 2: 26 November 2004
Issue 3: 10 February 2005
Issue 4: 12 January 2006
Issue 5: 21 April 2006
Issue 6: 21 December 2007
Issue 7: 25 March 2009

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SECTION 1: GENERAL, TBM700 Type Design

I. General

Data Sheet No.: EASA.A.010 Issue: 07 Date: 25 March 2009

1.	a) Type:	TBM700
	b) Variant:	A, B, C1, C2, N (see Note 2)
2.	Airworthiness Category:	FAR-23 Normal Category
3.	Type Certificate Holder:	SOCATA 65921 TARBES Cedex 9 FRANCE
4.	Manufacturer:	SOCATA 65921 TARBES Cedex 9 FRANCE
5.	Certification Application Date:	
	a. To DGAC :	31-Oct-1986
	b. To FAA :	22-Jan-1988
	c. To EASA for TBM700 C2 variant:	05-Jan-2004
6.	EASA Type Certification Date:	14-July-2004
7.	JAA recommendation Date:	**TBD**

8. The EASA Type Certificate replaces DGAC-France Type Certificate No.181

II. Certification Basis

1. Reference Application Date for
   a. DGAC certification (TBM700 A, B, C1) : 31-Oct-1986
   b. EASA certification (TBM700 C2, N) : 05-Jan-2004

2. (Reserved)

3. (Reserved)

4. Certification Basis:
   a. TBM700 A, B, C1 variants: FAR-23, Amendment 34, dated 01-Jan-1988 and Sections 23.783, 23.807 and 23.811 of Amendment 36, dated 14-Sep-1988

   b. TBM700 C2 variant: As defined in CRI A-1, Issue 2

   c. TBM700 N variant:
   (i) airplane not equipped with MOD 70-176-00 As defined in CRI A-01 (TBM700C2), Issue 2
   (ii) airplane equipped with MOD 70-176-00 As defined in CRI A-01 (TBM700N Garmin G1000 Cockpit) Issue 2

5. Airworthiness Requirements: FAR-23, Amendment 34, dated 01-Jan-1988
   FAR-23, Amendment 36, dated 14-Sep-1988
   FAR-23, Amendment 44, dated 18-Aug-1993

   For Modification 70-176-00, CS-23, Initial issue, dated 14-Nov-2003, with reversions to FAR 23 Am 34 in the area of change for the following paragraphs:-
   23.207, 23.677, 23.699, 23.777, 23.841, 23.843, 23.867, 23.903, 23.1301, 23.1303, 23,1305, 23.1322, 23.1327, 23.1329, 23.1335, 23.1337, 23.1381, 23.1525, 23.1529, 23.1541, 23.1545, 23.1549, 23.1553, 23.1555, 23.1581, 23.1585, and 23.1589.

6. Requirements elected to comply: None

7. EASA Special Conditions:
   a. TBM700 A, B, C1 variants: None
   b. TBM700 C2 variant: CRI B-1, Stalling speed exceeding 61 kts
   c. TBM700 N equipped with MOD 70-176-00 CRI B-01, Human Factors in Integrated avionics systems, issue 2
   CRI F-01, Protection from the effect of HIRF, issue 2
   CRI F-02, Protection from the IEL strikes, issue 2
   CRI F-04, Equipment Systems and Installations, issue 3
   CRI F-05, Databases and configuration files, issue 2
   CRI F-06, Digital Devices Design Assurance, issue 2
   CRI F-07, Software aspect of certification, application of DO-178B, Field Loadable Software and user modifiable software, Issue 2

8. EASA Exemptions: None

9. EASA Equivalent Safety Findings: None

10. EASA Environmental Standards (see Note 1):

a. TBM700 A, B, C1 variants:	ICAO Annex 16, Volume 1, 2nd edition, Amdt 3, Chapter X, App 6 FAR 36 Appendix G Amdt 17
b. TBM700 C2 variant:	ICAO Annex 16, Volume 1, 3rd edition, Amdt 6 Chapter X, App 6 (elected to comply to 3rd edition, Amdt 7) FAR 36 Appendix G Amdt 22 FAR 34 Amdt 3, dated 03-Feb-1999
c. TBM700 N variant:	ICAO Annex 16, Volume 1, 2nd edition, Amdt 3 Chapter X, App 6 (elected to comply to 3rd edition, Amdt 8) ICAO Annex 16, Volume 2, 2nd edition, Amdt 4 Part 2, Chap 2 and FAR 34 Amdt 3, dated 03-Feb-1999

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: List of main drawings : T700 N°65/90 Ed.1 and up.

2. Description: Single-turbo-propeller engine, six to seven seats, low-wing airplane, aluminium and steel construction.

3. Equipment: Equipment list : see POH Sec 6.5 and report ref. NAV No.34/90-RJ-App1

4. Dimensions:

Span	12.680 m (41.6 ft)
Length	10.645 m (34.9 ft)
Height	4.355 m (14.3 ft)
Wing Area	18.00 m² (193.7 ft²)

5. Engines: Transport Canada Type Certificate No. E-21 dated 16/08/2005
EASA Type Certificate EASA.IM.E.008, dated 22/11/2005

a. TBM700 A, B, C1, C2 variants:	Turbo generator Pratt & Whitney type PT6A-64 Certification basis : FAR 33 Amendments 10
b. TBM700 N variant:	Turbo generator Pratt & Whitney type PT6A-66D Certification basis : FAR 33 Amendments 10

5.1 Firmware: Not Applicable

5.2 Mapping: Not Applicable

5.3 Engine Limits: Gas generator rotation speed: 39000 RPM (104.1%)
Propeller rotation speed: 2000 RPM

a. TBM700 A, B, C1, C2 variants:	Maximum take-off and continuous power: 700 shp
b. TBM700 N variant:	Maximum take-off power: 700 shp Maximum continuous power: 850 shp

For power-plant limitations refer to POH, Section 2.3

7. Propellers: Hartzell Propeller Inc. Type HC-E4N-3/E9083 S(K)
FAA Type Certificate P10NE dated 2 august 2002
Maximum Diameter: 2311 mm / 91 in
Minimum Diameter: 2286 mm / 90 in
Number of Blades: 4
Low Pitch: 21°
Feather: 86°
Reverse: -11°

8. Fluids:

8.1 Fuel: Jet A, Jet A1, Jet B, JP4, JP5, JP8, anti-ice additive according to the specification MIL-I-27686 E in the following proportions :
Minimum content : 0.06% by volume
Maximum content : 0.15% by volume

8.2 Oil: Refer to POH, Section 2.3

8.3 Coolant: Not Applicable

9. Fluid capacities:

9.1 Fuel:

a. TBM700 A, B, C1, C2 variants: Two structural wing tanks
Total capacity 1100 liters / 290.6 gal
Total usable capacity 1066 liters / 281.6 gal
Unusable quantity 34 liters / 9 gal

b. TBM700 N variant:

(i) Airplane not equipped with MOD 70-211-57 Two structural wing tanks
Total capacity 1100 liters / 290.6 gal
Total usable capacity 1066 liters / 281.6 gal
Unusable quantity 34 liters / 9 gal

(ii) Airplane equipped with MOD 70-211-57 Two structural wing tanks
Total capacity 1140 liters / 301 gal
Total usable capacity 1106 liters / 292 gal
Unusable quantity 34 liters / 9 gal

9.2 Oil: Maximum: 12 liters / 12.7 qt
Minimum: 5.7 liters / 6 qt

10. Air Speeds:

V_{MO} (Maximum operating speed)	270 KCAS
V_A (Manoeuvring speed)	160 KCAS
V_{FE} (Maximum flaps extended speed)	
Landing configuration	120 KCAS
Take off configuration	180 KCAS
V_{LO} (Maximum landing gear operating speed)	
Retraction	130 KCAS
Extension	180 KCAS
V_{LE} (Maximum landing gear extended speed)	180 KCAS

11. Maximum Operating Altitude:
    a. Airplane not equipped with OPT70-01-026: 30000 ft
    b. Airplane equipped with OPT70-01-026 plus TBM700 C1, C2 and N variants : 31000 ft

12. Operational Capability: Day & night VFR and day & night IFR operations when appropriate equipment is installed and operating correctly
    Refer to approved POH, Section 2.6

13. Maximum Masses:
    a. TBM700 A, B, C1 variants:

Take-Off	2984 kg (6579 lbs)
Landing	2835 kg (6250 lbs)
Ramp	3000 kg (6614 lbs)

    b. TBM700 C2, N variants:

Take-Off	3354 kg (7394 lbs
Landing	3186 kg (7024 lbs)
Ramp	3370 kg (7430 lbs)

14. Centre of Gravity Range:
    a. TBM700 A, B, C1 variants:

From	To	Weight
4604 mm (181.3 in) 14% of MAC	4951 mm (194.9 in) 37 % of MAC	2000 kg (4409 lbs) or less
4664 mm (183.6 in) 18% of MAC	4951 mm (194.9 in) 37% of MAC	2835 kg (6250 lbs) or less
4694 mm (184.8 in) 20% of MAC	4936 mm (194.3 in) 36% of MAC	2984 kg (6579 lbs) or less

Straight line between points given.

    b. TBM700 C2, N variants:

From	To	Weight up to
4604 mm (181.3 in) 14% of Mean Aerodynamic Chord	4951 mm (194.9 in) 37 % of MAC	2000 kg (4409 lbs) or less
4664 mm (183.6 in) 18% of MAC	4951 mm (194.9 in) 37% of MAC	2835 kg (6250 lbs)
4706 mm (185.3 in) 20% of MAC	4936 mm (194.3 in) 36% of MAC	2984 kg (6579 lbs)
4750 mm (187 in)		3186 kg (7024 lbs)
4750 mm (187 in)	4918 mm (193.65 in)	3354 kg (7394 lbs)

Straight line between points given.

MAC : Mean Aerodynamic Chord

15. Datum: 3000 mm (118.11 in.) ahead of front firewall face
16. (Reserved)
17. Levelling Means: Cabin floor mounting rails

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger Seating Capacity:
    a. Standard version: 5
    b. 7 places accommodation (optional modification OPT70-25-002): 6

20. (Reserved)

21. Baggage / Cargo Compartment

Front baggage	50 kg (110 lbs)	at 3250 mm (128.0 in)

    a. Airplanes from S/N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification MOD70-019-25 "improved upholstery":

Rear baggage	100 kg (220 lbs)	at 7560 mm (297.6 in)

    b. Airplanes S/N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification MOD70-019-25 "improved upholstery":

Rear baggage	100 kg (220 lbs)	at 7695 mm (303 in)

    c. TBM700 C1, C2 and N variants:

Rear compartment	35 kg (77 lbs)	at 8659 mm (340.9 in)

22. Wheels and Tires
    22.1 Nose landing gear
        Wheel base 2910 mm (115 in)
        Tire 5.00 x 5-6 PR
    22.2 Main landing gear
        Track 3880 mm (153 in)
        Tire 18 x 5.5-8 PR : Airplane not equipped with optional modification OPT70-01-029 "Provision for TBM700 C2"
        18 x 5.5-10 PR : TBM700C2 and N variants and airplane equipped with optional modification OPT70-01-029 "Provision for TBM700 C2"

IV. Operating and Service Instructions

DGAC/EASA approved Pilot Operating Handbook (POH) :
For TBM700 A and B variants, Pilot's Operating Handbook must be at revision 10 or later revision.
For TBM700 C1 variant the "C1 version" of the Pilot's Operating Handbook at revision 2 or later revision is required.
For TBM700 C2 variant the "C1 version" of the Pilot's Operating Handbook at revision 2 or later revision is required and Pilot's Operating Handbook Supplement 41 revision 2 or later revision must be utilised.
For TBM700 N variant not equipped with MOD70-176-00 and MOD70-211-57, the " TBM850 version " of the Pilot's Operating Handbook at edition 0 revision 0 or later revision is required.
For TBM700 N variant equipped with MOD70-176-00 and MOD70-211-57 the " TBM850 version " of the Pilot's Operating Handbook at edition 1 revision 0 or later revision is required.
For airplane with optional modification OPT70-25-027 "Cargo Transportation Capability" installed, Pilot's Operating Handbook Supplement 30 revision 2 or later revision must be utilised.

For TBM700 A, B, C1, C2 variants and TBM700 N variant not equipped with MOD70-176-00 and MOD70-211-57, Maintenance Manual TBM700 with revision 31 of November 2005 EASA approved on 12 January 2006 and following revisions (including Airworthiness Limitations).
For TBM700 N equipped with MOD70-176-00 and MOD70-221-57, Maintenance Manual TBM850 edition 0 with revision 0 EASA approved on 26 September 2007 for MOD70-176-00 and 6 July 2007 for MOD70-211-57 and following revisions (including Airworthiness Limitations).

V. Notes

1. Approved Noise Levels in accordance to:
   a. TBM700 A, B, C1 variants:
      ICAO Annex 16, Vol. 1, 2nd edition, Amdt 3, Chap. X, App. 6: 80.4 dB(A) for a limit of 88dB(A)
      FAR 36, Amendment 17, issued 14 August 1989: 77.4 dB(A) for a limit of 85dB(A)
   b. TBM700 C2 variant:
      ICAO Annex 16, Vol. 1, 3rd edition, Amdt 7, Chap. X, App. 6: 79.6 dB(A) for a limit of 85dB(A)
      FAR 36, Amendment 22, issued 13 December 1999: 79.6 dB(A) for a limit of 88dB(A)
   c. TBM700 N variant:
      ICAO Annex 16, Vol. 1, 3rd edition, Amdt 8, Chap. X, App. 6: 79.2 dB(A) for a limit of 85dB(A)

2. SOCATA modification MOD70-091-52 "TBM700 B - Wide Entrance Door" defines TBM700 B variant and integrates various modifications such as wider entrance door, increased maximum zero fuel weight, new upholstery…
   SOCATA modification MOD70-140-00 "Evolution TBM700 B to TBM700 C1" defines TBM700 C1 variant and integrates various modifications such as rear unpressurised cargo compartment, reinforced structure, new air conditioning system…
   SOCATA modification MOD70-139-00 "Increased of TBM700 maximum take off weight " defines TBM700 C2 variant and allows an extended MTOW compared to TBM700 A, B, C1 variants.
   It is a modification applicable to s/n 205, 240, 244-9999. The retrofit is possible only for airplanes within the above range of serial numbers already equipped with SOCATA modification MOD70-140-00.
   SOCATA modification MOD70-0188-00 "TBM700 N – Increased of maximum cruise/climb power to 850shp" defines TBM700 N variant. This modification allows a maximum continuous power of 850 shp for climb and cruise (flap retracted), and a maximum power of 700 shp identical to TBM700 A, B, C1, C2 variants when flaps are extended. "TBM850" is the trade name of TBM700 N variant.

SECTION 2: Change Record

Issue 1	Initial issue
Issue 2	Editorial changes
Issue 3	Editorial changes
Issue 4	Introduction of TBM700N (TBM850)
Issue 5	Correction to issue number of CRI A-1 in II.4(b) to issue 2. Introduction of Change Record
Issue 6	Introduction of MOD70-176-00 (G1000 Integrated Flight Deck) and MOD70-211-57 (Fuel Tank Extension) on TBM700N variant.
Issue 7	Editorial changes due to change of ownership from EADS Socata to SOCATA-Daher. TC Holder name formally reverts to SOCATA