TBM 700C2

MODIFICATION No. MOD70-139-00

This supplement includes the general, limitations, emergency procedures, normal procedures, performance, weight and balance and servicing in addition to those of TBM 700C1 airplane.

This Supplement includes information to be furnished to the pilot as required by the certification conditions.

This POH Supplement Revision 7 is approved under the authority of DOA EASA.21J.013.
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NOTE :
Original issue approved on February 25, 2003 by the D.G.A.C.

THIS DOCUMENT MUST BE EMBODIED IN SECTION 9 OF THE PILOT'S OPERATING HANDBOOK AND BE PERMANENTLY KEPT IN THE TBM 700C2 AIRPLANE

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the limitations and procedures necessary to use the TBM 700C2 airplane :
- between 6579 lbs (2984 kg) and 7394 lbs (3354 kg) for takeoff weight, and/or
- between 6250 lbs (2835 kg) and 7024 lbs (3186 kg) for landing weight.

The TBM 700C2 modification consists of :
- new seats with integral belt and shoulder harnesses,
- reinforced main wheels and tires.

1.1 - DESCRIPTIVE DATA

SPECIFIC LOADINGS

Wing loading : 38.16 lbs / sq.ft (186.3 kg / $m^{2)}$
Power loading : 10.55 lbs / SHP (4.79 kg / SHP)

SECTION 2

LIMITATIONS

The limitations hereafter supplement or replace those of the TBM 700C1 airplane described in Section 2 "Limitations" of the TBM 700C1 Pilot's Operating Handbook when using the TBM 700C2 airplane :
- between 6579 lbs (2984 kg) and 7394 lbs (3354 kg) for takeoff weight, and/or
- between 6250 lbs (2835 kg) and 7024 lbs (3186 kg) for landing weight.

2.1 - WEIGHT AND C.G. LIMITS

WEIGHT LIMITS

Maximum ramp weight : 7430 lbs (3370 kg)
Maximum takeoff weight : 7394 lbs (3354 kg)
Maximum landing weight : 7024 lbs (3186 kg)
Maximum zero fuel weight (MZFW) : 6032 lbs (2736 kg)
Maximum baggage weight in pressurized compartment :
- with OPT70-25-026 version A : 100 lbs (45 kg)
  or
- with OPT70-25-026 version B : 220 lbs (100kg)

C.G. LIMITS (Figures 9.41.34 and 9.41.34A – Section 6 of this Supplement)

Center of gravity range with landing gear down and flaps up, attitude 0° :

Forward limits :

183.6 inches (4.664 m) aft of datum at 6250 lbs (2835 kg) (18 % of m.a.c)
185.3 inches (4.707 m) aft of datum at 6579 lbs (2984 kg) (20.85 % of m.a.c)
187 inches (4.752 m) aft of datum at all weights above 7024 lbs (3186 kg) (23.8 % of m.a.c)

Aft limits :

194.9 inches (4.951 m) aft of datum at all weights below 6250 lbs (2835 kg) (37 % of m.a.c.)
194.3 inches (4.936 m) aft of datum at 6579 lbs (2984 kg) (36 % of m.a.c.)
193.65 inches (4.921 m) aft of datum at 7394 lbs (3354 kg) (35 % of m.a.c.)

2.2 - OPERATION LIMITS

FLIGHT LOAD FACTOR LIMITS

Flaps up

Weight below 6579 lbs (2984 kg) :

$-1.5 \leq n \leq +3.8$ g

Weight above 6579 lbs (2984 kg) :

$-1.5 \leq n \leq +3.5$ g

Flaps down

$-0 \leq n \leq +2.0$ g

2.3 - MARKINGS

AIRSPEED INDICATOR

Airspeed indicator markings and their color code significance are shown in Figure 9.41.1.

MARKING	KIAS (Value or range)	SIGNIFICANCE
White arc	65 – 122	Full Flap Operating Range Lower limit is maximum weight V_{SO} in landing configuration.
Wide	65 – 81	Transition point between wide and narrow arcs is stall speed with flaps UP
Narrow	81 – 122	Upper limit is maximum speed permissible with flaps LDG
Red line	266	Maximum speed for all operations

Figure 9.41.1 – AIRSPEED INDICATOR MARKINGS

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement or replace those of the TBM 700C1 airplane described in Section 4 "Normal procedures" of the TBM 700C1 Pilot's Operating Handbook, when using the TBM 700C2 airplane :

- between 6579 lbs (2984 kg) and 7394 lbs (3354 kg) for takeoff weight, and/or
- between 6250 lbs (2835 kg) and 7024 lbs (3186 kg) for landing weight.

4.1 - AIRSPEEDS FOR NORMAL OPERATION

CONDITIONS : - Takeoff weight : 7394 lbs (3354 kg)
- Landing weight : 7024 lbs (3186 kg)

1 Rotation airspeed (V_R)
- Flaps TO ..... Depending on weight (See "Takeoff distances" Chapter 5.4 of this Supplement)

2 Best rate of climb speed (V_Y)
- Landing gear UP, flaps UP ..... 124 KIAS

3 Best angle of climb speed (V_X) ..... 100 KIAS

4 Maximum speed : Flaps TO ..... 178 KIAS
Flaps LDG ..... 122 KIAS

5 Maximum speed with landing gear down ..... 178 KIAS

6 Maximum landing gear operating speed
- Extension ..... 178 KIAS
- Retraction ..... 128 KIAS

7 Approach speed
- Flaps LDG ..... 85 KIAS

8 Maximum operating speed (V_{MO}) ..... 266 KIAS

9 Glide speed (maximum L / D ratio)
- Landing gear UP, flaps UP ..... 120 KIAS

10 Maximum inertial separator operating speed ..... 200 KIAS

CHECK-LIST PROCEDURES

BEFORE LANDING

Long final

1 - Altimeters ..... **CHECK**

2 - Fuel gages ..... **CHECK / CORRECT (Quantity / Symmetry)**
- Fullest tank ..... **SELECT**

3 - "INERT SEP" switch ..... (IAS ≤ 200 KIAS) ..... **ON**

4 - Propeller lever ..... **MAX RPM**

5 - Landing gear control (IAS ≤ 178 KIAS) ..... **DN**
- Green indicator lights ..... **ON**

6 - Flaps ..... (IAS ≤ 178 KIAS) ..... **TO**

7 - Lights
- "L.LDG / TAXI / R.LDG" ..... **ON**

8 - Autopilot ..... **OFF**

9 - Radar switch ..... **SBY**

Short final

10 - Flaps ..... (IAS ≤ 122 KIAS) ..... **LDG**

11 - Approach speed (Flaps LDG) ..... **85 KIAS**

12 - "YAW DAMPER" push-button ..... **OFF**

CHECK-LIST PROCEDURES

GO-AROUND

1 - Simultaneously
  - Power lever ..... **TRQ = 100 %**
  - Attitude ..... **7°5**

2 - Flaps ..... **TO**

If the vertical speed is positive and if IAS is at or above 90 kt :

3 - Landing gear control ..... **UP**
All warning lights OFF

If IAS is at or above 115 kt :

4 - Flaps ..... **UP**

5 - Climb speed ..... **AS REQUIRED**

TOUCH AND GO

After wheel touch

1 - Flaps ..... **TO**

2 - Elevator trim ..... **Green sector**

3 - Power lever ..... **Display TRQ = 100 %**

4 - Takeoff ..... **ROTATION : See "Takeoff distances" Chapter 5.4 of this Supplement**
ATTITUDE : 7°5

AMPLIFIED PROCEDURES

BEFORE LANDING

Long final

1 – Altimeters ..... **CHECK**

2 – Fuel gages ..... **CHECK** / **CORRECT (Quantity** / **Symmetry)**

- Fullest tank ..... **SELECT**

Maximum tolerated dissymmetry is 25 us gal (95 Litres).

3 – ”INERT SEP” switch ..... (IAS ≤ 200 KIAS) ..... **ON**

4 – Propeller lever ..... **MAX RPM**

5 – Landing gear control (IAS ≤ 178 KIAS) ..... **DN**

During the sequence :

- The red warning light flashes ; it indicates that the landing gear motor is electrically supplied. It goes off when the 3 landing gears are locked. If the red warning light is fixed ON, there is a discrepancy (refer to EMERGENCY PROCEDURES of the TBM 700C1 Pilot’s Operating Handbook).
- It is possible that the 3 landing gear position green indicator lights flash uncertainly then come on at the end of the sequence, indicating that the landing gears are locked in down position.
- Green indicator lights ..... **ON**

6 – Flaps ..... (IAS ≤ 178 KIAS) ..... **TO**

7 – Lights

- ”L.LDG / TAXI / R.LDG” ..... **ON**

AMPLIFIED PROCEDURES

BEFORE LANDING (Cont'd)

8 – Autopilot . . . . . **OFF**
Autopilot must be disconnected at the latest at 200 ft above the ground or at decision height or before go–around, whichever is the highest.

9 – Radar switch . . . . . **SBY**

Short final

10 – Flaps . . . . . (IAS ≤ 122 KIAS) . . . . . **LDG**
However, when autopilot is engaged, in APR mode, with coupled GS, flaps must be extended in landing position before crossing the OUTER MARKER.

11 – Approach speed (Flaps LDG) . . . . . **85 KIAS**
To ensure positive and rapid engine response to throttle movement, it is recommended that a minimum of 10 % torque be maintained on final approach until landing is assured.

12 – "YAW DAMPER" push–button . . . . . **OFF**
The pilot effort required to use the rudder pedals is reduced if the yaw damper is turned off. This is particularly significant when landing in a crosswind.

AMPLIFIED PROCEDURES

GO-AROUND

1 – Simultaneously
- Power lever ..... **TRQ = 100 %**
- Attitude ..... **7°5**

The airplane will tend to yaw to the left when power is applied. A considerable right rudder pressure will be required to maintain coordinated straight flight until the rudder trim can be adjusted to TO sector.

2 – Flaps ..... **TO**

If speed has been maintained at 85 KIAS or more and TRQ 100 %, select TO flaps as soon as the 7°5 attitude has been attained.

If the vertical speed is positive and if IAS is at or above 90 KIAS :

3 – Landing gear control ..... **UP**

All warning lights OFF

If IAS is at or above 115 KIAS :

4 – Flaps ..... **UP**

5 – Climb speed ..... **AS REQUIRED**

AMPLIFIED PROCEDURES

TOUCH AND GO

After wheel touch

1 – Flaps . . . . . **TO**
Check that flaps have well reached the TO position before increasing power. Do not increase power with full flaps, as airplane may lift off prematurely at low speed.

2 – Elevator trim . . . . . **Green sector**
To use elevator trim manual control is faster than to use electric control. Ensure that runway length is sufficient to complete this sequence.

3 – Power lever . . . . . **Display TRQ = 100 %**

4 – Takeoff . . . . . **ROTATION : See "Takeoff distances" Chapter 5.4 of this Supplement**
ATTITUDE : 7°5
However, the pilot's operating handbook does not supply distances concerning touch and go. These distances are let to pilot's initiative.

5.2 - STALL SPEEDS

AIR-PLANE WEIGHT	CONFIG.		BANK											
	FLIGHT IDLE		0°			30°			45°			60°		
	LDG GR	Flaps	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS
7394 lbs (3354 kg)	UP	UP	81	83	93	88	89	101	97	99	112	119	117	137
	DN	TO	77	77	89	81	83	93	91	92	105	108	109	124
	DN	LDG	65	65	75	69	70	79	76	77	88	92	92	106

Figure 9.41.2 - STALL SPEEDS

5.3 - DEMONSTRATED CROSSWIND

20 kts

5.7 - LANDING DISTANCES

WEIGHT : 7024 lbs (3186 kg)

Associated conditions :
- Landing gear DN and flaps LDG
- Approach speed IAS = 85 KIAS
- Touch-down speed IAS = 78 KIAS
- Maximum braking without reverse
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D_{50} = Landing distance (clear to 50 ft) (in ft)

PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1575	2135	1675	2265	1740	2330	1840	2430
2000	1675	2265	1805	2395	1870	2495	1970	2590
4000	1805	2395	1940	2560	2035	2660	2135	2790
6000	1940	2560	2100	2725	2200	2855	2300	2955
8000	2100	2725	2265	2920	2360	3020	2495	3180
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1905	2530	2000	2625	2070	2690	2135	2790
2000	2070	2690	2135	2790	2230	2890	2300	2955
4000	2230	2890	2330	2985	2430	3085	2495	3185
6000	2395	3050	2530	3215	2625	3315	2690	3380
8000	2590	3280	2725	3410	2855	3570	2920	3640

Figure 9.41.33 - LANDING DISTANCES - 7024 lbs (3186 kg)

Corrections :
. Reduce total distances of 10 % every 10 kt of headwind
. Increase total distances of 30 % every 10 kt of tail wind

Other runway surfaces require the following correction factors :

Increase by :	7 %	on hard grass	25 %	on high grass
	10 %	on short grass	30 %	on slippery runway
	15 %	on wet runway		

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement or replace the one given for the TBM 700C1 airplane in Section 6 "Weight and balance" of the TBM 700C1 Pilot's Operating Handbook.

GENERAL

IT IS THE PILOT'S RESPONSIBILITY TO ENSURE THAT THE AIRPLANE IS PROPERLY LOADED AND THAT THE WEIGHT AND BALANCE LIMITS ARE ADHERED TO.

If the airplane empty weight has varied since last Weight and Balance Report (for example, due to installation of optional equipment), refer to paragraph "DETERMINING EMPTY AIRPLANE CHARACTERISTICS" to determine the new empty weight and corresponding moment.

DETERMINING WEIGHT AND BALANCE

Refer to weight and balance diagram – Figure 9.41.36 or 9.41.37.

REMINDER :
Maximum zero fuel weight (MZFW) : 6032 lbs (2736 kg)

WEIGHT AND BALANCE FORM AND DIAGRAM (m, kg)

Moment = Weight x Arm

$$CG\,(MAC\,\%) = \frac{(Arm\,(m) - 4.392)}{1.51} \times 100$$

Item		Weight (kg)	Arm (m)	Moment (m.kg)	CG (MAC %)
Empty Weight	(kg)				
Front Seats	(kg)		4.534		
Inter. Seats	(kg)		5.656		
Rear bench	(kg)		6.785		
Baggage AFT (pressurized area) with OPT70-25-026 Version A	(< 45 kg)		7.695		
Baggage AFT (pressurized area) with OPT70-25-026 Version B	(< 100 kg)		7.695		
Baggage AFT (non-pressurized area aft of C17)	(< 35 kg)		8.366		
Zero Fuel Weight	(< 2 736 kg)				
Fuel	(kg)		4.820		
Ramp Weight	(< 3 370 kg)				
Taxi Fuel	(kg)		4.820		
Takeoff Weight	(< 3 354 kg)				
Trip Fuel	(kg)		4.820		
Landing Weight	(< 3 186 kg)				

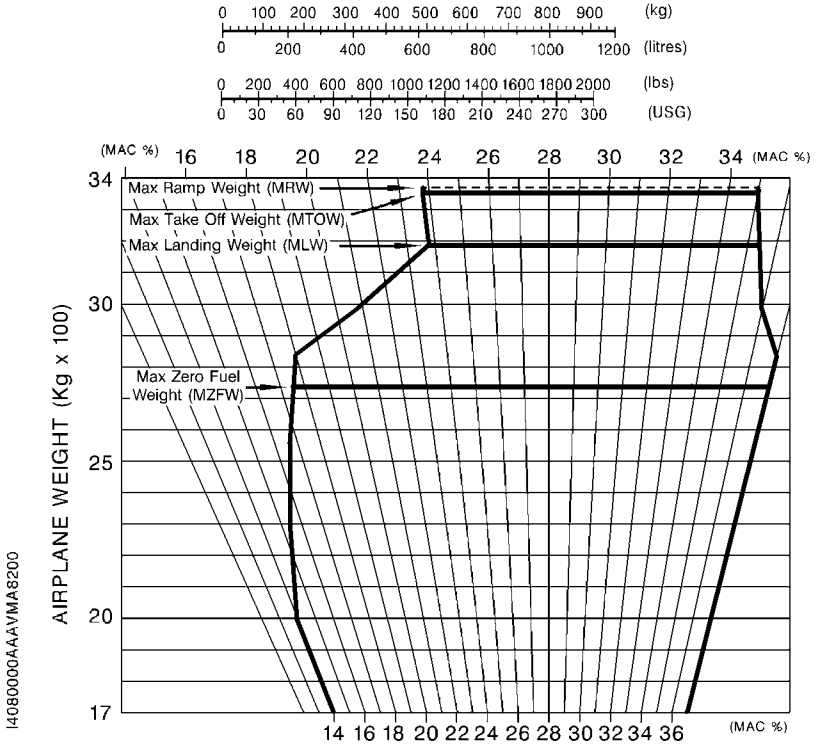

Figure 9.41.34 – WEIGHT AND BALANCE DIAGRAM