TB 20 Trinidad 945

Version 1.0

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Content:

1. The original

The Socata TB are a series of light single engine piston aircraft manufactured by Socata and designed in the late 1970s. All aircraft (with the exception of the TB9) have a constant speed propeller. The TB series have become widely used training and touring aircraft and are often used for instrument training.

Development

Design work on the TB series began in the mid 1970s to replace Socata's successful Rallye series of aircraft. The TB20 model was certified in France on December 18, 1980. The first delivery to a customer happened in March 1981 in Germany. All aircraft in the series were modernised in 2000 and as a result the letters GT were added (GT standing for Generation Two). The GT versions have a bigger cabin and aerodynamic improvements. The most noticeable differences between the first and second generation models are the wing tips, which are rounder on the older models, and the vertical stabiliser, which is curved on the lower front on the GT models. The looks of the rear windows have also changed, being more blended with the fuselage on the GT models.

Design

The aircraft are all very similar looking both inside and out but only the TB20 and TB21 have a retractable gear. Probably the biggest difference between the models is the engine power which increases from 160 horsepower (119 kW) for the TB9, 180 horsepower (134 kW) for the TB10, 200 horsepower (149 kW) for the TB200 and to 250 horsepower (186 kW) on the TB20 and 21. The only difference between the TB20 and the TB21 is that the latter is turbocharged, hence the letters TC. All models have a constant speed propeller, except for the TB9, which has a fixed pitch propeller. On the fixed gear models, the landing gear fairings are optional.

Technical data	
	TB 20/21 TC
Length	7,75 m (25.43 ft)
Wingspan	9,85 m (32.32 ft)
Heigth	2,85 m (9.35 ft)
Range	1640 km (1019 mi)
Cruise speed	280 km/h (151 kt)
Max. Altitude	6100 m (FL200) (20)/ 7620 m (FL250) (21TC)
Max. Weight	1400 kg (3086 lbs)
Engines	1 Textron Lycoming IO-540, 186 kW (250 PS) (20) 1 Textron Lycoming TIO-540, 186 kW (250 PS) (21TC)

(Source: Wikipedia)

2. The model

The model almost complies with the original, because the author (davewing) is a real life pilot and flies the original
It is a little older version, has analogue instruments but a retractable gear, full IFR, anti icing etc.

Versions

The difference between the two version are only in the cockpit details:

- TB20-Trinidad 945 with reduced panel but bigger instruments for IFR training
- TB20-Trinidad 945 LP with the whole panel

Advise and remarks:

If you prepare the aircraft shortly below the MTOW (in weight&balance) the flight characteristics are very realistic. Also the instruments (MFP, RPM, FF) are done as real as possible.

The only thing which is not working correct in XP10 is the AP because I did not build an FD button and I assigned this function with my hardware setup. The button „artificial stability“ directs the „yaw damper“.

Anti ice is also not correct. It works in the simulator but in real it is a TKS system (Glykol).

The rudder needs some attention because of the high torque when on full throttle. That is also the case in the real aircraft. The focus was not the optic of the aircraft but the technical correctness as close as possible to the real aircraft.

Engine Management:

- Climb power (after TO): 25/2450
- Cruise: 22/2300
- Gear down (VLO) bei 128kt.

That’s the best settings for an approach:

- Flaps 10: 102kt
- Flaps 40: 82kt

Some additional information:
The Trinidad likes to speed up at the final approach. That means that you should reduce speed on time and should use the flaps. The flap 40 is a real helper when coming in to high.

Don’t forget to switch the fuel tank all 20 to 30 minutes.

3. Installation

Simply unpack the whole folder or only the one wanted and copy the content into your 'Aircraft' folder of X-Plane and restart.

4. Necessary software:

X-Plane® Version 10.25+ oder 9.7

5. Credits

LAMINAR RESEARCH® for X-Plane®

6. Betatester team

DanielMan, greuff, PAA196, PetJedi, grissley, oe3gsu
all members of the AXDG.

7. Terms of license

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Have fun with the Trinidad!

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