Trinidad GT

The latest from Tarbes

From a distance the new Trinidad GT looks a lot like the Trinidads that have been around since 1984. First glances can be deceiving, though. The GT is truly an improved airplane in a number of areas. A close Trinidad watcher will quickly notice the dorsal fin that makes the vertical tail appear more streamlined and less like the fin stuck on the back of a balsa model. Then there is a subtle change in the cabin lines that reflect a new carbon fiber fuselage top with new doors. This results in three more inches of headroom, most welcomed by pilots in excess of 72 inches tall. The new cabin top adds 20 percent more window area in what was already one of the best airplanes around from a visibility standpoint. The baggage door is also larger, the boarding steps retract with the landing gear, the wingtips are restyled and a three-blade Hartzell scimitar prop is now optional.

There are new things in the panel, too. When everything is TSO'd and FAA-approved, the Trinidad will come standard with a Bendix/King KMD 150 multifunction display and an IFR-certified KLN 94 GPS—all in living color. The relatively new Bendix/King KFC 225 digital autopilot is also standard equipment along with the usual navcom equipment and a transponder and audio panel.

Socata's goal appears to be to deliver everything as standard equipment, and to this end propeller deicing is on the list along with a second artificial horizon that is electrically powered. This is far better than the dual vacuum systems offered by most manufacturers because it not only backs up the vacuum system, it backs up the instrument itself. Leather seats are also included. The primary desirable options would be a WX 500 Stormscope to play through the KMD 150 display and the three-blade prop. More about the latter in a moment.

The Trinidad is an interesting airplane to study. The workmanship appears good though what look like pop-rivets in the tail take a little away from this. The constant-chord wing appears to be on the small side and, at 128.5 square feet, it is. That compares with areas in the 170 square foot range for most other retractable singles and, when looking at newer designs, 141.2 square feet for the Lancair Columbia. An effective slotted flap system keeps the stalling speed down to 59 knots. A distinct advantage to the Trinidad comes from a higher wing loading, giving a better ride in turbulent air.

Socata has done an admirable job on weight control, too. The Trinidad flown for this report, N163GT, has an empty weight of 1,994 pounds. That compares with 2,295 for the Lancair Columbia flown for a recent pilot report and 2,194 pounds for a Mooney Eagle.

Looking at the Trinidad from behind is interesting, too. The fuselage appears large when compared with the wing and this

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leads to another desirable feature for the Trinidad. The interior is spacious enough to allow for consoles between the seats, and golf clubs will fit into the baggage compartment laying across the fuselage. There's even an option for a third seat belt system in the back to allow three-across seating.

The instrument panel of the Trinidad is pretty neat, too. Everything is there and in logical order. For example, the KFC 225 flight control system is mounted at the top of the radio stack, as they do it in jets. One drawback to the panel is an upward extension in the center to accommodate some engine instruments. This puts things in good view but it also obstructs the otherwise excellent outside visibility.

The gull-wing doors are the same as they have always been only now they are made of carbon fiber. Entering the airplane is easy enough—a bit easier for the front seats than the back—and the leather seats are quite comfortable. The rule is to not taxi with the doors up, but if the airplane were mine I'd just have to leave them open on warm days. One drawback to the new doors is that there's no place to rest your left elbow when you are hand flying the airplane. This may seem like a small nit to pick but it is very noticeable when flying.

The three-blade prop is well suited to the airplane and it's good that Hartzell is tailoring propellers to airplanes and engines. This one makes the engine seem quite smooth and, where three-blades versus two usually results in a slight performance penalty, that doesn't seem the case with the Trinidad. The static thrust should be better and the sound and feel is definitely better. The cruise and climb seem unaffected.

The Trinidad handles well on the ground, gets off nicely, and, flown at full throttle and maximum rpm (2575) the climb rate is good. Specs show it to be 1,200 feet per minute in standard air at sea level.

For some reason, all of the new airplanes I have flown recently show high fuel flows. The recommended 75 percent power fuel flow for the Trinidad is 16 gallons per hour, which is a lot of fuel to put through a normally-aspirated 250-horsepower engine at this power setting. Actually, at a normal specific fuel consumption, the fuel flow should be about 13.5 gallons per hour, and that is what it was when the engine was leaned to 50 degrees rich of peak exhaust gas temperature. The Trinidad does have a generous supply of fuel, 86.2 gallons usable, so there is a good option to choose between payload and range. The airplane flown would carry 574 pounds of payload and full fuel, which is above average for this class airplane. The 86.2 gallons would be good for five hours with an hour in reserve (with the engine leaned). With four on board, plus a bit of baggage, 50 gallons of fuel would be a normal load and that would work fine for a trip of a couple of hours.

The flying qualities of the Trinidad are quite good and have been well explored. I was more interested in the interface between the avionics and the autopilot, given that the autopilot is new to this airplane and the avionics are also new. This could not be fully explored because the KLN 94 GPS and KMD 150 multifunction display were not yet approved and the GPS approach capability of the GPS was disabled, but we were still able to get a good sample of the interface by inputting a flight plan that included all the points on the approach and then letting the autopilot fly that approach.

The Bendix/King KFC 225 does a super job of flying the Trinidad. It is crisply accurate as it manages the airplane in every element of flight, and a coupled ILS approach was flawless. The autopilot does require some button pushing and the vertical speed hold mode has to be fully understood, so any pilot will need a checkout and then a little time with the autopilot in good VFR before using it in instrument conditions.

The KMD 150 multifunction display on this airplane would display the elements of a flight plan and terrain, shown with color variations reflecting terrain height. This is just the tip of the iceberg, though, because this display is what will be used for the terrain awareness and warning system (TAWS), the Stormscope and for uplinked weather and other information. The color KLN 94 Bendix/King GPS looks nice but that company will have to go a long way to make a better GPS than its KLN 90B, which has set a high standard for GPS navigators.

The extra artificial horizon is over on the right hand panel which is not an ideal location. It would be better to move things around to accommodate it on the left hand panel. Otherwise, were the vacuum pump to fail, the cross-panel scan would be awkward.

Landing approaches are nice in the Trinidad and the airplane will descend quite steeply when the flaps are fully deployed and the power is brought back to idle. Better to just leave a little power on for the approach. The training link main landing gear smoothes the touchdown, too.

One flying quality that the Trinidad has, and that will be noticed when the airplane is flown in glassy smooth air, is a tend-

The cabin in the Trinidad is wider than in many singles with plenty of room between the front seats for the engine controls and other switches and equipment.

The standard avionics package in the Trinidad GT includes the new Bendix/King KMD 150 multifunction display. The KFC 225 automatic flight control panel is mounted at the top of the radio stack where it is easy to see.

ency to hunt slightly in pitch. I don't know what causes this but it has always been there. I have flown the airplane in formation for photos and nothing goes on with the flight path, it just hunts a little bit while the altitude remains unchanged.

The Trinidad uses a 250-horsepower injected version of the IO-540 six-cylinder Lycoming, which is a good and rugged engine that is not called on to make a lot of power out of 540 cubic inches. The superlative cruising speed number of 163 knots isn't up there with airplanes that have smaller cabins or more horsepower, but it is a respectable traveling speed. The Trinidad is priced competitively, at $351,000 for the fully-equipped airplane. A turbocharged version is available at $395,000, which includes a built-in oxygen system.

There are about 400 piston single Socatas flying in the U.S. now and the company plans to sell 22 new Trinidad GTs this year. It is putting effort into improving product support and has a good stock of parts at its Florida base. The airplane is attracting interest from first-time buyers and several owners have learned to fly in their new Trinidads. Socata has the ideal step-up airplane, too, the turboprop TBM 700, and at least two Trinidad buyers have gone on to the turboprop. It might be a big financial step but it would also be a lot of fun. □

The new, taller cabin top of the GT is obvious in this photo with the gull-wing doors opened wide for improved access to all seats. The new technology Hartzell three-blade prop is an option on the GT.

Socata TB20 Trinidad

The airplane flown for this report is equipped with a complete Bendix/King avionics package including the new KMD 150 multifunction display and KLN 94 color GPS. The price of the optional three-blade prop is not included in the price as tested but it will be $3,900 at serial number 22 and thereafter, which will come late this year. The weight of the prop is included in the empty weight. All performance figures are from the manufacturer and reflect standard conditions at sea level unless otherwise noted.

Standard price, as tested	**$351,000**
Engine	**Lyc. IO-540-C4 D5D, 250 hp @ 2575 rpm**
TBO	**2,000 hrs**
Standard Propeller	**Hartzell two-blade, constant-speed, 80 in dia (three blade optional)**
Length	**25.3 ft**
Height	**9.4 ft**
Wingspan	**32.1 ft**
Wing area	**128.5 sq ft**
Wing aspect ratio	**8**
Maximum takeoff weight	**3,086 lbs**
Empty weight as tested	**1,994 lbs**
Useful load as tested	**1,092 lbs**
Maximum wing loading	**24.1 lbs/sq ft**
Maximum power loading	**12.34 lbs/hp**
Max usable fuel	**86.2 gals/517 lbs**
Maximum rate of climb	**1,200 fpm**
Certified ceiling	**20,000 ft**
Max cruising speed @ 8,500 ft	**163 kts**
Fuel flow @ max cruise	**15.9 gph**
Endurance @ max cruise	**5.3 hrs**
Stalling speed, flaps down	**59 kts**
Turbulent air penetration speed	**129 kts**