

Socata's Y2K resolution

BY THOMAS A. HORNE

AT first glance, Socata's new Trinidad 2000GT looks much like its predecessors in the company's line of TB20 four-seat singles. And yet, you're bound to notice that *something* has changed, something to make this airplane a tad more distinguished-looking. Look closer, and you'll see that the vertical stabilizer has a new swept leading-edge fairing. That's perhaps the most obvious of the many changes unique to this model. ■ This year's 2000GT ushers in a new concept in Socata's piston-single marketing theory: The full-boat, ultimate flagship that has just about every option you'd ever want as standard equipment. The panel and cabin are the big highlights, but there are some definite airframe improvements as well—improvements that will be incorporated in the rest of the TB9, TB20, and TB21 line. The TB21 is the turbocharged version of the TB20. ■ Chief among them is the increased headroom—three inches more than previous Trinidads, to be exact. Earlier TB20s aren't so kind to headset users. The headset band is forever bumping against the headliner, and taller

Top-of-the-line

PHOTOGRAPHY BY MIKE FIZER





pilots sometimes find their head movements impaired because of the minimal headroom. There is a remedy for this problem—reclining the seat back—but some pilots don't like the resultant semi-reclining seat position. In new TB20s such as the 2000GT, those issues are things of the past. Now, you can sit upright, headset and all. Together with the 50-inch-wide cabin, the Trinidad's is one of the biggest in the single-engine market today.

Extremely comfortable seats have always been a Socata strong suit, and the 2000GT's are certainly no exception. In the GT, leather seats and folding armrests are standard, making them ultracomfortable. Lumbar support is exemplary, and will be a welcome feature to any pilot whose back has suffered through long flights in most any other piston single.

Socata's signature modular instrument panel has retained its traditional design. The panel is divided into three squarish assemblies, and these tilt forward to give technicians easy access to instruments and wiring harnesses. In the 2000GT, it's what's *in* the panel that really catches your eye.

Front and center, you'll see a full-blown Honeywell Bendix/King avionics suite that includes the KMD-550 IHAS (Integrated Hazard Awareness System) display with moving map, a KFC-225 digital autopilot with built-in altitude preselect, a KCS-55A HSI, a KI-256 flight director, a KLN-94 color moving map GPS, plus dual VHF nav/coms and a KT-76A transponder. Oh, and there's a PS Engineering PMA-7000 audio panel with an integral intercom and stereo CD-playing capability. A CD player isn't standard, but you can plug one in to a dedicated jack. A Shadin fuel flow computer is also standard. One great thing about the Shadin is that it talks to the GPS so that you have real-time readouts of your fuel status and reserves for each trip you make.

And that's just the pilot's side of the panel. Over on the copilot's panel is a second airspeed indicator, and an electrically powered standby attitude indicator. A pair of noise-attenuating Bose X or Sennheiser HMEC25 headsets is also included.

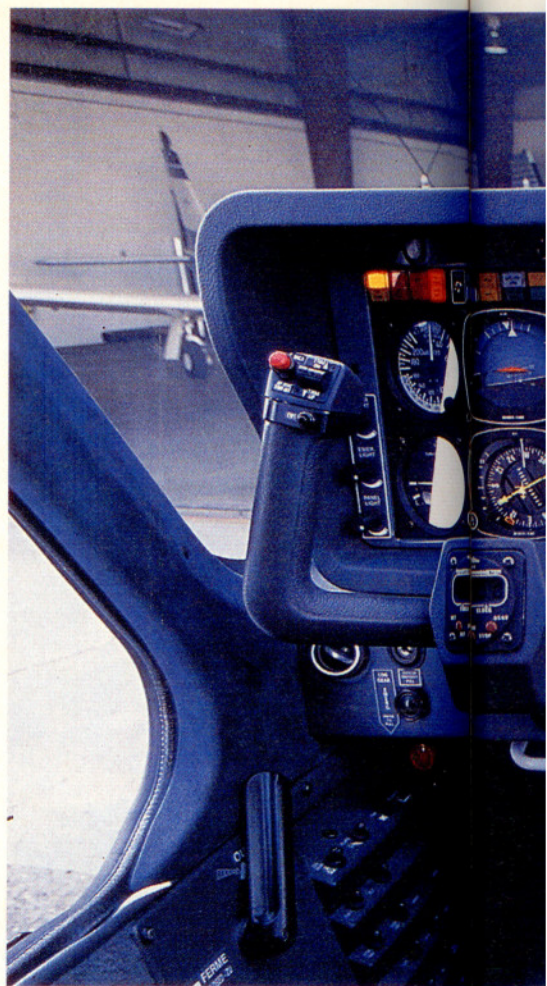
The weight penalty of all these avionics is partly offset by weight savings accomplished through the use of carbon fiber composite materials. The cabin overhead panel, main doors, and baggage door are all made of carbon fiber. The empty weight of the demonstrator flown for this article had a 1,994-pound empty weight. That would make its full-fuel (88.2 gallons) payload 575 pounds.

The KMD-550 serves as a multifunction display capable of providing the usual moving map and navigation functions, plus traffic, terrain, lightning, course, and E6B-type flight plan information. Integral to the 550 is a KDR-510 receiver that can receive and process uplinked signals for the display of ground-based information on nearby traffic and precipitation. Though not due to be certified until November, when that happens the 550 will be ready to show ADS-B or other uplinked traffic information when the FAA makes these services available, as well as uplinked weather radar imagery, uncontaminated by the attenuation effects that plague so many airborne weather radar installations in light general aviation airplanes. If an optional BFGoodrich Stormscope or Skywatch air traffic surveillance unit is installed, then their imagery can be displayed on the KMD-550's color LCD.

Though this equipment list is everything that most pilots could ask for, there are options. A three-blade Hartzell propeller is one. A Bendix/King EFIS display—the ED-461—can be installed in lieu of the standard HSI, and an Avidyne Flight Max FSD (flight situation display) can take the KMD-550's place. Air conditioning, an oxygen system, and a standby vacuum system are other options, and Insight's GEM (graphic engine monitor) 610 is also on the optional list.

A sharp eye during a preflight walk-around would reveal some other new features on the 2000GT. One is an extra access door on the left side of the cowl. Open it, and you can fill the TKS propeller anti-ice system's half-gallon fluid reservoir. An electric pump sends the TKS glycol solution from the reservoir to a propeller slinger ring, which then distributes a spray of fluid throughout the rotating propeller disc. In the cockpit, you can select either a high or low flow rate. In the High position, the glycol solution will last for one hour, 35 minutes; low flow makes the fluid last about two hours, 10 minutes. Yes, this system is also standard, but the airplane isn't certified for flight into known icing unless a full TKS system is installed—another option. Even so, propeller ice protection can come in very, very handy in escaping inadvertent icing conditions, and the residual spray from the prop disc can provide a small measure of ice protection to other portions of the airframe, such as the windshield and inboard sections of the wing leading edges.

Also noteworthy is the Trinidad's retractable step. Retract the gear and





The 2000GT comes with a jam-packed panel as standard equipment, including the large Honeywell Bendix/King KMD-550 moving map display. Window areas are increased by 20 percent per window, and there's a new retractable step.





A bigger baggage door makes loading larger objects easier, while a stabilizer fairing (bottom) and other aerodynamic cleanups give the 2000GT a few more knots.

the step retracts, too. Together with the drag reduction provided by the stabilizer fairing and the flush window fittings (earlier models had a bead of rubber trim surrounding the windows), Socata says that the Trinidad has picked up two knots in high-speed cruise and now claims a 163-kt maximum cruise true airspeed under optimum conditions.

All the windows, by the way, have been increased in size, giving what Socata claims is 20 percent more viewing area over previous TB20s. The baggage door has been enlarged, too. An odd triangular shape, this door has been given a 40-percent boost in size—a necessary change, in our opinion, because older baggage doors were simply too small to accommodate bulkier bags or other items.

Flying the 2000GT proved to be a joy. The airplane is solid in pitch and roll axes, though a mite heavy in the aileron force department. Still, that can be an advantage when hand-flying in instrument conditions. Down low, at 3,000 feet msl over the Maryland countryside, Socata factory representative Earle Boyter and I had a power setting of 23 inches of manifold pressure; 2,500 propeller rpm; and a fuel flow of 16 gph for a 75-percent cruise from the 250-horsepower Textron Lycoming IO-540. True airspeed at our higher-than-standard OAT worked out to be 155 KTAS. Up at 8,000 feet, we would have been meeting the 160-kt mark, and could have flown some 900 miles with 45-minute IFR fuel reserves.

Pattern work is a breeze. For takeoff, turn on the fuel pump; set 10-degree take-off flaps by pressing to the first detent on the paddle-shaped, console-mounted flap switch; dial in rudder trim to the take-off position; apply full throttle; rotate at 68 kt; lift off at 75; retract the landing gear; and climb to pattern altitude at 95 kt.

Gear and takeoff flaps can be extended at airspeeds below 129 kt, and once below 103 kt the final, 40-degree landing flap setting can be selected. On base and early final, airspeed should be targeted around 85 to 90 kt. Slow to 73 kt on short final—depending on conditions (add half the gust value in nonsteady wind conditions)—and keep some power on as you near the runway. Those 40 degrees of flap create a lot of drag, and you'll sink mightily if you don't stay on top of your power and sink rate. There are no tricks to the flare, and the trailing-link landing gear make for smooth touchdowns.





The airplane we flew carries a \$351,000 price tag, plus another \$3,900 for its three-blade propeller, for a total of \$354,900.

Socata has just begun taking orders for the 2000GT, and demonstration flights continue. In the meantime, Socata has played another round of corporate musical chairs. It began life as the Morane-Saulnier Company in 1911 and became part of Sud Aviation in 1966, which in turn was joined with Nord Aviation to become Aerospatiale in the late 1960s. In 1998 Socata came under the Aerospatiale Matra banner, then in August 2000 was made part of a new entity: EADS (European Aeronautic Defense and Space company)—the product of the merger of France's Aerospatiale Matra, Spain's CASA, and Germany's DASA. This makes Socata part of one of world's largest aerospace conglomerates. Let's hope that EADS' resources let Socata continue to provide the American market with comfortable luxury machines like the 2000GT—and the service support to go with them. □

i Links to additional information on the Trinidad may be found on AOPA Online (www.aopa.org/pilot/links.shtml). E-mail the author at tom.horne@aopa.org

Socata Trinidad TB20 Model 2000GT

Base price: \$351,000

Specifications		8,000 ft	(95.4 gph/15.9 gph)
Powerplant	Textron Lycoming IO-540-C4 D5D, 250 hp	@ 55% power, best economy	139 kt/1,170 nm
Recommended TBO	2,000 hr	10,000 ft	(63.6 gph/10.6 gph)
Propeller	Hartzell, two-blade, constant speed	Service ceiling	20,000 ft
	80-in dia	Landing distance over 50-ft obstacle	1,750 ft
Length	25 ft 7.2 in	Landing distance, ground roll	820 ft
Height	9 ft 4 in	Limiting and Recommended Airspeeds	
Wingspan	32 ft 2.3 in	V _X (best angle of climb, gear down, full flaps)	67 KIAS
Wing area	128.09 sq ft	V _X (best angle of climb, gear up, flaps up)	81 KIAS
Wing loading	24.1 lb/sq ft	V _Y (best rate of climb, gear down, full flaps)	73 KIAS
Power loading	12.3 lb/hp	V _Y (best rate of climb, gear up, flaps up)	95 KIAS
Seats	4	V _A (design maneuvering)	129 KIAS
Cabin length	8.3 ft	V _{FE} (max flap extended, 10 degrees)	129 KIAS
Cabin width	4.2 ft	V _{FE} (max flap extended, 40 degrees)	103 KIAS
Cabin height	3.67 ft	V _{LE} (max gear extended)	139 KIAS
Empty weight, as tested	1,994 lb	V _{LO} (max gear operating)	129 KIAS
Useful load, as tested	1,092 lb	V _{NO} (max structural cruising)	150 KIAS
Payload w/full fuel	575 lb	V _{NE} (never exceed)	187 KIAS
Maximum ramp weight	3,097 lb	V _R (rotation)	68 KIAS
Maximum takeoff weight	3,086 lb	V _{S1} (stall, clean)	70 KIAS
Maximum landing weight	3,086 lb	V _{S0} (stall, in landing configuration)	59 KIAS
Fuel capacity, std	88.8 gal (86.2 gal usable)	Performance	
	532.8 lb (517.2 lb usable)	Takeoff distance, ground roll	1,300 ft
Oil capacity	12 qt	Takeoff distance over 50-ft obstacle	2,150 ft
Baggage capacity	143 lb	Max demonstrated crosswind component	25 kt
		Rate of climb, sea level	1,200 fpm
		Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
		@ 75% power, best power	163 kt/900 nm

For more information, contact Socata Aircraft, North Perry Airport, 7501 Pembroke Pines Road, Pembroke Pines, Florida 33023; telephone 800/893-1400; fax 800/964-0805; or visit the Web site (www.socata.com/).

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.