



SOCATA



# SOCATA TRINIDAD

*France's top-of-the-line single*

Socata, the general aviation branch of Aerospatiale, the French aerospace conglomerate, has a new airplane. Its latest product, the four-place, 250-hp Trinidad now is being exported to the United States. With a 160-knot cruise speed, comfortable interior, modular construction and competitive price, the Trinidad may succeed where its predecessors did not.

The company's first efforts in the American marketplace began in 1978 with the Rallye 235C (see "Rallye 235C," January 1980 *Pilot*, p. 78), an airplane with STOL-like performance. The Rallye's \$50,000 price tag and narrow appeal made it a victim of competition from domestic makes. Next was the TB 10 Tobago, a 180-hp four-seater with a constant-speed propeller and fixed landing gear. The aircraft's failure to obtain American type certification, among other problems, spelled an end to that project.

The Trinidad retains the best features of the Tobago. Gull-wing doors allow easy access to the cabin. The cockpit instruments and controls are arranged in a convenient, if somewhat unorthodox (to American tastes), fashion, and the seats are very comfortable. The interior was designed by an Italian firm that creates automobile interiors for Citroën and Fiat.

With an average equipped price of approximately \$105,000, Socata clearly is drawing a bead on the American high-performance, single-engine, retractable competition. Built into the American base price of \$81,000 (this includes a \$5,000 ferry fee) are some desirable standard features. Ease of maintenance is one of Socata's primary concerns, and the modular, tilt-back instrument panel components permit quick removal and installation of avionics and flight instruments. Access to engine components is easy, too. Thorough corrosion-proofing is standard and includes both anodizing and zinc chromate treatments. A handy, overhead-mounted approach-plate holder

lets the pilot consult his charts during IFR flight with a minimum of head movement.

With the Lycoming IO-540 engine and laminar-flow wings, performance is more than adequate. Climb rate is listed as 1,260 fpm, but the day I flew the Trinidad (with three aboard and full fuel), the vertical velocity indicator showed approximately 1,700 fpm, and conditions were nearly standard. At the best-rate-of-climb speed of 80 knots, the Trinidad's nose-high pitch attitude helped reinforce the impression of a steep climb profile.

Thin, narrow, laminar-flow wings make most pilots think of abrupt stall characteristics, but the Trinidad has a very mild stall. The nose hunts up and down a bit, then drops slowly as the airplane mushes out of a power-off stall. Power-on stalls were equally docile. The Trinidad's airfoil—like those of the rest of the TB series—is the beneficiary of computer-assisted design (popularly known as CAD). It is a symmetrical-profile wing, specially designed to achieve safe stall characteristics without washout.

The only apparent drawback to the wing design is its high wing loading. Retard the power, and the Trinidad sinks quite rapidly. The most consistent approaches are those flown with power, as the initiate will learn after a few tries.

The Trinidad is manufactured at Socata's modern plant in Tarbes, France. For a real contrast in technology, make back-to-back visits to the Avions Pierre Robin factory and Socata's. Where the former believes in the virtues of hand-made wood construction, the latter is committed to the most advanced technology. All aircraft in the TB series comprise five construction modules. To save construction time and cut down on inventory, the modules are stored until an order is placed. Automation and computer-assisted design help to keep the Trinidad's parts count 60 percent lower

than those of single-engine retractables manufactured in America.

The assembly line consists of a central corridor where the modules (i.e., tail, fuselage, cabin, wings and powerplant) come together in sequence. Ringing the assembly area are work areas where subassemblies are constructed.

Modern milling machines turn out the Trinidad's one-piece spars. Special jigs and presses further cut down on construction time. According to a company spokesman, it takes approximately two weeks, or 600 hours, to build a Trinidad.

The Trinidad has earned American certification, and the first few airplanes already have been delivered to Aerospatiale's U.S. distributors. The United States is divided into three zones. The Eastern distributor is Queensland Aviation, Incorporated (Post Office Box 360, LaChute, Quebec, J8H 3X9, Canada; telephone 514/562-2235). The Central U.S. distributor is Aerovision, Incorporated (Post Office Box 13353, Houston, Texas 77219; telephone 713/869-0657). The distributor for the western states is Trinidad Distributing Company of the West (5820 Stoneridge, Suite 115, Pleasanton, California 94566; telephone 415/847-2097). Dealerships within these zones will be established by the distributors. Though this distribution network is in its infancy, it represents the most serious commitment that any European lightplane manufacturer has made to the American market.

Aerovision recently announced a special lease/purchase financing program for those who order a Trinidad before the end of September 1984. This program provides 100-percent financing with no money down and a five- to 12-year term.

Some detractors have said that Socata aircraft have an unfair advantage over other types, arguing that the company exists on subsidies from the French government. Socata points out

*Socata's modern factory (left) at the Tarbes, France airport uses modular techniques to save assembly time and reduce parts count. As airplanes move down the assembly line, components from sub-assembly bays are added. Airplanes are built as orders are placed.*

that any assistance they receive from the government is in the form of loans, which must be repaid. Company officials say that business is good, and that Socata is able to honor its debt commitments. "A loan can be considered a subsidy only if it allows a sick company to barely carry on," a Socata official told me. "If the loan allows the development of a successful product line, then it is considered a good investment."

Time will tell if Americans think the Trinidad is a good investment. —TAH

### Aerospatiale Trinidad TB 20

Base price \$76,000

#### Specifications

Powerplant	Lycoming IO-540C4, D5, D, 250 hp @ 2,575 rpm
Propeller	Hartzell, two-blade, constant speed
Length	25 ft 4 in
Height	9 ft 4 in
Wingspan	32 ft 6 in
Wing area	128.1 sq ft
Wing loading	23.1 lb/sq ft
Power loading	11.8 lb/hp
Seats	4
Cabin length	8 ft 4 in
Cabin width	4 ft 2 in
Cabin height	3 ft 8 in
Empty weight	1,701 lb
Max ramp weight	2,955 lb
Gross weight	2,955 lb
Useful load	1,254 lb
Payload w/ full fuel	737 lb
Max takeoff weight	2,937 lb
Fuel capacity, std	533 lb (517 lb usable) 88.8 gal (86.1 gal usable)
Oil capacity, ea engine	13 qt
Baggage capacity	110 lb

#### Performance

Takeoff distance, ground roll	968 ft
Takeoff distance over 50-ft obst	1,571 ft
Max demonstrated crosswind component	25 kt
Rate of climb, sea level	1,260 fpm
Max level speed	167 kt
Cruise speed/Range w/45-min rsv, std fuel (fuel consumption, ea engine)	
@75% power, best economy	
8,000 ft	164 kt/885 nm (82.8 pph/13.8 gph)
@65% power, best economy	
12,000 ft	160kt/964 nm (75 pph/12.5 gph)
@55% power, best economy	
12,000 ft	152 kt/1,010 nm (66 pph/11.0 gph)
Service ceiling	20,000 ft
Landing distance over 50-ft obst	1,740 ft
Landing distance, ground roll	755 ft

#### Limiting and Recommended Airspeeds

Vs1 (Stall clean)	64 kt
Vso (Stall in landing configuration)	60 kt

*All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, at sea level and gross weight, unless otherwise noted. Aircraft empty weight and payload based on unequipped airplane.*