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# TURNING Airpark Dreams — INTO — Lifestyle Realities

THE DAHER-SOCATA TBM 850 ELITE

BY JAMES WYNBRANDT  
PHOTOS BY JIM KOEPNICK

**T**hey may have roads and utilities, homes and happy families, but residential airparks are far from your typical American community—unlike, say, a Muncie, Ind., celebrated and studied by social scientists for its average-ness.

We were enjoying the enviable differences in the airpark lifestyle during our visit to Big South Fork Airpark (BSFA) in Oneida, Tenn., where we had come to evaluate candidates for Best Residential Airpark Airplane (RAA) honors. Not that BSFA is a typical residential airpark.

Adjacent to the Cumberland Plateau's spectacular Big South Fork National Recreational Area and enjoying through-the-fence access to Scott County Municipal Airport (KSCX), the 450-acre property, now in its first phase of development, is above average in every way.

Its thickly wooded lots, fine Paso Finos at the equestrian facility and the residents' camaraderie help set it apart. Here, amidst natural beauty and among like-minded souls, minutes from one's airplane, is the life many pilots dream of. But most of us are stuck in our own Muncies.

## SPECIFICATIONS

Base Price: \$3,205,087  
Price (typically equipped): \$3.37 million  
Powerplant: PT6A-66D  
Propeller: Four-blade Hartzell HC-E4N-3  
Wing Span: 41 ft. 7 in.  
Length: 34 ft. 11 in.  
Seating capacity: Six  
Max Gross Takeoff Weight (lbs.): 7394  
Empty Weight (lbs.): 4589  
Fuel Capacity (gals.): 291.6  
Standard Useful Load (lbs.): 2632  
Payload, Full Std. Fuel (lbs.): 849

## PERFORMANCE

Rate Of Climb, Sea Level (fpm): 2005  
Service Ceiling (ft.): 31,000  
Max Cruise Speed (kts.): 320  
Economy Cruise (kts.): 252  
Range At Max Cruise With IFR  
Reserves (nm): 1,410  
Range At Economy Cruise With IFR  
Reserves (nm): 1,585  
Max Operating Speed (kts.): 266  
Stall Speed, Clean (kts.): 81  
Stall Speed, Landing Configuration (kts.): 65  
Takeoff Distance (ft.): 2035  
Takeoff Distance Over  
50-Foot Obstacle (ft.): 2840  
Landing Distance Over 50-foot obstacle  
Without Reversers (ft.): 2430  
Landing Distance Ground Roll Without  
Reversers (ft.): 1143





Two 10.4-inch primary flight displays flank the center 15-inch multi-function display on the instrument panel. The Garmin G1000 avionics system has been standard on the TBM since 2008.

## An Ideal RAA

An aircraft that could bridge these two worlds, providing commercial-grade anywhere/anytime capability for business missions, combined with outstanding high/hot and short-field performance for getting in and out of the homeport (most airparks aren't blessed with SCX's 5,500 feet of asphalt) could surely make a claim for the top RAA spot.

The TBM 850 Elite, latest model of Daher-Socata's six-place single-engine turboprop, is on the short list for this job. With a 320-knot maximum cruise speed, range of more than 1,400 nm and a rugged nimbleness suitable for unimproved backcountry airstrips, on paper, the TBM has more than enough performance to meet the challenge. Mike Sarsfield, Socata's Sales and Support representative for the Southeast U.S., agreed to bring a new 850 Elite to BSFA for a field evaluation.

It turns out the TBM is no stranger to residential airpark living. "Just in the



Southeast, I've got 10 or 12 TBM owners who live in a residential airpark or have a second home in one," Sarsfield said, as we approached N850XX on the ramp at SCX, the sun burning off the last of the morning's fog.

## Mission To Muncie

Sarsfield had arrived the previous evening after a full day of work at his office in Atlanta as isolated thunderstorms began popping up in our area, a warm-up demonstration of the TBM's RAA creds.

As lightning pierced the night outside the manorial Welcome Center, the heart of BSFA's community life, we planned today's flight, selecting a destination at once symbolic and pragmatic: Muncie, Ind., 230 nm north. Ordinary to some, the city's airport (KMIE) is home to Muncie Aviation, the world's oldest Piper dealership, and is one of the first TBM sales and service centers in the U.S. We had an appointment to tour their facility and have a business lunch.

On the ramp, the TBM is sleek and muscular, its elongated snout of a cowl and nose-bowl air intake suggesting an apex avian predator. Externally, there's little to distinguish the 850 Elite from the first TBM, the 700A, introduced in 1990. ("TB" is for Tarbes, site of Socata's headquarters in France, and "M" is for Mooney, Socata's erstwhile partner until leaving the program in 1991.)

The 850 model, introduced in 2006, replaced the 700 series' 700 shp Pratt & Whitney PT6A-64 with the 850 shp PT6A-66D, offering improved climb and cruise performance. (The extra 150 shp isn't available during takeoff or go-arounds while landing, as we'll say more about that later.)

The 850 Elite, unveiled at Sun 'n Fun 2012, features a reconfigurable cabin that allows removal and reorientation of cabin seats for expanded cargo space, and seating options that can be accomplished in about 30 minutes. Optional carbon-fiber interior edging and global Satcom also are available in the Elite.

## Interior And Exterior

The widened passenger/cargo door, introduced with the 700B in 1999, is one of the few noticeable changes to the TBM's original airframe. Electrically operated, the door opens upward while fold-out airstairs swing down from the cabin floor.

Even with all the seats in, the TBM has ample hauling capacity. Both back seats fold forward for easy access to the netted 220-pound baggage area at the rear of the cabin. "You can carry saddles," Sarsfield said helpfully, a definite plus for some of the BSFA crew. The nose baggage locker can hold an additional 110 pounds. There's much else to impress on the walkaround.



The TBM 850 features pilot doors and a separate passenger/cargo door that's electrically operated and swings open upward with fold-out airstairs that swing down.



The aircraft's clean sheet wing was designed to optimize both speed and maneuverability, developed by Socata in partnership with a pair of French research centers.

To simplify maintenance, the de-icing boots are on removable panels, three on each wing, facilitating repairs or swap-outs if a boot needs replacement or a leading edge gets dinged. The already beefy landing gear were bulked up for the introduction of the 700C2 in 2003.

The FAA and EASA allowed Socata to raise the TBM's stall speed from 60 to 65 knots and its gross weight to 7,430 pounds in exchange for enhanced crashworthiness, which included the installation of 20G seats.

You can be underway quickly with just one fuel tank on each side to sump, and a fuel filter bypass under the nose

to check, a built-in mirror and light simplifying its preflight inspection.

The split cowl provides access to visually check the engine and fluid levels, and to be impressed by the thick engine mounts and titanium firewall. A four-blade Hartzell HC-E4N-3 propeller is out front.

Inside, the cabin has all the amenities a light business jet passenger would expect: foldout table, leather seats with stowable armrests, individual lights and air vents, Bluetooth capability and ample legroom as a bonus. The relatively large windows (seven today from the original six) add to its spacious feeling.

The cabin area also has its own environmental control, thanks to a dual evaporator system, allowing passengers to set their own cabin temperature. But this is primarily an owner-flown aircraft, and



most buyers will be sitting in the front left seat.

Both cockpit seats are fully adjustable, and the flight deck feels calm and uncluttered, the panel framing the three monitors of its Garmin G1000 avionics suite (two 10.4-inch PFDs flanking the center-mounted 15-inch MFD), standard in the TBM since 2008. “Ninety percent of the people I put in an airplane know more about the G1000 than I do,” Sarsfield said.

Fully integrated with the aircraft, the G1000 monitors and/or commands all aspects of the TBM’s operation, from the avionics and engine to pressurization system and the optional Iridium Satcom transceiver that provides worldwide voice telephony and datalink. The Satphone could ensure that pilots at airports with spotty cell coverage can reach the Flight Service’s dedicated nationwide cell phone Clearance Delivery Line at (888)766-8267 to pick up a clearance at non-towered airports.

## Getting Underway

With a machine this sophisticated, you start the airplane, not just the engine. Sarsfield uses a flow pattern on the instrument and overhead panels to ensure switches are in proper position.

Next, engage the start button and monitor torque and temperature on the display screen, and work the condition lever as the turbine comes up to 50%, which is its “started” state.

Use the flow pattern again to bring systems off- and online as required or desired, the latter including the inertial separator, keeping FOD (foreign object debris) out of the engine and the air-conditioner.

Typically, you’ll be going up to the high teens or flight levels in this airplane, and the G1000 simplifies flight management, ensuring loading is within weight and balance limits, and tracking range and fuel while en route. Data can be entered via the bezel-mounted controls or keyboard.

For taxiing, speed is controlled by using the prop’s beta range, which can also back the aircraft in or out of a tight spot on the ramp. Brakes are needed only if making a sharp turn. For takeoff, use right rudder trim and right aileron deflection, hold the brakes, bring power to 40% and confirm systems are stabilized, release the brakes and advance to 100%.

Acceleration is impressive. Rotate at 85 knots, and once the gear is up, turn on the yaw damper. The TBM needs a lot of rudder to keep the ball centered in its various configurations, and the damper takes over all rudder inputs, easing pilot workload.



## En Route

We made a couple of low passes down the runway for ground-to-air photos before contacting Indy Center and picking up our clearance, our 140-knot ascent yielding about a 1,900 fpm climb rate.

The PT6A-66D, unlike the Dash 64 powering the 700, isn’t torque limited; the pilot can boost the power beyond the 100% thrust the Dash 64 allows, but only when the flaps are retracted, and power must be monitored to ensure it remains within operating limitations. (The same handle that deploys the flaps activates “850 mode” when advanced from the retracted flap position.)

Thus, the extra power isn’t available during takeoff or for a go-around when landing. We advanced into the 850 mode at about 7,000 feet. “Now we’re the torque limiter,” Sarsfield said.

At 115% torque (the G1000 identified 121.4% torque as our redline) our climb rate increased to about 2,300 fpm, consistent with book performance numbers, while we hand-flew under the guidance of the autopilot’s flight director.

The 230 nm to Muncie was a walk around the block for the TBM 850 Elite,

but plenty of time and distance to showcase its strengths. It can climb to 26,000 feet, where it delivers its max cruise speed of 320 knots, in about 15 minutes.

We cruised at altitudes between FL270 and FL290 on our round trip, and at FL270 with an OAT of -28C, saw 307 knots TAS with a fuel burn of 50 gph. Moreover, the TBM felt as solid and responsive near its 31,000-foot service ceiling as it did while maneuvering around SCX after departure.

For fuel management, the Range Ring function on the MFD displays range overlaid on a map based on fuel onboard, winds at altitude and power setting, and is continuously updated.

Change the power setting and you’ll immediately see the effect that it has on your range. The automatic fuel swapper, when engaged, switches tanks every 11 minutes, further simplifying fuel management for the pilot.

You can also get down in a hurry. Sarsfield was eager to showcase how the GMC 710 autopilot—an entirely new digital system—handled emergency descents, incorporating an overspeed protection that ensures the airplane won’t

inadvertently exceed its certificated IAS limit of 266 knots.

Cleared by ATC for the emergency descent training ops, we returned to 700 mode, reduced rpm from 2,000 to 1,850, and at 178 knots put in a notch of flaps. Engaging the autopilot, we entered 264 knots as our speed, 4,000 fpm as our descent rate, and 8,000 feet as our desired altitude, resetting the pressurization system.

Our airspeed maxed before reaching our target descent rate, so the GMC 710 simply held the rate at about 3,450 fpm. Pull the power back and the TBM can descend at rates as high as 12,000 fpm without exceeding its maximum operating speed, Sarsfield said.

“That’s the beauty of this airplane, the multimillion dollar difference—the real high airspeed available for descent,” Sarsfield said, contrasting the TBM with competitor single-engine turboprops.

Muncie was reporting an 800-foot ceiling and we were cleared for the ILS 32 approach, our position soon displayed on the georeferenced chart. If needed, the TBM has an electric windshield, hot prop, pneumatic boots and the inertial separator to handle ice.

Speeds for deploying the landing gear and first notch of flaps are both a hefty 178 knots indicated, and full flaps can

be lowered at 122 knots. Once the aircraft is configured and stabilized, the approach is flown at about 30% torque. Hold the nose off as power comes to idle in the flare and, as with taxiing, stay off the brakes and use the beta range to slow the landing roll.

## Getting Down To Business

Jerry Nancarrow, who has been working in sales for Muncie Aviation for more than 35 years, served as our host, showing us around the maintenance hangars, parts department, avionics shop and other facilities of what’s now a 100% employee-owned company.

How does he rate the TBM 850 Elite as an RAA? “The TBM would be a great choice for that, because it’ll carry a big load in and out of a short field,” Nancarrow said. “That’s no problem.”

Socata also emphasizes the assistance it provides for pilots transitioning from piston to turbine. Sarsfield estimates 30% of his new customers are graduating from Cirrus, followed by Piper Malibu and Meridian owners.

“If they’ve got 500 hours in a Cirrus, it’s an easy 10- to 20-hour transition,” said Sarsfield. Purchase price includes intensive primary and recurrent training.

“We had our business meeting, and now we’re going back to go horseback

riding,” Sarsfield said as we headed to the airplane. Indeed, the Elite proved it could be the magical bridge between the residential airpark lifestyle we imagine and the everyday world we inhabit. Back at BSFA I solicited more opinions from the resident experts.

## Living The Dream

“Oh, my gosh, you’re making me start to drool now,” said Lamar Parker, an obgyn who currently flies a Twin Cessna 414A with his wife Marilyn between their home in Winston-Salem and their place here at BSFA. “You get the speed and dependability of a turboprop, you get a great payload, and they are gorgeous,” he said of the TBM.

“If you had a business where you could work out of your home and you needed an aircraft for it, the TBM would be perfect,” said Keith Petrie, who commutes from Sioux City, Iowa, where he owns a fast-food franchise, to BSFA in an A-36 Bonanza. “It is an awesome airplane. If I won the lottery, I would own a TBM.”

But if a TBM is out of your price range, remember that the other part of this magical lifestyle—a home on a residential airpark—is eminently affordable. You don’t have to wait for the ideal RAA to start living the dream.

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