

# Memorabilia maker

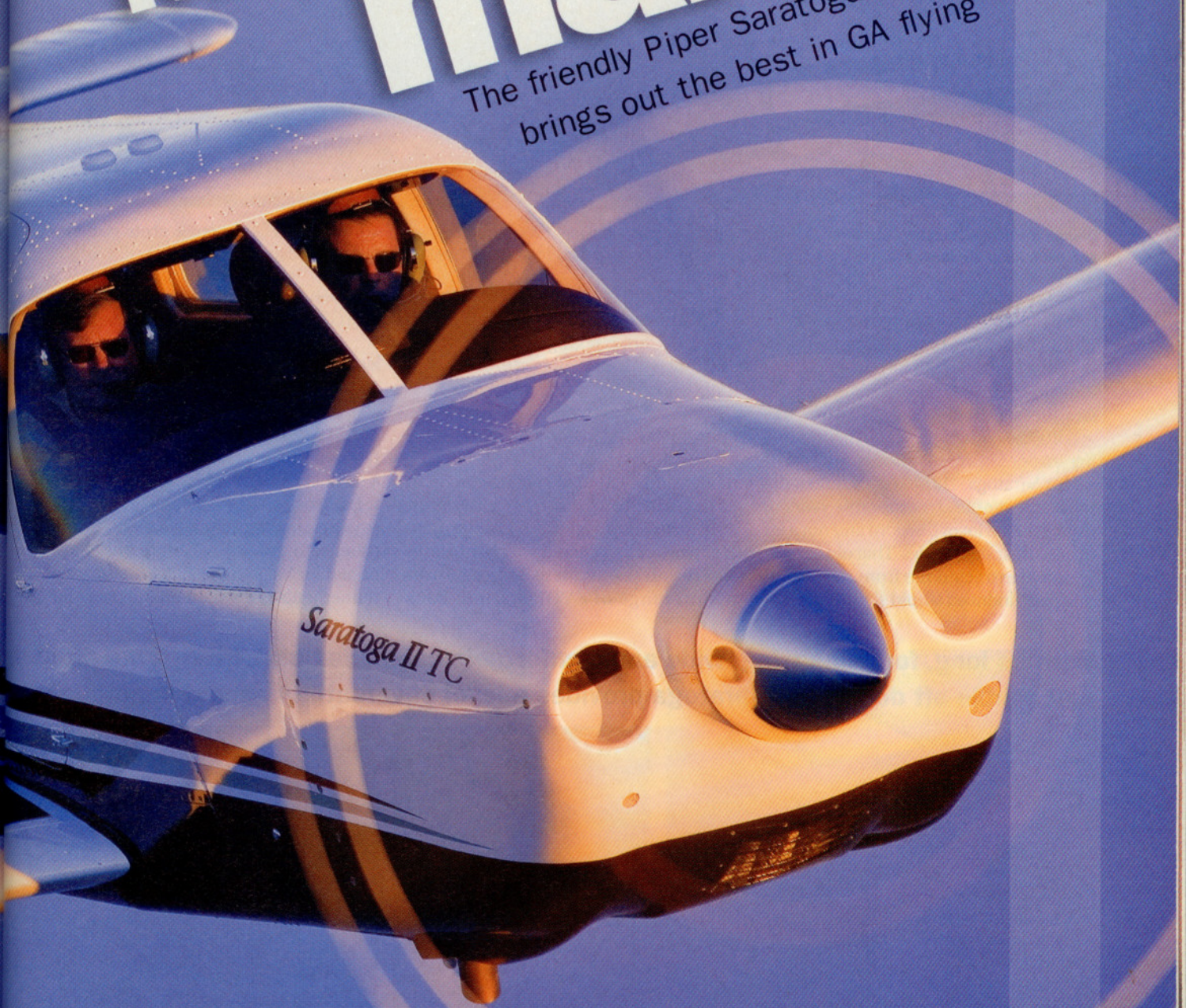
The friendly Piper Saratoga II TC  
brings out the best in GA flying



Piper Saratoga II TC

# Memory maker

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**F**rom my Piper Saratoga perch, it appeared the choppy waves of Lake Erie were going to slosh right over little Put-in-Bay before I could manage to touch down on the short grass runway. I grabbed the big handle between the pilot and copilot seats and yanked it up, causing the airplane to balloon upward with deployment of full flaps. Things then settled down quickly, the green runway filled the windshield, and the Saratoga plunked onto the turf, quickly rolling to a stop.

I've flown more than 100 models of airplanes over the years, and the details of the first flight in any one particular model are mostly lost in the corners of my brain somewhere. But the Saratoga owns a special place in my heart—mostly thanks to that exhilarating landing on Put-in-Bay, Ohio, in the summer of 1988. It was my first Saratoga landing. Fortunately, I had an experienced pilot in the right seat to keep us out of the lake and the trees at the end of the runway, which has since been paved.

**BY THOMAS B. HAINES**

PHOTOGRAPHY BY MIKE FIZER





Double aft doors create a yawning opening for loading goods and people. Remove them and the Saratoga makes a terrific photo platform and even jump airplane. Many photos for this magazine have been shot from the aft-facing seat of a Saratoga.

Aside from the Beechcraft A36 Bonanza, which I have owned for eight years, I have more time in Saratogas than in any other model of airplane. As a senior editor for this magazine back in the late 1980s, I spent a couple of years traversing the country in search of interesting stories as viewed from the left seat of a 1981 Saratoga. Those were some of the most pleasant and memorable years of my career—a lot of freedom and not a lot of office responsibilities. That old Saratoga safely extracted me from more than one pilot-induced stupid situation.

We've both soldiered on through the years and both gained a little weight. So far I'm not packing any electronics, but today's Saratoga is stuffed full of them—to the point that you might mistake today's Saratoga cockpit for an airliner if your last visit there was in 1988 when the Bendix/King KNS 80 area navigation system was all the rage. In case you're too young to remember, area navigation systems allowed you to electronically place a waypoint anywhere you wanted it as long as it was within range of a VOR station. Back

then—before loran and certainly before GPS—we thought it was way cool.

#### Hello, old friend

Those happy Saratoga memories washed over me as I settled into the left seat of N1054S last February in Vero Beach, Florida. This new Saratoga II TC sported a turbocharging system, an Avidyne Entegra glass cockpit, a stack of Garmin avionics, air conditioning, and a host of other refinements we could only have hoped for back in the 1980s; among the refinements is a switch on the panel for

With its long, forgiving wing, wide and comfortable cabin, flexible seating (the aft seats and double aft doors, the Saratoga provides a level of versatility almost unparalleled in

The Saratoga's large, versatile cabin provides easy access for passengers and to load cargo. A six-place intercom with convenient access to jacks (right) is standard fare.





can be in a club configuration or all facing forward),  
single-engine airplanes.





The Avidyne Entegra avionics system with its large primary and multifunction displays, combined with the Garmin 430s and S-Tec autopilot, provide a clutter-free panel and remarkable assistance to the pilot.



Starting this month, Saratoga buyers can opt for the Garmin G1000 cockpit, which still interfaces with the S-Tec autopilot, but the Garmin navigation and communications functions are integrated into the primary and multifunction displays.

deploying the flaps, replacing the massive handle between the two front seats. Apollo spacecraft were launched with less computing horsepower than I had in front of me.

To the right sat Bart Jones, Piper's chief pilot. Across the ramp stood the rugged block buildings where production of the Saratoga II TC, and all of Piper's production, now occurs. Ahead of us on another part of the ramp stood the remains of one of several Piper buildings damaged during the 2004 hurricanes. Under new ownership and new management, Piper is rehabilitating one of the heavily damaged buildings and implementing a host of new lean-manufacturing processes that will help drive down the number of hours to build its airplanes. To our left was the development hangar where the first pieces of metal for the new PiperJet will be cut and then assembled as that project gets under way. First deliveries of the jet are set for 2010.

Although management focuses a lot of attention on the PiperJet, turboprop Meridian, and the pressurized Mirage, the venerable PA-32 Saratoga remains a mainstay of the Piper fleet. Last year, the company delivered 47 Saratogas, all but 10 of them the turbocharged variant. Only the Meridian, at 49 deliveries,

proved more popular with Piper buyers. All in all, the company built 238 airplanes in 2006 and plans to deliver a few more than that this year.

Part of the popularity of the turbocharged version of the Saratoga is that it costs only 8 percent more than the normally aspirated version, but delivers enough additional power to make the airplane a contender in the highly competitive high-performance single market. In fact, the turbo Saratoga has become a "next airplane" to a number of

pressure and a relatively quiet 2,300 rpm. An automatic absolute pressure controller makes power management easy. Just shove the throttle forward on takeoff and leave it there until you level off at the desired altitude. The controller adjusts the wastegate to prevent overboosting of the turbocharging system and maintains the desired manifold pressure regardless of altitude changes until the airplane reaches critical altitude—the altitude at which the turbocharger can no longer maintain maximum manifold pressure.

## With altitude preselect and a host of refined modes, the S-Tec System Fifty-Five X autopilot seems more capable than we deserve.

Cirrus buyers who find themselves needing six seats as the kids grow up or their missions change.

Although many of the newer models in the GA fleet achieve their sizzling performance by working their engines hard—often at maximum engine rpm—the Saratoga TC delivers a respectable 166 knots true airspeed at 10,500 feet with the 300-horsepower Lycoming TIO-540 putting out only 71-percent power. In other words, loafing. This "normal cruise" setting requires 30 inches of manifold

In the Saratoga TC, critical altitude is typically between 12,000 and 14,000 feet, depending on ambient conditions.

At those settings and at a midweight of around 3,300 pounds, the airplane will turn out 165 to 170 KTAS on 17.9 gph, leaned to a maximum turbine inlet temperature of 1,650 degrees Fahrenheit.

You can wind the engine up tighter and climb to FL200 to see true airspeeds in the 190s, but given the relatively low critical altitude, those last few thousand feet will be at a leisurely climb rate.

## SPECSHEET

### Piper PA-32 Saratoga II TC

Base price: \$573,500

Price as tested: \$611,720

#### Specifications

Powerplant	Textron Lycoming TIO-540-AHIA, 300 hp
Recommended TBO	2,000 hr
Propeller	Hartzell three-blade, constant speed, 77- to 78-in dia
Length	27 ft 10.5 in
Height	8 ft 6 in
Wingspan	36 ft 2 in
Wing area	178.3 sq ft
Wing loading	20.2 lb/sq ft
Power loading	12 lb/hp
Seats	6
Cabin length	10 ft 4 in
Cabin width	4 ft
Cabin height	3 ft 6 in
Empty weight	2,478 lb
Empty weight, as tested	2,578 lb
Max ramp weight	3,615 lb
Max gross weight	3,600 lb
Useful load	1,137 lb
Useful load, as tested	1,037 lb
Payload w/ full fuel	525 lb
Payload w/ full fuel, as tested	425 lb
Max takeoff weight	3,600 lb
Max landing weight	3,600 lb

Fuel capacity	107 gal (102 gal usable) 642 lb (612 lb usable)
Oil capacity	12 qt
Baggage capacity	
Forward	100 lb, 7 cu ft
Aft	100 lb, 17.3 cu ft

#### Performance

Takeoff distance, ground roll	1,110 ft
Takeoff distance over 50-ft obstacle	1,810 ft
Max demonstrated crosswind component	17 kt
Rate of climb, sea level	950 fpm
Cruise speed/range w/ 45-min rsv, std fuel (fuel consumption)	
@ High-speed power, peak TIT, 10,000 ft	176 kt/750 nm (20 gph)
@ Long-range power, peak TIT, 16,000 ft	160 kt/995 nm (12.5 gph)
Max operating altitude	20,000 ft
Landing distance over 50-ft obstacle	1,700 ft
Landing distance, ground roll	880 ft

#### Limiting and Recommended Airspeeds

V <sub>y</sub> (best rate of climb)	
Gear down, flaps up	80 KIAS
Gear up, flaps up	95 KIAS
V <sub>A</sub> (design maneuvering)	134 KIAS
V <sub>FE</sub> (max flap extended)	110 KIAS
V <sub>LE</sub> (max gear extended)	132 KIAS
V <sub>LO</sub> (max gear operating)	
Extend	132 KIAS
Retract	110 KIAS
V <sub>NO</sub> (max structural cruising)	167 KIAS
V <sub>NE</sub> (never exceed)	191 KIAS
V <sub>R</sub> (rotation)	80 KIAS
V <sub>S1</sub> (stall, clean)	67 KIAS
V <sub>S0</sub> (stall, in landing configuration)	63 KIAS

For more information, contact Piper Aircraft, 2926 Piper Drive, Vero Beach, Florida 32960; telephone (772) 567-4361; fax (772) 978-6592; www.piper.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.



**Although many of the newer models achieve their sizzling performance by working their engines hard—often at maximum engine rpm—the Saratoga II TC delivers a respectable 166 knots true airspeed at 10,500 feet while loafing.**

In a climb to 10,500 feet, the airplane was still happily ascending at 750 fpm while indicating 112 knots on 35 inches of manifold pressure and 2,500 rpm, but at a fuel burn of 34.7 gph.

#### **Managing the systems**

One of the beauties of the Saratoga is its simple systems. Hydraulics hold the gear up. In the case of a hydraulic leak, the gear free-falls into the down and locked position. The 102 gallons of fuel are contained in two wing tanks managed by a simple Left/Right/Off selector. As noted, power management is easy, thanks to the automatic wastegate. A B&C Specialty standby alternator is always running in the background, ready to take up to 20 amps of load should the ship's main alternator pack it in.

Optional equipment, such as air conditioning and the Piper Inadvertent Icing Protection System, which is the version of the TKS anti-icing system approved for supplemental use only, all operate with the flick of well-placed switches on the roomy panel. Management of the flight itself became easier a few years ago with the introduction of the Avidyne Entegra cockpit system. The Entegra includes two cockpit displays. The primary flight display in front of the pilot replaces the information provided by the conventional "six-pack" instruments and adds in a host of new information including real-time wind speed and direction and thumbnails of engine data.

The multifunction display in the middle of the panel depicts the usual moving-map information as well as

highly detailed engine and fuel system data. A pair of Garmin GNS 430 communication and navigation radios integrates with the Avidyne displays. An S-Tec System Fifty Five X autopilot flies the airplane like a dream. With altitude preselect and a host of refined modes, it seems more capable than we deserve.

Reacting to market demand, Piper last month at the Sun 'n Fun Fly-In was scheduled to unveil an optional Garmin G1000 cockpit system for the Saratoga. We saw a test airplane equipped with the Garmin panel during our February visit and it too provides for an impressive array of capabilities. For now, at least, the G1000-equipped airplanes will retain the S-Tec autopilot. Some other manufacturers have elected to certify Garmin's GFC 700 integrated flight control system.

Piper plans to charge a \$4,000 premium for the Garmin option over the Avidyne cockpit, lifting the Saratoga TC's base price to \$577,500. Our ride last February, N1054S, carried a retail price tag of \$611,720, which included air conditioning and several other options.

N1054S with its Entegra system and options weighed 2,578 pounds empty (the G1000 will add 26 pounds). Add in 102 gallons of usable fuel and you're left with 425 pounds of payload against the 3,600 pounds maximum takeoff weight. If you need to carry more than two adults and bags, you have the option of offloading from the generous fuel supply.


Trips of more than three hours can be flown with IFR reserves while carrying three adults and bags. Substitute

some kids for the adults, and the options grow.

With its long, forgiving wing, wide and comfortable cabin, flexible seating (the aft seats can be in a club configuration or all facing forward), and double aft doors, the Saratoga provides a level of versatility almost unparalleled in single-engine airplanes.

Today, N1054S has found a home with Richard Faherty, of Sussex, New Jersey. He and Rich Bartlett use the airplane for Faherty's company business and for personal flights. As they will soon find out, the capable Saratoga is a memory maker and will quickly become a part of the family. AOPA

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 *Links to additional information about Piper Saratogas may be found on AOPA Online ([www.aopa.org/pilot/links.shtml](http://www.aopa.org/pilot/links.shtml)).*

#### **INTERACTIVE ▶**

##### **AOPA PILOT ONLINE**

###### **Memory maker**

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View additional photographs of the Piper Saratoga II TC, shot at Piper's Vero Beach, Florida facility, and download a screen saver for your home computer by visiting *AOPA Pilot Online*. [www.aopa.org/pilot/saratoga](http://www.aopa.org/pilot/saratoga)