

Manhattan MERIDIAN



WHETHER IT'S FOR BUSINESS OR PLEASURE,
PIPER'S SINGLE-ENGINE TURBINE IS AN
INVESTMENT IN RELIABILITY

By Bill Cox | Photography By James Lawrence

Designers have dreamed of fielding single-engine turboprop aircraft for years. On the surface, at the very least, propjets seem to offer the best of everything, but at a costly price. Teaming the reliability of a jet engine with the thrust of a prop is, in many respects, an aeronautical engineer's dream. It's not surprising that practically everyone in the industry has tried the configuration at one time or another.

Few have succeeded, including many of general aviation's heaviest hitters. Beechcraft at one time had big designs on a turbine-powered, pressurized Bonanza called the Lightning, but the company eventually abandoned

that project after pouring several million dollars into its development. Cessna, as well, experimented with a PT-6-powered P-Centurion in the early '80s but folded it when it shut down all piston production in 1986. Attorney F. Lee Bailey tried to develop a turbine version of the Aero Commander 200 but failed. And Mooney was even flying an Allison-powered 201. Sadly, none of them came close to being certified.

In fact, the first production, turbine, corporate single was to come from a surprising corner. (Okay, the Cessna Caravan was first, but many didn't regard it as a corporate airplane.) Socata Aircraft of France began marketing the TBM-700 in

1990 at \$1.2 million, flying behind a 700-hp Pratt & Whitney PT6.

The Socata TBM-700 turboprop offered copious room for six, strong climb and cruise speeds near the magic 300 knots. The new model sold some 94 units in the first three years before sales trickled down to 15 or less per year. By the beginning of 2004, however, as the market recovered, Socata had sold 274 of its TBM-700s. That's well over a half-billion dollars in sales.

Pilatus joined the fray in 1995 with its King-Kong PC-12. Blessed with a monster 1,200-shp P&W engine out front and nearly 1,800 pounds of payload following behind in the huge cabin, the PC-12 was and remains the undisputed top of the class in weight,

size and price, if not performance. In freighter configuration, the huge cargo door opens up the left side of the fuselage and even allows loading with a fork lift. Alternately, the airplane may be fitted with up to 11 seats. Despite a current entry-level tab of \$2.7 million, the Swiss manufacturer has delivered nearly 400 PC-12s, proving, if nothing else, that a high price may not always be that much of a disincentive for the right airplane.

The comparative success of the TBM-700 and PC-12 hasn't gone unnoticed by the aircraft modifiers. A number of them recognized that there was big money in the sale of turboprop singles and began investigating turbine conversions of existing piston

airplanes. Turboprops and jets must fly high to realize their maximum performance potential, so the most logical candidates for conversions were those models already designed for comfortable travel in the flight levels. The industry's two piston-powered inflatable singles were among the first targets of major conversion efforts.

Rocket Engineering, which is a company based out in Spokane, Wash., struck gold when Warren Wood, along with his teammates Jeanie Sadler and Darwin Conrad, converted New Piper Malibus into PT-6s. Recently, they completed their 150th Jetprop DLX, nearly 15% of the PA-46 fleet. Myron

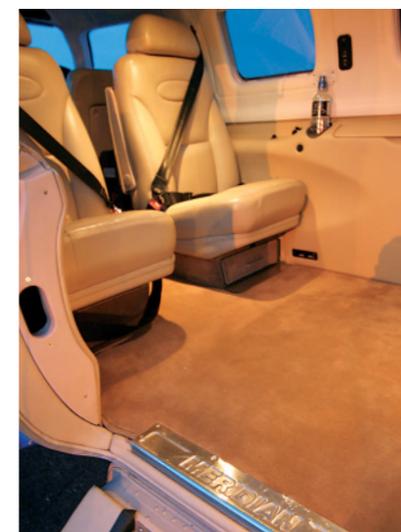
Olsen of O&N Aircraft in Factoryville, Pa., has done almost half that number of Cessna P-210 Silver Eagle conversions, mounting Rolls Royce/Allison 250 engines out front.

Turboprop engines can make sense for unpressurized models, as well, provided that the pilot and the passengers are willing to use oxygen on just about every flight or to put up with the high fuel burn and short range below 12,500 feet. Accordingly, there are lesser numbers of Tradewinds A36

Bonanzas as well as Turbine Air B36TC Bonanzas, Turbine Maules, Soloy 206s and a variety of other turboprop conversions flying today. Most of the conversions concentrate on replac-



The turbine-powered New Piper Meridian is in its own element above the Manhattan skyline. Its 500 shp P&W turbine engine allows owner Don Catalano to effortlessly move in and out of the New York airspace and conduct business across the country.



Piper has kept virtually the same signature Mirage fuselage from the firewall aft when designing the Meridian, and Catalano's plane is plush with stylish cabin appointments, like all-leather seats and side panels, wall-to-wall carpeting and overhead lights.

ing the piston engine with a turboprop, usually with as few other modifications to the airframe as possible.

Conversions, however, will never quite scratch the itch for some aviators. Just as there are pilots who wouldn't consider buying anything but a new airplane, there is another contingent that wouldn't even look at a conversion. Never mind that the engi-

neering may be the same or better. For some aircraft buyers, nothing but a new, production airplane will do.

In 2001, New Piper finally introduced its new production alternative to the Jetprop DLX. Like the converted Piper Malibu and Mirage, the Piper Meridian utilizes a P&W turboprop engine, in this case, a PT6A-42A rated for 500 shp, a similar power-

plant to that used on Piper's earlier Cheyenne I twin turboprop. TBO is 3,600 hours with a recommended hot-section inspection at half that.

The New Piper Meridian is heavily based on the Piper Mirage airframe, utilizing Jim Griswold's original wing, the same cabin and fuselage (aft of the firewall), and the same tail. With the obvious exception of systems changes

and enhancements, as well as instrument upgrades to reflect the turbine engine and an even more sophisticated and talented avionics suite, the New Piper Meridian is the Mirage from the firewall aft. Standard fuel has been upgraded from 120 to 170 gallons by wetting virtually the entire wing, but other than that, the Meridian fuselage and wing are practically identical to the Mirage.

As with any new product or airplane, the New Piper Meridian had some growing pains, but the prognosis has become progressively more positive as the airplane has come of age. Don Catalano, the president of Corporate Realty Consultants based in Commack, N.Y., purchased his 2002 Meridian two years ago and is a strong cheerleader for the airplane. Catalano's company is a consulting firm that specializes in helping companies find the best possible locations for expansion or relocation.

The real-estate executive purchased a Meridian after a careful evaluation of his company's mission and also because he decided that it was the best investment among the three production, turboprop singles today. A 1,300-hour pilot, Catalano felt the improvements in performance with the other airplanes didn't justify the higher prices unless an operator had a specific need for their talents.

"With 200 extra shp, the TBM-700 climbs better and is 30 knots faster, and the Pilatus PC-12's huge engine lets it lift up to 10 passengers," says Catalano. "But the price for those benefits is very high. The TBM-700, which comes fully loaded and doesn't have a run-of-the-mill base model, and the Pilatus PC-12 are \$950,000 more than the Piper Meridian."

Like so many other businessmen with a need for fast, corporate travel, Catalano is watching the light-jet market quite carefully to see which airplanes become real and which ones will fall by the wayside. "It really wouldn't make much sense to make a big investment in a turboprop single if the new light jets really do make it into production, especially if they come even close to their target prices," concludes Catalano.

Catalano himself owned a Mooney

Ovation before stepping up to the Meridian. Despite the Mooney's efficiency and obvious talents in the bottom three miles of sky, the Meridian was a huge improvement in corporate utility and a far more effective on-demand business tool. Catalano said the Mooney often put him right in the middle of the weather, thermal turbulence in summer and airframe icing in winter. With his turboprop Meridian, he's nearly always cruising on top in clear air and sunshine, sometimes with the benefit of spectacular tailwinds that boost groundspeed well over 300 knots.

"Much more importantly," emphasizes Catalano, "the Meridian was an investment in reliability. I never had a minute's trouble with the Ovation, but reliability with the PT-6 turboprop is obviously a whole magnitude better than any piston product."

Turboprop flexibility and performance were other big selling points. "I recently made a trip to Chicago for a convention," says Catalano, "and there were spring thunderstorms all along the route, some as high as 26,000 feet. In the Mooney, I would have had no chance of climbing above them, but the Meridian made all the difference for me. I was able to top everything very easily at FL290. It's true you can't always outclimb the weather by flying at 30,000 feet or less, but probably 90% of the time, you're in the clear."

Catalano regularly traverses 20 Eastern states in his search for the perfect development locations. "In a recent week, the Meridian allowed me and two people from my staff to fully research and visit properties in Baltimore, Hagerstown, Atlanta and Jacksonville, all within a few days. In another instance, we traveled to seven cities in only five days, covering 3,100 nm in the process. The same trip might have been possible on the airlines, but it would have been far more time-consuming, a lot less comfortable and convenient, and not nearly as efficient on the airlines," says the real-estate executive.

Corporate Realty's New Piper Meridian is a 2002 model, not granted the recent 242-pound improvement in useful load (implemented on

The Meridian comes straight from the factory with the Meggitt Electronic MAGIC Flight Display System and dual Garmin 530s installed as standard avionics. The system rivals what you'd find in many airline cockpits and allows Catalano to easily navigate the demanding New York airspace.



and autopilots that allows a pilot to play airline captain in his own turbine airplane. In fact, the Meridian is actually more talented than some older airliners. With dual Garmin GNS 530s as standard, the Meggitt complex offers MFDs and PFDs, making the Meridian's panel look like a series of small, flat-screen TVs, nine in all. Inevitably, there remains the usual trio of analog backups for airspeed, attitude and altitude at top center.

I flew Catalano's Meridian out of Philadelphia a few months ago for the air-to-air photos over Manhattan, N.Y., and the airplane was as easy to handle as a Mirage, yet offered all the obvious advantages of a turboprop: extra power and performance, superior reliability, improved operating simplicity and virtually the same handling characteristics as its piston counterpart in the pattern. In fact, while Piper lists the same takeoff and landing distances for both the Mirage and Meridian, availability of reverse thrust for braking very well may provide the Meridian with an advantage in landing mode.

The Meridian has a few glitches, and New Piper is currently working to correct them. Catalano has a few complaints—autopilot pitch excursions, lack of a fuel heater (which limits the airplane to operations at minus-35

degrees C or warmer) and low full-fuel payload (already addressed on current models). Like other successful businessmen who need a fast, efficient, corporate transportation, Catalano is eyeing a small jet, but for now, his New Piper Meridian suits his needs perfectly. PJ

2003 airplanes). Gross on Catalano's Meridian is 4,850 pounds, so full-fuel payload is more on the order of 500 pounds compared to the later model's 720 pounds. Flown up high where turboprops do their best work, however, the Meridian's fuel burn drops to almost 30 gph. That means if you left 50 gallons in the tank and flight-planned for the high 20s, you could carry six average-sized folks over 700 nm stage lengths with reasonable reserve. Fortunately, Catalano doesn't have occasion to fill the seats very often, so payload isn't often much of a concern. With only one or two folks aboard, he can fill the tanks and plan

to linger aloft for an easy four hours at high altitude, long enough to span nearly 900 nm.

Catalano's more typical stage length runs about 600 nm, and he flies the airplane usually four to five hours a week, although not always strictly for business. In the spirit of giving back, the executive also participates in charity flights for Angel Flight, ferrying patients and their relatives from locations around the East Coast to hospitals and doctors' offices.

Like all Meridians, N5361A features the innovative Meggitt Magic avionics suite, an unusually talented combination of radios, instruments

SPECIFICATIONS



Name: 2004 New Piper Meridian
Price: \$1,750,000
Engine: P&W PT6A-42A
Engine Horsepower (shp): 500
Max Takeoff Weight (lbs.): 5092
Useful Load (lbs.): 1740
Fuel Capacity (gals.): 170

PERFORMANCE

Rate Of Climb, SL (fpm): 1556
Max Cruise Speed (kts.): 262
(Source: Aircraft Bluebook Price Digest, Jane's All The World's Aircraft and manufacturer's specs)