



Photo courtesy of Piper Aircraft, Inc.

◆ Piper Meridian

Eclipse 500 ◆

Another Look at Upgrading

by Andy Groth

Editor's Note: Four years ago, Andy Groth wrote an article about upgrading from his SR22 and the possibilities. Now, he is re-looking at upgrading and once again, takes readers along for the journey.

Nearly four years have passed since my last article in *Cirrus Pilot* about upgrading to a more capable aircraft. Time has gone fast, but since 2006 much has changed for the aircraft industry, as well as for myself.

When I wrote the last article (which also had some great contributions from other COPA members who had already upgraded), I was a manager for a national cleaning company that had contracts with more than 70 large shopping centers throughout the country. We had our own staff at each site. With that many locations, there was never a shortage of trips that were needed in order to stay in close contact with our customers and employees. Talk about easy justification for an airplane!



Photo courtesy of Eclipse Aerospace

I had already put more than 1,000 hours on 4AG (a 2002 SR22) shuttling between clients, and I was looking at starting a small flight department for the company centered on a light jet or very light jet (VLJ). This sparked my interest for writing about the various upgrade options available to Cirrus owners.

According to that article, which was based on the best available information in early 2006, Diamond's D-JET was going to begin deliveries in early 2008 (after initially being slated for 2006), and it looked like Cirrus' jet would roll off the production line in 2010 or 2011, (although Cirrus wasn't committing to a date). Now, 2013 is the goal for the Cirrus Vision, pending presently elusive funding, and the only delivery timeline that Diamond (which has experienced its own funding issues) would commit to at AirVenture 2010 was, "Not in the next 12 months."

Many programs (Adam, Epic, ATG Javelin, etc.), are either gone for good or have a heartbeat so weak it's not registering these days.

In 2006, I would have forecast the same demise for Eclipse Aviation due to significant mismanagement. After the successful production and delivery of 260 jet aircraft in 20 short months, Eclipse Aviation entered bankruptcy in 2008, followed by liquidation the following year. However, despite the pain endured by Eclipse customers, employees and vendors, there is a silver lining. COPA's very own Mason Holland (an Eclipse 500 position holder himself) put together an investor and management team, formed a new company to buy Eclipse Aviation's assets, and the new Eclipse Aerospace, Inc. (EAI) was born. Since last year, Eclipse Aerospace has made significant progress in supporting the current fleet of 260 and moving toward a restart of full production in realistic numbers. Under Mason's guidance, I'm confident Eclipse Aerospace has a bright future.

The big change for me is that a couple of years ago, I left the cleaning company I had been with and started my own facilities management operation. The SR22 is a wonderful tool for business travel, but for the distances and increasing amount of time I'll be traveling, a pressurized turbine that can do a minimum of 250 knots at FL250+ would be a better fit for the mission.

With that in mind, I was very excited to find out that this year a number of aircraft manufacturers were going to have aircraft on display and even be offering demo rides at COPA's Migration 8 in Dayton, Ohio. Partly for my own purposes, but especially for this article, I wanted to focus on aircraft that could be purchased today and delivered in the very near future or even immediately. Additionally, although aircraft like the \$3 million-plus TBM 850 and Cessna Mustang (both which were in attendance at Migration 8) are on my radar, and a number of COPA members have upgraded to those aircraft, the \$2 million price-range is a big enough financial stretch from an SR22 to be considered a step-up aircraft. For those reasons, I have decided to focus on the Eclipse 500 and Piper Meridian.

The Eclipse 500

Ken Ross, president of Eclipse Aerospace Service Division, took COPA members Ian Valentine, Jim Penney and I on a great demo ride at Migration.

The aircraft we flew was a Total Eclipse TE-500, which is a low-time, factory refreshed twin engine jet that includes a complete refurbishing (including all of the latest avionics and systems improvements) and factory warranty for \$2.15 million. In addition to the ability to take delivery of a jet aircraft today, instead of waiting for several years, Eclipse is offering (for a limited time) a unique jet deposit trade-in program where they will take not only used aircraft in trade, but also deposit contracts on other aircraft in trade at full value. EAI also offers a very interesting lease program that I'm planning on exploring further. Production aircraft are not available at this time, but as I previously mentioned, plans are in the works.



Jim Penney, and others, checking out the Eclipse 500 at Migration.

Ian was first in the left seat, so Jim and I were in the back during the startup sequence. One of the first things I was struck by is that there is a lot more room inside the Eclipse 500 jet than it seems there would be looking at it from the ramp. The Eclipse we flew was configured with five forward facing seats. With four people on board, the second row was moved back on the seat-tracks leaving all kinds of leg room (and I'm almost six feet tall). The next thing that amazed me was during engine start, Jim and I continued a conversation and barely even noticed. It's hard to convey how smooth and quiet the startup was. Think about sitting at your computer and add the slightest whisper of beautiful turbine background noise.

From our passenger perspective, the taxi felt solid in a good way. Jim and I both felt like we were riding in a much bigger aircraft. Like startup, the takeoff was remarkably smooth and quiet. Rotation was at around

90 knots, which arrived quickly. Liftoff seemed unnaturally slow for a jet, but the Eclipse was happy leaving the ground at that speed. After a short climb to an altitude between 5,500 and 7,500 feet (where we spent the duration of our flight) and leaving the vicinity of Dayton, Ian, Jim and I took turns putting the Eclipse through turns, climbs and descents.

I flew the jet after Ian and found the control forces noticeably heavier than an SR22, although that was at 180+ KIAS which is far above the 22's maneuvering speed. The control forces were still light enough that, after getting some hours in the airplane, I doubt I'd even notice. The aircraft seemed very stable and precise, and it handled the afternoon bumps extremely well. Again, it felt like a much bigger aircraft in turbulence; a nice characteristic for pilot and passengers alike.

I don't want to leave the impression that the Eclipse is all business, because the aircraft is definitely responsive to control inputs and exhibits good pitch and roll rates. I'm sure Ken could have given us a fighter-like flight demonstration had we asked. I can't really comment on performance because, due to time constraints, we didn't come close to putting the Eclipse

through its paces. Eclipse pilots that I have talked with say that the aircraft performs according to the impressive published specifications, including a 370 knot max cruise speed!

Jim flew us back to Dayton's Wright Brothers Airport where the demos were being staged and clearly beat Ian and I on precision (Note: This is the only time I'll admit it!). Nearing the pattern, Ken took the controls and maneuvered the Eclipse into a fun low approach down the runway before flying a regular pattern to landing. Shutdown was simple and the three of us exited the jet with big grins on our faces.



COPA Member, Ian Valentine, at the controls of the Eclipse 500 during Migration 8.



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The Piper Meridian

Weather cancelled my plans to fly a Piper Meridian at Migration 8, but John Lowe of Chicago Piper was kind enough to bring a brand-new \$2.1 million Meridian to Morey Airport near Madison shortly after the event.

Difficult cockpit access due to a narrow aisle in the PA-46 series has been a topic on the COPA forums. However, this is a common complaint in a variety of small turboprops and jets, including the Eclipse, and despite being six feet tall and 190 pounds, entry and exit didn't seem all that difficult to me.

The author, Andy Groth, standing with the Piper Meridian before his demo.



Once seated in the Meridian, I felt I had plenty of room, the seats were very comfortable, and visibility was great. John talked me through the startup so we could get the air conditioner running while we looked over the G1000 panel, which is essentially the same setup as in the Cessna Mustang. Although 99 percent of my flight time has been with a traditional six-pack panel, the few times I've flown in a G1000 cockpit, I've found it easy to use. Pilots upgrading from the Cirrus Perspective panel shouldn't have any problem at all.

Taxiing was easy and I was able to make very light use of the brakes because of the flat-pitch or "beta" selection of the prop control. Reverse thrust was even available if needed. Takeoff acceleration was pretty good, but it didn't have the same "kick in the pants" feel that I'm used to in the SR22. What was really exciting though is that, after a rotation at 85 knots and pulling up the gear, the Meridian quickly accelerated past the normally aspirated Cirrus speeds and climb rates I'm used to, and

in a short time we were climbing at well over 1,000 FPM with 150 knots indicated.

We took our headsets off during climb for a noise-check and could hear each other talk just fine, which was very impressive given all of that horsepower and the big prop up front. After climbing to around 10,000 feet, I did some turns, more climbs and descents. The control harmony and response of the Meridian is excellent. The control forces were light enough to not really be noticeable, although they were a bit heavier than you would find in an SR22.

After this, I played around with the autopilot a bit and we climbed to 16,500 feet westbound to do a casual mid-teens-cruise speed check. Since I've spent a lot of time around that altitude in NA22s, I was curious what the Meridian numbers would be. Once level, the aircraft settled into a good 230 knots at less than 40 GPH. In the 20s, the Meridian can exceed 260 knots on similar fuel-flows.

Heading back to Morey airport, we had a lot of altitude to lose in a short period of time. I asked John to do a quick descent, so he dropped the landing gear and told me to push the nose down. Soon, all I could see was the ground, and in very little time we were at pattern altitude. With the altitude issue solved, we focused on entering the pattern at Morey. Like the Eclipse, the Meridian has no problem blending with typical small-airport traffic. After a midfield crosswind entry, we worked our way around to final approach.


I found the Meridian just as easy to land as it was to fly and John selected reverse thrust (very cool!) shortly after touchdown which made for a quick deceleration. Once we were back on the ramp, John talked me through the easy process of shutting down the airplane and I exited with my second huge airplane grin in a week.

Conclusion

I came away from these demo flights very impressed with both aircraft, and depending on mission requirements, I could see a good case being made for choosing either one. For more information on the Eclipse 500, contact Gary Bushouse at sales@eclipseaerospace.net. John Lowe of Chicago Piper at jglowe@dmfs.com would be happy to answer questions relating to the Piper Meridian as well as the Mirage and Matrix.



At the COPA website forum, we have a great group of insurance guys participating that can answer specific questions on that important topic. There are also a number of Eclipse and Piper owners there that can answer questions from a "real-world" operating perspective. If you have never participated in the forums, this would be a great way to start.

It's easy to get overwhelmed when looking at the various aircraft options available, but it's a nice "problem" to have and resources like those mentioned above can make the decision a lot easier. 

For a comparison of dimensions and specs see page 44.

About the Author: *Andy Groth, an eight-year COPA member, obtained his private pilot's license in 1992 at the age of 17. Since then, he has flown over 4,000 hours with 2,000 in SR22s. In 2008, Andy founded Alliance Facilities Management, a company he's working to expand nationally. Coincidentally, this will require a lot of flying.*

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Dimensions and Specs – A Comparison

	SR22 (NA)	SR22 T	Eclipse 500	Piper Meridian
Dimensions				
Length	26 ft.	26 ft.	33.5 ft.	29.6 ft.
Height	8 ft., 11 in.	8 ft., 11 in.	11.0 ft.	11.3 ft.
Wingspan	38 ft., 4 in.	38 ft., 4 in.	37.9 ft.	43.0 ft.
Weights and Loading				
Maximum/Gross Ramp Weight	3,400 lbs.	3,400 lbs.	6,034 lbs.	5,134 lbs.
Standard Empty Weight	2,225 lbs.	2,348 lbs.	3,634 lbs.	3,433 lbs.
Useful Load	1,174 lbs.	1,052 lbs.	2,400 lbs.	1,701 lbs.
Usable Fuel Capacity	92 gal/552 lbs.	92 gal/552 lbs.	251 gal/1,698 lbs.	170 gal/1,163 lbs.
Performance				
Takeoff Distance	1,028 ft.	822 ft.	2,345 ft.	1,650 ft.
Climb Rate	1,400 ft./min.	1,300 ft./min.	3,424 ft./min.	1,550 ft./min.
Max Operating Altitude	17,500 ft.	25,000 ft.	41,000 ft.	30,000 ft.
Max Cruise Speed (KTAS)	185 knots	214 knots	370 knots	260 knots
Landing Distance	1,141 ft.	1,141 ft.	2,250 ft.	1,020 ft.
Engine				
Manufacturer	Continental	Continental	Pratt & Whitney	Pratt & Whitney
Model	IO-550-N	TSIO-550-K	610F Turbofans	PT6A-42A
Horsepower/Thrust	310	315	900 lbf/engine	500

Numbers obtained from respective aircraft manufacturer's websites.



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