

20/Twenty: Evolution Of The Eclipse 500 Very Light Jet

Bill Carey June 02, 2025



The Eclipse 500 is a choice for piston aircraft operators looking to step up to jets.

Credit: Nigel Prevett/Aviation Week

The decade-long run that ended in the bankruptcy of Eclipse Aviation and continued development of the Eclipse 500 by successor companies have produced a small but capable twin-engine jet that remains viable as an option for pilots stepping up from piston aircraft.

“It does a wonderful job of serving the owner-pilot,” says Justin Beitler, co-founder of aircraft brokerage Aerocor. “It’s very simple—from a high level, it has a straight wing, not a swept wing; it’s low to the ground, it has a sidestick (controller). If you’re coming out of a Cirrus or a [Cessna] TTx—one of those high-performance singles, you feel right at home in the Eclipse.”

Vern Raburn, an early Microsoft executive and later entrepreneur, founded Eclipse Aviation in 1998. Raburn envisioned an era of highly automated, high-production, low-cost Very Light Jets (VLJ) that never fully materialized. The company’s Eclipse 500 program was dependent on a new charter operator and its largest customer—DayJet—which had ordered 1,400 VLJs. After DayJet ceased operating, Eclipse Aviation declared bankruptcy in November 2008.

Eclipse Aerospace, a new company, acquired the assets of Eclipse Aviation and produced the upgraded Eclipse 550 from 2014-17. It merged with turboprop developer Kestrel Aircraft in 2015 to form One Aviation, a partnership that ultimately was liquidated through Chapter 7 bankruptcy. AML Global, a company backed by British entrepreneur Christopher Harborne, acquired the assets of Eclipse Aerospace in late 2020 and continues to operate the company.

Henderson, Nevada-based Aerocor estimates that it assists with 80% of transactions involving pre-owned Eclipse 500s. “Our specialty is working with guys that are coming out of the piston world and transitioning into the turbine world,” Beitler says, explaining Aerocor’s in’ in the twinjet. “It’s sort of a natural step if you’re coming out of a Cirrus, if you’re coming out of a Piper and you start looking at jets, this is

typically the first aircraft on your radar.”

Performance Basics



The Eclipse 500 cockpit is equipped with the IS&S Avio NG Integrated Flight Management System. Credit: Aerocor

The Eclipse 500 is powered by Pratt & Whitney Canada PW610F turboprops, each producing 900 lb. thrust. The twinjet requires 2,394 ft. takeoff distance in ISA sea level conditions at MTOW (6,000 lb.). Max cruise speed at 33,000 ft. is 370 kts; max range is 1,125 nm with NBAA IFR 100 nm reserves. The cockpit is equipped with the Innovative Solutions & Support Avio NG integrated flight management system.

Eclipse Aerospace unveiled the Eclipse 550 at NBAA Las Vegas in October 2011 and started building the upgraded version of the jet in 2013. The 550 model introduced 60 upgrades, including autothrottles that were originally planned for the Eclipse 500 but never implemented, and anti-skid brakes, improved windshields, an electrically powered air-conditioning system and Avio 2.7 flight management system.

Worldwide Fleet



The Aviation Week Fleet Discovery Database counts 248 Eclipse 500s operating, stored or in the possession of a third party worldwide. Credit: Nigel Prevett/Aviation Week

The Aviation Week Fleet Discovery Database in May listed 219 Eclipse 500s in service worldwide, including 186 in North America, with another 29 stored or in the possession of a third party. There were 29 Eclipse 550s, 22 in North America.

The factory-new list price of an Eclipse 500 in 2006 was \$1.27 million, according to the [Aircraft Bluebook](#). The Version 1 jet has evolved over a series of iterations and upgrades through Version 2.8 avionics, complicating any summary of its resale value since entering the market.

Eclipse Aerospace discontinued a “Total Eclipse” refurbishment program when it joined One Aviation in 2015, then launched an Eclipse 500 Special Edition model “that is effectively a 550 but it’s based on a 500 being upgraded as opposed to a new-build 550, so you’re getting a 550 but at a lower price,” Beitler notes. The Eclipse 550 originally was listed at more than \$3 million and sells now for about \$1.9 million pre-owned, he adds.

“It’s a very complex landscape of many different versions,” Beitler advises. “These airplanes are very different airplanes from what they were when they were originally built. The airplane that was built in 2006 for \$1.3 million, I would say the same version would probably sell today for \$800,000 or \$900,000.”

There were 10 Eclipse 500s and two 550s listed for sale in May, with asking prices ranging from \$1.3 million to \$1.85 million, Aerocor reports. Other aircraft types that compete for sales with the Eclipse 500, the company says, are the Cirrus SF50, Citation Mustang and [Embraer](#) Phenom 100 light jets and the Piper Meridian and Socata TBM series turboprops.

“In terms of its competitors, it’s very economical,” Beitler says of the Eclipse 500. “In comparison to especially the old Citation 500s but even more modern aircraft [like the] Mustang, the Phenom, the HondaJet, it’s less expensive than all of those to fly. And it offers a lot of performance. You still get 41,000 ft. (maximum altitude) and 350-plus knots.”

Operating costs depend on hours flown and fixed and variable expenses—a “very generic” figure for owners to plan on is about \$1,300 per hour, Beitler says.

Maintenance And Support



Seating configurations in the Eclipse 500 can be changed. Credit: Aerocor

The Eclipse 500 cabin accommodates up to six passengers in a tight space measuring 4 ft., 2 in. high, 4 ft., 8 in. wide, and a 12 ft., 4 in. long. All aircraft include five seats as standard, with a sixth seat as an option, according to Aerocor. Baggage volume is 16 cu. ft.

“The re-configurable nature of the cabin gives passengers and crew a lot of flexibility,” Beitler says. “The lack of any bulkhead between the cockpit and cabin means the crew can move seats back and recline as far as required, so the aircraft can accommodate large and tall pilots. For passengers, seats can be removed or relocated to provide more space where it’s needed.”

As long as an owner does not fly more than 150 hr. per year on average, Aerocor says, there is one maintenance event every year for the Eclipse 500, similar to the “annual” inspection interval of piston aircraft. The maintenance intervals are: 12-month/300-hr. engine inspection; 24-month/300-hr. airframe inspection; and 48-month/1,200-hr airframe inspection.

Eclipse Aerospace offers service for Eclipse jets at its [Albuquerque International Sunport](#) headquarters and lists other maintenance centers in Florida, Georgia, Nevada and West Virginia. Outside of the U.S., there are maintenance centers that service the twinjet in Australia, the Channel Islands, Germany and Turkey.

The manufacturer has supported the fleet with parts—sourcing replacement parts or redesigning parts that are becoming obsolescent. Most recently, Eclipse Aerospace replaced magnetometers in the jet’s Attitude and Heading Reference System with new units, Beitler says.

“The new investor, Chris Harborne and his group, took over the company right around COVID time—2020,” Beitler says. “The support has been great. They have aspirations of operating Eclipses themselves. They haven’t really publicly stated what exactly they’re going to do but they’ve hinted that they want to operate a fleet of these. I think they’ve taken some very intentional steps at enabling that. The first step was to pay vendors and make sure there are parts on the shelf.”

Based in Henderson, Nevada, Aerocor started in 2017 as an aircraft brokerage focused on serving owner-operators and since has grown to provide training and operational support. Emphasizing the use of data in market and flight data analysis, the company has developed both hardware and software products for end-to-end data capture and storage by general aviation aircraft.

In early May, Aerocor announced a partnership with the Eclipse Jet Owners and Pilots Association to provide a Flight Operational Quality Assurance program designed specifically for the Eclipse fleet. The initial release is focused on stabilized approach monitoring to evaluate pilot performance, using approach criteria developed by Aerocor and the owners’ association.

Trend analysis and any corrective actions will be incorporated in Aerocor’s recurrent training syllabus.

BCA welcomes comment and insight from aircraft dealers and brokers for its monthly 20/Twenty pre-owned aircraft market feature. The focus aircraft for July is the Tecnam P2012 Traveller and for August, the HondaJet Elite II. To participate, contact bill.carey@aviationweek.com.

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