

Piper PA-46 Matrix Model Guide

The Piper PA-46 Matrix is a single-engine piston, turbocharged cabin aircraft that seats 4 to 6. It has been built since 2008, with no end year listed. A 2009 sale listing gives a 350 hp Lycoming TIO-540-AE2A engine. No flight manual was supplied, so confirm every figure against the specific aircraft's own documents.

KEY TAKEAWAYS

- Turbocharged Lycoming TIO-540-AE2A, 350 hp. One 2009 listing shows a 2,000-hour engine TBO and 900 hours since new.
- A seller's listing claims cruise up to 225 knots and about 1,300 nm range. These are not POH figures, so verify them.
- Hartzell three-blade 80-inch propeller: 2400 hour / 6 year TBO. Auxiliary cabin heat is inoperative while prop heat is on.
- Avionics vary. An Entegra-equipped Matrix can take the DFC90 autopilot, and Release 9 Platinum listed at \$69,000.

ENGINE AND PROPELLER

The engine is a Lycoming TIO-540-AE2A (350 hp, turbocharged). The Hartzell propeller is an 80-inch, three-blade, constant-speed unit. The aftermarket ASC-II version weighs 64.0 pounds with spinner and has a 2400 hour / 6 year TBO. Ask which propeller is fitted and its overhaul status. Prop overhaul must be done by an approved repair station.

MAINTENANCE ITEMS TO CHECK

Acorn Welding SB #1103 covers the Mirage/Matrix with the TIO-540-AE2A. Inspect the engine mount actuator attach feet for cracks. Repeat every 100 hrs until the mount is replaced. Serial numbers 4622003 thru 4622200 and 4636001 thru 4636317 are listed. AD 2010-13-07 calls for riveted exhaust clamps in place of spot-welded ones. Confirm both are complied with.

AVIONICS AND EQUIPMENT

The example 2009 listing has an Avidyne Entegra Release 9 suite with dual IFD-5000 displays, a TAS-610 traffic system, an S-TEC 55X autopilot, oxygen, air conditioning and speed brakes. A Matrix was also upgraded to R9 in 2011. Check which avionics release is fitted and what any autopilot upgrade would cost.

SPECIFICATIONS

Engine Power Hp	350
Propeller Diameter In	80
Propeller Weight Lbs	64

PERFORMANCE

Cruise Speed Kts	225
Range Nm	1300

SAFETY NOTES

- Running the prop de-ice system without the engine running is limited to 10 seconds. Longer can severely damage the composite blades.
- SB #1103: inspect the engine mount actuator attach feet for cracks. Repeat every 100 hrs until the mount is replaced.
- After a lightning strike, the prop de-ice brush block MOV (lightning protection) module must be replaced.

AI-aggregated guide for the Piper PA-46 Matrix · sources: INSTRUCTIONS FOR CONTINUED AIRWORTHINESS FOR THE HARTZELL HC-I3YR-1N/N7605(K)+2 PROPELLER AND HC-I3Y1R-1N/N7605(K)+2 PROPELLER ON PIPER PA-46-350P (MALIBU MIRAGE) AND PA-46R-350T (MATRIX) AIRCRAFT (#12115) · Top Prop Performance Conversions (#12279) · SB #1103 (#12221) · DFC90 Digital Retrofit Autopilot (#12244) · 2009 PIPER MATRIX PA-46R-350T | SN 46-92106 | ZS-SHU (#12296) · R9 Triple Threat - FLYING Magazine (#12287) · generated 2026-10-17 · Reference only, not for flight. Check the original documents before relying on this guide.