

## Europa Motorglider N43069 Q and A

### **Q. What are the specs on this aircraft?**

**A.** With the Rotax 912S engine and Airmaster fully feathering constant speed propeller, typical cruise is 120-130 KTAS at 9500 feet.

Range with 18 gallons of fuel is nominally 300 NM.

Takeoff roll is 600 feet.

Landing roll is 650 feet.

Typical float distance for new pilots is 500-1000 feet until practiced

Stall is 45-49 Knots clean. Final Approach is 60, Vx 65, Vy 75, Va 97, Vne 127 IAS.

Min sink tested 65 at 250 FPM.

*Vne is easily exceeded with the Airmaster Propeller and Whirlwind Blades in level flight.*

Empty weight is 998 lbs which is typical for the motorglider. (Glider wings are heavy!)

Standard class GW is 1370 lbs. MTOW 1450 for the Europa XS flown in the USA.

Max baggage 80 lbs.

Fuel capacity is 18 US gallons 15.5 main side and 2.5 reserve side.

### **Q. What are the cross-country performance numbers?**

**A.** Rate of climb at 75 knots is 1000-1200 FPM at full takeoff. We all climb at 90 for cooling and visibility over the nose at max continuous 5500 RPM (Airmaster Climb setting).

This reduces rate of climb to about 700-1000 FPM.

Minimum field length is 1500 feet nominally, but I prefer 3000 feet for transition training.

A motorglider with 912S will burn about 5.6 GPH at 5000 RPM cruising between 120-130 Knots TAS

Normally we use 23-25 ANMPG for calculations.

The fuel tank has a reserve built into it of 2.5 gallons or about 20-30 minutes.

Best range speed is 100-110 KIAS burning 4.0-5.0 GPH at 120 TAS or 25-30 ANMPG.

### **Q. When and who did the condition inspection?**

**A.** The condition inspection was completed and to be signed off January, 2021.

The nose to tail re-build was completed by Custom Flight Creations in 2020. Then inspected by our local AI as a second set of eyes.

As a second-hand owner should know, anyone can work and maintain the aircraft, however the condition inspection must be accomplished and signed off by an A&P.

### **Q. The aircraft hasn't flow much, so is the engine corroded?**

**A.** The engine and nose of the aircraft is covered by an aircraft cover and AvGas used with Stabil to assure no corrosion. Bore scope of the cylinders shows no wear or corrosion.

Compressions are currently in the mid-70s which is about right for this low time engine.

### **Q. How many hours? When is the Annual Due?**

**A.** 120 total hours. Annual is due in January 2022.

### **Q. Is the engine reliable?**

**A.** The engine has started and ran very well in the past. Rotax engines are very reliable. See my troubleshooting guide on line.

**Q. Is it easy to maintain?**

A. Engine access is good. The aircraft access panels are well placed and large enough for easy inspection. All the required modifications and Service Bulletins are current.

**Q. What avionics equipment does it have?**

A. It is a VFR Airplane:

Airframe Accessories:

Dynon Pitot on Stb. Wing with AOA  
Europa Speed Kit (Wheel pants only)

Engine: Rotax 912ULS

Engine Accessories:

Air Intake Modified for cockpit heat and vent air flow  
Dual Batteries: one for power, one for soaring, and can be tied  
B&C Alternator attached at gearbox  
Airmaster AP332S propeller with high speed Whirlwind Blades.

Instruments

3 1/8 A/S and Altimeter  
Dynon D10A with GRT EIS  
Grand Rapids EIS with FF and MP

Radios Garmin 496 mounted in the panel (needs data upgrade).

Becker AR4201 Com  
Becker 4401 Transponder  
Skyfix UAT ADS-B out.  
PM 1000 Intercom.

Auto Pilot Digitrak roll only

Additional Equipment

Airmaster AP332S fully featherable propeller controller and fine/course switch  
MAC aileron and stabilator trim motors  
ELT Artex ELT200  
Aveo LED tip lights  
Denali D2 LED for Landing Lights

Seat belts Europa Standard shoulder harnesses into a lapbelt.

Full interior and carpeted includes Seat Cushions.

Air vents are in the windshield and overhead for good ventilation.

**Will I fit in N43069?**

This aircraft is a low top wide body built for speed and economy.

Europa XS the pilot has 2 inches more leg room as the firewall was pushed out into the engine compartment.

Sitting height with cushion is 33-36 inches nominally in the low top.

Leg length or inseam is 30-36.

If you wear a size 46 jacket, 31-inch inseam and are 220 pounds, you will fit very comfortably.

I recommend come sit in it. If you are at the 33-inch sitting height max you will need a Halo/Telex type headset or scratch the canopy enclosure. The aircraft POH states: *"The Europa is designed to accommodate pilots up to 6'4" (1.93m) in height in comfort. Shorter pilots can fly the aircraft but they must sit on cushions to bring their eye level up to that of a tall pilot."*

**Q. What is the history of the aircraft:**

**A.** Aircraft built by George Reed, with assistance by Flight Crafters. Aircraft damaged during ferry operations to Louisiana from Florida. Custom Flight Creations oversaw repairs. Landing gear replaced, gear attachment evaluated and updated to the latest design. Damage limited to broken nose wheel and damage to prop tips due to a pilot trying to approach high and slow. Engine and prop removed and repaired. Fully factory reconditioned and returned to service. No airframe damage other than bent nose gear and a main gear leg looked a little bent so as a precaution replaced. All flight controls and CG checked. Full Europa flight testing revealed no issues. Owner flew 60 trouble-free hours. Owner sold to Brian Johnson due to medical issues. During Brian's checkout on an early instructional flight, client and instructor attempted high speed landing and over pushed and exceeded stop limit on gear limiter and damaged the prop. Engine and gear box inspected and found serviceable by US Rotax dealer Lockwood Aviation. Propeller rebuilt and upgraded with latest Whirlwind blades by Airmaster Propellers. Transponder upgraded to UAT ADS-B; all lighting converted to LED. Aircraft evaluated with full Europa test flight profile and found in great shape. Aircraft returned to owner in 2020. During outside storage, without the custom aircraft cover, water entered the intake and carbs. Rotax Engine Dewater checks accomplished, gearbox/engine inspected, and borescope checked for water damage. No problems noted. Carbs rebuilt, engine runs and test flight accomplished. After a couple of flights, Brian contracted Covid, and the aircraft has sat for nearly a year with only engine runs being accomplished. Brian is not improving, and the aircraft is being sold.

**Q. How can you damage a motor glider on landing?**

**A.** The Europa motorglider has airbrakes rather than spoilers. So, if high and slow and airbrakes are deployed you stay high and get slower. No joke intended; it must be landed as any flap equipped aircraft. Pitch changes with the airbrakes is easily controlled but "classically trained glider pilots" must learn the technique that airbrakes do not kill lift, they kill speed. To improve the aircraft for Brian Johnson, the aircraft has a stop at ½ airbrake, and now it lands like any aircraft with flaps. If too fast, simply pull to full Airbrakes while on final and note a decided nose down pitch attitude. If high and slow or fast and low, deploying full airbrake causes a decided nose down pitch moment unless stick pitch is maintained to maintain pitch. Just a different technique. See article "1000 miles in a Europa Motorglider". I recommend airbrake use until on final then lock the airbrakes closed for initial flights. Since this aircraft has an airbrake detent at ½ airbrake, landing and speed bleed-off are quite comfortable and simply land like an airplane rather than like a glider trying to kill lift and sticking it on. Trigear airplanes over 70 IAS will land on the nose gear first and may cause damage as noted above. See article on 1000 miles for techniques.

**General Notes:**

This aircraft is a bit heavier in roll than the short wing Europa. Otherwise, flight characteristics are very good, and better than most gliders. Float in the flare of 500 feet is common. Return to field from takeoff should not be attempted below 500 feet AGL until well practiced. Since the rate of climb is quite high with one on board, it is not uncommon to be near pattern altitude by the end of a 3000 foot runway in solo operations. Use caution. Fly Cessna 150 speeds in the pattern. CG is at 59 inches so, it is very stable but more nose heavy than I prefer ( I like 60 inches). It was configured by the builder as a comfortable single pilot with a couple of travel bags, long range cross country machine with soaring capability; but mostly to allow long range flying with no medical. It is a glider with about a 20-25 to one glide ratio and a glider pilot does not need a medical.

**Final Thoughts:**

The interior is comfortable for an FAA sized pilot (5'10" 170 pounds (George was 250 ish)) and a couple of good sized suit cases. With the wing leveler autopilot, low fuel burn and the excellent Garmin 496 nav, the aircraft was intended as a cruising aircraft by the builder.

The value of the aircraft was not degraded by the two prop strike events as the damage was to wheels and prop tips only due to poor technique. Insurance companies do not like prop strikes and getting insurance in motor gliders is not as easy as it once was. Poor technique and unlearning old habits or "typical glider" techniques is essential in any new aircraft. Read the manual, learn the numbers, apply the techniques and never try to stick a plane on the ground.