

MULTIPLEX

# EasyGlider Electric

A new standard in foamie soaring fun!

by Tom Atwood



The GLOBEE tachometer indicates an rpm of 5,070 while the Astro Flight Whattmeter indicates 76 Watts and a current of 9.7 Amps.



Detail view of the Permax 400 geared motor, FMA Super-20 speed control with on-off arming switch, Hitec Electron 6 receiver, two Hitec HS-81 servos for rudder and elevator and Kokam 2S 7.4V 3200mAh Li-Poly battery. Two small dots at the aft end of the open bay are rare earth magnets used to hold the canopy down.

**R**ugged Elapor foam construction is a hallmark of the Multiplex models marketed by Hitec. Would this material lend itself to a thermalling sailplane design? Quite well, in fact! The EasyGlider Electric is well engineered and is a hoot to fly. There are two versions of this airplane: one is a pure sailplane that is launched with a winch or high start; the other, reviewed here, is an electric powered version.

The kit includes a handful of pre-molded Elapor foam parts, all needed hardware, a Permax 400 brushed motor and excellent, clearly written and illustrated instructions. All of the foam parts are glued together using CA, many with the aid of kicker on one of the mating surfaces to maximize the strength of the bond. I used ZAP-a-GAP gap-filling CA and ZAP Kicker. It took me a few evenings at the

bench to build the airplane, but I am a methodical builder and enjoy taking my time.

The fuselage is made up of a right and left half. You drop the elevator and rudder servos into premolded servo bays—Hitec HS-81 servos fit perfectly—and glue them in using a small amount of CA around the servo ears. The provided wire pushrods slide inside double-sheathed pushrod tubing that runs along grooves molded into the fuselage sides. An antenna tube runs through the middle of the fuse. These tubes are glued to the fuse halves with CA, and then the halves are glued together with CA. The pushrod and antenna tubes



## SPECS

**PLANE:** Multiplex EasyGlider Electric

**MANUFACTURER:** Multiplex Modelsport USA

**DISTRIBUTOR:** Hitec RCD

**TYPE:** Electric thermaling sailplane

**FOR:** Beginner to experienced pilots

**WINGSPAN:** 71 in.

**WING AREA:** 645 sq. in.

**FLYING WEIGHT:** 34 oz.

**WING LOADING:** 7.6 oz./sq. ft.

**LENGTH:** 44 in.

**RADIO:** 4 channels required; flown with a Hitec Optic 6 transmitter, Electron 6 receiver, 4 Hitec HS-81 servos

**POWER SYSTEM:** 3:1 geared Permax Speed 400 motor, 9.5-in. dia. included folding prop, FMA Super-20 speed control, Kokam 2S 7.4V 3200mAh Li-Poly battery

**FULL THROTTLE POWER:** 9.7 amps, 76 watts; 2.23 W/oz., 36 W/lb.

**TOP RPM:** 5,070

**DURATION:** 20 minutes of full-power gentle climbing

**MINIMAL FLYING AREA:** Park or ball field

**PRICE:** \$ 79.99 (glider version); \$89.99 (electric powered)

**COMPONENTS NEEDED TO COMPLETE:** Radio system, battery, speed control, servo lead extensions

## SUMMARY

The EasyGlider Electric is a gentle flying sailplane designed for thermal hunting on lazy afternoons in fairly calm breeze or still air. It can also be ballasted for slope flying. The electric version climbs gently and is smooth and responsive. It has an ingenious, well-engineered design—Multiplex's rugged Elapor foam is light and strong, and the parts go together easily and have a very precise, true fit. Most important, it is just plain fun to fly.



## AIRBORNE

The EasyGlider Electric climbs slowly and gently from a handlaunch. At only 36 watts per pound, you would expect a very gradual climb-out, but it climbs more aggressively than you might expect and can loop from level flight. Gain a little air-speed and a nice, fairly axial-looking roll can be gracefully performed. Simply push on the elevator stick as the plane rotates inverted and just walk it around. Flying a loop followed by a roll is easy and impressive. You have plenty of time to guide the EasyGlider through the air because of its graceful flying characteristics. Find a thermal, switch off the motor and watch the ship climb.

Stalls were straightforward. The plane can easily be flown inverted with just a little push on the elevator stick. The EasyGlider is not designed to penetrate headwinds and that's why it's best suited, in its lightweight stock configuration, for lazy summer afternoon flying. The modest power of the stock Permax brushed 400 means you will be

giving it full power most of the time during cruising or climbing flight—and with a Kokam 3200mAh Li-Poly pack, you can climb for 20 minutes at full throttle!

Because it will cruise or glide as slowly as you wish, it is easy to land the glider after a gentle slow-motion flare. The EasyGlider is such a simple, functional and tough airplane, you'll want to repeatedly go back to the park and have more fun chasing thermals and practicing simple sailplane aerobatics.

For those who want a more aggressive flyer with a faster climb rate, Multiplex USA will soon be offering a version with a brushless 400 size motor that will drop right into the existing gear drive and fit perfectly in the plane (see sidebar).

## MULTIPLEX EASYGLIDER ELECTRIC

stiffen the fuse—clever engineering.

The tailfeathers and main wings have control surfaces that are pre-molded. You re-lease the ends of the control surfaces by cutting through the foam at the indentations and shaving about 1/64 of an inch clearance at the control surface tips. A thin layer of Elapor foam serves as a hinge for each control surface. Rugged ABS plastic control horns are glued to the control surfaces. Supplied keepers bolt onto the horns and setscrews grip the pushrod wires. Simple Z-bends connect the pushrods to the servo horns.

A one-meter-long carbon fiber joiner tube serves as a wing spar. It is quite sturdy and is inserted into each wing half as you plug the wings into each side of the airplane. If you wish to ballast the EasyGlider Electric for slope soaring, standard M8 studding used in house construction is a perfect match for the inside diameter of the joiner tube. Although the wings fit snugly, they can be easily removed for transport.

Aileron servos drop into pre-molded cavities—I had to slightly enlarge them for the HS-81 servos. A sharp hobby knife easily cuts the Elapor foam.

Because of the dimensions of the Kokam 3200 pack, I wound up removing the plastic latches that would normally hold the canopy down (which I had previously Zapped in place and found perfectly suitable) and substituted rare earth magnets to secure the aft end of the canopy. As a result of the molding process, all molded foam aircraft have residual "bumps" on their surface. These bumps are a result of the foam intruding into the vent holes of the tooling. While it is



The right aileron servo is shown nested in the aileron bay. I wrap black electrical tape around the servo (with the end of the tape concealed under the servo) and CA the taped section to the foam to simplify removal.



High quality "keeper" style connectors hook the pushrods to the elevator and rudder horns.

not necessary to sand the entire surface of all foam models smooth, it may be desirable to achieve a modest performance increase by removing the mold marks from the ELAPOR foam airframe. Multiplex USA staff recommends hand-sanding the airframe with 400 grit oxide sandpaper. Try to avoid allowing the sandpaper to "load-up" with foam dust during this process.

### RADIO SYSTEM

A Hitec Optic 6 transmitter and Hitec Electron 6-channel receiver control the EasyGlider Electric. To avoid adverse yaw I programmed in some aileron differential (downward deflection of about 1/3 of an inch, and upward of about 2/3 inch). I found that mounting the control rods in the second hole from the base of the aileron horn helped achieve suitable up-ward aileron deflection. I programmed in 15% coordinated rudder for smoother banking turns. The airplane flies so slowly and gently it is easy to bring it down wherever you want, so there's no practical need for spoilers.



An FMA Super-20 speed control with automatic low voltage cut-off detection automatically cuts the motor if the Li-poly pack sinks lower than 2.7 volts per cell (cut-off voltage is adjustable). The Super-20's on-off arming switch was mounted in the canopy saddle.

### TIPS FOR SUCCESS

When gluing in the control rod tubes, antenna tube and the tailfeather assembly, make sure you align everything properly. These are instances where you want to hold off on using Kicker to make sure everything is precisely positioned while the initial application of CA is curing for a few seconds, then add additional CA and Kicker to securely bond the parts. The manual covers all the details you need for assembly, including the use of a thin piece of pushrod wire to pull the antenna through the antenna tube, and it offers advice on not over-tightening the screws that mount the folding props. If you are a beginner level pilot, you'll appreciate the advice on thermal soaring, slope soaring and aero-towing.

### CONCLUSION

The EasyGlider Electric is easy to build and its simplicity and tough construction make it an ideal sailplane for park and schoolyard flying fun. It is a great trainer if you are getting started in RC, and a fitting first sailplane if you want to explore thermal soaring. If you are like me and enjoy playing with a resilient and affordable airframe by hopping it up with a brushless motor or making other modifications, the sky is the limit. I give this plane two thumbs up.

### Links

FMA Direct, [www.fmadirect.com](http://www.fmadirect.com), (800) 343-2934

Globee, distributed exclusively by Great Planes Model Distributors, (800) 682-8948

Hitec RCD USA, Inc., [www.hitec-rd.com](http://www.hitec-rd.com), (858) 748-6948

Multiplex, [www.multiplexusa.com](http://www.multiplexusa.com), (858) 748-6948

ZAP is manufactured by Pacer Technology, [www.zapglue.com](http://www.zapglue.com).



For more information, please see our source guide on pg. 161.



The stock Permax 400 brushed motor (left) and the new 400 brushless motor. The hop-up motor will drop into the same gearbox using special pinion and spur gears.

### BRUSHLESS HOP-UP

Multiplex USA will be offering a brushless hop-up for the EasyGlider that will consist of the BL-400 6D (3300kv) motor using the stock propeller and 2.3:1 gearing designed to fit the BL-400 2.3mm motor shaft. This unit will drop right into the existing airframe. Performance should be much more lively as input power will be more than doubled to 91 Watts per pound with a 2S Li-Poly. Although I used a Kokam 3200mAh in my stock EasyGlider review, a Kokam 15C 2000mAh will work perfectly in the stock or brushless system and result in a slightly lighter airplane with no need to modify the canopy latch system.