

MULTIPLEX

Blizzard

by Thayer Syme

This sport liner gets up and goes, without breaking the bank

Have you ever marveled at the outrageous performance of those absurdly powered sailplanes that disappear into the clouds after just a two- or three-second motor run? Beyond the sheer intimidation factor of such performance, let's face it: the cost of those 200A rockets is a bit beyond the regular toy budget for many of us. It is fun to dream though, and fortunately, the new Blizzard from Multiplex USA will let you nibble at that buffet while paying only a fraction of the full admission price.

Before we get too far along, let's discuss terms. Multiplex mentioned the term "Hot Liner" in some of their early promotion of the Blizzard. Some pilots seem to believe that the term has no flexibility and should be reserved only for those aircraft with the absolute highest levels of performance, and prices to match their climb rates. To allow a more realistic level of customer expectation, Multiplex USA has adopted the term "Sport Liner" for the Blizzard. Don't think for a moment, however,

that the Blizzard lacks excitement. I promise that after flying this one, you will agree that it offers a whole lot of bang for the buck.

Multiplex is known for its durable models molded out of their proprietary Elapor foam. This resilient material bonds with regular CA adhesives, and its flexibility lets a model bounce right back from less than perfect landings. The Blizzard takes this material to a new level with molded airframe components that are much denser than in previous offerings.

This increased density makes parts much stronger and more suitable for the Blizzard's high-performance electric flight realm. Pilots with appropriate slope or dynamic soaring locations will also appreciate that Multiplex includes a solid nose cone that allows you to set the Blizzard up as a pure sailplane. My model is carrying nearly 13 ounces in its power system, and removing most of that would make a dramatic difference when soaring.

**SPECS****PLANE:** Blizzard**MANUFACTURER & DISTRIBUTOR:** Multiplex Modelsport USA**TYPE:** High-performance sport liner**FOR:** Experienced pilots**WINGSPAN:** 55 in.**WING AREA:** 301 sq. in.**WEIGHT:** 32 oz.**WING LOADING:** 15.3 oz./sq. ft.**LENGTH:** 36 in.**RADIO:** 4-channel required (5 w/optional rudder control); flown w/Futaba 10C 2.4GHz FASST transmitter, Futaba R617FS receiver, 4 Hitec HS5055MG digital servos**POWER SYSTEM:** Blizzard Tuning Power set; includes Himax 3516-1350 brushless out-runner motor, 9x6 folding prop, Multiplex BLT-54 speed control, 3S 2150mAh LiPo battery**FULL-THROTTLE POWER:** 37.77 amps, 384.9 watts, 12.03 W/oz., 192.4 W/lb.**TOP RPM:** 12,270**DURATION:** 15-20 min.**MINIMUM FLYING AREA:** Club field**STREET PRICE:** \$149.99**COMPONENTS NEEDED TO COMPLETE:** 4- or 5-channel radio w/3 or 4 micros servos, 300- to 500W power system**SUMMARY**

The Blizzard is a durable, high-performance electric sailplane constructed of high-density Elapor foam that's liberally

reinforced with carbon fiber and fiberglass composites. An aggressive power-to-weight ratio quickly lifts it to the limits of visibility. This sleek design offers exciting performance whether you are seeking thermals or slope lift to extend your duration, or you are diving hundreds of feet into a blistering high-speed pass.

TIPS FOR SUCCESS

This model is so well designed and its assembly goes so smoothly that I can't offer much to improve your experience. Here are just a few notes from my build.

Construction goes quickly, though this is definitely not a one-evening project. I spent the equivalent of about three evenings on it. I started on a Friday night, put in some time on a rainy Saturday and had the Blizzard ready to go on Sunday afternoon. The wing is reinforced with two carbon-fiber box spars, and along with the rest of the airframe, it also gets additional reinforcement from various lengths of fiberglass rod. The kit includes a rolled, 28-foot-long piece of this. To cut the rod, I used a pair of Xuron's hard wire and cable cutters that I picked up from Big Apple Hobbies. This cutter has curved jaws that help to hold the fibers together as you cut the rod, rather than just crushing it as traditional diagonal cutters with straight blades do.

The composite pieces are bonded into molded grooves in the Elapor with CA, so make sure you

have a fan blowing across your workbench and protect your fingers. I recommend that you wear latex or vinyl gloves and have extras on hand. I put medium gap-filling Zap in each slot and then pressed the pieces into place while wiping excess CA away with paper towels. I also lightly scuffed each composite part with 220-grit sandpaper to remove the surface glaze and increase bond strength.

Don't skimp on the CA for the carbon-fiber spars. They are the backbone of the wing. They are a snug fit in the molded slots, and the glue should be forced up around both sides as you press them into place. There are also a few molded plastic parts for high-stress areas. These include a nose piece that doubles as a motor mount and a plate for the wing center section and supports the V-tail. I also scuff-sanded these pieces before I glued them to the Elapor components.

Installing the radio involves some choices and soldering. First, you must decide whether you want independent rudder control or just eleva-



AIRBORNE

Forget whatever you know about underpowered, beginner electric gliders. The Blizzard is a high-performance sport model, well deserving the attention of anyone who likes fast efficient flyers. There is plenty of power for easy hand-launching. Simply throttle up and give



it a firm toss into the air. Let it accelerate briefly, and then pull back on the stick to establish your favorite climb angle.

I have made several flights with both RAM3 and ZLog recording altimeters, and I consistently measure climb rates well above 3,300 feet per minute. Considering the 55-inch wingspan and slim profile of this model, you won't want to keep the power on for very long.

Roll the Blizzard over onto its back as you cut the power at the

peak of a climb, and slowly pull through into a giant split-S. If you time it right, you should soon see the Blizzard streaking past you at a surprising clip as it comes down through the bottom of its arc. Let the nose rise as it passes you, throw in a large loop or roll, and then kick the power back on to climb and do it all over again. In addition to dramatic climbs and high-speed glides, the Blizzard will readily do all the basic looping and rolling maneuvers, and it's very stable when inverted. Since the motor run is a relatively short percentage of the flight time, I find I am easily getting 15 minutes and more between charges.

The glide is quite flat, especially as you try to slow down for landing. Because of this, I also programmed the ailerons to deflect upward as spoilers for landing. The Blizzard will pitch down as the ailerons come up, but it is easy enough to hold the nose up with elevator, or to program some elevator compensation. Try to make your approaches with the fuselage level. This is easy to judge visually, and it will prevent it from accidentally stalling if you get too slow.

tor. The fuselage has two servo pockets molded into the tail, and one is skinned over. Adding rudder later isn't a real option, so I recommend that you cut the pocket open now.

The wings and fuselage are slotted for the servo leads and extensions, but there aren't any pockets for conventional servo connectors. Instead, the manual has you clip the connectors and solder the extensions. Make

sure that everything works before you close the fuselage and that the leads are long enough to reach the cockpit. The aileron servo leads get extended and hard-wired directly to the Multiplex M6 connector. This connector is a really nice touch, as it automatically connects the ailerons when you attach the wing. Multiplex USA offers a full kit with the M6 connector set and required extensions.

I find my Blizzard balances best with

about half of the battery forward of the leading edge. That leaves enough room for the speed control behind the motor. I installed the receiver behind the battery with its dual antennas threaded out through the cooling air outlets just ahead of the trailing edge of the wing.

CONCLUSION

I have a great time flying the Blizzard. It is a ball when set up as recommended, and a bit of tape on the wingtips will expand its performance for even more fun. If you like a little speed from time to time, don't miss out on this new sensation from Multiplex. 🌀

Links

Big Apple Hobbies,
www.bigapplehobbies.com, (718) 961-9611

Futaba, distributed exclusively by Great Planes Model Distributors, www.futaba-rc.com, (800) 682-8948

Hitec RCD USA, www.hitecrcd.com, (858) 748-6948

Multiplex, www.multiplexusa.com, (858) 748-6948

RAM3 altimeter, www.soaringcircuits.com, soaringcircuits@epix.net

ZAP, manufactured by Pacer Technology, www.zapglue.com

ZLog Recording Altimeter, www.hexpertsystems.com

For more information, please see our source guide on page 171.

STRETCHING THE ENVELOPE

One truism about high-performance airplanes and the pilots who fly them is that there is no such thing as too much power or speed. While I think that the average sport pilot will be very happy with the Blizzard as designed, some pilots will want to extract even more from this model.

While it is possible to overspeed this airframe and flutter the wingtips, I have not heard of one coming apart in the air. I have pushed the Blizzard beyond this limit a couple of times while diving in the 80mph range, and the flutter was over almost before it had begun. I just relax the forward pressure a bit and let the model slow down a little. I believe the drag induced by the fluttering tips quickly slows the airframe to a less critical speed.

So what if you want to push even harder? I reinforced the wingtips by adding a diagonal pattern of 1/2-inch fiberglass-reinforced strapping tape as shown in the photos. Since then, I have clocked vertical descent rates on extreme dives at just over 100mph with the RAM3 and ZLog altimeters. That number doesn't take into account that I was not flying straight at the ground at the time. At estimated 50- to 60-degree dive angles, the actual airspeed calculates somewhere between 115 and 130mph. I think most will agree that this is well beyond what most people would expect from such a model, and it isn't at all bad for a foam airframe at this price.



TOP FLITE P-51D MUSTANG