

## First Winter Project: BRC Hornet

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Daylight savings time ended, and that also abruptly ends my weekday flying. I pretty much spent the last month repairing the casualties from this past summer. That done, it is time to move on to something new. A foamy that my wife picked up for me last summer would be a good place to start, if I know what is good for me....

The BRC Hornet is a depron foam airframe, designed for flying indoors as well as outdoors. My first glimpse of the Hornet flying was at the gymnasium last winter during the SC4 college day. My initial reaction was that it was

too big for a small gym, but I was wrong. The plane's maneuverability was very impressive, as well as Kyle Schoenrock's flying skills. It turns out that Kyle, brother Mark jr. and their father Mark sr. (members of the SMAC) started their own



company making and selling the BRC Hornet as well as several other foam planes. Shortly after the demo, Budget R/C put a simulator version of the Hornet for use with Real flight G-3.5 on their website. I promptly downloaded it and gave it a spin. The simulator of the plane was a ball to fly. I am not much of a 3D flyer, but this plane could make me look good- at least it could on a simulator.

The Schoenrocks brought along some of Budget R/C's products to our fly-in this summer, and let me take the Hornet up for a quick flight. It delivered much of what the simulator promised; an unbelievable handling aircraft. Seeing my delight, my wife snuck down a little later, and hid one in our van for my fathers day gift. Since this was a great flying year with almost no rain, I spent most of my free time at the field. To this point, the box sat in the basement waiting for assembly. The expression on my wife's face told me that my fathers day gift had waited long enough and better be my first winter building project.

I opened the box and laid out all the pieces. The laser cut foam pieces are pre painted and decorated. The laser cut firewall, and control horns as well as all the other hardware were neatly tucked in a bag. A sheet of paper directs



to a video, as well as a PDF version of the instructions on line. I am a fairly accomplished foam builder, but I watched the video anyways. Although the assembly is straight forward, I learned a few tricks by reading the instructions before I started, as opposed to my normal "Fix it" after using the "build myself into a corner" method.

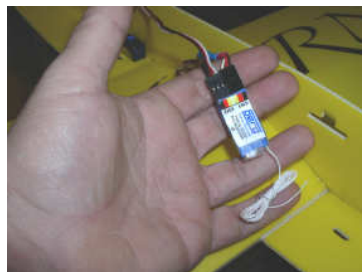
The plane is pretty much a leisurely weekend build. I

started it on a Friday evening and completed it Sunday. The initial pre-assembly of the wing, fuselage, firewall, and half the vertical stab took little more than an hour. I use CA for some construction, but prefer using canopy glue for most foam construction so I let those parts dry overnight.

The next morning before my second cup of coffee, the wings, vertical stab, rudder, ailerons, as well as all the control horns were assembled and waiting for the glue to dry. I left off the main body reinforcement strips off for now, to hide servo wires under later. This seemed like a good time to pre-assemble the wheel axles to the carbon fiber landing gear with epoxy. Waiting for all the glue to dry, left plenty of time for breakfast, and a trip to the hobby shop for the servo Y harness I needed.

Returning from my journeys, the glue had set up well enough to cut the holes and install the servos. A dab of hot melt glue holds them secure enough to do the job. It was easy to route all the servo wire ends through a small hole in main body reinforcement strips. Hot melt glue was used to tack the strips in place, with canopy glue applied along the length of the strips for a permanent bond. The landing gear on any plane takes a lot of abuse, so I opted to reinforce that area with some 1/32 plywood. This seemed like a worthwhile use of weight.

Overnight, the new addition of glue had completely dried. I hot melt glued the criss-cross landing gear. Installing the micro receiver and speed controller was a snap with Velcro. The receiver I chose was the Berg Microstamp four (purchased separately). It is a full range 4 channel receiver, with programmable fail safes. Looking at its small size, it is hard to believe it is full range, and only cost about thirty five bucks, with crystal. It is a big step up from normal micro receivers, for only a few dollars more- well worth the extra investment.



The kit came with carbon fiber and 1/32 steel rod to make the pushrod with. I chose to use a Dubro micro pushrod instead. It is a setup with a thin steel pushrod and a plastic sleeve for it to travel in, very similar to Sullivan Ny-Rods. Why? I had some I bought for another project, and just thought I would try them out. They will work fine. Mounting the motor made for a complete build.

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I took the Hornet to the field after December 1st Club breakfast for the maiden flight. I had the field to myself on a windless morning, although it was a little cold.

The Hornet behaved much as the simulator promised. The aircraft is very light, but stable. I quickly landed, and dialed in a little more exponential for the ailerons. It did not take long to become comfortable, and do a little stick jamming. The rolls were quick and true. It looped



in a couple feet without stalling. And it flew inverted with only a small amount of elevator. Climbing, it had unlimited vertical. Flat turns were incredibly tight, giving in to the huge rudder. For a simple plane, it handled great! I decided it was a keeper and headed home.

I was using a 3 cell 1350mah Li-Po battery, which proved to be just slightly on the heavy side for the model. Slower speeds proved a little tippy on the elevator, but it never came close to a stall. I flew for about 15 minutes or so, and used about half my charge. A smaller mha battery will be on my Christmas list– well, maybe two.



The BRC Hornet has a 33 inch, fully symmetrical, 1 3/4 thick wing. Huge ailerons, rudder and elevator for control at slow flight. The assembled plane, motor servos only weighs about 9 1/2 ounces (without battery). The airframe is about the size of most “Flat Blue Foamies”, but far lighter. It’s design is a lesson in simplicity, using the natural strength of tubular construction with Depron foam. By far one of the easiest foam plane kits I have ever seen to build. What’s more? It is all of fun to fly!

The BRC Hornet kit list for \$37.99. To take the guess work out of everything else, a combo kit is offered (Plane, 4 servos, ESC, Brushless motor, and Battery) This gives you everything you will need for \$136.99, except glue and a 4 channel receiver. All that lives up to their company name and motto; “Budget R/C”.

For more info go to <http://www.budgetrc.com/>