

GORDY'S TRAVELS



Bluto



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North County Flying 'Amazing' Machines

The EPP craze has produced some wild flying models, and I have managed to fly just about all of them. Now I am not a foamie kind of guy, preferring open class ships of glass and carbon, but that doesn't mean I don't own some!

Of course I am always looking for neat planes and foamies aren't excluded. Recently, on the *RC Soaring Exchange*, I noticed a post from Joe Gullet of Spring Hill, Tennessee, which prompted me to check out NCFM's web site to find out more about their planes.

What I found was not only some pretty

amazing soaring EPP planes, but also some really interesting history about their planes. It is a really interesting read regardless of the products. The basis of their plane designs is Harris Nelson, a model builder, and innovator since 1950. Harris is the man who brought us SpyderFoam, the very hard but light foam used in our bagged ships.

NCFM offers three planes at this time, all from EPP and all for the slope: the 48" Moth and two Bluto's, 48" and 56".

There is a neat section showing the "Evolution of the Moth" from the first, 100" glass and foam version first shown in a *Model Builder* 1977 Magazine, to the current EPP model at 48".

The Bluto is very distinctive in its class of foamie wings, with an added lifting surface 'nose', designed for extreme slope fun.

You can find North County Flying Machines at <http://www.northcountyflyingmachines.com> or by calling California at (760) 439-7037. Tell Derrick you read about them in *RC Soaring Digest* Magazine!

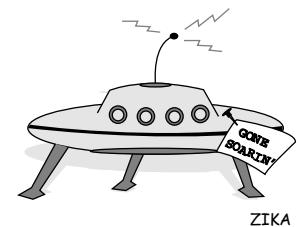
Take a look at Joe's article, and you'll find just what I was looking for (Cuz I

just ordered two!): a small foamie that could fly on small hills yet rip in Dynamic Soaring conditions. All of the NCFM planes are highly prefabricated. (Yep, I can build them in a motel room!)

If you are looking for a fun foamie EPP sailplane that thermals and rips the slope, the Moth is probably the machine for you.

I'm looking forward to more 'trips' with my Moths in the near future! Think Toronto will let me in with a Moth in my luggage?

See you on my next trip!





The Moth & Plasti-Coat

By Joe Gullett, Jr.
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I was looking for a new slope ship and saw a reference to the Moth on RCSE, a great resource for the soaring junkie. The Moth is a 48" span, flying wing sold by Derrick Choice of North Country Flying Machines (www.northcountryflyingmachines.com). I ordered mine on a Monday and had the nicely packed kit in my sweaty little hands when I got home from work Thursday. If you have built a "foamie" before, this little ship is pretty straight forward and I estimate it took about 5 to 6 hours to complete.

One big difference from my previous "foamies" is there is much less strapping tape required. Basically just some 1" strips on the leading edge. The wing spars are very nice carbon fiber tubes that slide into the precut holes and are then capped with balsa to seal the gap. This makes for some very stiff wings; well, stiff for a foam plane for sure. There is also a carbon fiber tube longeron that inserts in the pre-cut hole in the fuse and this also adds great stiffness to the fuse. Balsa stock to cut the fin and nicely matched balsa elevon stock completes the major kit items. Hardware includes everything you need to complete the ship: control horns, threaded control rods, wing joiner rod, and basswood drag spar stock including a titanium drag spar joiner.

I installed a pair of HS-85MG's servos and the antenna in the wings per the directions. Derrick includes a nice antenna coupling that allows you to install the antenna wire in the wing without the receiver hanging on. The wings were sprayed with 3M77 adhesive and the wing and elevons were covered with ultracover. I installed the flight pack, FMA Fortress receiver and a 270 mAh battery in the pre-cut fuse opening and trimmed the middle out of the opening slug as directed.

In the instructions Derrick mentions an alternate method to finish the fuse using thinned (with Toluene) Marine Goop (available from Home Depot). This

Moth Continued on page 13...

About the Moth

Flight:

Excellent spiral stability
Extremely fast and agile
Fast and stable DS'er
Great inverted flight
Highly responsive
Aerobatic in light lift
Excellent thermal machine!!!
"EPP durable"

Kit Includes:

- Carbon fiber wing spar + secondary spar system for added impact strength (new 6/1/02)
- New Larger I.D. Longeron - Glaspar G50 Full-Length Fiberglass/Epoxy Tubing
- 1.3 lb. EPP Precision-cut, "de-slagged" EPP foam wing and 1.9 lb. EPP fuselage (new 6/02)
- Quality, consistent weight balsa elevon material
- Basswood Drag Spar Material
- Balsa Fin and Spar Cap Material
- New - Heavy-Duty 6061-T6 Aluminum Spar Joiner
- New - Titanium Drag Spar Joiner
- All control horns and linkages
- Comprehensive manual with detailed graphics

Technical Info:

Span: 48"
Wing Area: 336 Sq. In.
Flying Weight: 14-22 Ounces
Wing Loading: 6 to 9 Oz./Sq. Ft.

Download Moth Photo Manual
(PDF File - 1.2MB)

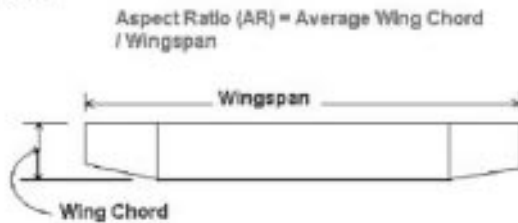
Recommended Flight Equipment:

Transmitter: Elevon Mixing
with End-Point Adjust and/or Dual Rates
Receiver: Hitec Micro 555/similar size
Servos: HS-85/similar size
Battery: 270mAh/similar

Example Screen

The Need for Efficiency

Normally flying in thermal lift and often under slope conditions, there is no excess lift, so a sailplane needs to be as efficient as possible. This means creating adequate lift while creating the least amount of drag, known as the Lift/Drag ratio.



Wings of sailplanes are normally long and narrow, the ratio of wing's length (wingspan) to wing's width (chord); is known as the "aspect ratio" or AR. Wings with higher aspect ratios have a better glide ratio, but require strong construction.

Very basic information is included about what are thermal and slope lift, methods for getting sailplanes aloft, and learning to fly. The final section is a sampling of different sailplane competitions.

How Could This be Used?

Hopefully, there will be many uses for this presentation that I have not thought of. Someone that had contacted me thought it would be useful in making a pitch for a new flying field. Most common use will be to send the link to anyone that might be interested in RC soaring. If anyone would like the Power Point file, I can send this as an e-mail attachment, although this would require you to own the Power Point program and the file is a few megabytes. This would make printing out the presentation in booklet form easier.



Moth Continued...

sounded appealing since I have never produced a decent looking EPP fuse using ultracoat. I'm just not good at getting around those compound curves.

So I headed out to the local Home Depot to find some Marine Goop and the Toluene. I could not locate any of the recommended thinner but, in searching, came across a product called Plasti-Coat which is used to dip tool handles in and provides a rubber type grip. It came in a variety of colors and was very inexpensive, so I bought a can with the thought of trying this as a fuse finish.

When I got home, I popped the top on the Plasti-Coat and brushed some on a scrape piece of EPP. When I checked in the morning, I found a bright red piece of EPP that now had a finish that seemed almost dent proof. I brushed a light coat on the fuse and headed off to work. About 10 hours later, I brushed on a second light coat and did the same the next morning. That evening I gooped the wing into the fuse, hooked up the flight pack, and balanced it per the instructions. I left the sides of the fuse opening loose and just rubber banded them on for the test flights.

Then, headed to bed with thoughts of flying my new toy at lunch the next day.

Winds were very light at the dam for the initial trim flights and although it flew better than I had hoped, it was nose heavy. In discussing the CG with Derrick at NCFM, he said the CG in the instructions was very conservative and suggested that I move the CG back as far as I felt comfortable with. I started out with about 1/4 oz. in the nose to put the CG at the recommended location about 1 1/4" from the LE. I ended up taking that 1/4 oz. out and adding 1/8 oz. at the tail to get it flying the way I liked. The plane became much more responsive. When you get yours out the first time, I think you will see what I mean. 1/16" does make a difference!

When all was like I wanted, I tack gooped the sides in and brushed some of the Plasti-Coat into the cracks. I have had this ship for almost three months now and it is always in the back of my truck for any opportunity to get a quick slope fix. I haven't seen any apparent UV effect on the Plasti-Coat. We fly over rocks a lot and I have hit my share, but the fuse doesn't

show it. I did not weigh the fuse prior to adding the finish but do not feel there is a great penalty. In any event, this will be my preferred method of fuse finish for all my future "foamies" unless someone comes up with something easier and better.

Mine weighs in at just over 1 lb. when weighed on my fish scale. I have had the pleasure of flying this little sloper in light (5 to 8 mph) winds and more buoyant (15 to 20 mph) conditions and haven't felt the need to add ballast. Simply a click or two of trim and it performs as well or better than any of the other slope ships I have owned. This thing will turn on a dime and the local buzzards at the dam hate it since they can't run away from it. (Never played tag with a buzzard? Okay, okay, that's another story.) Anyway, for about \$65.00 delivered to your door, this is one fun plane! My advice, GET ONE!!

