

Foam Forum: You Do What With Foam?

This is one of a series of articles by Mike Isermann on weight saving ideas. While Mike is obviously talking about FAC models, there are ideas here that everyone can use.

Foam, foam, foam! There are all kinds of foam. Green foam, blue foam, buying something new foam, pink foam, white foam, in a box too tight foam, foam you pack, foam you stack, foam you spray into a crack, soft foam, hard foam, buy it by the yard foam! Man, there's even foam in my wife's potting soil! It's everywhere! I'll tell you where else you can find foam. It's on most of my finished airframes! Foam is wonderful stuff if used in the right places. Wonderful for what you may ask? Perhaps you are one of those hard core traditional guys that sound something like this:

No cylinders, no wheels, no fillers, no stacks, I just don't care if it means a max! Not for a scoop, not for a cowl, you know there's someone who'll call foul! They used the stuff to build my home, I will not use it to build a Gnome! Not for a hump, not for a bump, not for a pilot, you can not file it, not for an ounce, not for a gram, I have two fists that resemble ham! Why can't you get it through your dome, I will not use that freak'in foam! (Does that sound like Midkiff or what?)

Okay, okay I know there is a piece of balsa for every application, but how readily available is 4 lb wood these days? You either have to dig for hours through your local hobby shop's stash or know someone in Ecuador. The great thing about foam is that it is readily available and on many occasions it's free. I get my blue foam from Home Depot. Not the big sheets. I ask for the 3" X 3" pallet dividers. They're perfect for slicing off square wafers for carving and they're free! Foam is a very versatile material from a modeler's viewpoint. It is extremely light and it has several characteristics that lend themselves well to our craft. Foam carves and sands well, it makes great filler material in places where strength is not needed, and it provides us the opportunity to make details such as pilots, scoops, bumps, engine parts, guns and so on.

One of my favorite things to make out of foam is wheels. If you are building an aircraft for a particular FAC event, let's say Golden Age Military, you will have to fly with gear down. This is where foam comes into play. It all goes back to my philosophy that weight must be cut whenever and wherever possible. Next time you spin up a couple of wheels out of your lightest balsa, spend a few more minutes spinning some out of foam. Weigh them and you will see why I like foam. They are not going to reduce any drag, but foam wheels, along with other foam parts, will lighten up your total wing loading thereby improving your over all power to weight ratio. *(See editor's note below)* The prop will pull your plane through the excrescence drag more convincingly, equating to better times. I even use foam to build travel boxes for my fleet! *(Ed Note: His building of travel boxes is the subject of another article)*

There are two types of foam I like to use: blue/pink foam typically used to insulate homes; and floral arrangement foam. The latter is much stiffer and will handle the bumps and abuse that come with hard landings. It's available at Michael's or your wife's favorite craft store. By the way, be

sure to hide it from the Misses. My last piece is now part of the silk flower arrangement in the foyer. Thought I was going to get it back last week when the boy and I took out the arrangement with is light saber. The force was not with us that day. Young Master Luke and I could feel the power of the dark side...

You need to plan for the use of foam. It doesn't make much sense to use foam as filler around the cowling or anywhere in the vicinity of the nose if your airplane needs ballast. Be smart about where you use foam. It's a great material, but there are limitations with regards to FAC rules. Check under the General FAC Rules for a rundown on what you can and can't do with foam. The next time you have the opportunity to build some engine cylinders or shape a cowl area, try using foam. You may be saying:

How could this be, this foam I tried, my plane is light, the damn thing glides. Away she goes, where hung calls home, no time to waste, must buy more foam!!!

Editor's Note: The friendly editor of this rag has had universally poor results making foam wheels. So I asked Mike how he did it. Here's what he said: "I generally cut the hub (of the foam wheel blank) out with a sharpened piece off brass tubing and then I glue a piece of aluminum tube in a small block of balsa. I then chuck it up the Dremel tool and sand the balsa block to the diameter of the hub that I removed from the foam block. Then I just glue the new balsa hub into the foam block, chuck it up and sand to shape. Voila! Foam wheel. Sanding is done with 400-600 grit paper. the other stuff is to rough. Glue the balsa hub in with carpenters glue. It works great!" He also said that blue foam paints well with Tamyra (and I assume any other water-based acrylic paint). Where he needs to have a smooth surface, he uses white glue as a filler, or where feasible, he paints the foam white, then attaches tissue with UHU glue. In case the aluminum bushing is too large for the landing gear wire, he uses .001 brass shim stock. He cuts the brass the length of the aluminum bushing, then wraps it around the landing gear wire, cutting it until it fits, then slides it into the tubing. That gives a perfect bearing which runs true.