

by Leon Shulman

Blue Foam Super Zomby

A new look at an aeromodeling icon

ITS HERITAGE DATES back to 1940, as an FF design that was radical for its time. Besides the aesthetically pleasing lines, it was aerodynamically efficient. The original Zomby featured a fully cowled engine, an automatically retractable single-strut landing gear, and a folding propeller. It won almost all contests in which it was entered, and thousands of kits were internationally manufactured and sold.

Even though the Zomby was world renowned and published in many countries and in several languages, *MA* revisited the design as a construction feature—the “Super Super Zomby” (plans set 979)—in the August 2005 issue. It showcased RC-assist updates but was the original size and structure.

This article will look at the Zomby that

takes advantage of a relatively popular material. It is simply made and will enable you to have a swiftly built model that you can get into the air practically overnight.

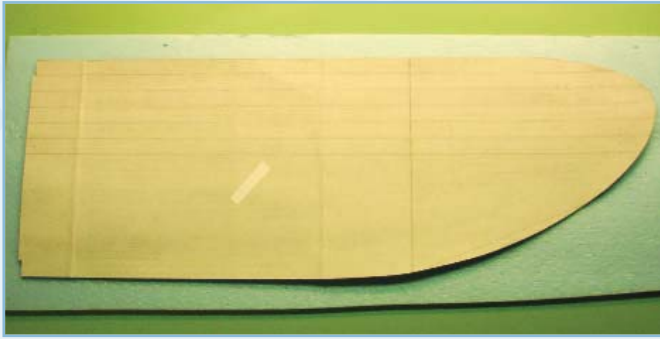
The Blue Foam Super Zomby is no slouch, even though it is cut from 1/4-inch Dow BlueCor insulation foam. Cost and effort are

minimal; one BlueCor sheet costs less than \$2. It requires no special tools and is unique in structure and assembly. An aerodynamically efficient curved airfoil, which adds great strength, is practically weightless.

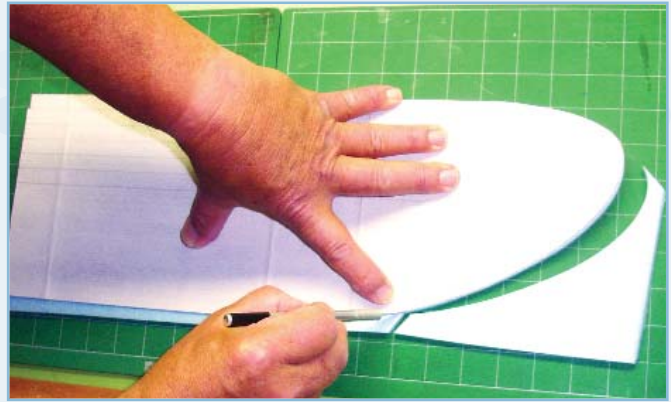
Below: The author points his prototype into the wind to feel out the breeze. Three landing-gear options are available. The “safety orange” tips enhance visibility.



Left: The recommended AXi motor is a healthy power plant and adds the necessary ballast. Epoxy and hot glue are the primary adhesives used for this project.



The wing template is made from the plans sheet. A rigid chipboard template can be used to produce many samples. Flip the template over to make the opposite side.



Carefully cut the wings from $\frac{1}{4}$ -inch foam using a fresh hobby knife. Pin or tape the template in place, and record the polyhedral and $\frac{1}{2}$ -inch-spaced crease lines.

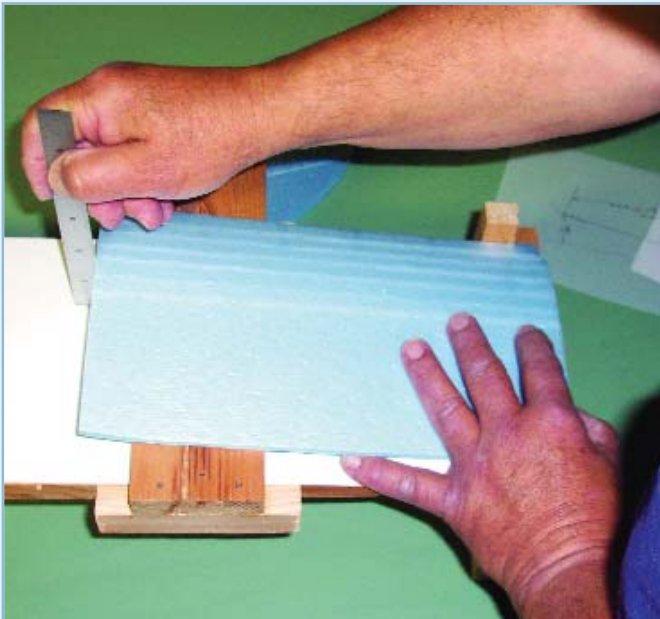
Photos by the author



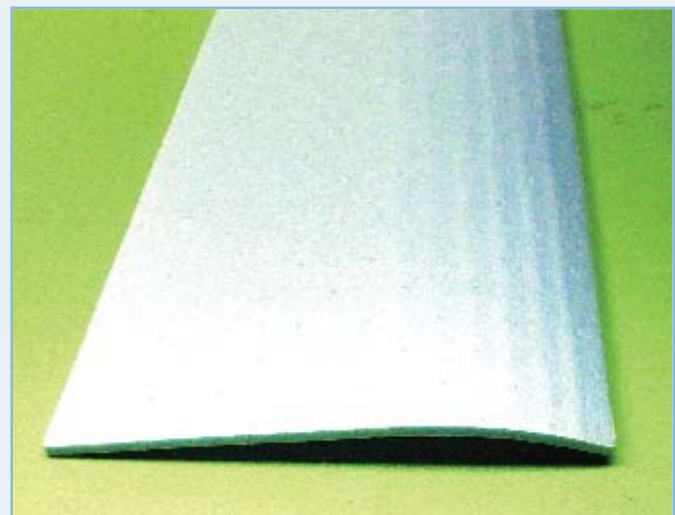
Create each wing panel's airfoil with a metal ruler and crisp table edge. Bend the LE to shape one crease at a time.



Separate the wingtip from the polyhedral joint location. This is a good time to paint the bottom of the tips a bright color.



Fix the inner wing panel to the table and raise the outside root edge $1\frac{3}{8}$ inches from the surface to the top edge. Sand the inner root dihedral surface perpendicular with the table.



Notice the typical airfoil curve. Sand the wingtips in a similar manner as shown on the plans. Glue butt joints with epoxy.

Blue Foam Super Zomby



Type: RC sport electric

Skill level: Beginner

Wingspan: 38 inches

Wing area: 230 square inches

Construction: Dow BlueCor 1/4-inch blue foam, plywood hard points

Finish: Builder's choice

Other: Two-cell Li-Poly battery, 8- to 10-amp ESC, microreceiver, two microserves

Length: 28.5 inches

Weight: 6-8 ounces

Motor: AXi 2208/34

Zomby History

Left: The author's blue-foam Zomby is a 65th-anniversary tribute to his design that showcased many original features.

Below: Why not a collector's card for model airplanes? Leon had his own made, each detailing one of his original designs and contest achievements. There's almost not enough room!



The original Zomby kit sold for \$1.95 in the early 1940s, and building this Zomby won't cost you any more—maybe even less. Inflation isn't kicking in here, but performance is for sure.

The approach to this Blue Foam Super Zomby incorporates the original design concept coined as "Designed to Climb." With either a brushed or brushless motor system, it will climb higher than you can see in close to 20 seconds. Upon throttling back, the model will transition into a beautiful flat glide.

You can take advantage of any lift, whether from a tree line or hot-air thermals. The Blue Foam Super Zomby weighs, at the most, a mere 9 ounces and boasts a wing loading of 5.6 ounces per square foot.

Mild winds do not bother this model. Its FF tradition makes it naturally stable. Although it will climb rapidly with full power, it will also fly slowly on slightly more than an idle. This airplane can also be successful flying indoors, in spaces as small as the average school gym.

The Blue Foam Super Zomby features a removable single-strut landing gear, as on the original, but the plans show an option for more conventional landing gear with two wheels. You can even choose to mimic the retracted look by leaving the undercarriage off altogether. My good friend and collaborator, Frank Pisano, developed these features and drew the featured plans.

CONSTRUCTION

Plans show the full-size model/parts with construction notes. As I mentioned, this Zomby is made from Dow BlueCor fan-fold foam, or any material that is similar in weight and characteristics. BlueCor is available from Lowe's, The Home Depot, and most other large hardware stores.

Items necessary for this build are a sharp razor or knife, a sandpaper block, your basic modeler's tools, foam-friendly cyanoacrylate, and epoxy. You will also need 1/32, 1/16, and 1/8 plywood, small pieces of 1/16 x 1/4 basswood (or hard balsa) as stiffeners, 1/16-inch-diameter wire for the landing gear, and a wheel or wheels. Suggested hardware and their locations are noted on the plans.

Construction goes quickly, but make sure to adhere to the following step-by-step procedure.

Cut all parts to shape; make a kit. Assemble the landing-gear socket with cyanoacrylate.

Bevel the horizontal stabilizer's bottom edges and one side of the vertical tail. Add basswood stiffener material to the control surfaces.

The hinges are made from clear packing tape; employ it on both sides of the movable surfaces. Leave a 1/3-inch space between surfaces and press tape in place, and then fold the surfaces back in the other direction. Apply a second piece of tape, to complete the hinge. Rub and press the tape firmly to secure it.

Make the airfoil shape and wing dihedral, as shown in the photos. Crease the foam wing in six 1/2-inch increments to make the airfoil. This process results in an efficient wing with tremendous strength.

Assemble the model, using masking tape to hold the parts in position while you adhere them with epoxy or cyanoacrylate. All incidence and motor thrust settings are built-in; however, you can make thrust adjustments as desired by using small washers between the motor mount and plywood wall when an outrunner-style power plant is employed. For the beam mount, shave the 3/8-inch beam as desired.

The photographs show the location of the motor, ESC, battery, servos, etc. The receiver, controller, and Li-Poly battery is held to the fuselage with Du-Bro hook-and-loop tape (item 348). I used Du-Bro double-stick tape (item 634) to mount the servos.

The CG is at the 50% point of the wing chord (shown on the plans). I used Du-Bro Micro Control Horns (item 848) and Micro Push Rod System (item 847) to connect the Polk's Hobby X-Micro servos and Polk's Seeker 6 receiver. The servos should be set up to allow 3/4 inch of control throw on the rudder and 1/2 inch on the elevator.

I used the AXi 2208/34 motor and a Jeti 8-amp brushless ESC from Hobby Lobby. On a two-cell Li-Poly pack, that combination turns an APC 10 x 4.3SF propeller, which is available from Landing Products. The economy setup uses the

GWS 350C motor and Castle Creations Pixie-20 ESC with a GWS 10 x 4.3 SF propeller.

I was surprised, because there was little performance differential between the units. The brushless package was somewhat sprightlier, weighed slightly less, and exhibited better overall efficiency; the Zomby could climb to altitude more on a single charge.

I recommend that you either paint the undersides of the wings a bright color or use Fluorescent Orange Solartrim. The airplane climbs like a rocket and glides like an eagle, but that blue foam blends quickly without clouds in the background.

Flight: Upon launching, the Blue Foam Super Zomby will angle up and turn by itself as it spirals upward. You can steer it gently if you want. Before it climbs out of sight, throttle back slowly and allow it to transition into a soaring glide. This model is gentle and responsive.

Try landing it at your feet; you can do it with this Zomby. **MA**

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Sources:

Du-Bro
(800) 848-9411
www.dubro.com

Polk's Hobby
(973) 351-9800
www.polkshobby.com

Hobby Lobby
(866) 933-5972
www.hobby-lobby.com

Landing Products
(530) 661-0399
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