

Final T-tail configuration in uncovered state.

that time had been disappointing.

Not only had the electric motors improved, but so had the accessories. NiCd battery performance was better, and fast chargers were available that didn't have to be carefully monitored for fear of overcharging. Obviously, it was time to give electric power another try. The final thrust to that idea came when we had to put a new roof on the house, and I had to cover all the models hanging up in my shop --- all thirty-five of them, in various stages of condition ranging from partially completed to retired and decrepit. Shucks, it would be easier to take them down than cover them, so I did. The Seafoam was one; another was a partially completed L-19 Bird Dog 1/2A model. Somewhat bemused, I put the Bird Dog wing on the Seafoam hull. Hey, that looks good. All that needed to be done to make the wing fit was to make a cutout in the center section trailing edge, and even that gave the combo a bit of extra "personality."

So, after the new roof was finished, I decided to modify the Seafoam hull and the Bird Dog wing and come up with an electric flying boat. First I toyed with the idea of a V-tail design, to keep the tail surfaces up from the water, but I discarded it. Too much gimmickry, especially for a lightweight electric. So I changed to a T-tail design, and made a new fin and stab structure. Also, to reduce weight, I made cutouts in the sides and top of the hull.

When the structure was all done, it seemed a shame to cover it and hide all that framework. No problem --- cover

it with transparent Super MonoKote. It turned out to be very nice looking, and a real eye-catcher. It not only showed the structure, but you could also see the servos, receiver, batteries, and maze of wires. So, since it is a flying boat, and shows all that good stuff, let's call it the "Showboat."

The Showboat is not hard to build. Maybe a bit tedious, making all those cutouts in the hull, but not hard. And the wing shape means cutting out different sized ribs for the tapered tips,

but you have to admit it has more "pizzazz" than just a straight "board" wing. Most of you will have no problems with the basic structure, but here are some hints to help you.

CONSTRUCTION

Hull:

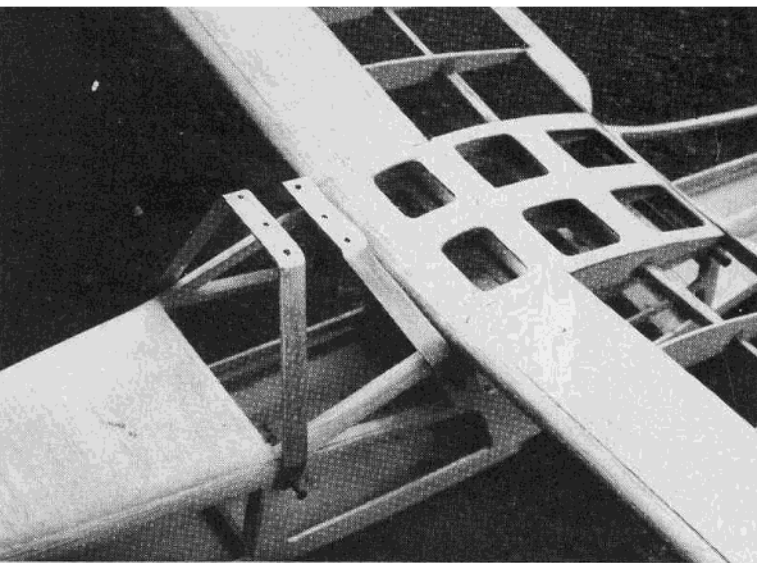
This is a simple box structure, with 3/32" sides and 1/16" top and bottom, and 3/16" longerons. Bulkheads are 1/16" ply. The bottom forward of the step is 1/16" plywood, since it takes most of the knocks. Whether you make the cutouts before putting the "box" together or afterwards is a matter of choice. In my case I made the cutouts twenty years after I made the "box!" Also, you will notice a couple of vertical braces have been added halfway between the trailing edge bulkhead and the bracing at the leading edge of the stab. That's because the cutouts do weaken the structure slightly, and when you shrink the MonoKote smooth, it tends to pull the top slightly downward; not seriously, but if I were going to build another Showboat I'd do it.

Motor Pylon:

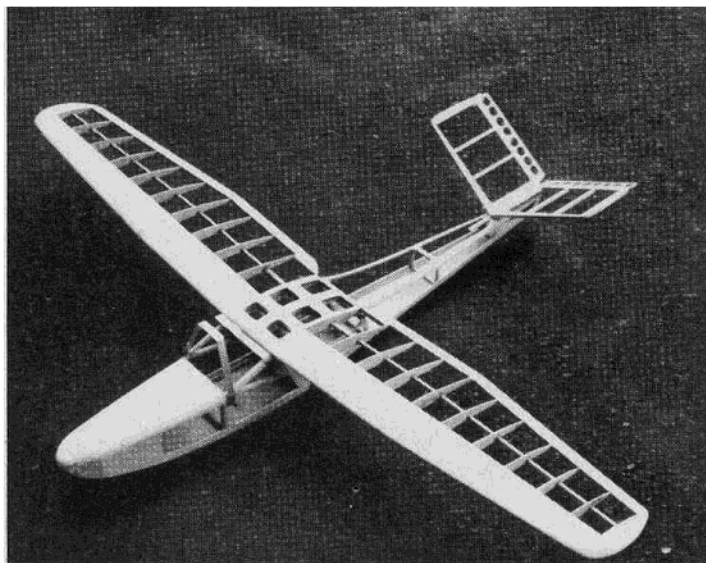
This is simply an adaptation of the original pylon which held a Max .10. The plans show how the original struts are aligned to hold the motor on an aluminum plate, the forward part of which is bent up 90° to serve as a mounting base for the electric motor. I didn't bother to make a sleek, streamlined cover, because I wanted to have quick access to the motor during testing. Note the brass sleeve, about 1/4" long which is slipped over



Equipment compartment — servos, receiver, micro-switch, motor batteries. (Motor batteries moved forward later for balance.)



Detail of motor mount without motor and base plate.



V-tail version — discarded — too complex for lightweight model.

the rear strut mounting bolts so the bolt can be used as a tie-down for the rubber bands which hold the wing in place.

In addition to the motor being bolted to the plate in front, it is also strapped down with a rubber band. A thin piece of foam is inserted between the motor and the plate to eliminate possible metal to metal noise.

Tail Surfaces:

Nothing exotic here. Note that the tail post and the "intermediate" post both go down to the bottom of the hull, and the leading edge of the fin terminates at the top of the hull.

The lightening holes in the elevator and the rudder are largely for cosmetic effect. The weight saved is hardly worth it, but the appearance is.

Wing:

The wing is standard rib and spar construction, with the top sheeted from the leading edge back to the front spar. True, there is a bit of gimmickry at the center section, which was necessary to fit the existing wing to the existing hull. It takes a bit of work, but makes the wing have a bit more "personality." If you don't want to do it that way, simply build the wing with a straight trailing edge and modify the trailing edge bulkhead in the hull so the two fit together. It's your choice.

One thing to remember. When you cover the wing, and then shrink the covering tight, hold the tips so that the wing will have about 3° to 4° of washout. The tapered tips will tend to stall out if you don't do this. I found out the hard way.

Radio And Servo Set-Up:

The plans show the original set-up which was used for test flight. Because electric powered planes have to be light, light radio equipment is very

desirable. I used the Cannon Super Micro unit with a 100 mA battery pack. The whole system weighs less than three ounces. Originally, I used one servo to operate a micro switch, as shown on the plans. Later on, I replaced that arrangement with one of Bob Novak's speed controls. It gives a lot more flexibility. You can use a six cell 800 mA to power the motor, and get more reliable take-offs from the water, then cut the power and cruise. And if you have one of the Novak "Peak Plus" chargers, you can recharge the flight batteries from one of those 12 volt gel cell batteries that are in general use for electric starters for glow engines.

Don't forget to wrap your receiver in plastic wrap to keep it dry --- also the batteries for the motor. The receiver batteries are attached with mounting tape to the balsa plate on the bulkhead which extends from the leading edge of the wing at the top to the step on the bottom. Normally, even in a dunking, they are up and out of any water which settles in the bottom of the hull.

Pushrods:

Sullivan #514 Flexrods are used to actuate the elevator and rudder. They have to be braced to keep them from flexing under load. Use cross braces at the bulkhead stations and epoxy the outer housing to them.

Wing Tip Floats:

Use True Blue Foam and cut out the wing tips to the shape shown on the plans, then simply paint them with polyurethane paint. This keeps them very light. Hold them on the wing with rubber bands stretched over the top. That way, if you make a bad landing and put a side load on the floats, they will come off without ripping the covering.

Covering:

Transparent Super MonoKote makes an excellent covering --- strong enough for any stresses involved, and shows off the structure to best advantage. I even thought briefly about using clear transparent Super MonoKote, but then discarded the idea because when the structure got between you and the sun during flight (and it will) you wouldn't be able to tell what attitude the model was in. So, I used red. Yellow or blue would also make a nice "see through" type covering. And orange would be quite visible, too.

Be sure to overlap the seams when you do the covering by at least 1/4" and seal them well. Also, after each day's flying, recheck the seams just in case they might be coming loose. If so, a quick application of the heat iron will reseal them.

Flying:

The Showboat flies quite steadily with the C.G. within the range shown on the plans. However, I recommend the forward location. Also, I recommend a six cell 800 mA pack for power. The model flies very well with a five cell pack, but take-offs from the water are marginal. No problem if you want to hand launch, but who wants to do that with a flying boat?

Water take-offs are fun. With a five cell pack, you had better be able to keep the model level and "nurse" it into the air, or it may snap on you. With the added zip of a six cell, 800 mA pack, the Showboat takes off in about 30 feet and climbs out smartly. Then you can cut the power with the speed control, or shut down, land, and make more take-offs.

You'll like flying the Showboat.

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