

There are floats available in kit form, made of plastics and even plans for floats in RCM, but these modern floats do nothing for the aesthetic value of an old-timer or antique. (As a matter of fact, some would say neither does R/C!) While doing research on another project in the Flying Manual Aviation's "How-to-Build" Handbook for 1933, I ran onto a set of seaplane floats designed for the Pietenpol Air Camper by Sam Rabl. These floats, weighing only 32 lbs., were for home-built planes up to 600 lbs. of flying weight. In the article were 6 pictures of the finished floats for various planes and all 6 pairs were different from the plans, so I guess if those early flying builders could experiment, so be it. These are my experiments in the model float field.

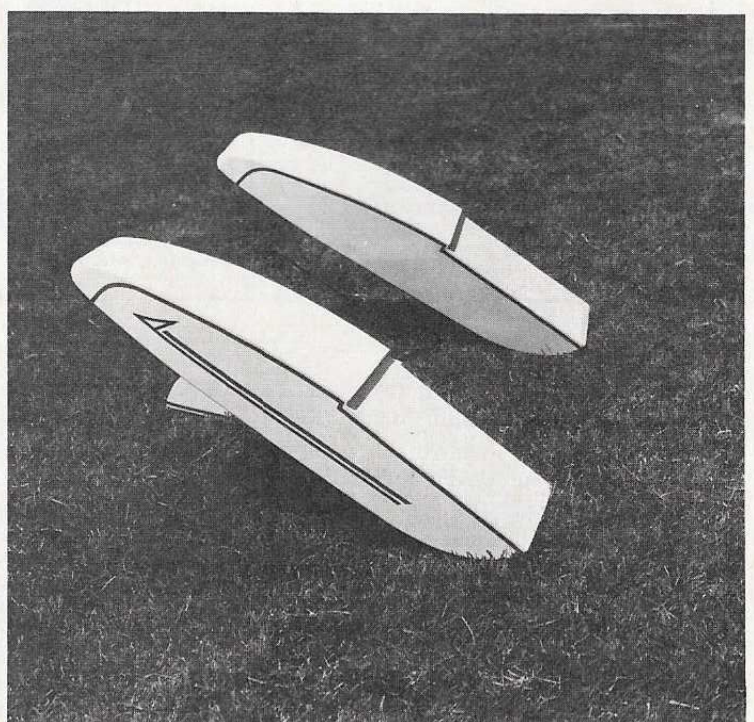
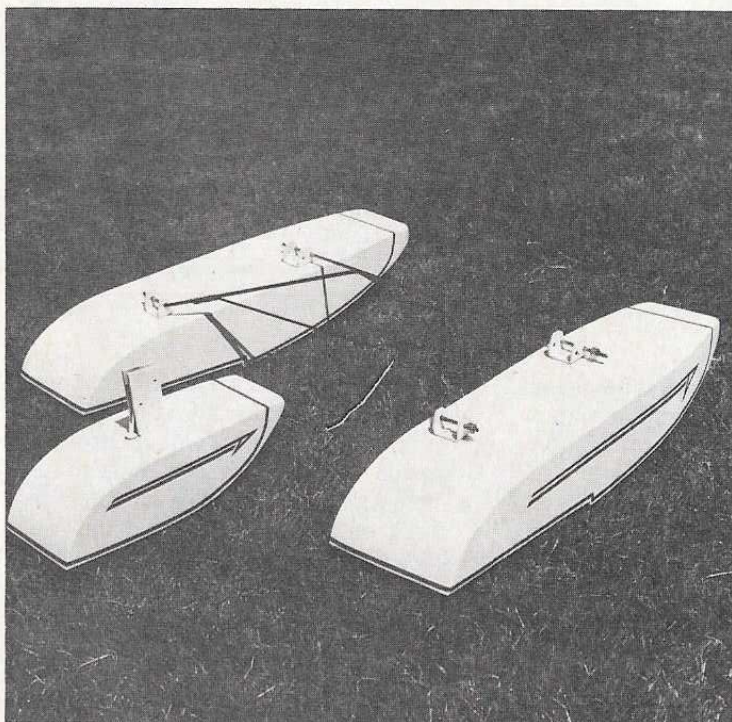
Build a pair, and the first take-off is one you will remember forever. Push her out into the lake, then add a little throttle to see if she will taxi. Try a water turn or two to see

if the water-rudder is effective, then aim her upwind. Pour on some power, a little more, just a hair more, and up she comes out of the water like a giant water bug on stilts, kinda skittering across the water leaving a pair of twin wakes. With a splattering of drops on the surface she is airborne and climbs gently into the sky.

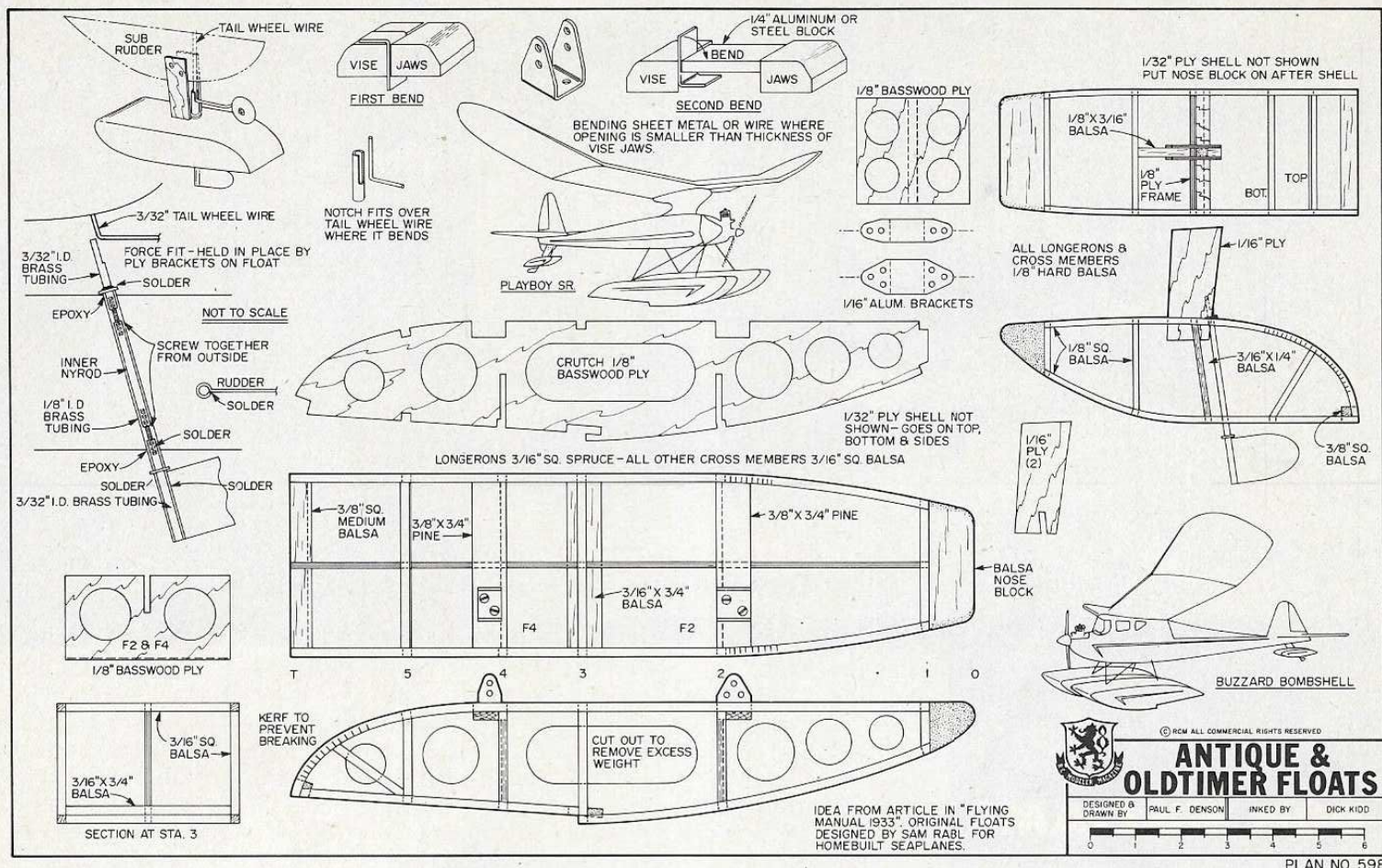
Joining the crowd at the lake or the beach is easy — the floats aren't that difficult to make. These are two important things to keep in mind, however, if you are flying from salt water: Stay away from steel fittings whenever possible. If they are necessary (and landing wires are) clean them, then coat with zinc chromate and paint with a good fuel proof color. Second, you are in a new medium — water — and it can get in almost anywhere, so protect your radio — if you get it wet in salt water, always have fresh water to wash it immediately, not later when you get home

### ANTIQUE AND OLD-TIMER FLOATS

Flying R/C old-timers falls into two categories, that of contests with various and sundry rules and Sunday Flying. After trying a loop, a few touch and go's, you get way up there, cut the engine and see how many thermals you can catch. But, you find you want something else to slip in-between. Wait until you put floats on old faithful!







— it will be too late when you find that corrosion has already set in. Since the floats are meant to be in the water, they must be constructed absolutely water tight. I use 5 minute epoxy and model cement since the aliphatic resin glues will break down if they get wet.

You will now get your introduction to boat building since these floats are built like most small boats, upside-down. Construct the two sides from 3/16" square spruce, using balsa for the cross members. Near the stern, where the transom should be, it will be necessary to make a few saw cuts, cerfs, so the spruce longerons can make the sharp curve. Cut the crutch and formers F2 and F4 from 1/8" basswood ply. The latter may be obtained from one of the larger hobby dealers and it is much lighter and less expensive than birch aircraft ply.

Cut the two 3/8" x 3/4" pine cross members to length and taper the ends of the one at F2 slightly. Next, lay in place on the top view, put the crutch over them, and glue it in place. Make sure the crutch is square with the building surface. Interlock formers F2 and F4 over the crutch and glue them to the pine cross members. It might be well to insert the 3/16" x 3/4" balsa step block through the crutch since it would be difficult to insert it after the sides are glued on.

Place the two sides on edge on the plans, line up and glue to the ends of the pine blocks, formers F2 and F4 and the step block, forming rigid box. Allow the glue to dry thoroughly then bring the forward ends together, cerf if necessary, and glue in the bow spacers. Put in the 3/8" square balsa transom block. It may be planed to shape either before or after being installed. Add all

other cross members at this time.

The grain in the side skin runs forward and aft. On the top and bottom the grain runs athwartship — that's cross-wise to you airdales. When putting the bottom skins on, it is imperative that the glue joints, particularly at the step, be water tight. Follow the installation of the bottom with the sides. Before installing the top, go inside and lay a bead of glue along every seam where the skin meets a longeron or cross member on the sides and bottom. Don't tell me it isn't necessary — this old sea dog had one float pop a seam and it is extremely disheartening to remove a float and hear the water sloshing around inside. How do you get it out? How do you dry it out inside when you do?

Add the top skin, using strips of masking tape to assure a good glue joint where the skin comes down over the transom block. This part is always submerged when the plane is in the water.

Painting is, of course, an aid in waterproofing, but don't depend upon the paint to fill a badly glued seam — the first twist or bump will open it enough to let the water pour in. Why does the water want to go in there anyhow? The float is full of air, that should keep the water out. Perhaps there is a physics law to explain the whole thing. I was going to put a funny in here, like Gumperson's Law, or Allen's Axiom, but a possible reason dawned on me. There it is, the float, sitting on the hot sandy beach waiting to go in the water, the heat from the ground warms up the float, the air expands inside, forcing some out through the screw holes and other minor imperfections. Then, when you are ready, you put those hot floats

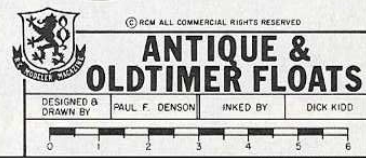
in the cool clear water and the air is cooled and it condenses, creating an area of low pressure inside the float. The same principle that allows your plane to fly in the first place forces the water into the floats like sipping cider through a straw.

Would a pressure relief tube in the top of the float stop this? While we are being ridiculous, how about putting a bike tire valve in the float and pressurize the interior of the float — as long as the air is busy trying to get out, the water can't get in!

There is a possibility of using only two floats, however both of my old-timers — a Buzzard Bombshell and a Playboy Sr. — have such long tail moment arms, they will sit horizontal on the workbench with floats, but put them in the water and down goes that tail, necessitating the small rear float. If you moved the floats further back and your plane has a short moment arm, you could probably get away with only two floats. The general installation rule is, the top of the float is parallel to the thrust line. This makes a nose high landing necessary or you will find that it is possible to stub a float toe and flip the plane. Be sure to flare the plane slightly as you land.

When applying the floats to my planes I used the front bracket for the regular landing gear wires and added a structural member in the fuselage more or less above the rear bracket. An "N" strut may be necessary to stop forward and aft rocking. A 1/8" rod through the second hole in the forward bracket acts as a spacer bar to prevent the floats from splaying out on landing.

Much to my surprise, it was determined during a picture taking session that the floats



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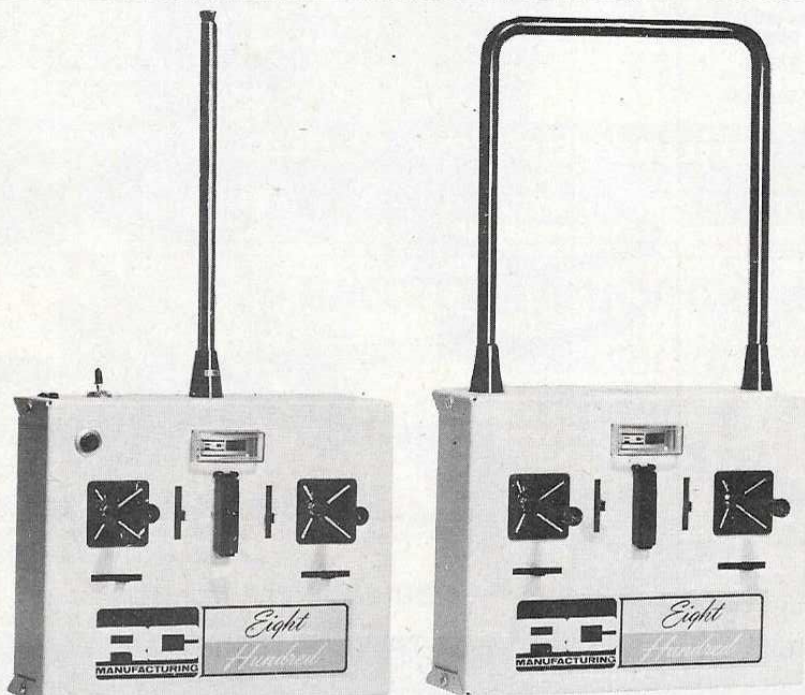
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could be removed and wheels installed, ready for flight in just under 4 minutes. It takes a shade longer to go the opposite direction. Only 2 modifications in the wheel version were made for floats and they hardly show.

Now that you are ready to fly, did you plan ahead? Is the lee shore available to you? If you have to land dead stick out there, the plane will always float downwind, but can you get there? Carry a fishing pole with you — a lead weight may be cast over your plane then it may be reeled in. A gang hook or grapnel could be used but would be hard on the MonoKote! To get a fishhook out of a wing tip, do you cut the eye off the shank and force the barb on through?

Maintain thy altitude lest a wave come up and smite thee. □



**WRITE!**

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