

PUDDLE



A simple, but different, flying boat, for the sport flyer. Midwest foam wing and stab, O.S. Max .10 and a quickly built fuselage and power pod add up to an excellent amphibian.

By Ken Willard

JUMPER

At the Model Aircraft and Trade Show in Anaheim last summer, Jim Newman of Midwest Products showed me their new Cardinal molded foam model. I was intrigued, particularly with the wing. It was just the right size for a small, quickly built sport model, which many of you have been asking for. So, back to the drawing board for some ideas.

Let's make it simple, but different. How about a small flying boat, that could be hand launched and landed on

grass or, alternatively, could be fitted with a quick removable landing gear? And, of course, it should perform well off water, since that's the main idea. Out of all this daydreaming came the Puddlejumper. A real fun job.

One of the complaints we get at RCM is, "Hey! Knock off that phrase, 'Wing construction is straightforward,' and give more detailed instruction!" So, let me begin the construction part of this article with detailed instruction on how to build the wing and stab.

Reach into your wallet, pull out the price of the Midwest Cardinal foam wing and stab set, go over to your friendly hobby dealer's shop and pick them up! Not in stock? Have him order a set. It should arrive in a couple of days, just as you finish up the hull.

As for building the hull, it is simplicity personified --- a straight box slab-sider, disguised to look rounded by the use of $\frac{1}{2}$ " triangle stock for top longerons which are shaped so they fair into the top sheeting aft of the wing, and match into the forward hatch block ahead of the wing. The bulkheads establish the side curvature, and the flat bottom gives excellent water take-offs.

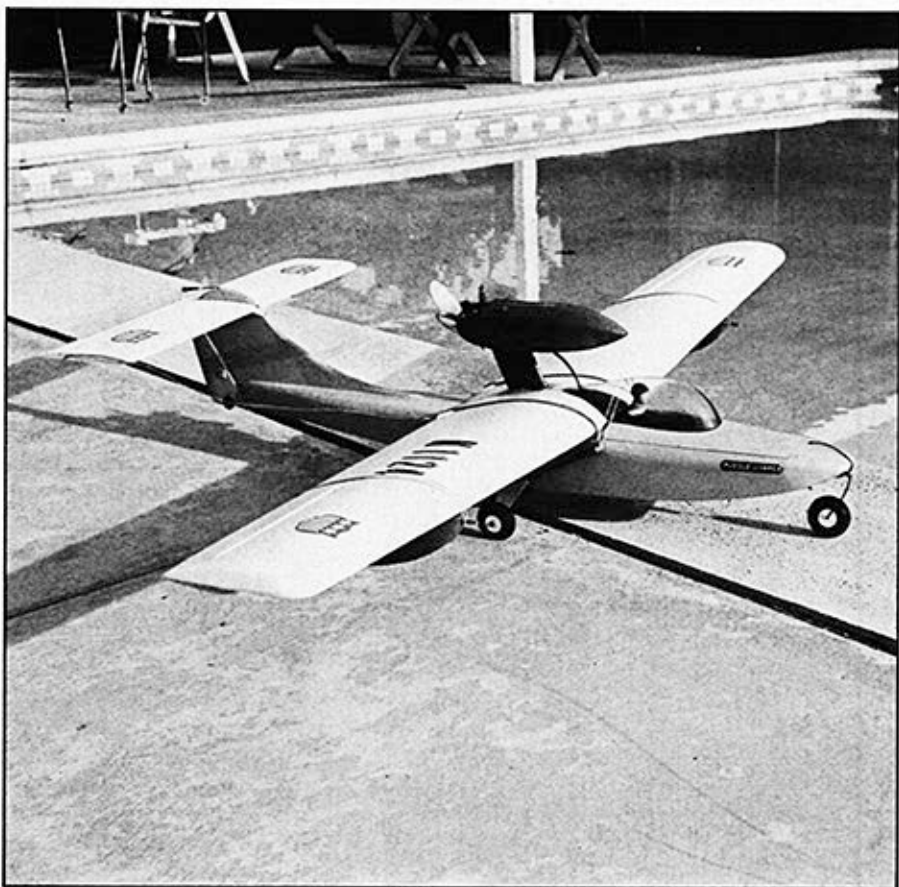
The T-tail keeps the stab up from the water --- a good idea when you use the foam stab of the Cardinal set, because it isn't quite as strong as sheet balsa, but plenty firm for this model. The leading edge of the fin is curved so the flexible control rod can be epoxied directly to it and still have a radius of curvature which won't cause binding. It looks nice, too.

During the building process, I used various adhesives: Ambroid for the triangular stock, because it carves easily when dry; Formula 4 Hobby-poxy for the bulkheads since it sets fast and seals well; Weldwood contact cement for the plywood bottom forward of the step because it makes it easy to stick it in place. Cut the plywood a bit oversize (run the principal grain crosswise so it's easy to fit to the curve) and then trim after sticking it in place. Caution: Don't use Tite-bond unless you seal over it with dope; otherwise, it'll dissolve on prolonged contact with water.

Maybe it's an over-simplification, but if you look carefully at the plans, you can figure out the way that suits you best in putting the hull together.

The same goes for the engine pylon. In fact, if you are so inclined, you can buy a Gryphon engine pylon kit for the Max .10 from Model Dynamics and modify it to fit the Puddlejumper. Note that the pylon is inserted into a cut-out in the wing and extends down to the bottom. Epoxy it in, and the center section will be even stronger than before.

The canopy, which is a commercially available size, is trimmed to fit the top of the forward hatch and the wing. It is, of course, strictly for appearance, and can be left off if you prefer. I didn't mount my canopy permanently --- just held it on with a rubber band over the top from the



ABOVE: The Puddlejumper is as versatile as it is quick to build. Here it is shown in its landplane configuration. The landing gear can be quickly removed to make it a -----

-----seaplane which is at home on any lake or pond. An easy-to-build, easy-to-fly first amphibian. If you've never flown a seaplane, try the Puddlejumper.





were fine. I didn't make a steerable nosegear, so ground handling isn't as good as it could be, but by using rudder and engine blasts you can steer wide turns.

With the gear off and the model in the water, steering is great. The bottom of the rudder works as a water rudder.

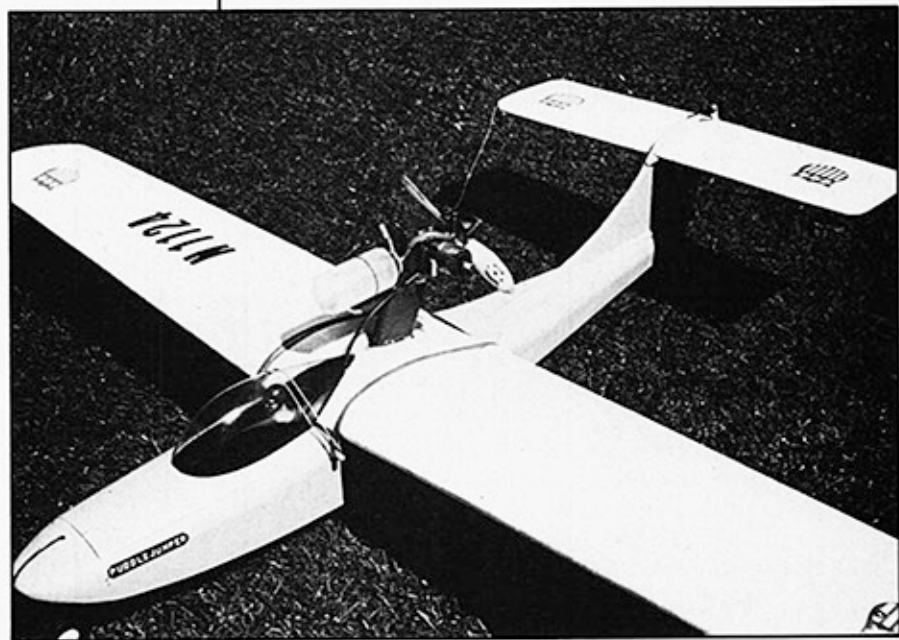
And don't forget, water will get in any opening, no matter how small. So be sure to seal the joint between the wing and the hull with seating tape so that when you cinch the wing down with the mounting rubber bands, the opening is closed and sealed completely. The forward hatch must also fit snugly in place, and when you fly off water, tape the hatch in place with Mystic plastic tape. As for the switch, I just used a direct connection from

forward wing dowels.

Radio installation is entirely accomplished with servo mounting tape on my version, except that the receiver is "floated" in foam behind the 225ma battery pack, which you'll note is stuck to the nose bulkhead with servo tape.

Wing tip floats are of the strap-on variety, so you can remove them for land flying.

As for a detachable landing gear, it's optional. I had to modify mine from a "tail dragger" configuration to a trike gear. I forgot that with the pusher prop behind the C.G. it accentuates any ground loop tendency, and made the model squirrely on take-off. But when I moved the main gear back - it, incidentally, is also stuck on with servo tape - and added a nose wheel, take-offs and landings

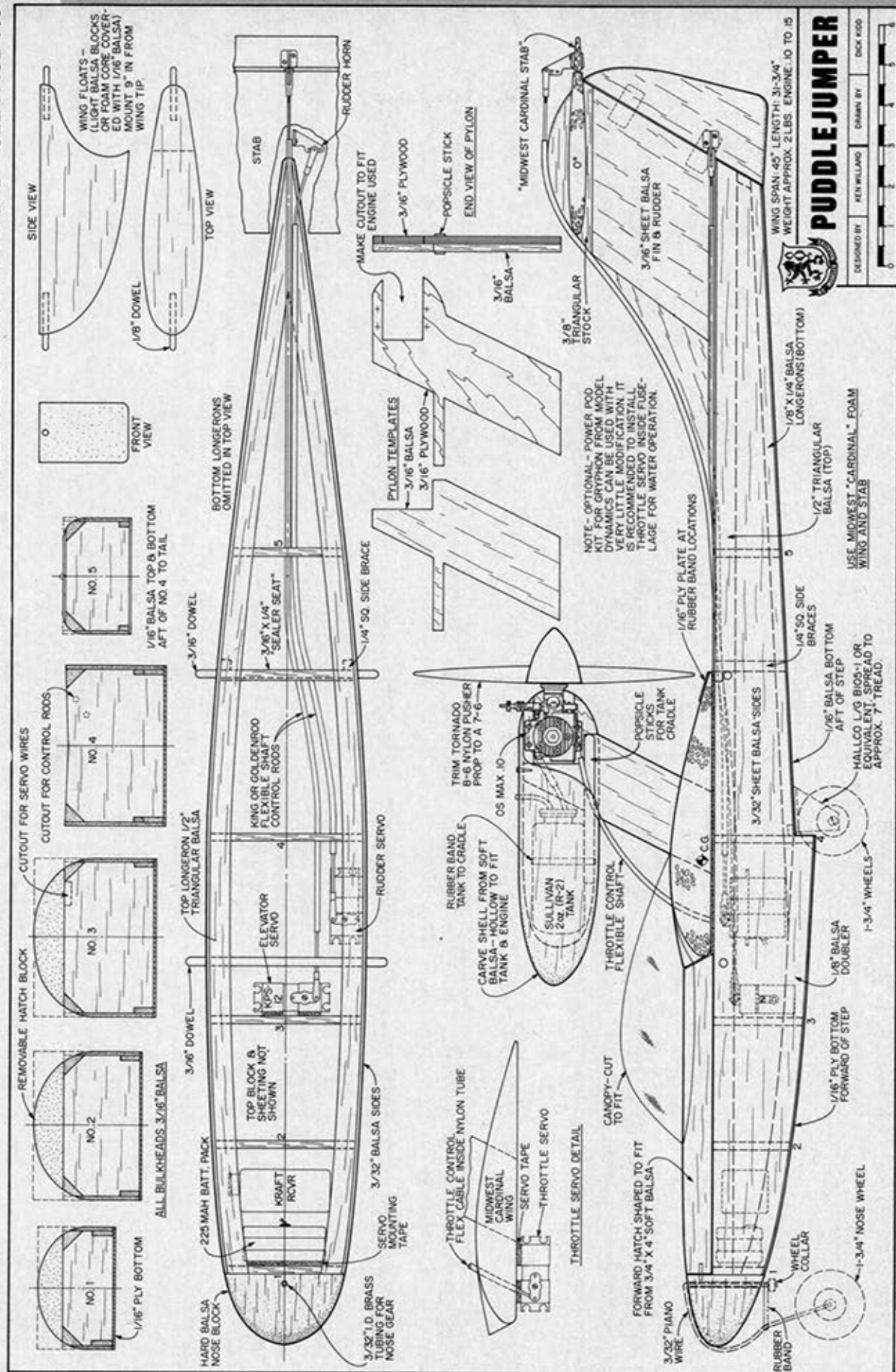


the battery to the receiver, and plugged it together before sealing the hatch. It's easy enough to peel off the tape and put on a fresh strip for each flight, and ensures that water won't get into the switch. If you prefer, you can use a push-pull wire coming out the side through a snug hole.

Finishing is a matter of builder's choice. The foam wing and stab need only be sanded slightly to remove any

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These three photos show the pylon motor mount. The balsa filler between the "Popsicle Stick" cradle supports for the tank. The tank is strapped to the cradle with rubber bands and the streamlined shell slips over the tank and is held in place by screws into the top edge of the pylon.



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molding "flash" which may be evident. To keep the model light, I'd recommend using the bare foam surfaces, with decals attached, or you can use Top Flite Trim Strip cut to your fancy. Sig's Trim Tape will also work. To finish the hull I covered it with MonoKote, making sure the seams overlapped for water proofing. In addition, I doped the inside of the hull, just in case water should get in. Then, at least, it won't soak into the balsa.

The Puddlejumper weighs about two pounds, and the Max .10 handles it nicely, although you have to trim a Tornado 8-6 nylon pusher prop down to a 7-6, and use hot fuel. You could, also, use a Max .15 if you want hotter performance. Too bad the prop men don't make a pusher 7-4.

The Puddlejumper is a good, simple, R-E-M sport job that'll give you a lot of fun. It's easy to fly, handles well off water, and very easy to build — and repair. A Sunday Flier special. □

Elevator control horn connection to flex cable atop T-tail.

