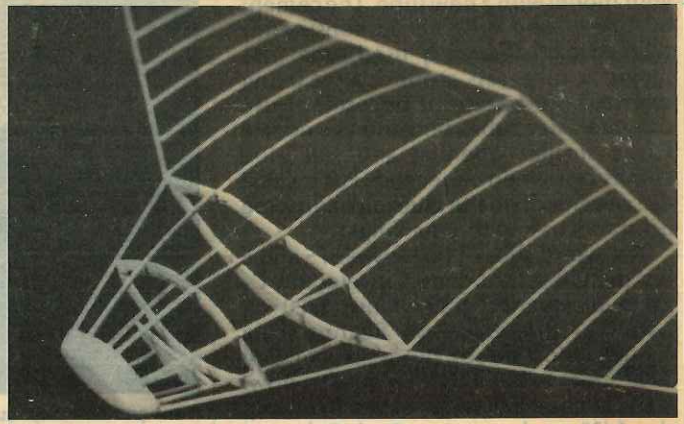


Three-quarter rear view of Ken Johnson's Dyke Delta Peanut (plans above). Note the reflexed trailing edge.



Construction of the Dyke is a bit different from most Peanuts, fully explained in text. Definitely not a beginner's project.

THE DYKE DELTA

The model featured in this month's column is an unusual airplane. It has no horizontal supporting surface (stabilizer); for this reason it qualifies as a flying wing.

The Blacksheep model club of Burbank, California, is flying a new indoor event called Hawthorne Flying Wing. The Dyke was built for this event.

I had seen the Dyke Delta in various magazines without giving it much thought. It came to my attention one Thursday night at an indoor flying session at Burbank High School. One of the Blacksheep club members, Barnaby Wainfan, was trimming out a strange looking model and I watched as the craft flew better and better. Barnaby is a flying wing enthusiast and enjoys giving the hard-to-fly, "heart to fly." When I expressed an interest in the Dyke, Barnaby loaned me the model and the magazine with 3-view drawings and article on the Dyke.

I scaled up the drawings in the projection machine at work and roughed up a plan to build from. It was decided to make the plan to Peanut scale size (13-inch span) so that it could be flown either as a Hawthorne Flying Wing or as a regular Peanut scale model.

A study of Barnaby's model revealed that the Dyke should be built as a single unit . . . that is, that the fuselage and wings should be constructed all at the same time, by building the top half of the model, then taking it off the plan, turning it upside down and building the bottom half onto the top half (see photo).

The outline was made of 1/16 sq. light balsa. The formers were cut from the same 1/16 sheet wood. The wing ribs are the sliced rib type, which is my normal

type of construction. After gluing in all the top ribs, the model was unpinned from the plan and the same shape ribs used on the wing bottom. The 1/32 spar was put in last. The formers were cut and glued into the fuselage. The stringers were then cemented into place.

Although Barnaby's Dyke had no landing gear, I decided to go the full treatment and add wheels to my model. My style is to make the wheels out of beadboard foam plastic. Here's how. A circle is drawn on the foam with a circle template (from the local art store). Next, cut out the rough wheel with a new sharp Gillette Thin Blade, broken in half lengthwise. The shaping is done with a medium sand block and the wheel is then painted with black India ink. The hub is of calling card paper and punched out with a paper punch (1/4-inch diameter round hole). After the hub is painted yellow and a small center hole drilled, the hub is then glued to the wheel with white glue and the hub holes aligned so that the wheel spins true.

The wheel struts are bamboo (from Peck-Polymers' new pack of 1/32 round bamboo). The .015 wire axle is bent and glued to the strut and the wheel slipped onto the axle. The other end of the bamboo strut is sharpened to a point and embedded into the wing or fuselage wood and glued.

A sheet of Micro-X lightweight condenser paper was taped to white cardboard and airbrushed yellow with Dr. Martin's Water Color Dye (also from the local art supply store). The model was covered using clear dope as the adhesive and the excess paper trimmed off with the aforementioned double-edge blade.

The prop is a very important part of my models. My standard indoor prop (see

sketch) was fashioned and assembled onto the front of the Dyke Delta. The completed model weighed in at six grams, including the rubber motor. The 12-inch motor was inserted into the fuselage, using a loading stick.

The reflex part of the wing was set to follow the airfoil curve on the bottom of the wing.

FLYING

The model needs about three degrees downthrust and a small amount of clay on the left wingtip to make the model turn left.

Start with about 600 turns. Wind with the prop off. Holding this plane to launch is a bit tricky. I found the most natural place to hold the model is by placing the thumb and index finger around the nosewheel struts, just under the fuselage.

After the Dyke begins to climb and turn left smoothly, increase the turns to about 1200. The model should climb to about 20 feet and fly for 35 to 45 seconds. The only problem with the left turn pattern is that the model straightens out at the end of the flight (the torque force relaxes) and comes down in a straight line. If the Dyke comes down with no turns left in the motor, the motor is too short. My models power up and power down.

I can't wait to build the Dyke up in size to 22-inch span. That works out to 1"=1' scale.

You'll have a lot of fun building and flying your Dyke Delta. Let me know how you do with it. Store your model in a box for safe keeping. Most tropical fish stores will give or sell you a plastic box used to ship fish. The box measures about 18 by 18 by 12 inches. The model fits nicely in this type of box.