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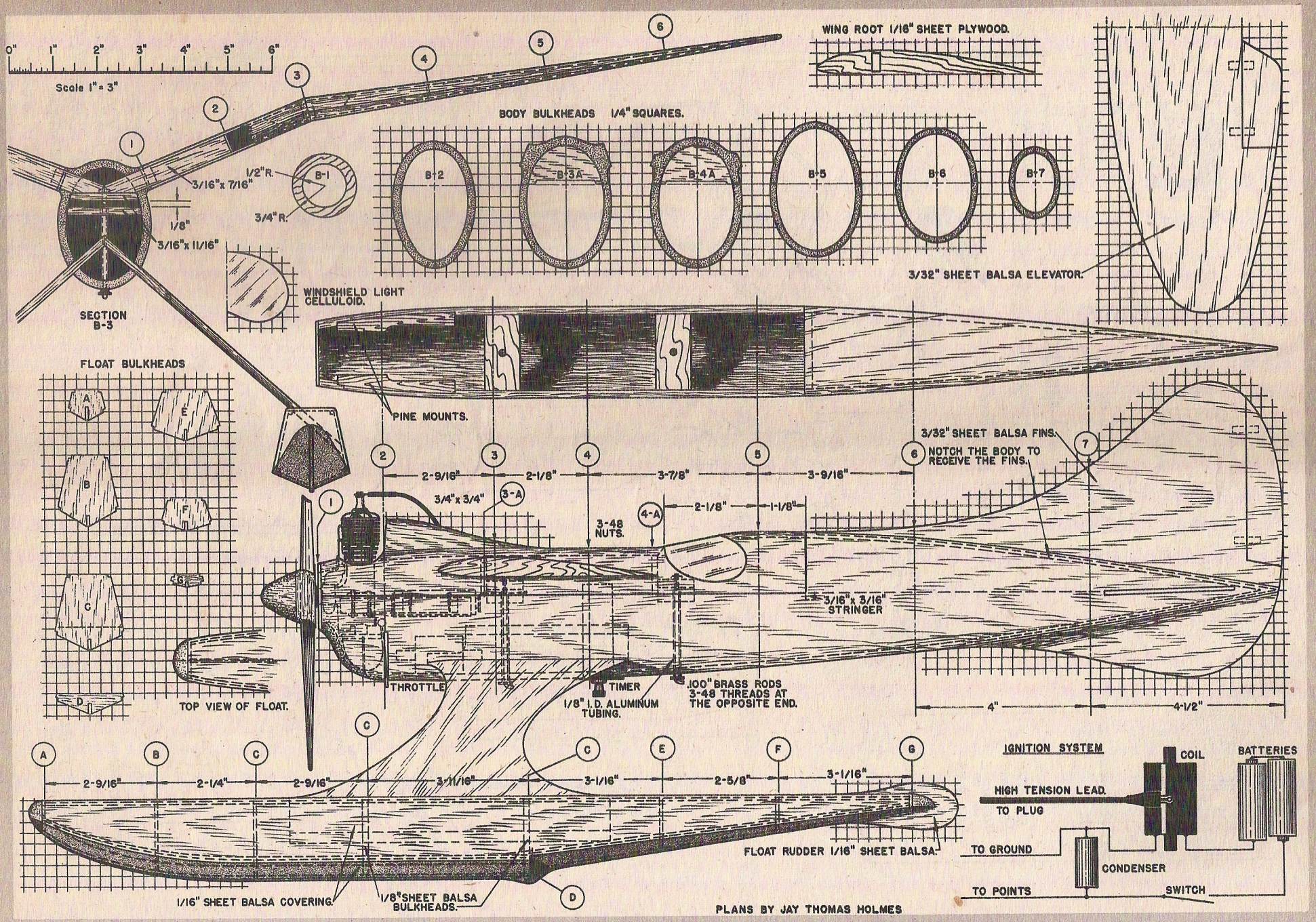
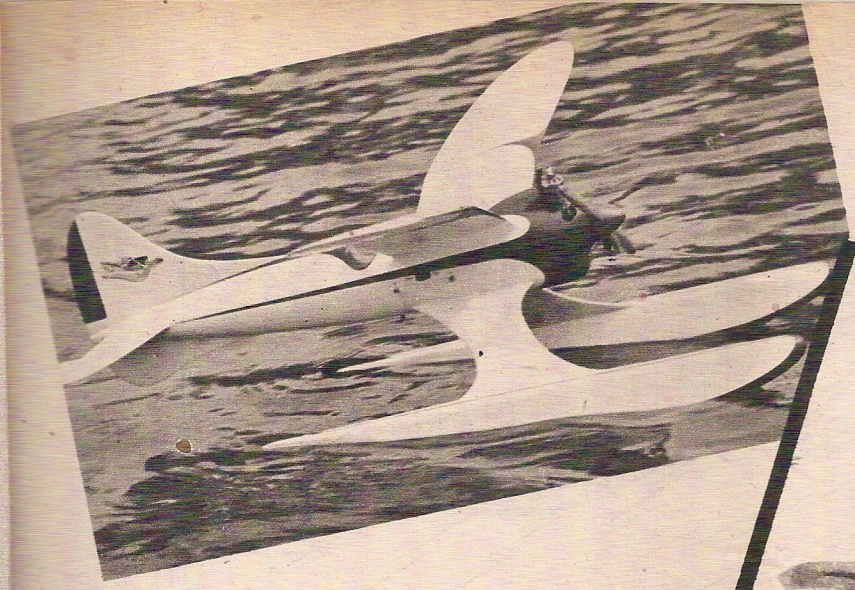

0" 1" 2" 3" 4" 5" 6"
Scale 1" = 3"
WING ROOT 1/16" SHEET PLYWOOD.
BODY BULKHEADS 1/4" SQUARES.
B-1
B-2
B-3A
B-4A
B-5
B-6
B-7
1/2" R.
3/4" R.
3/16" x 7/16"
1/8"
3/16" x 11/16"
SECTION B-3
WINDSHIELD LIGHT CELLULOID.
3/32" SHEET BALSA ELEVATOR.
PINE MOUNTS.
FLOAT BULKHEADS
TOP VIEW OF FLOAT.
3/32" SHEET BALSA FINS.
NOTCH THE BODY TO RECEIVE THE FINS.
2-9/16"
2-1/8"
3-7/8"
3-9/16"
3/4" x 3/4"
3-48 NUTS.
2-1/8"
1-1/8"
3/16" x 3/16" STRINGER
THROTTLE
TIMER
1/8" I.D. ALUMINUM TUBING.
.100" BRASS RODS 3-48 THREADS AT THE OPPOSITE END.
4"
4-1/2"
2-9/16"
2-1/4"
2-9/16"
3-11/16"
3-1/16"
2-5/8"
3-1/16"
FLOAT RUDDER 1/16" SHEET BALSA.
1/16" SHEET BALSA COVERING.
1/8" SHEET BALSA BULKHEADS.
PLANS BY JAY THOMAS HOLMES
IGNITION SYSTEM
COIL
BATTERIES
HIGH TENSION LEAD.
TO PLUG
TO GROUND
CONDENSER
TO POINTS
SWITCH



THE SWOOSE

by CAPT. A. STOLZENBERGER

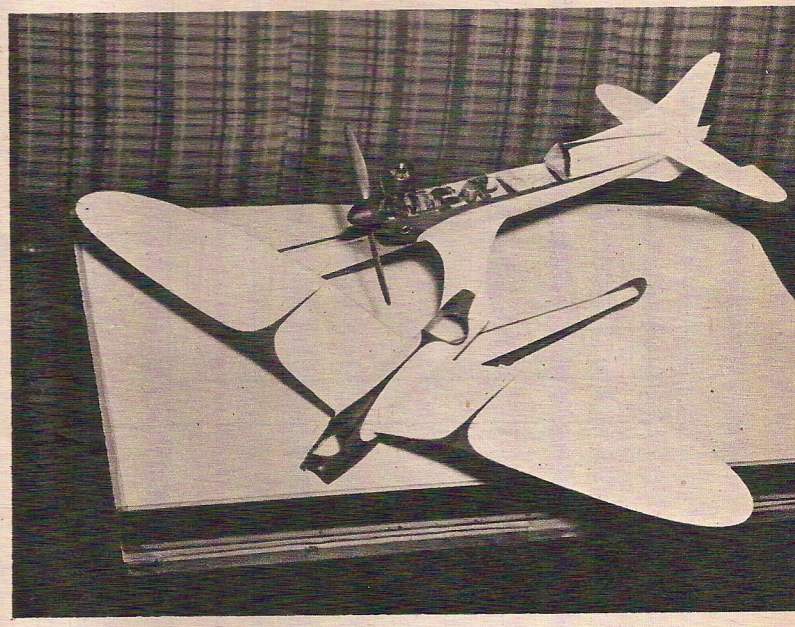
THOSE of you who have built and flown control line models no doubt have at some time held such a model in a free flight launching attitude anticipating what would happen if you were to let it go. Well, if the model were properly trimmed about all three axes a spectacular flight should be expected; but, oh my aching back—the landing! Yes, just the thought is reason enough to harness that impulse unless it's an old model and you don't mind bending down more than once to pick it up after the first landing.

The free flight model presented here is similar to a control line model insofar as construction, weight and performance are concerned; however, its landing characteristics are much different from what would be expected from a control line model in free flight. The exceptionally clean lines, flat glide angle, and the fact that water landings eliminate the high impact and concentrated loads normally encountered with the high wing loaded wheel models, presents a model that introduces a different class of free flight job that may appeal to those interested in a fast flying smashproof ship. The author is not necessarily an exponent of speed models but is more interested in the smashproof feature, aerodynamic cleanliness, simplified construction, and is really an enthusiast about water flying—full scale or otherwise.

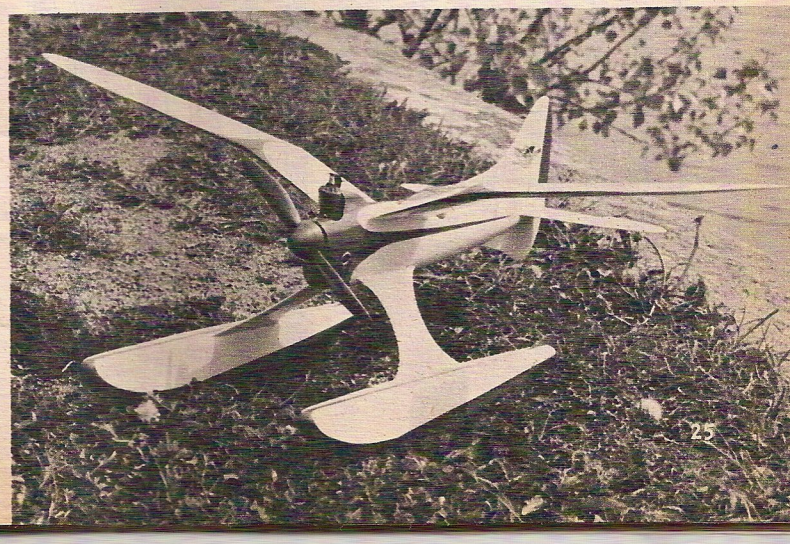
Model builders who have successfully built and flown seaplane models will no doubt agree that the landlubber is passing up an experience worth much more than the price of admission. So if you care to experience something really different in model building and flying, get out your pins and razor blades—I promise you will be in for more than just wet feet with this model.

This configuration does not adhere to any particular design or class but was worked out as a practical fast, free flight float model based on the author's past experience with this type. Don't let the rigid full cantilever construction frighten you; after all our airport is made of H^2O which is still soft at model speeds. This model has entered the water at angles over 45° and suffered no more damage than a wet sparkplug and points. In crosswind or single float landings there is ample resiliency in the hard balsa float struts to insure against damage, and then too with the high gull wing there is little danger of snagging a wing tip. Even if the model does go over on its back, it is safe to assume that no damage other than wet batteries and water in the fuel will result, and then after a quick change the model should be all set to go again. Incidentally, you need not carry

(*Turn to page* 43)



This beautiful twin-float seaplane was designed to fly like a real airplane, not a skyrocket, and to make realistic landings and takeoffs



it home on top of the family car, or on your back if necessary. When you get the ungainly thing inside, stand it on edge and get out the yardstick. Measure off space for each of your planes inside the box, spacing them as closely together as possible to be sure of getting everything in. With everything marked off, punch holes in the sides of the box and run strings through from side to side to serve as cradles.

The wings and fuselage of larger models should be stored separately, but smaller models may be supported sideways with wings on, cradled on two lengths of string, one under the nose and one under the tail near the stabilizer. Long sheets and strips of balsa and other building materials may be kept in the bottom of the box.

When the ends are closed and the whole set away in the attic or a spare room, your models and supplies will be kept neatly together ready for instant use where they will not collect dust, fade in color or be damaged by baby brother or the family cat. A good spot for the mattress-box kimono is in the attic at the top of the stairs, arranged so that you can stand on the stair and reach anything inside.

The Swoose

(*Continued from page* 25)

spare props with you when flying this ship, that item of upkeep is completely eliminated no matter how the model comes in.

During takeoff, below the hump speed, the *Swoose* trims by stern and kicks up a sizable spray. As the speed increases she rises up out of the water onto the step with little effort and without any indication of porpoising. At this time the *Swoose* looks very much like a full scale ship for she skims along on the step for a considerable run before breaking water, and once in the air she picks up speed like a trophy cup racer and looks the part too. After takeoff, when properly trimmed, the *Swoose* does not zoom up and hang on her prop but climbs at a shallow angle and at a good clip. In the air she is very stable and is not greatly affected by slight winds. When the engine quits there is no noticeable change in trim and the *Swoose* slowly settles down in a fast flat glide. Upon contact with the water the long toed floats kick the nose up immediately at which time she will ride along high out of the water for a surprisingly long run before settling in.

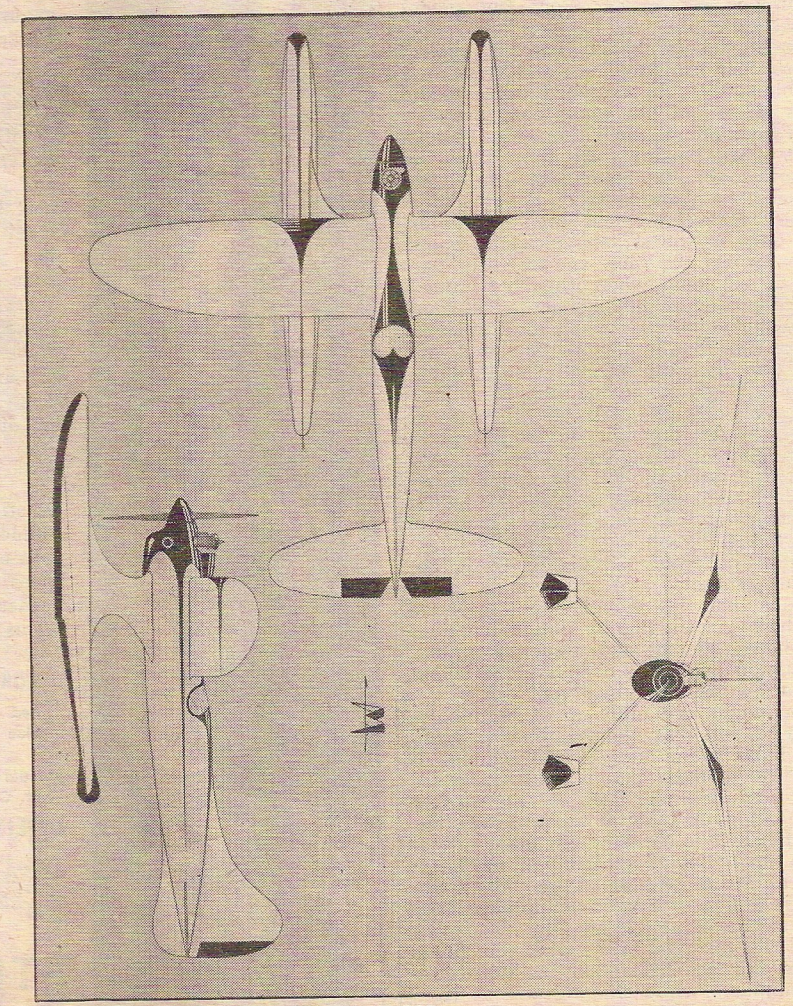
Since the accompanying drawings are self-explanatory and since it is quite obvious that this model is not intended for the beginner, step by step instructions will be omitted here; however, a general discussion about the design, construction and a few hints may prove of value.

The wings are built up of hard balsa and ribs, soft balsa intermediate ribs and soft balsa skin. The skin thickness is 1/16" during construction and then sanded from slightly under 1/16" at the leading edge to almost 1/32" at the trailing edge. The fuselage is carved from medium soft balsa and hollowed out to a wall thickness of 3/16" from the nose to the cockpit enclosure and then tapered to approximately 1/8" thickness at the aft end. The plywood ribs fastened at the wing root fillets on the fuselage before carving will serve as templates while shaping and as rigid supporting members for securing the wing to the fuselage during final assembly. The stabilizer, vertical fins and dorsal are cut from medium soft balsa 3/32" thick and sanded to 1/32" at the edges. The rudder

and elevators are soft balsa 3/32" thick and hinged to the supporting surfaces with .010" soft aluminum hinges. The floats are built up of 1/16" hard sheet balsa for the bottoms, 1/16" medium soft balsa sides and 1/16" soft balsa decks. The keels and chines are hard balsa. Bulkheads are medium soft balsa with the exception of the very hard bulkheads straddled by the float struts. A 1/16" square hardwood outer keel and 1/16" hardwood skeg at the step will protect the bottom during ground handling. Stern fins are 1/16" hard balsa. The float struts are 3/16" thick, very hard balsa sanded round at the leading and trailing edges. If this size balsa is not available the struts may be built up to the proper width with narrow sheets. The sheets should be scarfed on the ends with at least a 5 to 1 taper and pressure glued with a resin base glue, such as *Plascon*.

The engine installation, wiring details and equipment installation will be left up to the individual depending on the engine to be used. The *Atom* was used by the author because of size and weight limitations of the model during the design stages; however, after flying the *Swoose* the author feels reasonably safe in advising any good Class A engine. If an engine other than the *Atom* is used the builder must fair the fuselage nose contours to suit the installation. It will also be necessary in any event to check and balance the model before final installation of engine accessories. The c.g. should be located 1-5/8" back from the leading edge of the wing root. This c.g. location should be held to a tolerance of 1/8" to insure proper static balance as well as to guarantee good hydrodynamic characteristics. Besides affecting stability in flight, a slight change in the c.g. location may cause porpoising during takeoff and/or possibly prevent takeoff entirely; therefore it is imperative that the wing, the c.g. and the floats, especially the step, bear the same relative locations, as shown. Great care should be exercised at final assembly in regard to rigging. It should be noted that the angle of thrust, float angle and wing incidence are all set at 0° or parallel. This alignment with the stabilizer setting of -1.5° should be maintained to insure against dynamic instability both in the air and on the water.

It is an accepted fact that about 75% of engine trouble is usually due to a faulty ignition system. Well, I can assure you that a faulty ignition system in the *Swoose* will raise that 75% to about 99% and you will probably spend 99% of your time drying things out or else, after the first bad landing, you will give up trying to fly again that day.* If your ignition system is airtight it will be watertight, so glue everything down securely and go over the entire wiring and all accessories with several coats of thick dope or lacquer. The battery terminals, spark-plug and points will naturally have to be left open; however, they will be accessible and easily wiped dry. Another



THE SWOOSE

SPAN	31 in.	WING AREA	.95 ft.²
LENGTH OVERALL	29 in.	STABILIZER AREA, INCL. ELEV.	.31 ft.²
FLOAT LENGTH	22¾ in.	FIN AREA, INCL. RUD.	.19 ft.²
BEAM	1¾ in.	WING INCIDENCE	0°
		STABILIZER INCIDENCE	—1.5°
		DIHEDRAL, OUTER PANEL	14°
		DIHEDRAL AT GULL	23°
		THRUST ANGLE	0°

precaution against dampness is to go over the entire model, inside and out, before flying, with a thin coat of polishing wax.

In order to trim the *Swoose* for flight it will be necessary to make several power-off hand launchings onto the water. Do not attempt this on a calm day unless you have a well-controlled right arm. You will find that it will take a smart thrust into a moderate breeze to determine when the model is properly trimmed. Be sure to choose a large enough body of water in which to make the first flights, for if the model is not properly trimmed to fly in circles you may run out of airport in short order and no telling what might happen if this hot rock lands on terra firma.

*Those builders who have or can borrow a Class A Diesel engine will have an ideal powerplant for this model since there is no ignition system to give trouble after a "dunking."—Ed.

West Coast Tips

(*Continued from page* 10)

may need their protection again some time. In case he forgets it again, though, the Southern California Gas Modelers Congress is setting up to impress on the cities the need for model parks and centers where the boys can fly to their heart's content.

* * *

For the benefit of those racing U-control fans who as yet have not been initiated into the mysteries of pylon flying for record trials, let us dispel all the gloom.

In the first place, Westerners, remember that this infernal device was developed by Easterners who thought that by its use speeds on the West Coast could be pulled down to where the Eastern boys were working. In other words, they figured that use of a pylon would stop whipping and towing. They didn't stop to realize that you have to stop whipping and have to start just hanging on for dear life whenever these doggoned two-cycle streaks of lightning start to go over 120 or 125 mph. Believe it or not, they still think our speed records are the result of muscles and not science, etc.

So they develop the pylon. Well, brethren, if you would ever hope to see a more perfect legal towing device than a pylon, we don't know where you would look. Now, maybe their speeds will come up to ours if we don't use the "ole pylon." Is everybody happy?

* * *

Since this seems to be our debunking column, we would like to stir up some more fuss—on the subject of fishing swivels for control lines.

Some of Southern California's best known and most respected control line fliers—men with lots of experience under their belt—will look you straight in the eye and tell you that a three pound model will tear apart a fishing swivel that is designed to land a marlin or swordfish, to say nothing of the fighting tarpon, or barracuda.

It always makes me wonder if any of these fellows have ever been fishing. Why, the smallest swivel used by modelers would land a 50 lb. albacore, and we personally defy any model to exert one-fifth the strain that an albacore continually keeps on the line from the moment he hits. Yet, not only these small swivels, but also the heavy duty swivels for tuna and sharks are barred from control line flying. Now, we are not trying to change the rules because these experts are right from the standpoint of making model builders safety conscious; but why ban something that could be improved to specifications set up by the experts themselves? A swivel is a mighty convenient gadget to have on a set of lines after somebody has just strolled through them. Instead of barring swivels, let's get the swivel manufacturers to make one that will have the confidence of the experts and everybody will be happy.

* * *

Announcements will soon be made concerning professional control line racing for prize money as a commercial enterprise. It is planned to conduct the races along the lines of a midget auto race—qualifying runs, speed trials and the works. Entries will be built to either 1½" to the foot or 2" to the foot scale models of Thompson and Greve Trophy racers. Engines must be cowled completely except for spark plug. Planes will be flown on 93 foot lines. The program will be qualifying runs of 25 laps each, two entries at a time until all entries are either qualified or disqualified, with a minimum speed of 70 mph. as qualifying speeds. In the feature race, inverted starts will be used—that is, the slowest planes in front of the faster planes. This is team flying with a vengeance. Each plane will have a fuel limit of five ounces requiring it to land for refueling several times during the race.

Five hundred dollars has been set as the first prize in the feature, with lap prizes and other standard racing awards added. More information including the actual rules will be available in this column next month.