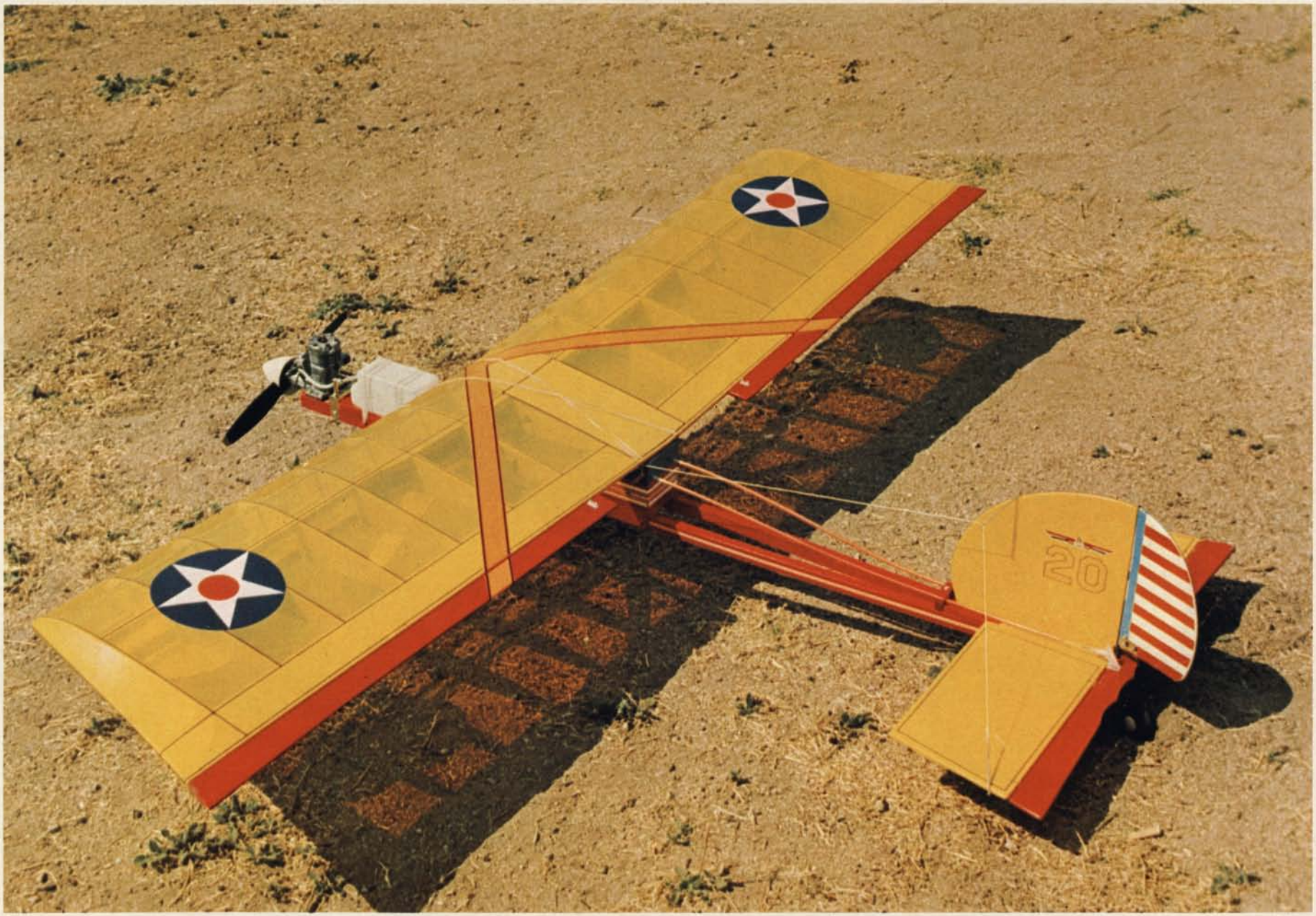
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Obviously, R/C Modeler Magazine cannot build and test fly every aircraft we present as a construction article. As a matter of fact, we actually build approximately one out of every five that we present and spot check for accuracy on the others. In the case of the Kwik-Stick, we were so intrigued by the simplicity of the design that we actually built three of them – one .15 powered version with a Junior Box Fly wing and two .60 powered versions using Ugly-Stik wings. The total length of time that it took to cut out the fuselage and tail parts and to assemble each aircraft was one hour!

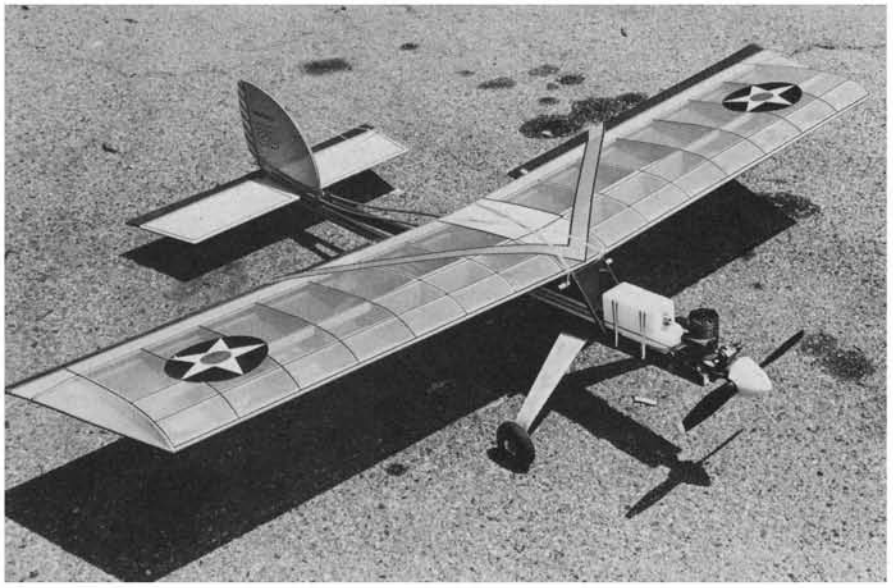
Thus, for an hours worth of work, about two or three dollars worth of material from the local building supply or lumber yard, you can build up several fuselages to fit those spare wings you have left over from deceased aircraft. And, you're going to be extremely surprised by how well the Kwik-Stick flies! The .15 powered version spins like a top, either upright or inverted, snap rolls instantly simply by pulling the stick down in the corner, and will recover from any attitude you put it in by simply taking your hands off the transmitter. While the smaller version is not a pure basic trainer, it is an excellent sport ship that is relatively easy to fly. Take-offs and landings are virtually hands off.

The larger Kwik-Stick with an

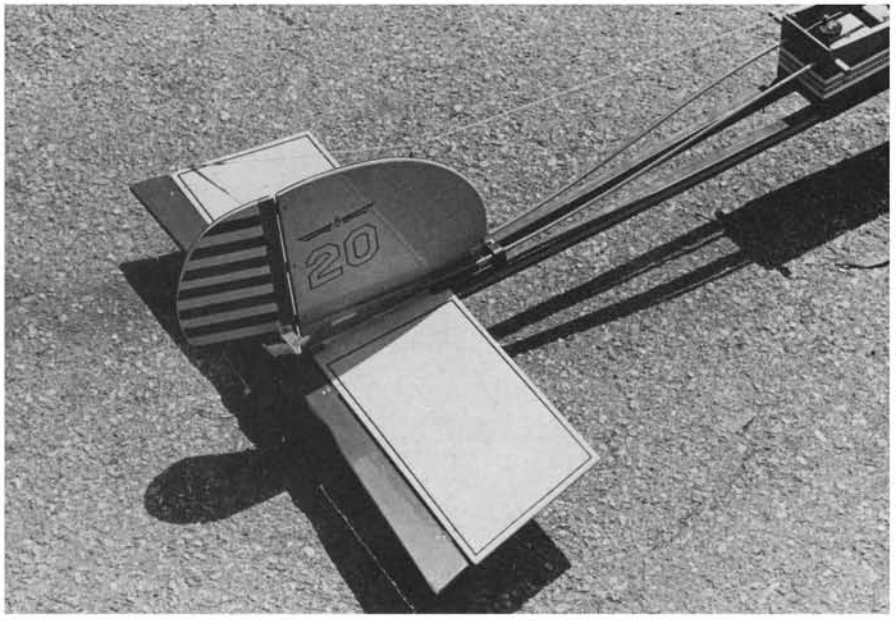
BY GEORGE CHABOT

RCM PHOTOS BY RITA LORD

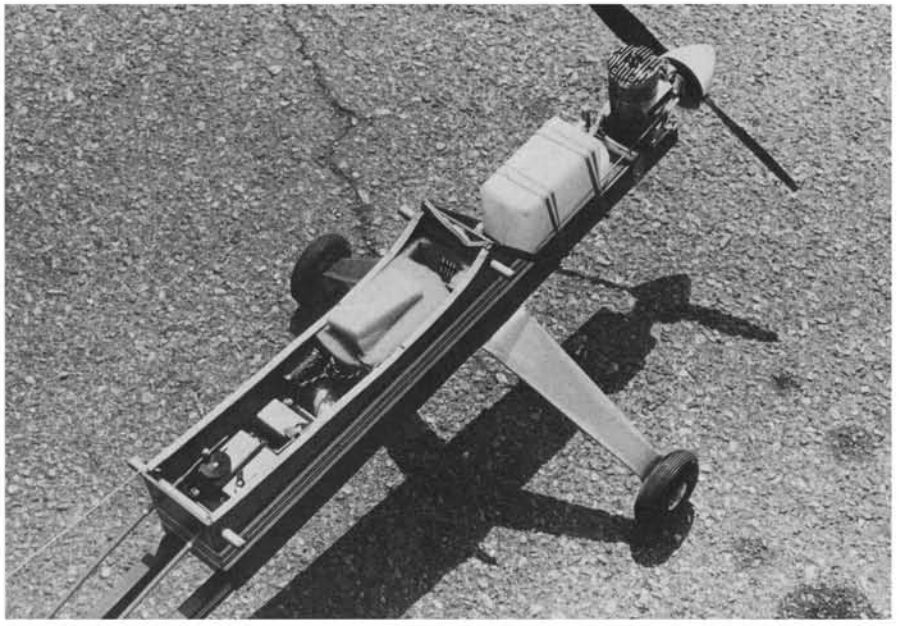
KWIK-STICK



This Kwik-Stick uses an Ugly-Stik wing covered with Super MonoKote and trimmed with DJ's Multi-Stripe, 3/16" sheet tail surfaces, .60 engine, Kraft-Hayes tank, and large dural gear. Quick and easy to build, and a ball to fly.



All sheet tail surfaces are held in place with two screws and a plywood clamp-alignment guide. BELOW: View of the radio installation.



Ugly-Stik wing is pure joy to fly. With everything out in the open where you can get at it, there is no wasted time taking your aircraft apart in order to get at the fuel tank or engine. Clean up and repair is a breeze. And, the flying characteristics are truly outstanding, retaining all of the flight characteristics of the original Ugly-Stik. Using a Lanier, Johnny Casburn 'Big Tex,' or other foam wing, the wing loading is slightly increased and the landing speed goes up ever so slightly.

You'll enjoy the Kwik-Stick – one of the fastest aircraft you can build and one that will give you many months of flying pleasure.

. . . . Don Dewey

I would like to say that the Kwik-Stick is the final result of thousands of hours of testing in the lab and wind tunnel and then numerous actual research test flights, culminating in many first place contest wins throughout the nation.

I would like to – but I can't – it just didn't happen that way.

The Kwik-Stick came into being due to the constant nagging and complaining by my modeling pal, Jim Barnes. Every time he had a bad crash with an airplane that represented more than two weeks building time, I noticed some suicidal tendencies, preceded by threats to sell all his modeling gear and take up golf. He kept saying, while picking servos out of smashed balsa and good old Mother Earth, quote: "There has got to be a quicker way, George." Unquote. So thinking back to 'U-Control' days, remembering Dennymites and Orwicks on ignition, gasoline and S.A.E. 70 oil, I vaguely remembered the stick type of trainer we used to build when we wanted to get in the air in a hurry, and thought that this concept might be applied to RC models.

The Kwik-Stick can be built in what I think is the least amount of time, compared to anything else available at the present time. It uses inexpensive materials available at most building supply stores or lumber yards, e.g., white pine, 1/8" shop grade plywood, a few sheet metal screws, plus a small amount of sheet balsa for the tail surface, an Ugly-Stick wing, or any other suitable wing of approximately 600 square inches in area. (We have found the Lanier wing to be very good, and they are readily available.) The fuel tank, being out in the open, eliminates the need for hooking up vents and fillers in impossible-to-reach

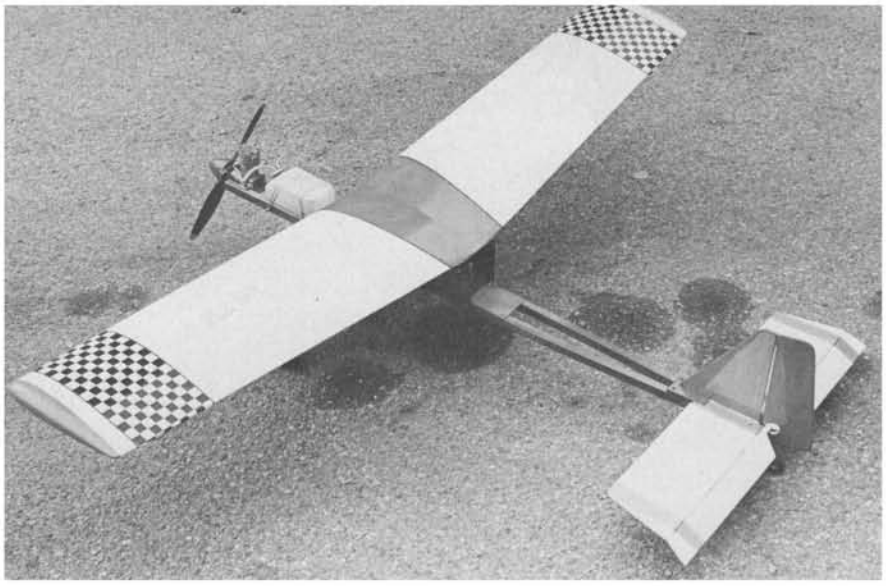
areas. In addition, there is no motor mount to buy or mount, as the main longerons serve as the motor mount. The complete tail assembly is removable as a unit for repair, or replacement, by simply removing two screws. The wing is held on with rubber bands for simplicity.

I used an Ugly-Stik landing gear with 3" Du-Bro wheels, simply bolting the unit on to the bottom of the longerons with four 6/32 bolts. NyRods were used for the elevator and rudder pushrods mainly because they are quick and simple. The throttle rod is just 1/16" music wire in a straight run to the carburetor arm, with no support or guide needed. The fuel tank is held on with two No. 64 rubber bands with the throttle wire between them and the tank. Painting the fuselage was super simple - - - just hang it up in a handy location, shoot a couple of coats of clear dope on it, then a couple of coats of your favorite color or colors and let it dry. (Cover the tail with Mono-Kote or Solarfilm, or whatever), install your radio, screw on the tail, bolt down the engine, rubber band the wing on and go fly it. (P.S. Charge the batteries first!)

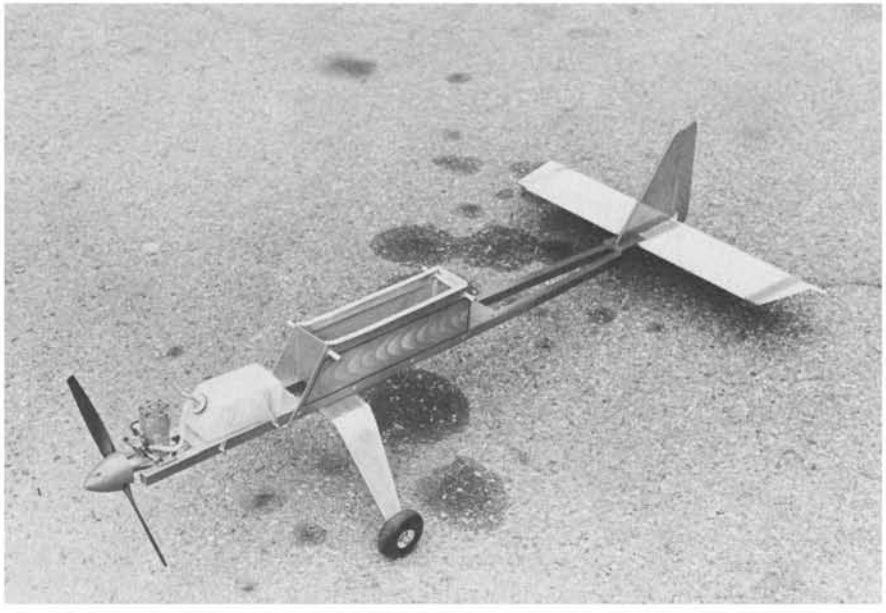
I hope this airplane will fill a gap that befalls all of us, mainly right after a crash, since you can build one of these in the time it normally takes to decide what to build next. Flying the Kwik-Stick is great, several proficient pilots have flown it, among them Dick Sonheim, Don Dewey, Dick Kidd, Jim Barnes, and Baron Von Thumbs, and all are in agreement that it just has no bad habits. In fact, it tracks straight down the runway on take-off, will not drop a wing in a stall, recovers from bad attitudes hands off, and it lands at about five mph with absolutely no snap-roll on final no matter how much you slow it down. It is an excellent small field airplane, as it will clear tall obstacles in a single bound. However, fortunately, it is not as fast as a speeding bullet.

If you follow the plans, this fuselage will come out perfectly straight without the use of a jig of any kind, and will fly right off the board, so to speak. On the very first flight the only trim change made whatsoever was just about 1/16" of up on the transmitter elevator trim lever.

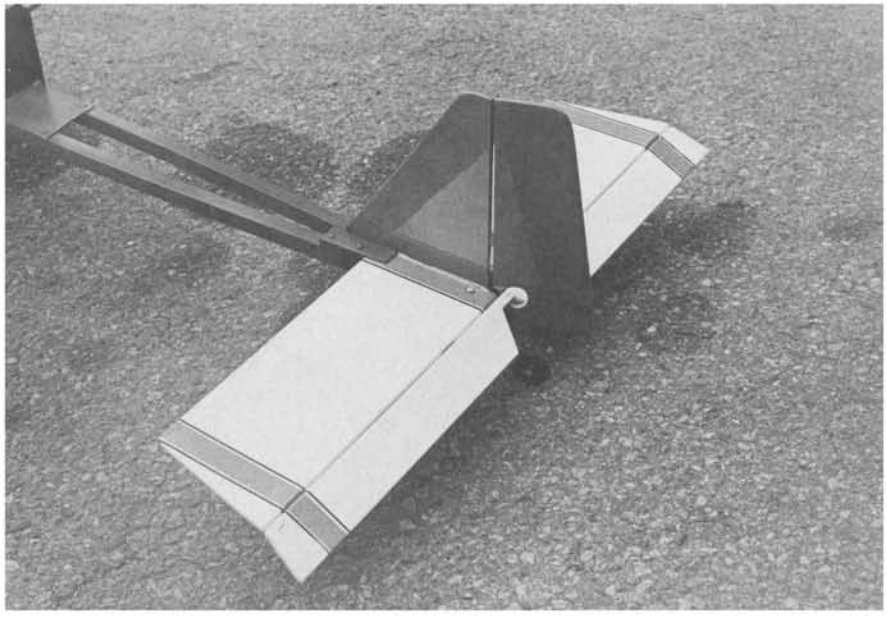
This article concerns itself only with the largest Kwik-Stick built, however, three smaller ones have been built; Number II used an OS Max .35 and a Sr. Box Fly wing; Number III used an OS Max .15 and Jr. Box Fly

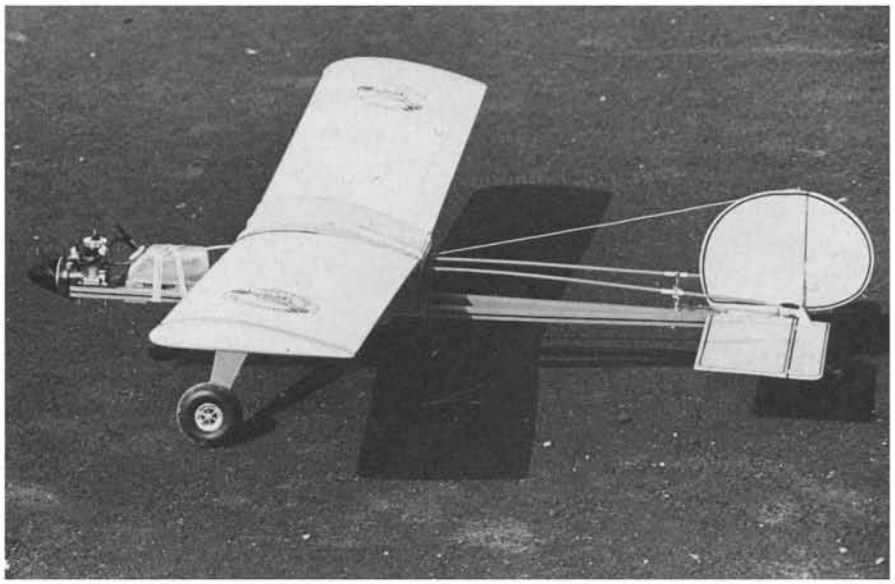


The Kwik-Stick II uses a Senior Box Fly plastic covered foam wing and O.S. .35 Gold 'N Rods not installed in this view.

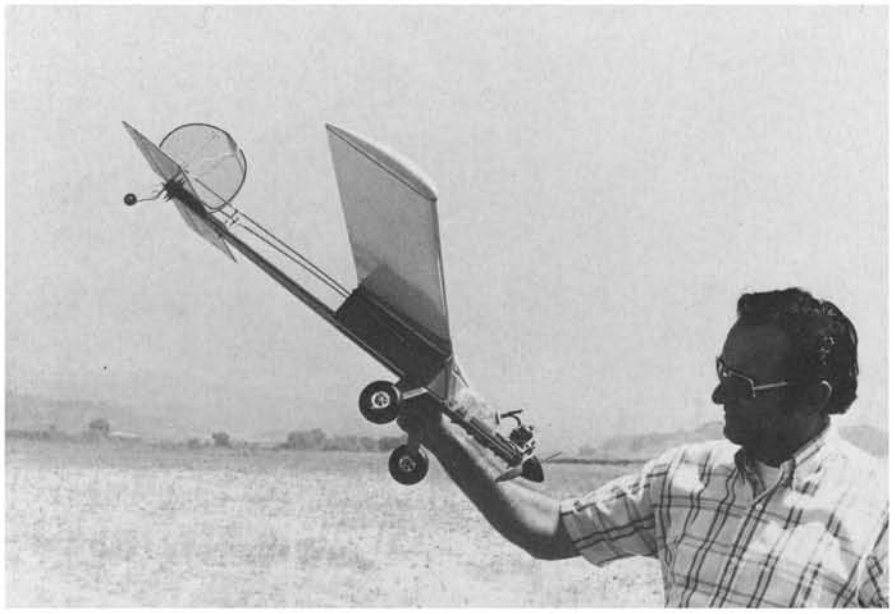


The basic Kwik-Stick fuselage can be used on any sized aircraft. BELOW: Close-up view of the Kwik Stick II empennage.

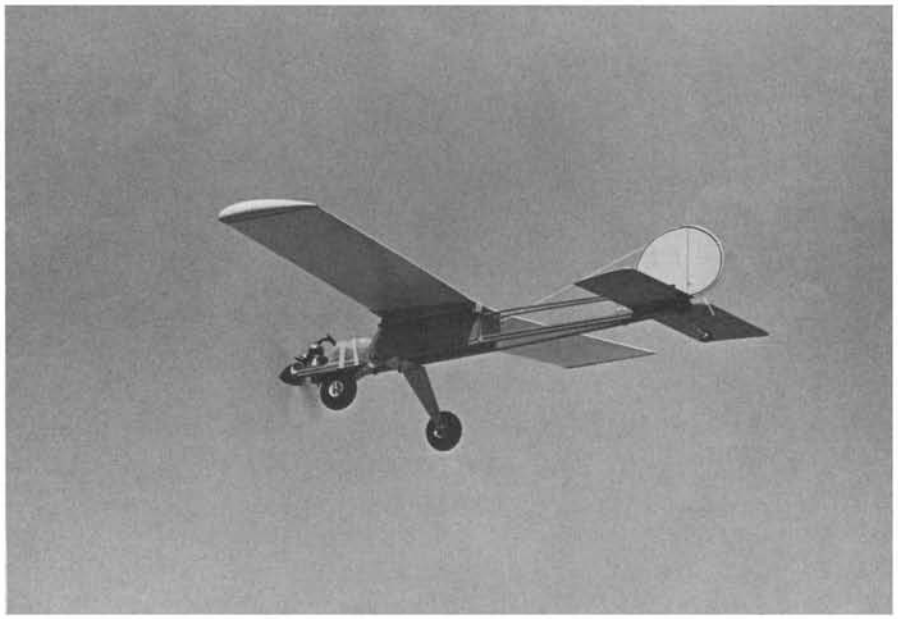




The Kwik-Stick III used a Jr. Box fly wing and O.S. .15 or .19. All-up weight, 3 pounds. Use innermost holes on short control horns for some real fun!



The author and Kwik-Stick III. BELOW: The .15 version in the air. Flat spins, tight axial spins, snap rolls a breeze. Photos on this page by Dick Sonheim.



wing; and Number IV, the Mini-Stik, used a Cox Golden Bee and an Ace foam wing, as used in the Upstart kit. Numbers II and III used rudder, elevator and throttle while the .049 ship used rudder and elevator only. The latter, with two servos and four channel receiver, 500 MAH battery pack, only weighed 18¼ ounces, ready to fly! The largest and smallest ships use no down or side engine thrust, however, the .15 and .35 size ships required about 3/16" of washers under the rear engine mounting bolts to provide some down thrust. I think this is due to the use of the Box Fly wings, being flat bottom they evidently provide more lift, thus the need for some down thrust.

CONSTRUCTION

(1) Cut out all plywood parts, i.e., F-1, F-2, make two sides, one bottom, B-1, and one tail hold-down. The shape of the wing saddle will depend on the wing you choose so cut it to shape accordingly. Obtain two pieces of white pine or other suitable hardwood ½" x ¾" x 44½" long. These will be the main longerons, around which the fuselge will be constructed.

(2) Lay the two longerons on the bench with the ends, front and rear, flush. This is important in order to insure a straight fuselage later on. Glue and screw the bottom B-1, down to the longerons in the position shown on the plan. Glue and screw the sides to the sides of the longerons placing the rear of the sides even with the rear of the bottom. Now, using 5 minute epoxy, install bulkheads F-1 and F-2 at the front and rear of the radio box.

(3) Now pull the rear of the longerons together, drill a 1/8" hole 1-1/8" in from the rear, centered up and down on the longerons; put a dash of glue in-between, and bolt together with a 6/32 bolt. Now turn the fuselage upside down and drill four holes through the longerons and bolt the landing gear in place. Make sure the center of the axle is in line with the leading edge of the wing since, with the gear at this location, the ground handling is excellent. The tail wheel bracket is just brass tubing epoxied in a hole drilled at the rear of the fuselage, with 3/32" music wire running up to the rudder. A 1¼" diameter wheel is used for a tail wheel. I have found, on large airplanes, that a 3/32" tail wheel wire is less prone to breakage than 1/16" wire. Do not mount the engine yet. I mount it after the

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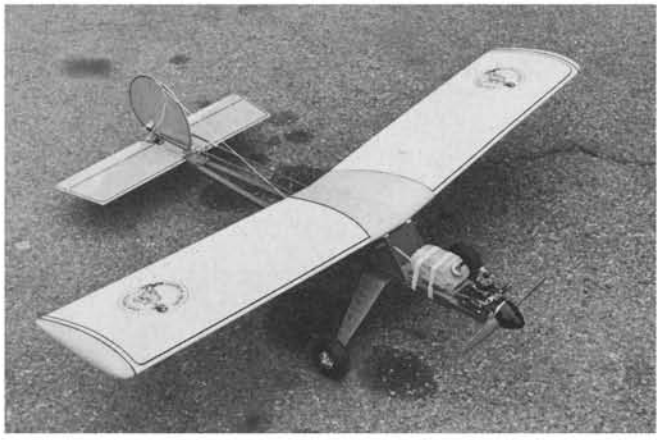

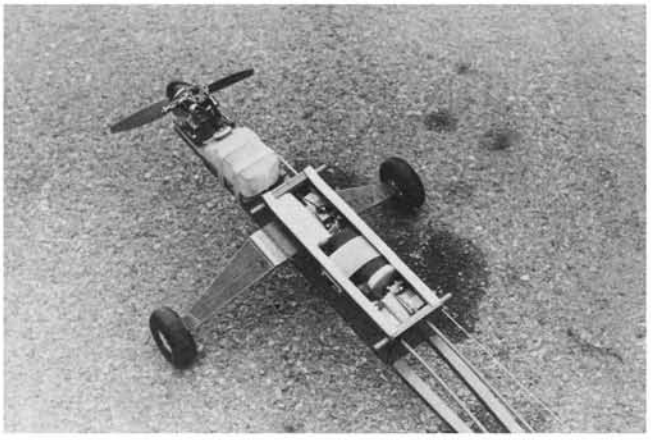

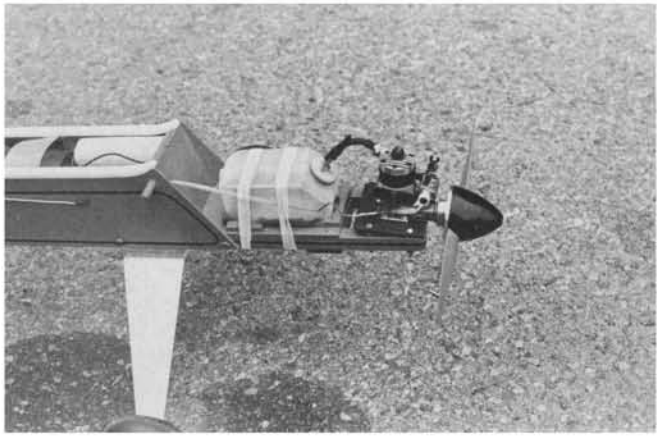

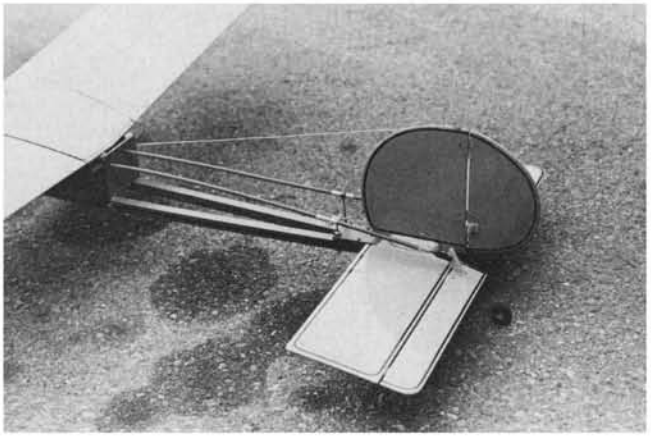

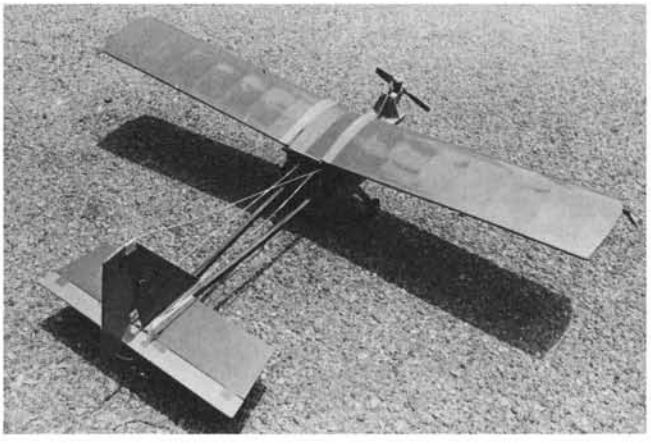

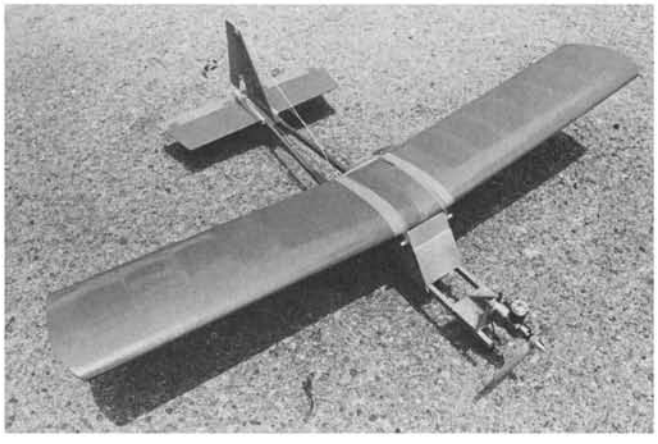

TOP ROW: The O.S. .15 powered Kwik-Stick III. Note radio installation with battery pack and throttle servo in front of compartment. If tail heavy, build ply battery box under fuel tank. SECOND ROW: Close-up of fuel tank and O.S. .15 installation. Note down thrust due to high lift flat bottomed wing. Tail surfaces are of simple sheet balsa construction. ABOVE: The Kwik-Sticks are virtually STOL aircraft, can also be hovered in 10 mph head wind. ABOVE, RIGHT: Kwik-Stick IV uses Ace foam wing with foam cut out to make "foam ribs." Golden Bee .049 used. LEFT: Engine installation in Kwik-Stick IV.

KWIK-STICK

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radio is installed so that the engine can be moved forward or back to aid in balancing the ship.

(4) The horizontal stabilizer, vertical fin, elevator, and rudder are cut from 3/16" balsa sheet, using the Ugly- Stik configuration. If you have an old Ugly-Stik you can use these parts from it; if not, take the dimensions from the plan and cut out the needed parts. Draw a center line on the horizontal stab and epoxy the vertical fin right on this centerline. Cover these parts with your favorite material - - - I used MonoKote on this ship and Flite-Kote on the little ship since the latter seemed to be a bit lighter, however, any of these materials are suitable. Do not be concerned about the ship being tail heavy because of the solid sheet tail surface. I had to add only about 1½ ounces of weight to the nose to balance it, and the all up weight was only 5 pounds, 8 ounces, ready-to-fly. One of the 'plus' factors of this airplane is being able to remove the complete tail unit for repair by removing only two screws. This is made possible by keying the tail unit in-between and under a 'U' shaped piece of plywood, spaced up from the longerons at the leading edge of the horizontal stab, with a piece of 3/16" balsa between the plywood and the longerons. (See the plans for size of these pieces and how it works.) Be sure to trammel the horizontal stabilizer before cutting out the 'U' shaped plywood piece, if you do this the tail unit will be in perfect alignment and will go back on straight if you should have to remove it for repair.

(5) Paint the fuselage with your favorite method, screw on the tail unit, mount your radio gear and place the engine in the mounting area, shift it to achieve the proper balance, and then mount it using four 6/32 bolts. The C.G. is shown on the plans so make sure to balance it as shown.

(6) Charge batteries, load the plane and other stuff in the car, go to the flying field and have a ball. Good luck.