

OHMSICK ANGEL

By RANDY WRISLEY . . . Crowded flying fields and high modeling costs getting you down? This distinctive looking free-flight-with-a-radio-in-it may be just what you need. Uses Astro 02 electric, 1 or 2 channels.

• It's Sunday morning at the flying field. Beautiful day, must be 50 people here! As usual, the pattern boys are doing 90 mph maneuvers up and down the runway. The club scale buff in the next pit is busy tuning his Quadra-powered B-24 prior to a flight. Admitted all the din and confusion you realize there are only nine people waiting to fly on your frequency . . .

Sound like your situation? If so, an Ohmsick Angel may be your ticket out. Electric flight is quiet, so quiet you can now fly in the local schoolyard! No noise, no crowds, no mess. Even if you can only fly at the club field, you can usually fly before the gas models are allowed to start.

Once you make the investment for the motor, batteries, and charger, that's all you buy. No more fuel, glow plugs, or mufflers, ever. I saved even more by not buying a fancy \$50 charger. All you have to do is modify an Astro Flight auto charge cord by adding a second connector in series with the first. Now you can charge two 4.8-volt packs at the same time. Since you don't have an automatic shut-off, watch the time closely; 15 minutes is the limit.

As for the aircraft, it's a simple sport free-flight type with a two-channel Cannon radio to keep it from flying away. The design traces its origin back to the early PAA-load models of yesterday. It weighs 15.5 ounces ready to fly and has a wing loading of 9.5 ounces per square foot. The powerplant is an Astro Flight 020 R/C system. Don't let the large lifting stab scare you; I believe in making all the surfaces work. By moving the C.G. aft, and making the stab lift instead of just stabilize, you get better performance.

In keeping the model simple, I did not provide for a whole lot of battery cooling. After a six to seven minute flight, I let my batteries cool on the ground before recharging. I've shown an air-scoop on the plane if you feel it is necessary. Long thermal flights with the prop freewheeling will cause the batteries to get hot, too. An internal on-off

switch rigged to the elevator would be a welcome addition. Now, if you're ready, let's get down to the nuts and volts of construction . . .

FUSELAGE

Cut two identical sides from firm 1/16 balsa. Using Super Jet or the like, install the 1/64 plywood doublers front and rear. Build formers No. 2 and 3 on the plan. While they dry, glue the remaining square and triangle stock to the sides. Pull the tail together and cement formers No. 2 and 3 in place. Cut the 1/8 square cross-pieces to size and install them aft of the cabin. The best way to cut the holes in former No. 1 and the motor mount is to do it before you cut the pieces to size. Plank the top of the fuselage with 1/16 sheet, applied cross-grain. Cut two each of cabin formers A and B from 3/32 balsa. Cement them in place and plank around them with soft 1/16 balsa to form the front and rear of the cabin. Make up and install the pushrods before you plank the bottom. Don't forget the belly hatch; it provides easy access to the motor batteries. Bend the landing gear from 1/16 music wire. The spacer is 1/16 ply, jetted in place to keep the gear from squeezing together under load. Williams Brothers 1-1/2 inch Vintage style wheels fit nicely.

Epoxy the spruce wing hold-down block in place, but don't add the landing gear dowels until the fuselage is covered. Cut a strip of 1/64 ply the width of your motor. Wrap it one time around the motor and cement. Epoxy the tube into the motor mount. Enlarge the hole in former No. 1 enough to slide the unit in place. The finished mount is held on with four small screws, which allows for thrust adjustment. Sand the fuselage smooth and set it aside.

WING

Make a template of the main wing rib. Cut 14 ribs from 1/16 balsa. The center section ribs have 1/16 of an inch trimmed from the top and bottom. Cut a blank that fits between the l.e. and t.e. at each tip rib section. Using your trusty template, slice the top off each blank to create the proper airfoil. Pin the l.e., t.e., and bottom spars down on the plan. Cement the ribs in place. The 1/8 square on the t.e. helps hold the ribs in place. When all is dry, raise the tips two inches

off the board and cement the polyhedral braces in position. Next, raise the in-board panels one inch and epoxy the center section brace in place. Install the spruce top spars. Epoxy the spruce wing hold-down block in place before you plank the center section. Add the remaining gussets and the tips before giving the wing a final sanding.

TAIL SURFACES

The stabilizer is a repeat of the wing, but smaller. The elevator is firm but light 1/16 balsa. Cut the fin and rudder from 3/32 sheet and round all but the bottom edges.

COVERING

Use plastic film for simplicity, or tissue and dope to save weight. Take care not to warp the structure with too much dope.

ASSEMBLY

Epoxy the stabilizer and fin in place. Hinge the control surface in place with sewing thread. Square the wing on the fuselage and drill the hole for the wing hold-down screw. Next, drill the 1/8-inch hole for the alignment dowel through the t.e. and clean into former B. Jet the dowel into place, then remove the wing. I used scraps of 1/32 ply for control horns. Mount the servos, then slide the rest of the components into place. Don't forget the motor battery! Slide the movable stuff around until the model balances at the rear spar. Mount the switches, charge the radio and get ready to go flyin'.

FLYING

Before you launch, are all the surfaces moving in the right direction? If so, bump in some left trim. That's right, left trim! Ohmsick Angel is a pylon model, and as such will want to turn to the right under power. Launch the model smartly into the wind. When flying speed is reached, add up trim until the model is climbing in large right-hand circles. Once you have the power pattern set, it will continue on with no further assistance from you. If it isn't too windy, give the transmitter to your ever faithful wife/girlfriend and tell her not to touch anything! Now you can sit back, relax, and just watch your Ohmsick Angel fly! Watch out for thermals, that's how the prototype got its name. Hope you get a charge out of flying yours! •