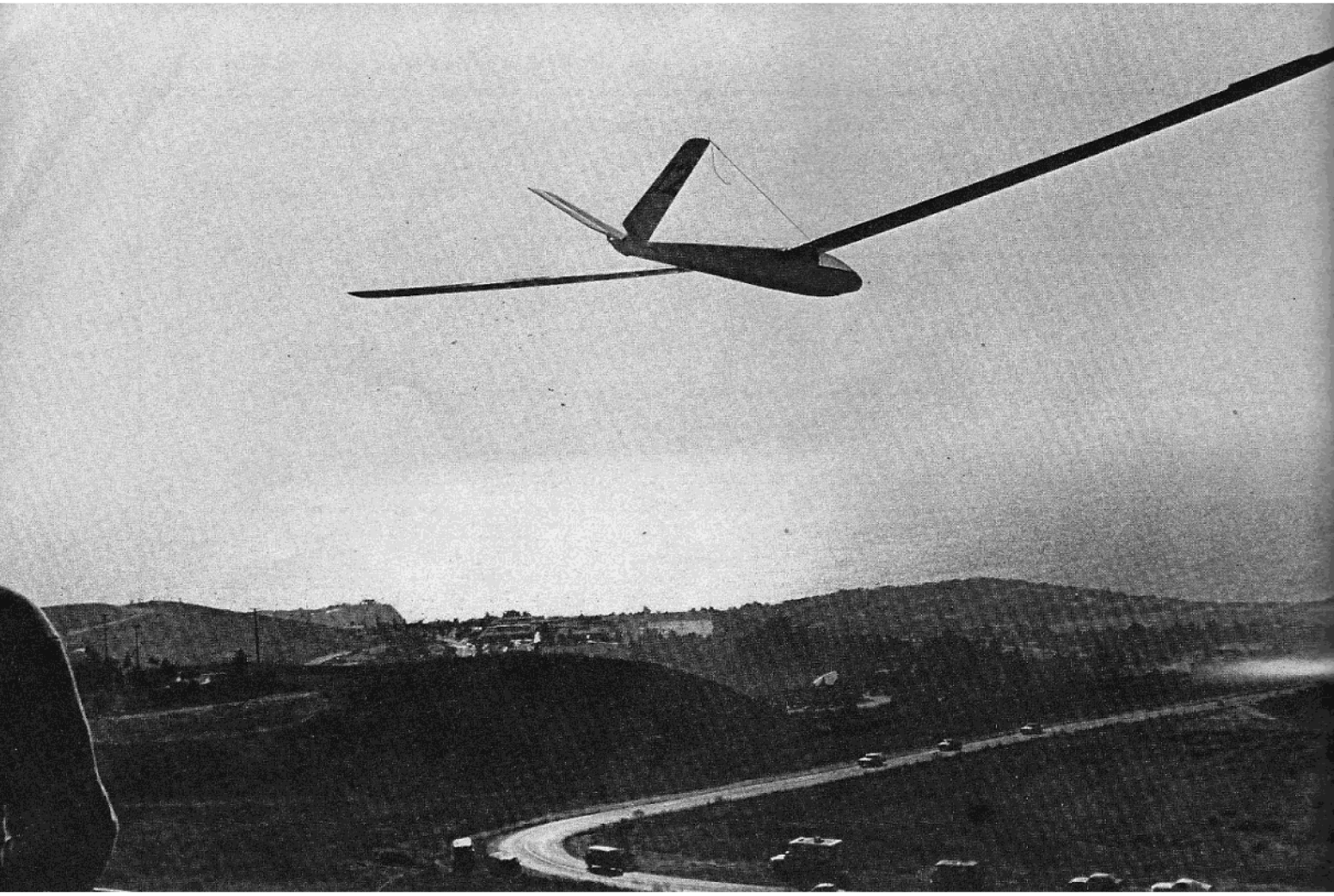


SPECIALIST 'V'

HIGH PERFORMANCE SAILPLANE DESIGNED FOR SPORT OR COMPETITION

BY KEVIN FLYNN

The first prototype of the Specialist V was built early in 1971 simply because I wanted something that looked different from the usual sailplane. The model also had to resemble a full-sized glider, one of my favorites being the HP-14. So, after numerous drawings and a few cold ones, or maybe the other way around, I arrived at the final design for the Specialist V.

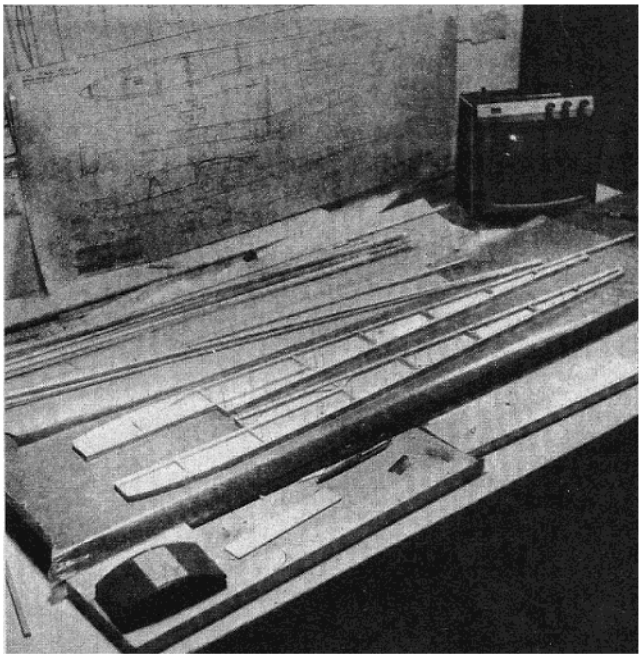
The prototypes have all flown quite well in light wind conditions, but really come to life in a strong breeze. Here are a few of its particular "do's and don'ts":

1) The glide is excellent.
2) It penetrates extremely well.
3) It can make about a 70 degree bank in a thermal without dropping its nose.
4) It can fly inverted!
5) It will almost roll . . .
6) It is extremely sensitive to elevator control so keep the movement to a minimum.
7) The rudders work normally and need maximum movement.

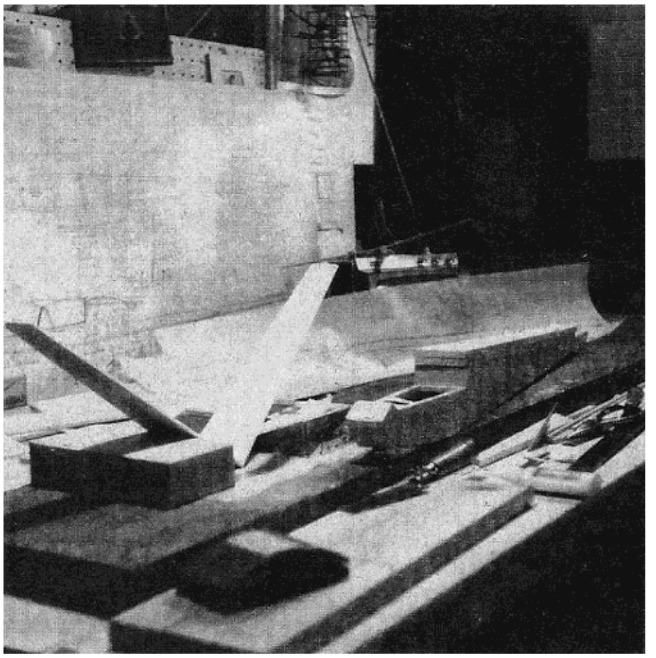
When I completed construction of the first prototype I found that the Specialist V was quite different for me. On the first flight I was banging the stick to every corner on the Kraft transmitter thinking that the model was unstable. What, in fact, had happened was that I had been flying my docile Blue Max sailplane for almost a year previously which was radically different compared to this high performance model. But, when I finally settled down and overcame my first flight "heart failure," I learned to fly it properly. My error with the Specialist V was one that all beginners experience immediately – overcontrolling! I found that moving the stick about 1/4" – 3/8" in any direction was quite adequate for normal flight maneuvers. Now, without any further ado, a few tips on building the Specialist V.

CONSTRUCTION: GENERAL

The canopy on my original model came from a Cirrus kit, but any large commercial canopy will fit. Be sure to use Titebond glue for all joints during construction and very soft balsa blocks for the rear turtle decking. In fact, if you want to decrease the weight even more, formers and sheeting can be



Fuselage sides laid out with 3/16" square balsa.



'V' – Tail blocked up while fuselage is drying.

substituted for the solid balsa turtle deck. Be sure to try to obtain medium light wood during construction . . . I used Sig balsa throughout and finished the model with Super MonoKote. Black plastic Contact brand shelf paper cutouts were used for trim. This is inexpensive and costs only 49 cents a yard at the dime store. Use Super MonoKote hinges at least 1¼" wide since any narrower hinges than this will tear after prolonged usage.

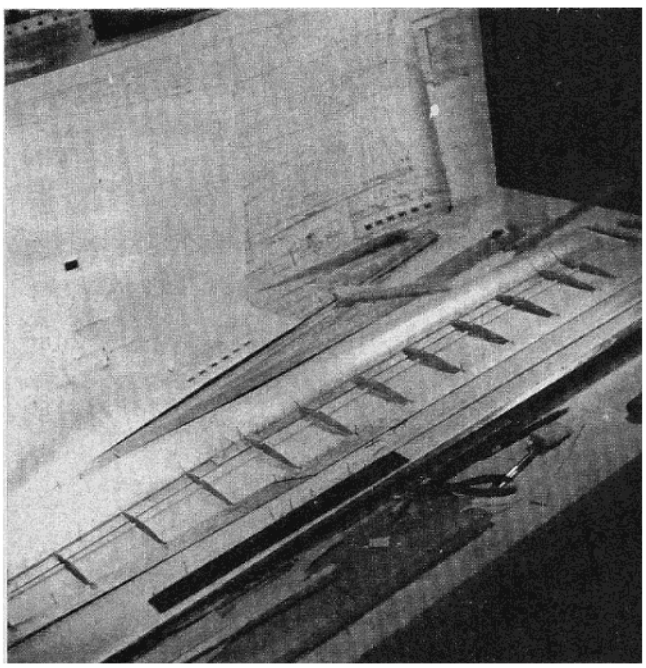
WING:

The only difficult part in construction is the wing so we might as well begin building at this point. The original wing is in one piece but can be built in two if desired. Cover the plan with wax paper and let's get started. First, pin down the leading and trailing edge strips on the plan. Notch the trailing edge where indicated for the ribs. Pin down the bottom hardwood spar (4' long if available) rear 3/16" spar, then start adding the ribs. When dry, add the top spar. Build the other panel while this one is setting up. You might as well also cut out the tail surfaces and sand to the section shown on the plan.

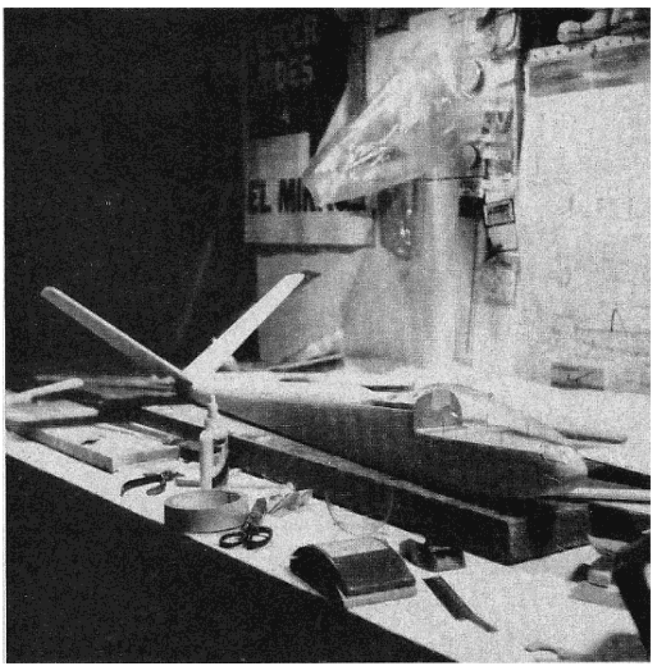
Now comes the boring part, which is cutting out all of those 1/16" sheet balsa shear webs. The grain runs vertically and they must be glued to both sides of the main spars. **Do not** leave these out or you will have a two piece wing after the first flight! When this structure has dried, sand the wing panel smooth and glue together to give 6" dihedral under each tip. Cut out the dihedral braces from 1/8" plywood and glue them in place, leaving the whole assembly to dry overnight.

The next day, add the 1/16" lead-

Straightforward wing construction.



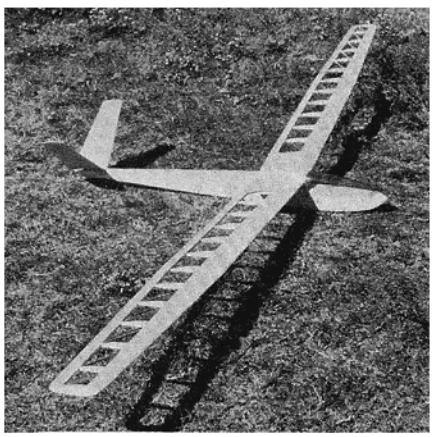
Completed fuselage with canopy in place.



ing edge sheeting, the 1/4" sheet tip blocks, and the center wing fairing block. Cover the completed wing with Super MonoKote and iron in the 1/8" washout at each tip.

FUSELAGE:

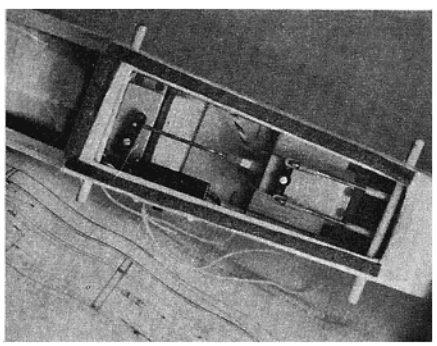
The fuselage is a simple box structure made of 3/16" square balsa covered with 1/16" sheet. The rear turtle decking is from soft balsa blocks sanded to sections (see plan). When complete, add the V-tail surfaces and small rear fairing blocks. Cut out the 3/32" plywood canopy formers to fit your model, glue together, and sand the fuselage smooth. Cover the completed fuselage with Super MonoKote and add the elevators and the wing dowels. You will note that some parts are not shown on the plan as they will be cut to fit your individual model.



Completed framework ready for covering.

Install your radio gear, servos, and add the Gold 'N Rod and control horns. Be sure to keep the correct Center of Gravity shown on the plan.

The elevator servo is fixed in position and the rudder servo slides in a plywood tray which is described in detail on the plans.



View of sliding servo tray arrangement.

The weight of the original model with Kraft radio and ballast rate was 36 oz. and works out to approximately 8 oz. per square foot wing loading.

My current Specialist V is now about one year old with many hours of flying time to its credit. I hope that you will obtain as much enjoyment with yours as I have with mine.

Good soaring. □

From RCModeler Feb. 1972