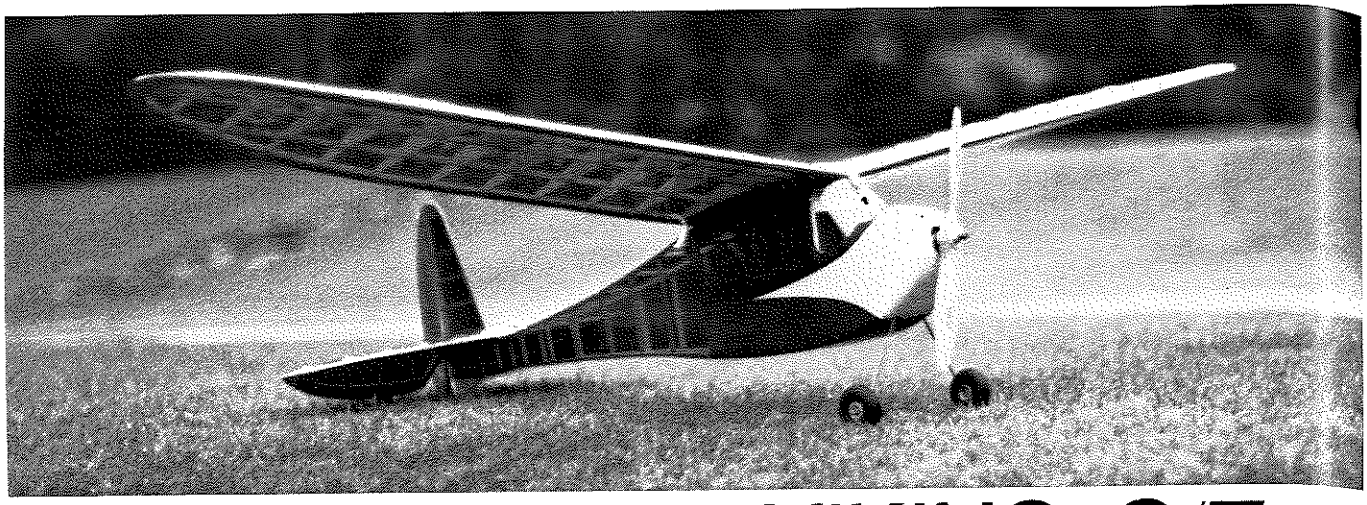


ELECTRIC CLEVELAND *VIKING O/T*

By BOB BOUCHER . . . In a double feature, Astro Flight's major domo comes up with a quite rare but also classic looking Old Timer and puts in electric power. You may want to "convert" this one to gas power!!

INTRODUCTION

I had been searching for a different old timer model for my Astro cobalt 05 geared motor. My Playboy flew great, but the pylon was a hassle to build and made installation of all that electricity difficult. I wanted a nice cabin job with a Playboy style wing. My search ended in Rider's Hobby Shop in Ann Arbor, Michigan.

Rider's had a cute little Cleveland Viking hanging from the ceiling. The Viking was designed at a 48-inch span, so I had Bob Sliff and John Lupperger blow up the Cleveland plans to 62 inches.

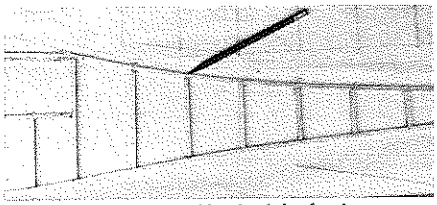
A few weeks later, the first Viking was finished and just in time for the Reno Nats. For power I used the Astro geared cobalt 05 motor, a seven-cell Sanyo 800 MAH battery, the Astro electronic on-off motor control, and a Rev-Up 11X7 prop. My Monokoted model weighed 36 ounces, complete with Futaba radio.

I balanced the model on the spar and set the elevator throw to 15 degrees and the rudder throw to 30 degrees. The V-dihedral wing has about an 1/8 inch of tip wash-out for good luck.

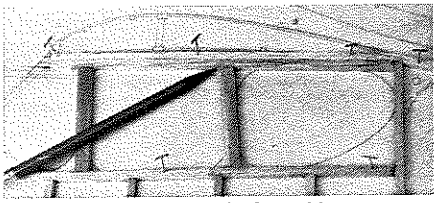
The Viking flew beautifully right off the board. It is very stable and easy to fly, but still quite responsive to radio command. I was able to average over 10 minutes of glide time from a 1-1/2 minute motor run; more than enough to max. On many flights I got over 20 minutes. I packed up the Viking and headed for Reno.

The thin air at Reno was a problem. The prop just did not bite enough air to get a really good climb. I borrowed a 12X8 Top Flite prop, and it worked much better, but still more prop was needed for best results. Bob Sliff had a 16X8 Zinger which he cut to a 12-inch diameter to fit the SAM rules. His Cobalt 05 Playboy beat me by 30 seconds, so I had to be satisfied with second place. Just wait till next year!!!

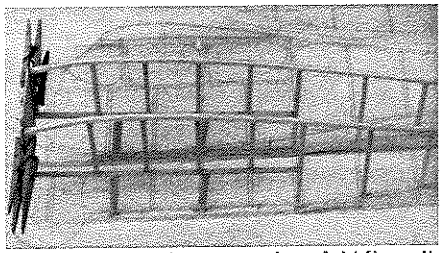
It's unfortunate that the author of the SAM rules was not concerned with altitude when he formulated the 12-inch prop rule. This rule needs changing.



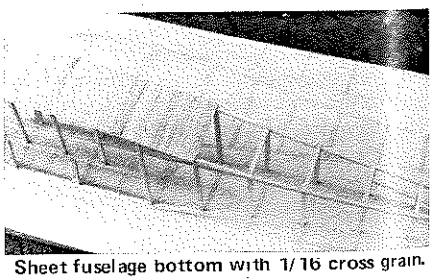
Build sides on plan. Hard sticks for longerons.



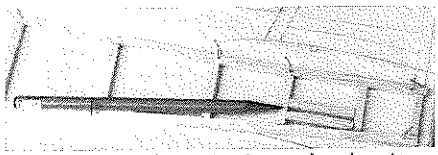
Laminate two sticks for cabin posts.



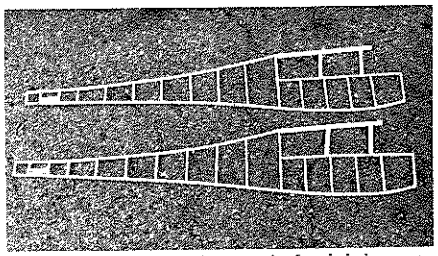
Pin sides inverted over top view. Add firewall.



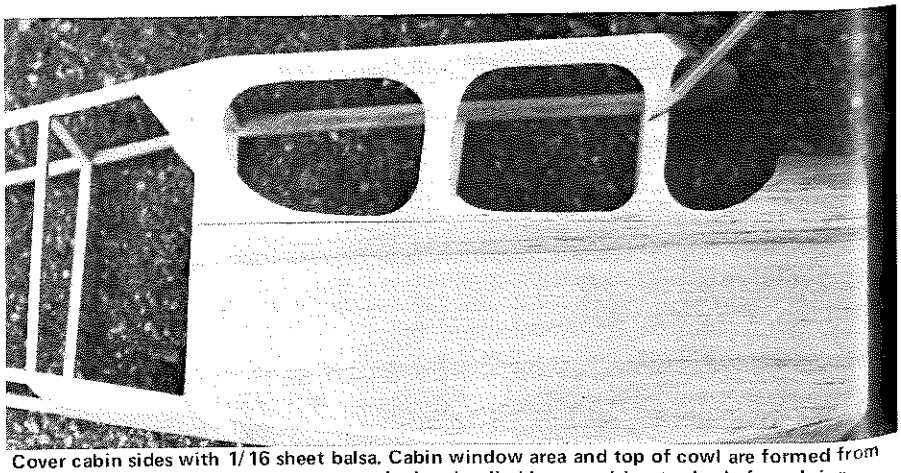
Sheet fuselage bottom with 1/16 cross grain.



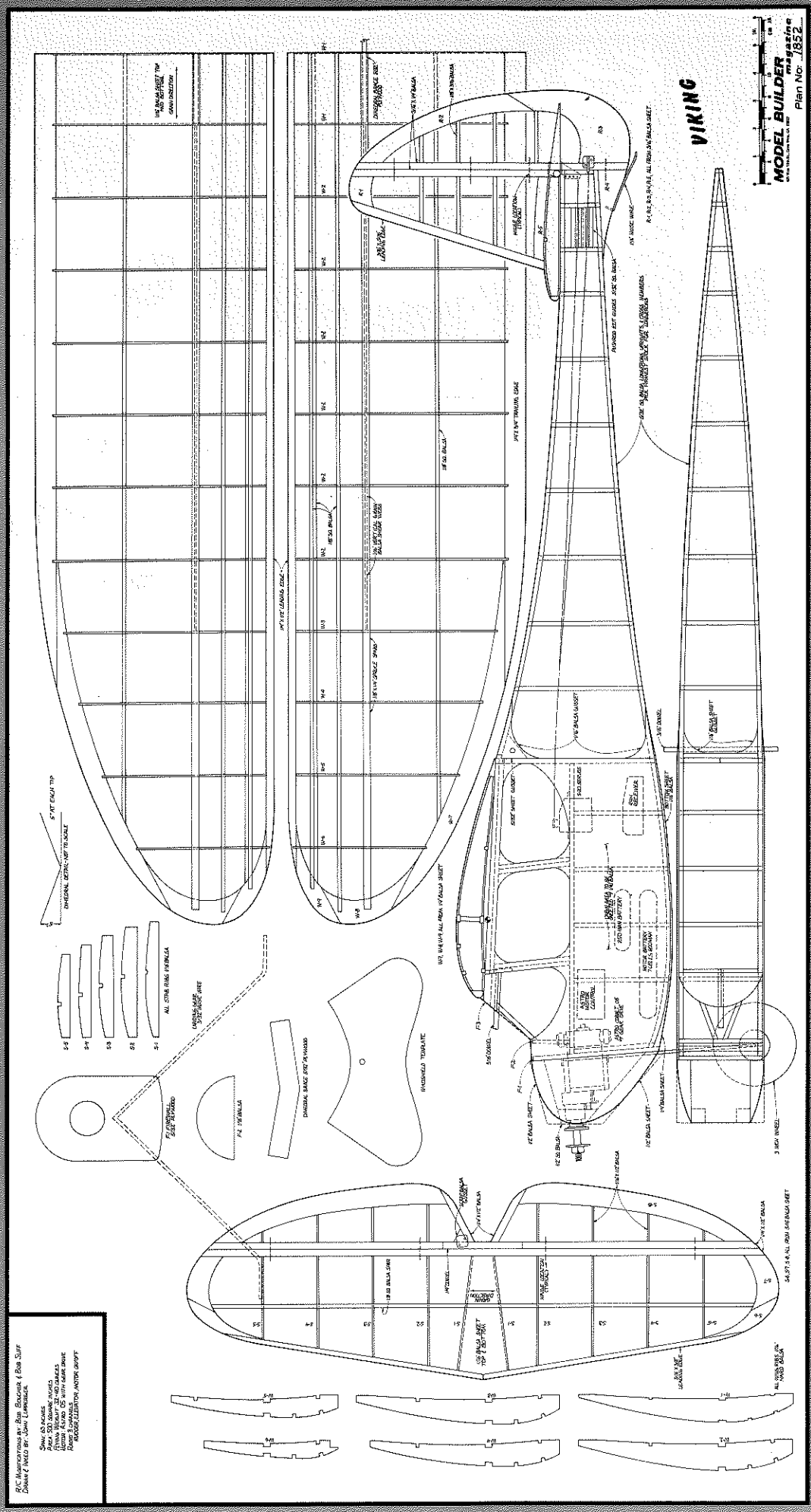
Two sticks form slot for pushrod exits.

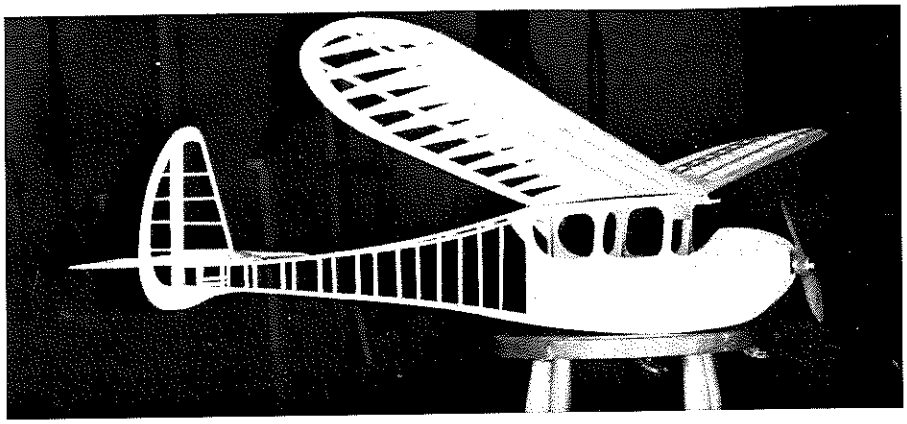


Two finished sides, ready for joining.

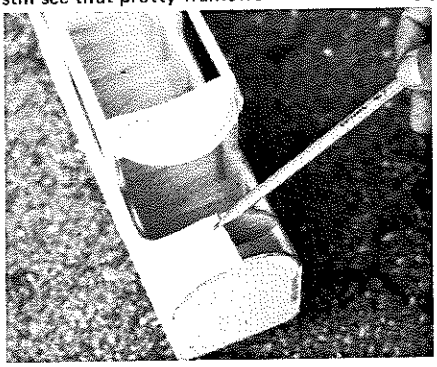


Cover cabin sides with 1/16 sheet balsa. Cabin window area and top of cowl are formed from a single sheet. Cowl portion is water soaked and pulled into position to dry before gluing.

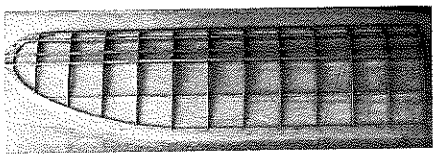

VIKING
MODEL BUILDER magazine
Plan No: 1852



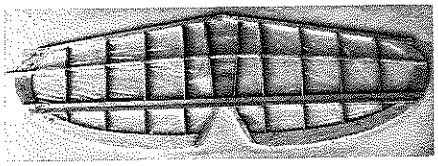
Nice thing about transparent covering, whether it's silk and clear dope or see-thru film, you can still see that pretty framework . . . something you can't get with foam and fiberglass.



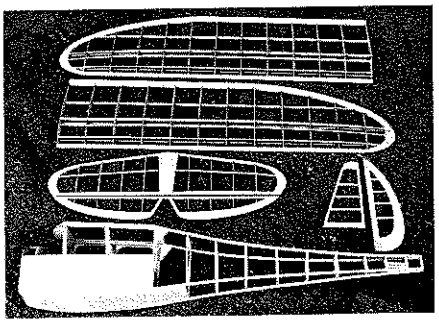
Curved portion of cowl after wet forming.



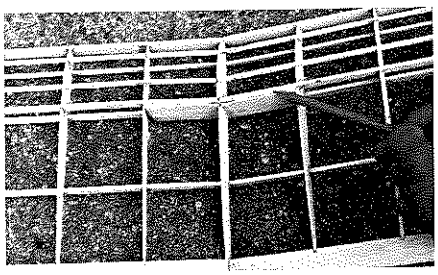
Wing built directly over plan. Use wax paper.



Stab and rudder also built over plan.



Completed framework, sand well and trim up.



Wing halves joined with ply dihedral brace.

WEIGHT SUMMARY

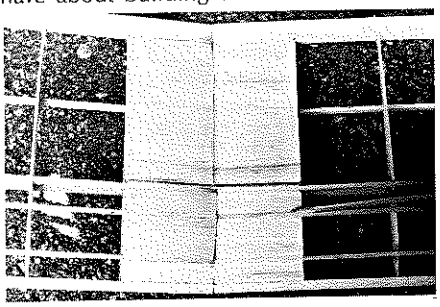
Wing	5.7 oz
Fuselage	4.4 oz
Tail	0.5 oz
Control rods	0.5 oz
Wheels	1.0 oz
Subtotal airframe	12.1 oz
Futaba receiver	1.5 oz
Two S-33 servos	1.3 oz
250 MAH rec. bat.	2.0 oz
Switch harness	0.5 oz
Subtotal radio	5.3 oz
Cobalt 05 motor	6.0 oz
7-cell 800 ma battery	8.6 oz
Switch harness	0.5 oz
Gear box	1.5 oz
11X7 prop	0.5 oz
Astro motor control	1.5 oz
Subtotal Power	18.6 oz
All up weight	36.0 oz

EXPECTED PERFORMANCE

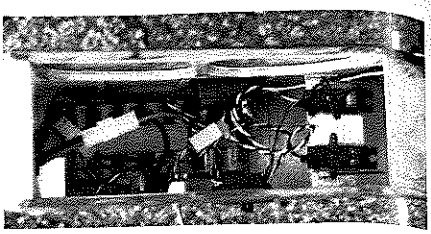
I use a computer program to simulate the climb and glide polars of my models. The program contains a simplified model of the propeller characteristics and calculates the expected climb altitude as a function of lift coefficient. The results of these calculations indicated that the best climb is obtained with a climb angle of 20 degrees. Substituting a direct drive with 8X4 prop indicated that the model benefits from the geared motor but should be able to max even with the direct drive prop.

CONSTRUCTION

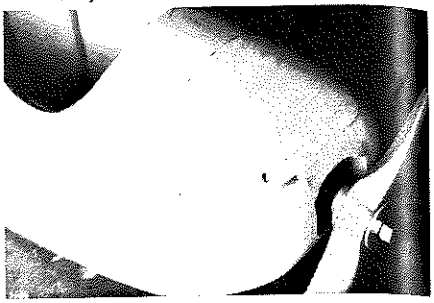
The Viking is built from scaled-up Cleveland plans and uses the standard built-up construction used in almost all old timers. This type of construction is light and strong; with the new super-glues it is quite easy to build. The photos show the construction sequence I used and should answer any questions you may have about building this model.



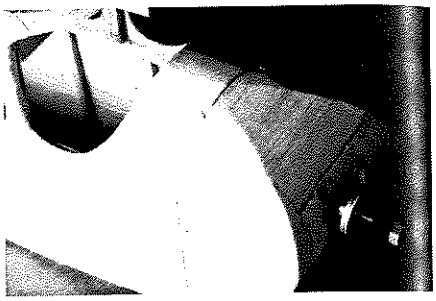
Fill in between spars with sheet covering.



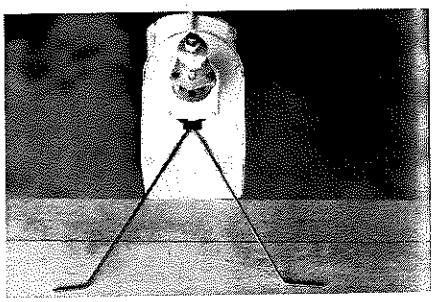
Plenty of room for radio installation.



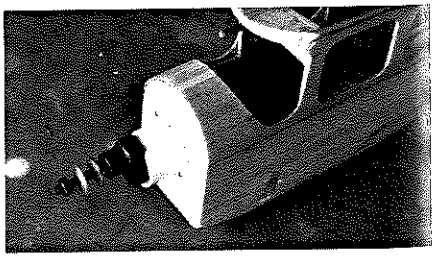
Cowl sanded and blended to fuselage shape.



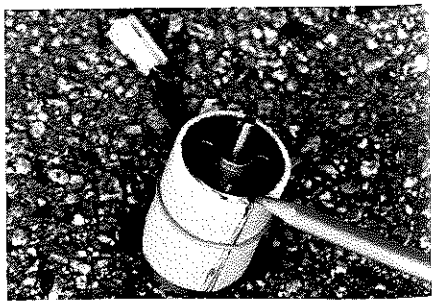
Cowl rough formed and glued to firewall.



Glue landing gear to firewall, add wire binding



Motor and balsa tube in Astro mount. Add on the gear box for reduction drive version.



Wet mold balsa motor tube over drive motor.