

The wing is as thin (7/32") as a built-up structure will allow; the ship is streamlined and clean. The climb is as fast as anyone could want.

*Hi-Spy* never breaks propellers and is easy and fast to build. Total weight is 5 1/2 ounces. Soft, soft balsa is used everywhere except for the rock-hard wing spars.

As for flying, nothing could be simpler. Put the propeller on backwards, fire up, open the needle valve to slow the engine, and launch. You'll be surprised how slowly this model flies with the engine at half speed. Adjust for a straight climb, using a small rudder tab. For glide circle, mount a 1/16" plywood drag tab (1 1/2 x 2") on the right wing just inboard of the outer dihedral break. Be sure it is mounted so that it is even with the trailing edge when extended and not above or below the wing.

The model requires 5/16" positive incidence in the wing. If it is tail heavy, add weight to the nose. Do not remove incidence.

After the ship is past preliminary testing, you can put the propeller on correctly and begin opening up the motor. Sand the propeller (suggest 6/2 Tornado), filter the fuel, make sure the needle valve is tight and won't vibrate out of adjustment. I use a Timer Tank on my five-year-old K&B .049 with excellent results.

Here are the construction details: **Wing.** Make a metal airfoil template and cut out 33 ribs from soft 1/32" sheet. Taper the 1/2 x 3/4" trailing edge, notch it 1/32" for the ribs, and begin assembly. The trailing edge is not blocked up. Select the 1/16 x 3/8" spars from the hardest stock available. The tips are carved to shape from 1/2 x 3/4 x 6" blocks. Put in the dihedral and add the 1/16 x 1/8" doublers flush against the top spars where indicated. Glue the gussets at the dihedral breaks. Go over and reglue every joint and sand the completed wing thoroughly.

**Stabilizer.** Construction is similar to the wing. Make the whole tail section of the model as light as possible, not only for the total weight reduction, but for balance. Make a metal rib template and cut 15 ribs from 1/32" sheet. Taper the trailing edge and assemble.

**Fuselage.** Cut a soft piece of 1/16 x 3 x 36" in two diagonally and cut a fuselage side pattern from each piece. Cut out the formers, and assemble, using a square to check alignment. When dry, glue the formers a second time, and seal up the fuselage by adding 1/16" sheet to the uncovered sides. Try to get a good glue seal on all four corners when you close the fuselage.

Slot the fuselage for the 1/4" sheet pylon. Install the pylon. The wing platform is made from 1/8" sheet and added

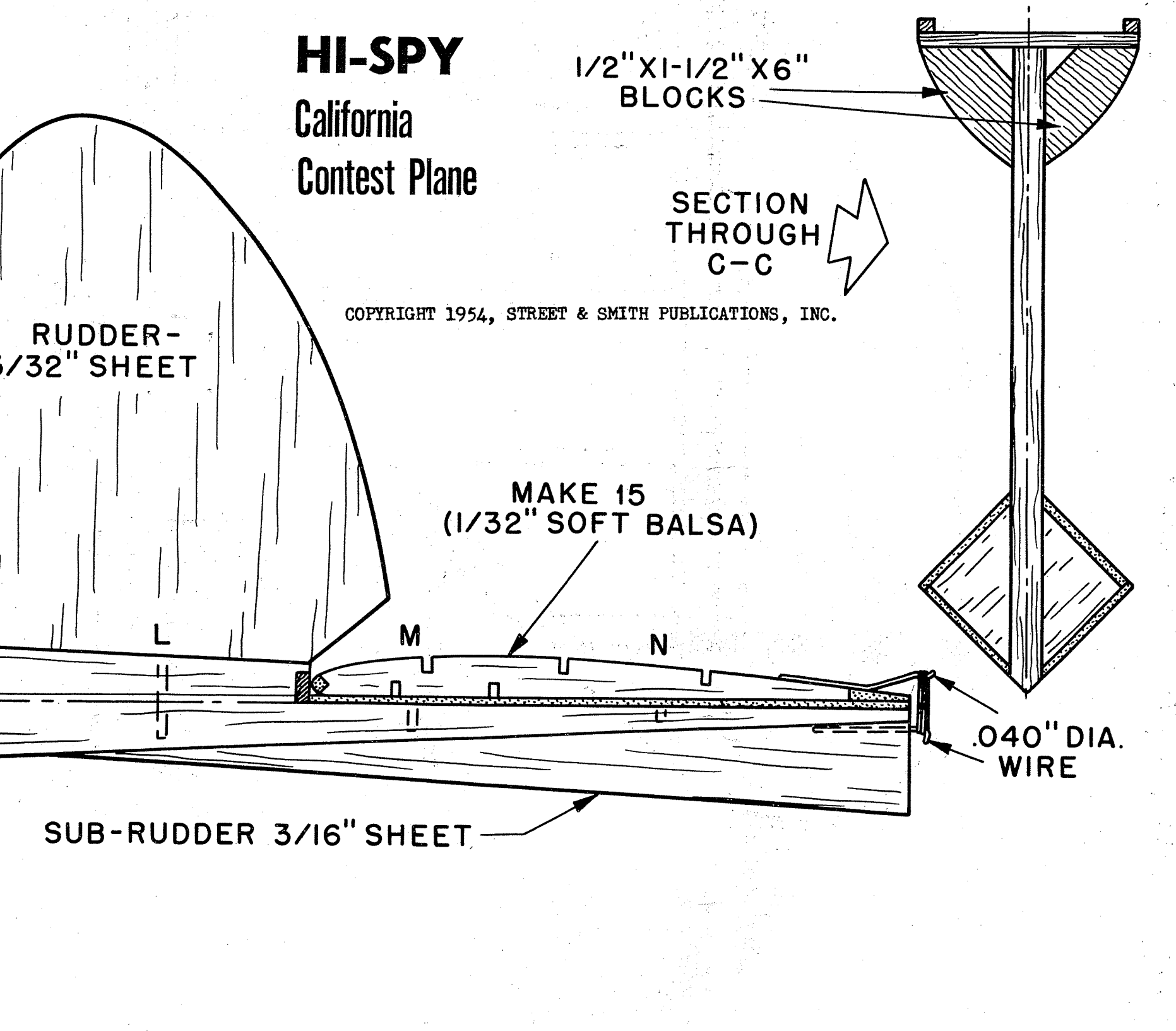
next. The engine mount is formed from two 1/2 x 1 1/2 x 6" blocks glued as fillers below the wing platform. Solder the two engine mounting nuts to a small strip of brass behind the firewall and glue the firewall to the nacelle. Carve the nacelle to a streamlined shape and glue 1/2" wide gauze on the firewall-nacelle joint.

Scrap 1/8" sq. strips are added above the wing platform and carved to fit the dihedral contour. The rudder is made from 3/32" sheet and inserted in a slot cut 1/2" into the fuselage. A piece of 1/4 x 1/4" is added to the front of the 1/16" sheet tail platform so the stabilizer will pop up smoothly when the debarrelizer goes off. The sub-rudder is made from 3/16" sheet. Leave it thick at the front to strengthen the thin fuselage section.

The fuselage nose is cut from a block 1 1/4 x 1 1/4 x 4". Trim it to fit inside of the fuselage back to the first former. After the glue has dried, the nose block is carved to a streamline shape.

The main landing gear is a single strut. A 7/8" wheel is mounted on .040 wire. The wire is coated with glue and pushed up into the 1/4" sheet pylon for a couple of inches. An L-shaped piece of .040 wire is glued to each stabilizer tip to support the model for a three point take-off. Add .040 wire fittings at the rear of the pylon and tail. Two short pieces of 1/4" dowel are inserted in the firewall for the front hold-down for the wing.

**Covering.** The wing and tail are covered with Jap tissue and given two coats of thin dope. Add fuel proofers to the center section of the wing. The fuselage is not covered with tissue—just given a coat of sealer, two coats of black, and one of fuel proofer.



**HI-SPY**  
California  
Contest Plane

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