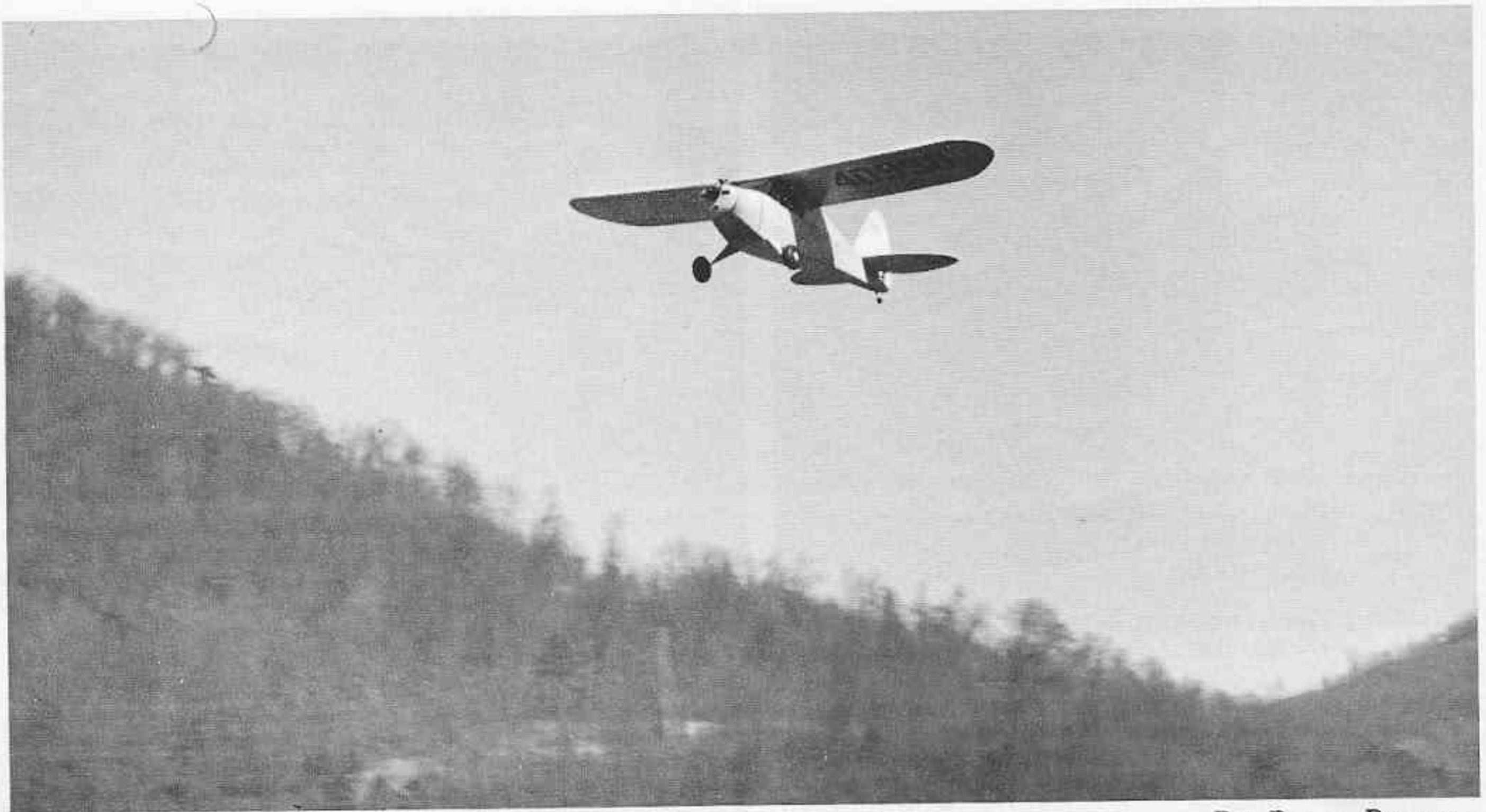




A three channel radio, a .19 engine, and some relaxed and easy flying





Slow and easy air speed 10 mph, ground speed 0.

By Bryce Petersen

PIPER VAGABOND

Webster's Dictionary defines sport as: *"To play; frolic. A sudden spontaneous deviation or variation from type."*

For this reason, I call the Vagabond a **true** sport plane. It uses a different type of construction to perform a different kind of flying. Regardless of what your **thing** is at the flying field, whether it be pattern, racing or professional spectator, there comes a time to just have fun. So stick with me through this one, and I will guarantee you barrels of fun.

New designs should have something better to offer. They should be either lighter, stronger, cheaper, or be able to perform something **different** to make it unique. The Vagabond achieves all these goals to a certain extent. Another plus is that it is a **scale** design that may be entered in the "stand-off scale" competition that is gaining popularity around the country.

Now that you are convinced that I have eaten too many peanuts, I hope the word **foam** doesn't divert your curiosity to find out for sure. Foam is a marvelous building material that offers lighter and stronger structures that are practically warp free. The real trick is to use foam where the structure carries little load and beef up the areas with balsa and plywood where strength is needed. The foam acts as a **building block**. Because foam has no grain, it can be bent and formed or cut with a hot wire to absolute flat sheets for wings and fuselage sides. Ribs and formers can be added to form round areas.

Strength in model structures can sometimes work against you. You can beef up a model with the penalty of weight. This means more impact when you hit something. We have all seen the light rudder-only models take a pounding day after day without destruction.

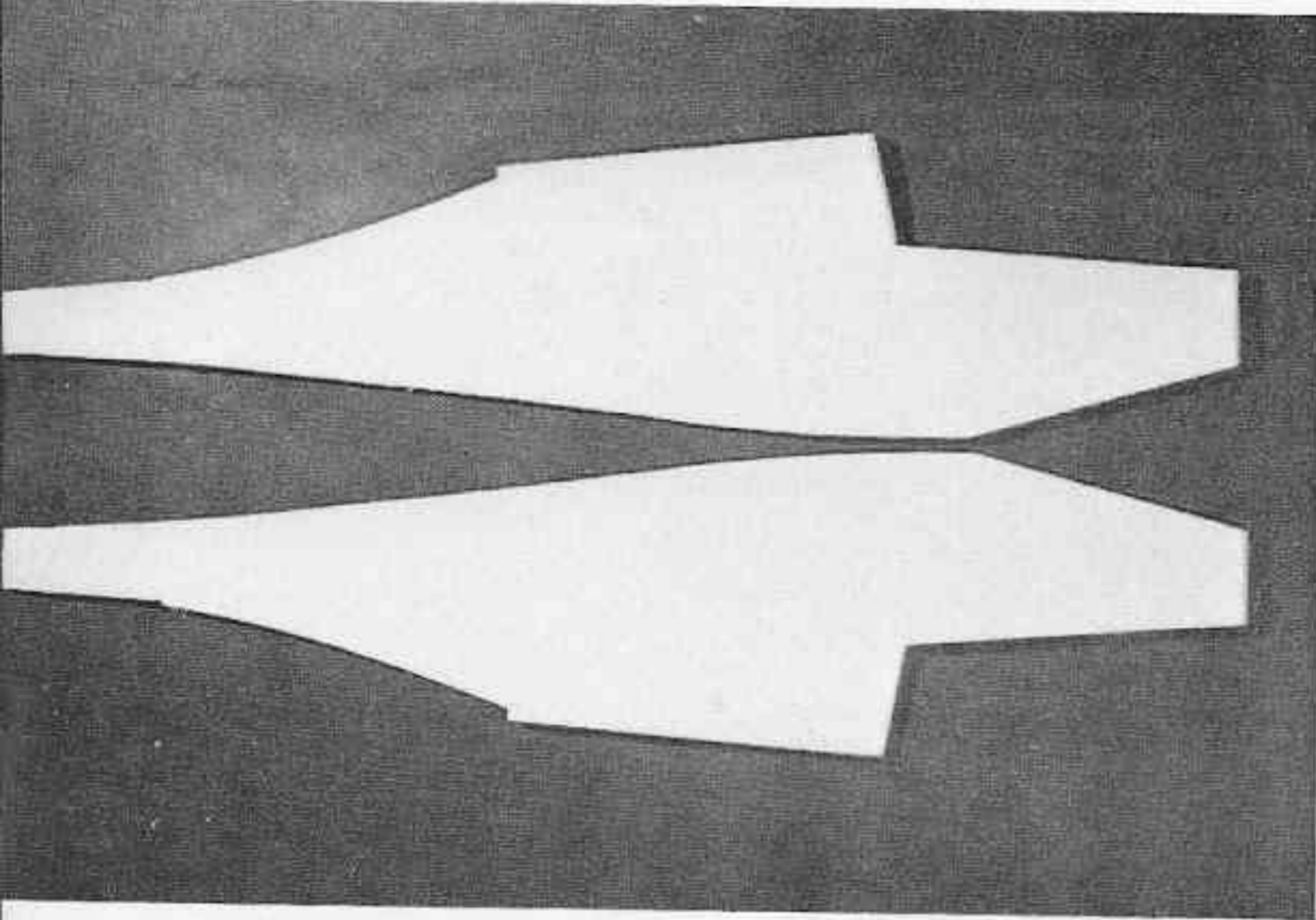
With foam, and careful planning, you can build a structure with half the weight — so the greater the strength. The full size Vagabond design was the outcome of experiments made with a clipped wing Cub. The shorter moments and enlarged rudder gave it much better response to controls. The little ship is so small you can touch the wing trailing edge and stabilizer at the same time. The name Vagabond came from the adventurous men that ferried the ships from factory to customer.

The model is a joy to fly. If you have a slight breeze, you can throttle back and fly backward. I have actually flown the model for five minutes without reaching the end of the runway. Some, who fly nothing but .60 powered bullets, may feel this is a step backward. Think of the fun they are missing!

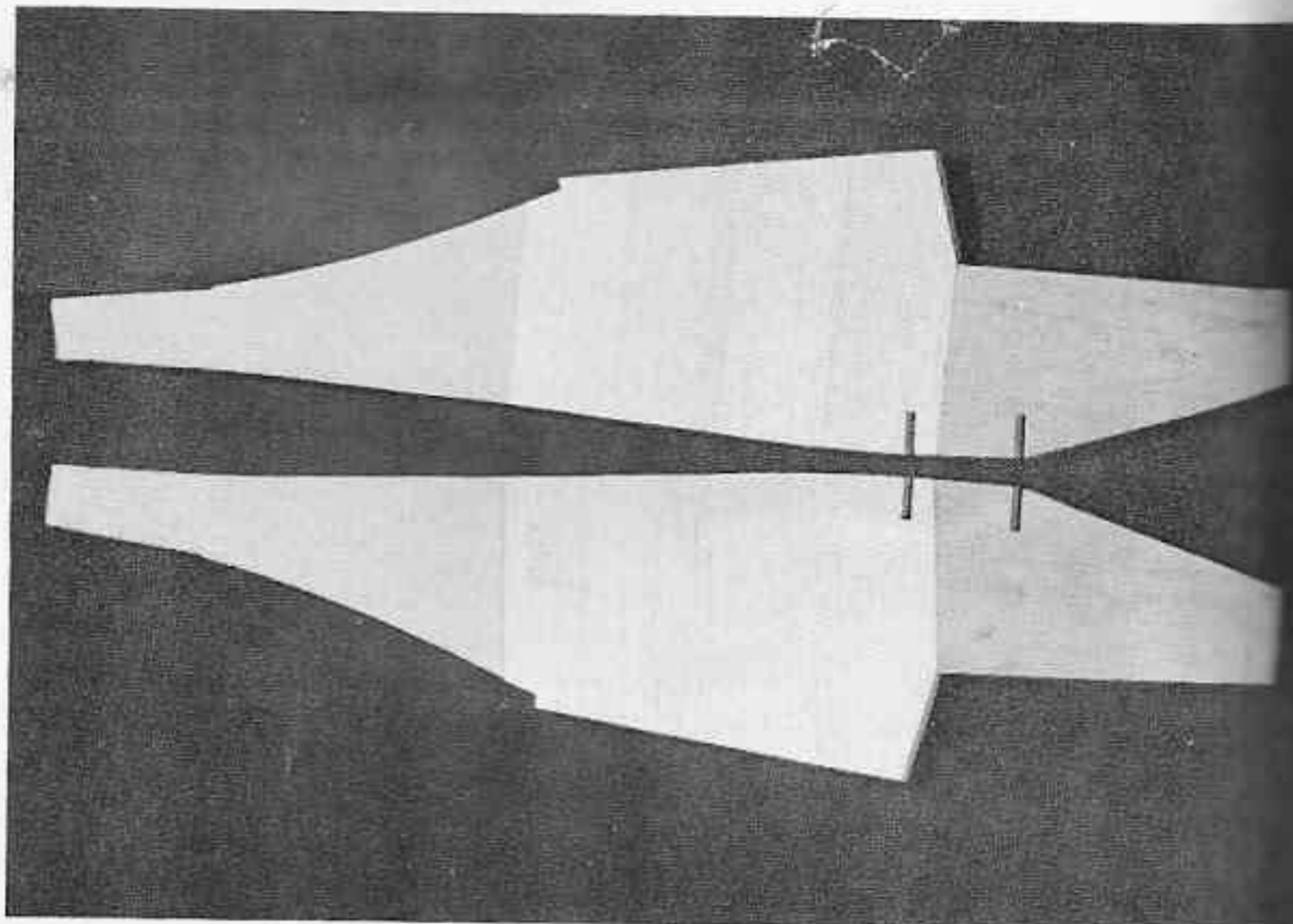
The entire model can be built from one block of foam. Be sure that the foam is the closed cell type and not the beaded type. This foam will give you a much smoother finish and can be sanded.

Select several choice yardsticks from your local lumber company. Look for the grain of the wood to continue from one end to the other. Place two of the yardsticks on the sides of your foam block and slice off the top first, using your hot wire. Then cut four sheets 7/16" thick. Now, cut both fuselage sides with a Dremel saw and sand smooth with light sandpaper.

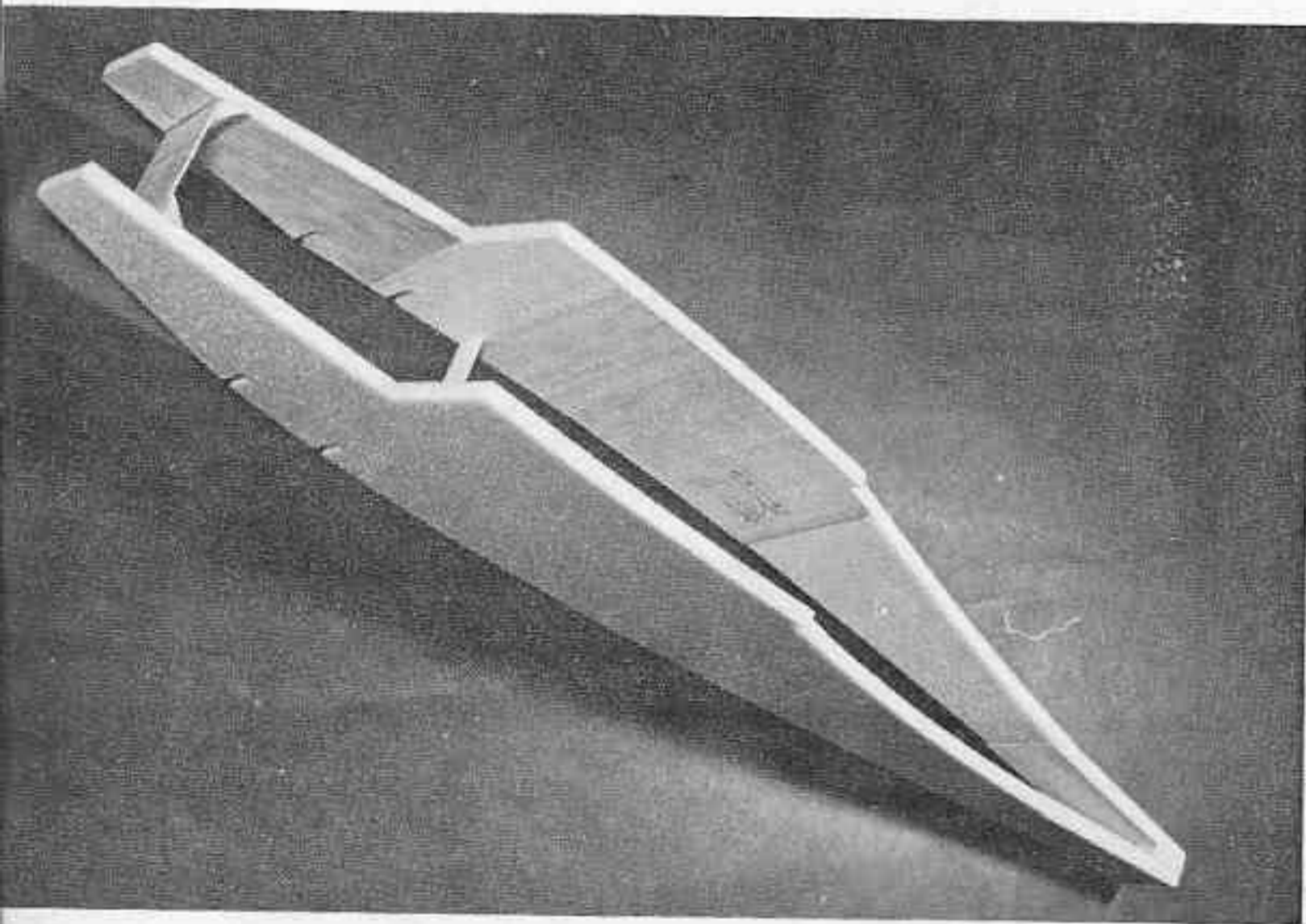
The plans give you a step-by-step building procedure so I will try to add a few tips. First, sand and wax the cutting edges of your yardsticks as



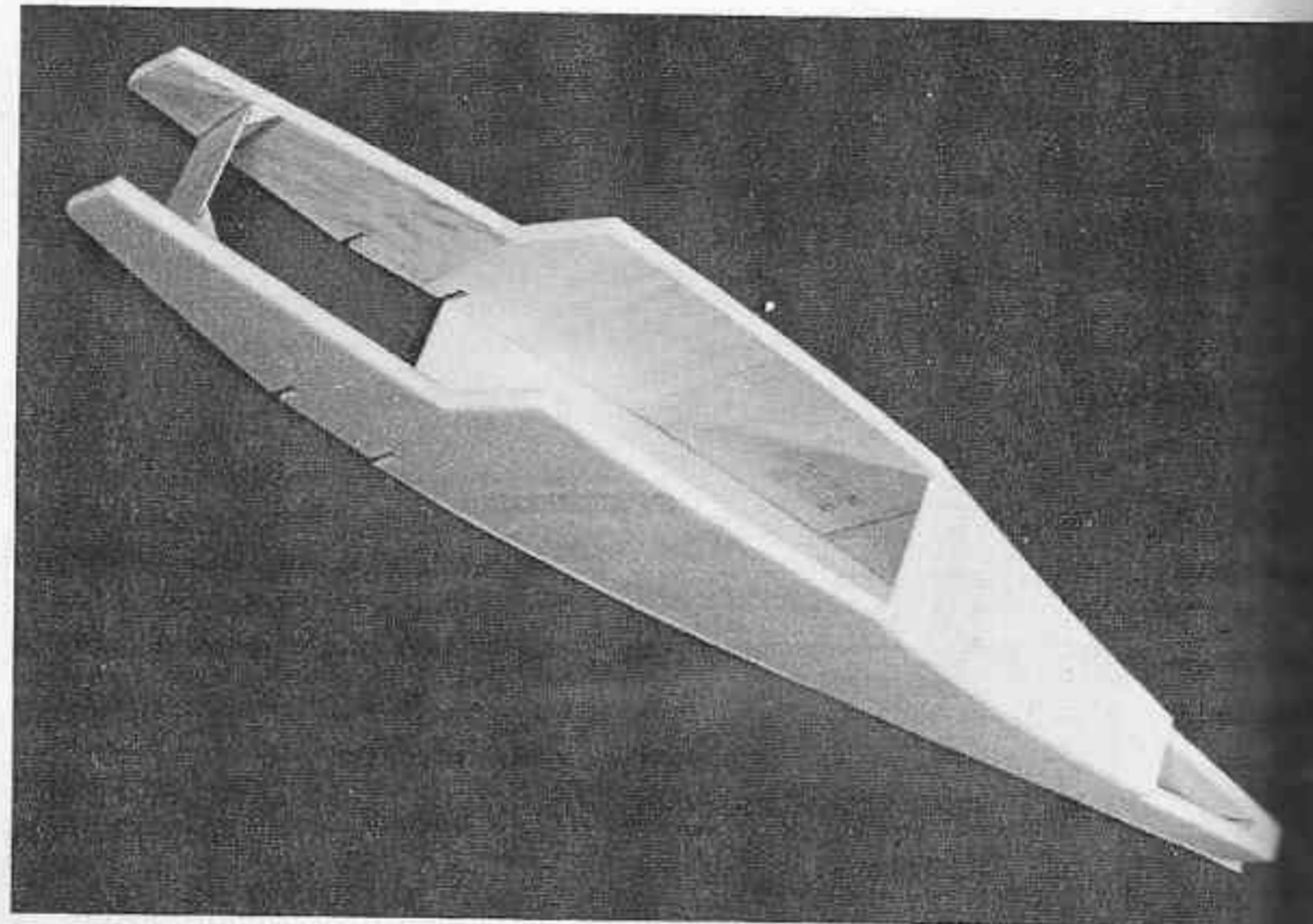
The foam sides are cut with a Dremel Moto-Shop saw.



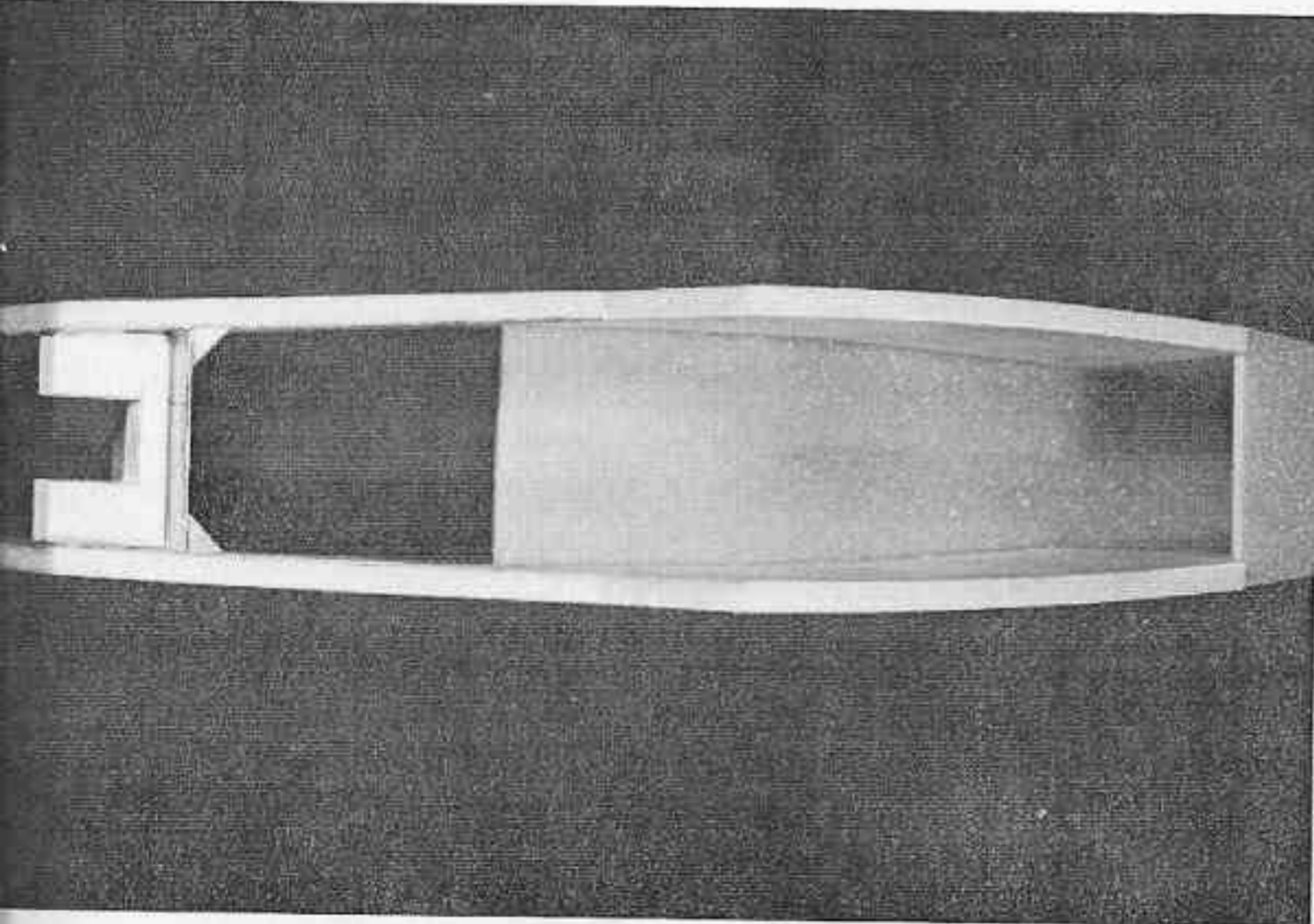
The 1/32" balsa and ply doublers are epoxied on the inside.



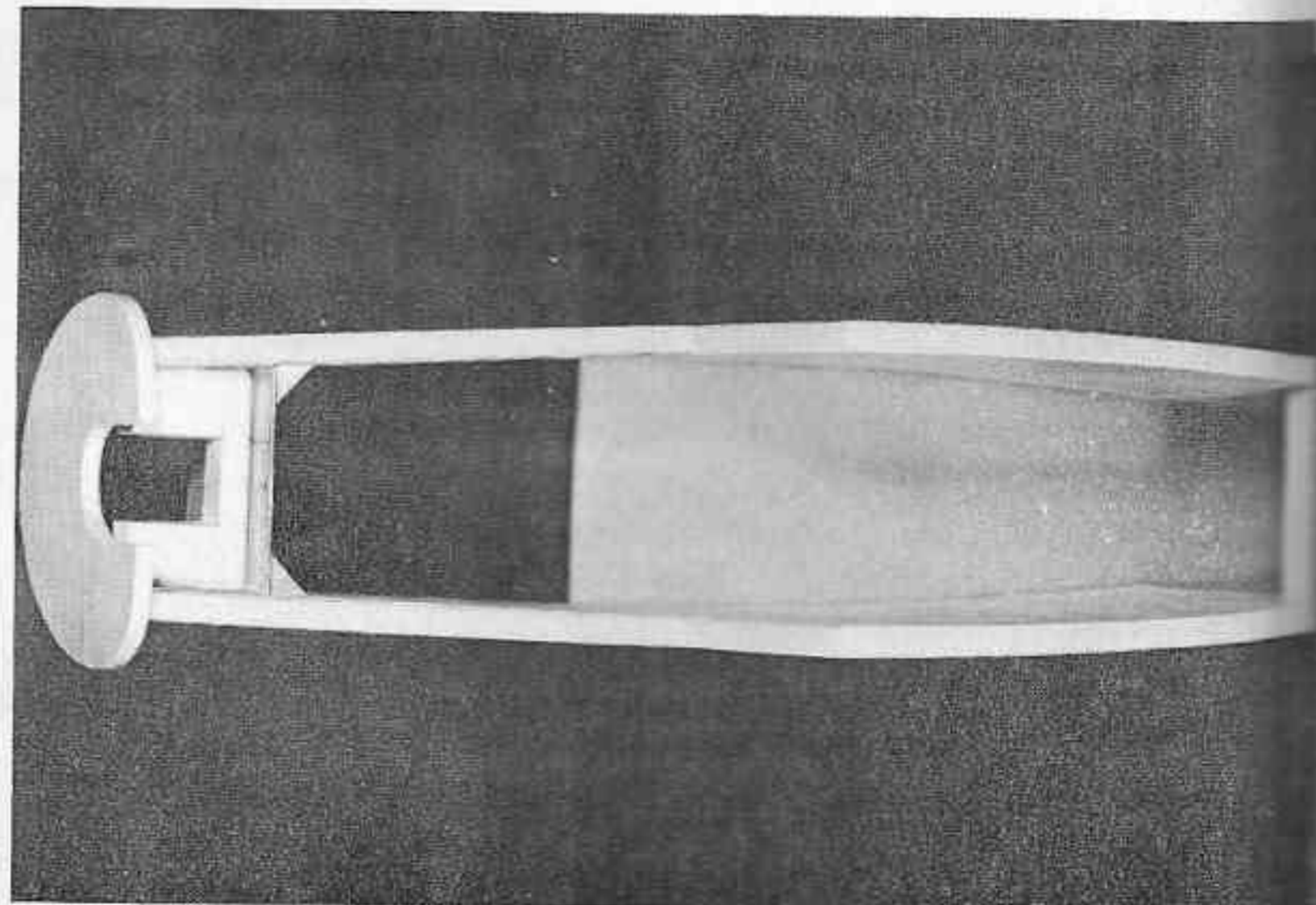
Former F-1 and firewall in place. The brace in the center is temporary.



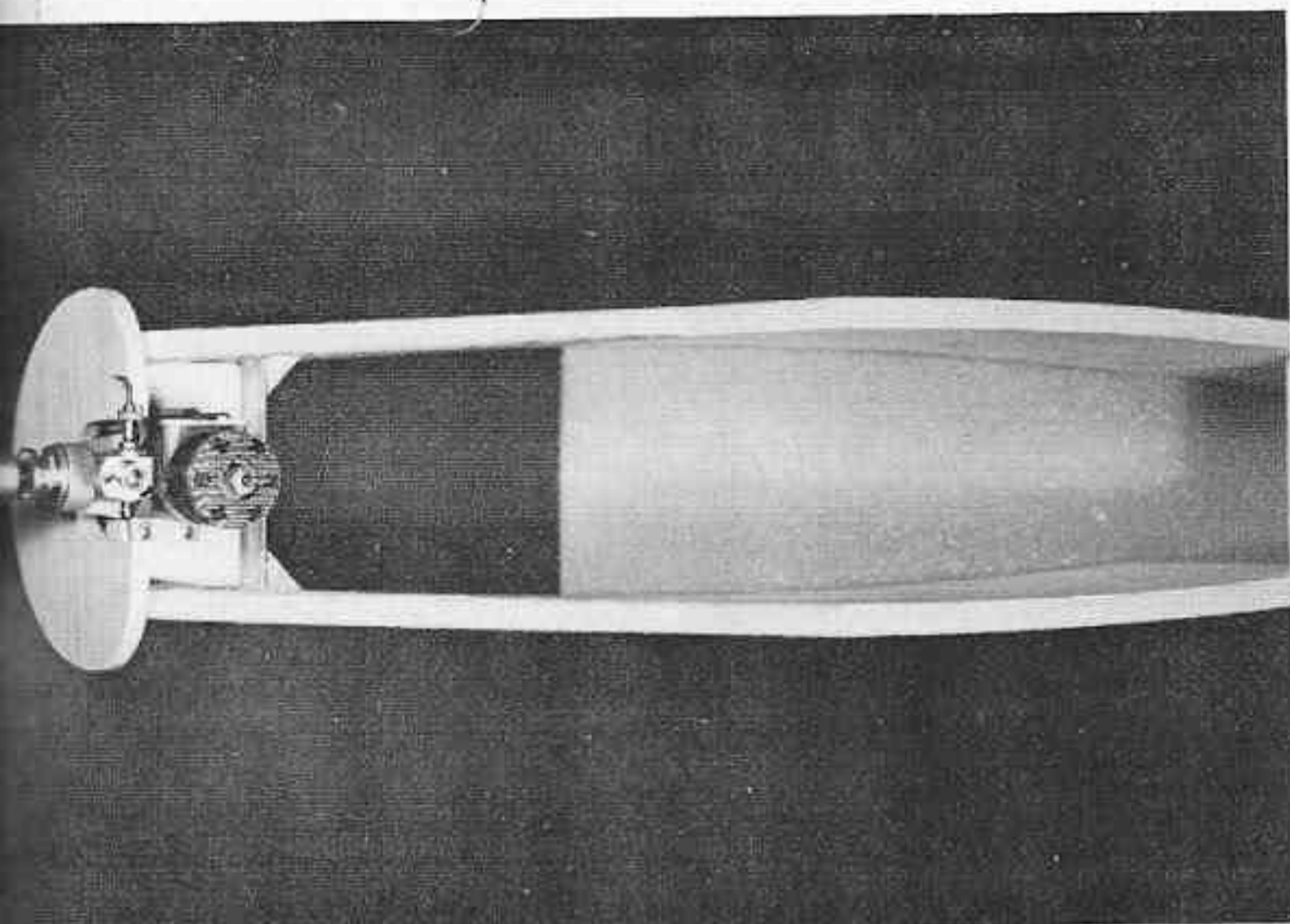
The 1/4" foam top and bottom shown in place.



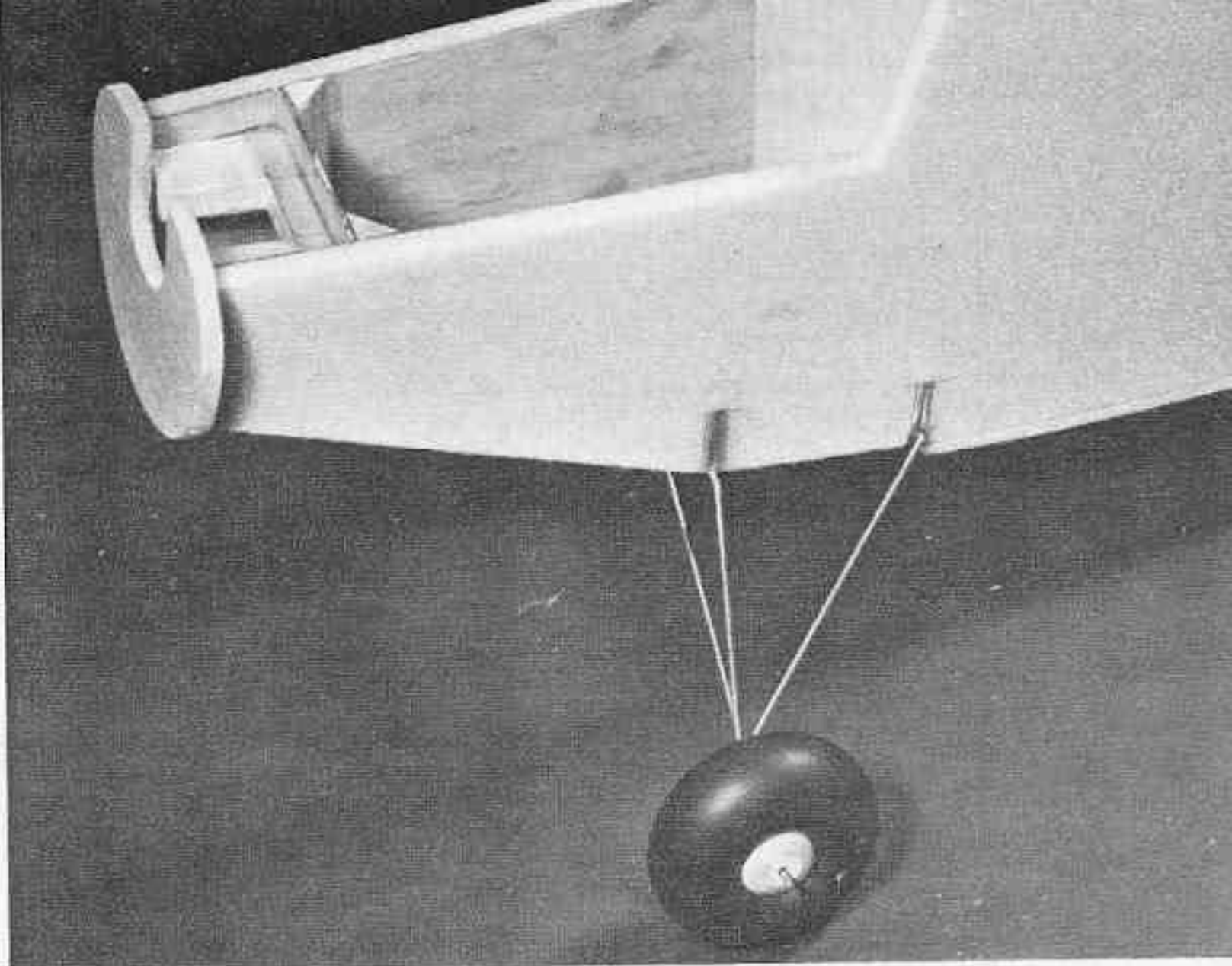
The engine mount shown in place.



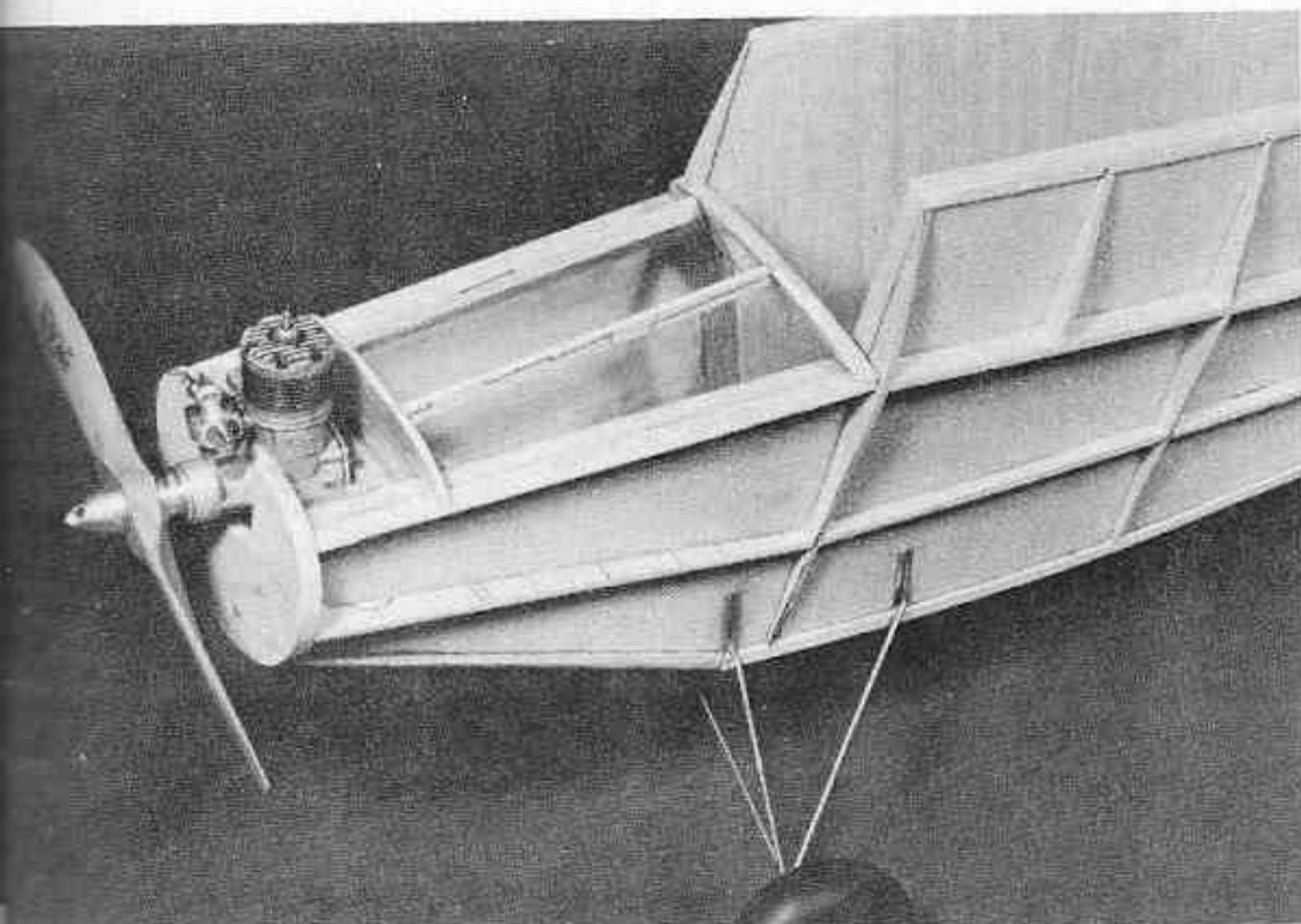
A photo of the sub nose block.



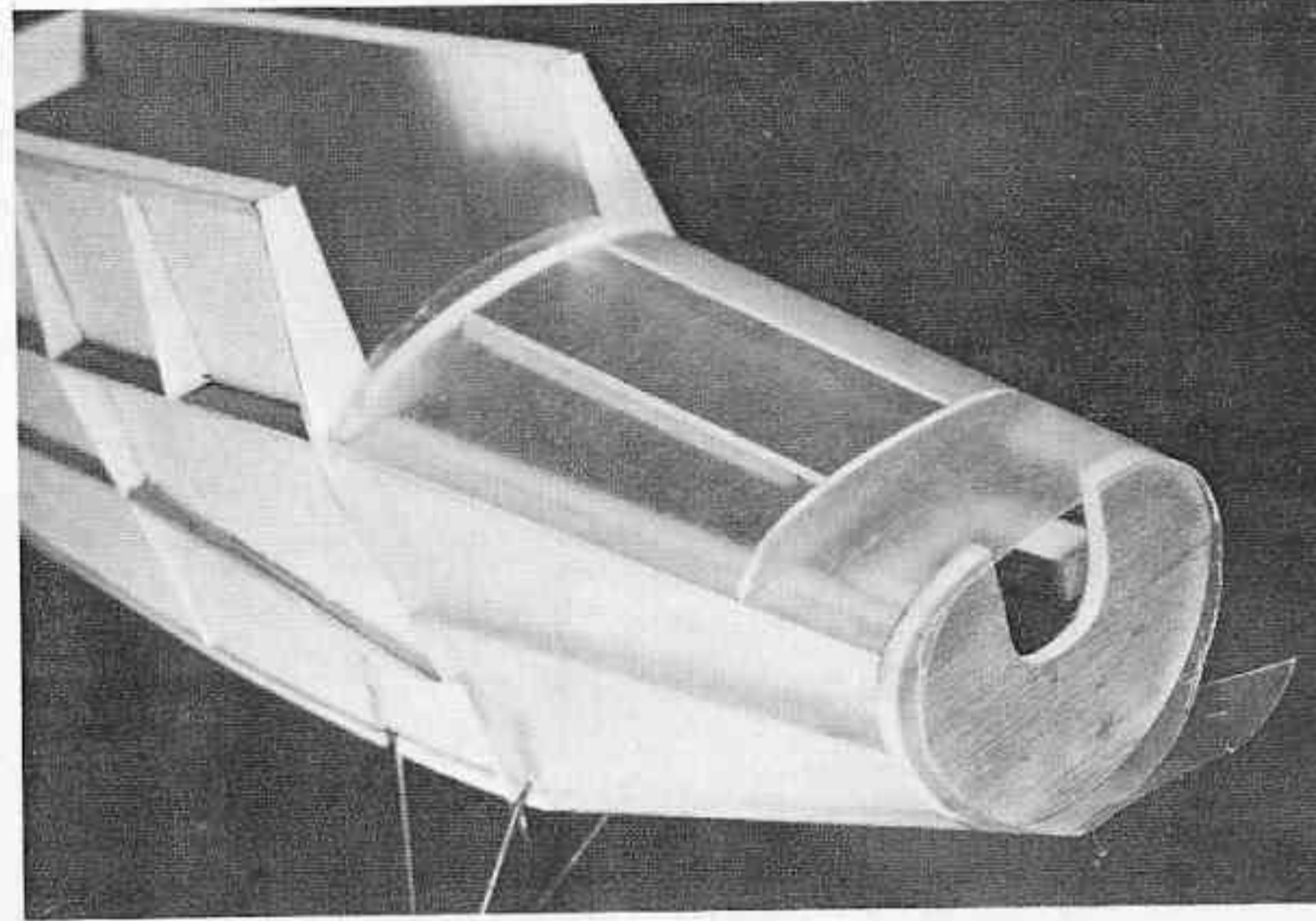
The engine shown bolted in place. A .19 is recommended.



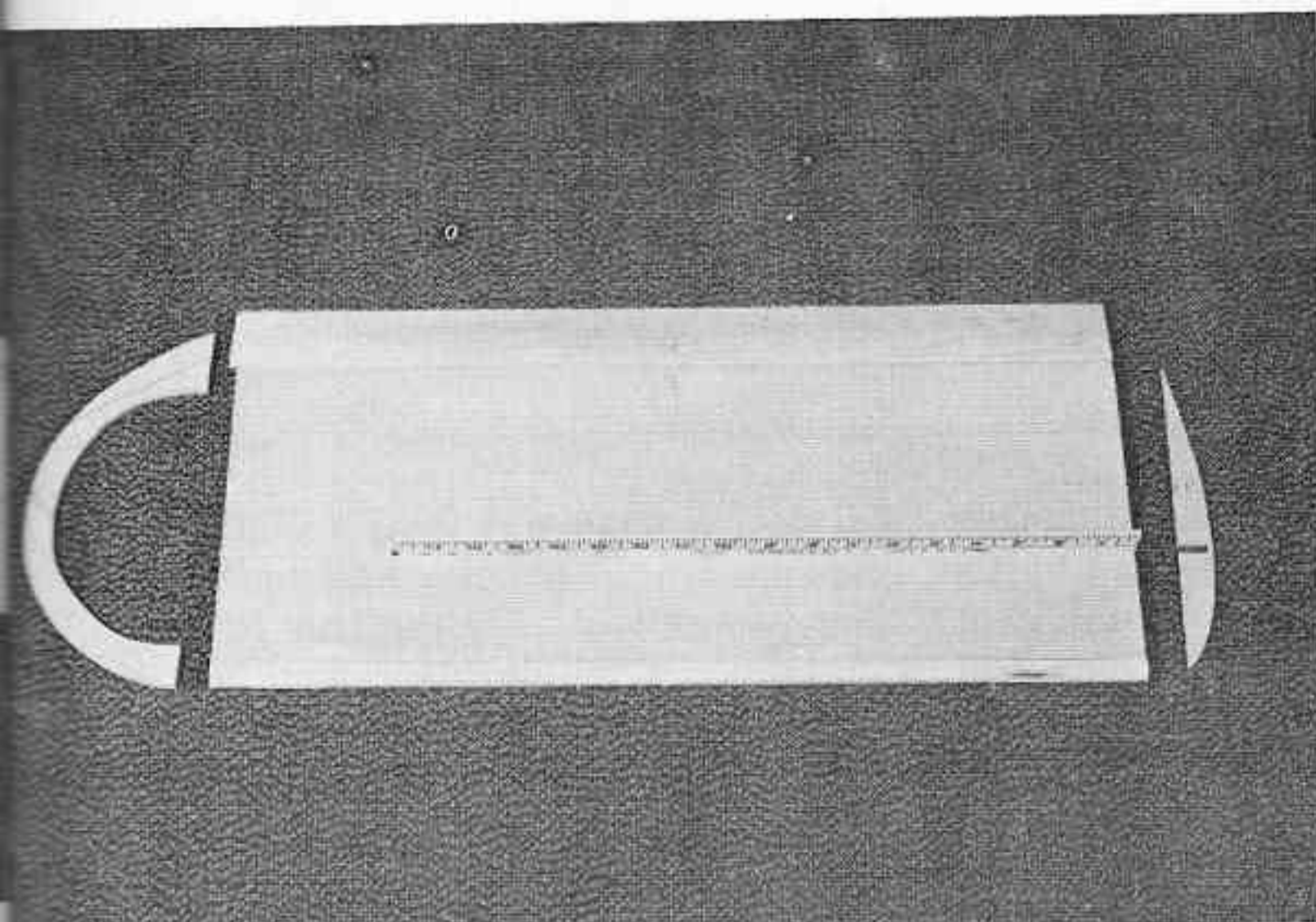
In this photo, the landing gear has been mounted.



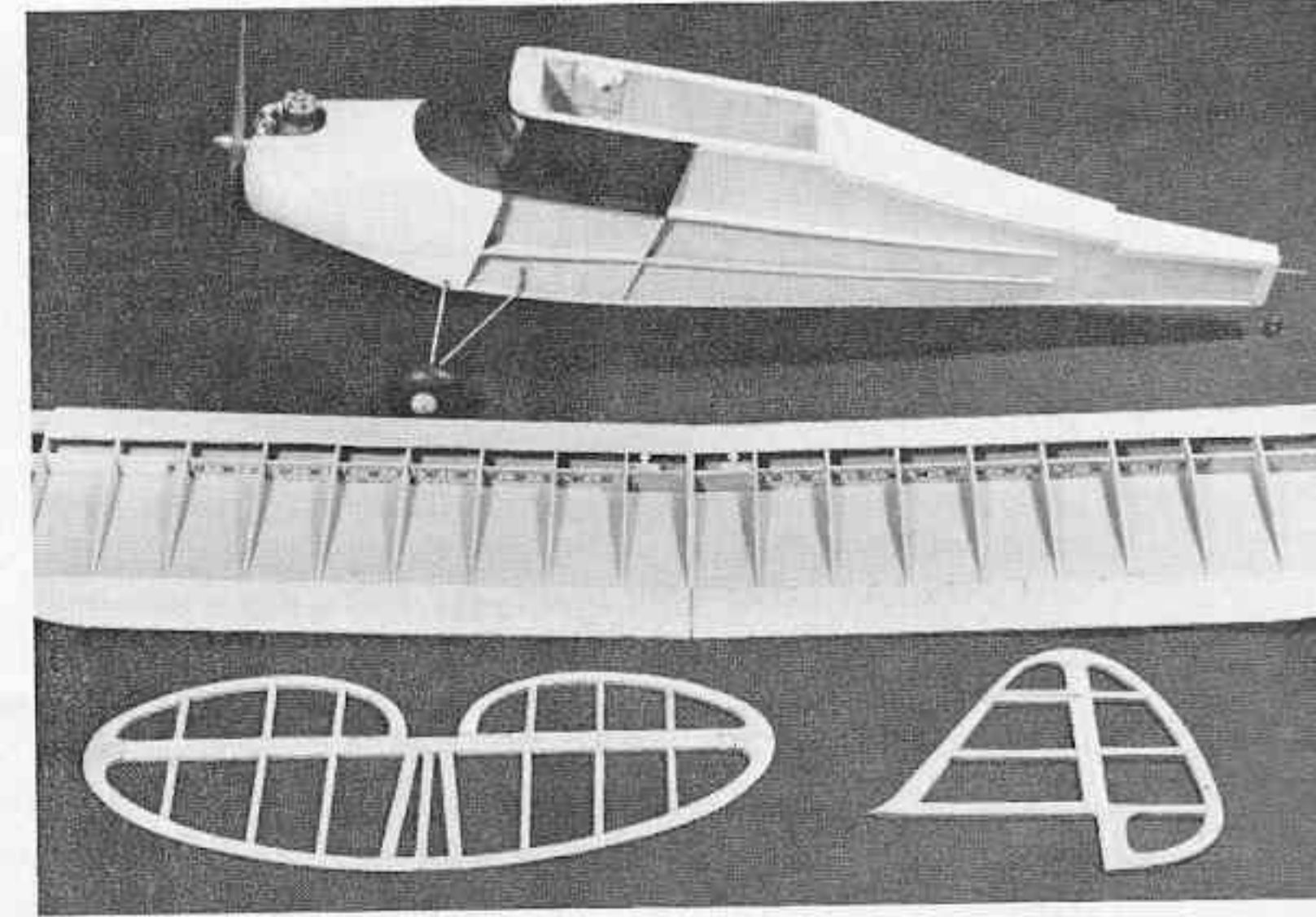
All of the framing has been completed, and the fuselage is ready for the nose sheeting.



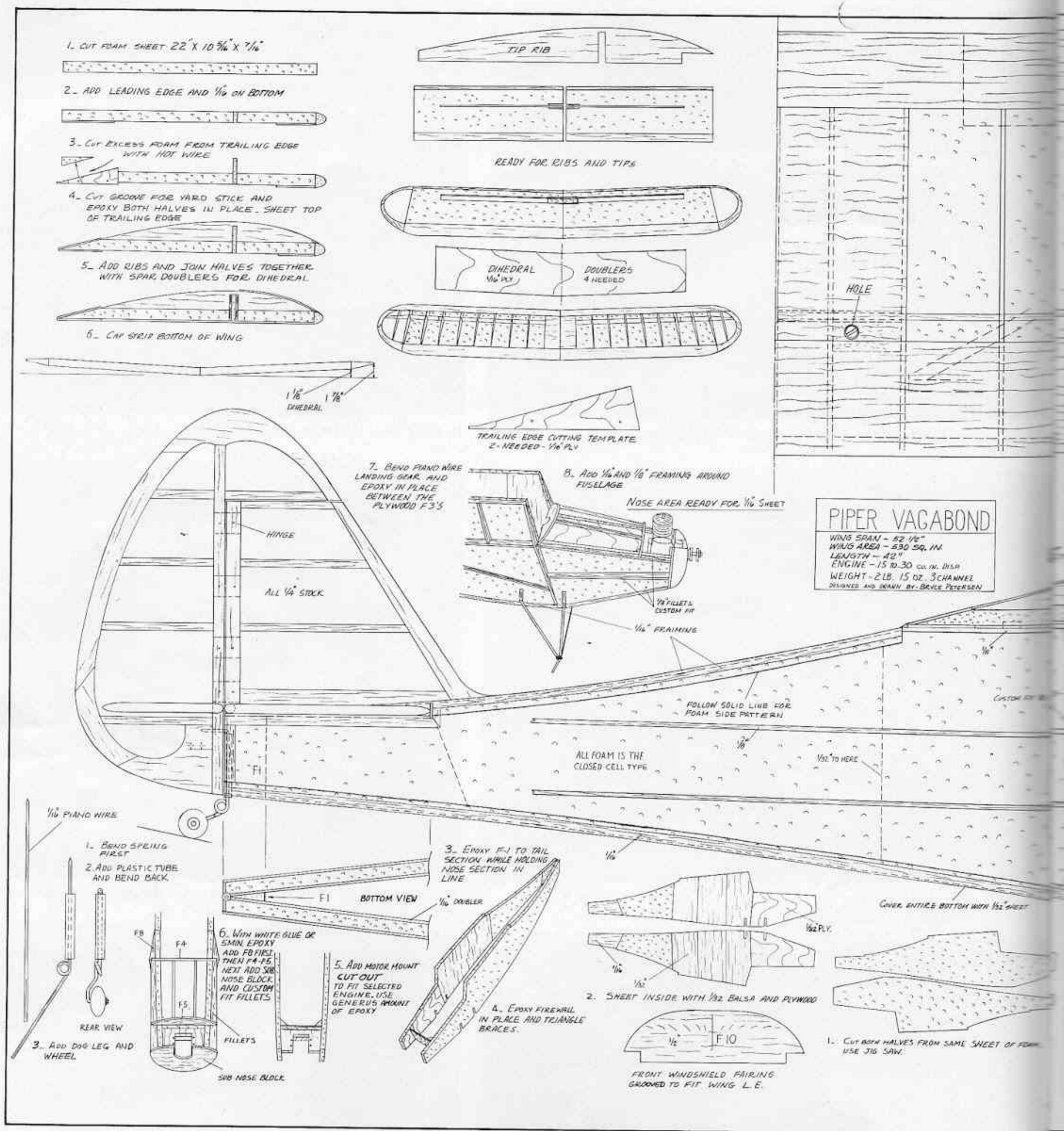
Wax paper is used to make the patterns for the nose sheeting.



A view of the basic wing components.



The Piper Vagabond, ready for covering.



smooth as possible so your cutting wire will not drag. Also, be sure they are **straight**. Use 5-minute epoxy around all frontal areas. When framing the fuselage with 1/16" balsa, white glue works fine. Be careful that your choice of glue will not attack the foam.

After the foam structure is complete with motor mount and sub-nose-block, start the framing with F8 and F9 on both sides. All other pieces fit

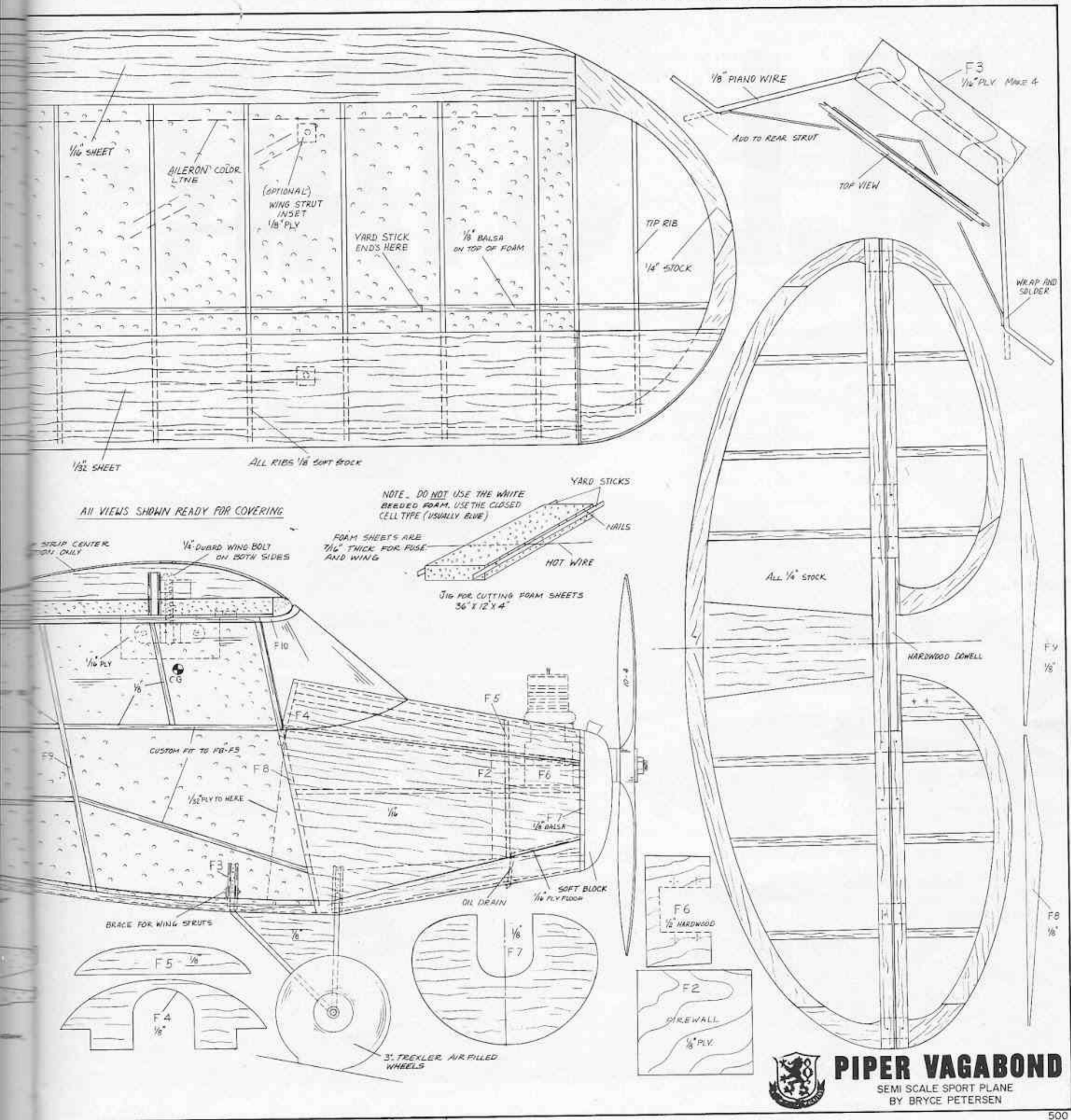
to these formers by the cut-and-fit process. The 1/16" cap strips on the edges are marked by holding a 1/16" sheet of balsa against the sides, top, and bottom, while you mark your patterns. The nose block is secured after the nose sheeting is complete and should be slightly oversize for sanding. Sand all stringers and edges slightly round so the fabric can stretch around them.

When you are ready to sheet the

nose area, wrap wax paper around it and mark your patterns with a scribe and straightedge. The top goes on as one piece, as do the sides and bottom.

Wing: Follow the step-by-step on the plan. The 1/16" cap stripping on the bottom is 1/4" wide and is placed in the same position as the ribs on top.

Your choice of engine is important. Try not to go over a .20. You simply don't need it. The high drag of this model will just waste the extra power.



PIPER VAGABOND
SEMI SCALE SPORT PLANE
BY BRYCE PETERSEN

Also, be sure your engine will idle properly. If there are a few extra revs in your idle, your model simply will not come down.

Covering: My model is covered with silkspan and dope. This is a little dangerous because of doping so close to the foam. If you do this, be careful. I would recommend one of the new mylar covering materials like the new silk spun Coverite, because it will save you a few ounces of weight. The cabin

sides and windshield area are painted with flat black water base latex, right over the foam on the sides. Be sure to test your paint.

My control system is a Kraft, with 3 KPS 12 servos and a 225 mah pack, weighing only 9 ounces total. Connect the rudder servo to the aileron command on the transmitter. The rudder is very sensitive to roll rate. The only adjustment the pilot must make is steering on the ground. Ailerons would

add little value to the Vagabond because of its slow air speed.

The fuel tank should be fit under the windshield as high as possible to allow normal fuel draw. The tank can be held in place with foam padding.

So from here, it is up to you. I know it is great sport to go whizzing straight up out of sight at 100 mph but, consider the nice soft touch and go . . . isn't it the greatest maneuver of all? □