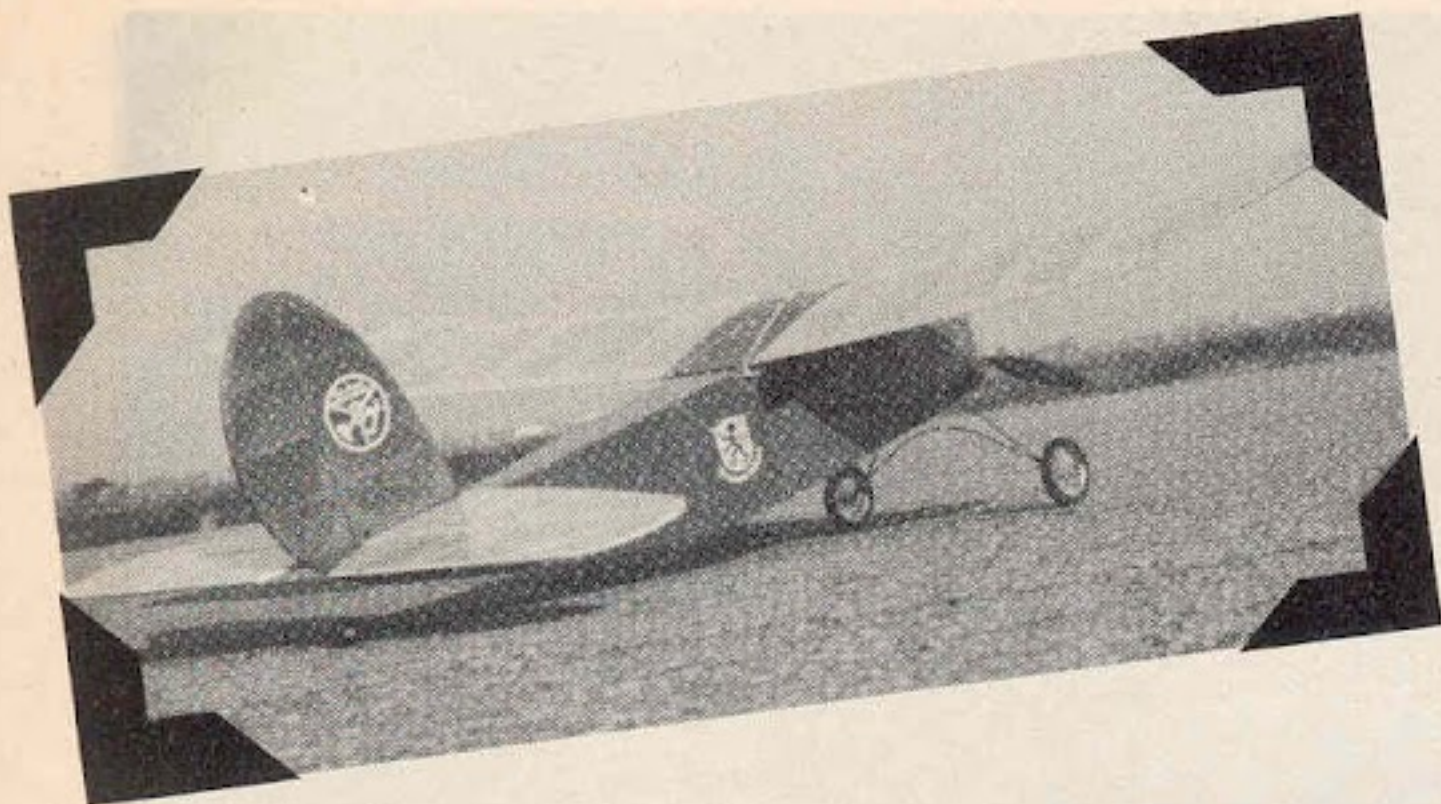


# MISS PHILADELPHIA IV



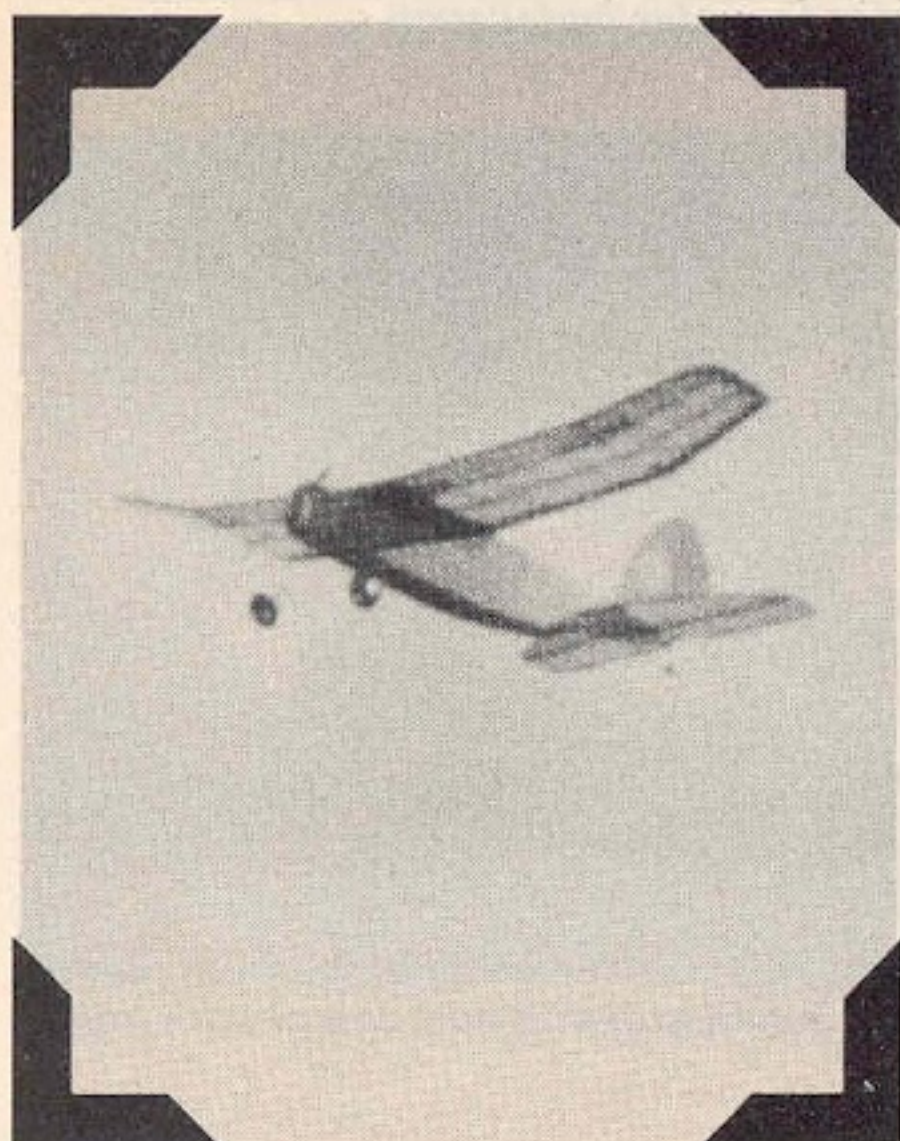




**Original free flight Miss Philadelphia designed by Maxwell Basset. R/C conversion was created by Randy Wrisley. Photos by Irene Wrisley.**

**W**hat do you get when you combine a Curtiss "Robin" fuselage, a DeHavilland rudder, and a Wanderer wing? Why you get Maxwell Basset's Miss Philadelphia IV! Max's model is generally given credit for being the first gas model to win a major meet. The two hour plus flight consumed 13 ounces of gas, one human timer, and Max's best pair of tennis shoes!

The model presented herein is scaled down to a manageable 6' wingspan. Ours weighs in at 45 ounces and flies up a storm on an Astro 05 gear drive unit. For you "gasolineers" out there, a hot .09 to a mild .19 will do just as well. Like almost all Old Timers, Miss Philly is a stable, forgiving, let your wife fly it type of model. Ours thermals easily, and with all that stab has great stall characteristics. So what are you waiting for . . . get busy and build one!



#### **MISS PHILADELPHIA**

Designed By: Maxwell Basset

R/C Conversion: Randy Wrisley

#### **TYPE AIRCRAFT**

Old Timer Sport

#### **WINGSPAN**

75 Inches

#### **WING CHORD**

10" (Avg.)

#### **TOTAL WING AREA**

720 Sq. In.

#### **WING LOCATION**

High Wing

#### **AIRFOIL**

Clark 'Y'

#### **WING PLANFORM**

Constant Chord Center

Tapered Tips

#### **DIHEDRAL, EACH TIP**

4 1/2 Inches

#### **O.A. FUSELAGE LENGTH**

44 Inches

#### **RADIO COMPARTMENT AREA**

(L)13" x (W)3 1/2" x (H)3 3/4"

#### **STABILIZER SPAN**

31 1/2 Inches

#### **STABILIZER CHORD (incl. elev.)**

7 1/4" (Avg.)

#### **STABILIZER AREA**

220 Sq. In.

#### **STAB AIRFOIL SECTION**

Flat

#### **STABILIZER LOCATION**

Top of Fuselage

#### **VERTICAL FIN HEIGHT**

10 1/4 Inches

#### **VERTICAL FIN WIDTH (incl. rudder)**

8 1/2 Inches

#### **REC. ENGINE SIZE**

.09-.19

or 05 Elec. Gear Drive

#### **FUEL TANK SIZE**

4-6 Oz.

#### **LANDING GEAR**

Conventional

#### **REC. NO. OF CHANNELS**

3

#### **CONTROL FUNCTIONS**

Rud., Elev.,

Throt./Motor Shut-off

#### **BASIC MATERIALS USED IN CONSTRUCTION**

Fuselage . . . . . Balsa, Spruce & Ply

Wing . . . . . Balsa & Ply

Empennage . . . . . Balsa

Wt. Ready To Fly . . . . . 45 Oz.

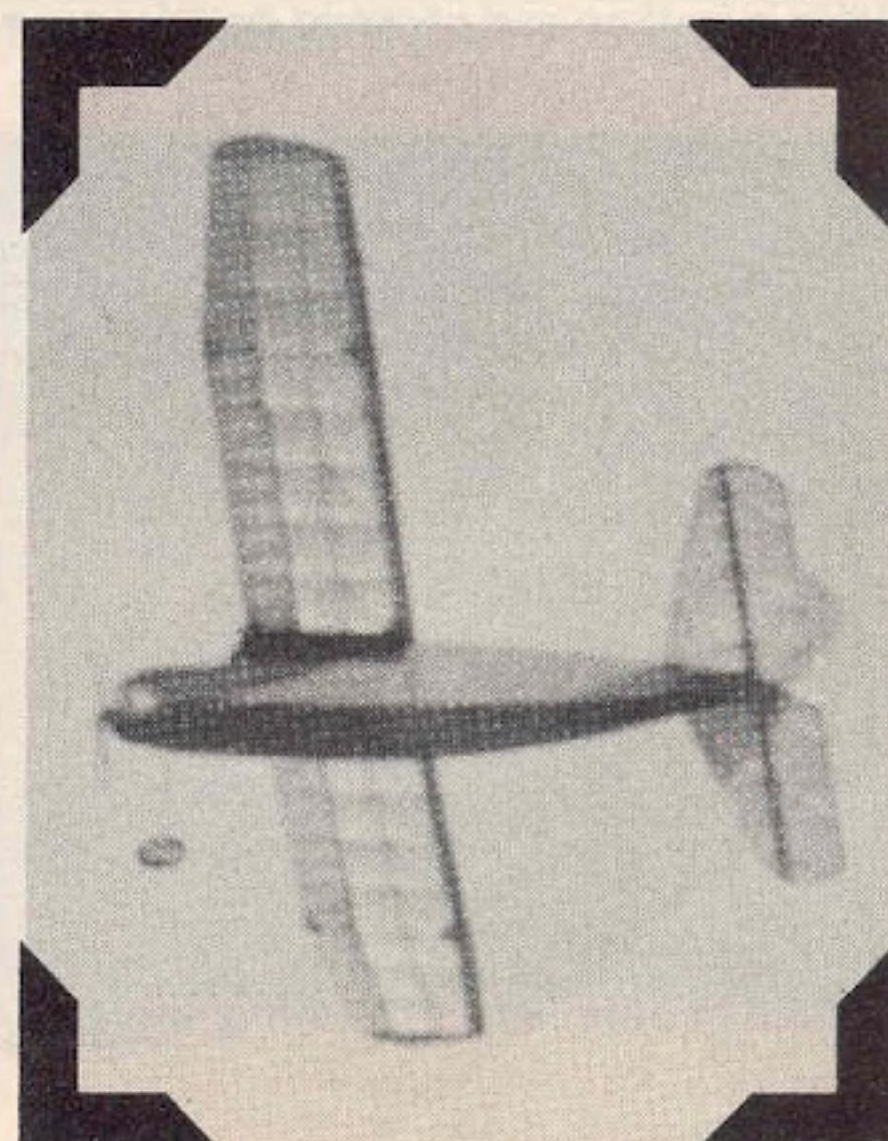
Wing Loading . . . . . 9 Oz./Sq. Ft.

#### **Fuselage:**

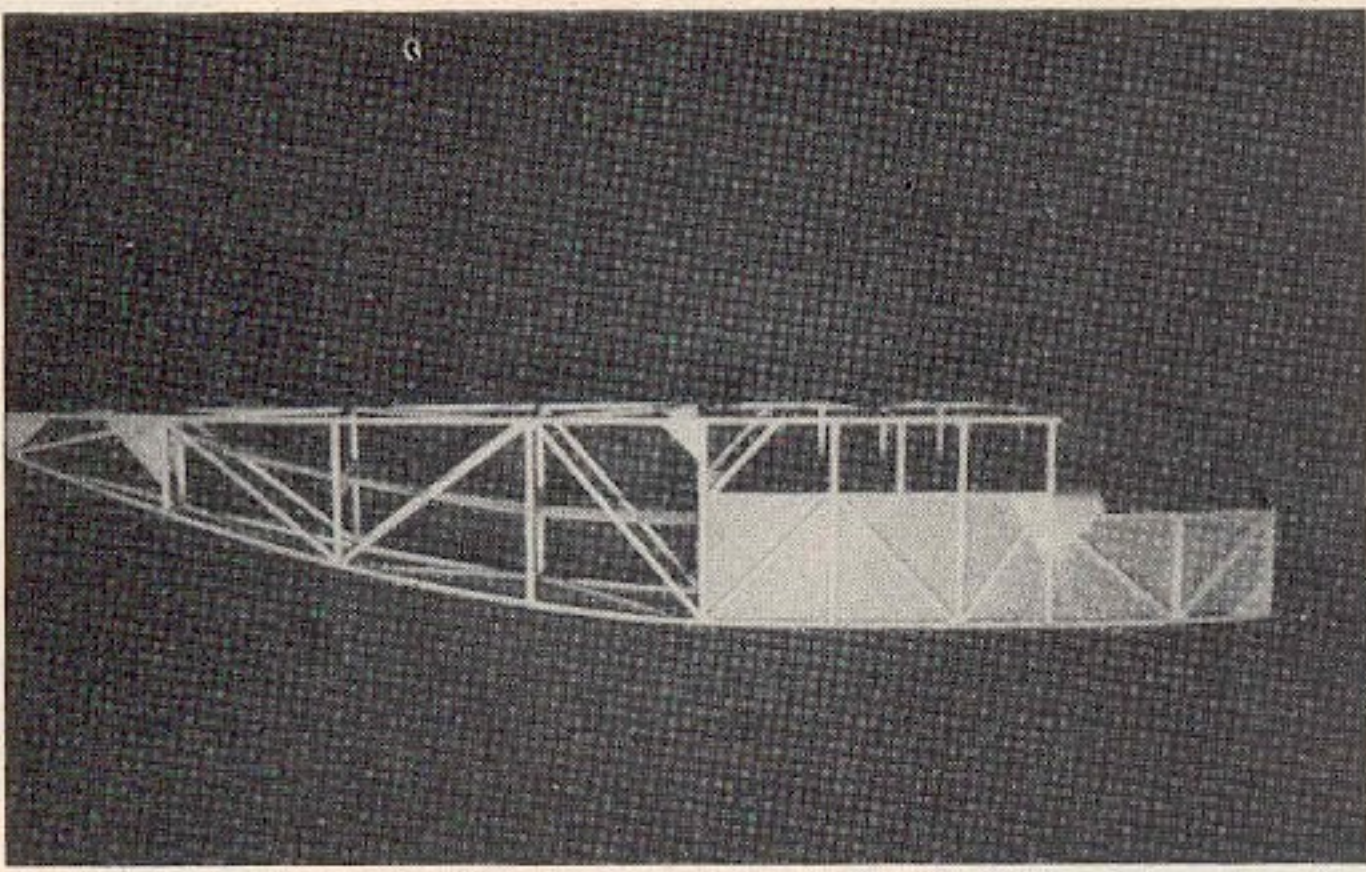
Use 1/4" square lumber and 1/32" ply doublers for gas. 3/16" square and 1/64" ply doublers for electric. Be sure to use spruce at the locations shown. Build one side on top of the other, exclusive of the ply doublers. When the sides are dry, separate them carefully. Cement the doublers in place in the cabin area only. Begin assembly of the fuselage by pinning the sides upside down over the top view. Install the cross braces top and bottom from the front of the cabin to the tail. The diagonals are cemented in too, making sure they run in different directions when viewed from the top.

Pull the fuselage off the top view, and pin it back down again right side up. Carefully flex the nose into shape. Use the cross braces to hold the middle apart. When you get the correct contour, Hot Stuff the doublers to the sides. Epoxy the firewall into place as shown for electric, or move it aft to fit your gas motor. Bend up the landing gear from 3/32" m.w. for electric or 1/8" m.w. for gas. Epoxy the 1/4" plywood landing gear cross pieces into the bottom. Plank where shown with 1/8" lite ply and install the 1/2" triangle stock gear support blocks. Cement former F2 in if you haven't

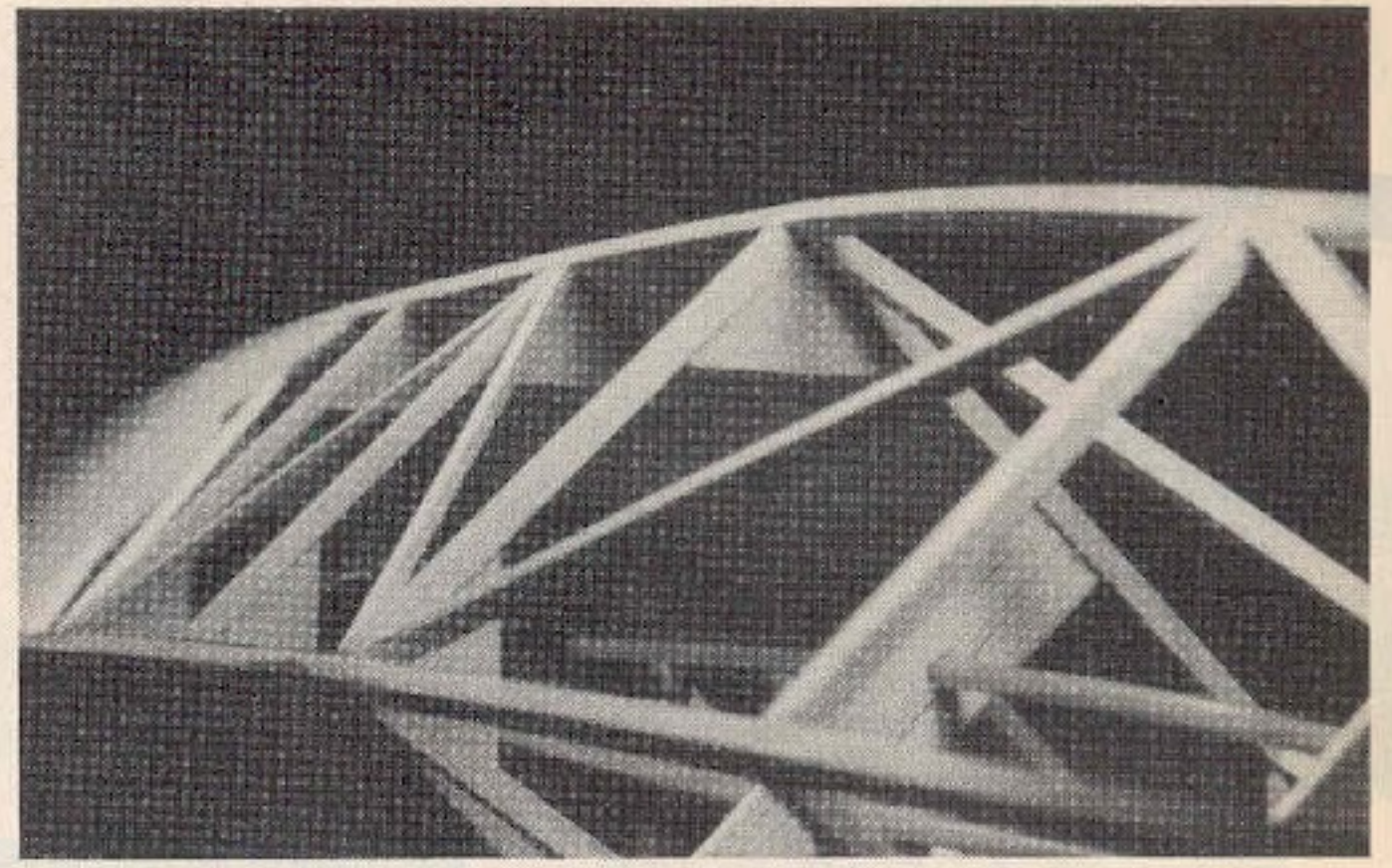
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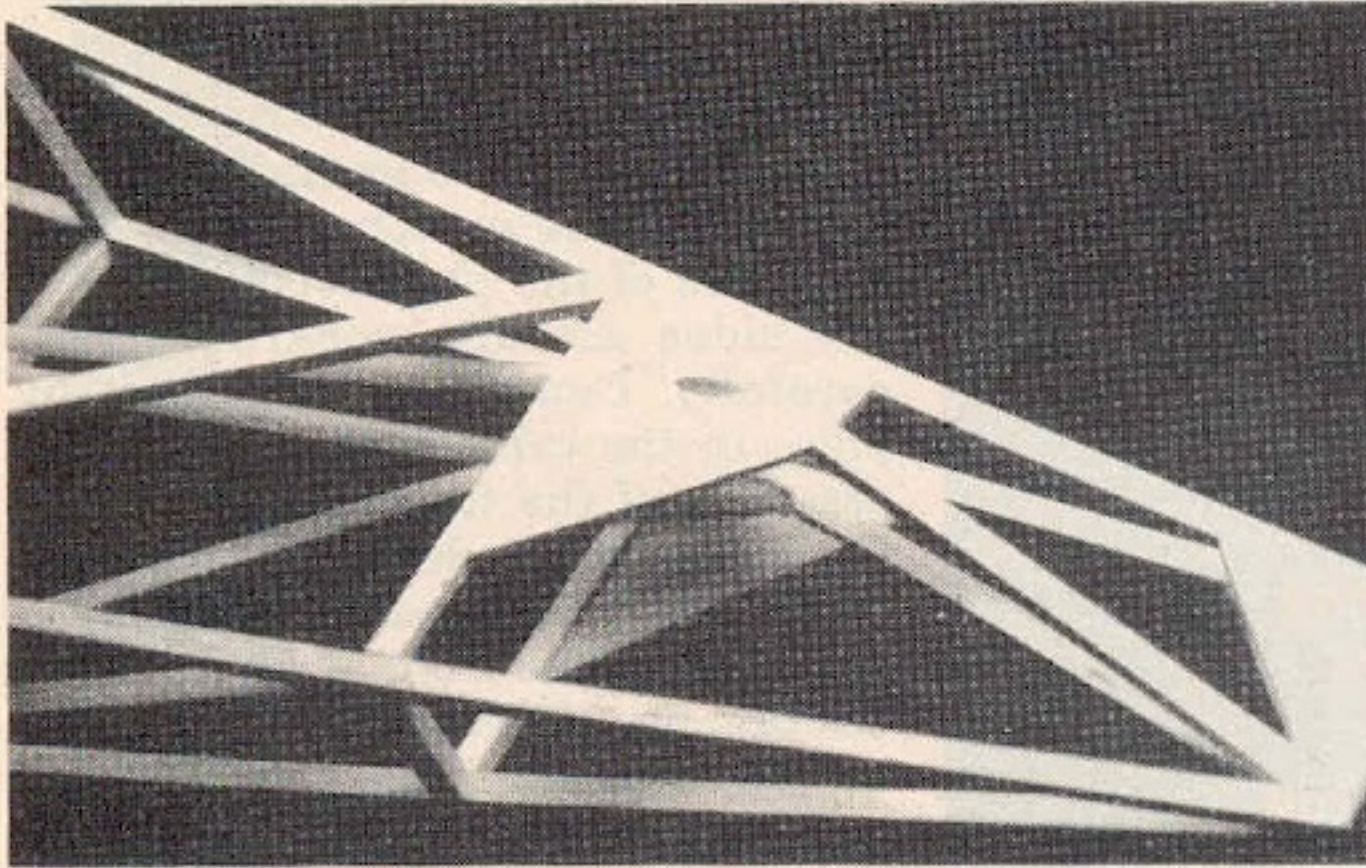




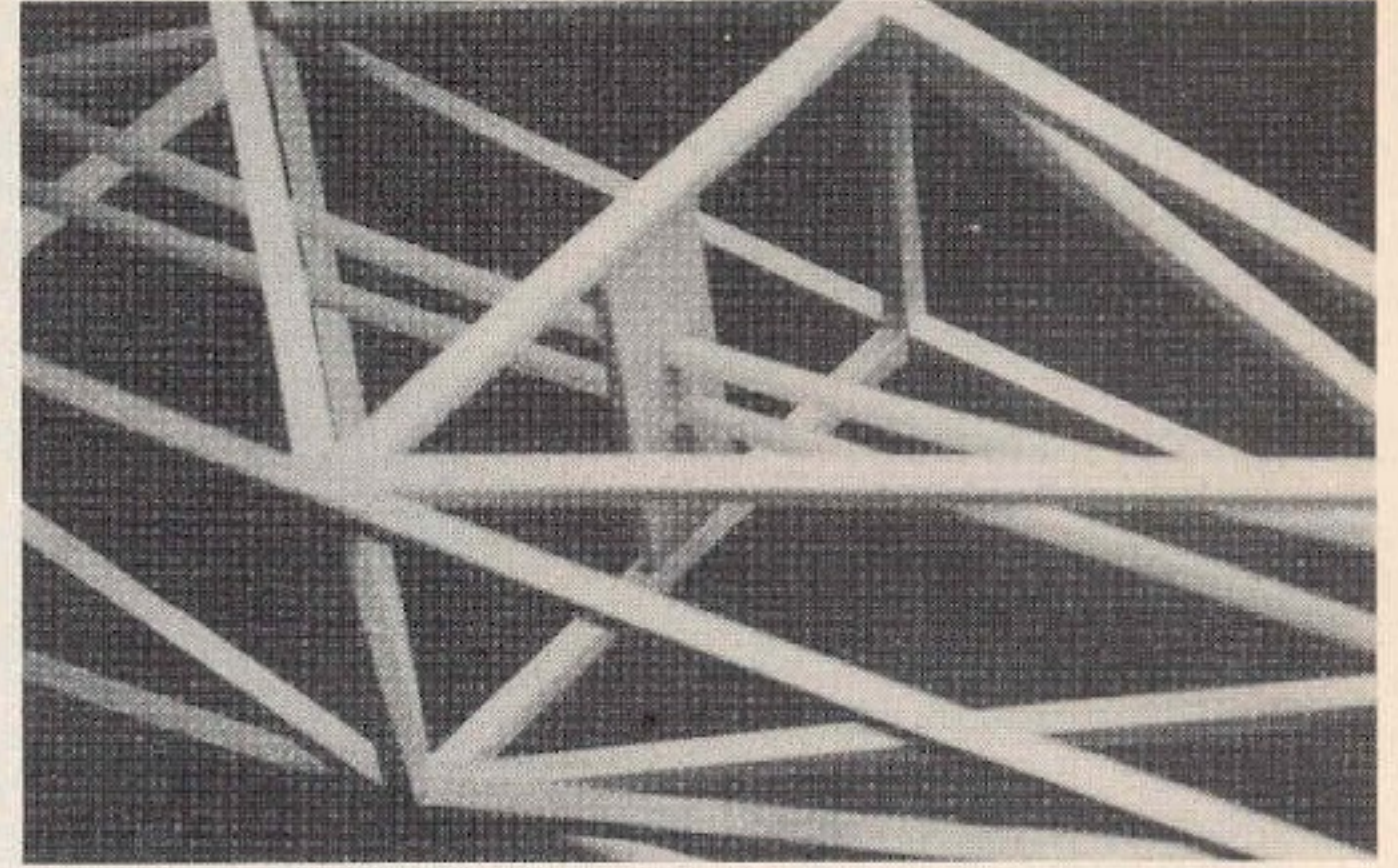
*Fuselage structure with pushrods installed.*



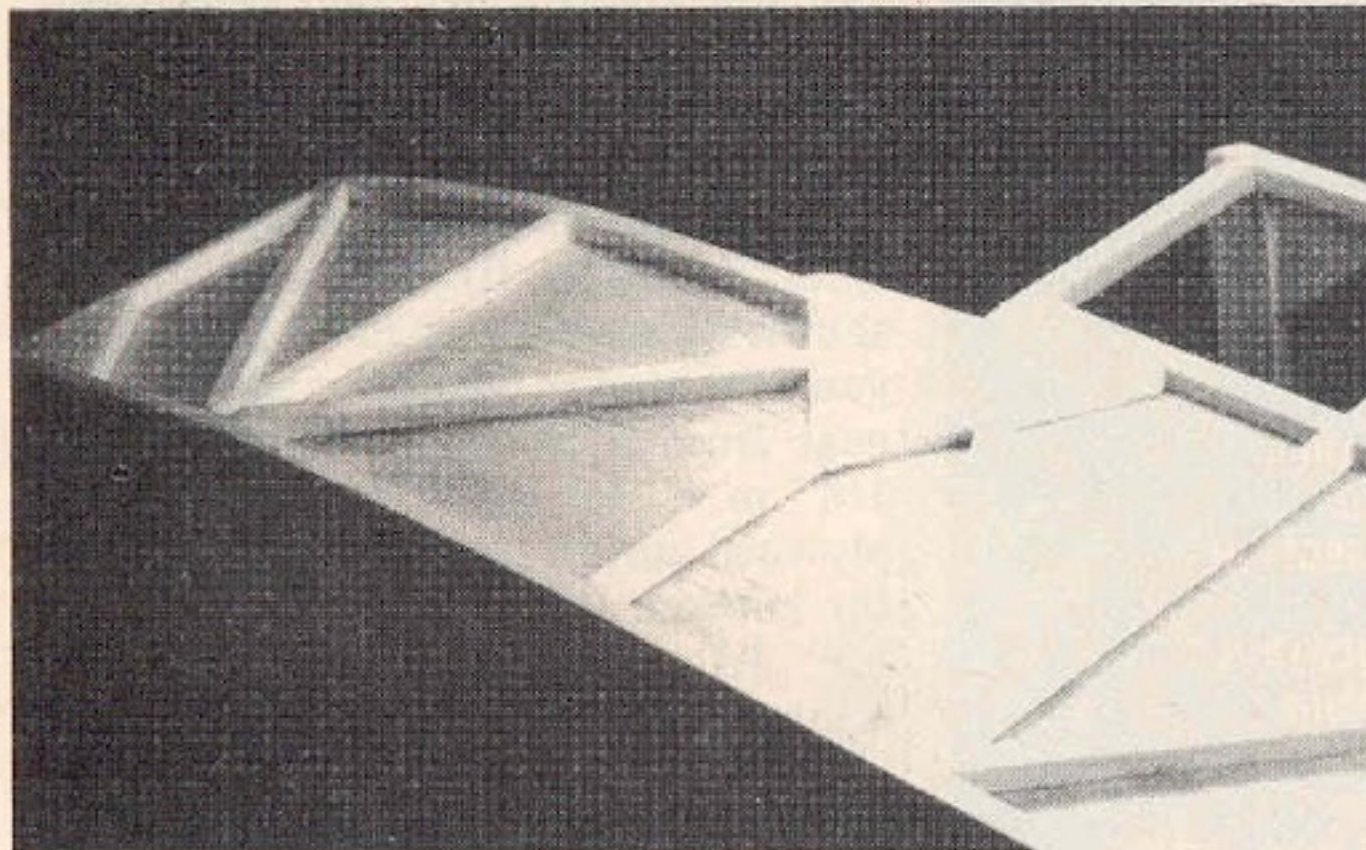
*Detail view of gussets in cabin area and pushrod support.*



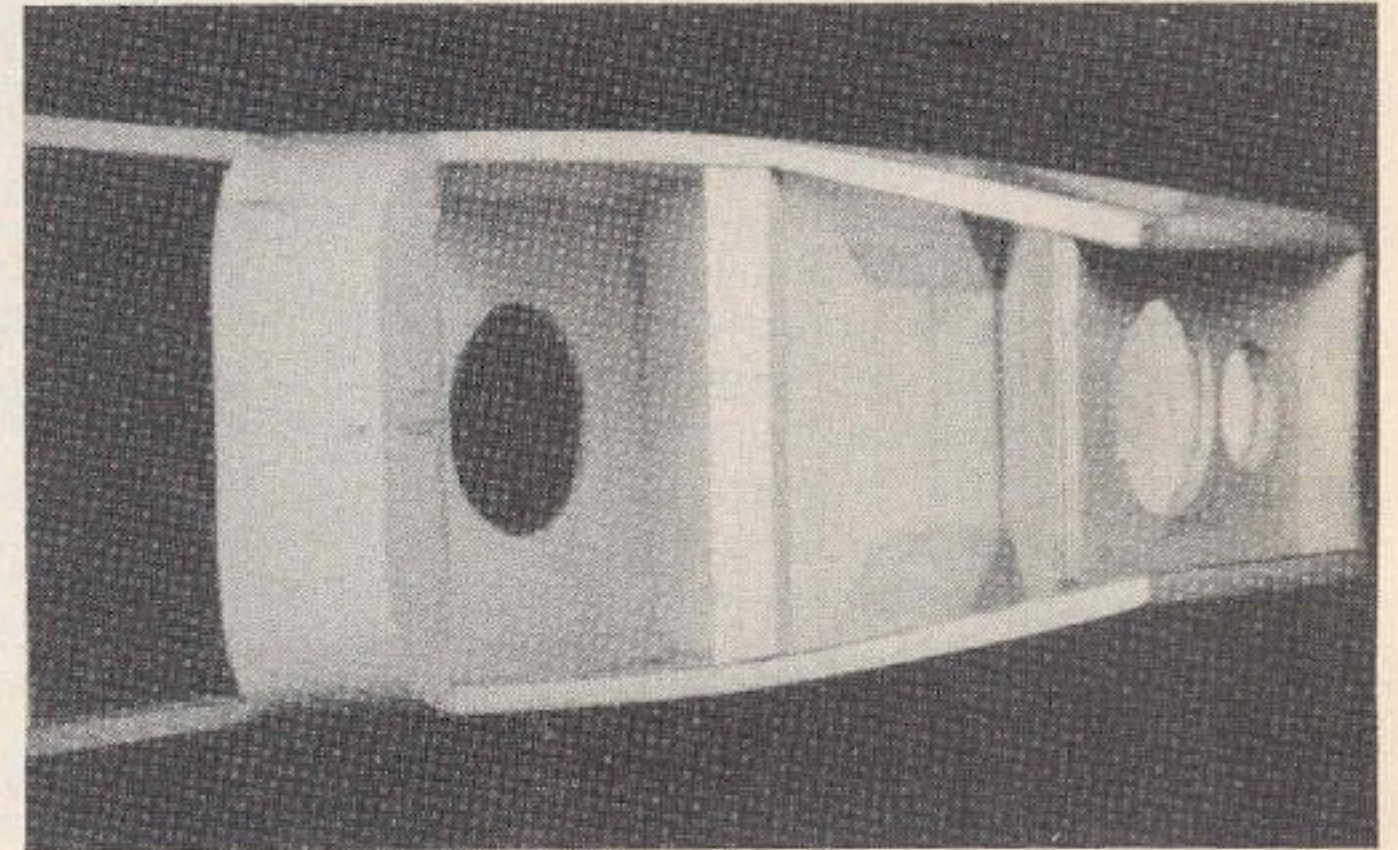
*Pushrod exit details and aft gusset.*



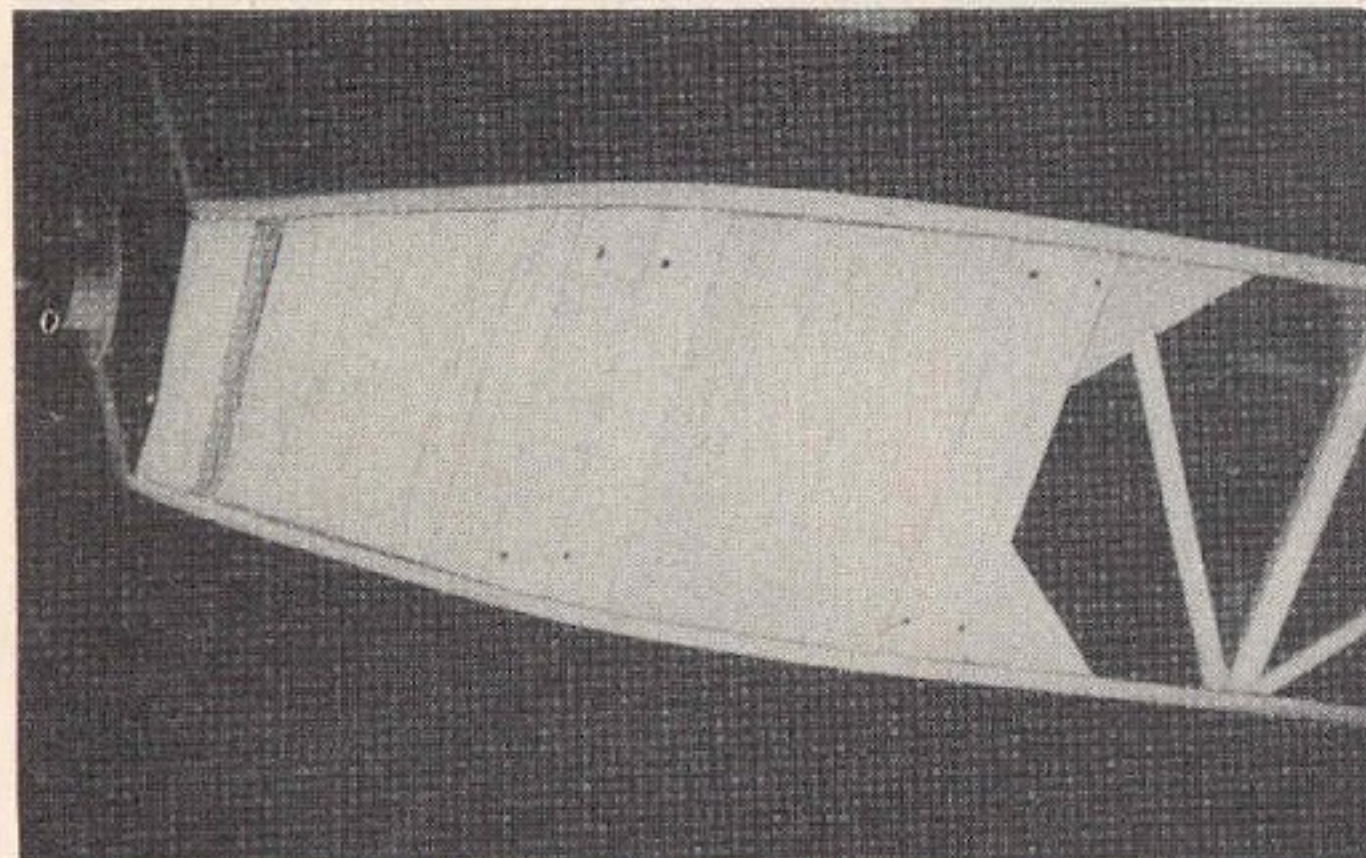
*Mid-fuselage pushrod support.*



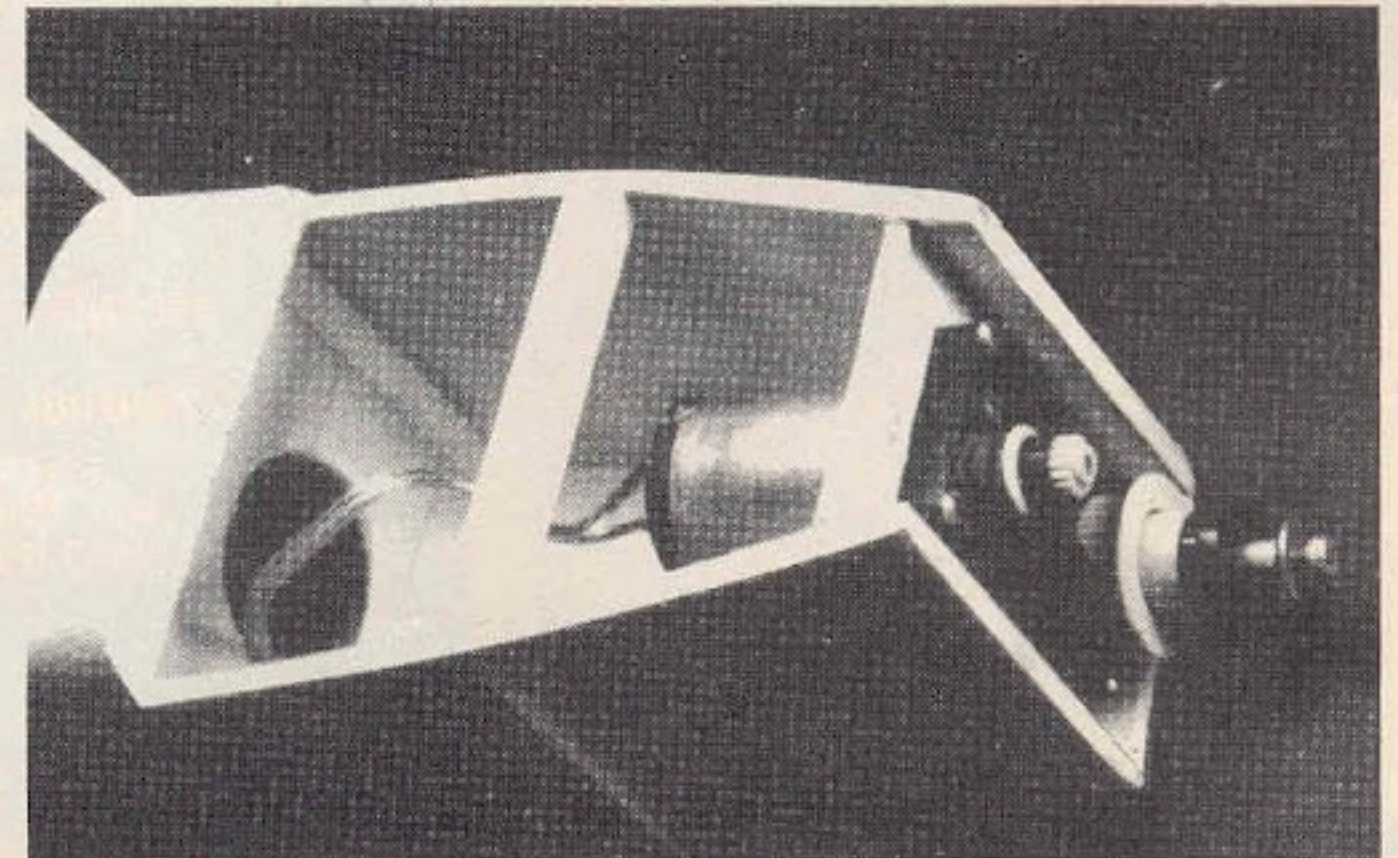
*Nose curvature and plywood doubler are evident in this photo.*



*Interior view of nose prior to motor installation.*

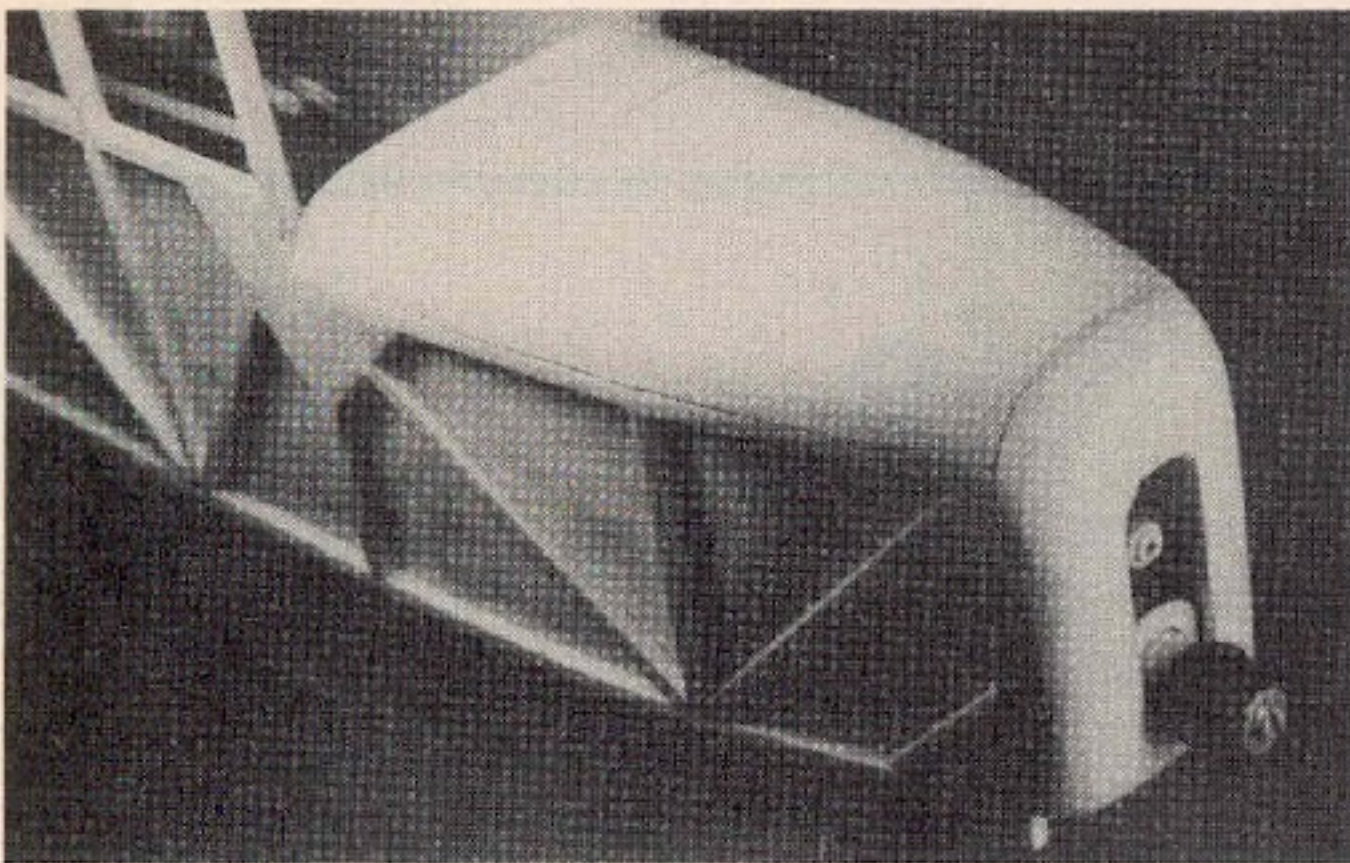


*Bottom of nose section showing landing gear mounting holes.*

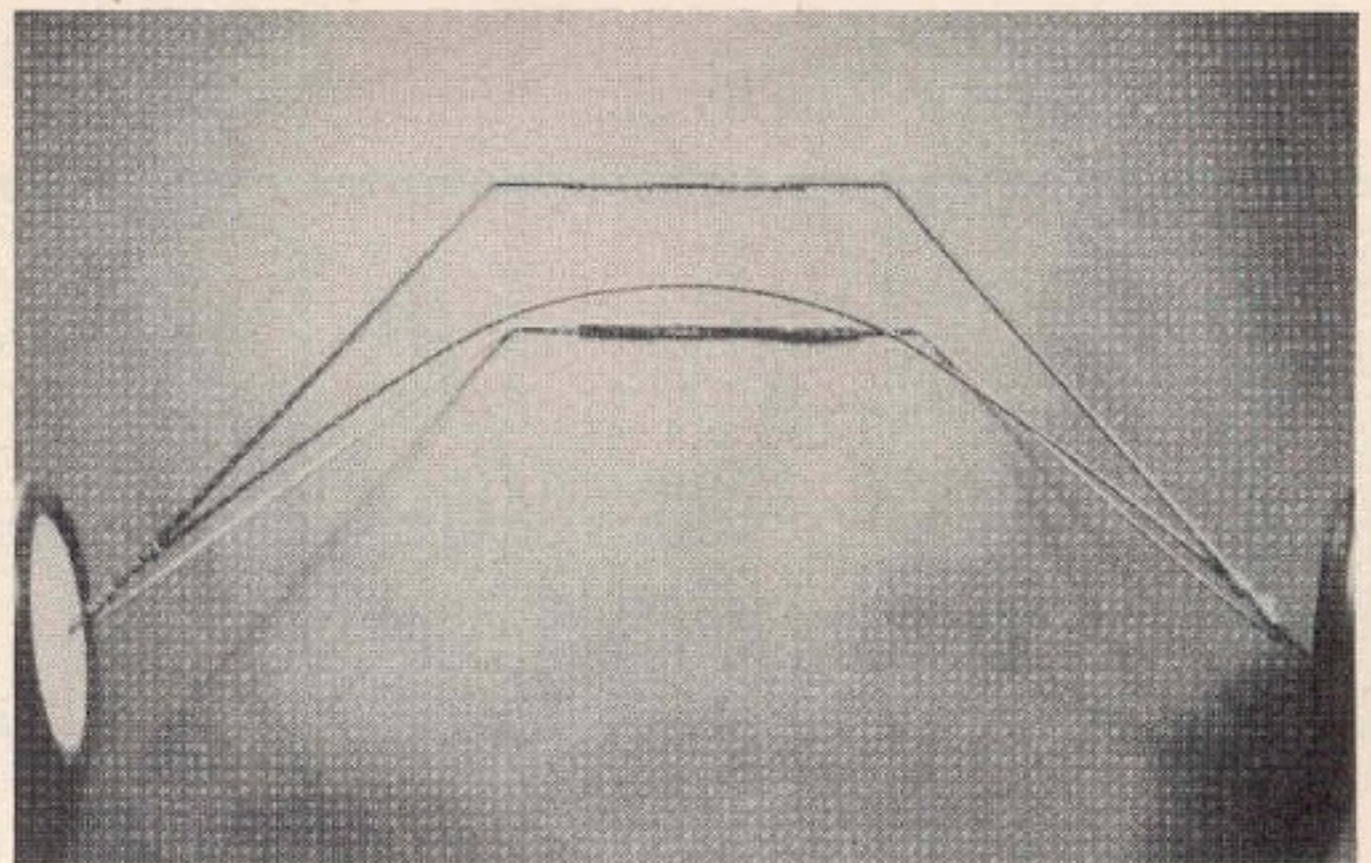


*Motor and reduction drive installed. Hatch hold down screw goes into cross member.*

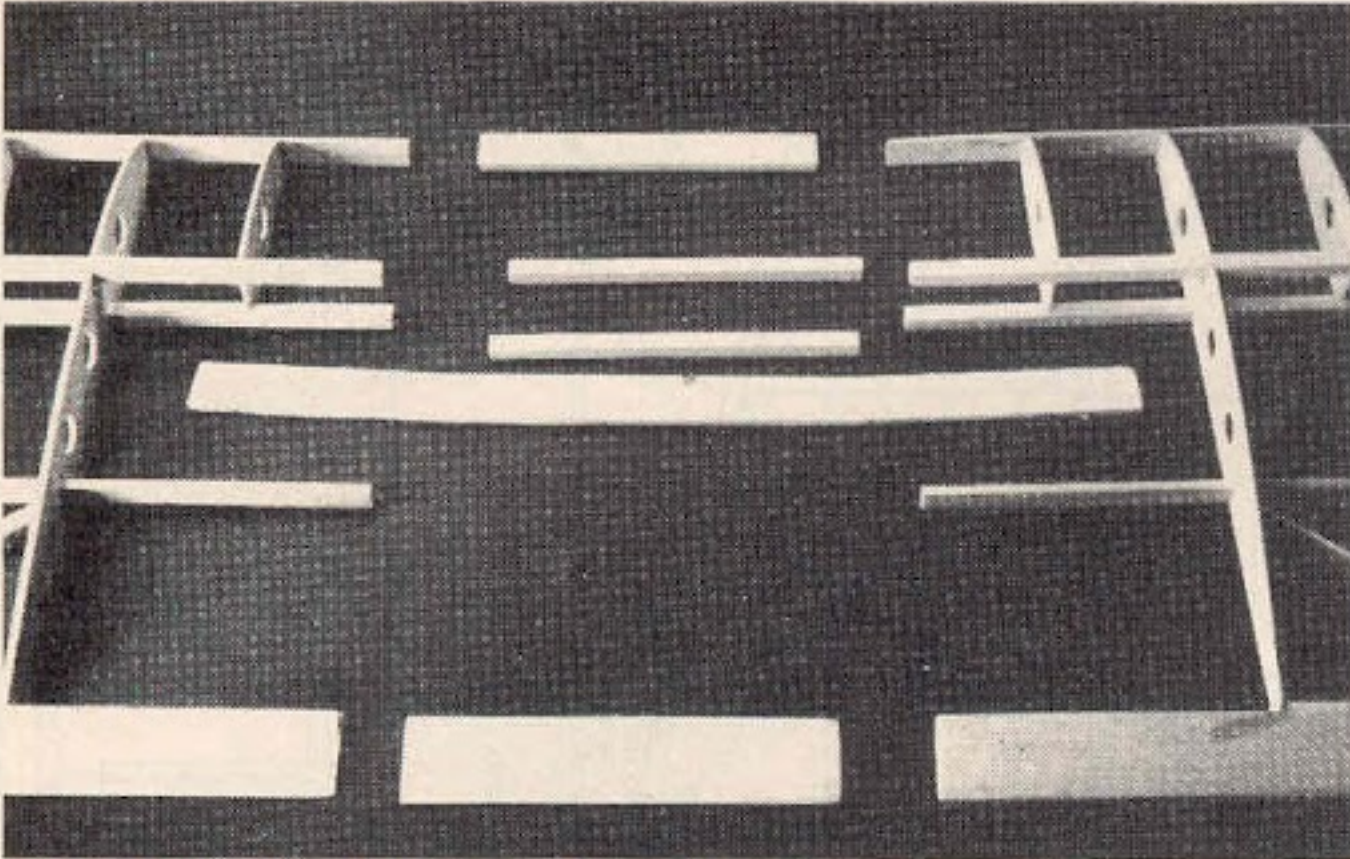




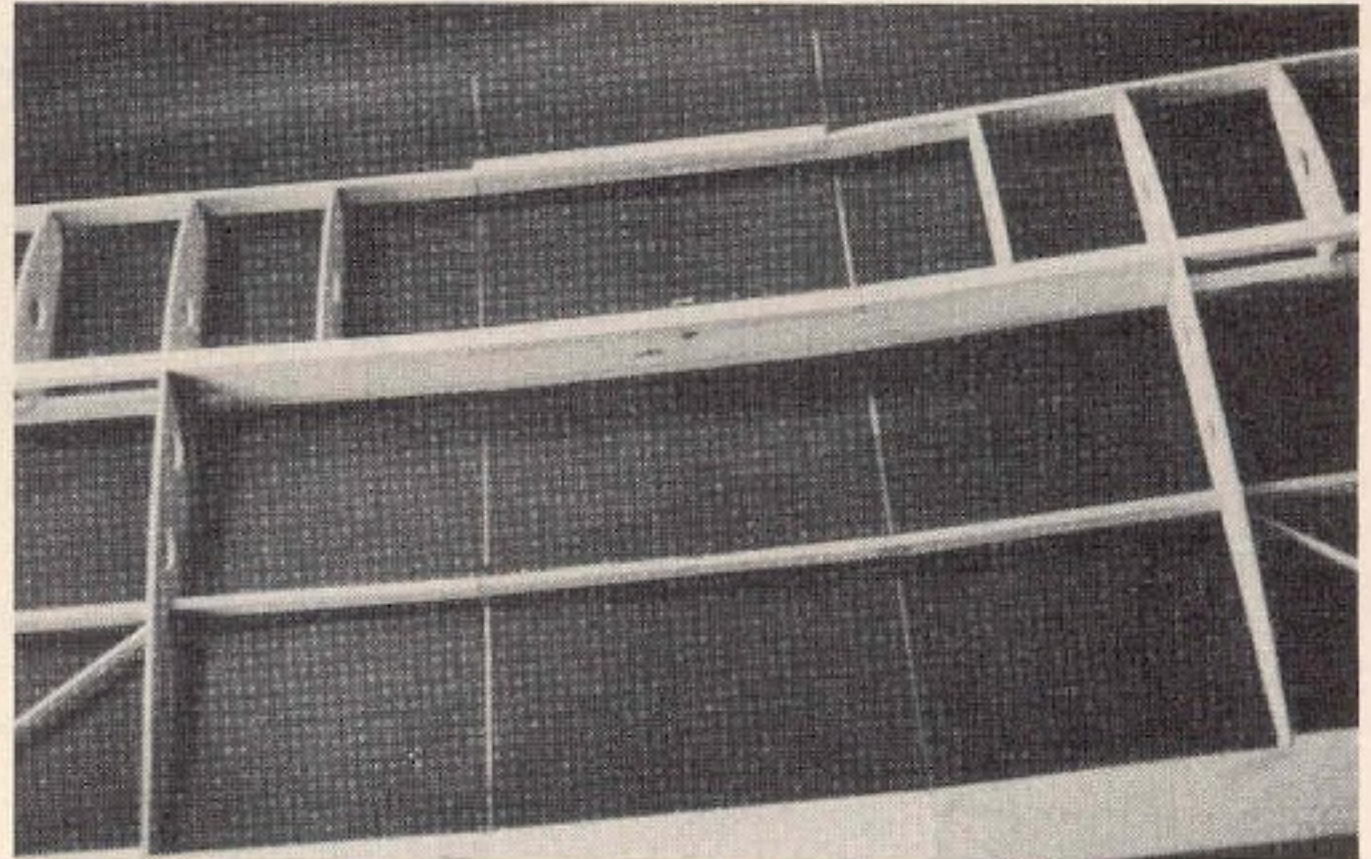
*Completed nose section with Astro #4028 belt drive installed.*



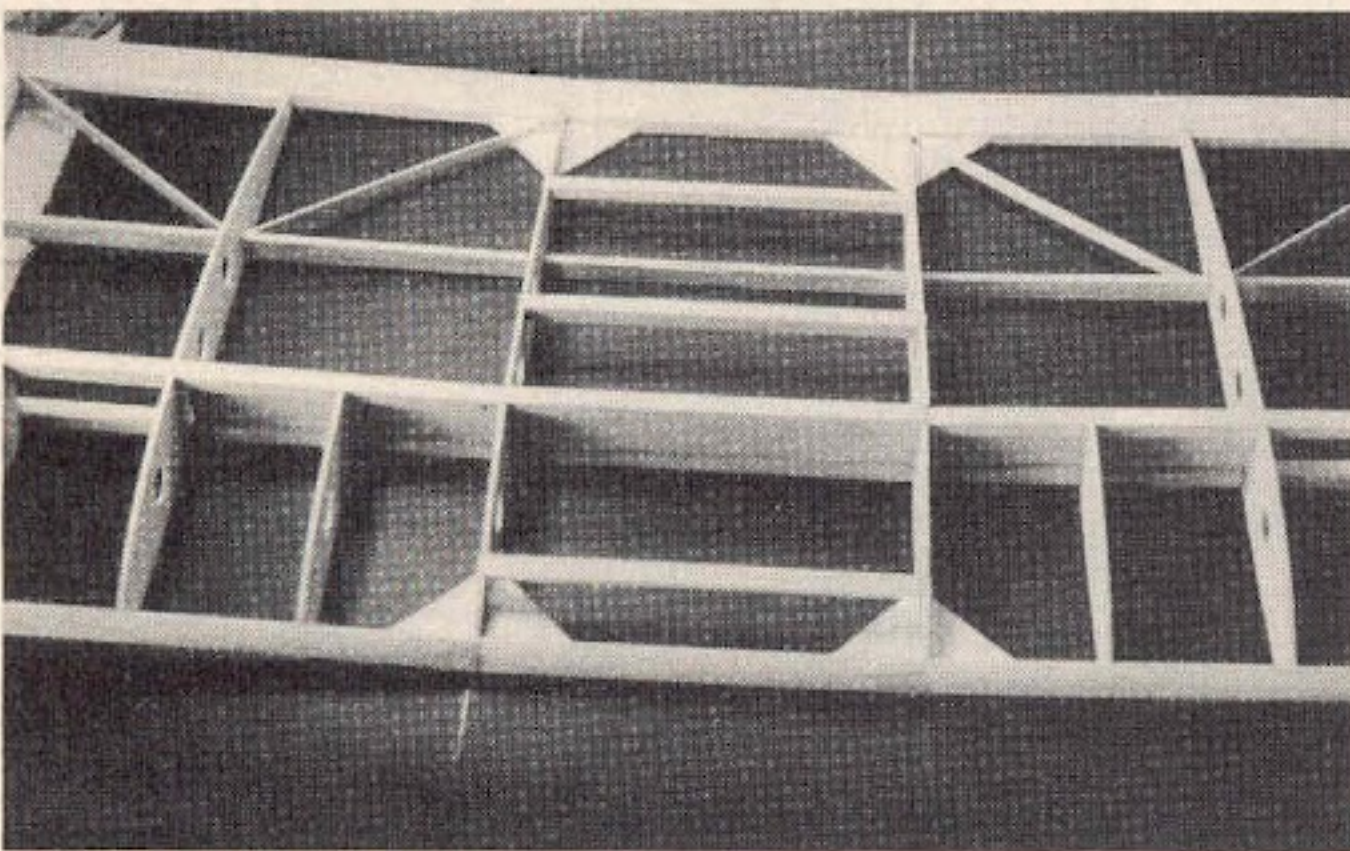
*Completed landing gear assembly.*



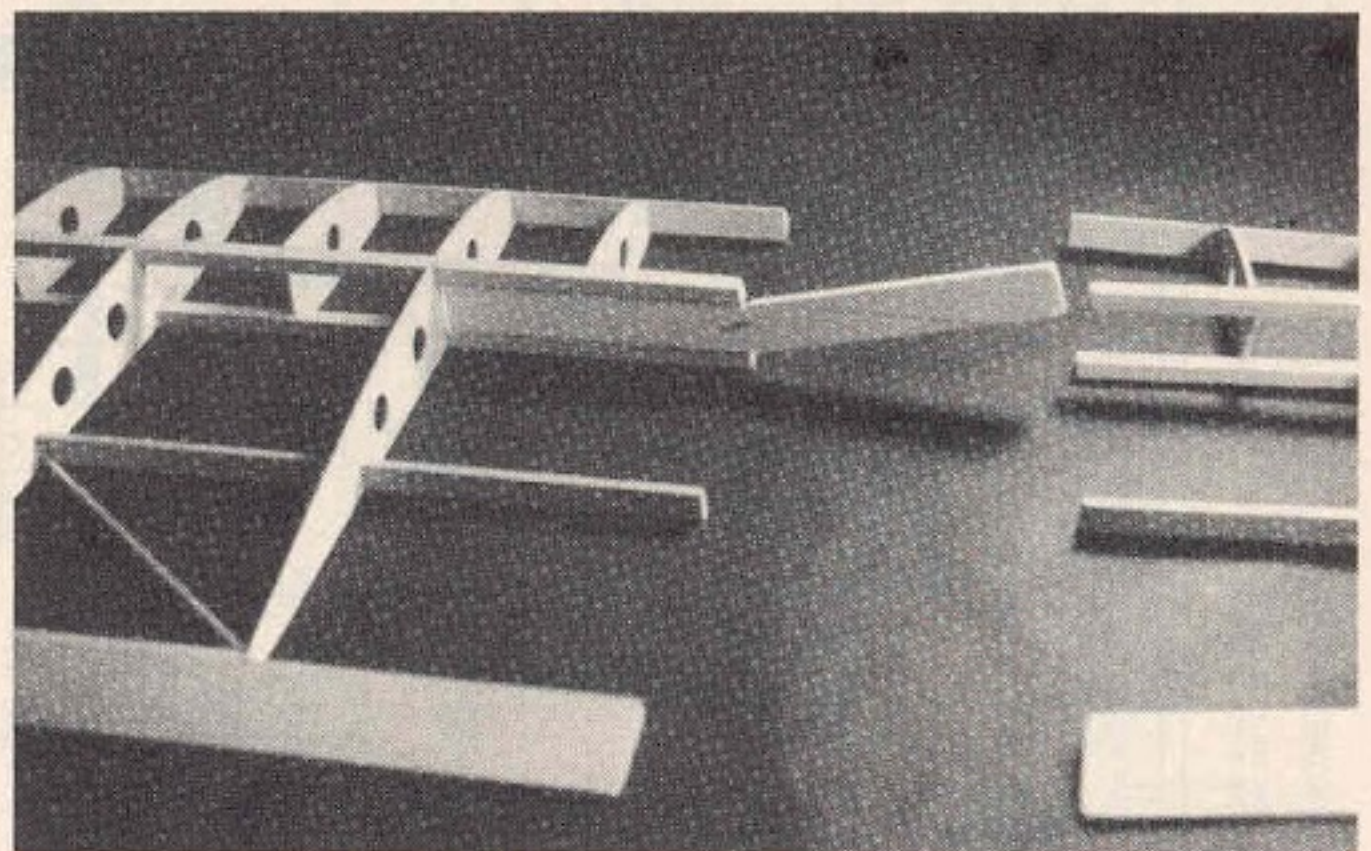
*Parts for assembling wing panels at center section.*



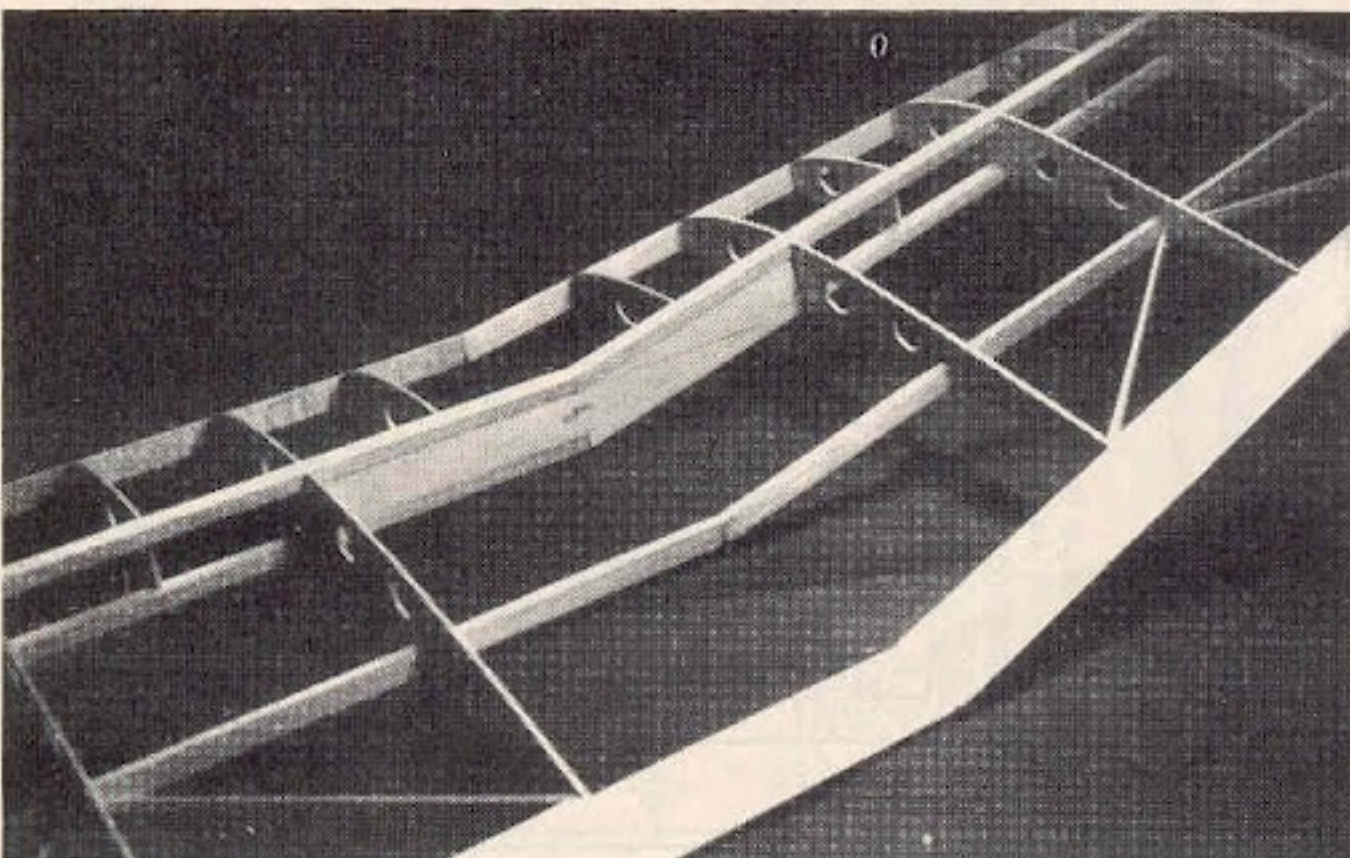
*First step in center section assembly.*



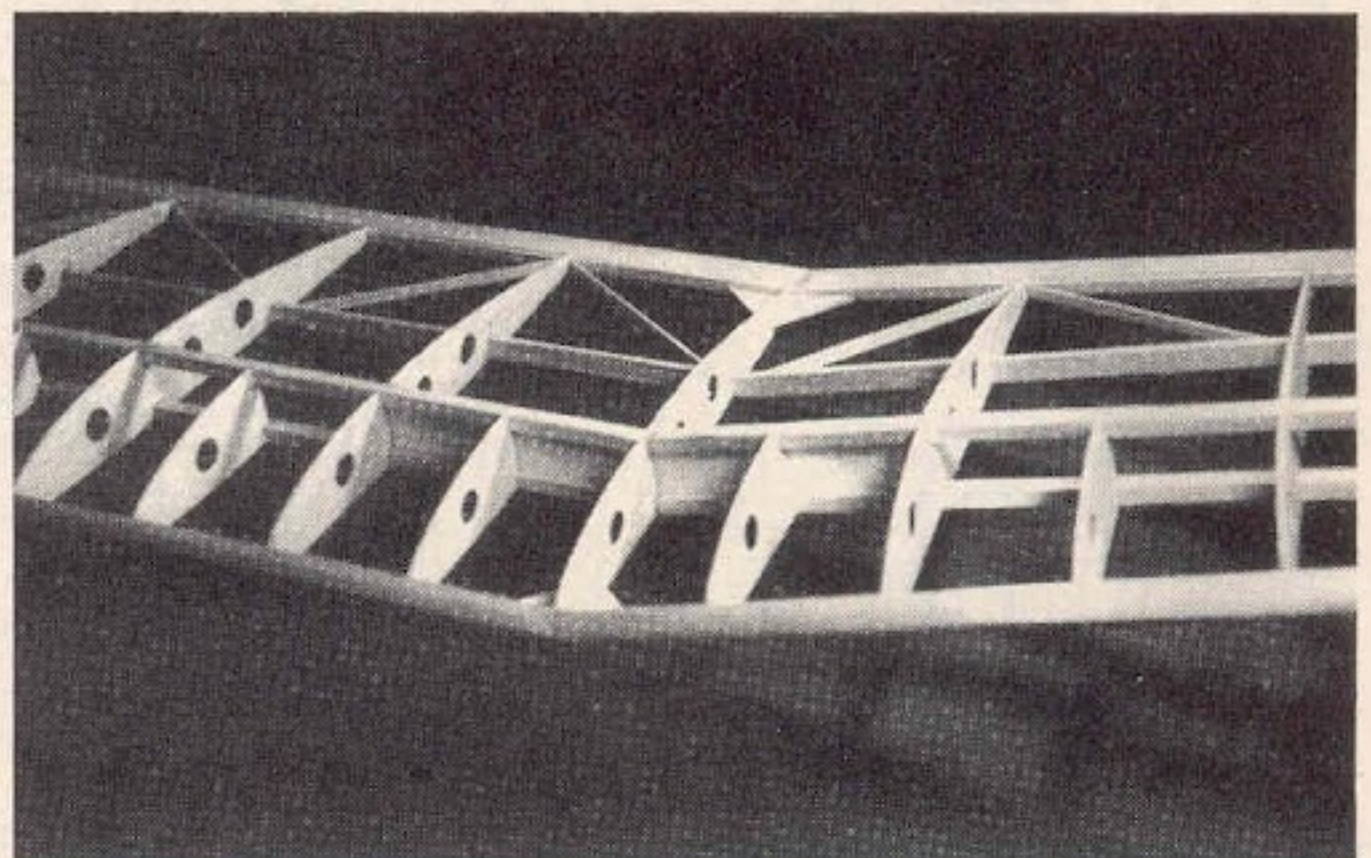
*Completed wing center section.*



*Polyhedral epoxied in inboard panel.*

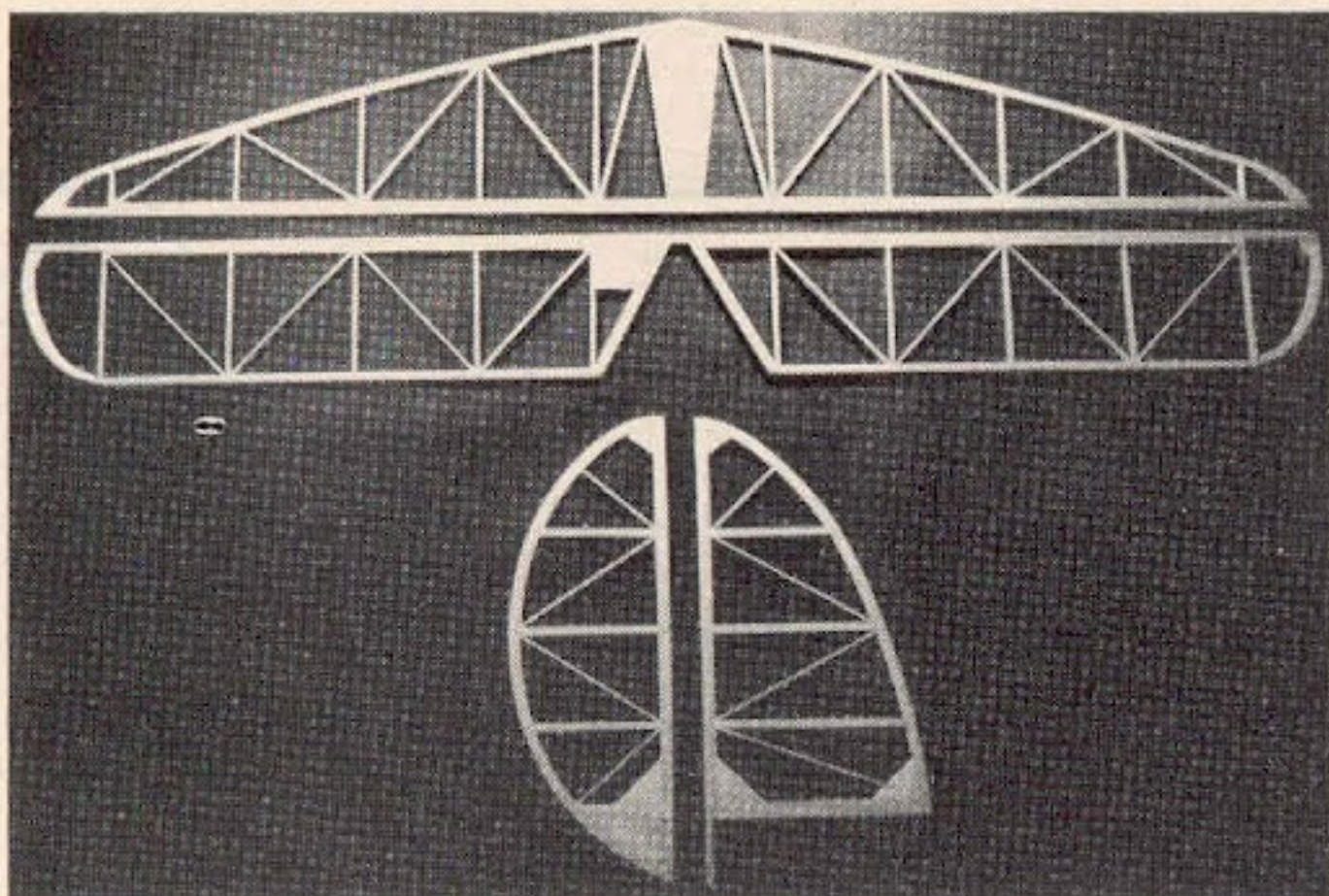


*Inboard and outboard panels are joined.*



*Polyhedral joint is completed.*





*The tail surfaces are basic lightweight structures.*



*Screen makes nice grill effect.*

already. Next comes the 1/4" gussets in and around the cabin area. Those little monsters really add strength! About all that's left to do is carve the top and nose blocks to shape. Make a tank compartment if you need one. Finally, route the pushrods before covering.

#### **Wing:**

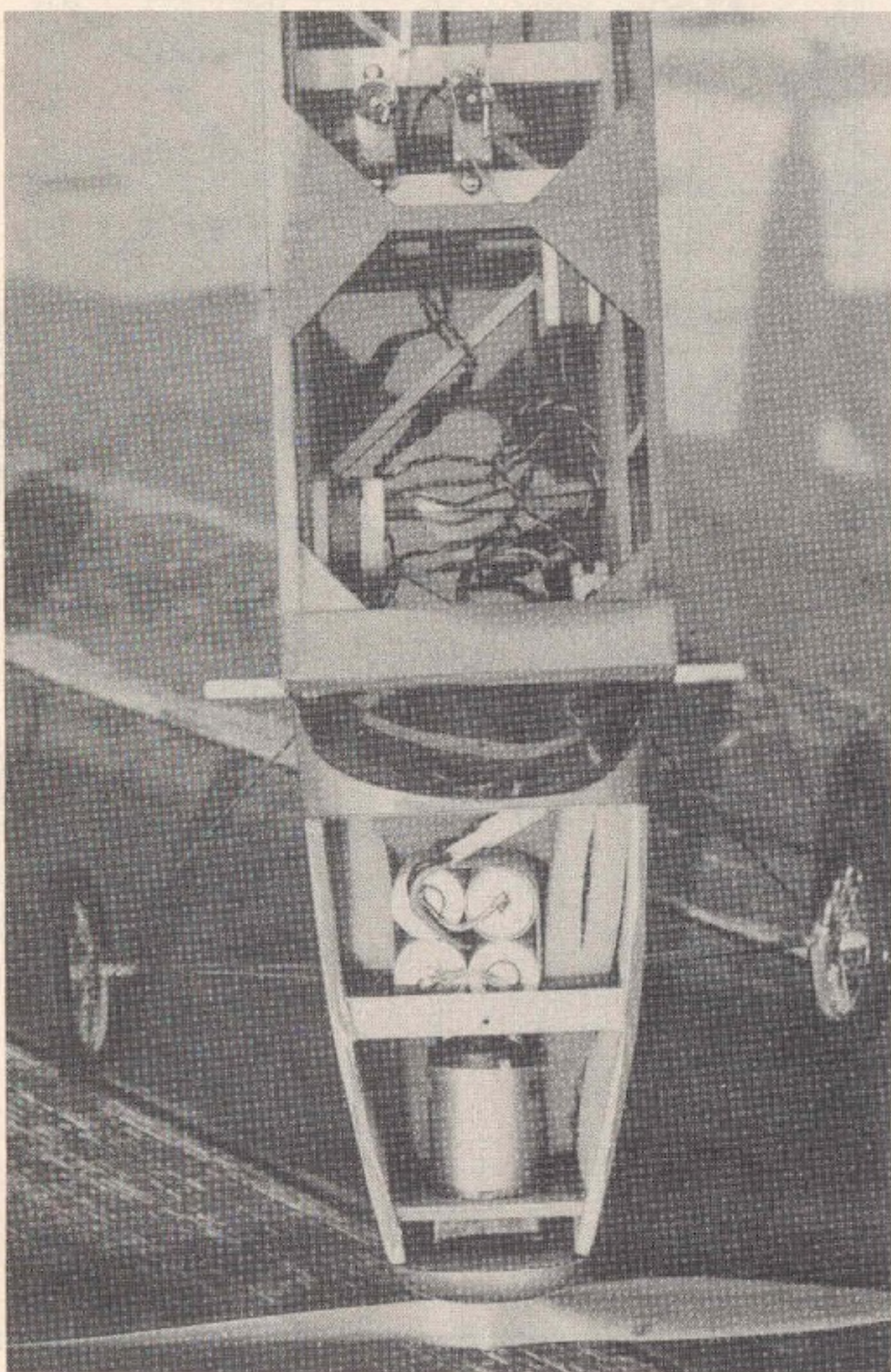
Using a plywood template, cut out twelve W1 ribs and ten W1A ribs.

Make two each of the tip ribs as well. Lightening holes are optional, but sure look good under transparent covering. Pin the trailing edge and bottom spars down over the plan. Cement the ribs in. We use a soft piece of 1/8" x 1/4" balsa, cemented between each rib at the trailing edge to stiffen the structure. Block up the leading edge to match the ribs and cement it in place. Install the top spar and

diagonals. Cut out the three polyhedral braces. WB1 is 1/8" ply if electric power is to be used and 3/16" ply should be employed for conventional R/C glow engine. WB2s are 1/8" lite ply. When the wing is dry, block up each tip 3" and epoxy both WB2s in place.

After the epoxy sets, block up the center panels 1 1/2" each and epoxy

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*Lots of room for equipment installation.*





## MISS PHILDELPHIA

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WB1 into place. Cement the gussets on at the poly-breaks, then carve the leading edge to shape. Bend a piece of 1/16" m.w. to fit the trailing edge and Hot Stuff it in place to protect against rubberband cuts. Don't forget the 1/4" spruce stub spars in the C/S.

### **Tail Feathers:**

These structures are built flat on the board. Use rock hard balsa for the center spars on both parts, and soft balsa for the rest. We laminated the rudder/fin outline from eight pieces of 1/32" x 1/4" soft balsa. We didn't even need to use water! The only spruce needed is the elevator joiner. Once these parts are dry, sand the edges round and fit them to the fuselage.

### **Covering:**

We used plastic film. If you use anything else, take care not to warp the structure.

### **Assembly:**

Epoxy the tail surfaces in place. Install the 3/16" wing dowels. The 1/8" dowel cabin brace should be fit at this time, but not installed until the top block is covered. Before you cement the windshield and side windows on, install the radio system components in order to achieve the proper Center of Gravity.

### **Flying:**

Not too much to say here really. Do a **careful** pre-flight. Use 1/2" travel each side for rudder, 1/4" each way for elevator. As you might expect, the big elevator is powerful! For electric, we found an 11d/7.5p prop works best. Surprisingly, ours ROG's just fine on its forward placed landing gear. You'll find your Miss Philly to be a gentle, forgiving fun flier with just enough "ugly" to be truly unique! ☐