

# STEPS SUGGESTED IN THE CONSTRUCTION OF THE HOWARD RACER "IKE"

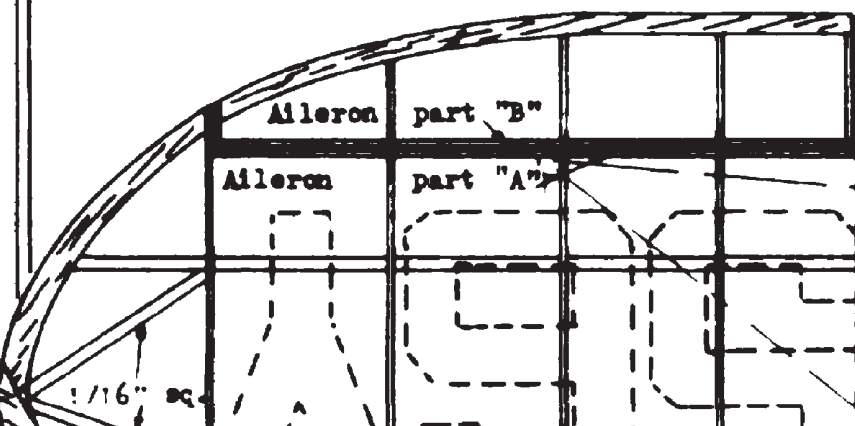
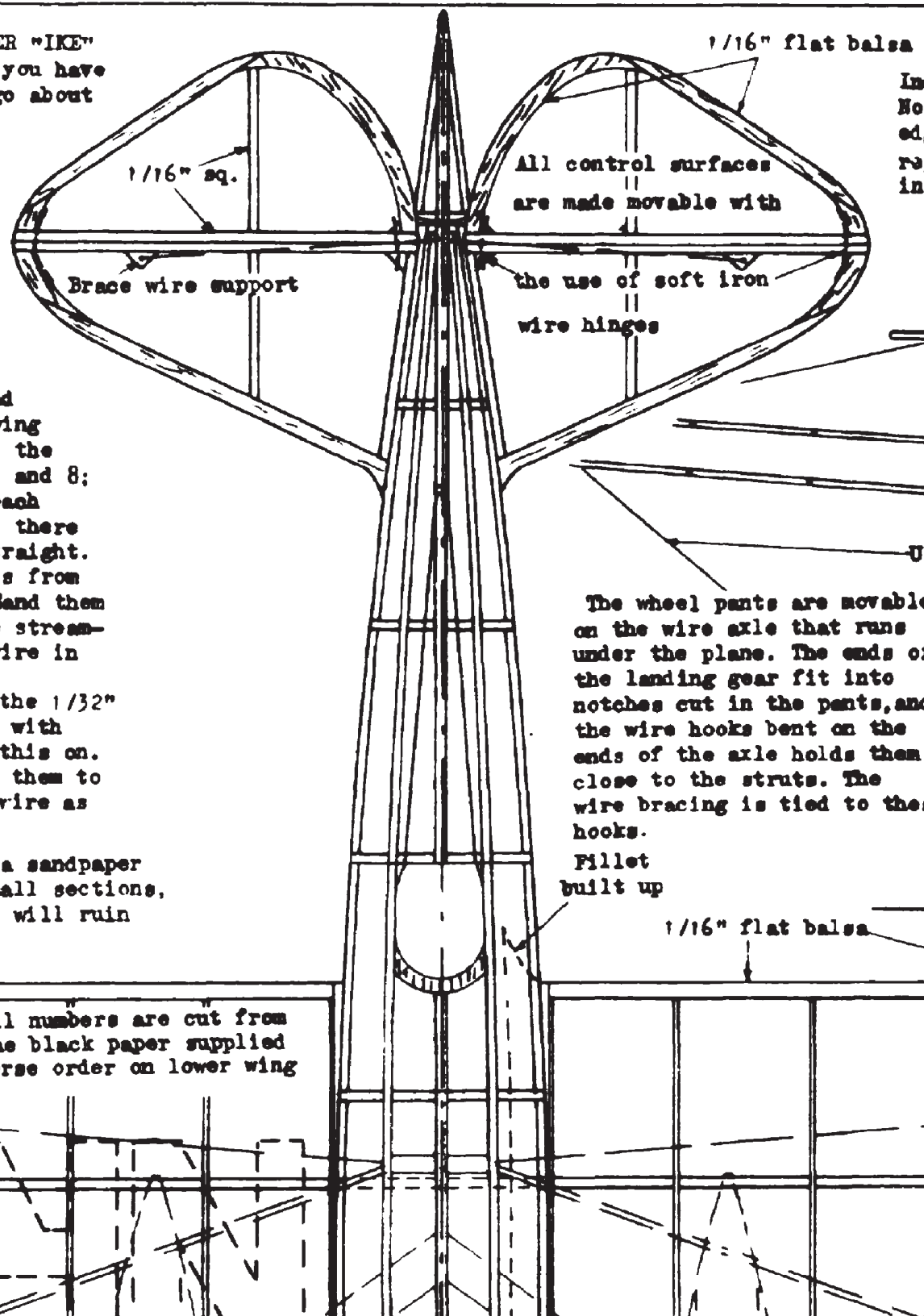
Study the drawing before beginning to work, so that you have a clear picture of what the model is like, and how to go about building it. Read all the notations. Connect all the separated parts.

Begin the actual work by cutting out the fuselage formers. Do this by making a tracing of them, or cutting them from the plan and using that as a template. Use the 1/16" flat balsa for this. Keep the grain running the same way as on the drawing, as this is the stronger way. Make the small notches (indicated in black squares on the plan) for the 1/16" sq. stringers, and strengthen the insides near the top with a light coat of cement. Cut the center brace piece "A" and cement formers nos. 2, 3, and 4 to it. The rest of the fuselage is made in the following order. Bottom stringer; top stringer; formers 1, and 5; the two middle side stringers, TWO AT A TIME; formers 6, 7, and 8; the rest of the stringers, also two at a time, one on each opposite side. If this procedure is carefully followed, there is no reason why the fuselage will not be strong and straight.

Make the tail surfaces next, cutting the curved parts from 1/16" flat balsa. Work these directly on the drawing. Sand them smooth and flat. Sand the outside edges half round, the streamline effect thus gained being essential. Use the soft wire in the kit for hinging the movable parts.

Make the wings next. Start by cutting the ribs from the 1/32" flat balsa. Set them on the center spar, lining them up with the drawing. Cut the leading edge as shown, and cement this on. Make the parts for the wing tips and the ailerons, join them to the wing structure, and the wing is done. Use the soft wire as before in making the hinged joint.

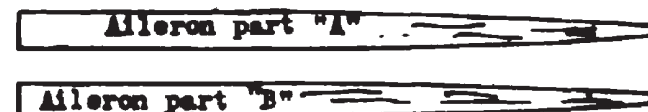
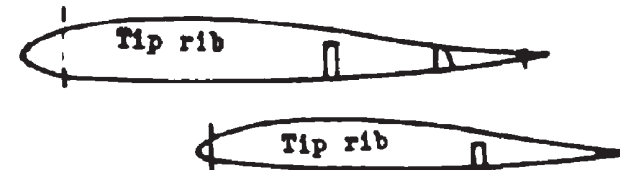
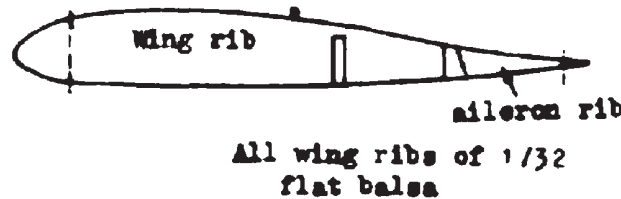
Finishing the model. Go over the whole fuselage with a sandpaper block, smoothing down all rough spots. Paper it in small sections, keeping in mind all the time that a poor papering job will ruin the best looking model ever built.



All numbers are cut from the black paper supplied  
Reverse order on lower wing

balsa

Indent cooling holes in  
Nose  $1/16$ " deep. Keep the  
edges sharp, for it is to  
represent metal. Smooth the  
inside and paint black.



Use fine thread for  
brace wires

movable  
runs  
ends of  
into  
nts, and  
n the  
s them  
the  
to these

Spreader bar.  $1/18 \times 1/16$  balsa

Heavy wire axle.

Dihedral  $5/8$ "

THIS ABSOLUTELY AUTHENTIC  
 $3/4$ " - 1' SCALE DRAWING OF -

**"IKE"**

APPROVED BY -

*Ben Howard*

1932.

MODEL DESIGN BY

*Jo Howell*

$1/16$ " flat balsa

There are no wheels in  
this kit. Wheels are made  
of  $1/8$ " flat balsa in two  
parts each. Laminates them  
with the grains running in  
opposite directions.

Two small blocks are  
placed behind No7. These

Actual length  
of land-  
ing gear  
strut

Make two  
left &  
right

Air speed indicator. Make of music wire, and cement to flying wire.

Side view



An actual photo of the finished model.

Dash. Use on nonflying model only, as there is not room on a cut out former.

Center brace piece "A"  
Cut from 1/16" flat.

Sides of pants are 1/8" flat.

Nose block  
9/16 x  
1-1/16 x  
1-15/16  
Balsa

Landing gear strut

Exhausts on opposite side only.

Bend the tips of the blades double and force into the hub. Use a large drop of cement to hold in place.

Small letter done by hand on the finish.

In placing the wing into the fuselage, be sure that the center spar and the leading edge of each half slide thru the fuselage and meet the center piece that runs thru formers 2, 3, and 4. Set these pieces against the center part and cement well. The space remaining between the rib and the fuselage is then filled with small bits of 1/8 flat, and the whole sanded to a perfect fit.

Leading edge of wing View from front

View from top

Center spar wing. Cut from 1/16" flat. View from front

View from top

Center core of pants  
7/16 x 3/4 x 2-3/4  
Cut the space for the wheels on these dotted

Scale propeller

