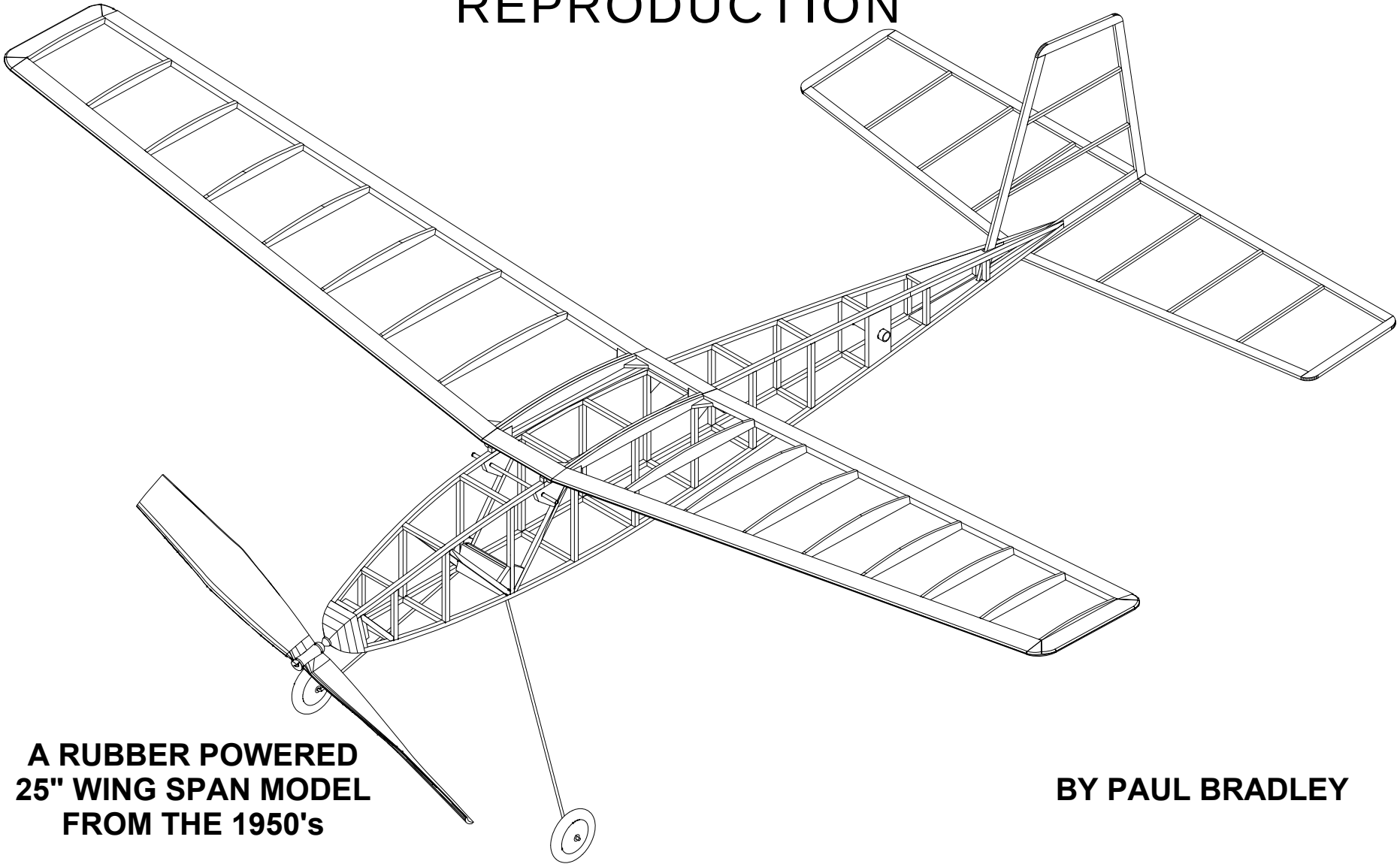
JETCO HAWK
REPRODUCTION



A RUBBER POWERED
25" WING SPAN MODEL
FROM THE 1950's

BY PAUL BRADLEY

ASSEMBLY GUIDE AND PLAN

SEPTEMBER 2015

NOTES

The reproduction drawings for the JETCO Hawk have a few minor revisions to the original kit plan. The revisions are listed here:

1. The original plan calls for the wing to be held in place with a large rubber band that wraps around the fuselage. This method was used in the early days of model airplanes. It makes it hard to attach the wing to the same location each time the model is disassembled and reassembled. The shape of the fuselage forced some distortion to the bottom of the wing. As a result wing dowels and a simple wing saddle have been incorporated.

2. The rear motor peg has been moved forward one fuselage bay to help make it easier to balance the model. A larger diameter peg made from aluminum tubing is also shown. The larger diameter is better able to handle the load of a fully wound motor. The use of a tube motor peg makes it easier to anchor the model when stretch winding.

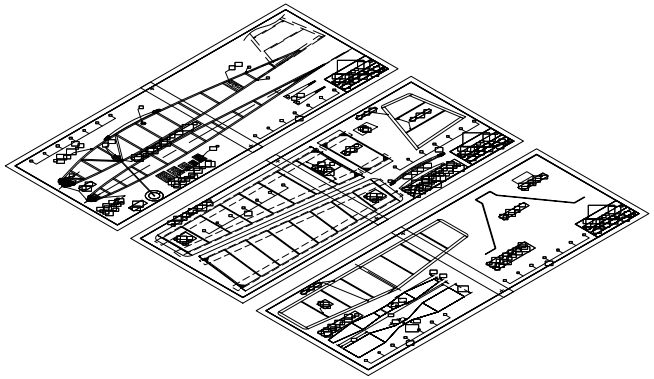
3. The kit plan shows no real support for the fin when it is installed in the fuselage. Two simple balsa pieces have been added to improve the fin to fuselage joint.

4. Gussets have been added to the landing gear mount to improve the load bearing strength of the landing gear mount.

5. Wing ribs were added to the dihedral joints. This was done to allow the three wing sections to be covered before they are joined. This makes covering the wing easier.

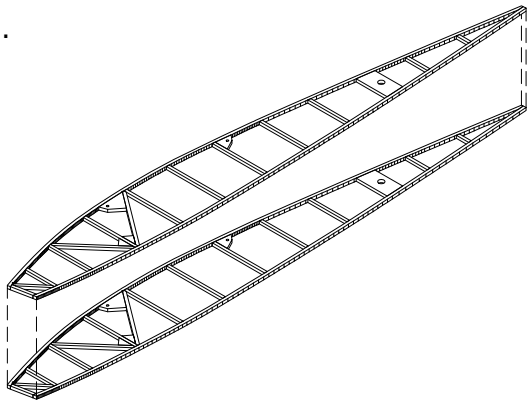
The original model and this reproduction package call for 3/8" x 1/8" tapered stock for the wing leading edge, trailing edge and tips. If not available from your supply source, a strip of 3/4" wide trailing edge stock split length wise will produce the needed tapered stock for the wing.

1.



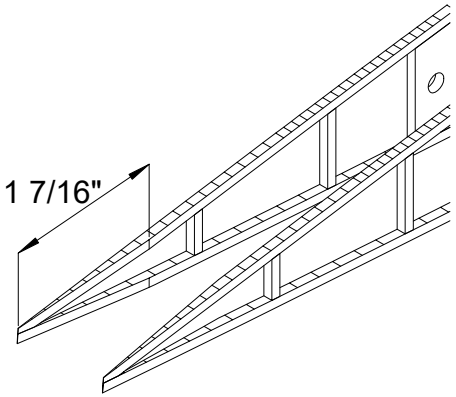
Tape the six plan pages together in two sheet pairs to form three building plan pages. Use the "+" marks for alignment of the pages.

2.



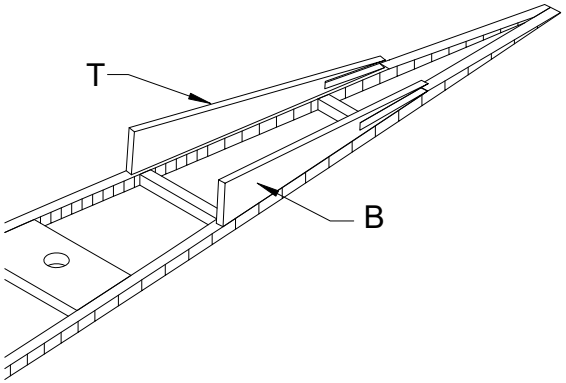
Build the two fuselage sides. Build the second side on top of the first using something like plastic kitchen wrap between the two sides. Glad Wrap works especially well for this.

3.



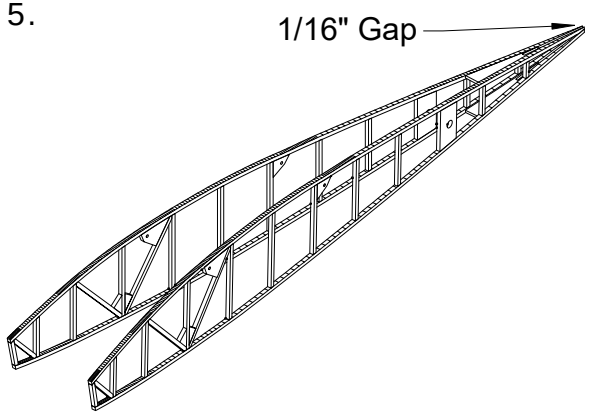
Trim each fuselage side at the rear as shown. Start the trim line 1 7/16" from rear most point of each side. Make sure you create a right and left side.

4.



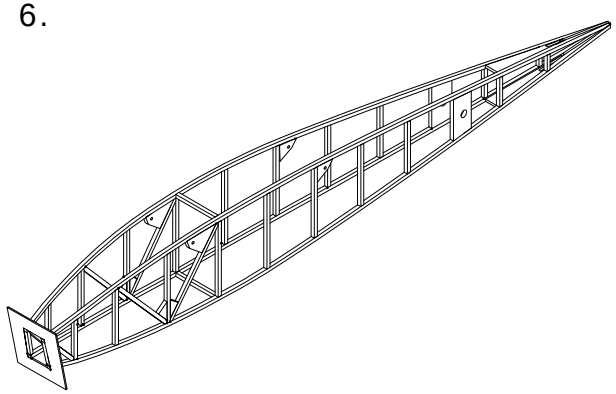
Glue parts T and B as shown to the rear of one of the fuselage sides. The side used does not matter.

5.



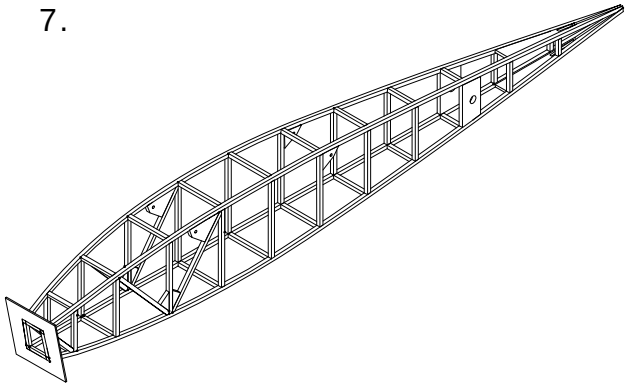
Glue the fuselage sides together at the rear. Make sure they are square relative to the building surface. There sould be a 1/16" gap at the rear of the fuselage.

6.



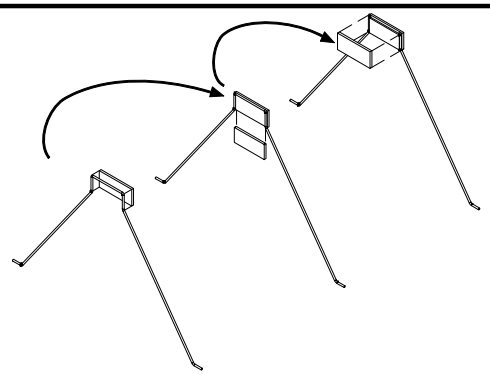
Place the 1/32" plywood temporary nose clamp over the nose of the fuselage. Now glue the center set of cross pieces to the fuselage. Make sure everything is square.

7.



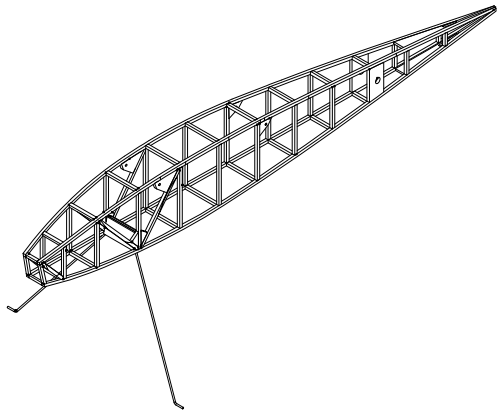
Glue the nose and remaining cross pieces to the fuselage. No not use a cross piece where the landing gear is installed. Remove the nose clamp when finished.

8.



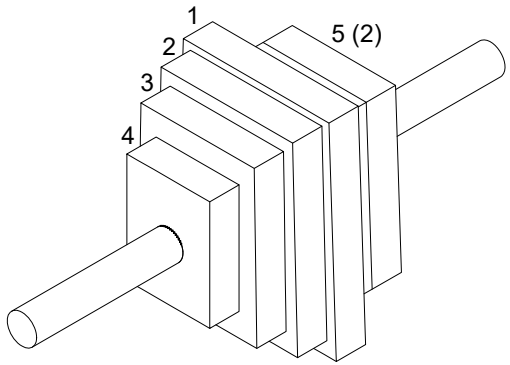
Bend the landing gear from .047" piano wire. Make up the landing gear mount pieces. Glue a face piece to one side of the landing gear. Glue the center piece and then sand it to the thickness of the landing gear. Glue the remaing face piece to the assembly.

9.



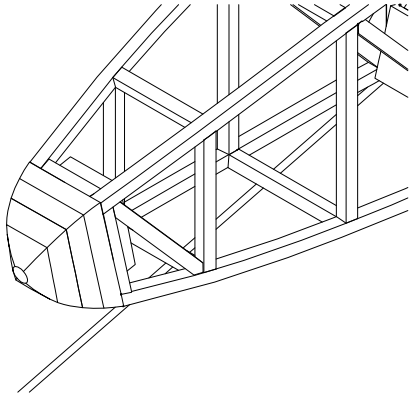
Glue the landing gear assembly to the fuselage. Use the plan as a guide for the forward tilt. The angle is not critical but should be close to the angle shown on the plan.

10.



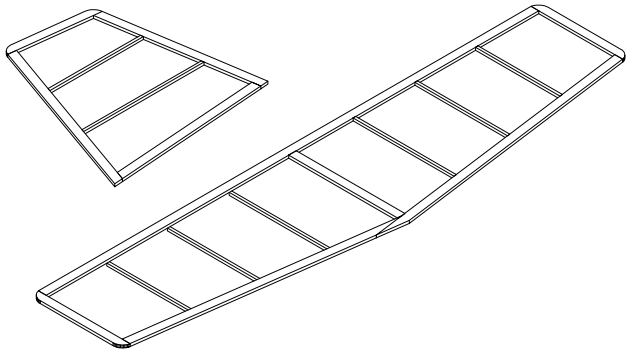
Cut the four nose block laminations from 1/8" balsa. Also cut the two nose block key pieces (part 5 on the plan). Note the grain direction for each nose block piece. Glue all the pieces together. A piece of 1/8" dowel can be used to align the individual laminations. Remove the dowel after gluing the laminations.

11.



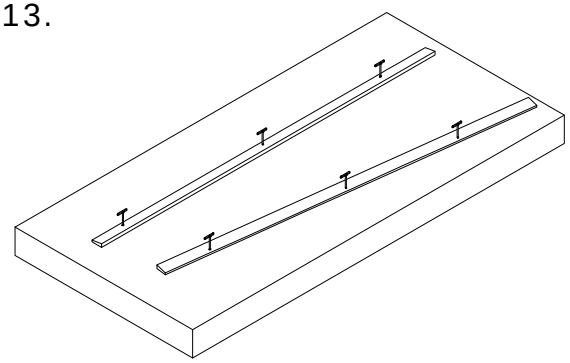
Rough shape the nose block using the plan as a guide. Place the nose block on the fuselage and final sand the nose block shape.

12.



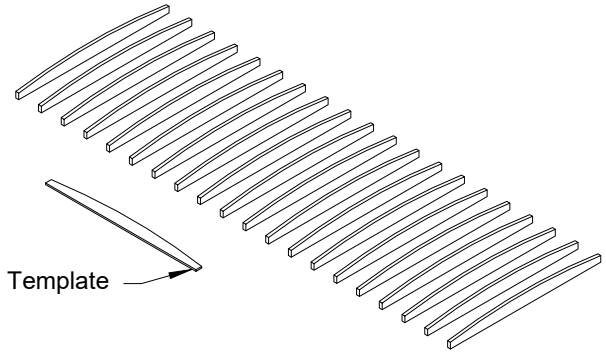
Build the tail surfaces.

13.



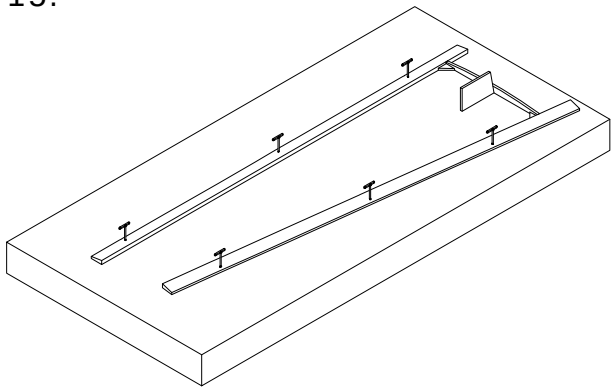
Cut the 3/8" x 1/8" tapered stock for the leading edge, trailing edge, and tip. Cut each piece a bit long for trimming after assembly. Lay some plastic kithchen wrap over the plan. Glad Wrap works especially well. Pin the LE and TE pieces to the building surface.

14.



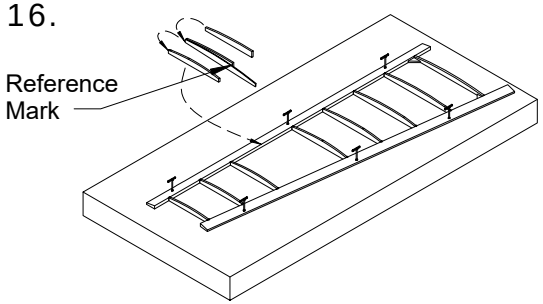
Make a rib cutting template from 1/16" plywood. Cut 20 ribs from 1/16" balsa. The ribs are symmetrical so it does not matter which end is used for the leading edge.

15.



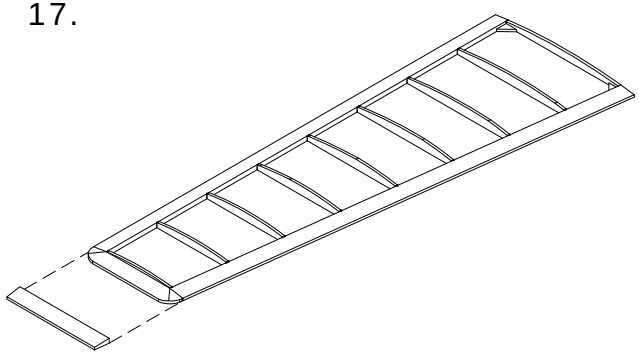
Glue the root rib in place using the dihedral template to slant the rib. Add the 1/16" balsa gussets. Note the grain direction shown on the plan.

16.



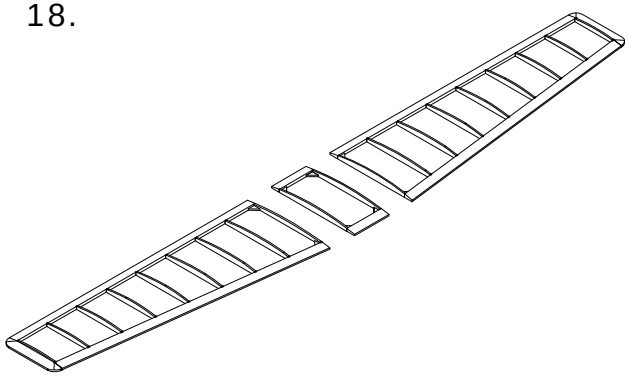
Cut each succesive rib to length at the trailing edge matching the angle of the front face of the trailing edge. Once trimmed to length, mark the trailing edge thickness at the TE end of the rib. Use the rib template to cut the top of the rib. Place one end of the template at the top edge of the LE side and rotate the template until it hits the TE thickness mark. Once aligned, trim the rib and then glue it in place.

17.



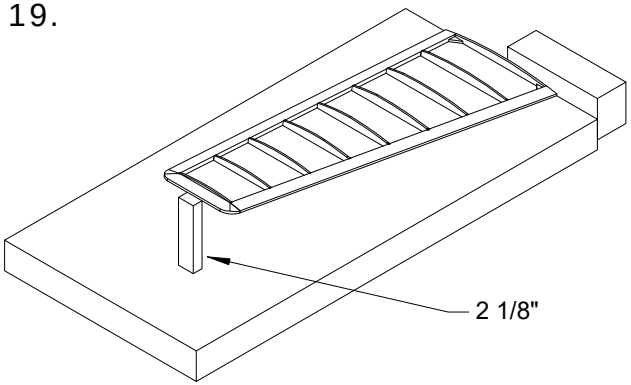
Remove the wing panel from the building surface. Trim the LE and TE to length using the end ribs as your guide. Glue the tip piece in place and then trim and round off the ends as shown.

18.



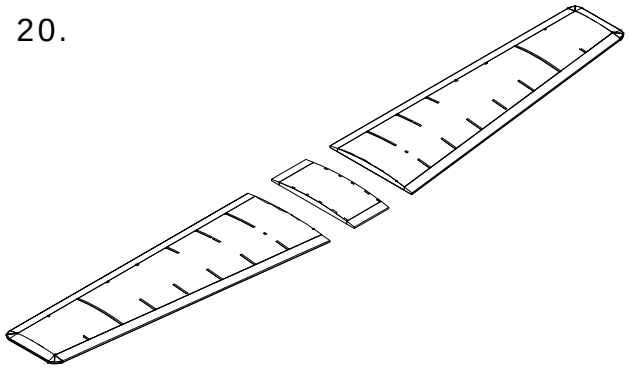
Build the second wing panel and center section. All of the gussets are made from 1/16" balsa. Note the grain direction shown on the plan.

19.



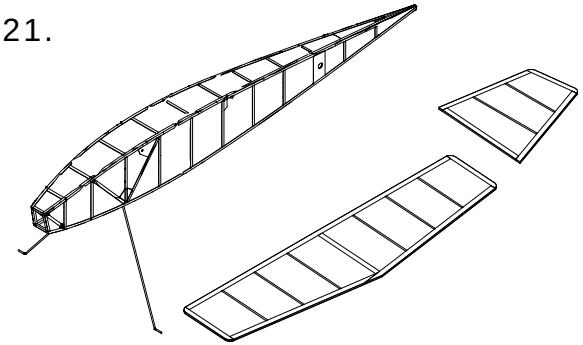
Block each wing panel up 2 1/8" at the tip and sand the root so it is smooth and straight.

20.



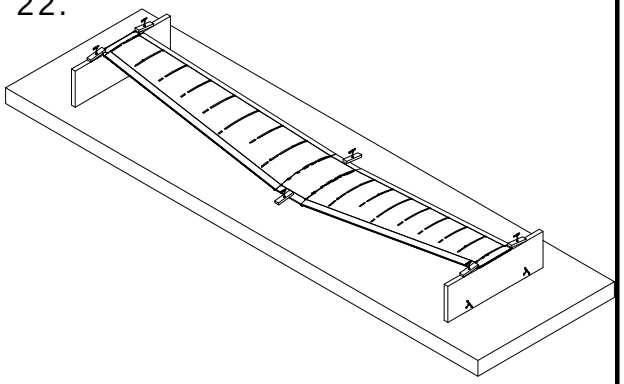
For ease of covering, it is suggested that the wing panels and center section be covered before the three wing components are glued together. Water shrink the wing tissue after the components are glued together.

21.



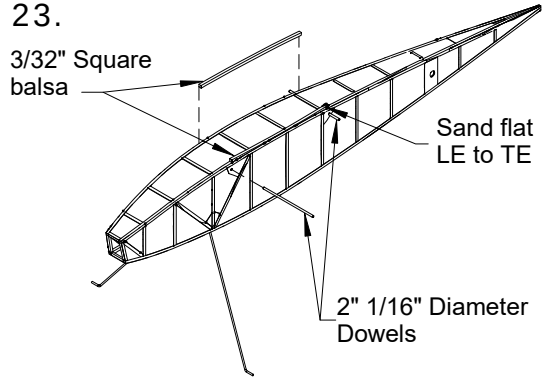
Cover the fuselage and tail surfaces. If you water shrink and dope the tail surfaces, be sure they are pinned to a flat surface while drying. Two coats of 50-50 clear dope should be enough on the tail surfaces. Leave them pinned to a flat surface for at least a week after doping before they are glued to the fuselage.

22.



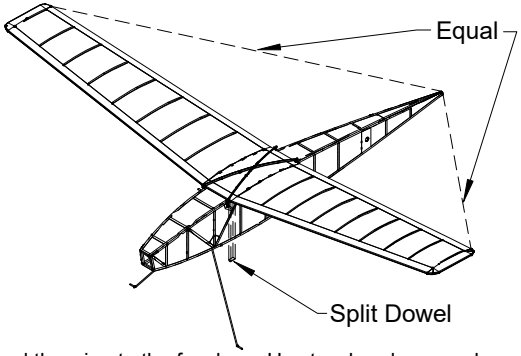
Like the tail surfaces, the wing should be pinned to a simple fixture when water shrinking and doping. Three coats of 50-50 clear dope should be enough. Leave the wing pinned to the simple fixture for at least a week after the final coat of dope.

23.



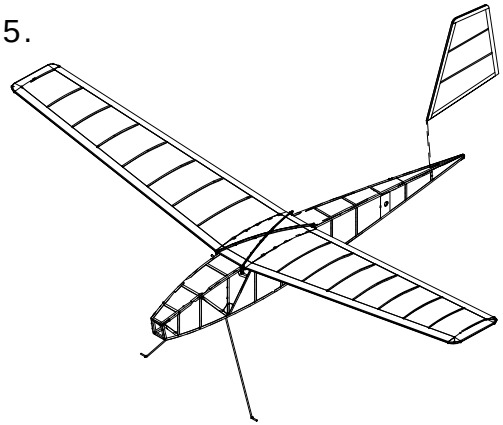
Cut two 1/16" wing mount dowels 2" long. Glue them in each set of wing dowel supports on the fuselage. Cut two 3/32" square strips the length of the wing center section. Glue them to the top of the fuselage using the plan as a location guide. After the glue sets, sand the top of the two pieces so they are flat from the LE to TE.

24.



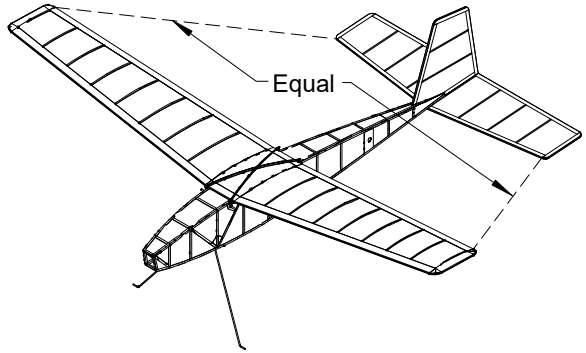
Rubber band the wing to the fuselage. Use two bands on each side in an "X" pattern. Make sure the distance from each wing tip TE to the rear of the fuselage is the same. Cut two lengths of 1/8" dowel 1/4" long. Split them along their length. Glue a dowel half to the bottom of the TE and LE so they just touch the fuselage.

25.



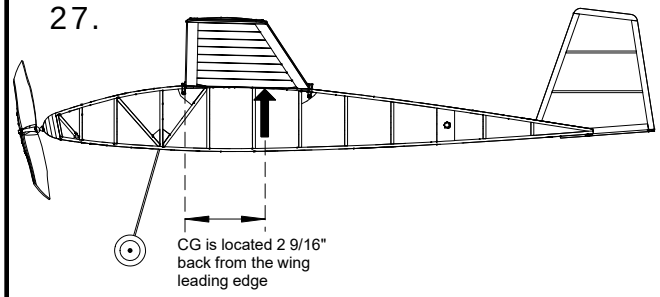
Glue the fin to the fuselage. It fits in the slots formed by parts T and B and the opening in the rear of the fuselage sides. The bottom is aligned with the bottom of the fuselage.

26.

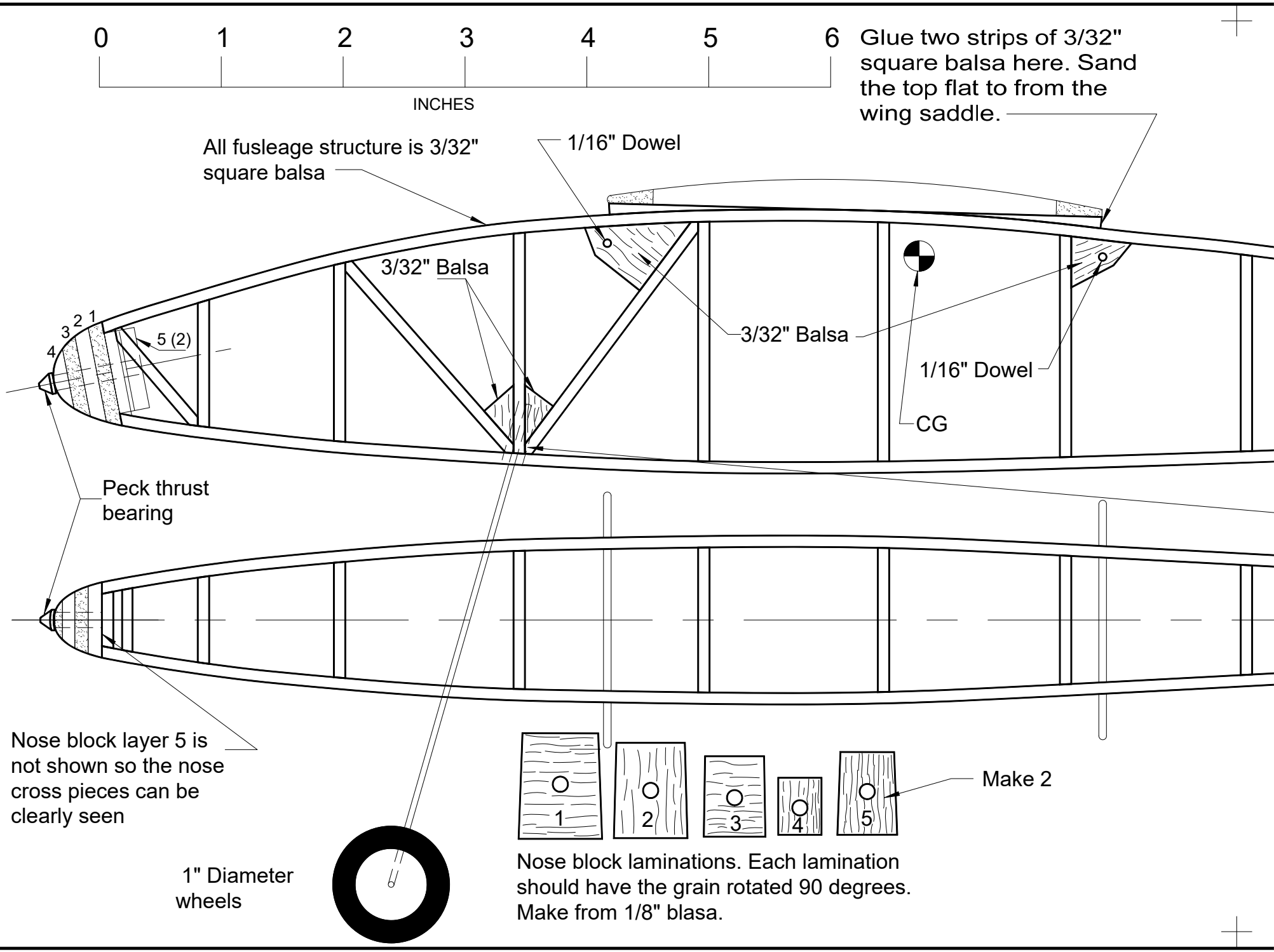


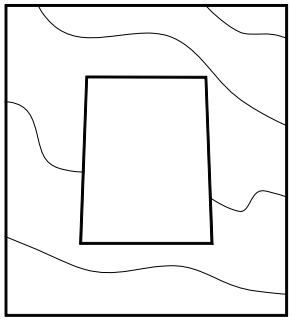
Glue the stab to the bottom of the fin and fuselage. Make sure the distance from each wing tip TE and the stab tips LE are equal. To help the model turn, stab tilt can be used. Glue the stab so one side is about 1/4" high on the side you want the model to turn toward.

27.



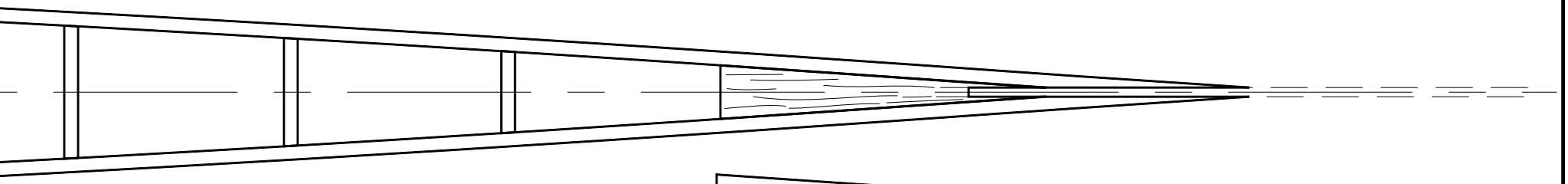
Install the 1" diameter wheels. Make up a short loop of rubber and install it in the fuselage along with the nose block and prop. Check the CG location. Adjust if necessary with some ballast in the nose or tail. Replace the short motor with a flight motor and the model is now ready for its trim flights.

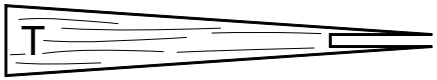

0 1 2 3 4 5 6
INCHES
Glue two strips of 3/32" square balsa here. Sand the top flat to from the wing saddle.
All fusleage structure is 3/32" square balsa
1/16" Dowel
3/32" Balsa
3/32" Balsa
1/16" Dowel
CG
5 (2)
1
2
3
4
Peck thrust bearing
Nose block layer 5 is not shown so the nose cross pieces can be clearly seen
1" Diameter wheels
1
2
3
4
5
Make 2
Nose block laminations. Each lamination should have the grain rotated 90 degrees. Make from 1/8" blasa.



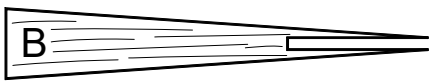
Tempory nose clamp - make from 1/32" plywood

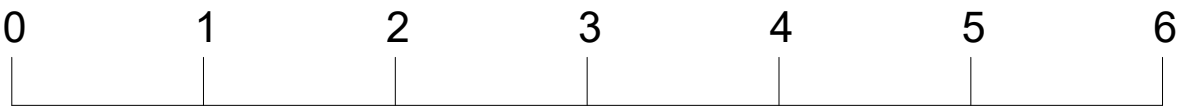
Landing gear mount is two pieces of 1/16" balsa. Sandwich the landing gear between the pieces.





1/16" Balsa





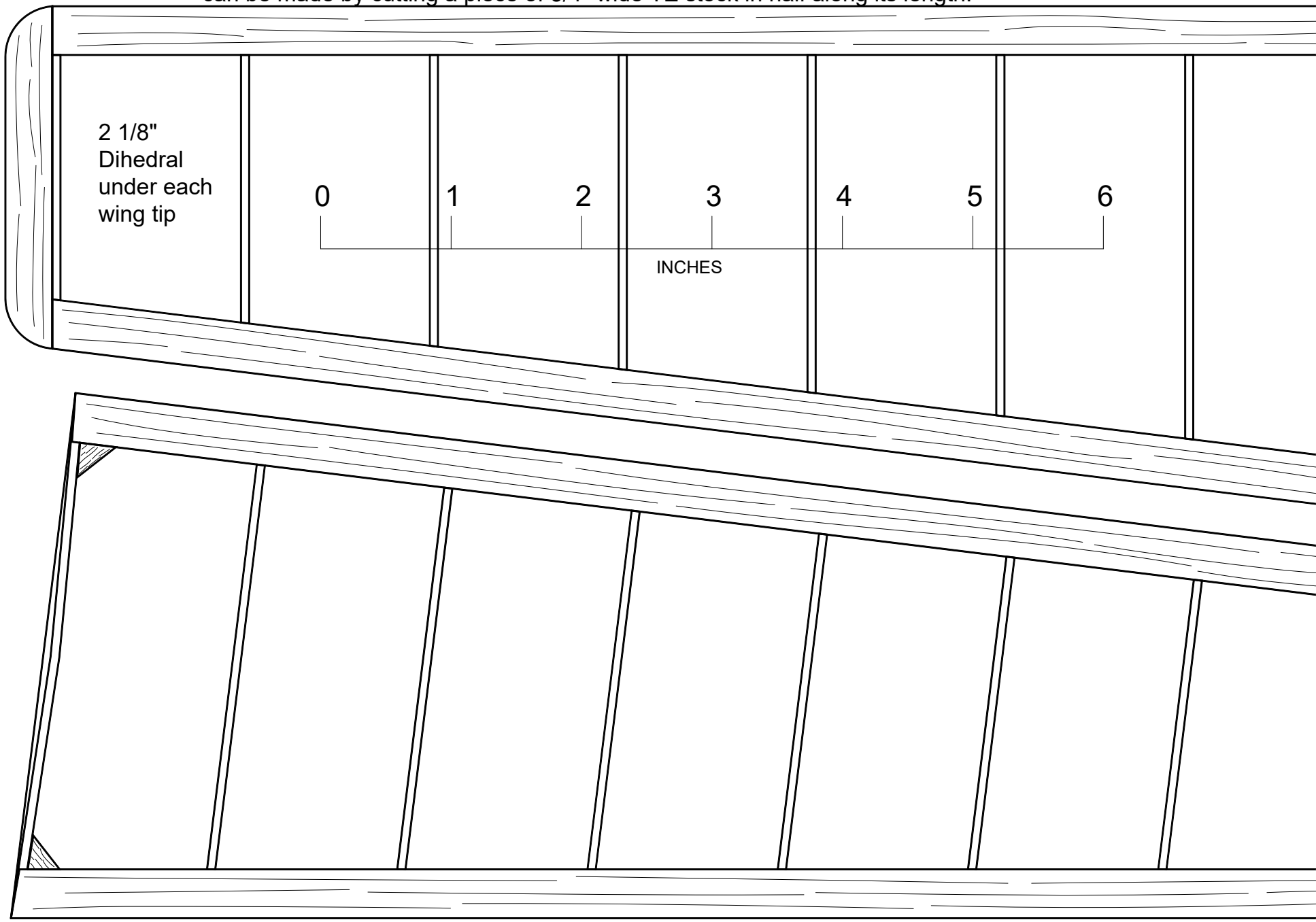
Jetco Hawk

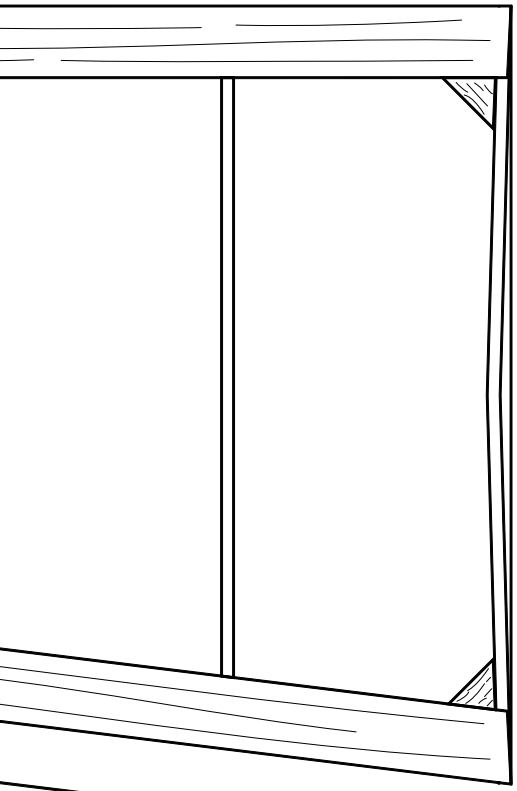
A reproduction of the kit introduced in the early 1950's

25" Wing Span

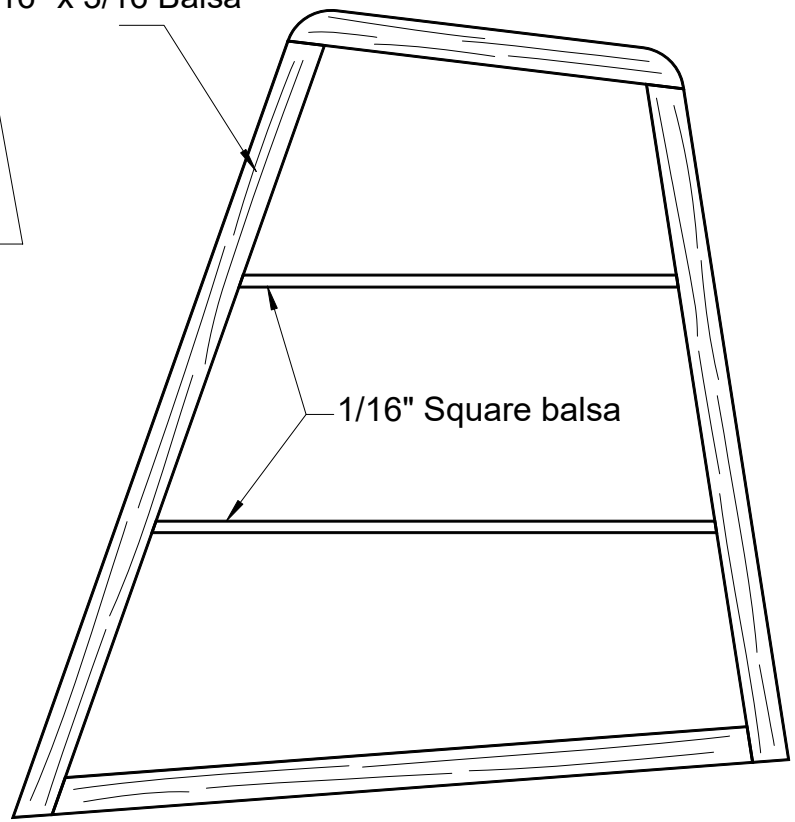
Drawn by Paul Bradley - Sept 2015

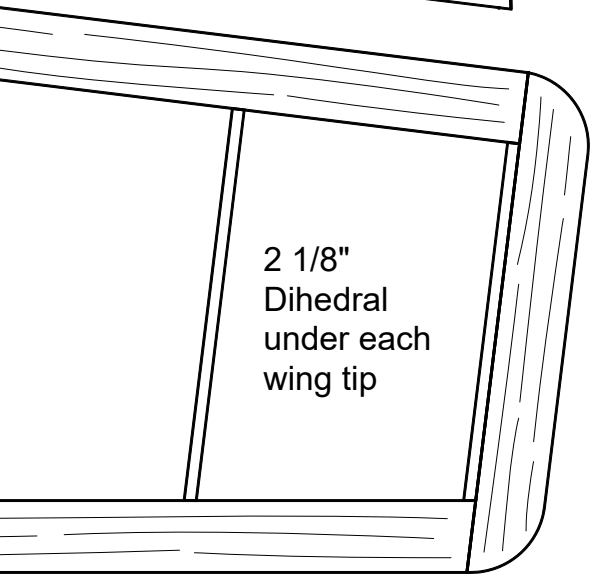
Wing leading edge, traling edge, and tips are made from 3/8" x 1/8" tapered stock. This can be made by cutting a piece of 3/4" wide TE stock in half along its length.



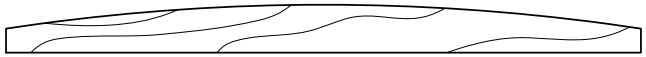


Root Rib
Dihedral
Template





Typical wing cross section



Wing rib template. Make 20 ribs from 1/16" balsa. Trim each rib to length and then use the template to trim the top edge by placing the template on the LE and then rotating so it matches the TE thickness. Make from 1/32" plywood.

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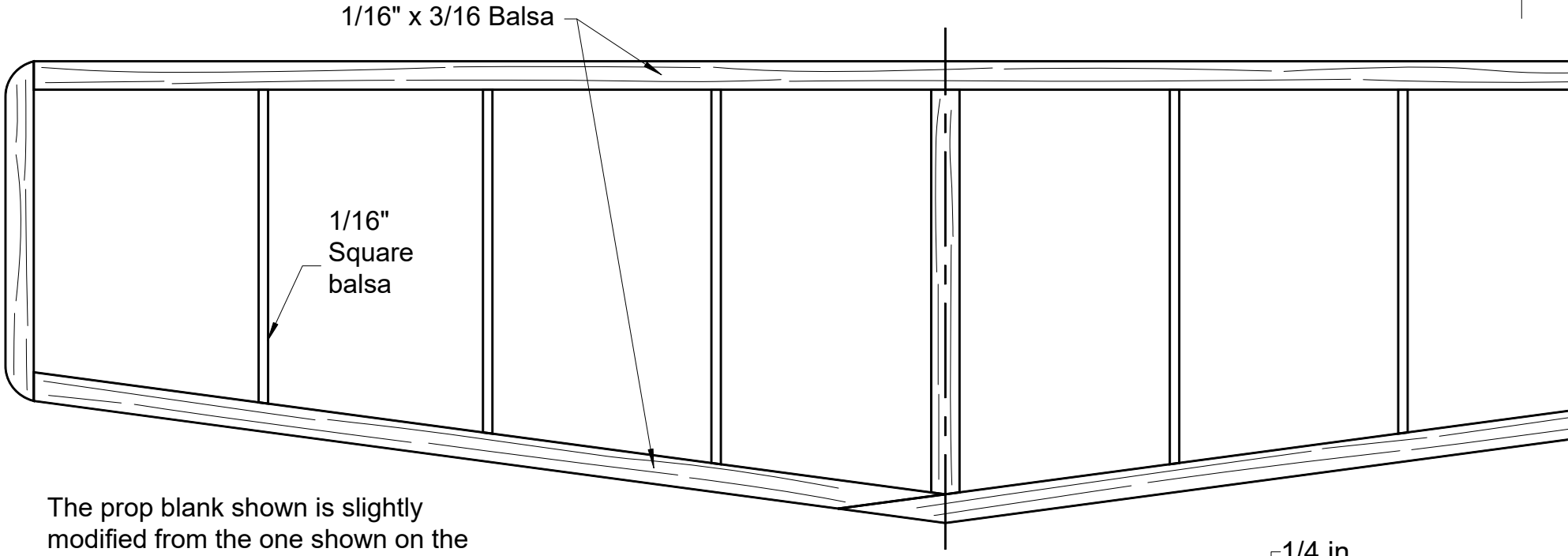
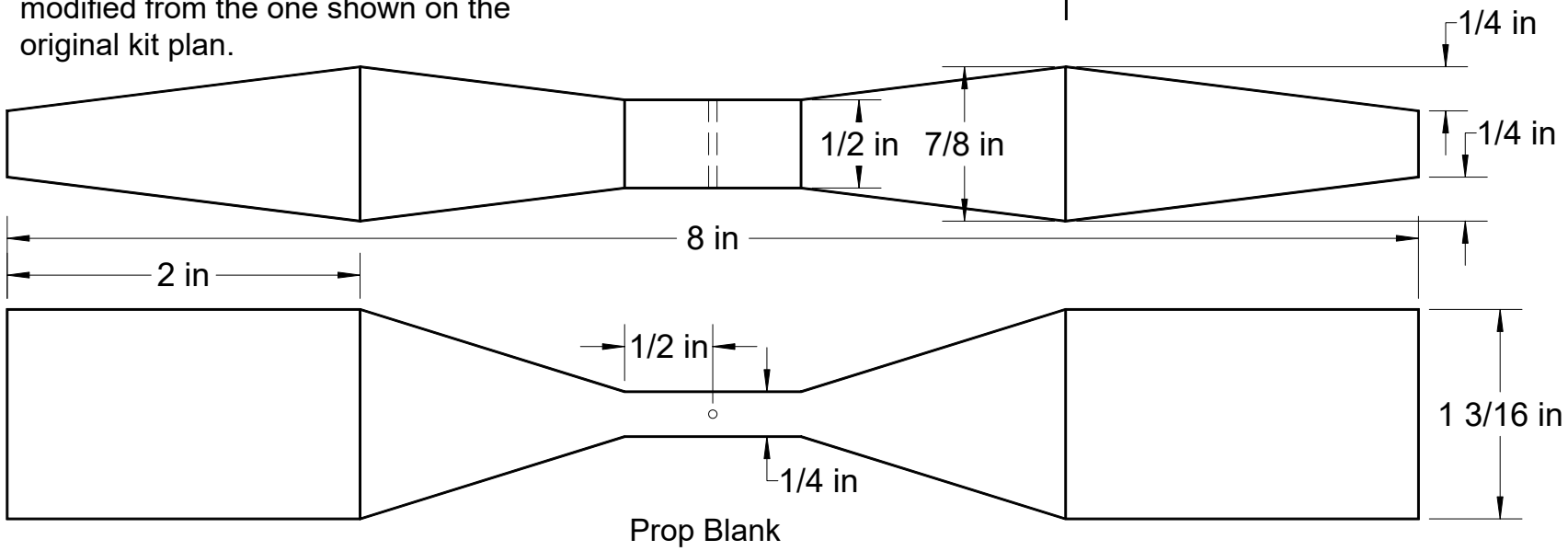
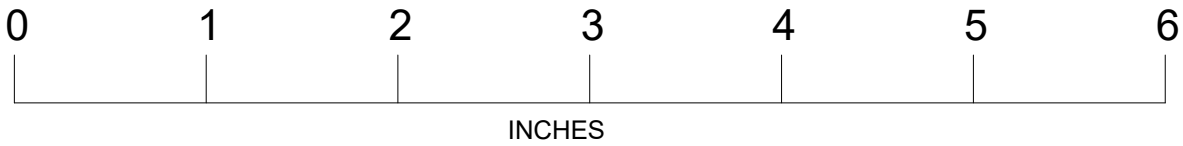
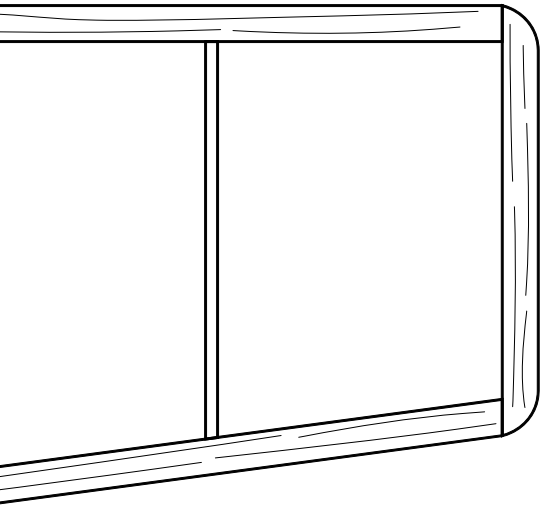


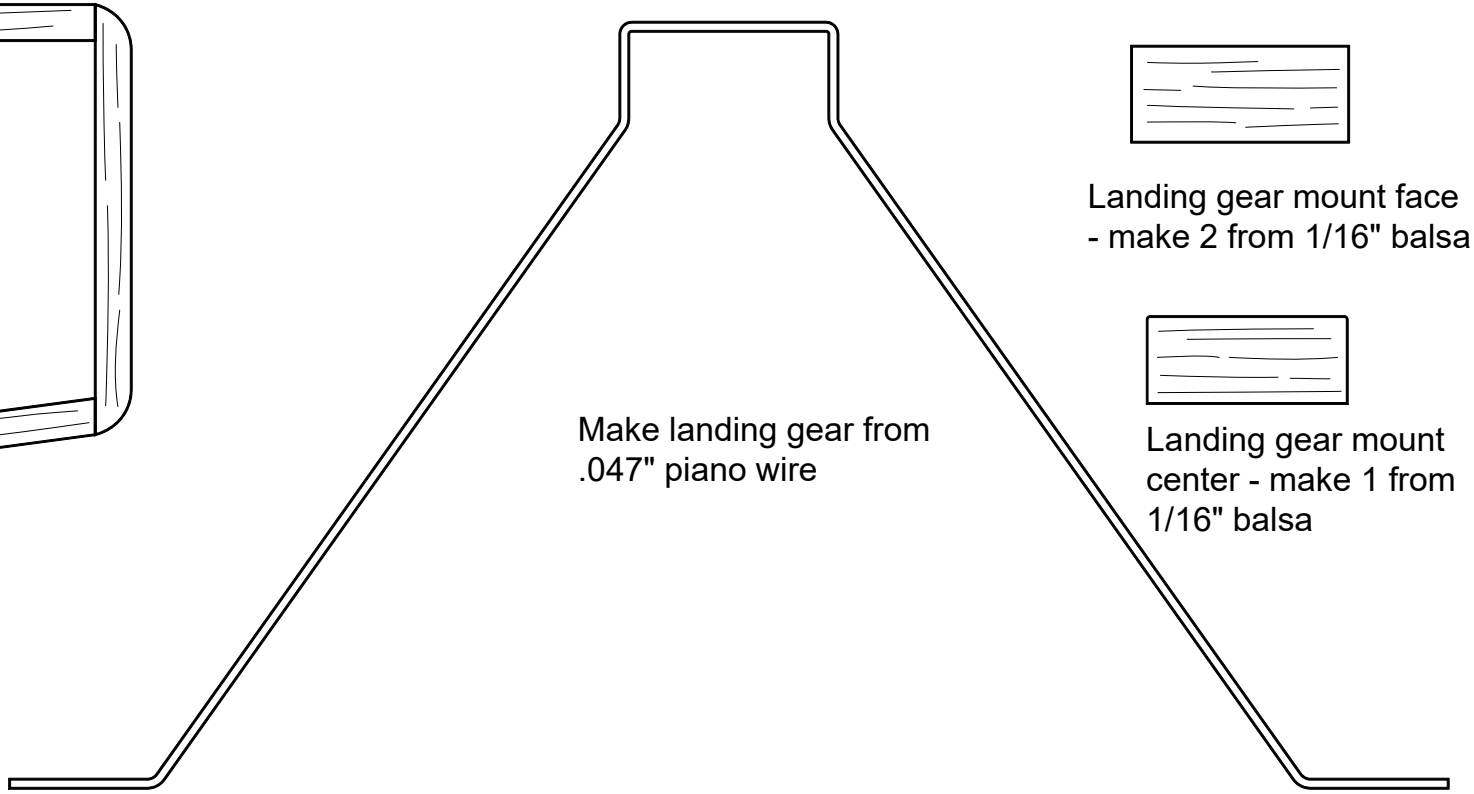
The prop blank shown is slightly modified from the one shown on the original kit plan.



Prop Blank







Make landing gear from
.047" piano wire

Landing gear mount face
- make 2 from 1/16" balsa

Landing gear mount
center - make 1 from
1/16" balsa

The original kit plan calls for a rubber motor made from a 9 1/2 foot length of 1/8" rubber that has been formed into four loops.

0 1 2 3 4 5 6

INCHES

Jetco Hawk

A reproduction of the kit introduced in the early 1950's

25" Wing Span

Drawn by Paul Bradley - Sept 2015