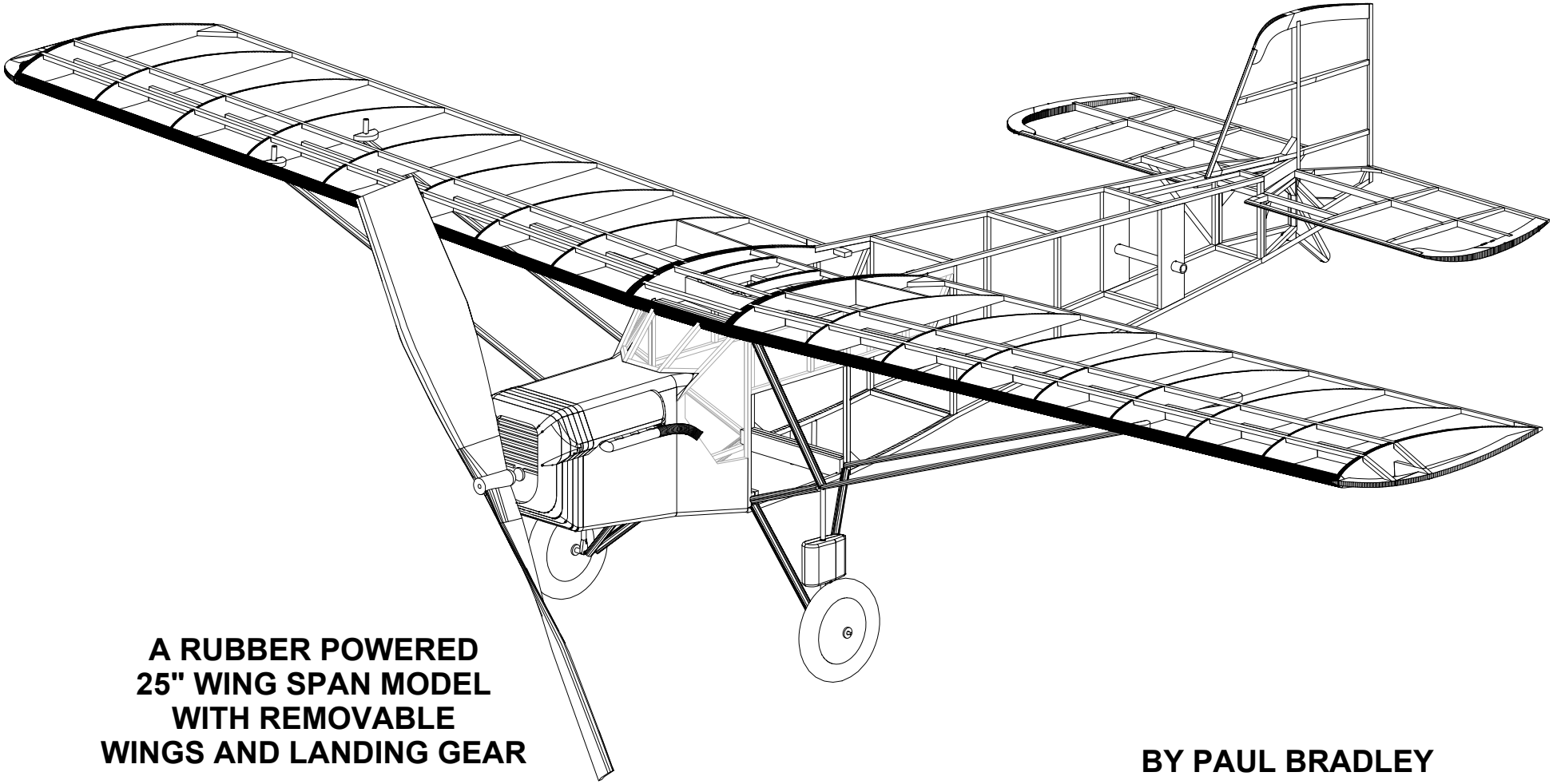
CURTISS ROBIN
FOR
FAC GOLDEN AGE EVENTS



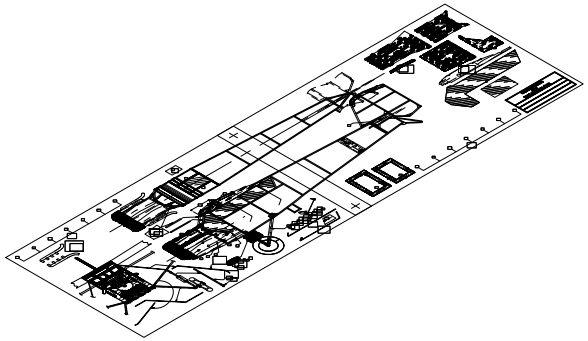
A RUBBER POWERED
25" WING SPAN MODEL
WITH REMOVABLE
WINGS AND LANDING GEAR

BY PAUL BRADLEY

ASSEMBLY GUIDE

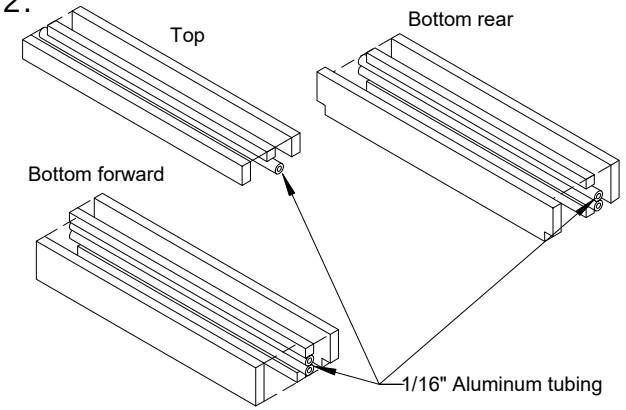
SEPTEMBER 2019

1.



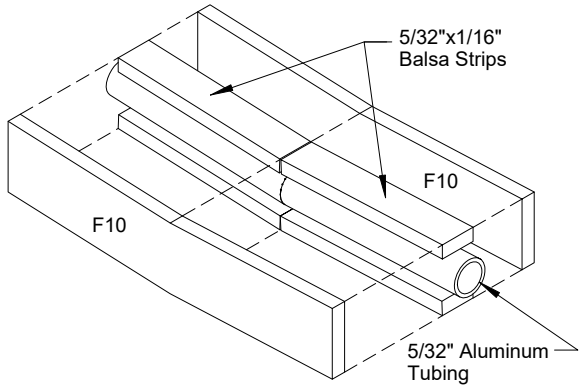
Tape the two fuselage plan pages together to form a building plan page. Use the "+" marks for alignment of the pages.

2.



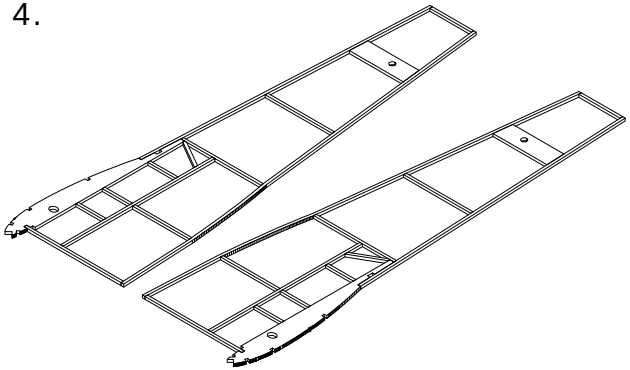
Make up the three landing gear support members as shown. Refer to the plan for the individual part layouts.

3.



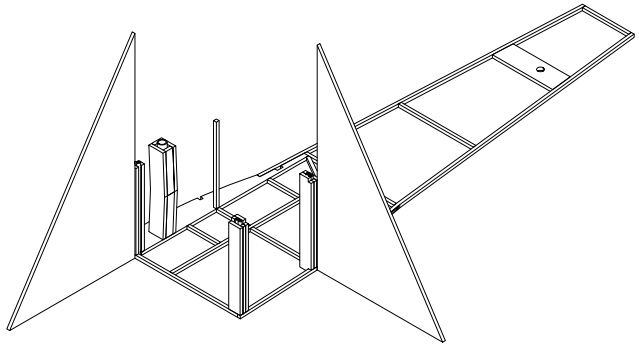
Make up the wing spar carry through assembly as shown.

4.



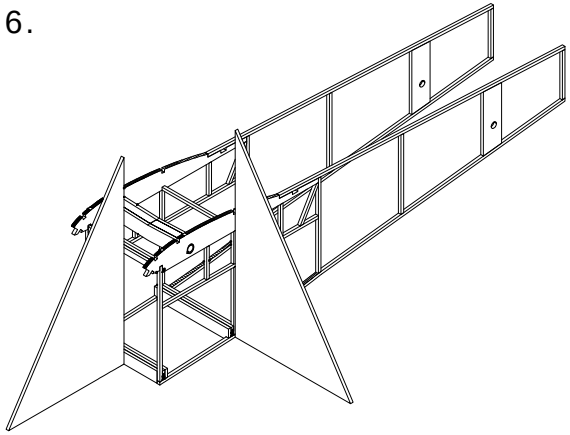
Build a left and right fuselage side. Only the portion of each side aft of the wing leading edge gets built up from sticks. Do not include the area aft of the last upright.The nose and aft tapered portions will get assembled later.

5.



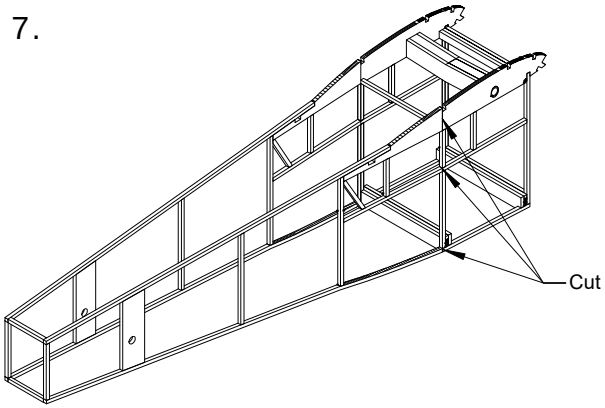
Glue the cross piece, spar carry through, and landing gear supports to one side as shown. Make sure everything is square.

6.



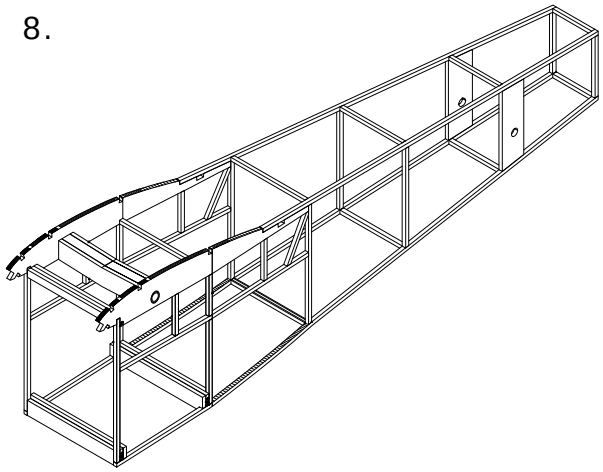
Glue the other side to the cross piece, spar carry through, and landing gear supports. Again make sure everything is square.

7.



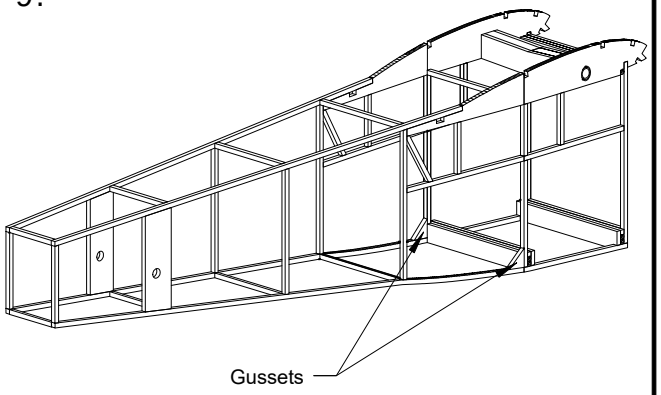
Carefully cut each side about half way through were shown. Bend the sides in and use the plan to cut and glue the rear most cross pieces in place.

8.



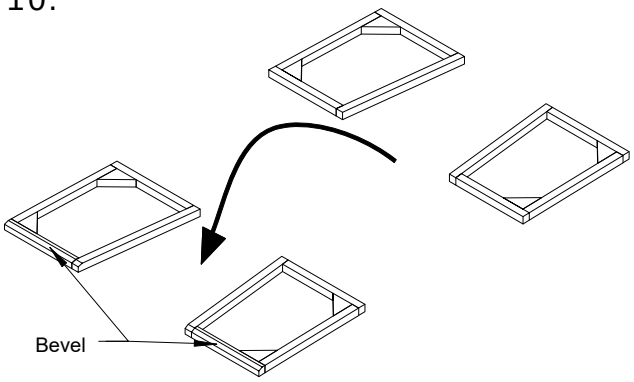
Glue the remaining cross pieces to the assembly.

9.



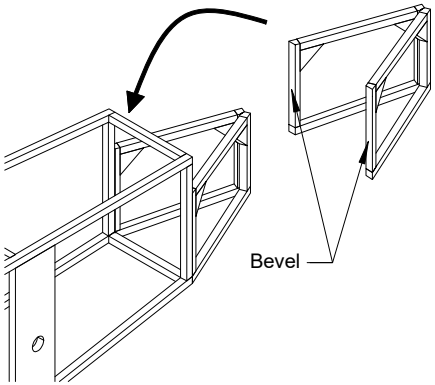
Glue gussets to the location shown on each side.

10.



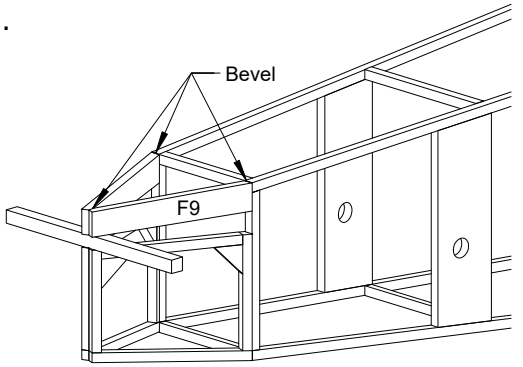
Build the aft most section of each fuselage side. When the glue is set, sand a small bevel on the inside face of the rear post.

11.



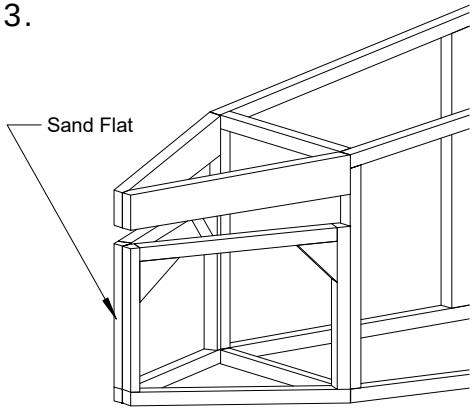
Sand a bevel on the forward edge of each aft fuselage side piece. Use the plan as an angle guide. Glue the pieces to the fuselage and to each other at the rear post. Use the plan as a guide so the rear posts are centered.

12.



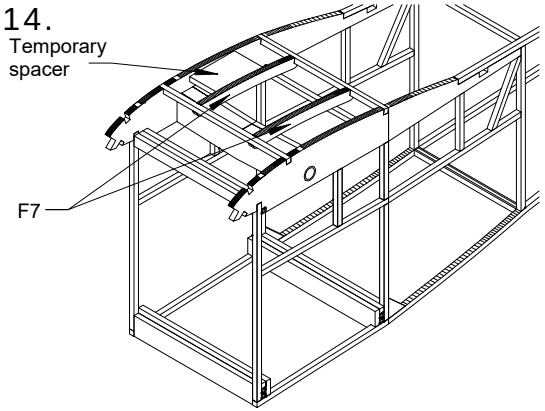
Sand a small bevel at rear inside face of fuselage parts F9. Also sand a bevel on the forward edge of parts F9, Glue these pieces to the fuselage as shown and to each other. They should be aligned with the built up pieces below. Use a strip of balsa 3/32" thick to support the rear of the F9 pieces while the glue dries.

13.



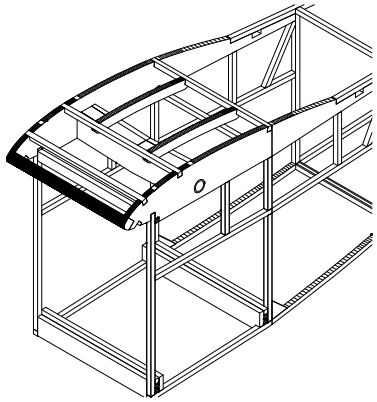
When the glue is set on parts F9, remove the 3/32" balsa strip. Sand the rear posts and the rear edges of parts F9 flat.

14.



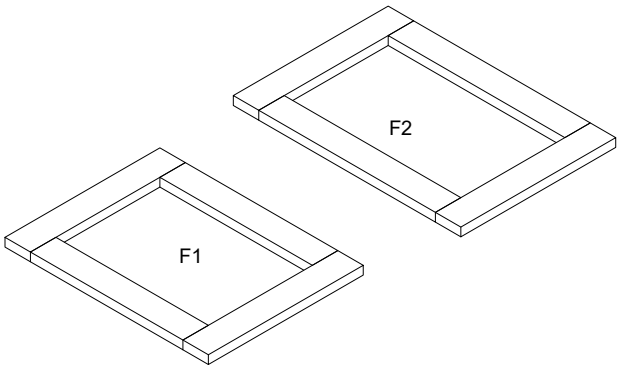
Glue the two top 1/16" balsa cross pieces to the assembly as shown. Also glue parts F7 to the bottom of those cross pices. Use the spacing template to locate each F7 piece from the sides.

15.



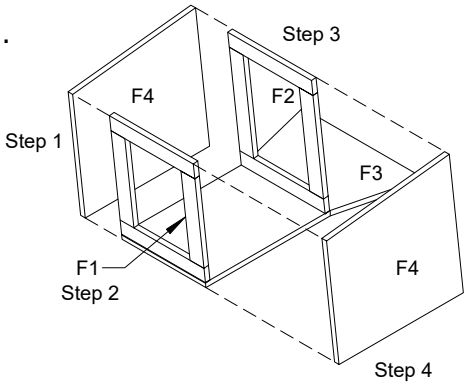
Glue a strip of 1/8" square balsa to the notches in the wing plates on the top of the fuselage assembly. Sand the strip to the leading edge profile using the plan as a guide. Also glue the remaining top cross piece to the assembly.

16.



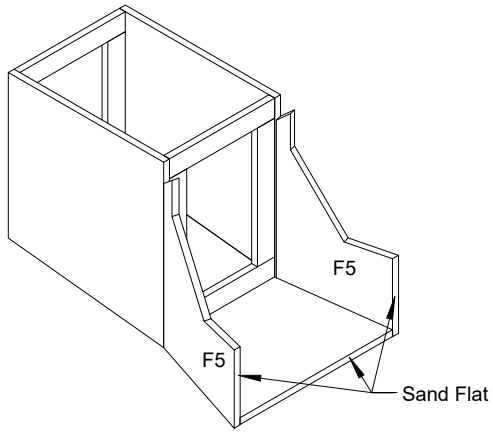
Assemble fuselage nose formers F1 and F2 using 1/16"x1/8" balsa strip stock and the plan patterns.

17.



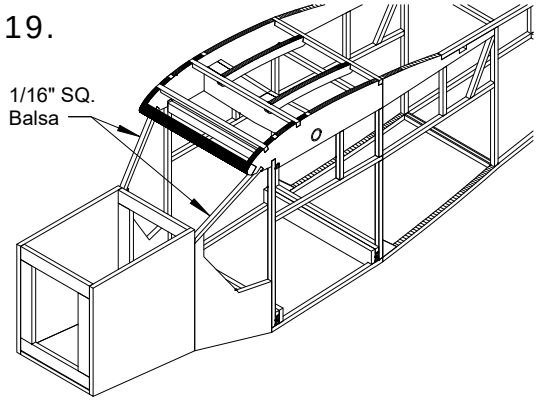
Assemble the fuselage nose structure parts F1, F2, F3, and F4 as shown. The suggested assembly squence is also shown.

18.



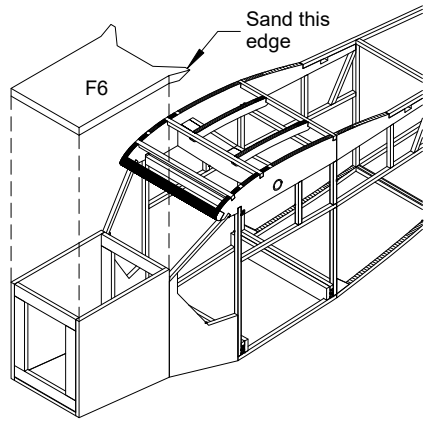
Glue parts F5 to the nose assembly. Once the glue is set sand the back side of the assembly flat.

19.



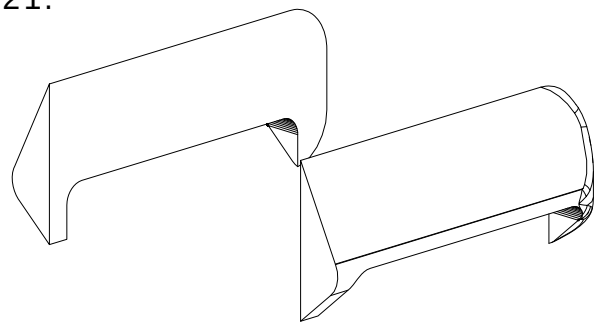
Glue the nose assembly to the main fuselage assembly. Once the glue is set add the 1/16" square balsa pieces that form the outside edges of the canopy and that also provide support for the nose assembly.

20.



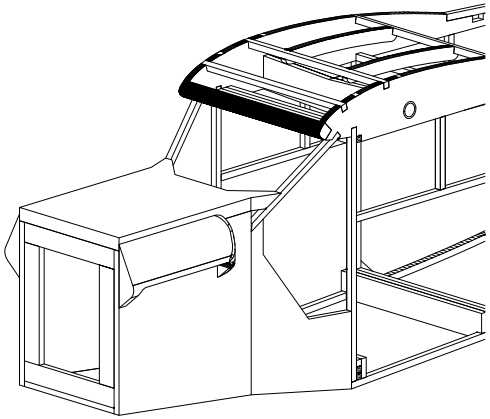
Glue part F6 to the top of the nose assembly. Prior to gluing, sand the rear edge to match the angle of the cabin posts.

21.



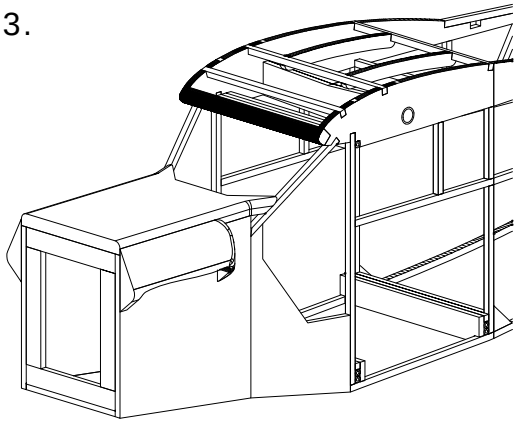
Form the rear portion of the exhaust stack covers from 3/16" balsa. Use the plan as a shaping guide.

22.



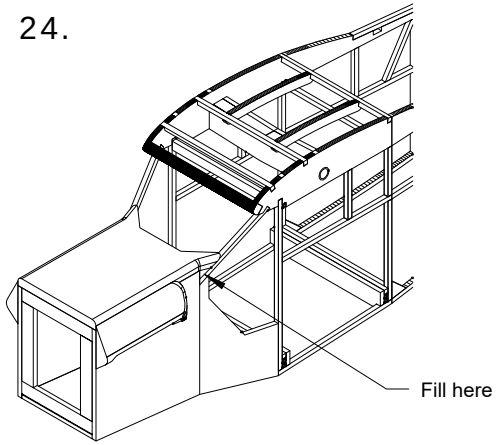
After forming, glue the covers to the fuselage sides. They are flush with the front edge of F1/F4, and the top edge is in the middle of the 1/8" edge of F6.

23.



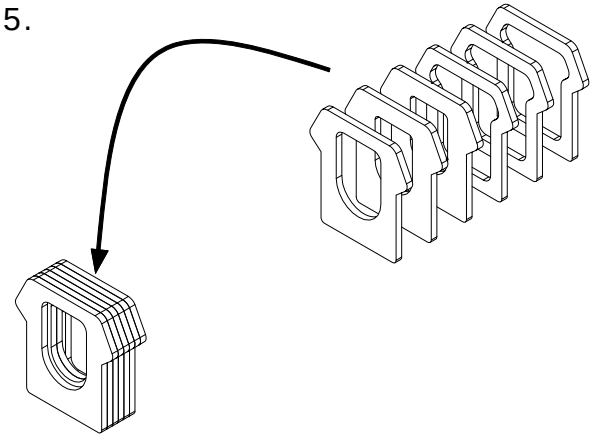
When the glue is set on the exhust stack covers, sand the edges of F6 round so they blend with the covers.

24.



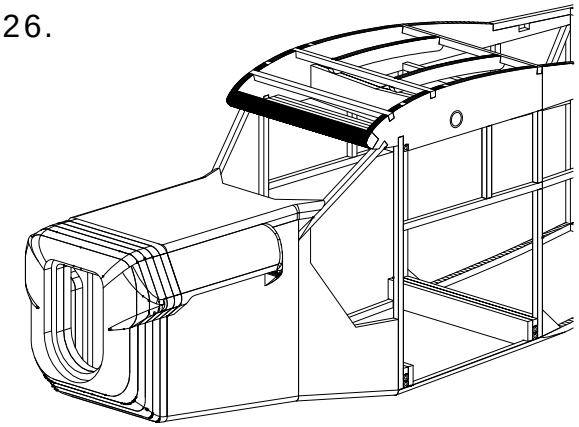
Glue scrap balsa in the small openings between F6 and the cabin posts on both sides.

25.



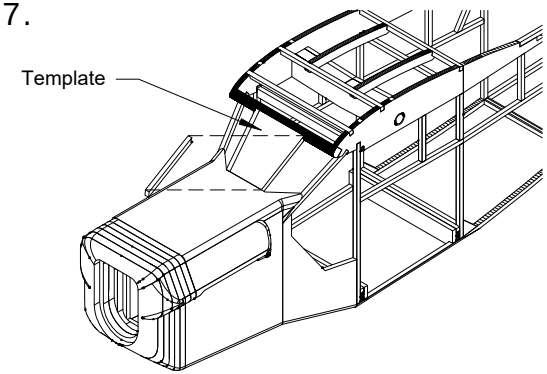
Glue the 3/32" balsa nose block laminations together as shown.

26.



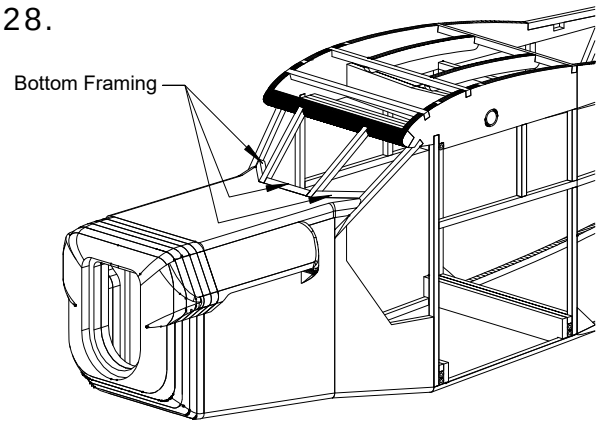
Glue the nose block to the fuselage and shape using the plan as a guide.

27.



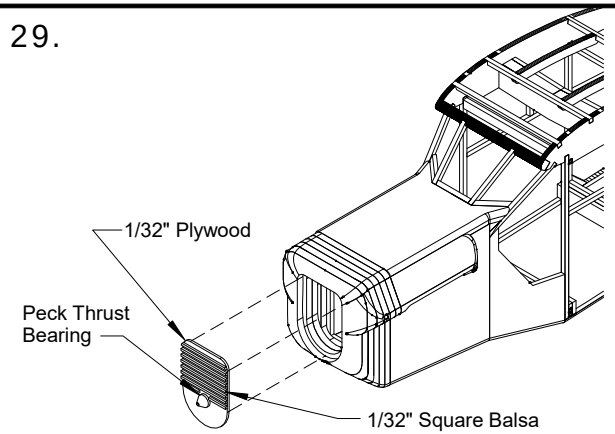
Using the windshield post locating template, glue the two windshield posts to the assembly. Trim the ends to fit and make sure the template is not glued to the assembly. Remove the template when finished.

28.



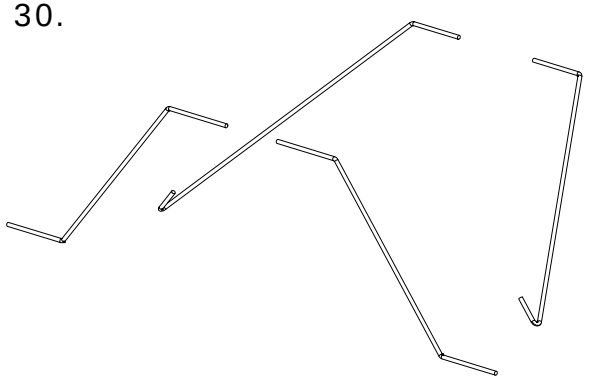
Cut the windshield bottom windshield framing pieces from 1/16" square balsa strip stock. Glue them in place as shown.

29.



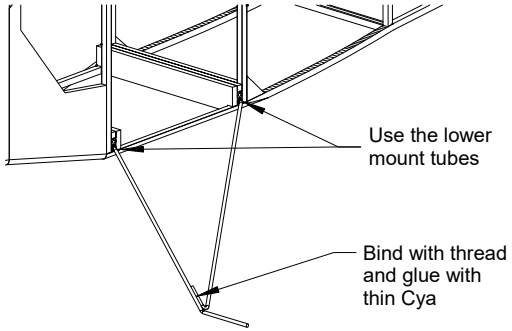
Make up the nose plug from 1/32" plywood and a Peck thrust bearing for 3/64" prop shafts. The radiator slats are simulated with 1/32" square balsa strips.

30.



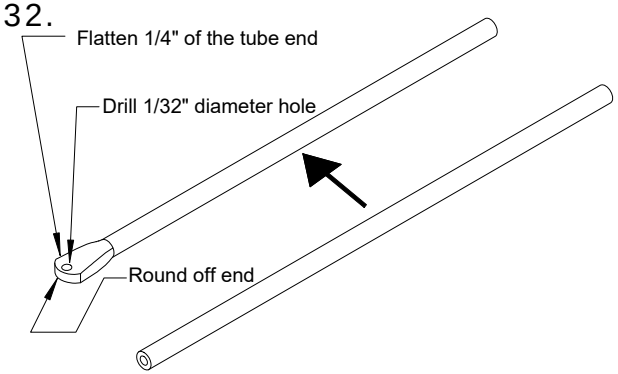
Make up the lower landing gear legs from 1/32" piano wire. The rear leg has a suggested bend sequence shown on the plan. Use the supplied template when making the second bend of the rear lower leg.

31.



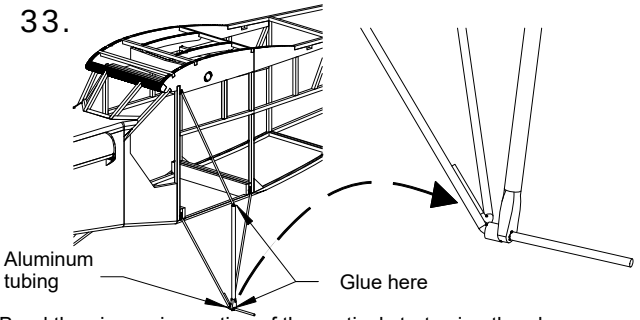
Insert the lower landing gear legs into their respective mount tubes in the fuselage. The landing gear legs use the bottom tubes. Bind the rear legs to the forward legs with thread and Cya. The landing gear is intended to be removable, so do not glue the legs to the fuselage mount tubes.

32.



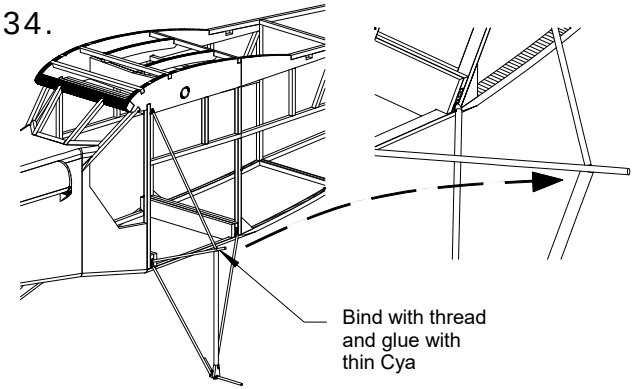
The vertical landing gear strut is made from 1/32" piano wire and 1/16" aluminum tubing. Make the lower section of the vertical strut from 2" lengths of the 1/16" diameter tubing as shown. After forming the aluminum tubing, cut each piece to the length shown on the plan.

33.



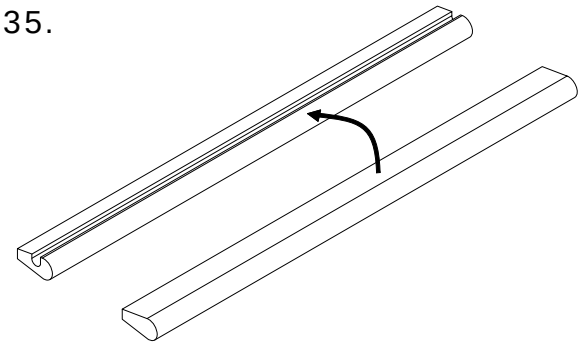
Bend the piano wire portion of the vertical strut using the plan as a guide. Place 1/16" lengths of 1/16" aluminum tubing on the axles. Slide the aluminum strut tubes over the wheel axle on the forward legs against the short lengths of tubing. Insert the piano wire potion of the strut in the upper fuselage mount tubes. Slide the other end into the strut tubes. Glue the strut tube joint with thin Cya. Do not glue the end that slips into the fuselage mount tube.

34.



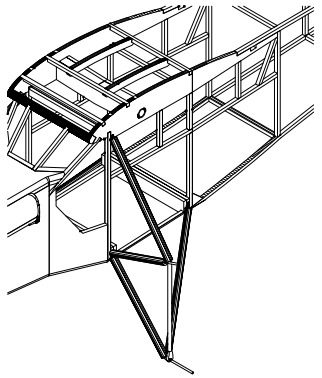
Bend the two landing gear forward wing strut mounts from 1/32" piano wire. Slide each piece into the top tube of the forward landing gear mount. Bind the joint where the strut mount contacts the vertical landing gear strut with thread and secure with thin Cya.

35.



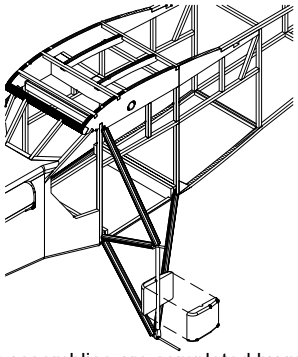
The piano wire portion of each landing gear strut is covered with balsa. Sand a length of 1/16" x 1/8" balsa strip to a streamlined cross section. Cut pieces from the shaped strip to fit each landing gear leg segment not including the vertical aluminum tube piece. Use a piece of 1/32" piano wire with a sharp end to cut a groove in the middle of each gear leg cover piece.

36.



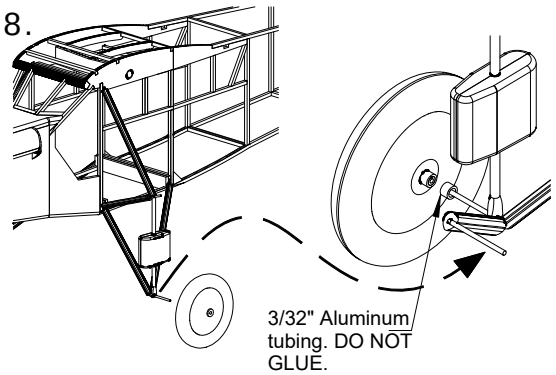
Glue the balsa landing gear leg covers to each segment of the landing gear assembly not including the aluminum tube vertical component. The covers are glued to the outside faces of the piano wire leg components.

37.



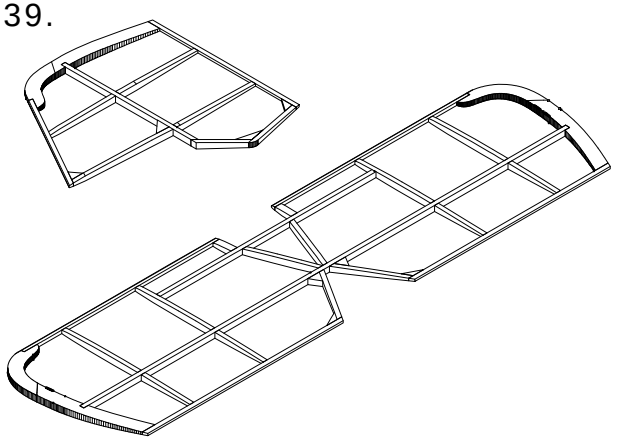
The landing gear leg assemblies are completed by making up the shock chord covers from two laminations of 1/8" balsa. Before shaping, glue the laminations together with rubber cement. Once the parts have been sanded to shape, break them apart and glue them to the vertical aluminum tube struts using the plan as a location guide.

38.



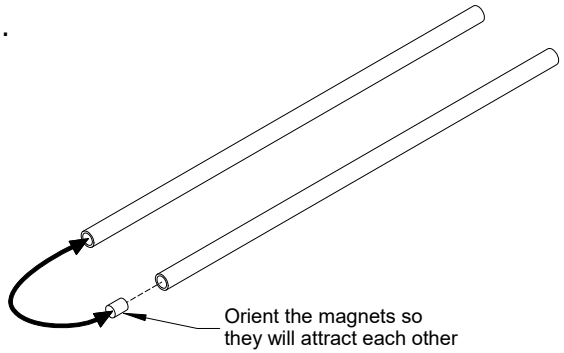
Install the wheels. A 1/16" length of 3/32" aluminum tubing is slipped on to the axle insert before the wheels and inserts are placed on the axles. Use red thread lock compound to retain the axle inserts on the 1/32" piano wire axles.

39.



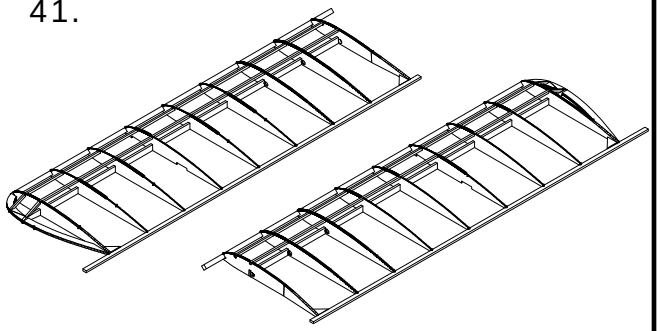
The tail surfaces are made from 1/16"x3/32" balsa strip stock. Sand the tail surfaces to a symmetrical profile after they are assembled.

40.



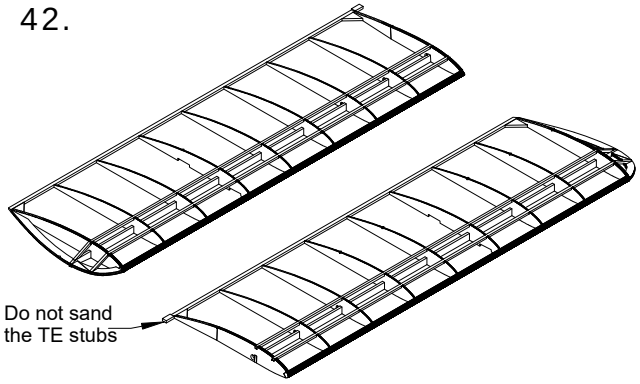
Using the plan as a guide, cut two 1/8" diameter aluminum wing spar tubes to length. Glue a .1" diameter magnet in one end of each wing tube. Make sure the polarty of the magnets is set so they will attract each other. You may have to drill out the tube ends to receive the magnets.

41.



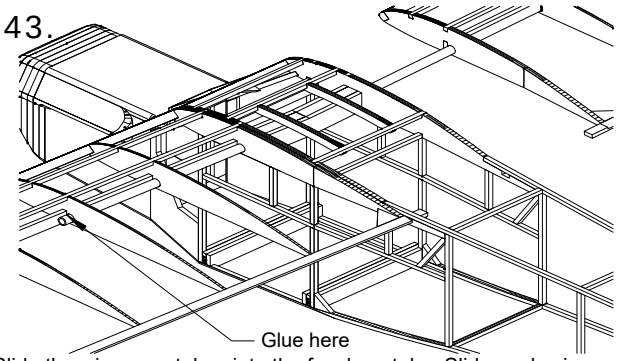
Build the wing panels over the plan. Be sure to use the slant template for the root ribs. Do not install the wing spar tubes at this time. Also do not glue in the spacer between the root rib at the bend and rib W2 at this time.

42.



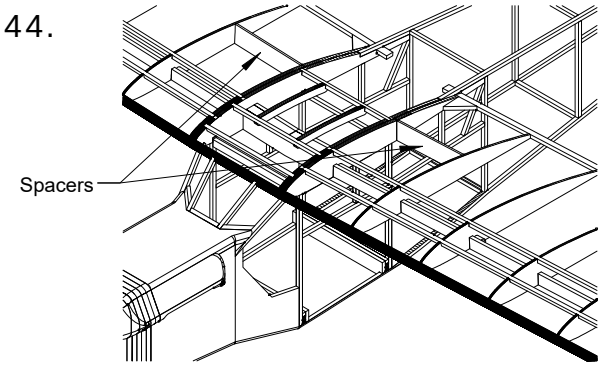
Remove the wing panels from the building surface after the glue sets. Trim the outlines and sand the leading and trailing edges. DO NOT SAND THE TRAILING EDGE STUB.

43.



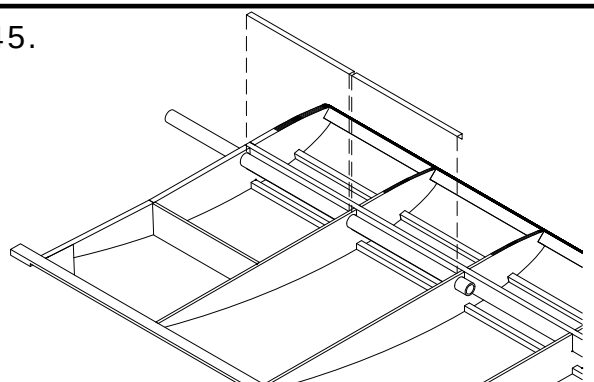
Slide the wing spar tubes into the fuselage tube. Slide each wing panel on the spar tubes. Make sure the root ribs are a tight fit with the fuselage wing plates. Use some air dry glue to glue the portion of the spart tube that extends beyond the second W2 rib to the spar. DO NOT GLUE THE SPAR TUBE ANYWHERE ELSE AT THIS TIME.

44.



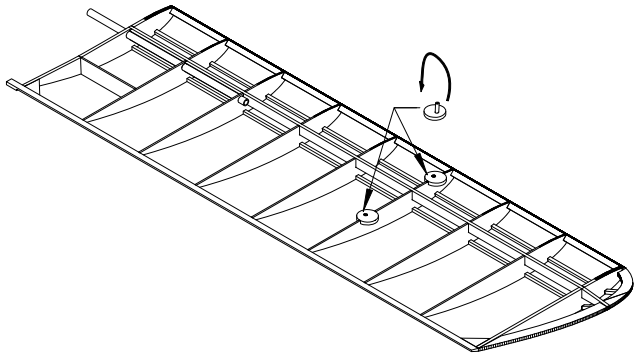
While the wing panels are still inserted in the fuselage tubes, insert the spacer between the root rib at the bend and rib W2. Make sure the wing root rib is tight against the fuselage and the carefully glue the spacer to the two ribs. Make sure glue does not go between the root rib and the fuselage wing plate.

45.



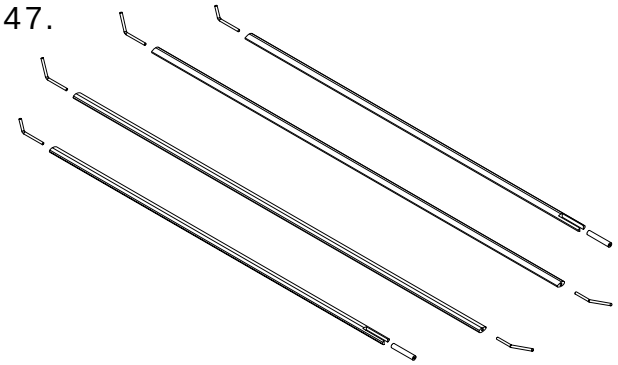
Remove the wing panels from the fuselage. Make up some triangular 1/16" square balsa strip stock. Glue lengths of the triangular strip stock to the top and bottom of the spar tubes between the wing ribs as shown.

46.



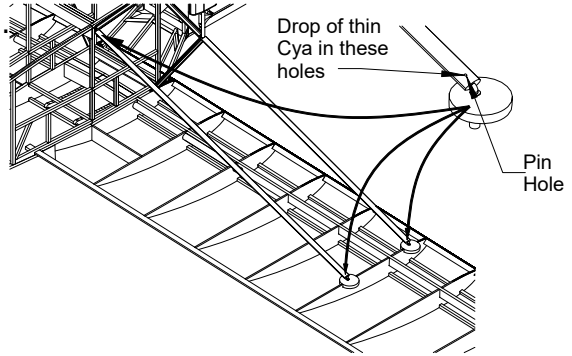
Make up the wing strut mounting pads as shown. Install the pads in each wing panel in the notches at the bottom of rib W3.

47.



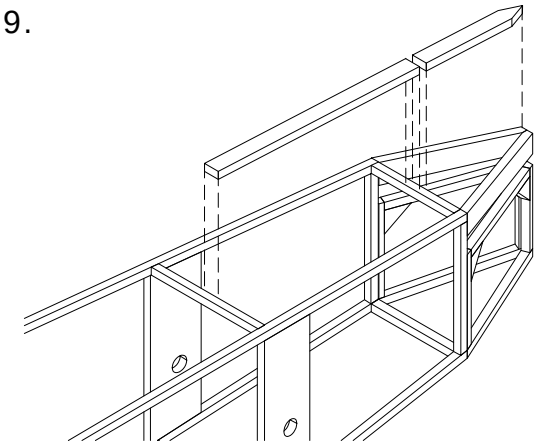
Make the four wing struts from 1/16" x 1/8" balsa strip stock that has been sanded to a streamline shape. Bend the 1/32" piano wire joiners using the plan patterns. The landing gear end of the forward strut gets a piece of 1/16" aluminum tubing rather than a piano wire joiner.

48.



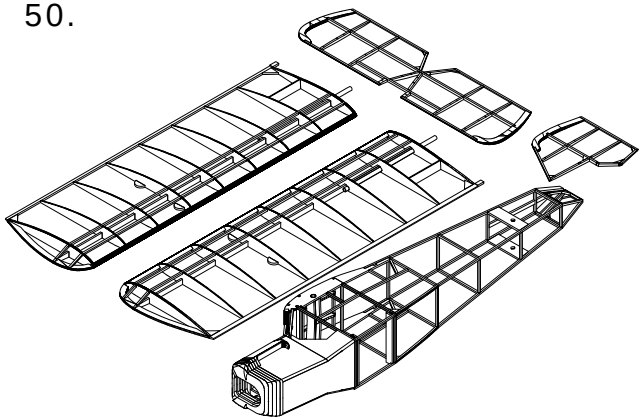
Sand the struts to a symmetrical cross section. Insert the joiners in the struts but do not glue yet. Check the fit of each strut on the model. Make any necessary adjustments. When satisfied with the fit and with the struts installed, make a pin hole in the struts over the piano wire joiners. Apply a small drop of thin Cya to each hole. Remove the struts and apply more Cya to each joiner.

49.



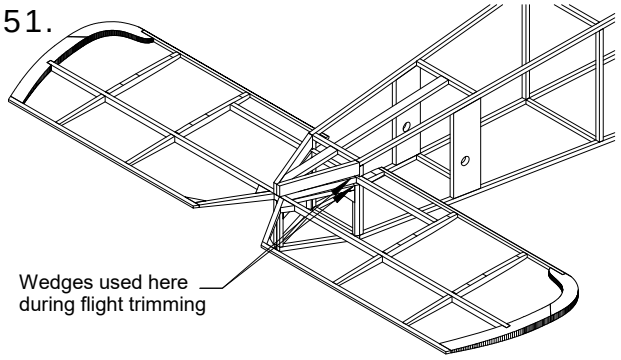
Glue a strip of 1/16"x1/8" balsa to the top rear of the fuselage as shown.

50.



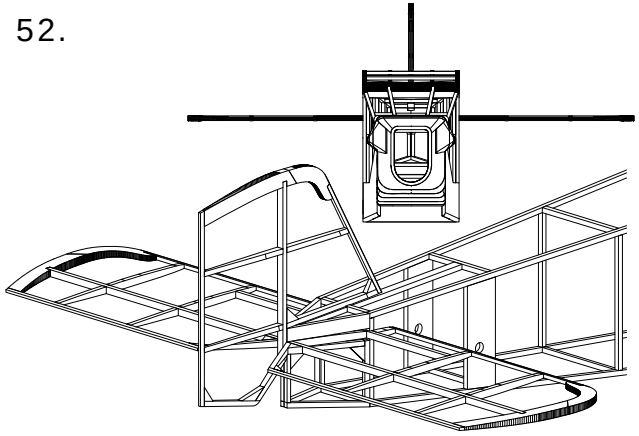
Cover the components of the model with tissue. The tissue is not shown in this or subsequent illustrations.

51.



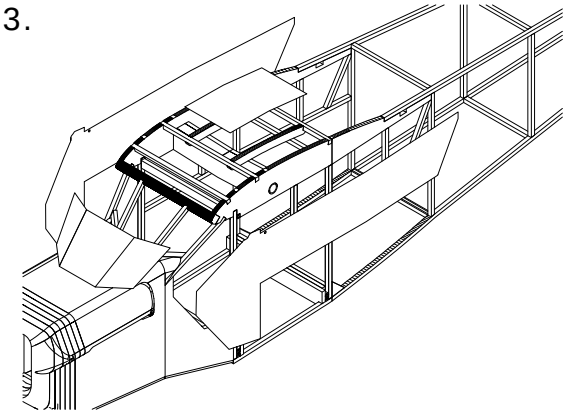
Slide the stab in to the slot in the fuselage. DO NOT APPLY ANY GLUE AT THIS TIME. The stab is held in place with wedges at the forward end of the slot. When flight trimming the model, the wedges can be adjusted to provided negative or positive incidence. Once flight trimming is complete, the stab can be glued in place.

52.



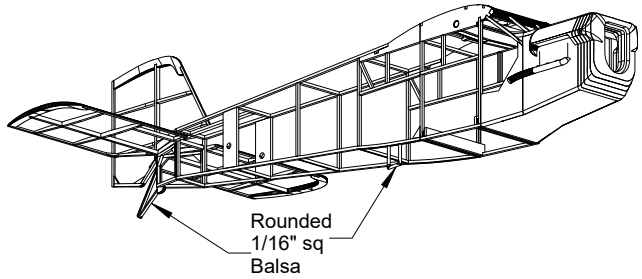
Glue the fin to the fuselage. Make sure it is square when viewed from the front.

53.



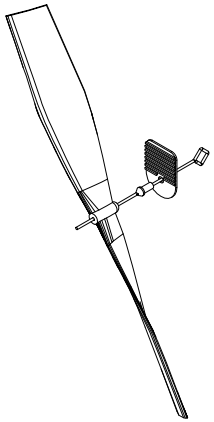
Install the windshield and side windows. Use thin (something like .003") clear plastic for the side windows and windshield. Also install the skylight. A canopy glue like Formula 560 works well.

54.



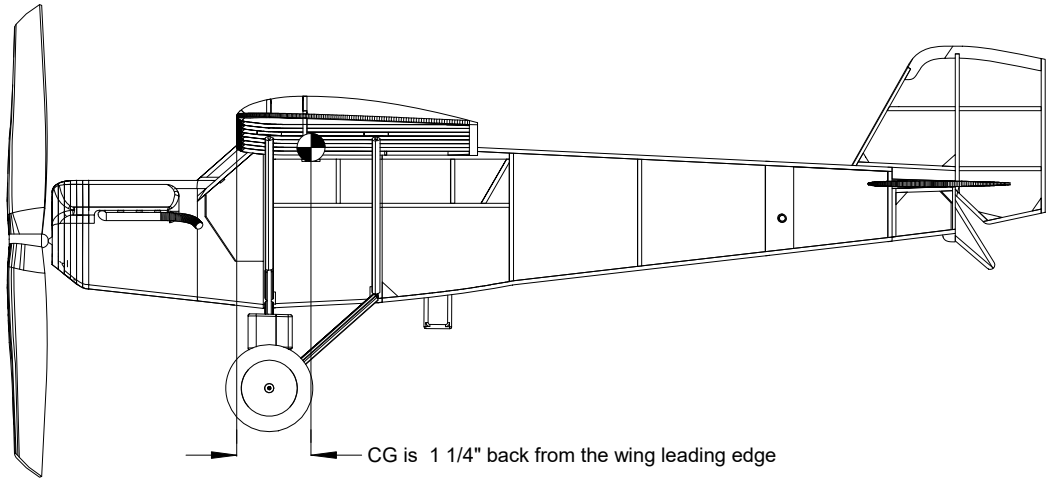
Make up the exhaust stacks from balsa using the plan as a guide. Also make the foot step and tail skid from rounded 1/16" square balsa strip stock. Install the foot step and exhaust stacks. The stab struts are also made from rounded 1/16" balsa. They are intalled after flight trimming is complete.

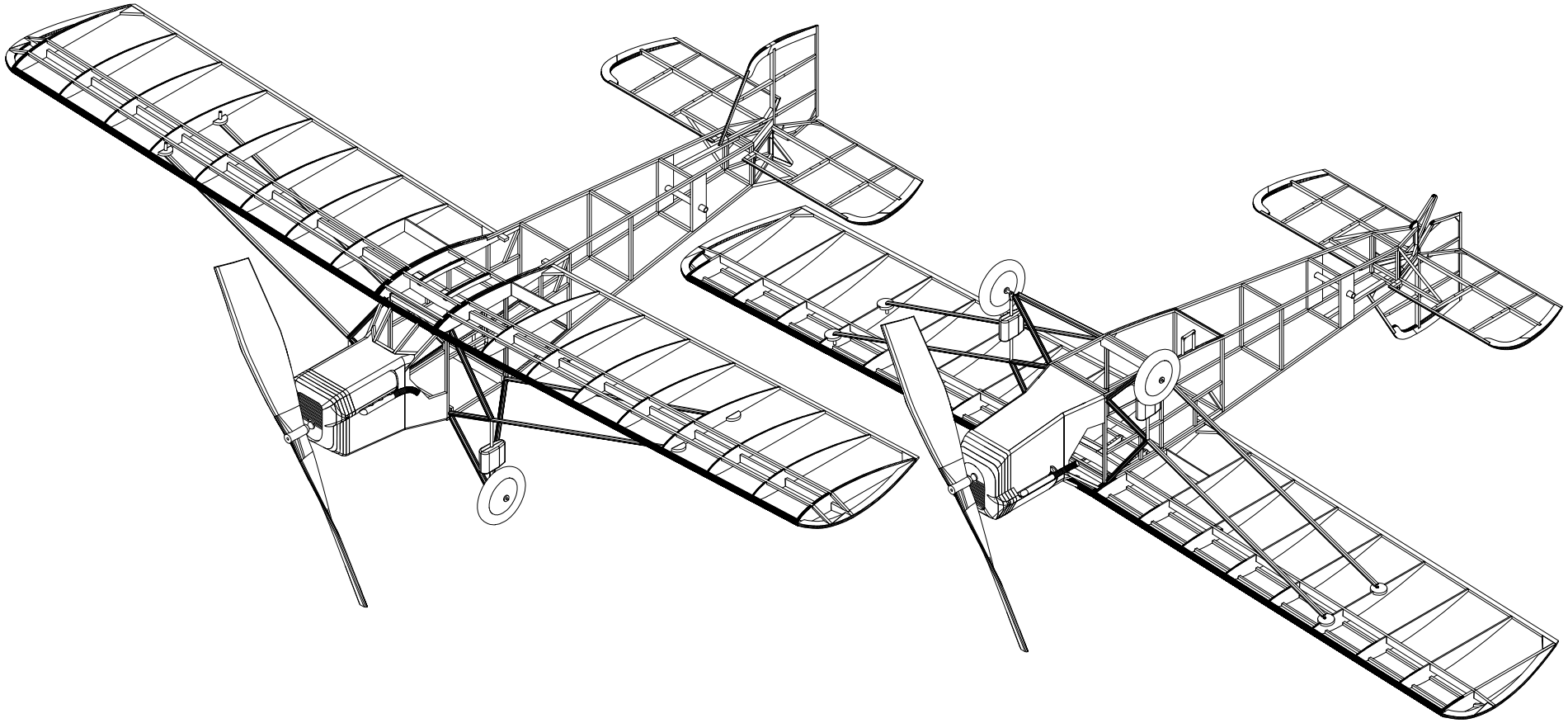
46.



The propeller nose plug assembly is set up as shown. The prop shaft hook can be your preferred style. A 8" diameter prop is suggested. See the note below regarding checking the CG locations.

47.





A braided motor is suggested for this model. The prototype used a motor of 6 strands of 3/32" rubber with 30" loops before braiding. Make up a motor and install it in the model. Wind it enough for the braiding to take effect when the motor unwinds. With the motor in the model and no slack between the prop hook and the rear motor peg, check the CG. The model should balance with CG located as shown. If necessary, add ballast to the nose or tail to get the model to balance at the designated CG location.