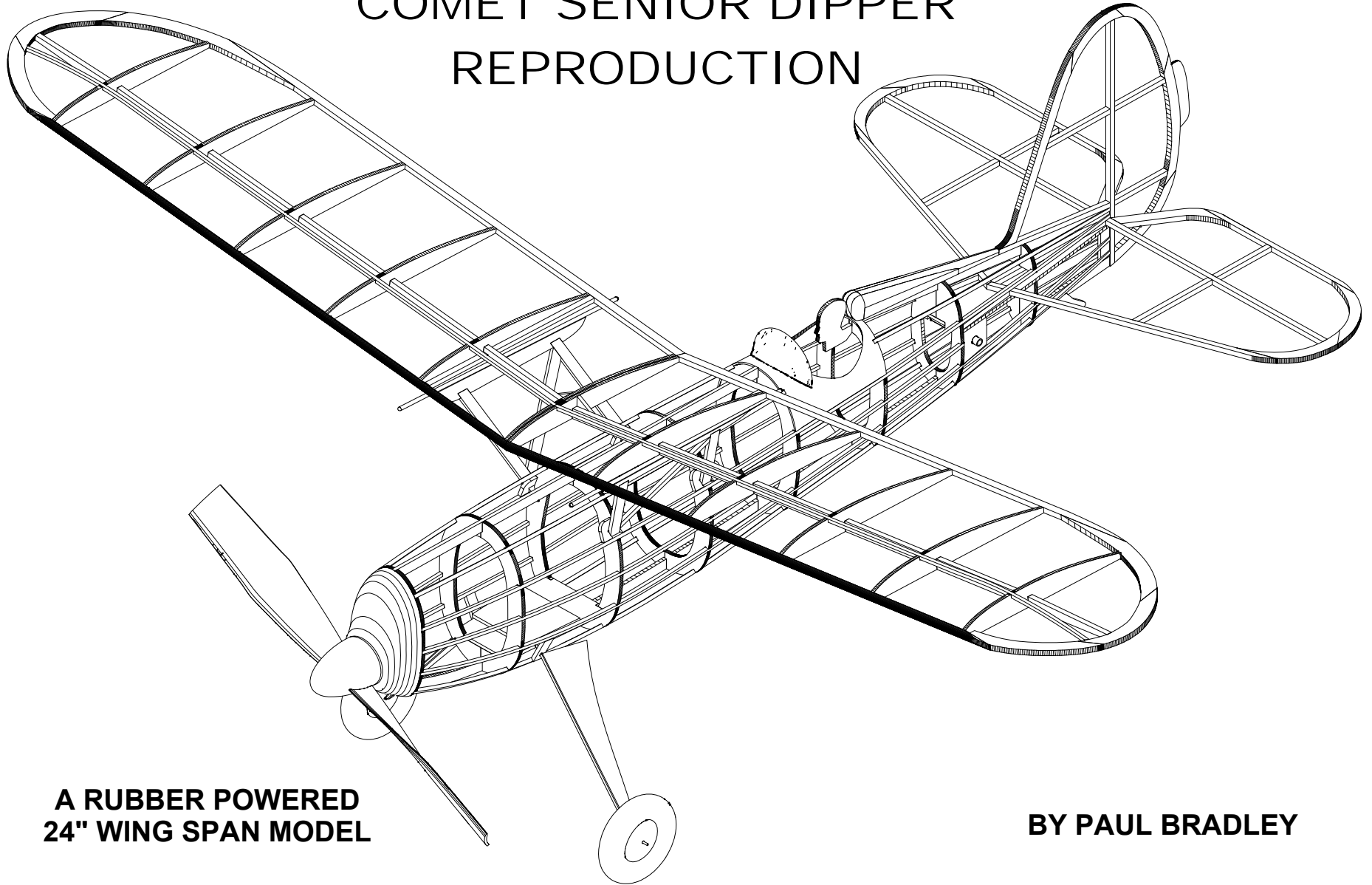


COMET SENIOR DIPPER REPRODUCTION



**A RUBBER POWERED
24" WING SPAN MODEL**

BY PAUL BRADLEY

ASSEMBLY GUIDE

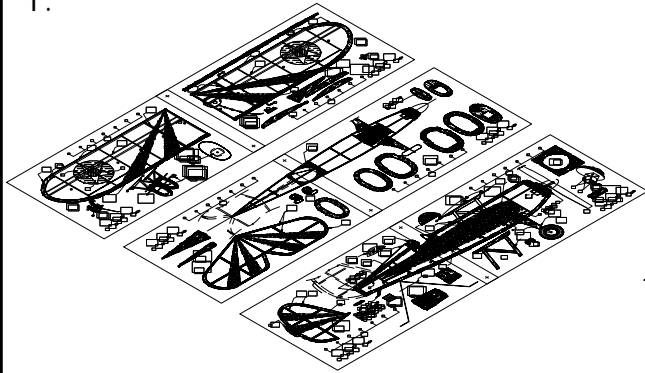
FEBRUARY 2018

CHANGES MADE TO THE ORIGINAL

The following changes were made to the original Comet kit structural design. Most of the original kit design has been retained. The changes made are intended to improve strength, make it easier to wind the model in a winding stooge, and in general take advantage of techniques commonly used when building current day models.

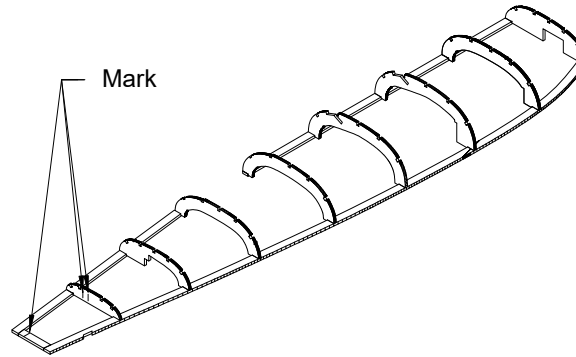
1. The nose block has been set up for 3/32" blasa laminations rather than solid block.
2. A stab platform has been added to improve the strength and accuracy of the stab alignment.
3. 1/16" square sub spars have been added to the top of the wing to improve strength and to help reduce tissue sag between the ribs.
3. The wing has been set up as two panels that are glued together. The addition of the top sub-spar provides enough additional strength to allow this approach that eliminates a dihedral doubler.
5. A motor peg has been used to anchor the rear end of the rubber motor as opposed to the method shown on the original kit plan. Sheet balsa motor peg supports have been added.
6. Piano wire landing gear legs are used rather than straight pins through balsa legs. Retention of the landing gear legs has also been strengthened.
7. One additional stringer has been added to each fuselage side to improve how the tissue follows the fuselage cross section pofile.

1.



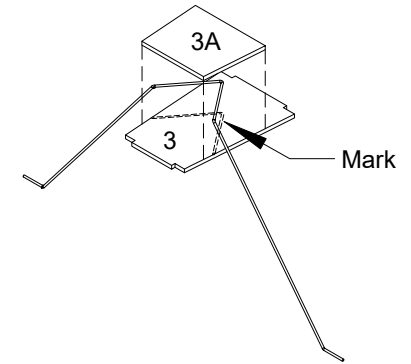
Tape the six plan pages together to form three building plan pages. Use the "+" marks for alignment of the pages.

2.



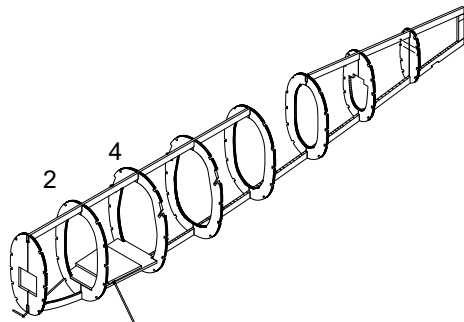
Mark parts B5 and 9 where the stab opening occurs. Use the plan for reference. Pin the keel parts to the plan. Glue the keel joints as the parts are placed on the plan. Also glue the right former halves to the keel using the plan as a location guide.

3.



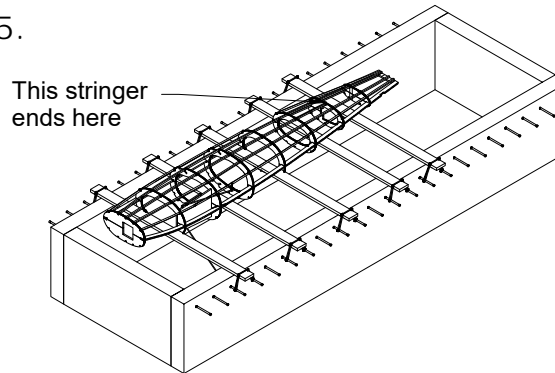
Bend the landing gear legs from 1/32" piano wire. Mark the location of the landing gear legs on part 3. Glue the landing gear legs to part 3. Also glue part 3A on top of the piano wire legs. Use an air dry glue for this step.

4.



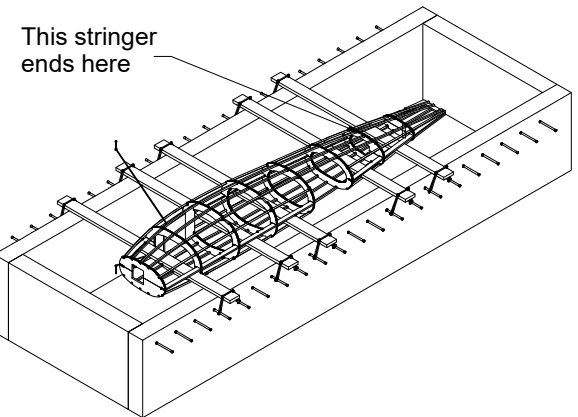
Glue the left side of each former to the assembly. Make sure that the stab slot opening on former 9 has been marked. Glue the landing gear assembly between formers 2 and 4.

5.



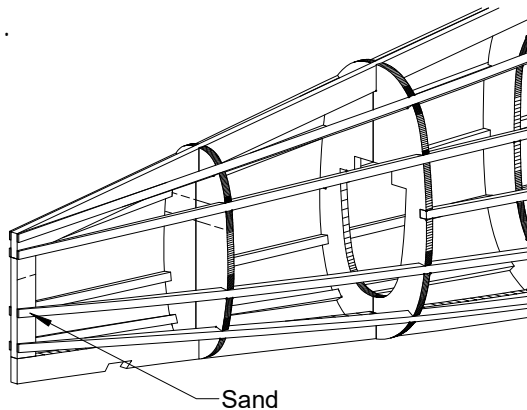
If you don't already have a fuselage assembly fixture, build one like the one shown in the sketch. The cross pieces are held in place with rubber bands. Place the fuselage on the fixture and pin the keel to the fixture cross pieces. Add the left side stringers.

6.



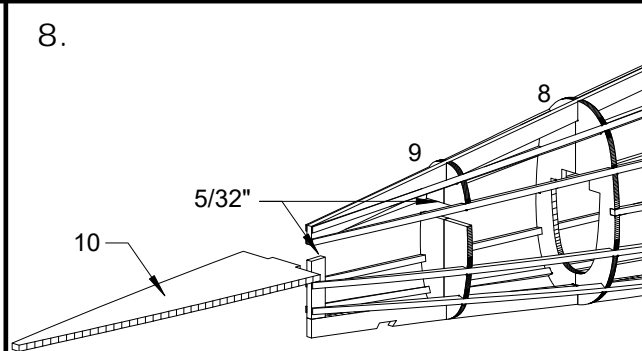
Remove the fuselage assembly from the fixture. Flip the assembly and insert the fixture cross pieces. Glue the right side stringers in place.

7.



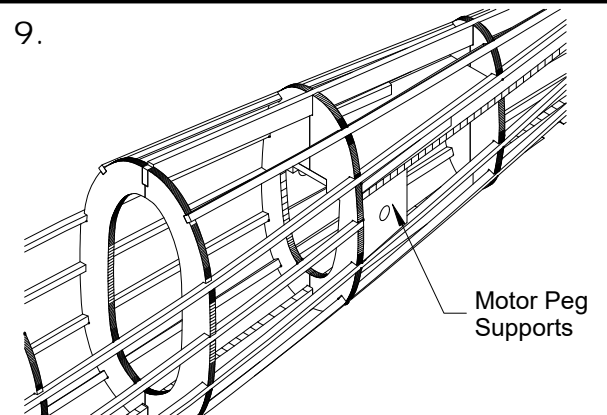
Sand the stringers to a taper at the rear of the fuselage.

8.



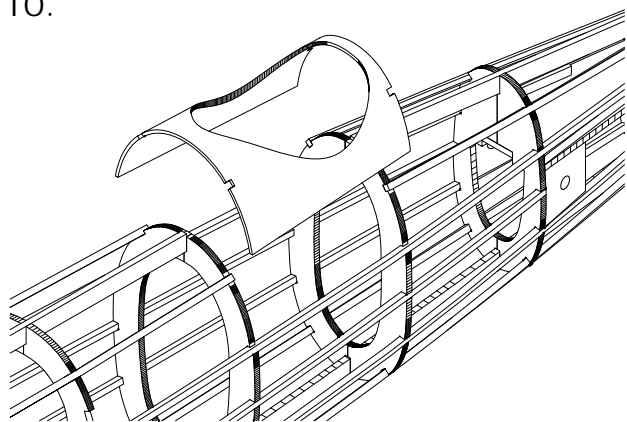
Using the previously applied marks, remove a 5/32" piece from keel piece B5 and former 9. Glue the stab platform, part 10, to formers 8, 9, and the lower keel piece.

9.



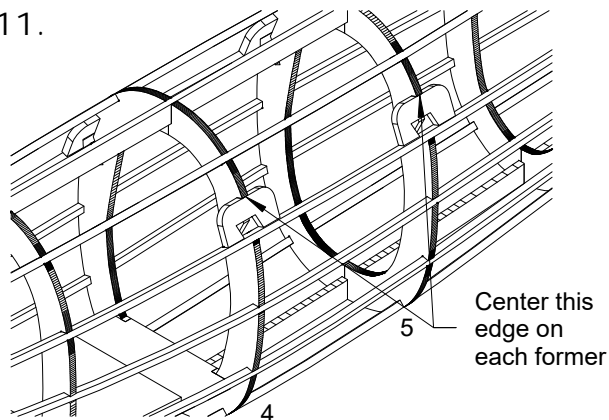
Glue the motor peg supports to the fuselage on each side as shown.

10.



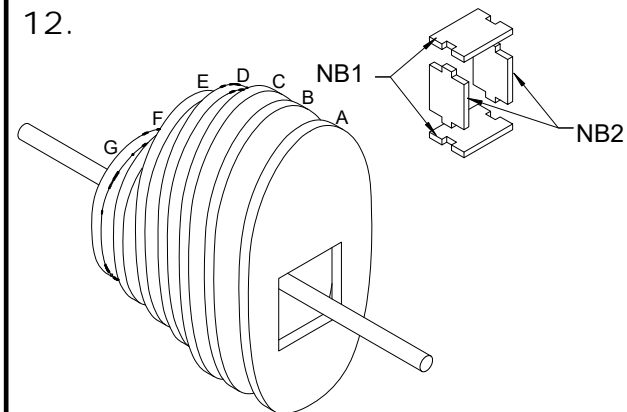
Glue the 1/32" balsa cockpit fairing to the fuselage between formers 6 and 7.

11.



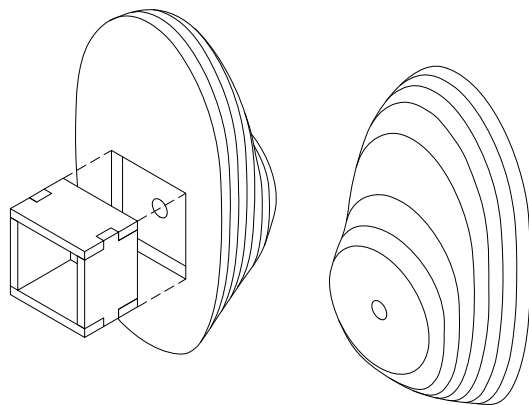
Glue the cabane strut covers to formers 4 and 5. Using the top edge, not the opening, center the covers on the formers.

12.



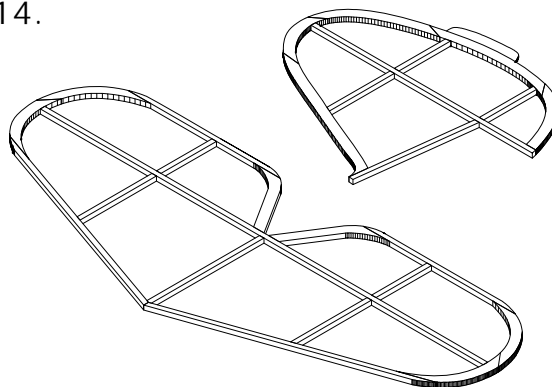
Glue the nose block laminations together. Use a length of 1/8" dowel to align the laminations. Remove the dowel before the glue sets. Also glue the nose block key pieces together (NB1 and NB2).

13.



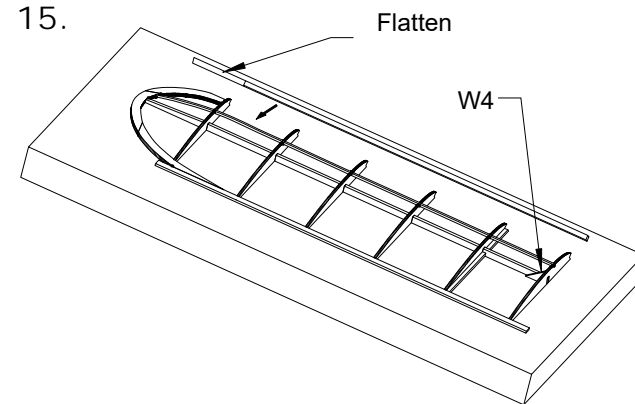
Glue the nose block key to the back of the nose block. It fits inside the square hole. Once the glue is dry, shape the nose block using the plan top and side views as a guide.

14.



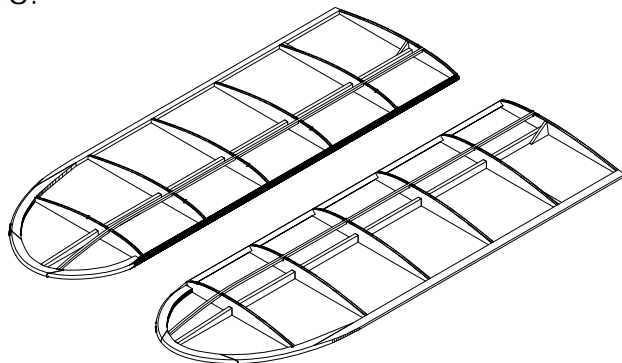
Build the stab and fin. Sand the stab and fin to a symmetrical airfoil shape (not shown in these illustrations).

15.



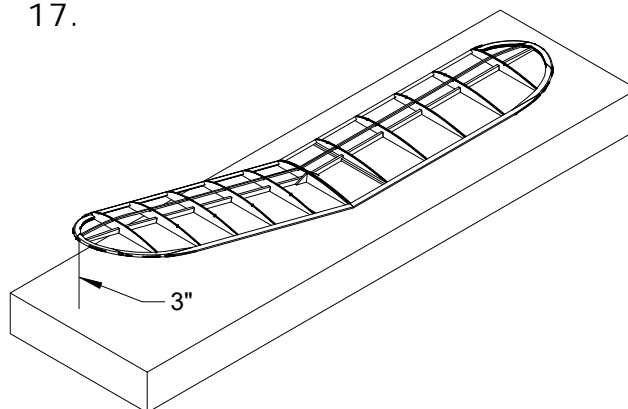
Build the wing panels over the plan. Use W4 to set the angle of the root rib A.

16.



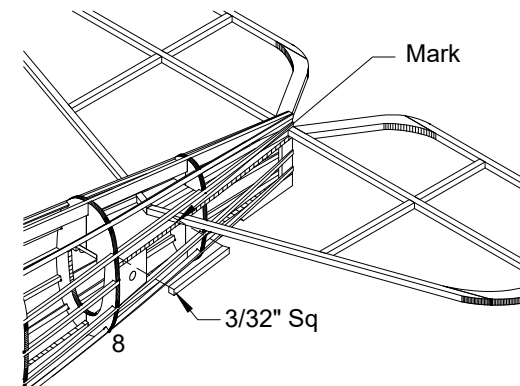
Remove the wing panels from the plan when the glue is dry. Shape the LE, TE, and tips.

17.



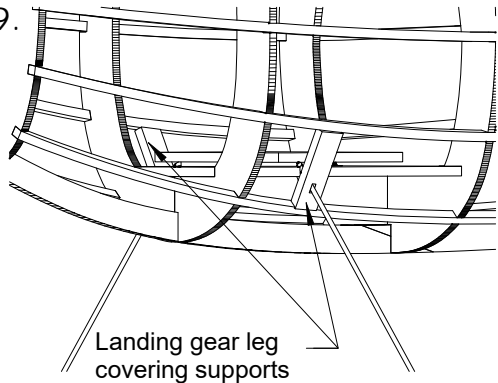
Glue the wing panels together. There should be 3" under one tip when one panel is flat on the building surface.

18.



Place the stab in the fuselage stab slot. The rear edge of the stab spar is flush with the rear edge of the platform. Mark the location of the stab LE on the platform. Remove the stab and fill the gaps between the marks and former 8 with 3/32" balsa strips.

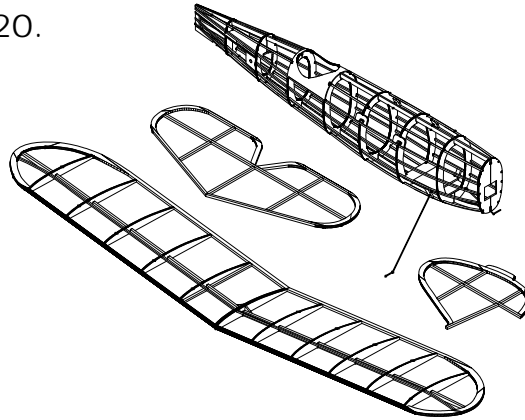
19.



Landing gear leg covering supports

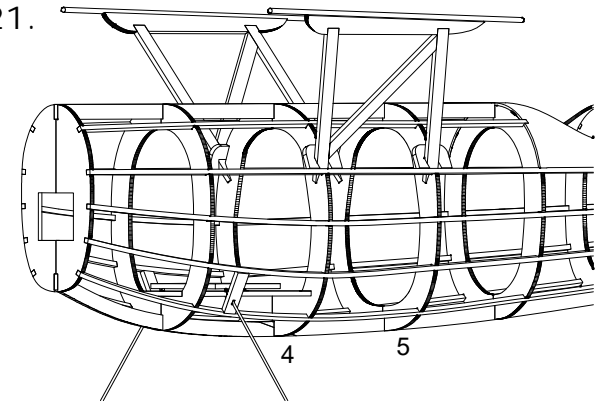
Slip the landing gear leg covering supports over the landing gear legs and glue them to the stringers as shown. Sand the supports so they are flush with the stringers.

20.



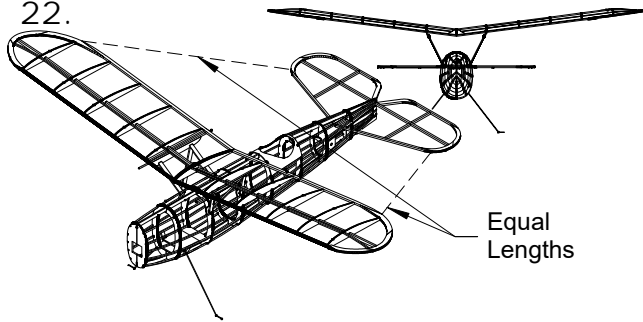
Cover the wings, tail surfaces, and fuselage with tissue. This illustration and subsequent illustrations will not show the tissue covering.

21.



Make up both sets of cabane struts. Finish sand the cabane struts and then install them in the fuselage slots. Make sure they are fully seated in the slots in formers 4 and 5.

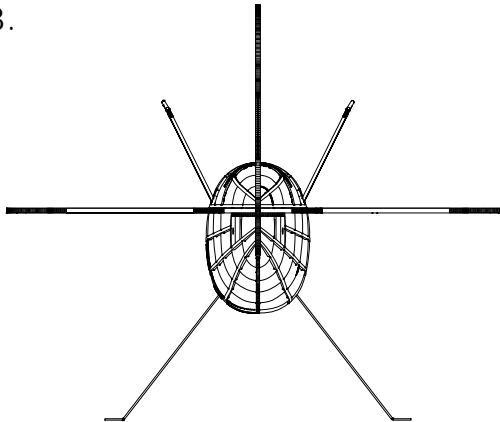
22.



Equal Lengths

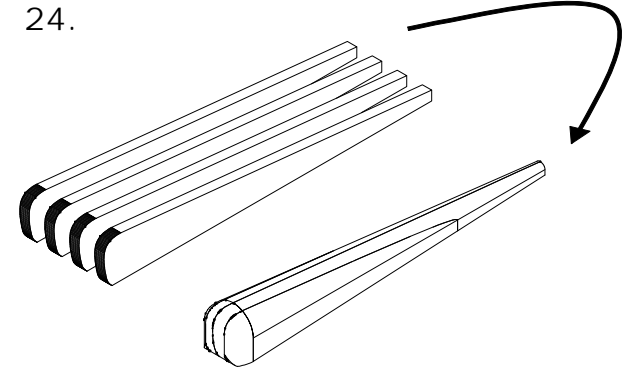
Insert the the stab in the fuselage. Check to make sure it is square with the fuselage when viewed from the rear. Make any necessary adjustments. Use rubber bands to secure the wing to the cabane struts. Make sure the distances from the wing tips to the stab tips are the same. When satisfied with the fit, glue the stab to the fuselage.

23.



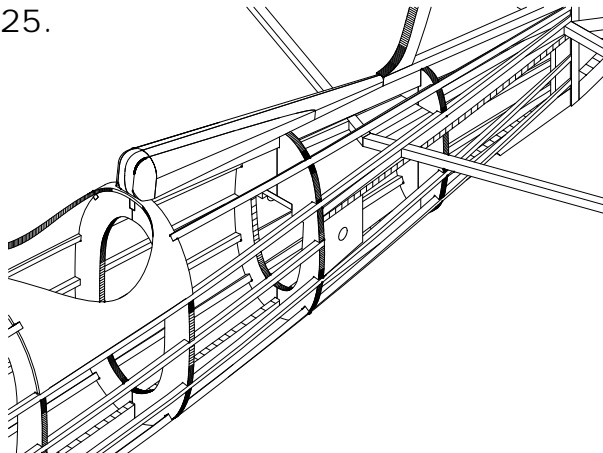
Glue the fin to the fuselage. When viewed from the rear, make sure the fin is vertical.

24.



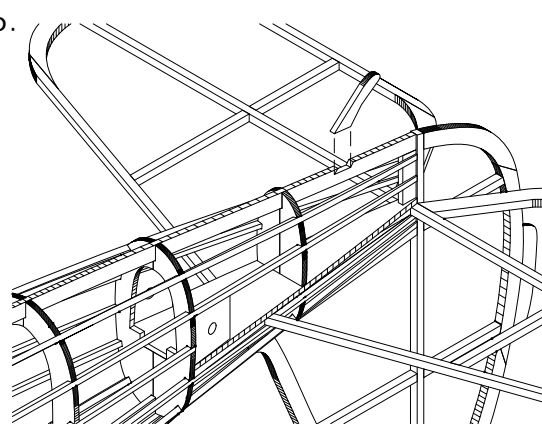
Glue the four head rest laminations together. Once the glue is dry shape the head rest using the plan as a guide. Also sand the bottom to a curve to match the fuselage shape.

25.



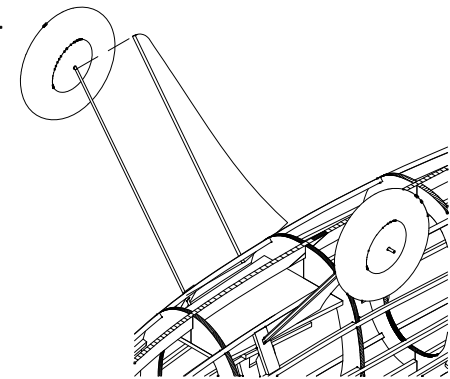
Cover the head rest and then glue it to the fuselage.

26.



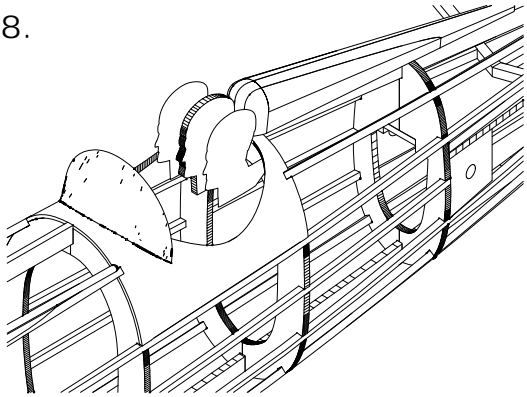
Glue the tail skid into the slot at the rear of the bottom fuselage keel piece B-4.

27.



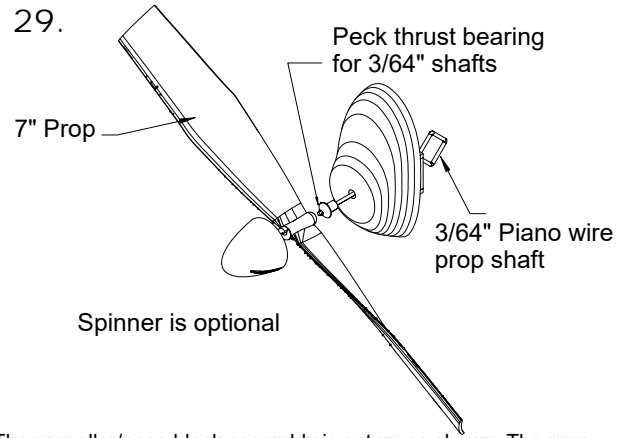
Install the wheels. The original plan called out 1 1/2" diameter wheels. Using 1" diameter wheels will be lighter and less drag. Also install the landing gear leg covers. Wrap tissue around the covers and leg wire to add strength.

28.



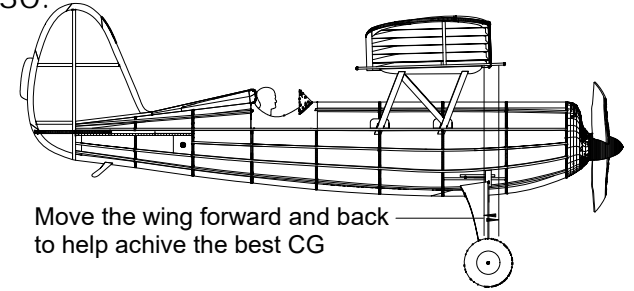
Glue the pilot profiles to each side of the 1/16" balsa profile pilot head. Glue the pilot head to the forward face of former 7. Also glue the windshield to the fuselage using an adhesive like Forumula 560.

29.



The propeller/nose block assembly is set up as shown. The prop shaft hook can be your preferred style.

30.



Move the wing forward and back to help achieve the best CG

The original kit did not show where the Center of Gravity (CG) should be placed. The wing can be moved forward and back on the cabanes to help achieve a smooth glide slope when a loop of rubber is in the fuselage. Once you have the best position for the wing established, mark the location on the cabanes. It may still be necessary to add some nose weight to get the best glide and power pattern.

