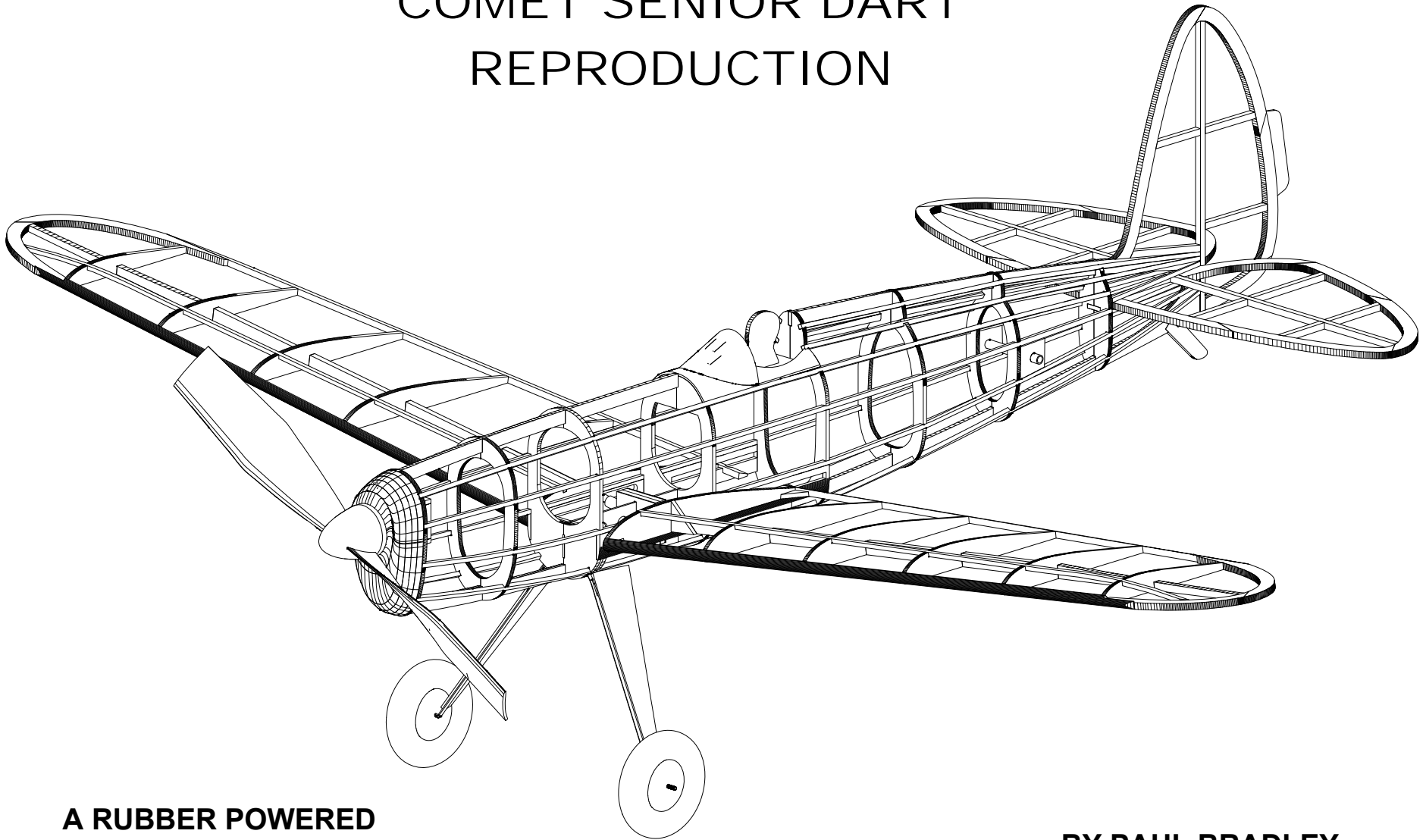


COMET SENIOR DART REPRODUCTION



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

BY PAUL BRADLEY

ASSEMBLY GUIDE

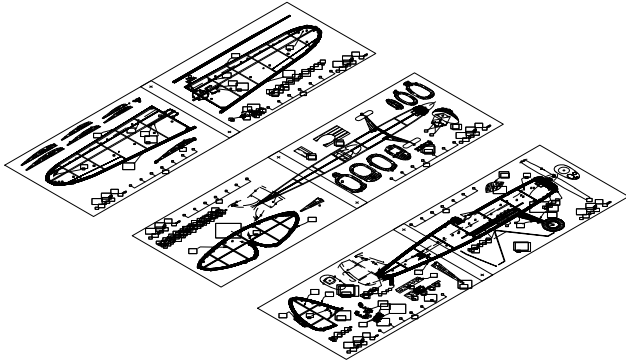
JANUARY 2018

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.

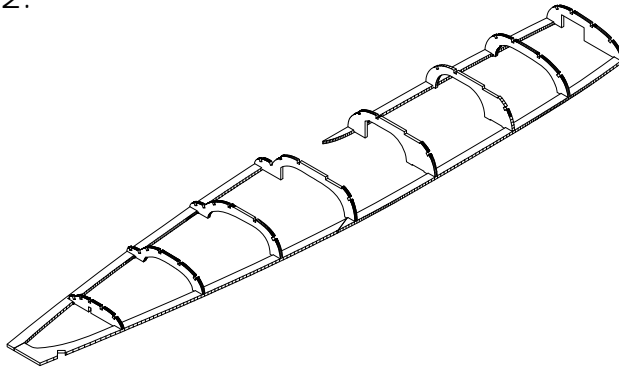
1. The nose block has been set up for 3/32" blasa laminations rather than solid block.
2. The wing is set up to be removable rather than perminately attached to the fuselage. The ability to move the wing fore and aft hs been retained.
3. A stab platform has been added to improve the strength and accuracy of the stab alignment.
4. 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.
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.

1.



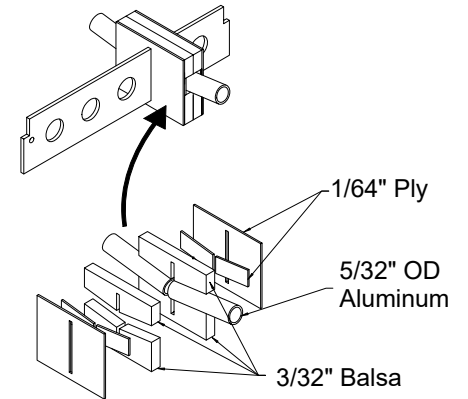
Tape the six plan pages together to form three building plan pages. Use the "+" marks for alignment of the pages.

2.



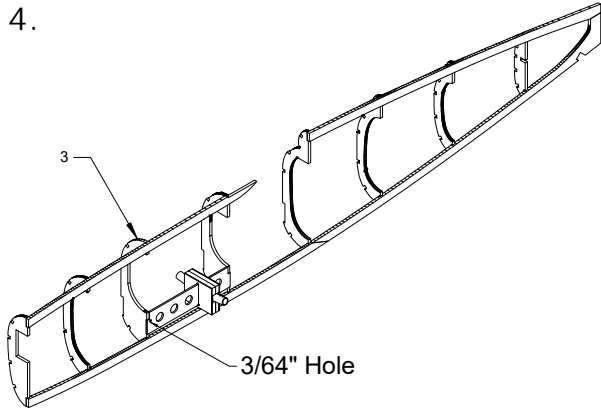
Pin the keel parts to the plan. Glue the keel joints as the parts are placed on the plan. Also glue the right former halves to the keel using the plan as a location guide.

3.



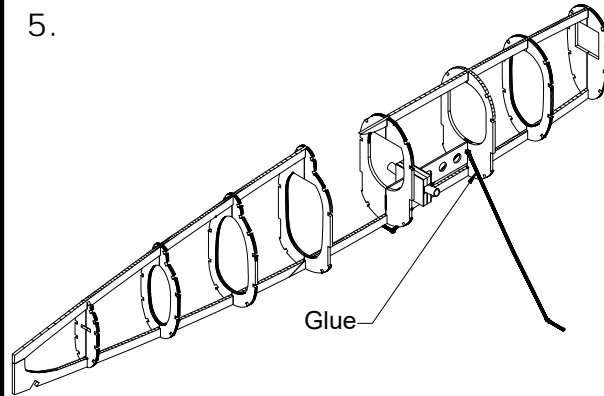
Assemble the wing mount components. The wing joiner slides fore and aft on the plywood keel B-5. Make sure the wing joiner moves easily on B-5.

4.



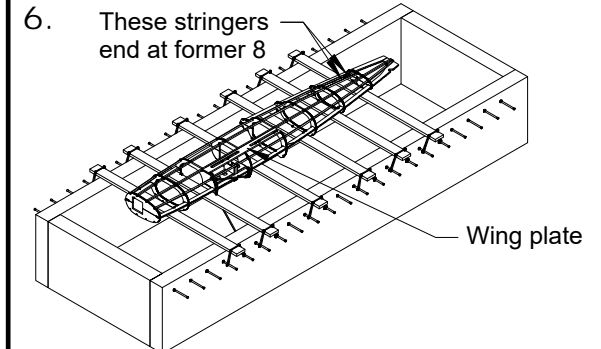
Remove the fuselage assembly from the plan. Glue the wing mount assembly to formers 3 and 4. Make sure the end of B-5 with the 3/64" hole faces former 3.

5.



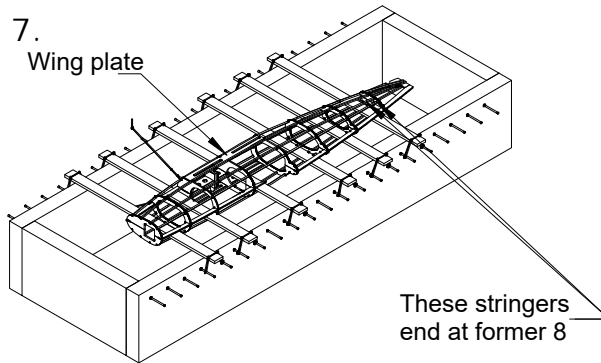
Bend the landing gear legs from 1/32" piano wire. Insert the gear legs through the hole in B-5. Glue the left side of each former to the corresponding right side former. Line up the landing gear legs and glue them to former 3.

6.



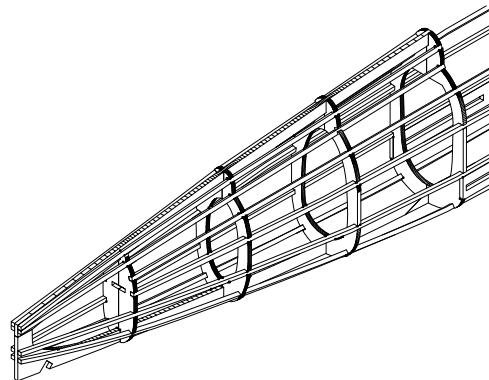
If you don't already have a fuselage assembly fixture, build one like the one shown in the sketch. The cross pieces are held in place with rubber bands. Place the fuselage on the fixture and pin the keel to the fixture cross pieces. Add the main stringers and the wing plate. Do not add the two top rear stringers at this time.

7.



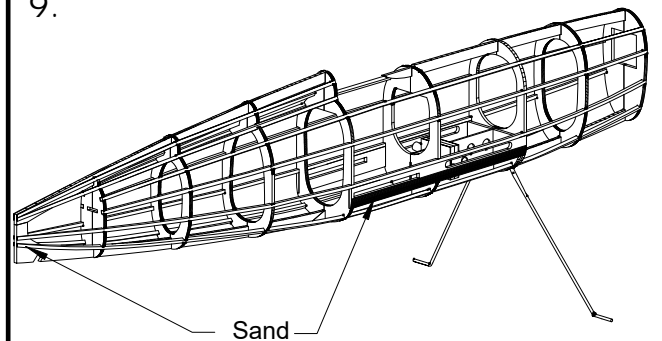
Remove the fuselage assembly from the fixture. Flip the assembly and insert the fixture cross pieces. Glue the stringers in place. Again, do not glue the two top rear stringers to the assembly at this time.

8.



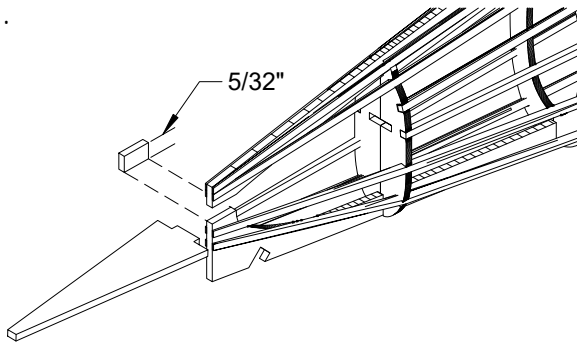
Remove the fuselage from the assembly fixture. Glue the top two rear stringers on each side to the assembly.

9.



Sand the stringers to a taper at the rear of the fuselage. Also sand the wing plates so they blend with the fuselage curve.

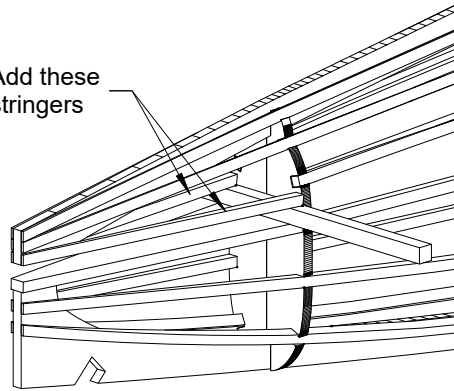
10.



Remove a 5/32" wide piece from the rear of the lower keel piece. Start at the joint between the lower and upper keel pieces. Glue the stab platform to former 8 and the lower keel piece.

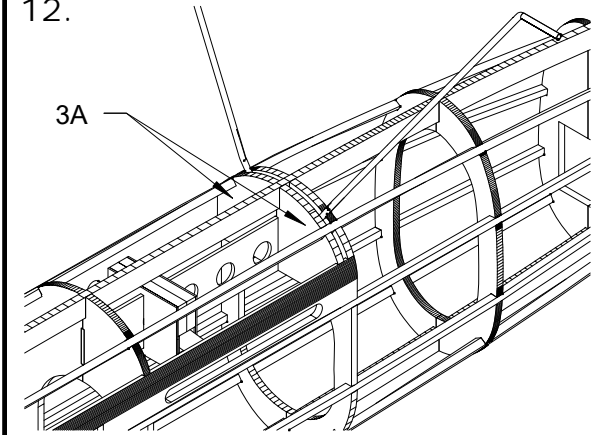
11.

Add these stringers



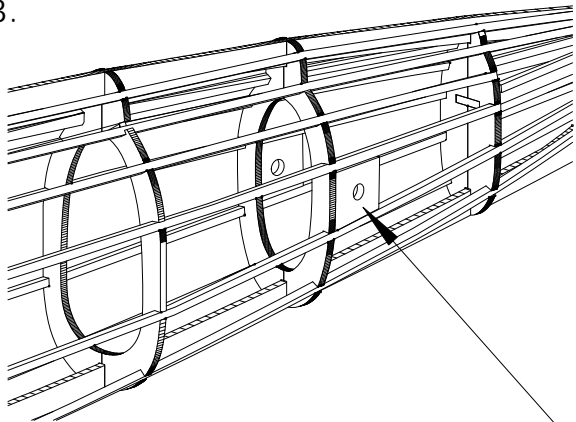
Place a strip of 3/32" square balsa at the leading edge of the stab platform. Glue a 1/16" square stringer on each side of the fuselage as shown. Use the piece of 3/32" balsa as a guide. Once the stringers are in place remove the piece of 3/32" balsa.

12.



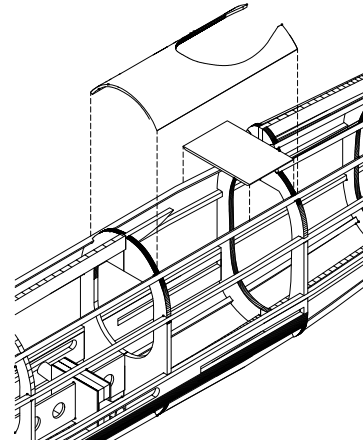
Glue formers 3A behind the landing gear legs.

13.



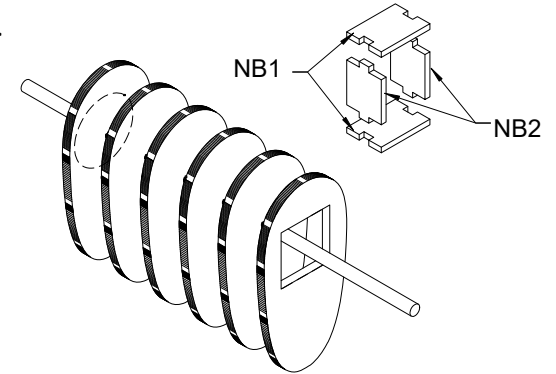
Glue the motor peg supports to the fuselage on each side as shown.

14.



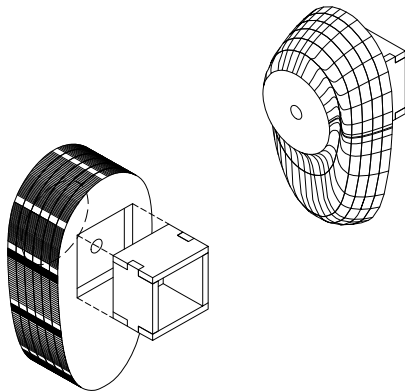
Glue the pilot platform and 1/32" balsa cockpit faring to the fuselage.

15.



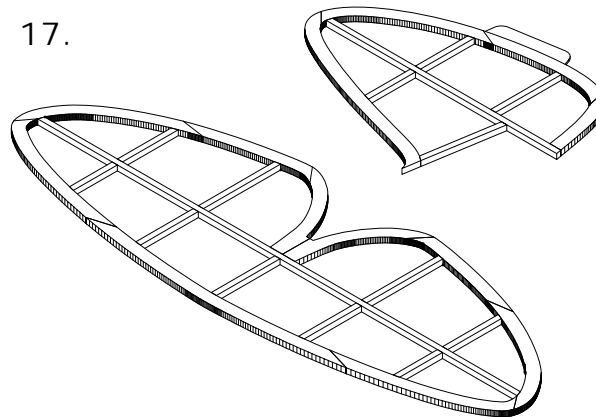
Glue the nose block laminations together. The lamination with the square square hole is the back. The lamination with the circle marked on a face is the front. Use a length of 1/8" dowel to align the laminations. Remove the dowel before the glue sets. Also glue the nose block key pieces together (NB1 and NB2).

16.



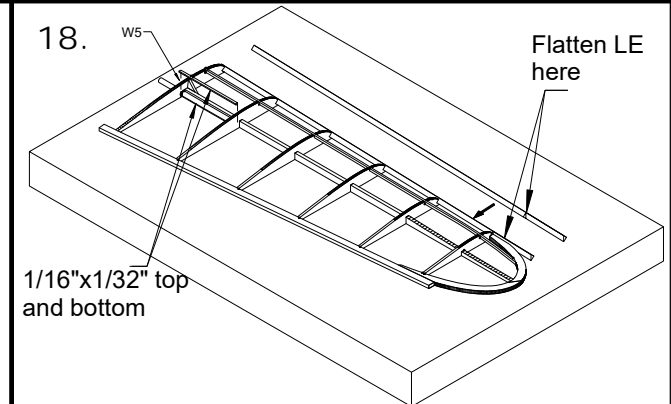
Glue the nose block key to the back of the nose block. It fits inside the square hole. Once the glue is dry, shape the nose block using the plan top and side views as a guide.

17.



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

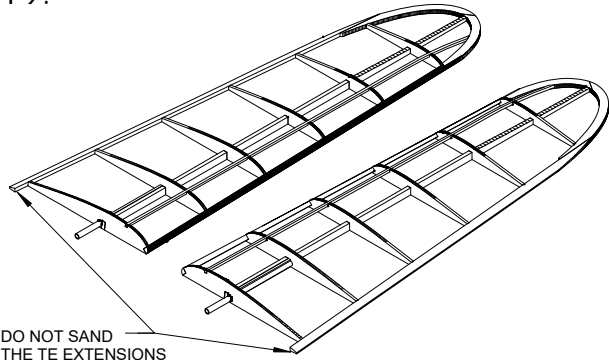
18.



1/16"x1/32" top and bottom

Build the wing panels over the plan. Use W5 to set the angle of rib A. The 1/8" diameter wing tubes are secured to the main spar with strips of 1/16"x1/32" balsa.

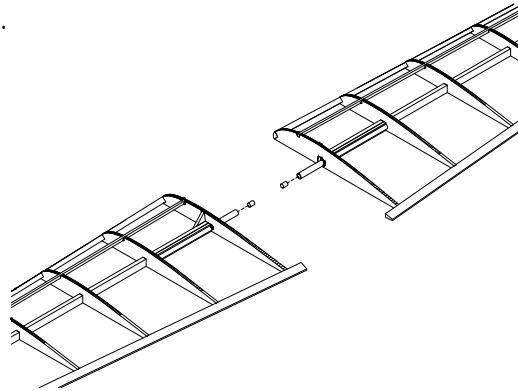
19.



DO NOT SAND THE TE EXTENSIONS

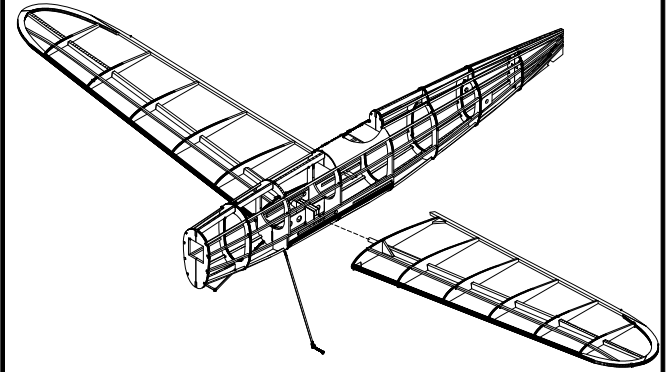
Remove the wing panels from the plan when the glue is dry. Shape the LE, TE, and tips. Do not sand the TE extensions beyond rib A. They ride in the wing plate slot and should remain rectangular.

20.



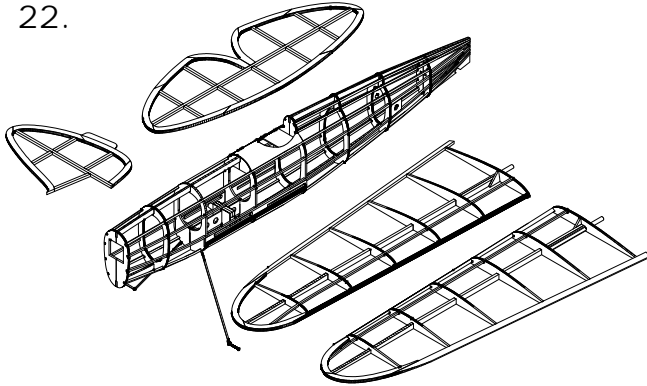
A .1" x 1/8" round magnet is glued in center section end of each wing panel aluminum tube. Orient the magnets so the wing panels will attract each other. The tubes will have to be drilled out for the magnets.

21.



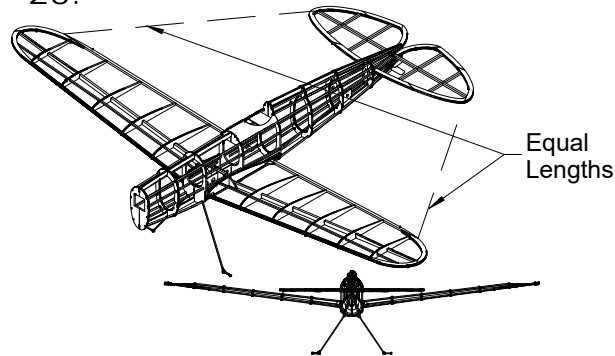
Check the fit of each wing panel in the wing joiner and the trailing edge slots in the fuselage. Make any necessary adjustments.

22.



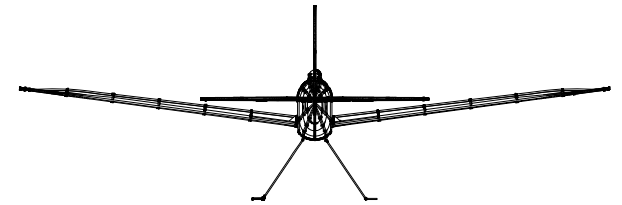
Cover the wings, tail surfaces, and fuselage with tissue. Cut the fuselage tissue away from the openings in the wing plates. This illustration and subsequent illustrations will not show the tissue covering.

23.



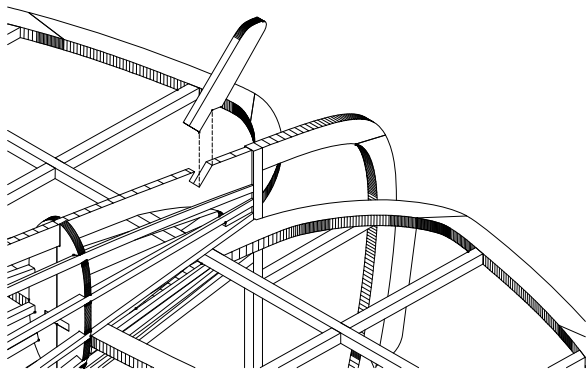
Insert the wings into the wing joiner. Slide the stab into the stab slot. Check to be sure the stab is square with the wings when viewed from the rear. Adjust the stab slot if necessary. When the alignment is correct, glue the stab in place.

24.



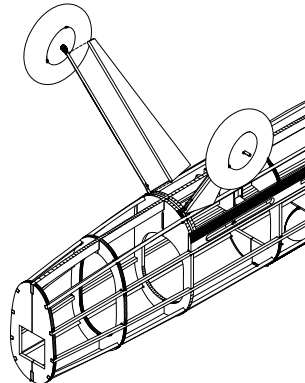
Glue the fin to the fuselage. When viewed from the rear, make sure the fin is vertical.

25.



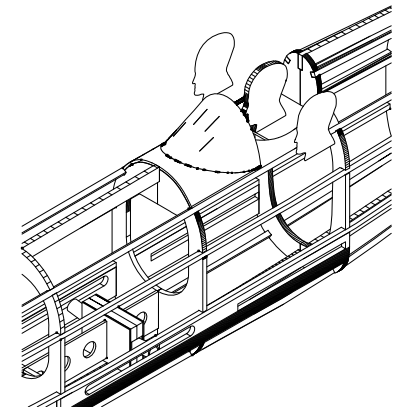
Glue the tail skid into the slot at the rear of the bottom fuselage keel piece B-4.

26.



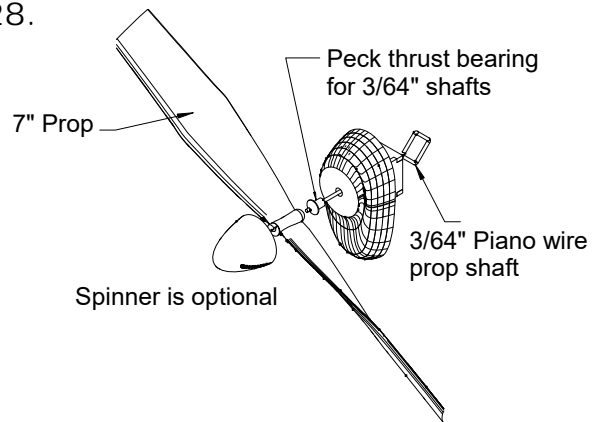
Install the wheels. The original plan called out 1 1/2" diameter wheels. Using 1" diameter wheels will be lighter and less drag. Also install the landing gear leg covers. Wrap tissue around the covers and leg wire to add strength.

27.



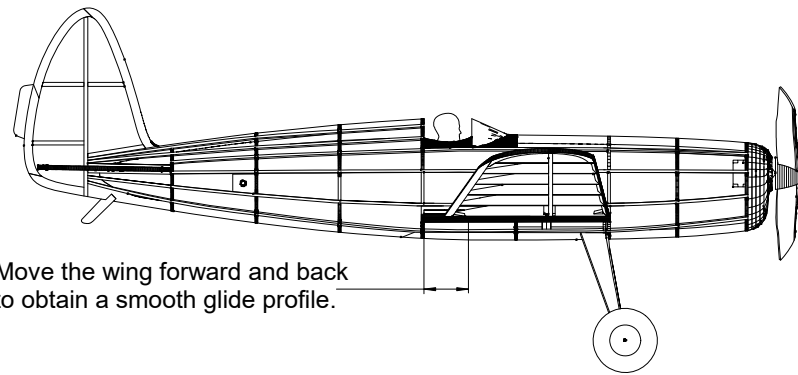
Glue the pilot profiles to each side of the 1/16" balsa profile pilot head. Glue the pilot head to the pilot platform. Also glue the windshield to the fuselage using an adhesive like Formula 560.

28.



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

29.



The original kit did not show where the Center of Gravity (CG) should be placed. The wing is moved forward and back to achieve a smooth glide slope when a loop of rubber is in the fuselage. The magnets in the wing tubes will pull the wing panels tight against the fuselage. Once you have the best position for the wing established, mark the location on the fuselage. The wing joiner can also be glued to the beam if desired.

