MIG-3 Instructions Manual

Created by Ron Edwards

Note: All references to right, left, front, back, top, or bottom are from the plane's perspective from the tail to nose. These instructions are for SSC and Open-B planes.

Cut flutes from nose to tail.

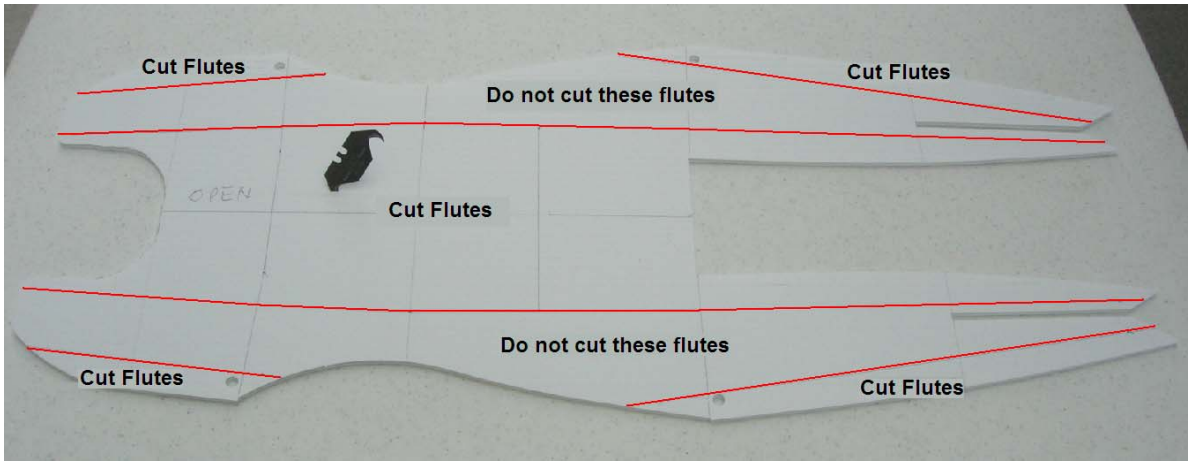
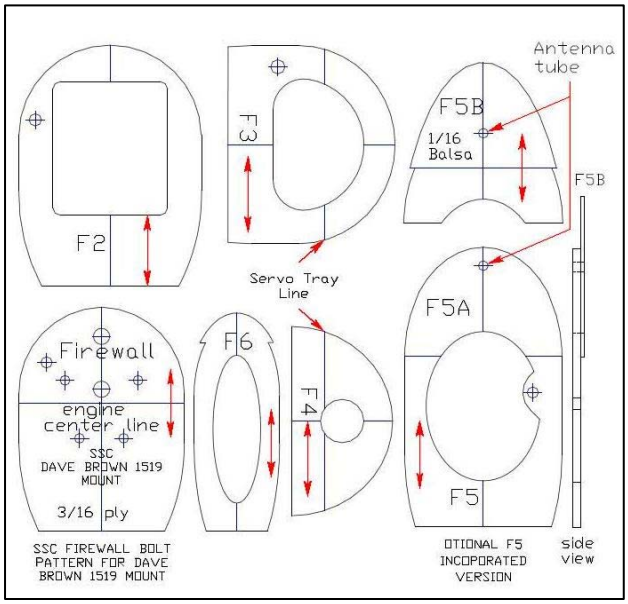


Image 1

Fold the fuselage and tape the nose and tail sections so they are even. If it is not even, the vertical and horizontal stabilizers will not be straight and level.

Image 2

There is no right or wrong order regarding the installation of the fuselage formers.



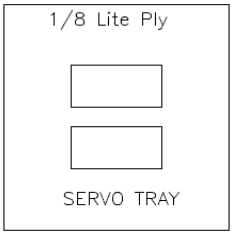


Image 3

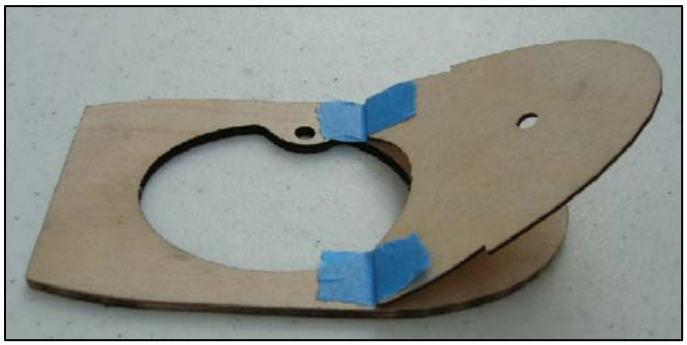


Image 4

Align F5A and F5B using tape to create hinges. The hinges help to ensure proper alignment when the two pieces are joined. Use CA glue to join both pieces.

Image 5

Place F5 inside the fuselage so F5A stops against the inner lip. F5B forms the inside of the canopy. Using CA glue, apply glue on both side of former. You should also glue the backside of the former to the dowel.

<u>Tip</u>: Use rubber bands to keep the lower end of the fuselage tight against the former. A Popsicle stick intertwined between the rubber bands and the former enables the former to be pressed against the wooden dowel.

Image 6

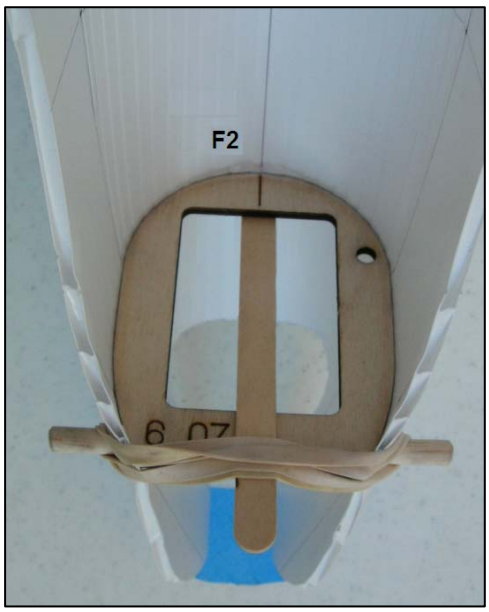


Image 7

Install F2 so the hole for the throttle linkage is on the right side of the plane. Press F2 against the forward dowel and glue each other together to provide extra strength.

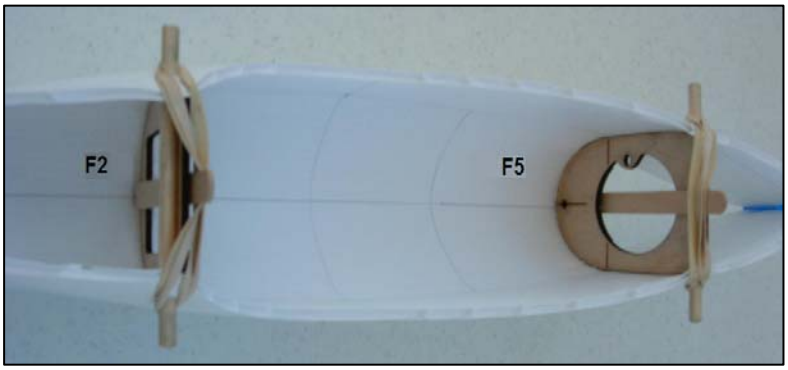


Image 8

Install F3 with the throttle hole on the right side of the fuselage. Insert the servo tray only for the purposes of aligning F4. After F4 is glued in place, install the servo tray.

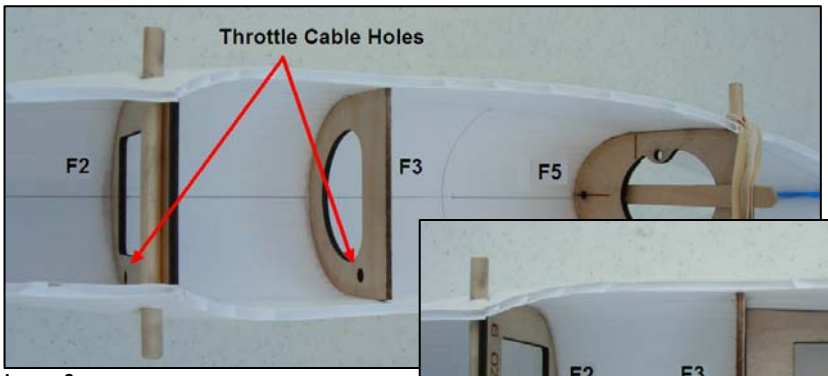


Image 9

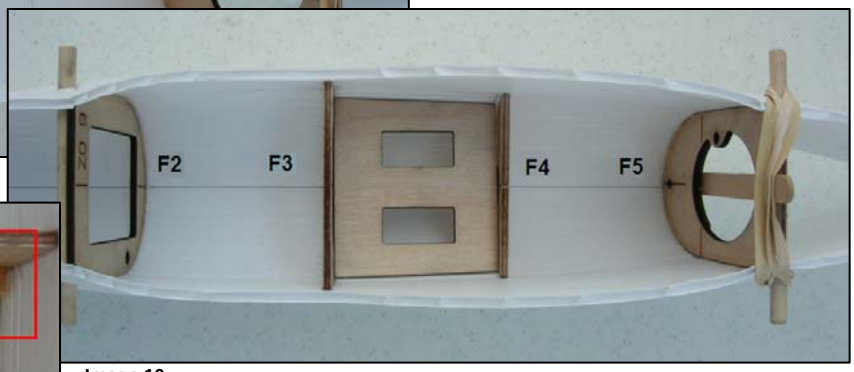


Image 10

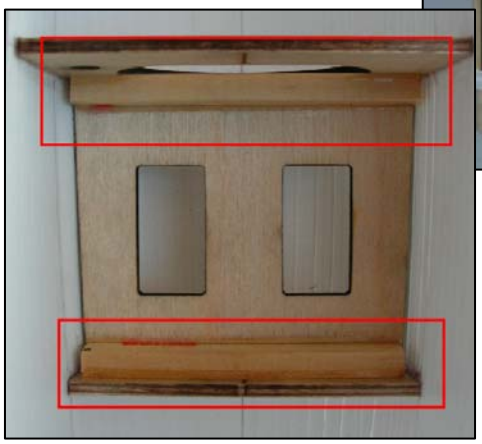


Image 11

Use the two sticks to secure the servo tray to F3 and F4. One stick will be longer than the other due to the tapper of the fuselage.


Image 12

Image 13

Insert the blind nuts to the back of the firewall. Putting a few drops of CA glue underneath the blind nuts provides additional security and reduces the likelihood that they will come out (Image 12).

Install the firewall using CA glue. Fuel-proof the firewall with CA glue or epoxy. While it is not required, adding epoxy to both sides of each former provides additional strength.

Glue a thin strip of 2mm coroplast to the back of the firewall using E-6000 glue (Images 14 &15).

Image 14


Image 15

Using CA glue, install the final fuselage former F6. To ensure you do not install F5 too far back, insert the horizontal stabilizer all the way until it stops against the fuselage.

Image 16

Cut out the elevator hinge flute. This side will become the bottom of horizontal stabilizer. Install sticks in the two flutes behind the cut out hinge flute. These sticks provide the elevator additional strength to prevent the elevator from twisting when extreme pressure is applied. Drill two holes (see red circles below) in the two sticks and install the elevator control horn.

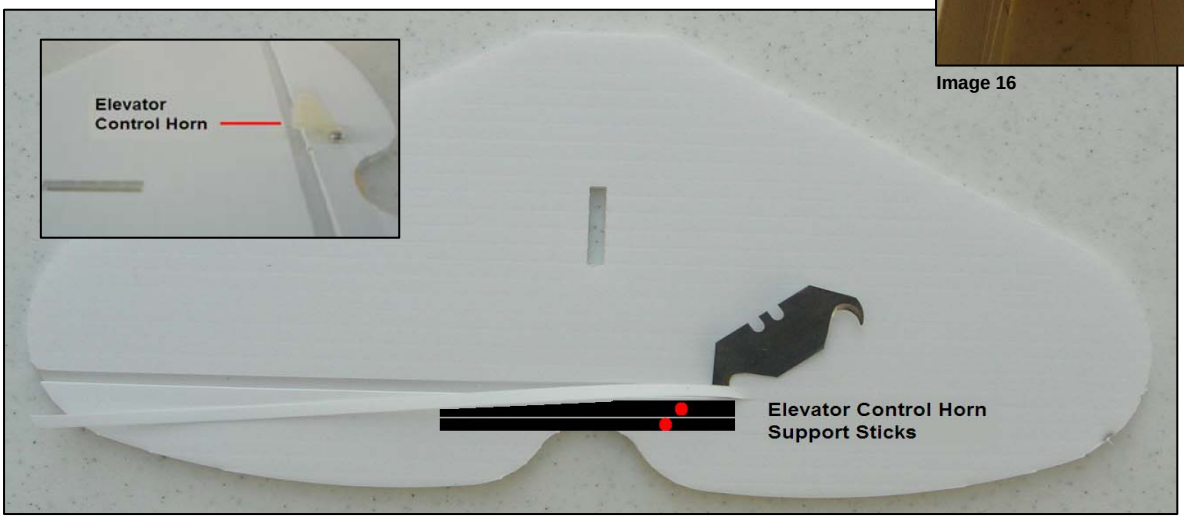


Image 17

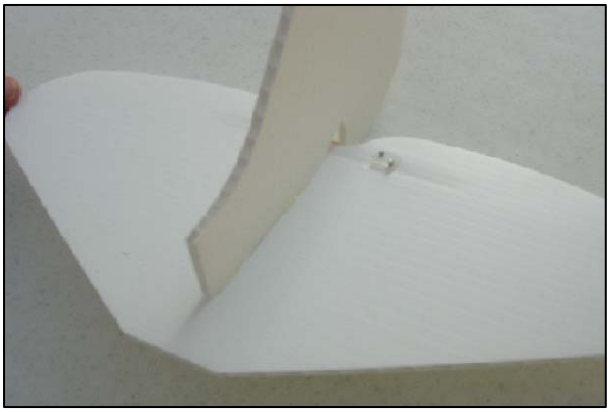


Image 18

You will need to cut the connecting piece on the front of the vertical stabilizer in order to slide it onto the horizontal stabilizer.

Hot glue the vertical and horizontal stabilizer together. Glue the top and bottom on both sides.

<u>Tip</u>: To ensure the two pieces are even, lay the horizontal stabilizer on a table and push it until the bottom of the vertical stabilizer is pressed against the edge of the table.

Hot glue the tail section to the back of the fuselage. Glue both sides on the top, then both sides on the bottom.

Ensure both are straight and level.

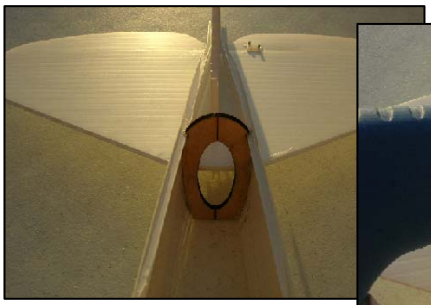


Image 19

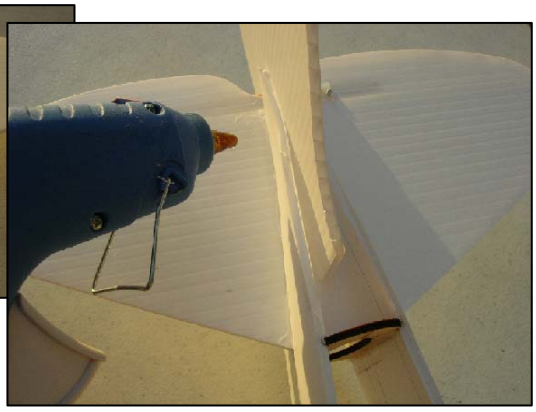


Image 20

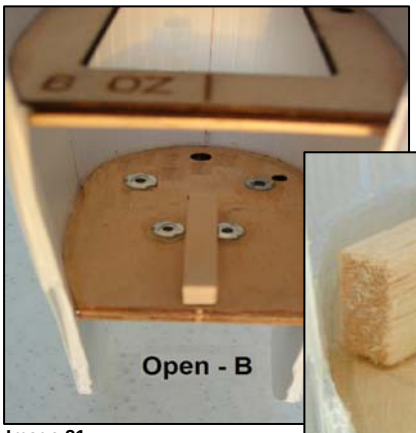


Image 21

If you are building an Open-B plane, glue a piece of wood to the back of the firewall to act as a spacer. This spacer will protect the fuel tank from getting punctured by the engine mount screws (Image 21).

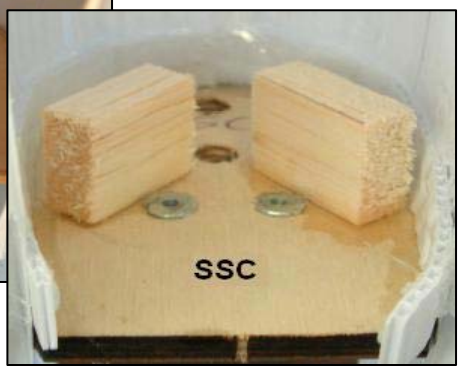


Image 22

If you are building an SSC plane, glue wooden blocks on the firewall (Image 22).

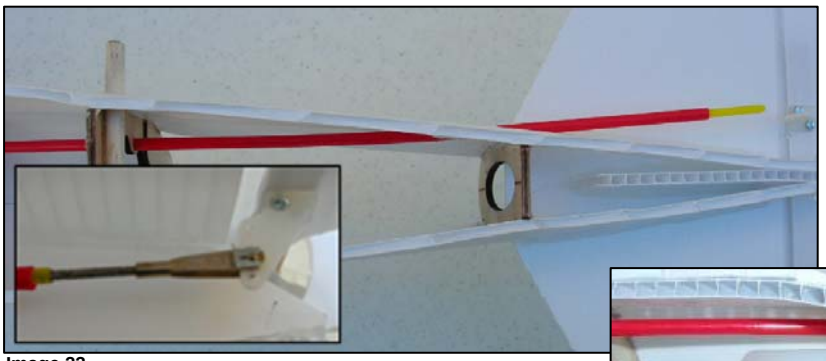


Image 23

Install the red push rod guides for the elevator and throttle.

Image 24

Install the fuel tank now *or* just before you glue the bottom piece on (Image 30).

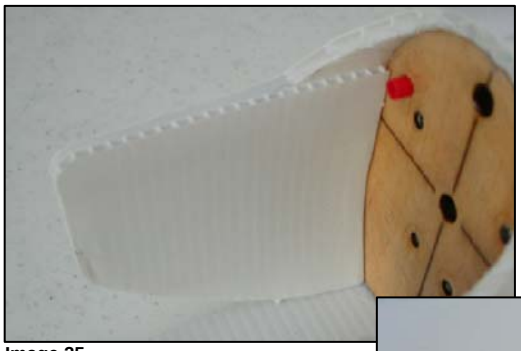


Image 25

Install the 2mm engine compartment doublers.

Install the 4mm doublers to the inner fuselage.

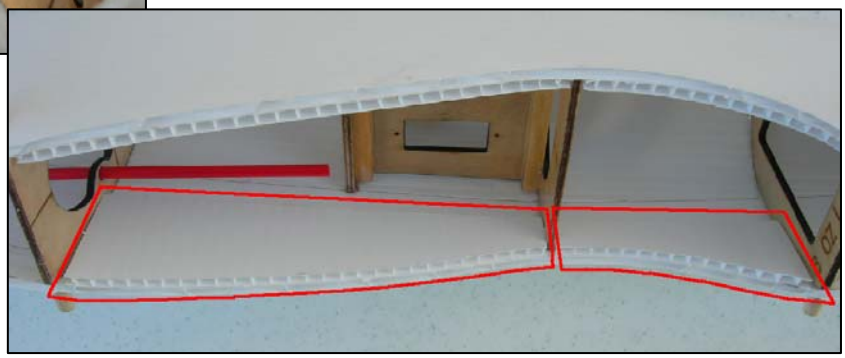


Image 26

Score the flutes on the turtle deck using a pointed instrument. Once the turtle deck is scored, roll it so the score marks are in the inside of the fuselage. Hot glue the turtle deck to fuselage.

Image 27

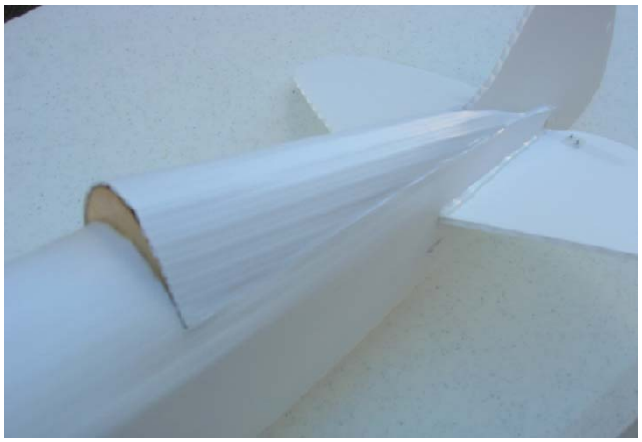


Image 28

Hot glue the bottom rear and front pieces of coroplast to the fuselage.

Tip: To prevent the nose piece from separating, form a piece of coat hanger to slide into the flutes. Glue the metal wire into place (Image 31).

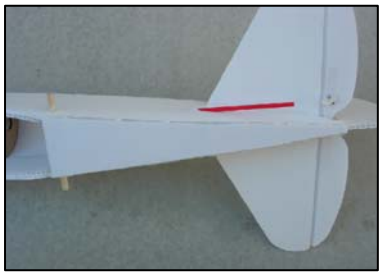


Image 29

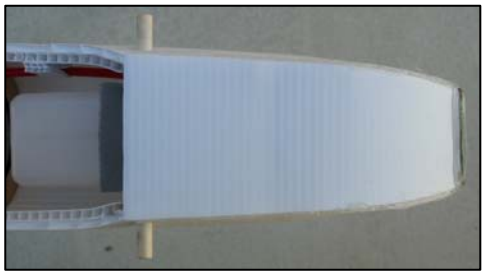


Image 30

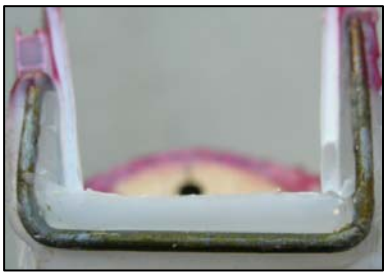


Image 31

If you are building an SSC plane, to achieve proper center of gravity, the majority of the weight will be toward the front of the plane (Image 32).

If building an Open - B plane, to achieve proper center of gravity, the majority of the weight will be toward the tail of the plane (Image 33).

Placement of the switch and receiver are of personal preference. The switch should be on the left side of the plane to avoid damage due to unburned fuel discharge from the exhaust.

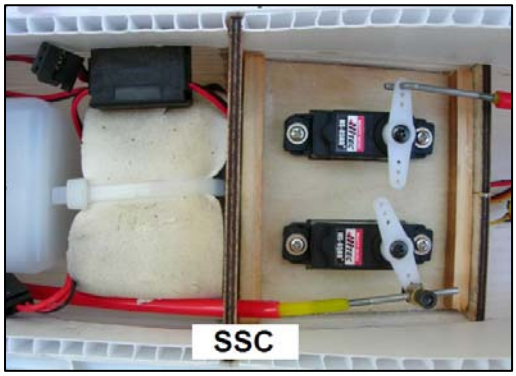


Image 32

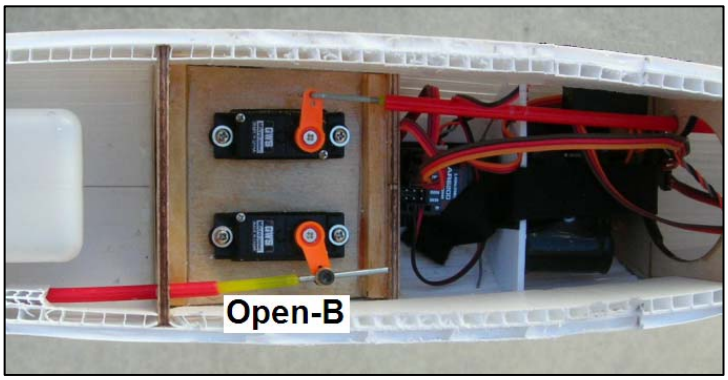


Image 33

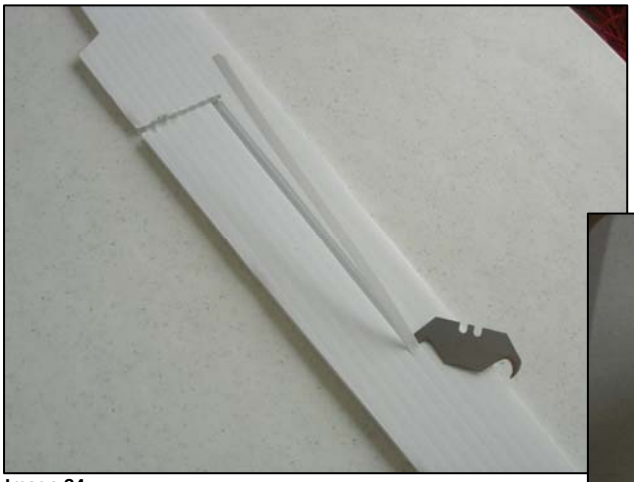


Image 34

Cut the aileron hinge flute for both ailerons.

Using a pointed instrument and a straight edge, score the centerline of the wing. Fold the wing over gently so it has an even crease.

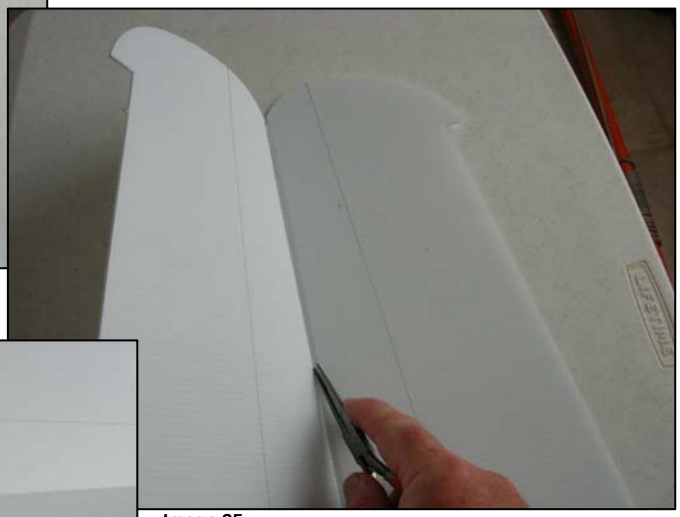


Image 35

Image 36

Glue aileron to the wing.

<u>Note</u>: The wing width is not identical on both sides of the centerline. The bottom of the wing will be flat when competed. The top of the wing is wider from the centerline because it must go over the wing spar so it requires more area to make up the difference. The aileron will be glued to the bottom side of the wing.

Image 37

CA glue the spar to the wing half.

<u>Tip</u>: Glue the widest part of the spar above the line, but place the pointed end below the line. This tip will prevent the wing end from creasing on the top of the wing.

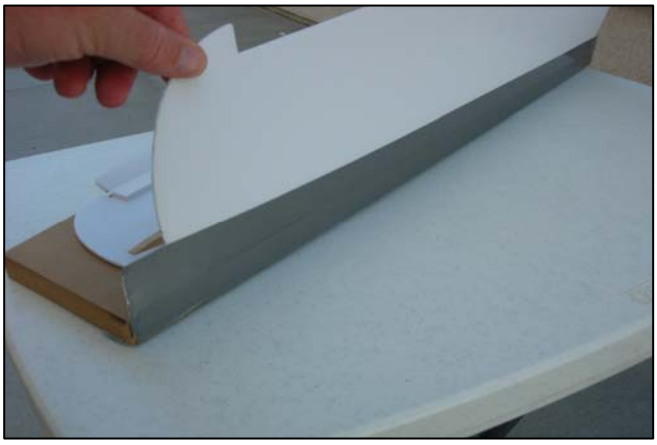


Image 38

Be mindful that the widest part of the wing spar end has a slight angle to allow for dihedral.

Duct tape the wing's leading edge to the wing board.

CA glue the top of the wing spar and the top of the aileron. Evenly fold the wing top onto the wing spar and aileron. Place a 1" x 2" piece of wood on the edge of the aileron and gently clamp it to the wing board. Do not clamp down too hard or you will collapse the flutes.

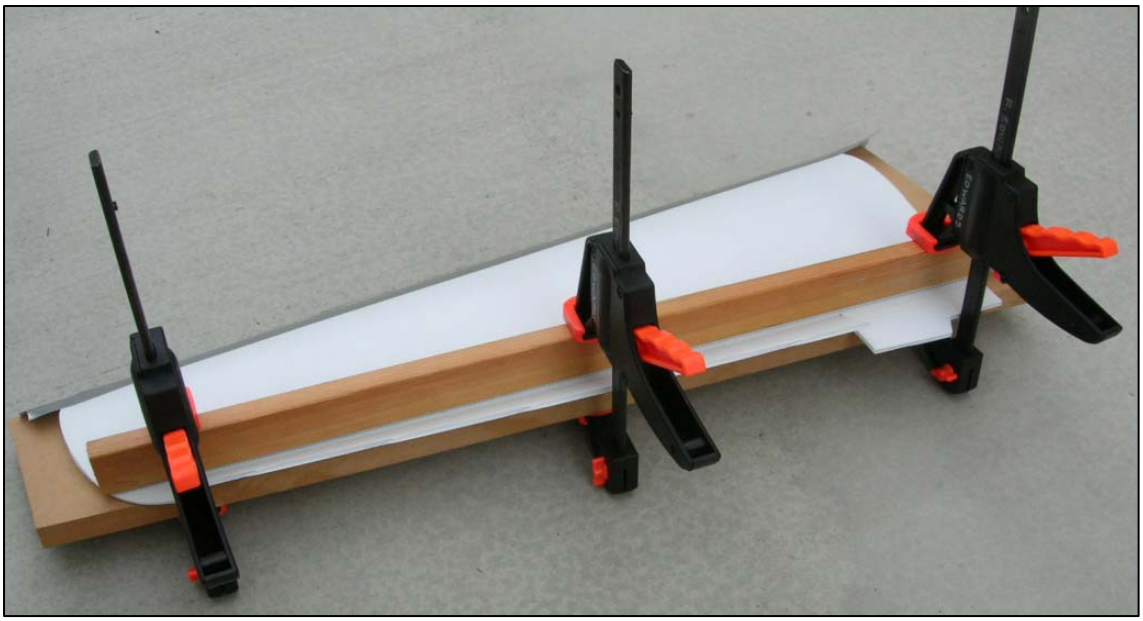


Image 39

Measure 5/8" and 7/8" from the inner wing edge. Cut out this piece to expose the flute that will be used to house the aileron 4-40 rod. Cut two 2mm pieces measuring about one-inch in length to use as bushings on both ends of the aileron rod.

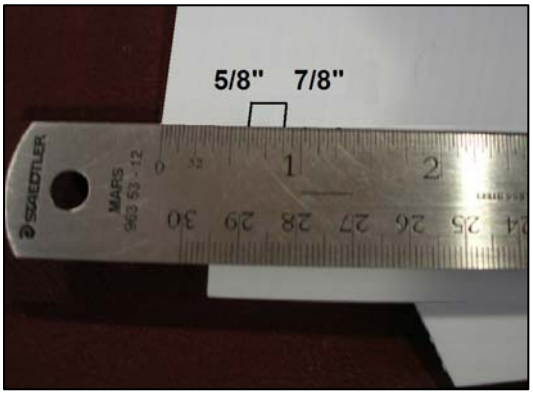


Image 40

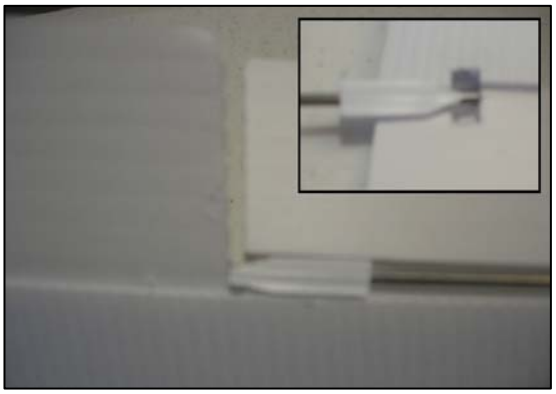


Image 41

Image 42

The threaded end of the aileron rod that connects to the servo rod clevis should be standing straight up when the wing is flat on the table.

Measure one-inch from the end of the aileron 4-40 rod and bend it at a 90-degree angle.

Using a 2-56 rod, poke through the flutes. Insert the end of the aileron 4-40 rod into the aileron.

Image 43

Insert wooden sticks in the rear flutes of the wing. These sticks provide stiffness, which reduces the amount of flex that occurs when the rubber-bands are used to secure the wing to the fuselage.

Image 44

CA glue or epoxy the wing halves together.

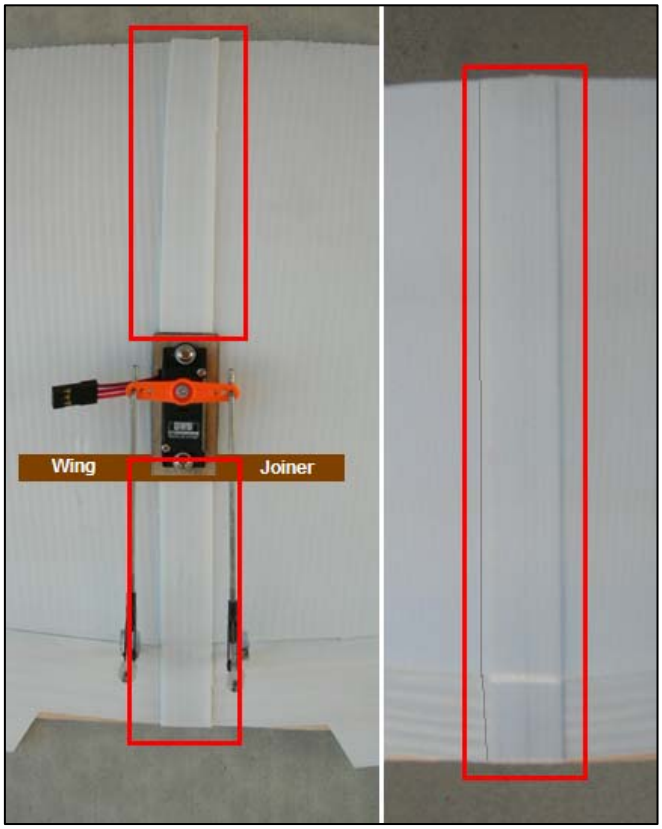


Image 45

CA glue the wing servo tray so the rear part of the tray is over the rear joiner. The servo screw will go through the tray and be anchored in the wing joiner.

CA glue 2mm strips to cover the gaps between the wing halves. Trim excess as needed.

Align ailerons prior to attaching the 2-56 rods to clevis' and servo arm.

Glue the ends of the wings closed.

To lessen the tension on the wing servo, make slits in the aileron.

Image 46

Image 47

Flatten the front of the wing so it is flush against F2 former. The width of F2 is 2 ½" wide.

You may need to shave off some of the rear wing so it is seated flush against the F5 former.

Once the wing fits snuggly between both formers, use a pencil to trace the low areas where the wing does not seat properly in the wing saddle. Cut away low spots until the wing seats properly.

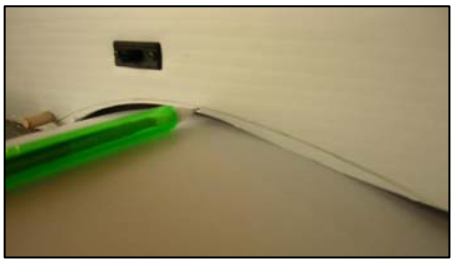


Image 48

Install engine mount and engine. The Open-B plane will require some cutting around the carburetor throttle arm.

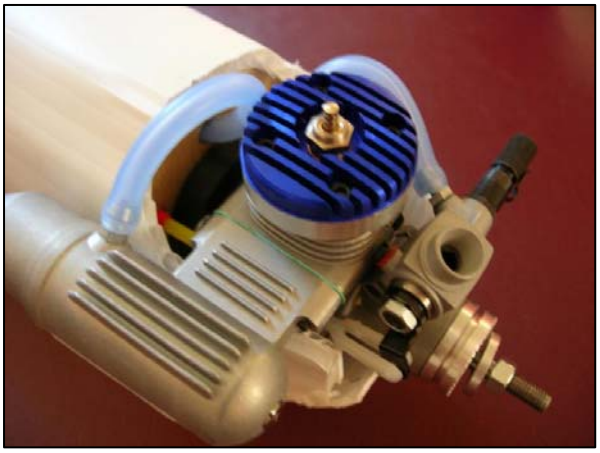


Image 49

Image 50