CoroCub

Wingspan: 76"
**Length: 47"**
Weight: 6.75 LBS
Engine: .40 - .65
Channels: 4 Ailerons, Elevator, Rudder & Throttle
**Servos Required: 5 - standard servos**

I made the CoroCub because I've always been a fan of the Cub design. I don't recommend this as a first SPAD build, I assume you have built a SPAD or two and won't go into great detail on the radio or engine installation. It flies very well and I have been told by balsa fliers at the field that it flies as well if not better than the balsa versions. It took me 3 evenings of work to build the 2nd Cub for these plans. Enjoy!

Jake Carter (JJCARTER)
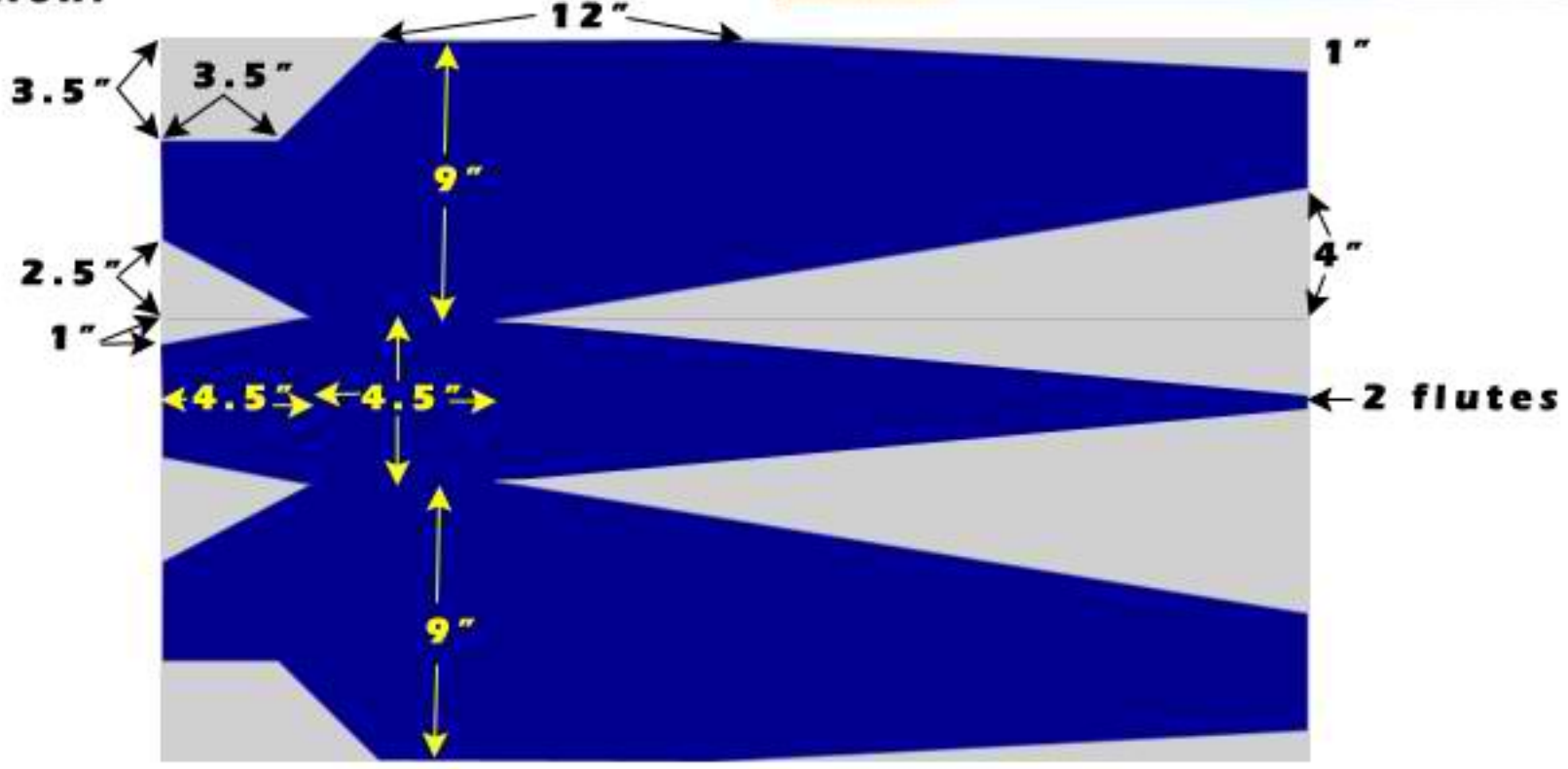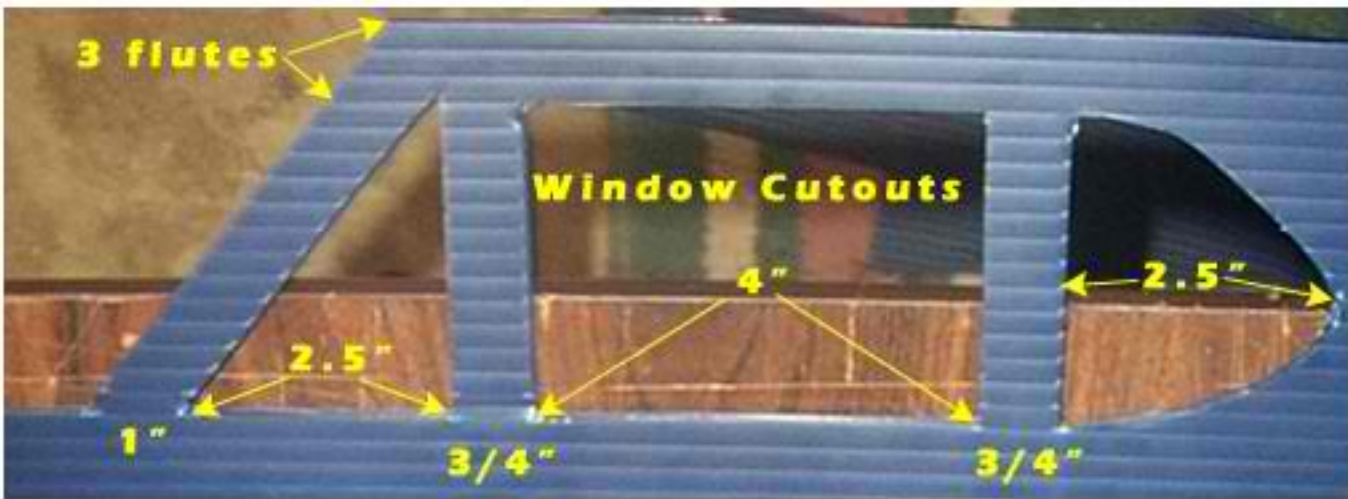
Hinge Here

3"

4"

06/10/2004

1"

Hinge Here

2"
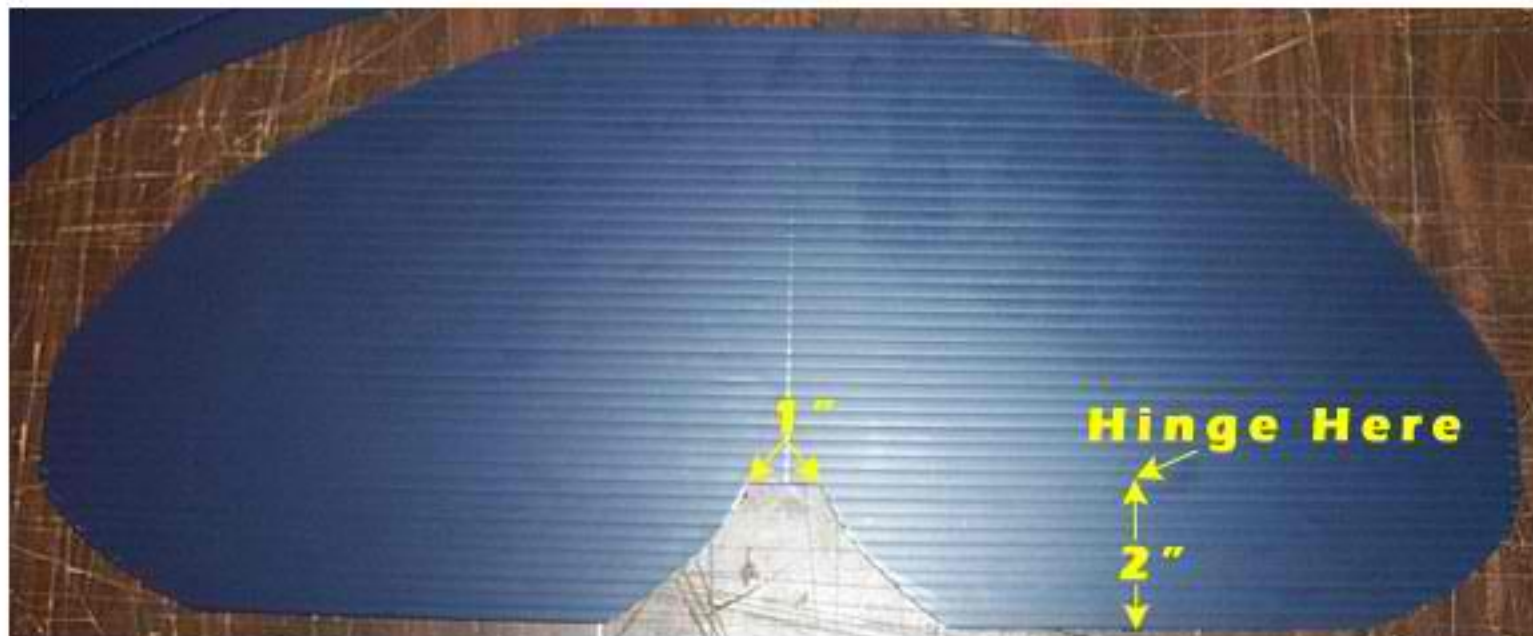
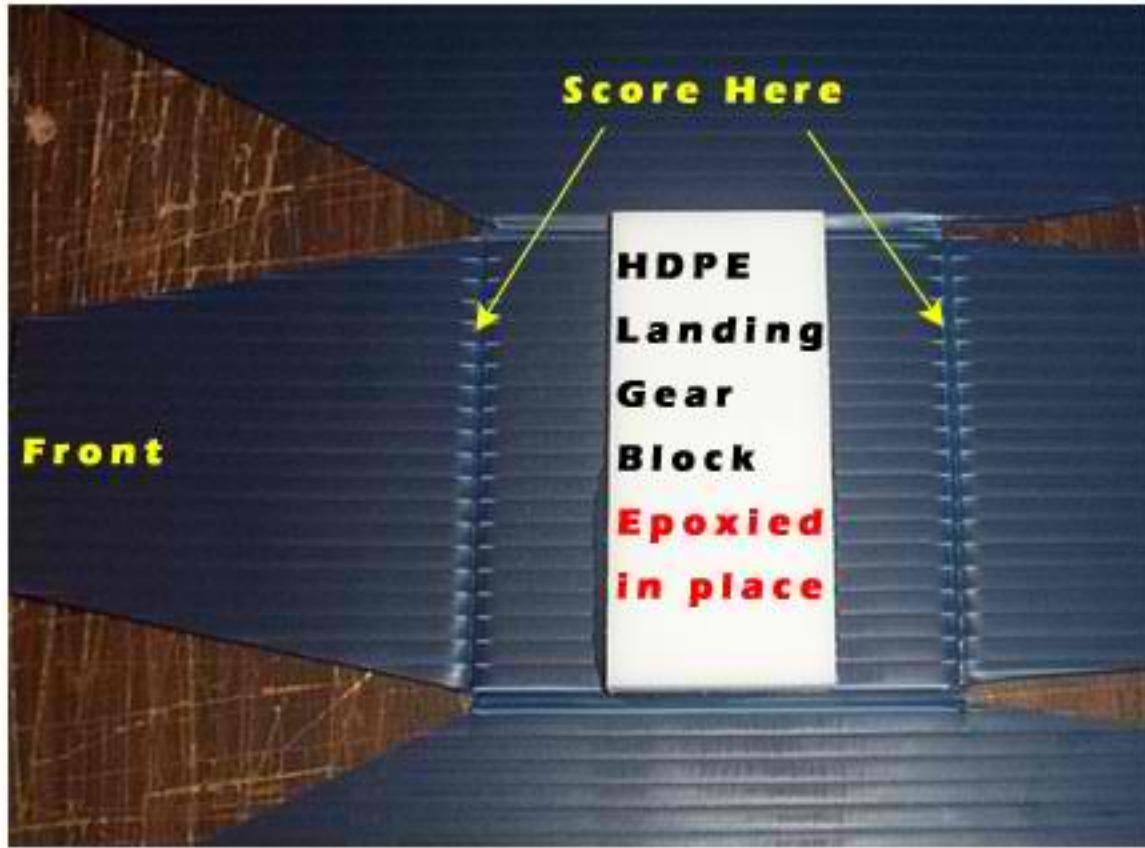The tail feathers are made from 4 mil coro. The vertical stab is cut from a piece measuring 12"h x14"w, with the flutes in the 12" direction. The horizontal stab is cut from a piece measuring 9"h x 22"w, with the flutes in the 22" direction. Cut out the shapes as shown above. Use the part cutout from one side of the elevator to use as a template for the other side as shown below:

TEMPLATE PIECES

9" to end

4.5"

4.5"

4.5"

Front

9" to end
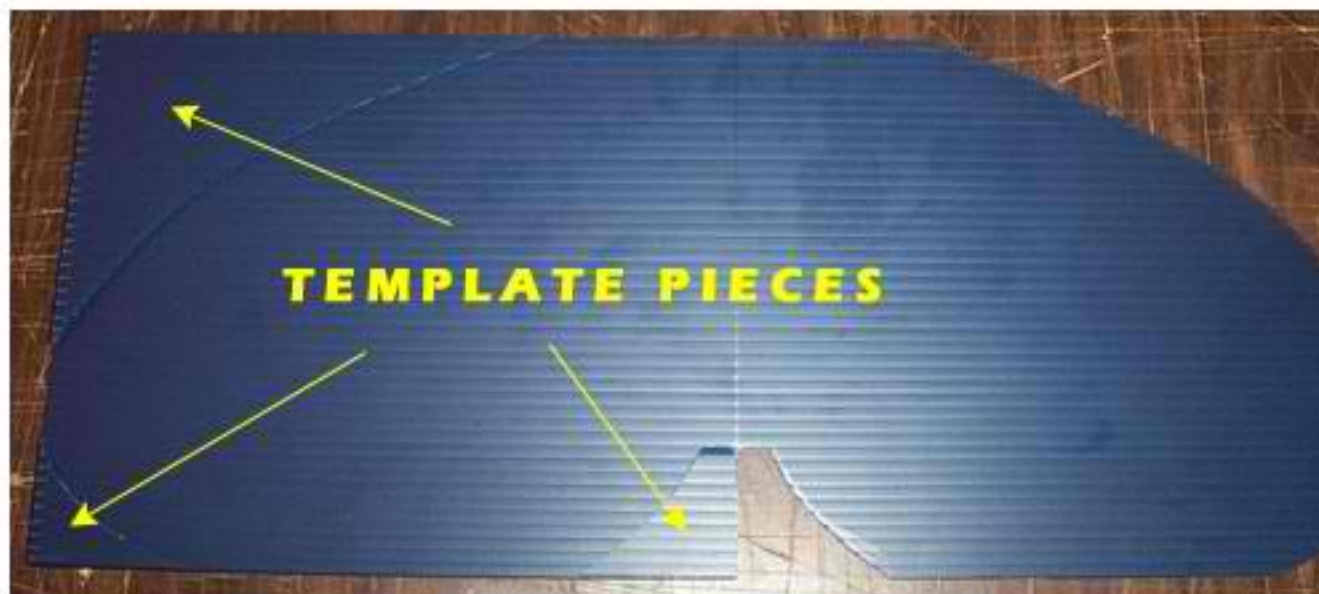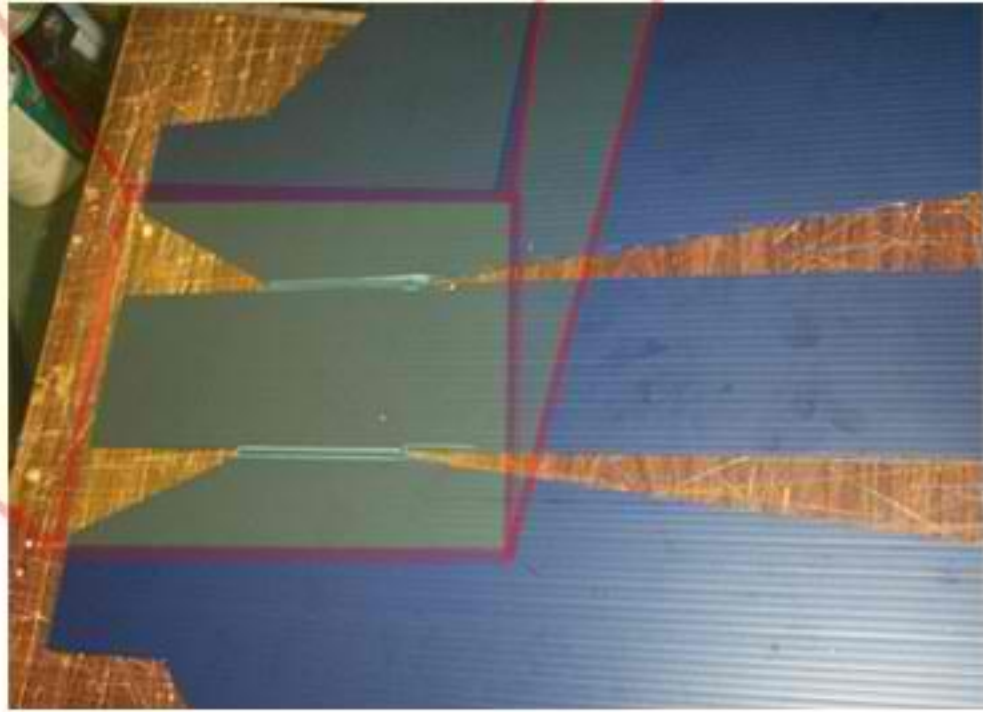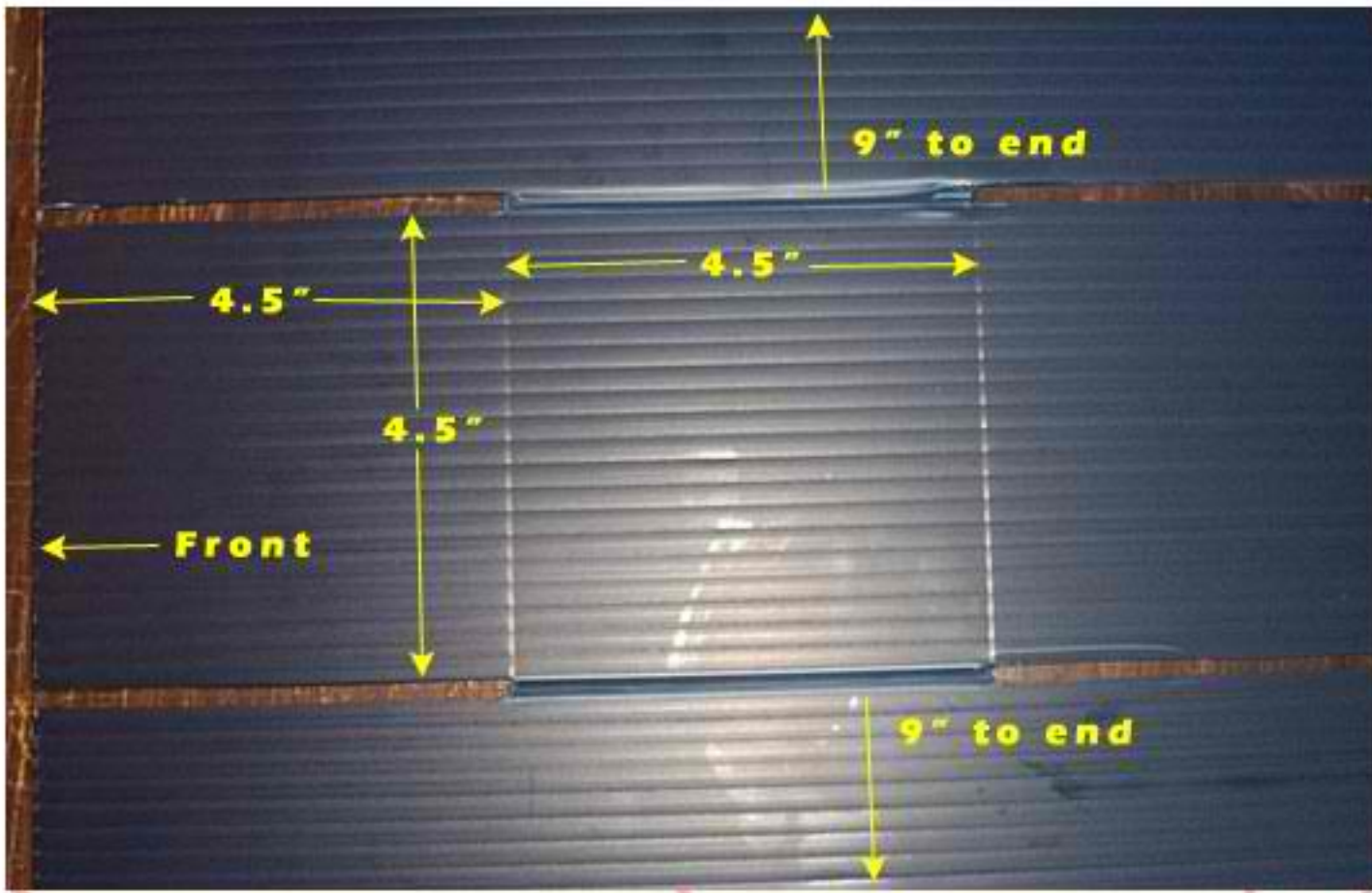
The fuselage is cut from a piece
of 4 mil cut to 39"w X 22.5"h
with the flutes in the 39"
direction.

12"

3.5"   3.5"

1"

9"

2.5"

4"

1"

4.5"   4.5"

2 flutes

9"

Score Here

HDPE
Landing
Gear
Block
Epoxied
in place

Front

3 flutes

Window Cutouts

4"

2.5"

2.5"

1"

3/4"

3/4"
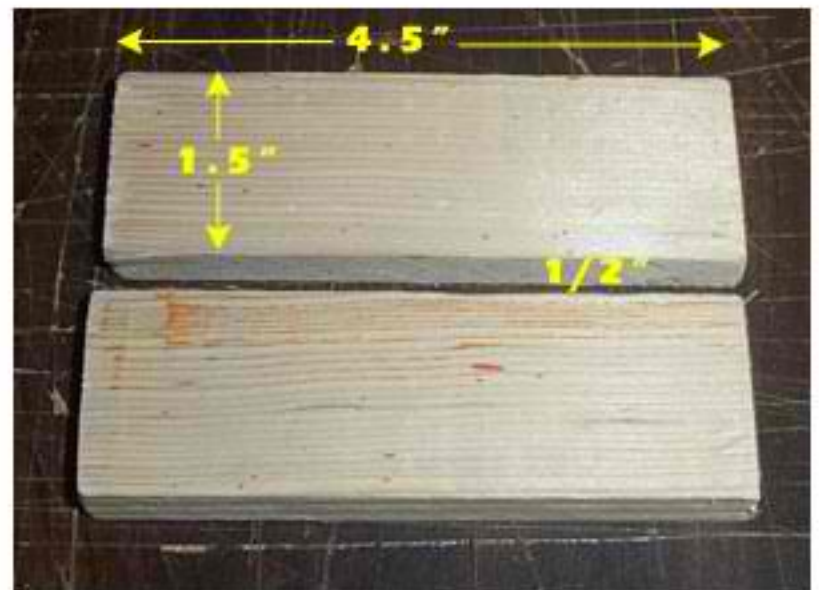

This is what you should
have at this point.

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The next step is to fold the fuselage into shape. The sides are held to bottom using 1.5" X 3" pieces of coro, scored to make a 90 deg bend and then glued in place.

Next, cut 2 blocks from a 2x4 for wing mounts. They are 1/2" X 4.5" X 1.5".

Drill 1/4" holes as show, these holes will accept the dowels from the front of the wing.

Next, insert the dowels you will use for the wing into the holes you just cut in the forward wing mount and the place a piece of scrap 4 mil coro on the top of the fuselage to figure the height you will need to mount the forward wing mount block at. I expozied it into place and then used 1 1/2" deck screws to secure it in place. Insert some bamboo skewers into the top flute to prevent the screw from pulling up through the coro.

I also put a skewer down through the flutes to keep the window frame from bending. To make it easier I inserted the skewer into my drill and drilled it into the coro.

Bamboo skewers

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Deck Screw
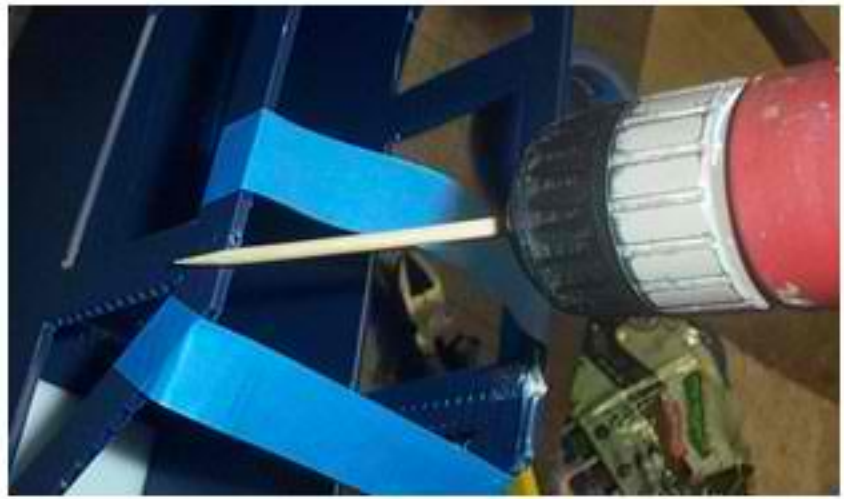
Next, expoxy the rear wing mount block in place, the rear edge of it should be 12 inches back from the forward wing mount.
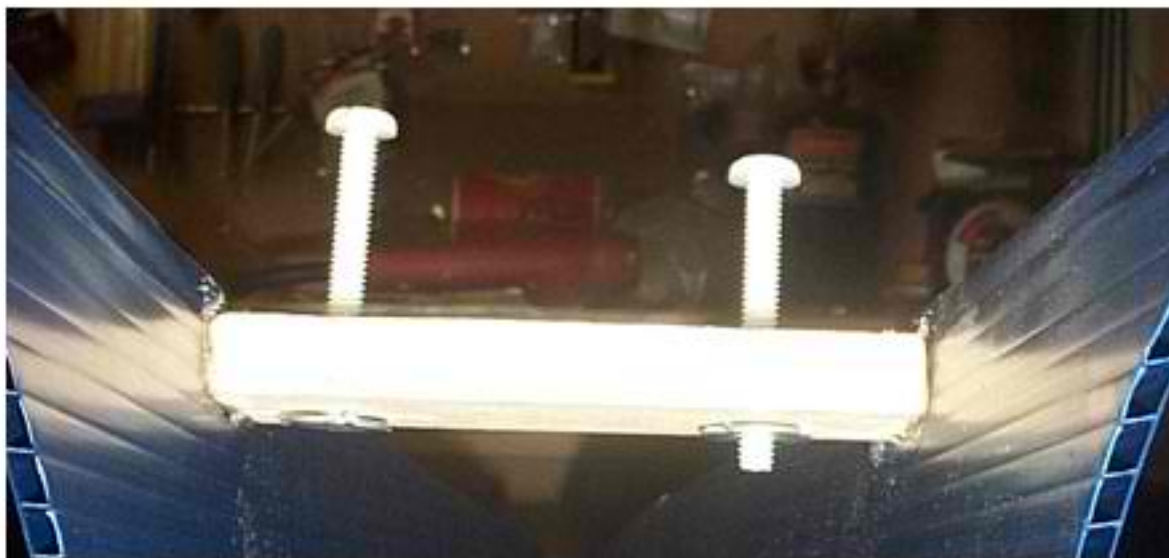
Drill holes in the rear wing mount as shown above and install blind nuts.

Insert a bamboo skewer into the open flutes along the top of the fuse to strengthen the coro around the rear wing mount and secure with deck screws as was done for the front.

Cut out a flute on both side of the fuse. This is where the elevator will go. Make the cut 7 inches long.

Test fit the horizontal tail.

Fuselage

Horizontal Tail

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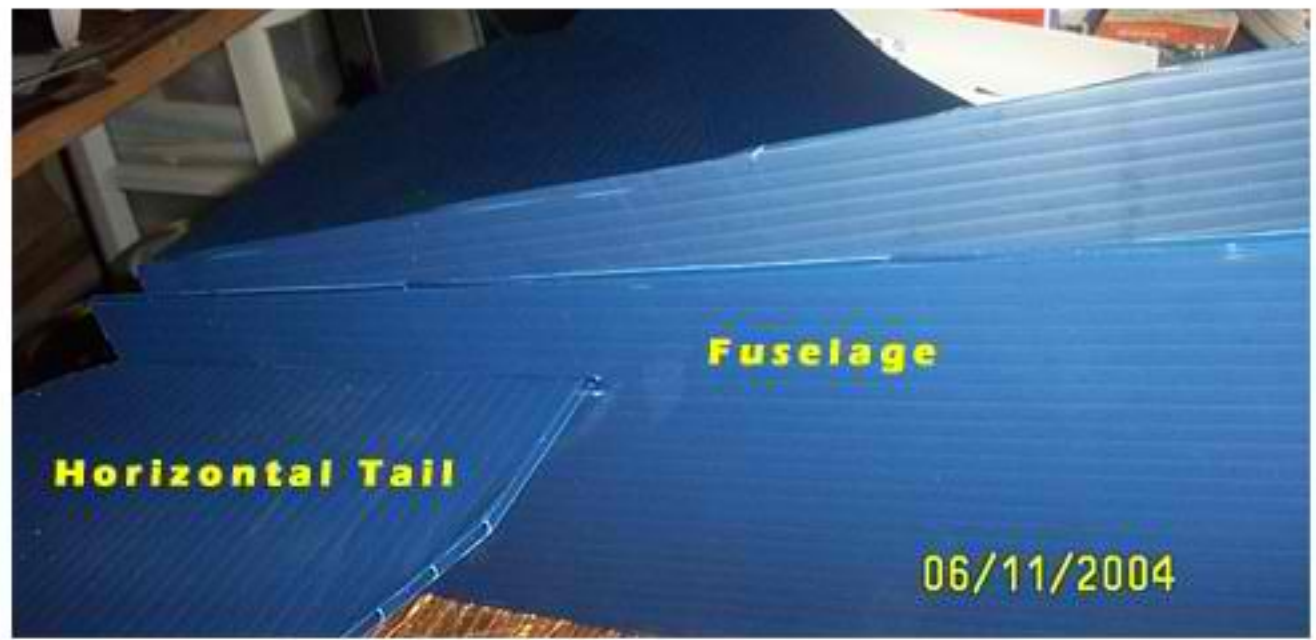
Place the vertical tail/rudder into the fuse and line it up so that the hinge line is even with the rear of the fuselage. Draw a line on the rudder.
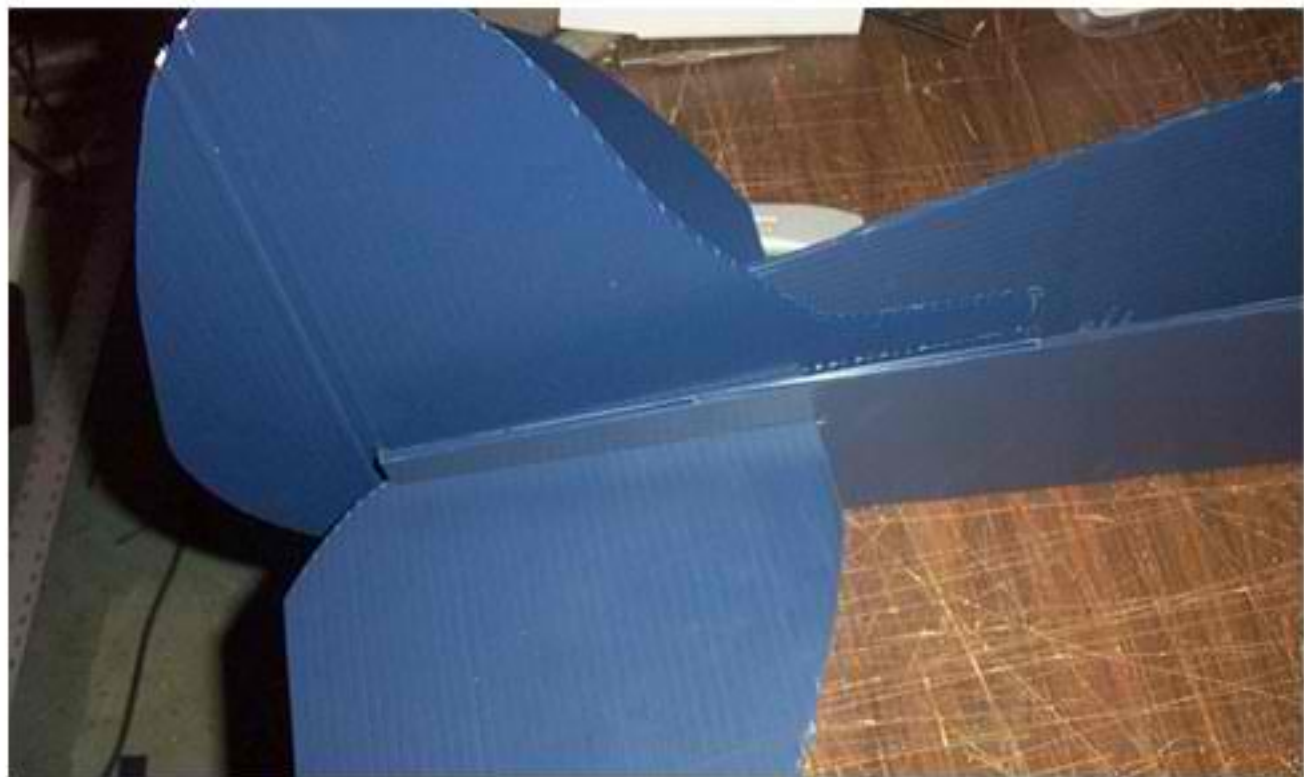
06/

Cut the rudder along the line you just made. Make the cut 4 mil high so that the horizontal tail will fit in it.

Leave 1 flute uncut here

Insert bamboo scewers into the flutes on both side of the rudder hinge

Tail feather assembly installed in fuselage:

1 flute

20.5"

4.5"

Make the cap piece for the top of the fuselage as shown.

With the rudder in place make a mark on the fuselage where it ends. Then use that mark to make another mark on the fuselage cap piece you just made as shown below.

Now make a cut out in the cap piece for the vertical tail/rudder, up to the mark you just made.

Test the fit:

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Next, make the supports for the fuselage cap piece. It can be made from coro, as I did below, or from yardstick as shown in other plans. Which ever one works best for you.

Insert bamboo scewers into the bottom of the vert tail as shown so that the pointed ends are at the slot cutout for the horz tail. Then insert the horz tail and push the scewers through and up into the top of the vert tail.
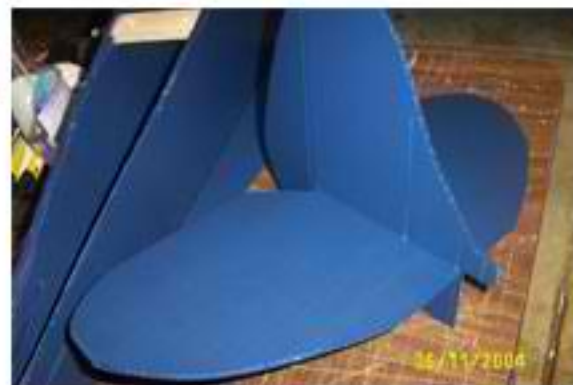
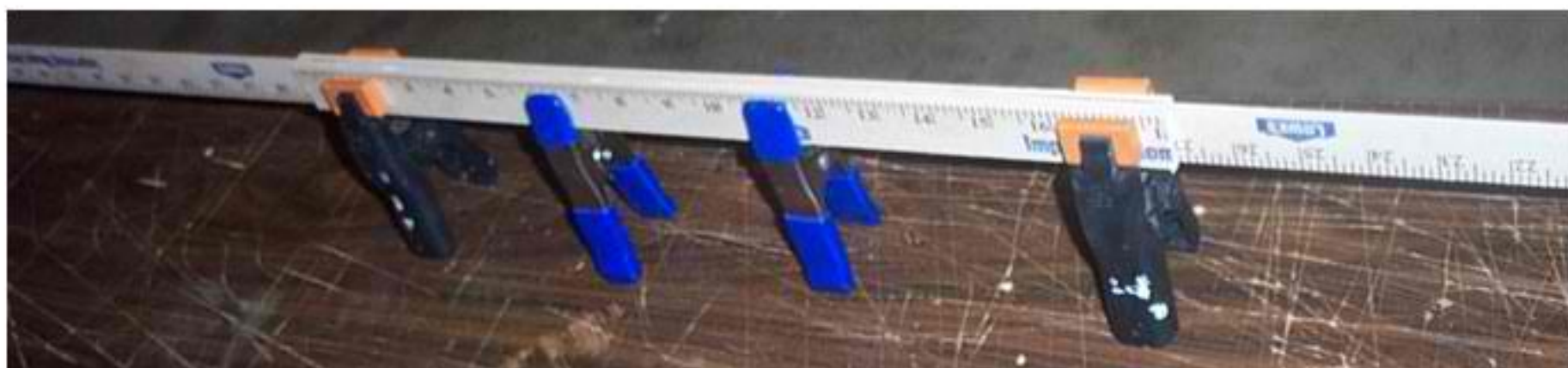

Insert some scewers into the horz tail for added strength

With the fuselage cap piece in place, poke something up though the holes in the wing mount block to mark them onto the cap.

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Then cut the holes out and glue the cap in place.

We'll get to the rest of the fuselage later, lets build the wing now!

The spar is 62" long and is made from 3 yardsticks. Cut one yardstick in half, the two 18" pieces will be used as the doublers. Cut the other two yardsticks down to 31", put them together as shown above and glue with wood glue, clamp and let dry.

The bottom wing panels are made from two pieces of 4 mil coro each measuring 38"x12". Place them end to end and insert some bamboo scewers into at 4 of the flutes, about 3 inches apart:
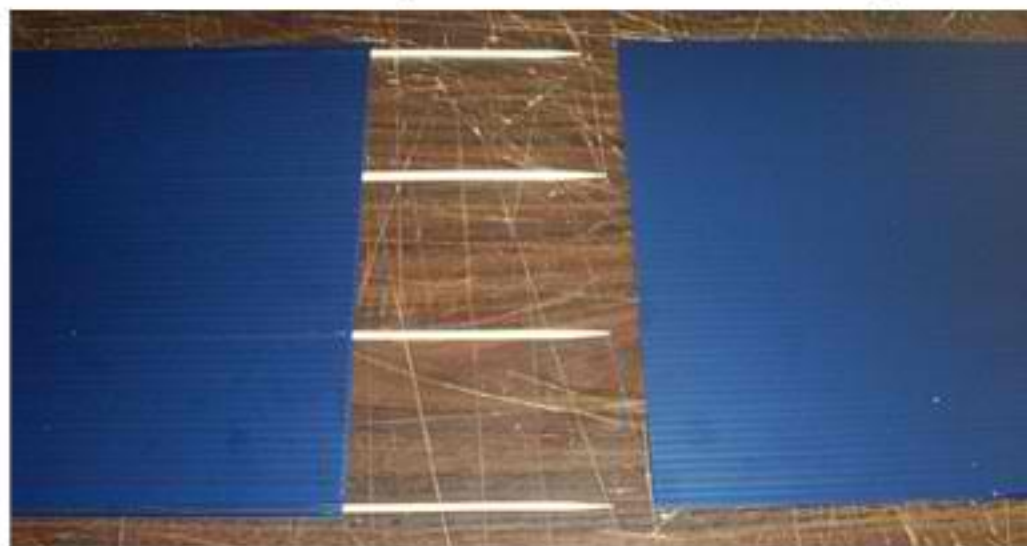
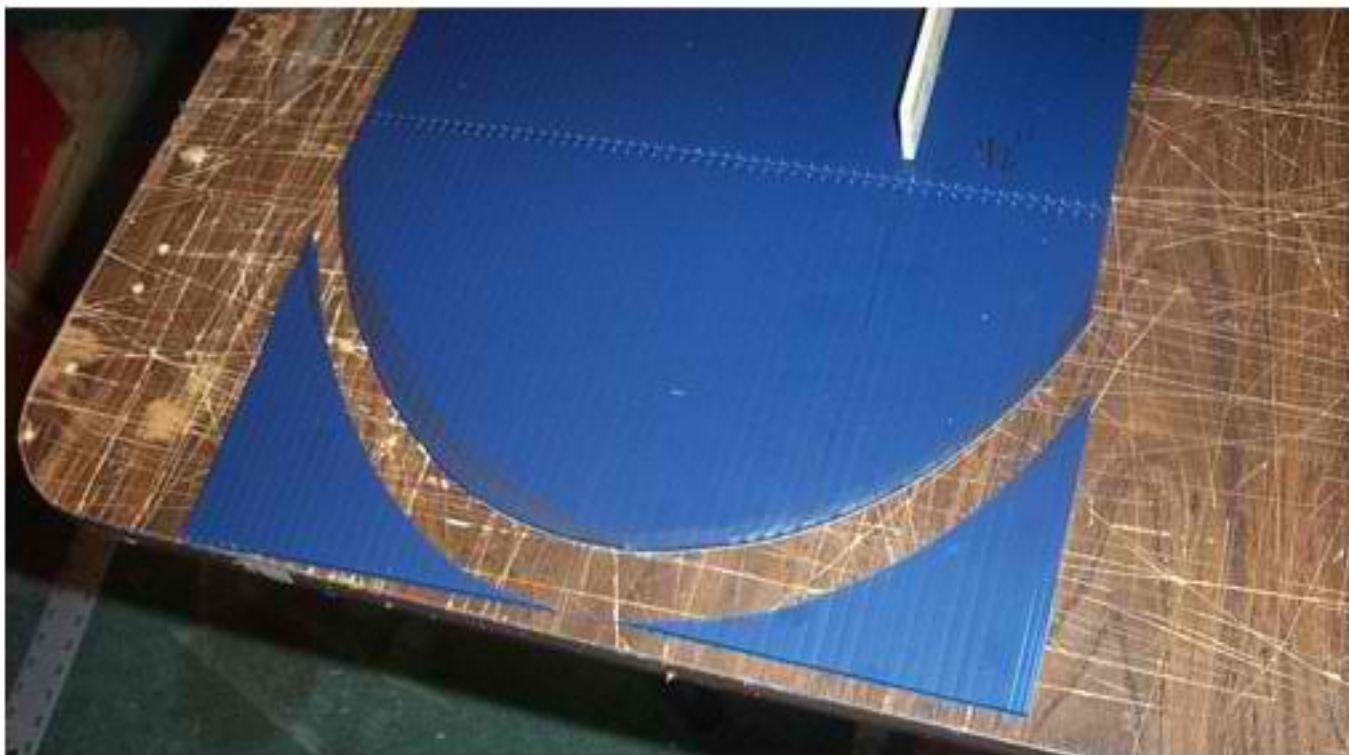The spar is located 3 inches from the LE, flash the coro and glue it in place:

Make a line chordwise, 1/2" from the end of the spar on both sides:

Lightly score that line, it will only bend up a little.

I used a pencil to freehand the shape of the wingtip and then cut it. Keep the pieces you cut off to use as a template for the other side.

Install a piece of PVC measuring 5″ X 1″ at the TE of the wing, this will be sandwiched between the lower wing panel and the upper wing panel and provide the support for the wing bolts.

Place what you have so far of the wing on the fuse, and line it up as best as you can. Then insert your dowels for the wing into the forward wing mount block as shown below:

Make marks on the spar where the dowels hit and then remove the wing and drill 1/4″ holes in the bottom of the spar.

(Don't glue the dowels into place yet)

Reach into the fuse and poke something up though the blind nuts into the bottom of the wing to mark where to make the holes for the wing bolts. Then drill the holes:

The top wing panels are made from 2 mil coro. (See page 12 of the DasPlasStick plans if you need help with this part) The top wing panels measure 38" X 14", with the flutes in the 14" direction.

Score line

3/4" overlap

Remove this piece

13" to center **18"**
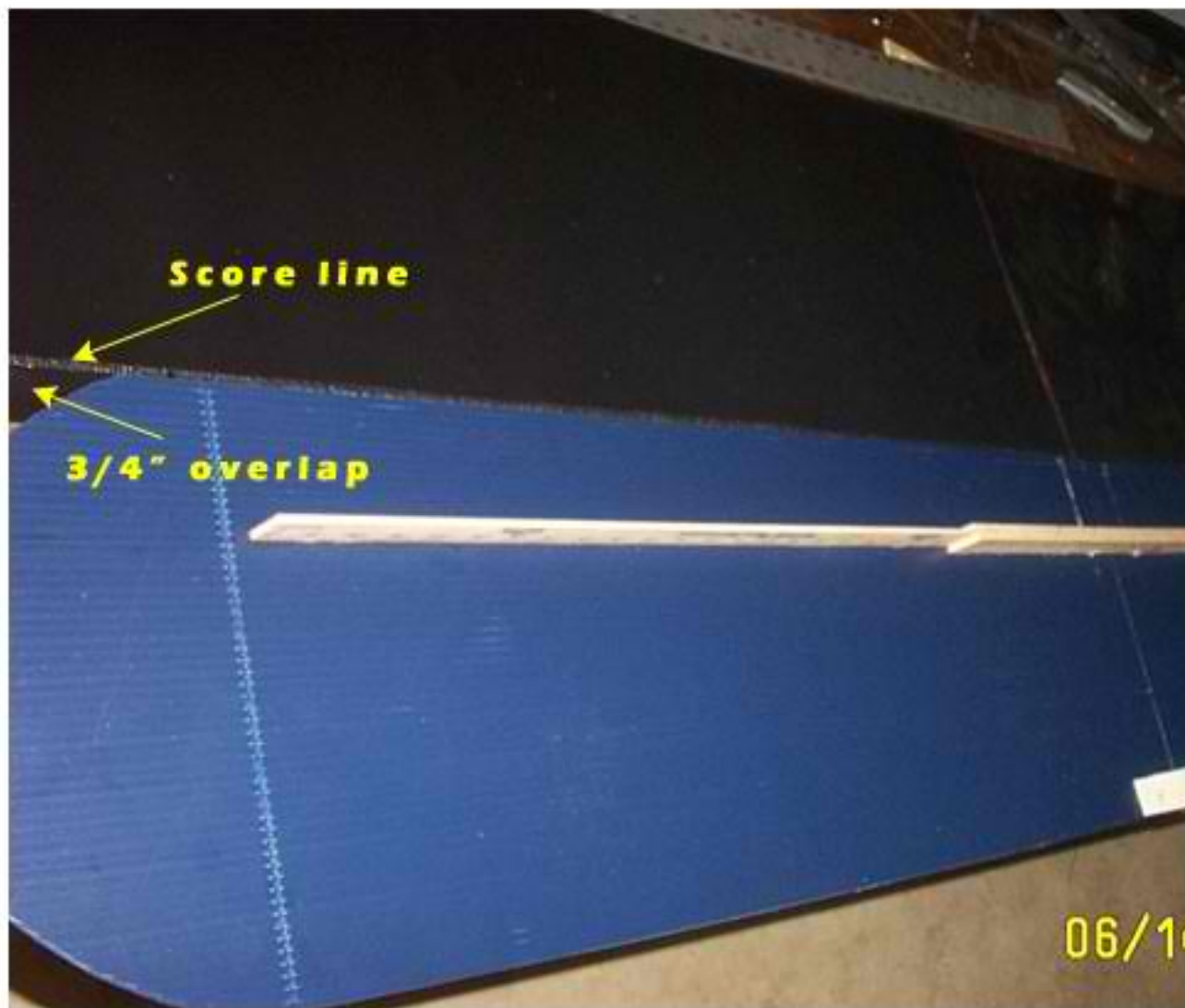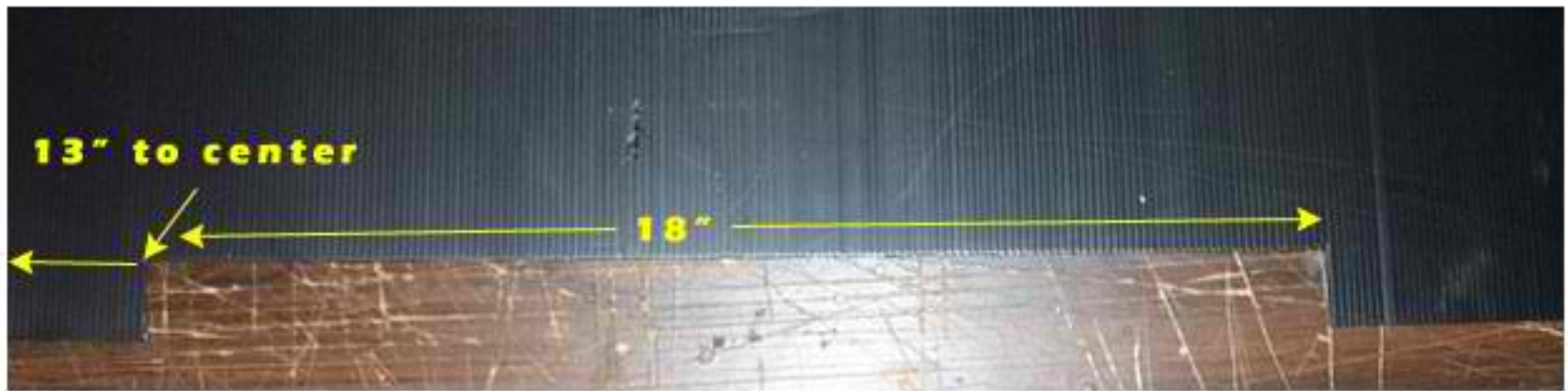
The ailerons are cut out of the top wing panel before folding it over and gluing. The ailerons are 18" X 1". Measure 13" from the center of the wing and then 18" inches from that mark.

Fold one side of the top wing panel up to 90 degs and make a hole for the wing dowel to insert into:

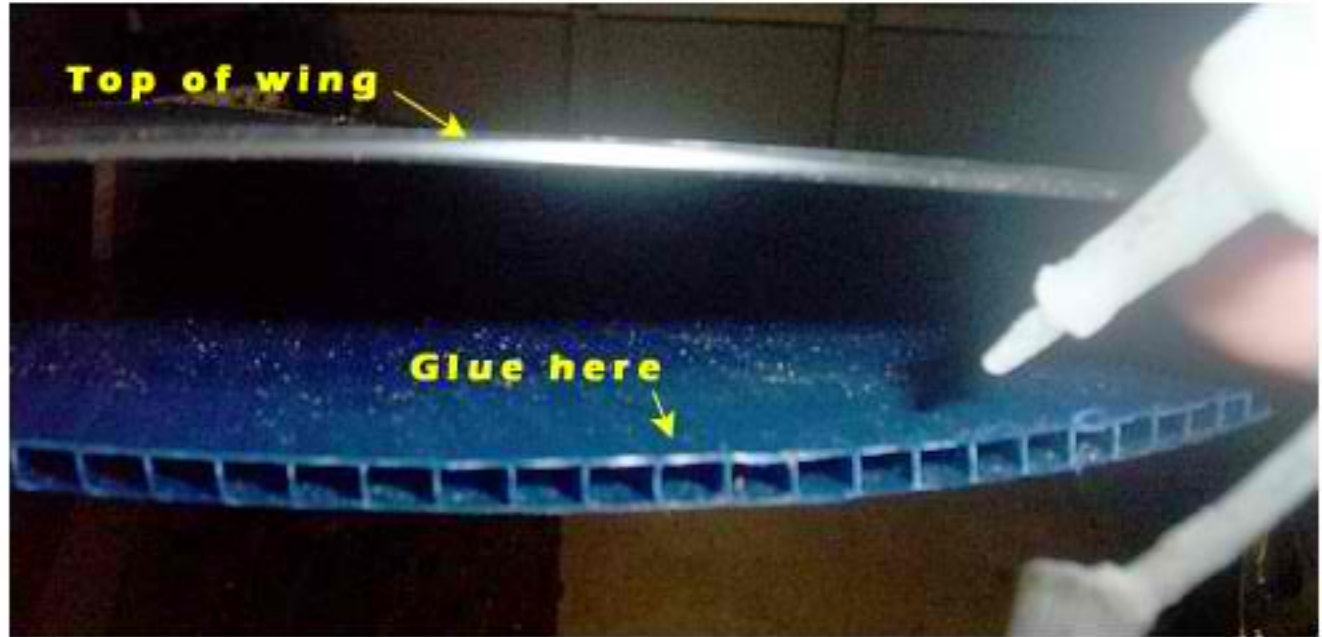06/14/2004

Glue the dowel in place with epoxy or CA.

Place glue on the top of the spar and at the LE of the top wing panel, fold, clamp, let dry and then repeat for the other side.

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Installed wing dowel

Cut the ailerons free and cut the hinge on the bottom.

Next, place a bead of glue along the edge of the wingtip cutout on the lower wing panel.

Top of wing

Glue here

The next step I don't have a picture of because it takes two hands to do. Using both hands press the top and bottom wing panels together along the bead of glue you just placed on the edge of the bottom of the wing. The score line we made on page 12 will help the bottom of the wing come up a little, but you also want the top of the wing to come down, so they meet in the middle. Once the glue sets hold the wing upsidedown and cut the top wing panel using the bottom as a guide. It should end up looking like this:

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I used some black sign vinyl to cover the seams at the center of the wing on the top and bottom. 2 mil coro could also be used if you don't have access to sign vinyl.

Completed wing:

Ok, time to get back to the fuselage now. Cut a piece of PVC gutter pipe to 10" long:
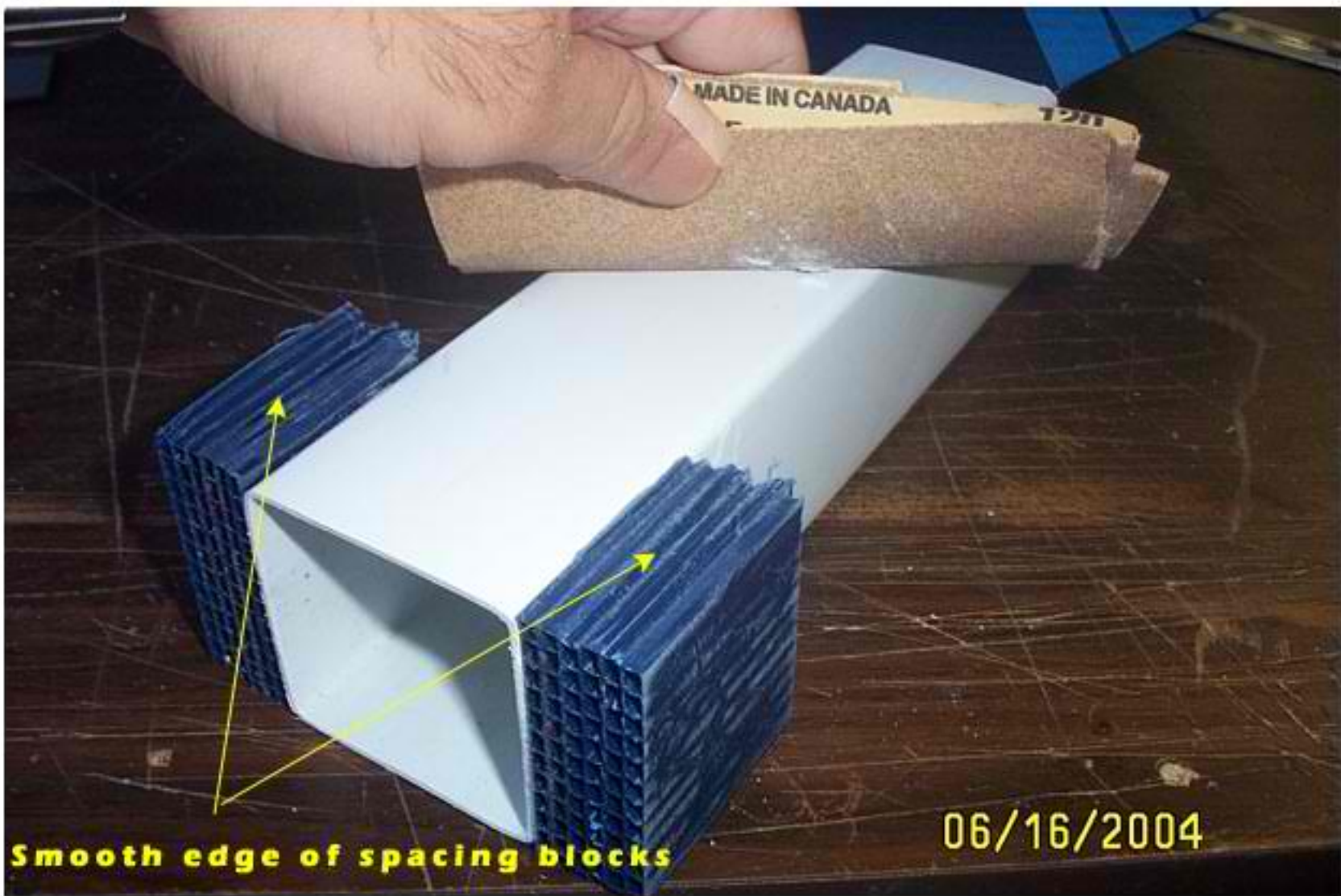
Glue the bottom of the front of the fuselage together as shown

Cut out 12 pieces of 4 mil coro, measuring 2.5" X 2". Make 2 stacks of 6 pieces:

Line up one of the edges and glue them together, I sanded mine once it dried to get it smooth.

Smooth edge of spacing blocks
06/16/2004

Glue the two stacks of coro to the sides of the gutter pipe, and sand the top.

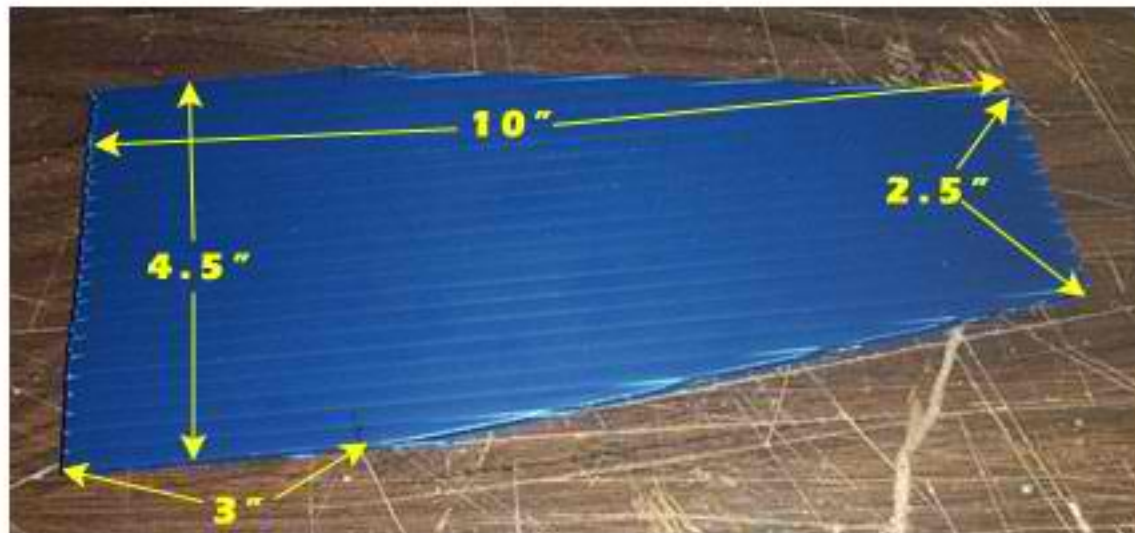Take that part you just made and install it in the fuse as shown to the right:

Line it up so that the top of the PVC is 2 flutes from the top edge of the nose.
(Line up the back the same way)

To glue it I pulled the fuse away from the spacing block on each side and dripped some CA down the gap.

Next make a cap to go over the gutter pipe and spacer blocks

Next make the instument panel, it's made from some scrap gutter pipe. I made the guages from pictures I found on google image search. Just print them on paper, cut them out, leaving a little on the border to allow gluing to the inside of the panel.
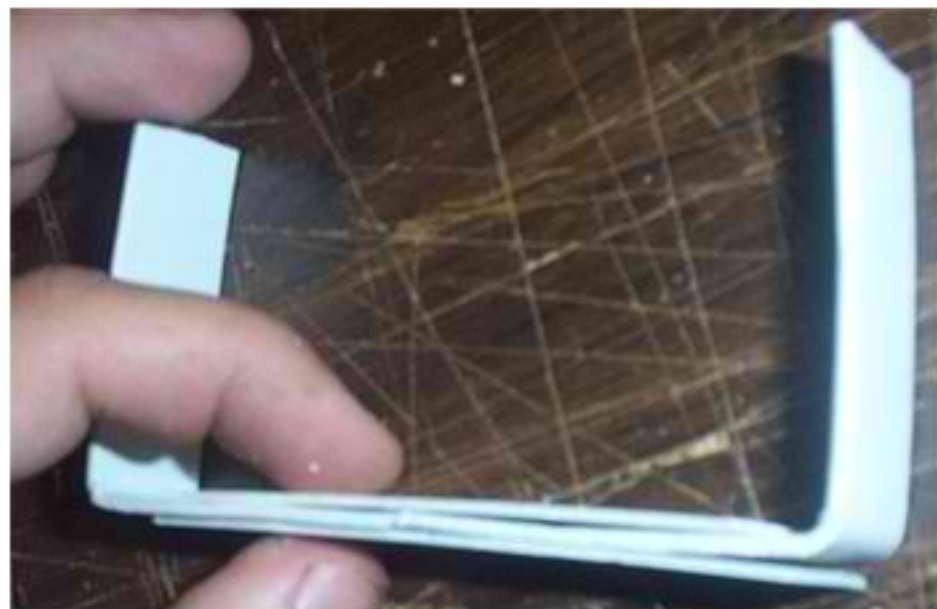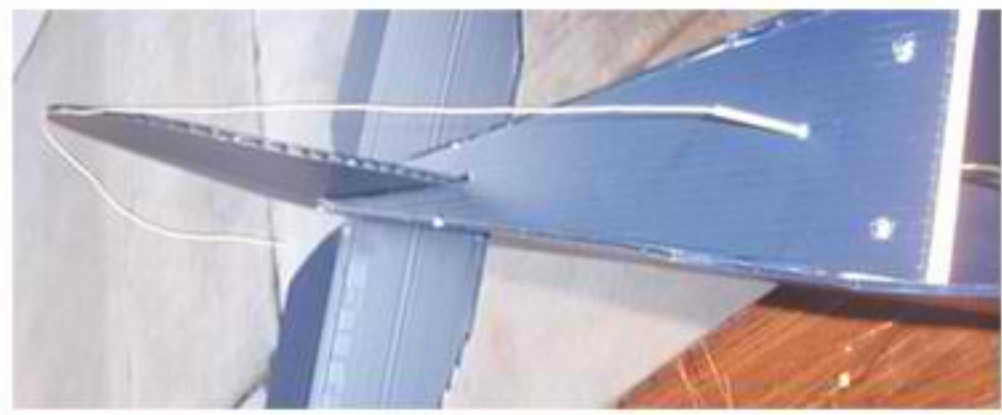
Glue here

4.5"

2.5"

* (About 5")

06/18/2
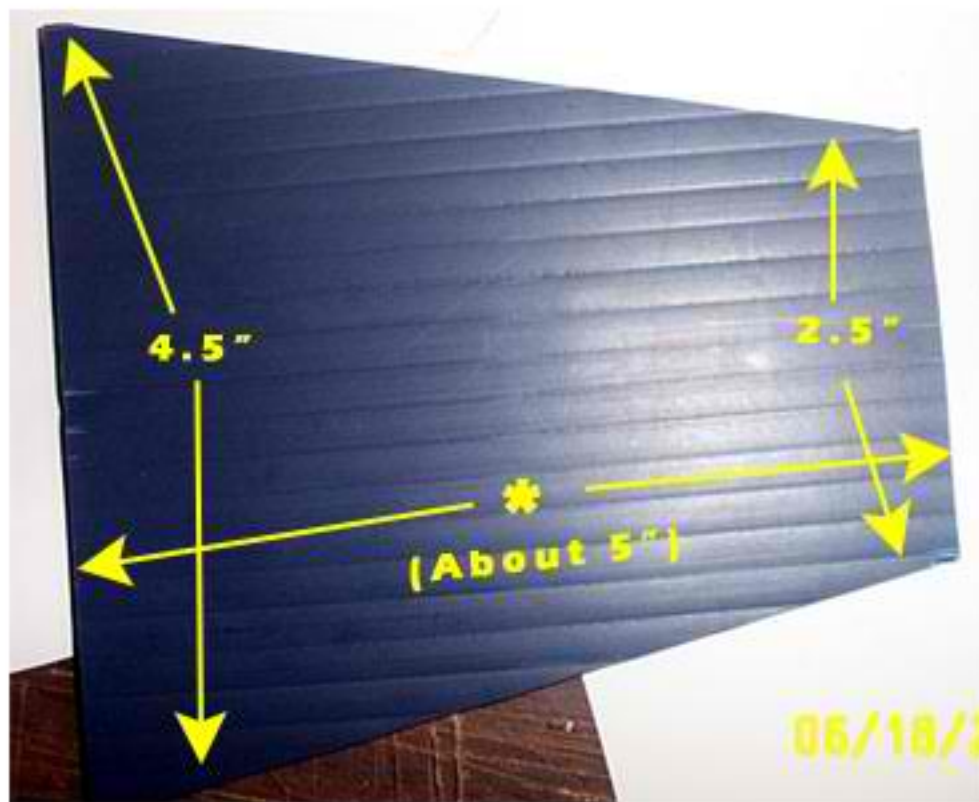
Cut one side of the flutes on the bottom side of this piece This allows it to curve evenly
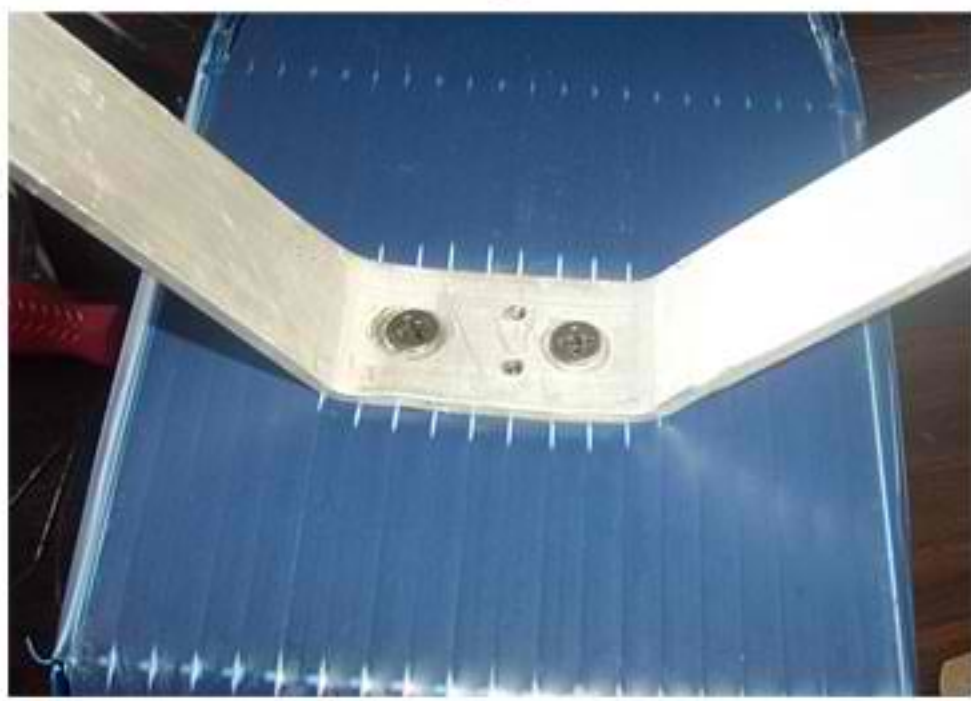

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Servo supports

Antenna tube

Landing Gear

Radio Installed

Throttle Linkage

Throttle tube goes through flute

Engine Installed (K&B .65)

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06/18/2004