SPADET LC-40

Wingspan: 64"
Length: 51"
Weight: Approx 5 lbs 10 oz.
**Recommended engine:** .40 - .46
Channels/servos: 4

The SPADET LC-40 was designed and built by Collin "Kraut" McGinnis to show - with a little creativity - that SPAD's can be built to look like most of their balsa counterparts - much to the chagrin of the "balsa doubters" out there! The SPADET LC-40 is built much the same way that its predecessor - the SPADStick - was built. While the SPADET LC-40 is a bit more complicated than your average SPAD - it is by no means a difficult plane to build. Once you have the basic SPAD building skills down - the SPADET LC-40 can be built "flight ready" by most builders in about ten hours - try that with your average kit (or even most ARF's!). The plans for the SPADET LC-40 will make some assumptions about your basic SPAD building skills - so topics like flashing, gluing, firewalls etc, etc...will not be covered in detail. If you would like more detail about basic SPAD building processes - I recommend that you go back to the SPAD Tips and Hints link from our main SPAD page and brush up on those items there. Now let's get started building!!

Things needed to build a SPADET LC-40

Two pieces of 2 1/2" PVC pipe - cut one piece 1" long, and cut one piece 6" long.

A piece of 4 mil Coroplast (for the fuselage) measuring 12 3/4" X 44" - with the flutes running in the 44" direction. Both corner radius will use up 1/4" total - that is why the dimensions on the next page don't add up to 12 3/4"!!!
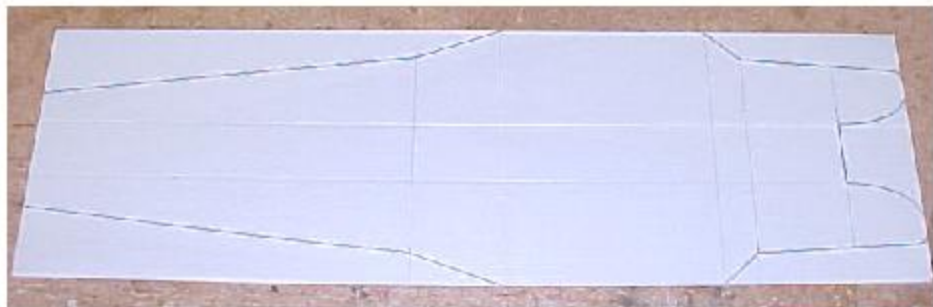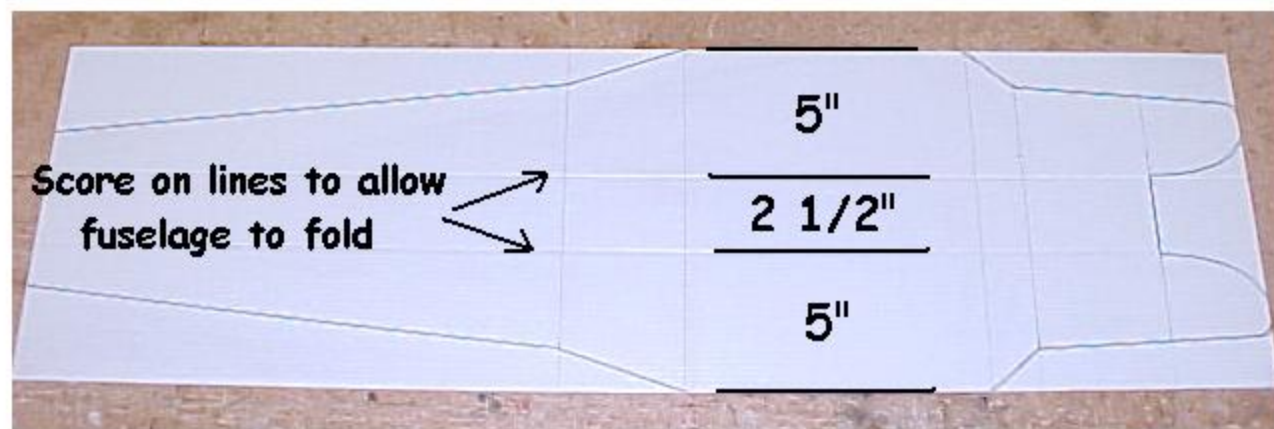
2 each pieces of 2 mil Coroplast (for the upper wing panels), that measure 13" X 32" - with the flutes running the 13" direction.

2 each pieces of 4 mil Coroplast (for the lower wing panels) that measure 10" X 32 1/2" - with the flutes running in the 10" direction (you could have the flutes going the other direction too - I just prefer them this way).

3 1/2"

← flutes →

1 1/2" (4 places)

1 3/4"

4 mil

8 1/2"

25"

10 1/4"

20 3/4"

3 3/4"
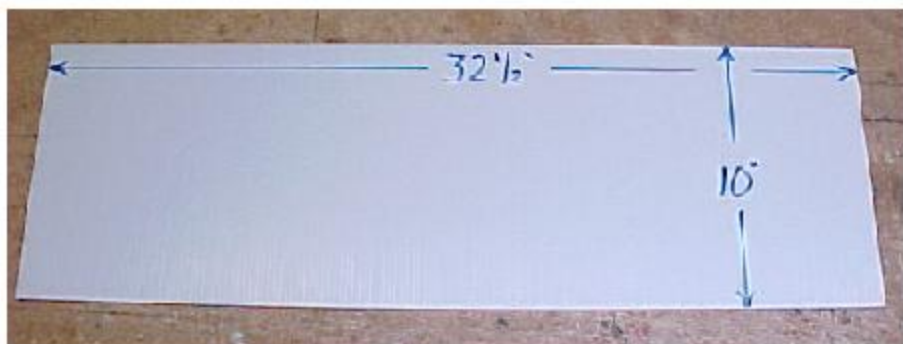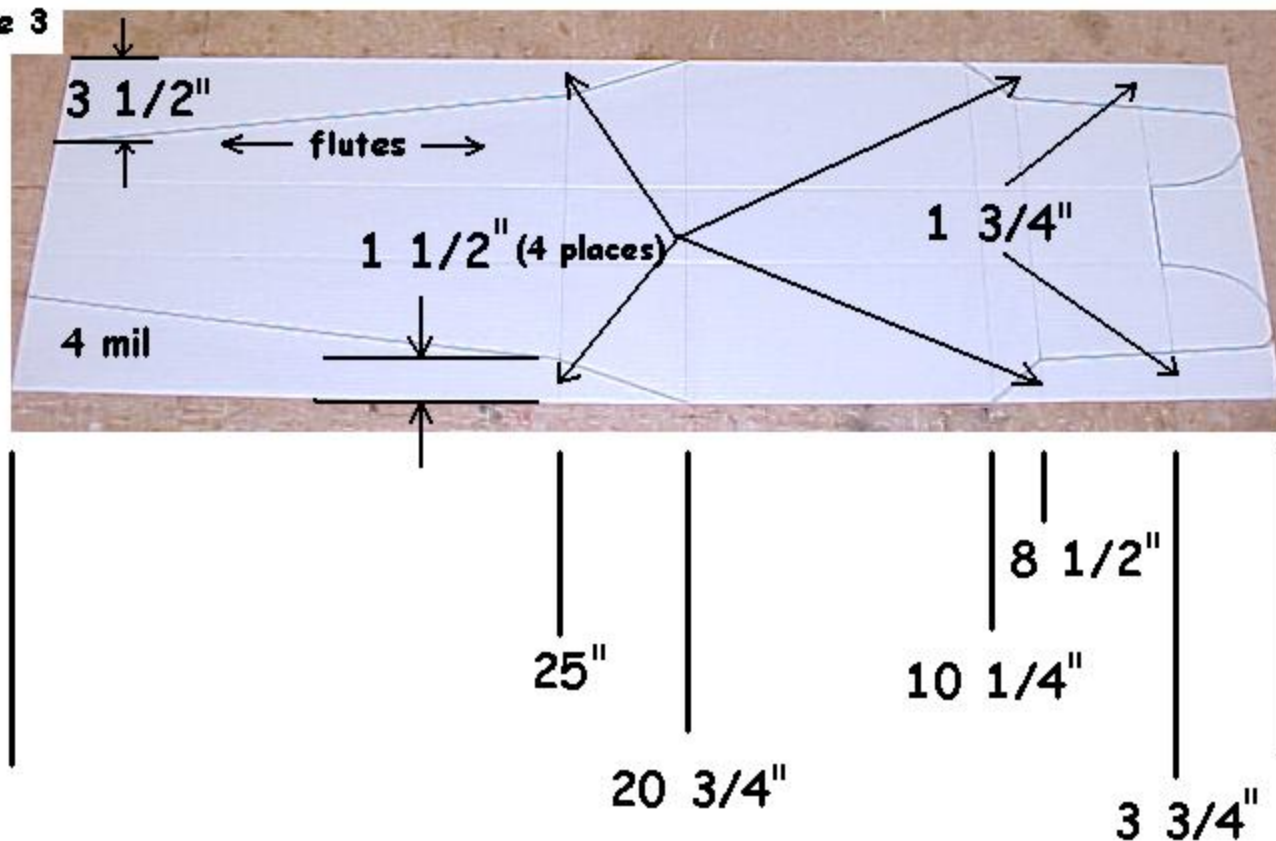
All dimensions measured from the front of the fuselage (except where noted).

Score on lines to allow fuselage to fold

5"

2 1/2"

5"

Score on lines (one flute only) adjacent to the 2 1/2" mark to allow the fuselage to fold up around the PVC formers. Be sure and check the fit of the PVC formers to ensure that they fit within the 2 1/2 inch area - yet still allow the sides to fold up. The curves on the front end "cowl" were made with various "french curve" templates I had - but you can make them however works best for you - it's not an exact science. Use a hobby scroll saw, or heavy duty scissors to cut the front curves out, and a utility knife and straight edge to cut the straight lines.

1 1/2"

2"

hinge line

2"
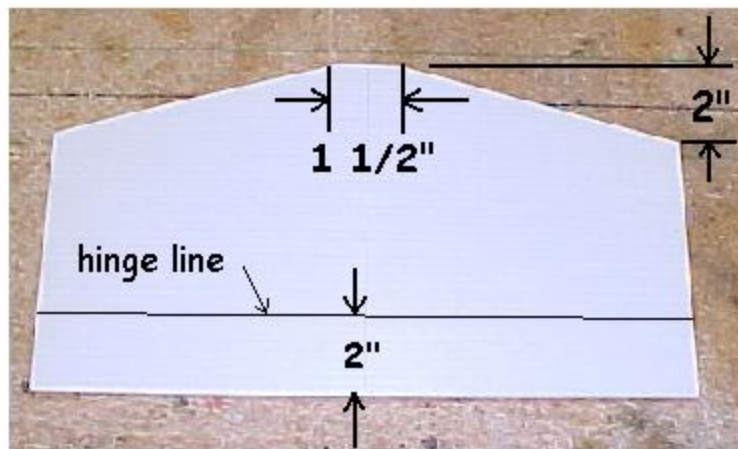
A piece of 4 mil Coroplast that measures 9" X 18" - with the flutes running in the 18" direction.

A piece of 4 mil for the Vertical Stab/Rudder that measures 9" X 15" - with the flutes running in the 9" direction. The Coroplast is cut at an angle so that the hinge line is at a 15 degree sweep - that is accomplished by cutting an angle across the front that is 2" off of a right angle.

2"

2"

hinge line

9"

15"

3"

9".

1 1/2"

2 1/2"
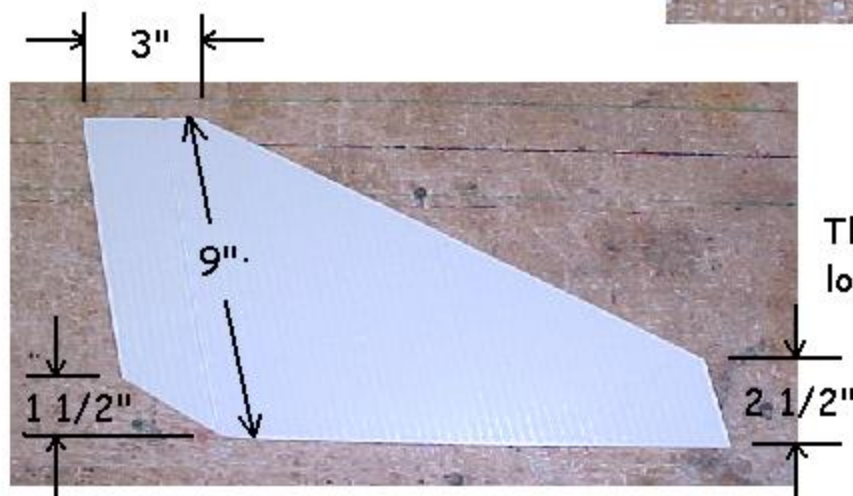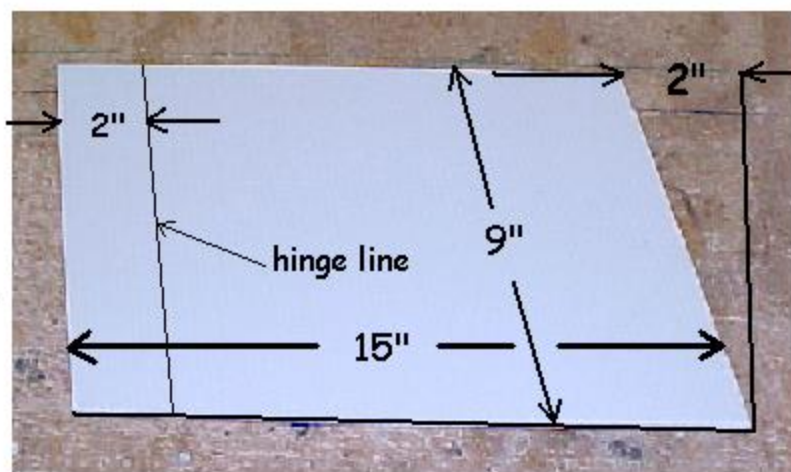
This is what the vert stab/rudder assy looks like when it's cut out.

Take two yardsticks and cut 6 inches off of each one so that you have two 30" pieces and two 6 inch pieces. The 6" pieces will be used as the doublers.

You will also need a .40 to .46 size engine, an 8 to 10 ounce fuel tank, a firewall, a radio with at least four channels/servos, a nose gear assembly - with wheel, a main gear assembly - with two wheels, and enough misc stuff to make a couple pushrods, and some wire for both the nose gear, and the throttle hookup. I made all of my horns from PVC scraps - but you can use store bought ones if you desire. You need a dozen or so #6 X 1/2" screws, some 1/4" dowels, and a couple extra yardsticks for formers and stringers. You will also need some additional scraps of Coroplast for the upper covers and for the fwd and aft "windows" Let's get to building!
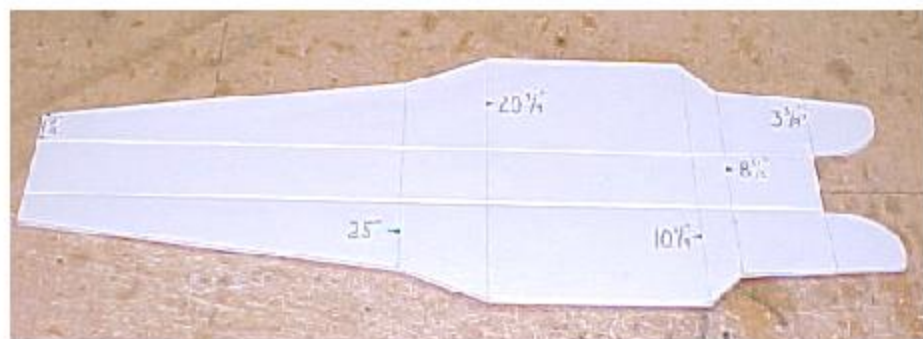
Using the dimensions shown earlier - cut out the fuselage with a straight edge and either a hobby scroll saw, or a pair of shears. Also - crease the flutes down the two lines that straddle the PVC formers.

This picture shows the PVC formers glued in place - the only problem is that I glued the aft former in the wrong place!! Glue it just forward of the 25" line instead of the 20 3/4" line. It worked fine on mine - but it should be aft a bit more. I used CA throughout most of the building sequence - with the exception of the tail group - I glued them on with Goop. Make sure that the formers are square and centered.
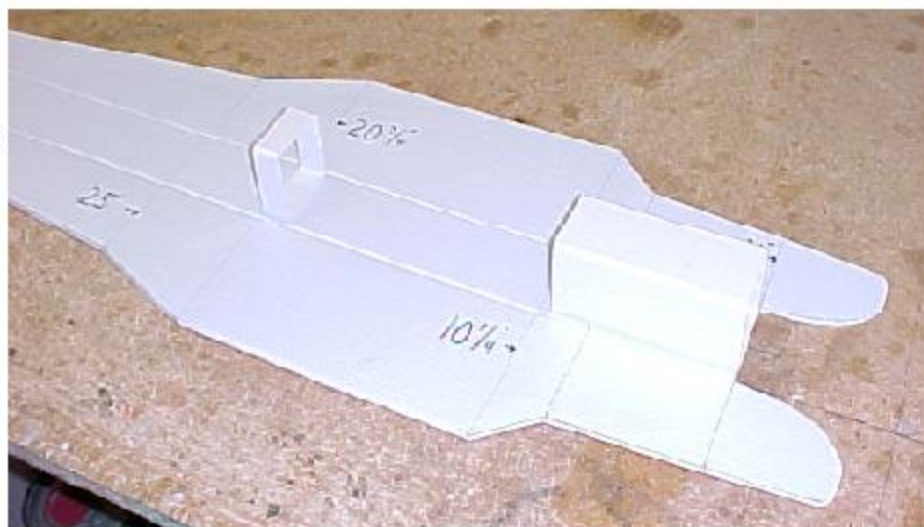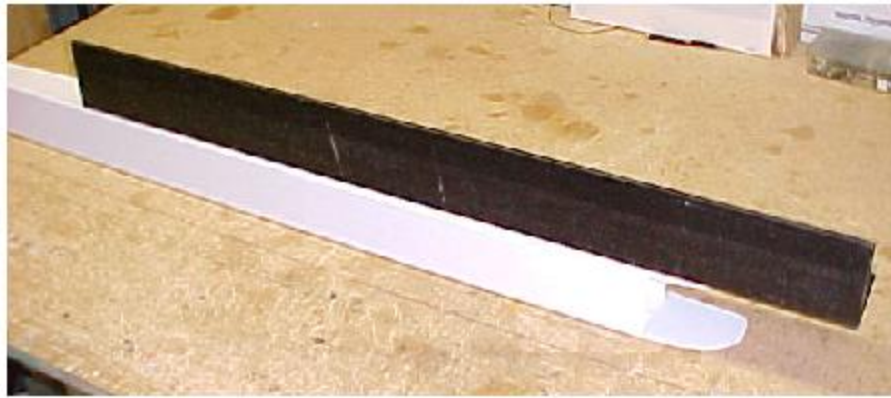
After gluing the formers to the bottom of the fuselage, I then glued the sides to the formers. Apply the glue to both sides, fold up the sides, and lay the fuse on its side so you can put something heavy on it while the glue cures. I am using a piece of angle iron that weighs about 25 pounds in the picture.

After the glue has cured, put some tape on the aft part of the fuselage to help hold the sides square. After applying the tape to hold the shape - I run a bead of CA down the inside corners to help the aft part of the fuse to hold its shape after the tape gets removed. Make sure the glue is fully cured before removing the tape!

Thin gap - appr 1/16"

Allow for rudder - appr 2 mil gap I.D. (both sides)

19"
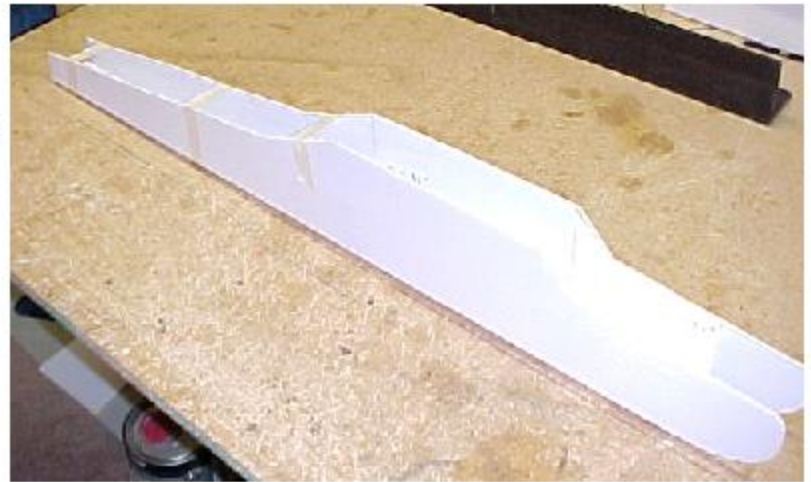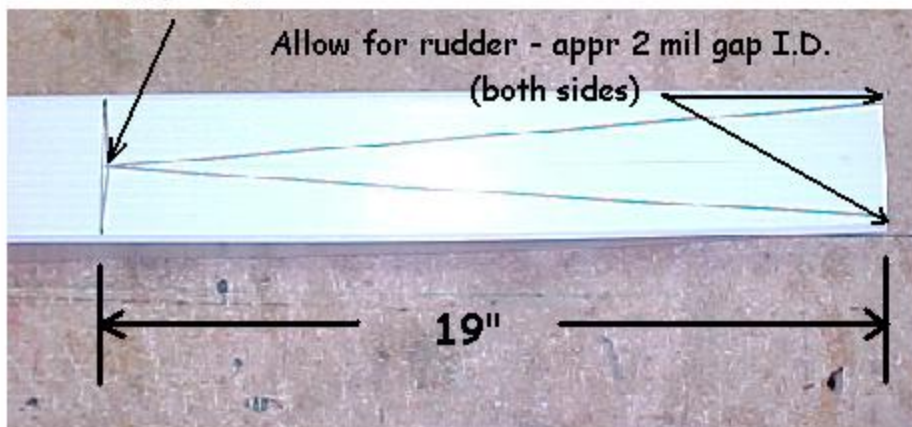
Cutout the bottom of the fuse for the taper. The back end sides (2 places) should be cut so that there is a gap for the rudder to fit in - in other words - cut out the aft part leaving a 2 mil gap on both sides. The front of the taper just needs a thin angled slot cut so that when the back is drawn together - there is room for the sides to draw in.
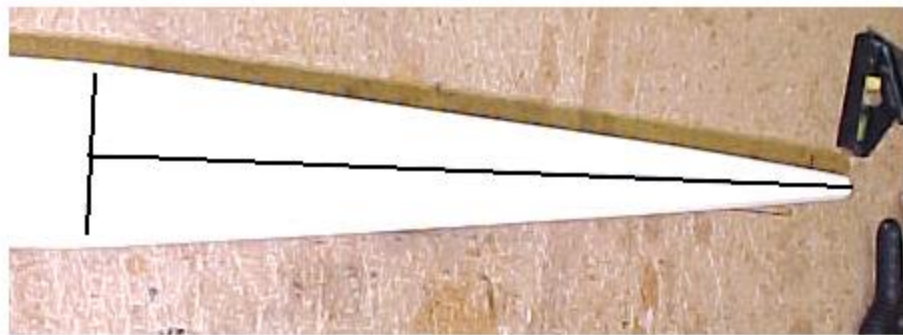
This is what the fuse should look like when both sides are drawn in together.

Flip the fuse over and tack glue the tapered sides together - ensuring that the aft part of the fuselage stays square and straight. Cut a piece of yardstick to 20". Using the inner part of the fuse as a guide - mark and cut the yardstick doubler so that it matches the taper close enough so that the yardstick will fit exactly inside the rear of the fuse all the way to the back. Glue the doubler in place.
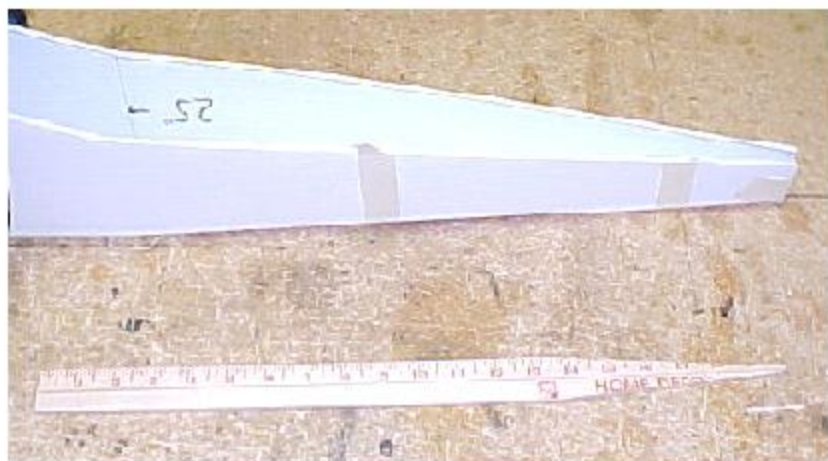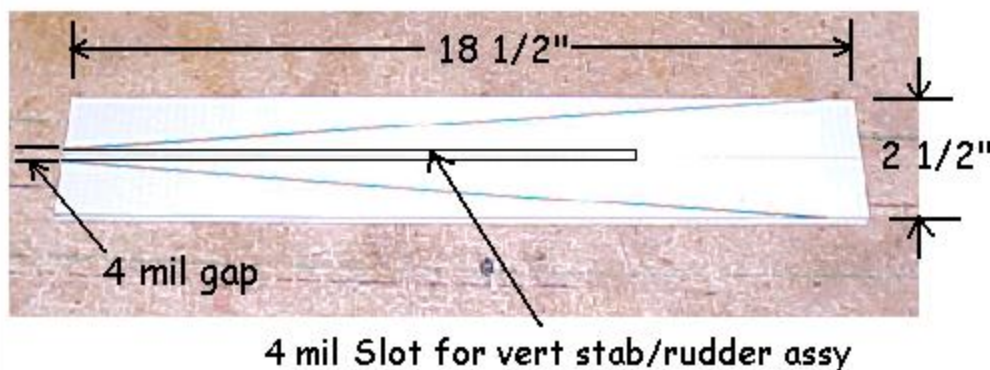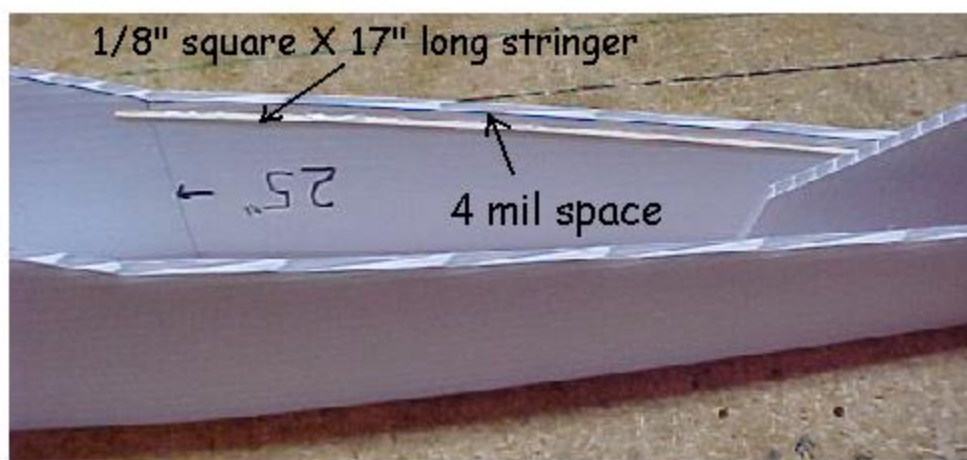
4 mil gap

Here you can see the doubler glued in place. Notice the 4 mil gap at the back of the fuse where the vertical stab/rudder will fit into later.

Take the vertical stab/rudder piece that was made earlier and temporarily fit it into place, lining up the rudder hinge line with the aft part of the fuse. The vertical stab/rudder assy sits on top of the yardstick doubler that was previously installed. After verifying that the assy will fit correctly - spread a generous amount of GOOP on all of the areas that make contact - and - after ensuring that the entire fuse/vertical stab/rudder assy is square - clamp until dry.

Cut some 1/8" wide X 17" long square strips from the extra yardsticks to use as stringers on the fuse to help hold the upper aft cover in place. Run the 1/8" stringers all the way to the back as far as they can fit between the vert stab/rudder assy and the inner fuse sides. Space the stringers 4 mil away from the top of the fuse sides so the cover will fit flush.

1/8" square X 17" long stringer

4 mil space

18 1/2"

2 1/2"

4 mil gap

4 mil Slot for vert stab/rudder assy

Cut out a scrap piece of 4 mil - with the flutes running the 2 1/2" direction - measuring 2 1/2" X 18 1/2". Draw a line on both sides from the front corners to the back - leaving a 4 mil gap for the vert stab/rudder assy to fit into.
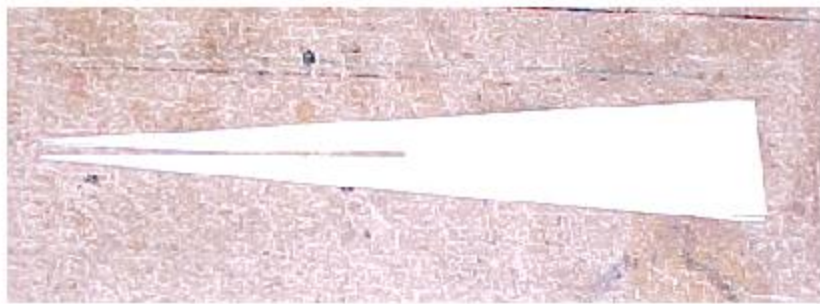
This is what the aft cover should look like when it's cutout correctly. Test fit the cover to ensure it will fit - then once you're sure it fits correctly, glue it in place with CA.

Here is the aft cover installed. I use masking tape to hold the cover in place, and to hold the fuse sides tightly against the cover while the glue dries.
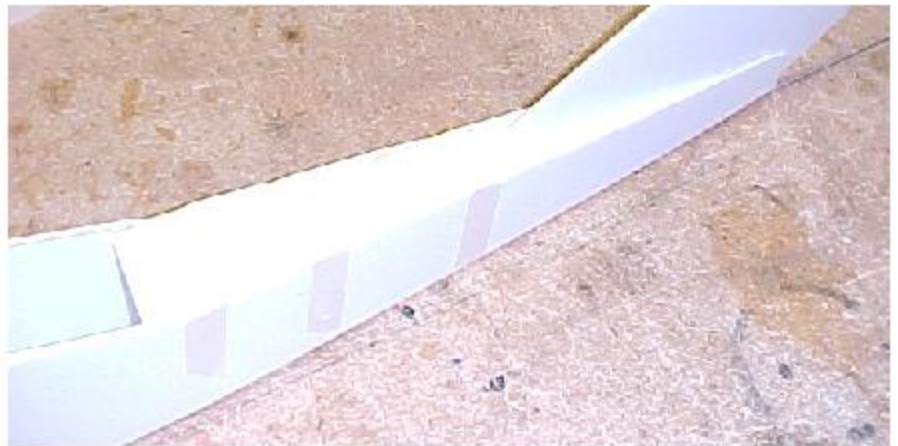
Cut out 2 each pieces of yardstick measuring approx 13 1/2 inches long. These will be the first set of upper cabin doublers

Glue the formers to both sides of the fuselage. The doublers simply sit on top of the two PVC formers. Glue them on with CA. Make sure that the doublers are centered as best as you can between the front and rear window areas.

Centered (approx) between front and rear window areas
(fwd and aft)
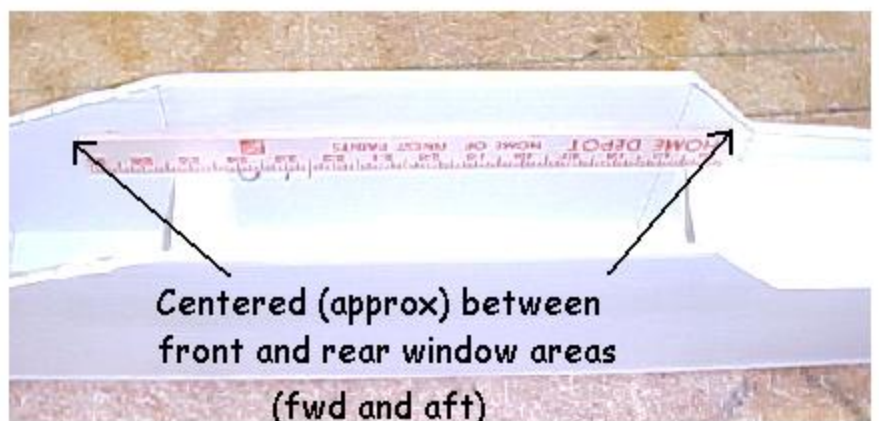
Make two more upper fuselage doublers 13" long.   These will get placed flush with the top of the fuselage - so cut out the forward and aft angles so that they match the angle of the fwd and aft windows. Be sure and make the doublers approximately 1/4" shorter than than they should be so that the fwd and aft windows will fit flush with the edges. You will see what I mean in the next picture.

Notice how the upper doublers fit on the fuselage - they are flush with the top, with a 4 mil gap on each end to allow the "windows" to fit flush, and there is a gap between the first set of doublers and this set - totally normal!
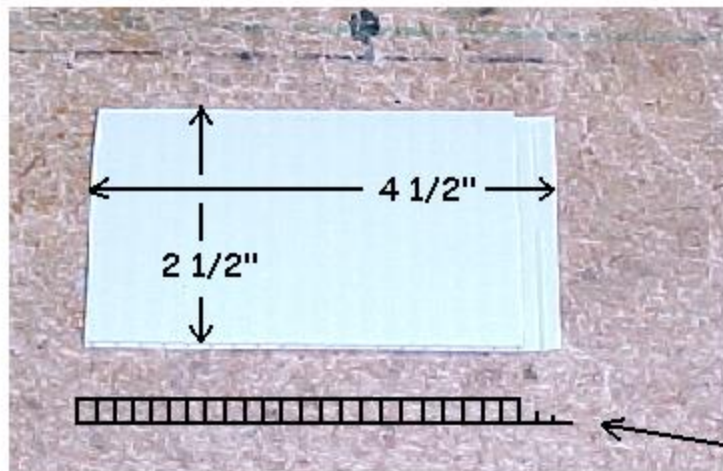
Flush

Gap
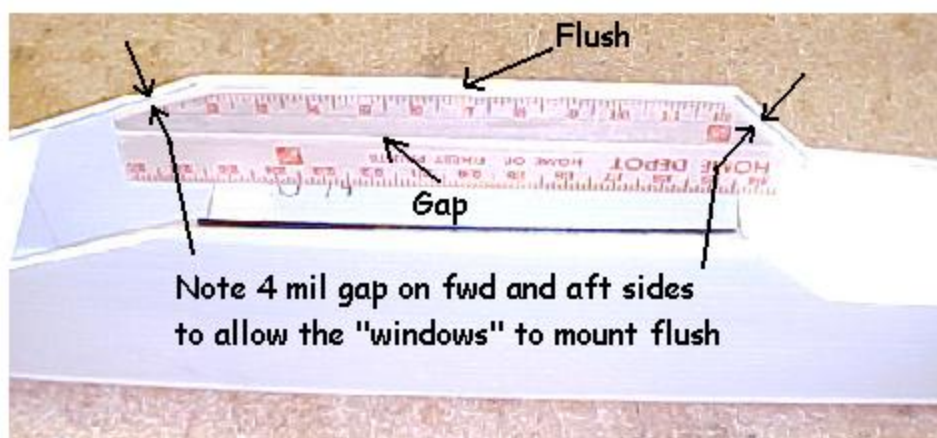
Note 4 mil gap on fwd and aft sides to allow the "windows" to mount flush
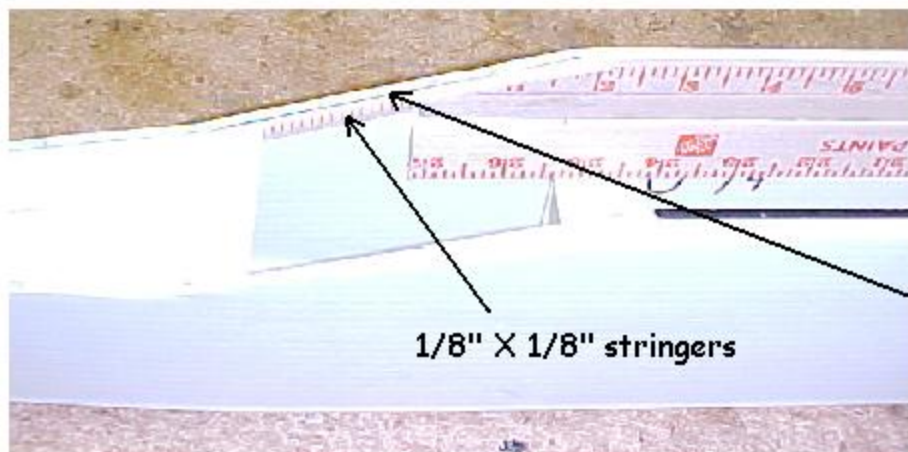
Cut several scraps of 1/8 X 1/8 yardstick stringers for the aft "window" cover to sit on. Glue one on each side.

Don't forget to leave a gap to allow the "window" to sit flush!

1/8" X 1/8" stringers

Cut out a scrap piece of 4 mil measuring 2 1/2" X 4 1/2" - with the flutes running the 2 1/2" direction. This piece will be the aft window. Cut off the last two panels of the flute from one side to allow the piece to sit flush once it is installed (look at picture for reference).

4 1/2"

2 1/2"

— Side view

This picture shows the rear "window" cover installed. Glue it in place with CA. Note the back part is flush with the aft upper cover
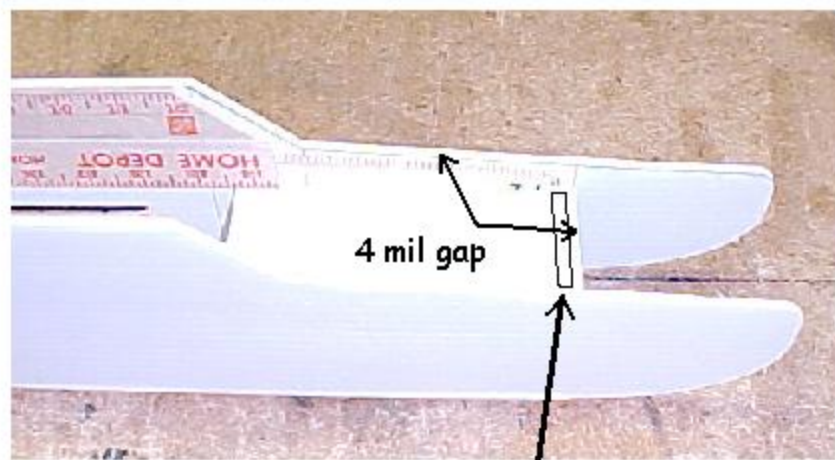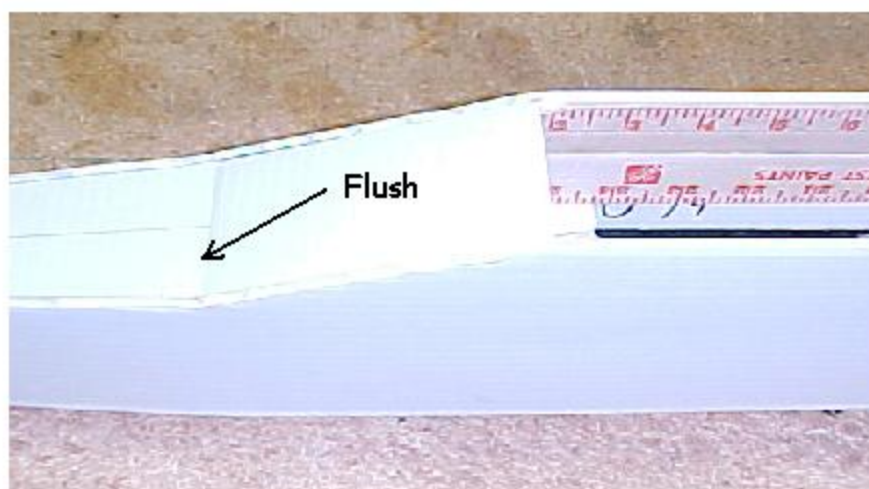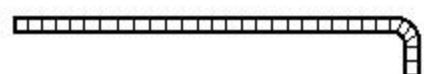
Flush

Cut some 1/8" X 1/8" yardstick stringers so they fit the fwd upper section to make a ledge for the fwd cover to sit on. Make sure that you leave a 4 mil gap so the cover sits flush with the top of the fuselage!!!

4 mil gap

The picture doesn't show it - but you need to add a 2 1/8" strip to the front of the PVC - just behind the firewall so the upper cover has something to glue to.

crease 3 flutes to
make a smooth radius

1/2" (approx)

2 1/2"

5 1/2"
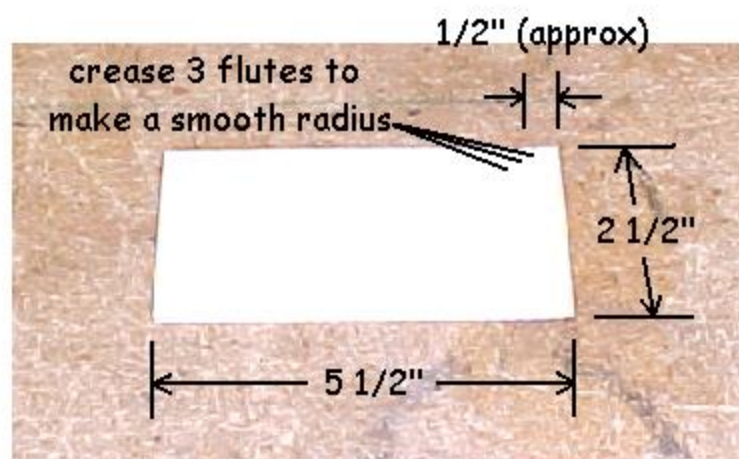
Make the fwd cover from a scrap of
Coroplast measuring 2 1/2" X 5 1/2" - with
the flutes running in the 2 1/2" direction.
Measure in from the front edge approx 1/2"
- and crease that flute and the next two aft.
This will allow the front part to curve
around nice and smooth. You can see the
final installation on the next picture to
clarify it a bit more.

This is what the fwd cover will
look like when it's done.

Here the fwd cover is installed.
The fwd edge of the cover is
even with the firewall. The top
should be flush with the top edge
of the fuselage. You can't see it
very well in the picture - but the
front edge of the cover is
rounded (like the drawing above).

2 1/2"

2 1/4"
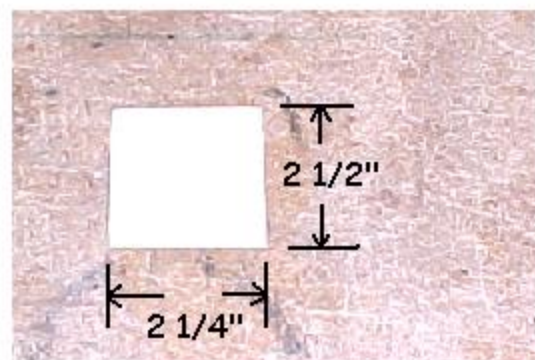
Cut a windshield from some scrap Coroplast measuring
2 1/2" X 2 1/4" - with the flutes running in the 2 1/2"
direction. Cut off half of a flute from one of the 2
1/2" sides so that windshield will sit flush on the
bottom - since it is angled. (see below)

Cut half the
flute away
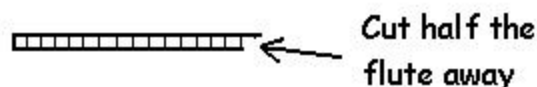
Here the windshield is installed. I used CA. Make sure that it is flush with the top, and there is no gap on the bottom (where the windshield sits on top of the fwd cover) We're almost done!!!!

Once all of the upper covers and windows were installed - I then glued the horizontal stab/elevator assy to the bottom of the fuselage with GOOP. Make sure that the assy is square and level. I put some weights on the fuselage and I let it dry for several hours. I didn't add any other mount reinforcement to the horizontal stab - but you could put a couple of screws through it into the bottom of the fuse into the yardstick doubler for backup.

2 1/2"

4"
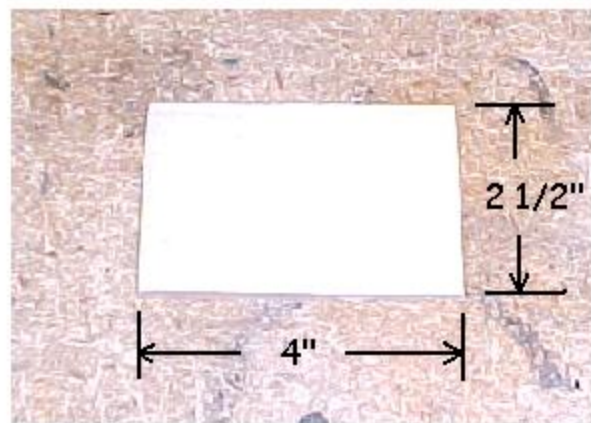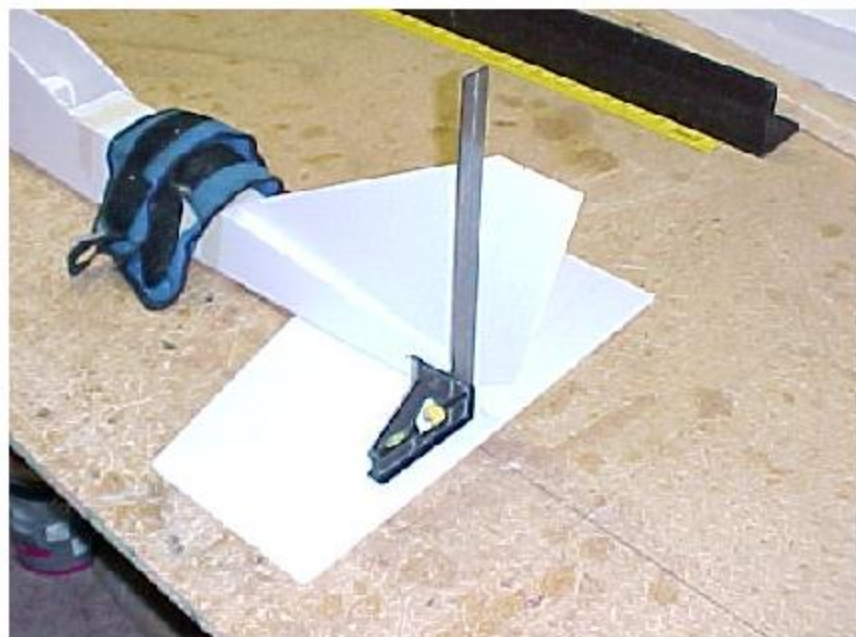
I used a piece of 3/16" plywood for the landing gear plate - but you can use anything similar. Cut the gear plate to 2 1/2" X 4". Glue it to the bottom of the fuselage with GOOP glue - so that the front of the gear plate is 10" from the front edge of the fwd PVC former (where the firewall fits into) The above dimensions are for the trike gear setup only! I put some weights on the gear plate until the glue cured.

Here we have the completed basic fuselage - what a beaut!!
All we have left to do is to mount the firewall, engine mount,
engine, landing gear, fuel tank, control surface connectors,
and the radio componants! Now that didn't take that long -
did it? Let's move on to the landing gear now..........
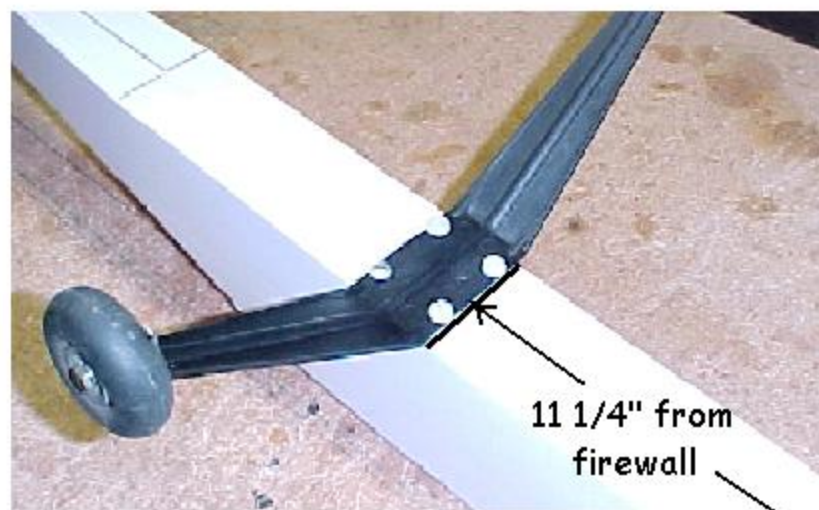
Measure back 11 1/4" (from the PVC eged - where the firewall fits) and place the gear front edge on that line. Mark a line across the fuselage with a square to ensure that the landing gear is square.

Once you're satisfied - drill through the fuselage into the wood gear plate. I used 1/4" nylon bolts to hold the gear - and I simply tapped the wood out and ran the bolts directly into the wood plate. Don't tighten the mount bolts just yet.

11 1/4" from firewall

This shows the wood gear plate installed and the holes drilled for the landing gear.

Now - take some 3" X 1/8" X 1/8" yardstick scraps and slide them into the flutes from the front - all the way down to where the landing gear is. These are put in place to minimize the Coroplast from crushing by the tightening of the gear mount bolts. The key here is to ensure that the pieces of wood "straddle" the holes you drilled to mount the gear with. Use another longer piece of stringer, or a wire to push the stringers in place. After you have the stringers in place - tighten the landing gear bolts.

Shove aft
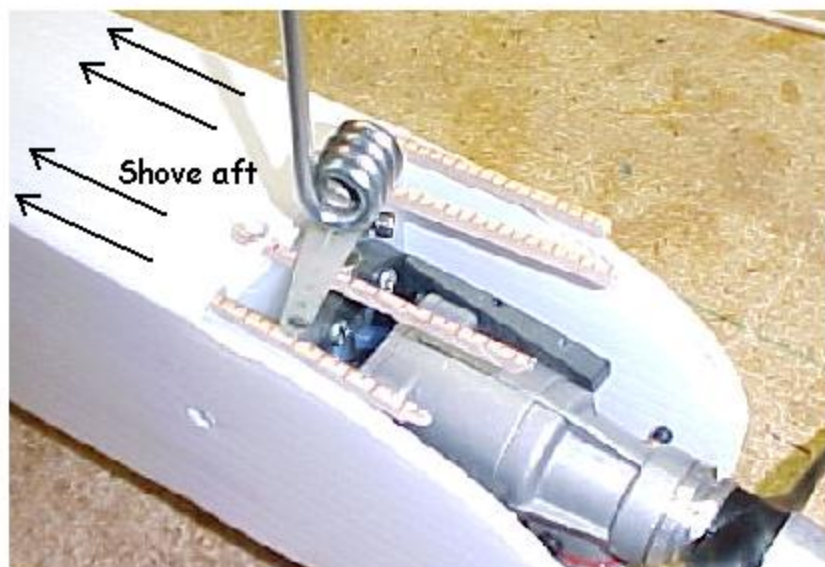
I used a Dave Brown mount, and I drilled a hole through it to accept the nose gear wire. I added collars to secure everythin in place. You may use any engine mount/nose gear setup you are comfortable with. I will show you how I did it, if your gear choice is different - just adapt it to work as needed.

I won't get into detail about, the firewall, mounting the engine to the mount, or to the firewall - you may use whatever you are comfortable with. Just center everything as best you can. If you don't know anything about SPAD firewalls - go to the hints and tips section and read about the different options. You can use a wood firewall - I just choose to use the HDPE.

Cut a slot (about 1 inch long) in the far left flute inside the fuselage for the nose gear steering wire to go through. The wire will pass all the way through to the front and will hook up to the nose gear steering arm. You might double check to ensure that the flute lines up with the steering arm hole you want to use befreo you cut the slot
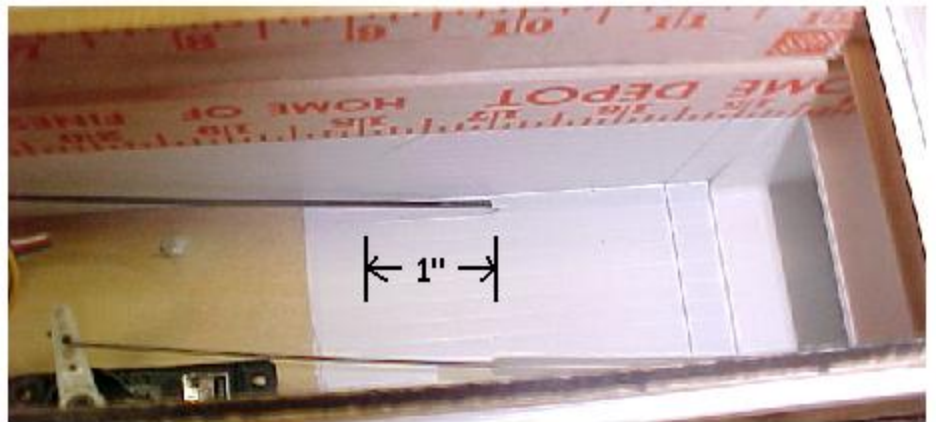
Here you can see where the nose gear wire exits the fuse through the flute - and it is hooked up to the nose gear arm. I used a "Z" bend on mine - but you can use whatever works for you. Talk about easy!!!!!
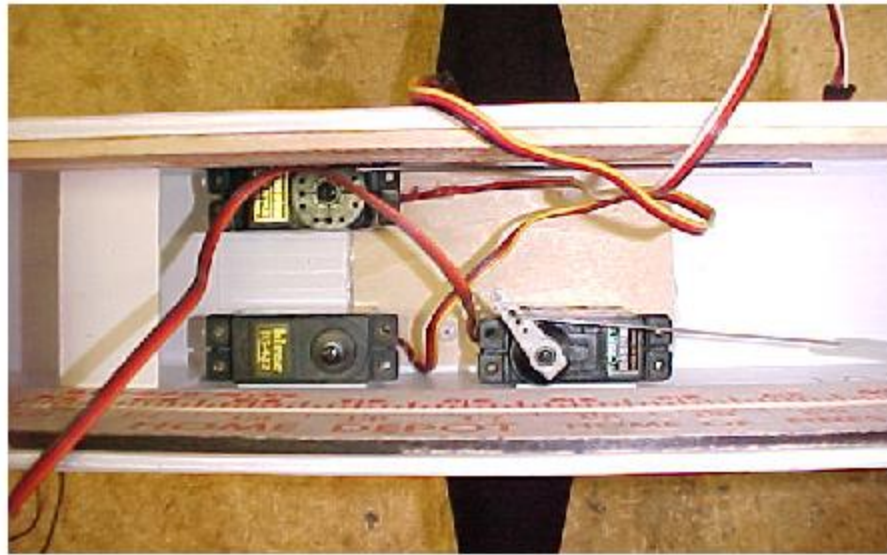
I installed the servos with double sided foam tape (sold at Wal-mart as "mirror mounting tape"). If you feel that this way might not be secure enough - feel free to install a couple rails and install the servos the "normal" way. The upper servo is for the rudder, the lower aft one is for the elevator, and the lower fwd one is throttle.

This picture is kind of hard to see - but it is a picture of a completed pushrod made from 1/4" dowels and 2-56 wire. You could use Nyrod also. You will need two of these (one for elevator and one for rudder).
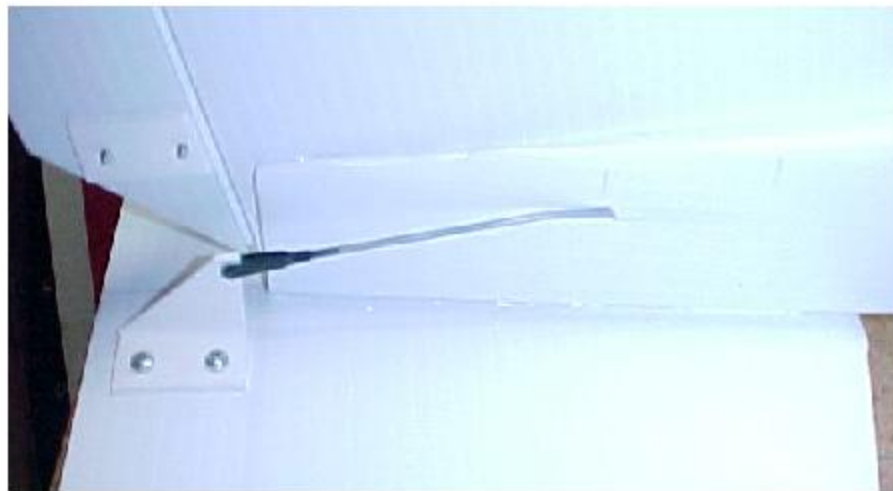
This picture shows the 2-56 pushrod exiting the fuselage. I took a long 1/8" drill and drilled through the fuselage at an angle where I had figured the pushrod should exit. This gives the wire a "guide" through the side of the fuselage. I didn't use any other means of support other than the Coroplast itself. Notice the horns made from scrap PVC!

The rudder is hooked up the exact same way (only it's on the other side!). If you run the rudder control rod on the L/H side of the fuse (like I did), and you run the nosegear hookup on the L/H side (like I did), then the hookup to the servo wheel is easy - they simply go on opposite sides of the servo wheel to work correctly!

Install the 1/4" X 4 1/2" wing holddown dowels following the dimensions shown. Center the dowels on either side of the opening (fore and aft). Make sure and fuel proof the dowels!

3/4"

Centered

11"
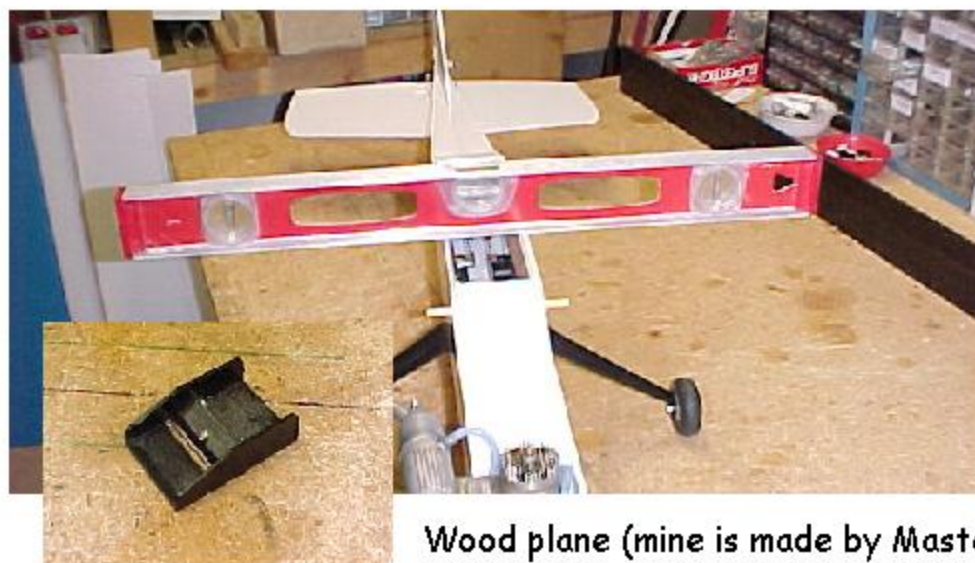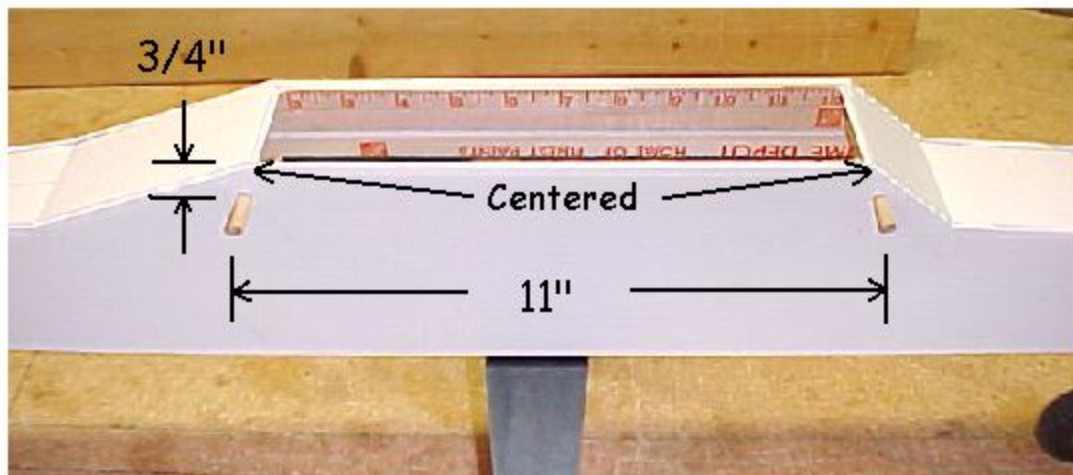
Now would be a good time to check the level of the wing saddle. If one side is too high - simply plane it down with an inexpensive hand plane (like what you would use on your balsa plane!) until it is level. The plane will take off both the wood and the Coroplast.

Wood plane (mine is made by Master Airscrew)

The fuel tank and the firewall are installed in the same SPAD fashion as in "normal" PVC fuselaged planes. The only difference is that there is Coroplast surrounding the PVC! You will need to cut a relief in the Corolast where the screws go in to hold the firewall in place. I figured out a really neat way to do that. I use a small, metal handled acid brush, and I heat it with my torch until it gets hot - then just lightly push it through the Coroplast - voila - a nice neat hole!!! Just make sure that you don't go too far - don't melt a hole in the PVC!!! The upper cover is about 1/2" above the PVC part where the firewall retaining screw goes - just melt a hole in the Coroplast to make an access hole to the upper firewall mount screw.

Hole for upper firewall screw
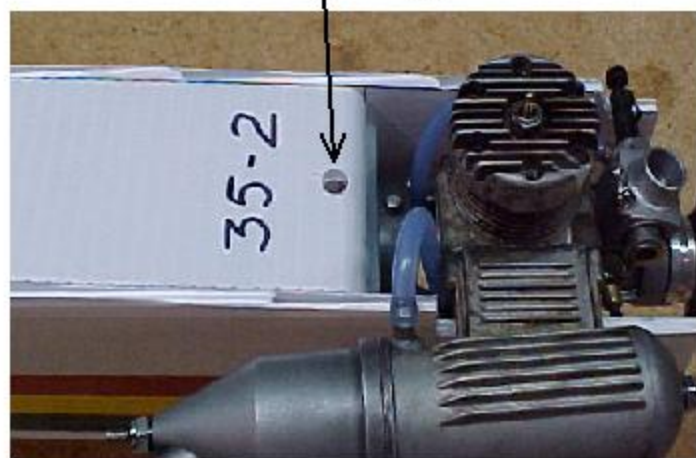
Acid brush used for melting clearance holes in Coroplast

Temporarily mount the engine to check for clearance of the muffler and needle vavle assembly from the "cowl" sides. Cut to fit - then mount the engine, hook up the fuel lines, and rig the throttle.

The fuselage is basically done at this point.   The only thing left is the installation of the switch, the receiver and the battery. I would wait until after the wing is built so you can temporarily rubber band the wing on to figure out where the battery and receiver will need to be placed to get the correct CG.   Now go and cut out some stickers from sign vinyl for the windows and the other graphics. Next - we'll move on to the wing!!!!
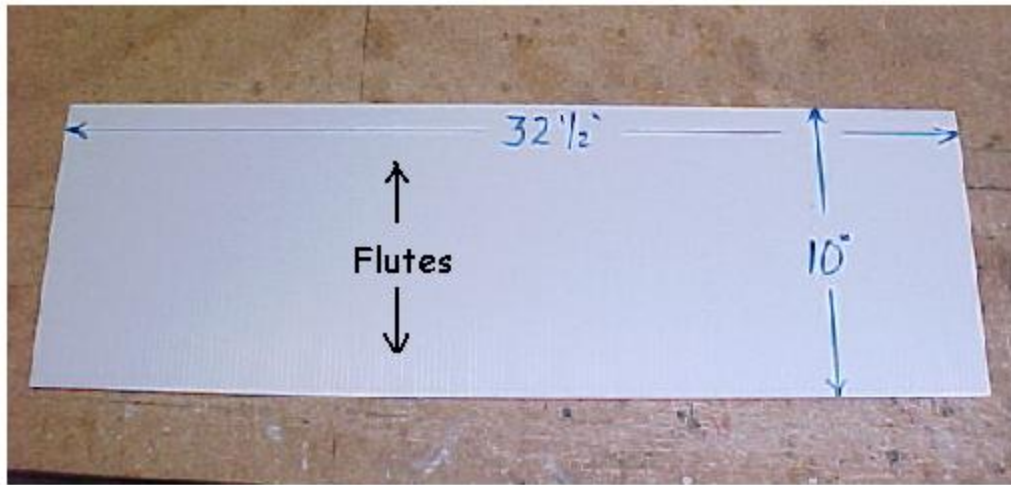
Cut two pieces of 4 mil Coroplast measuring 10" X 32 1/2" - with the flutes running in the 10" direction. One for the L/H wing, and one for the R/H wing.

Make a mark on the long side 1" in all the way across the panel. This will be where the upper panel will eventually glue into place. Make sure and mark both panels.
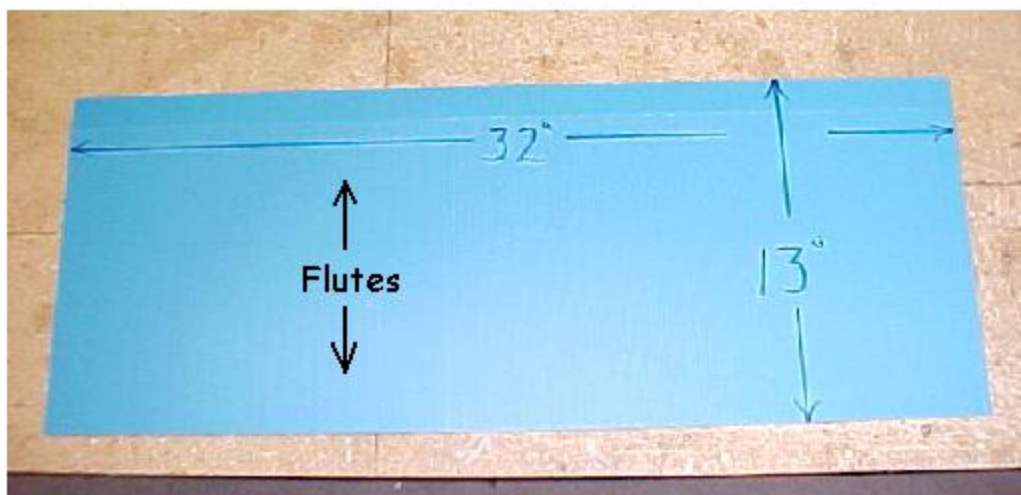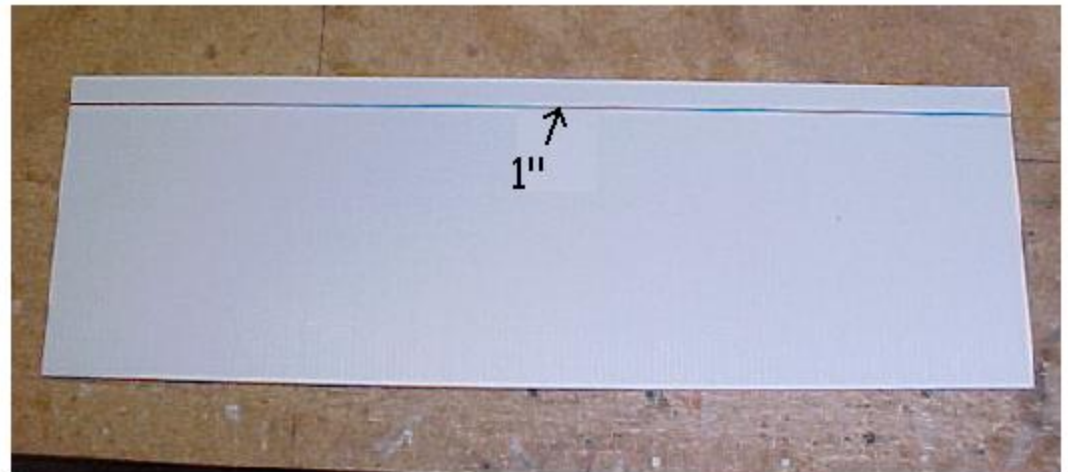

Next - cut two pieces of 2 mil Coroplast measuring 13" X 32" - with the flutes running in the 13" direction.

1" line that was drawn earlier is on the opposite side now.

2"

3/8"
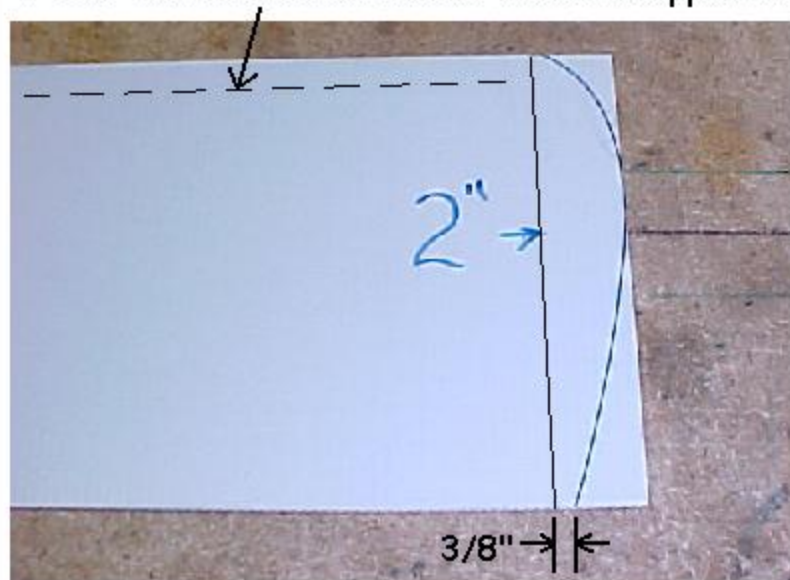
Flip the panel over so that the 1" line that you drew earlier is on the upper, back side now. Measure in 2" on one side only - the picture shows the R/H panel being made now. The 2" line will be where the wingtip will fold up to make a nice closed-end wing. Crease the line with a blunt tool and make sure that the tip will fold up easily. Mark the contour using a french curve - or - use an old template for a rib like I did! Make sure that you make a right and a left!

These are some various templates I used to make the contour of the wingtip. It is not an exact science - just make sure that the apex of the curve is even with the spar line (shown below)

7 1/8"

Apex

Winqtip after cut
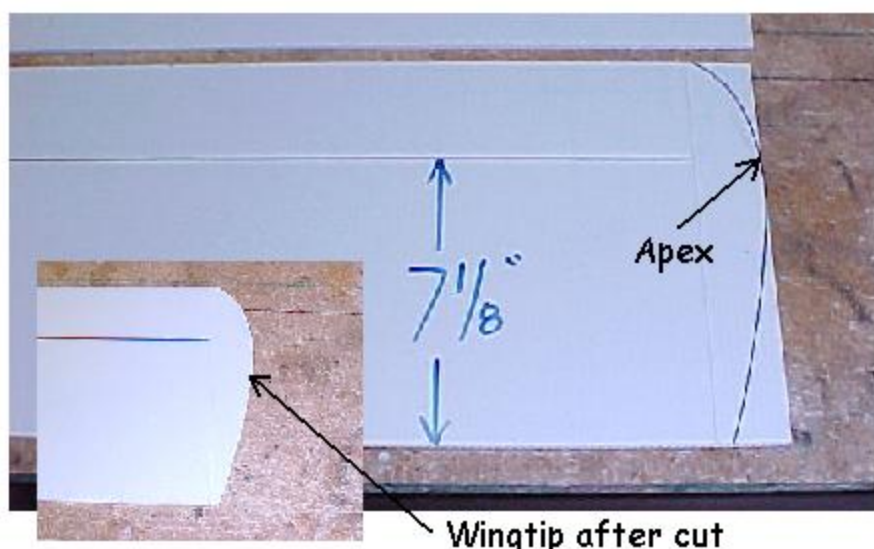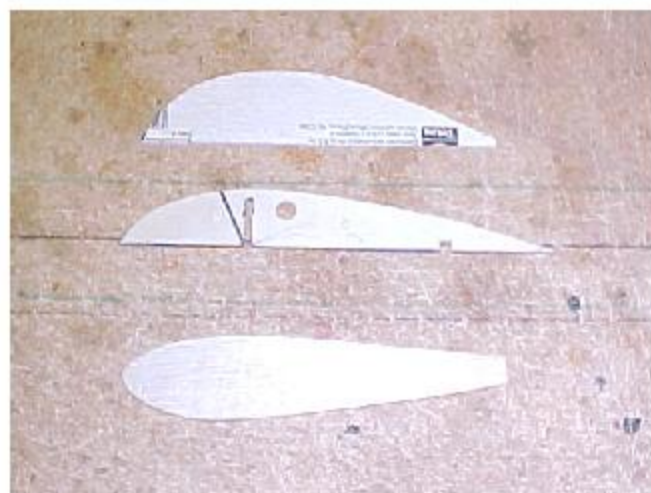
The spar line is located 7 1/8" from the trailing edge of the 4 mil piece. Mark the spar line all the way across the panel. Make sure you have a left and a right!!!
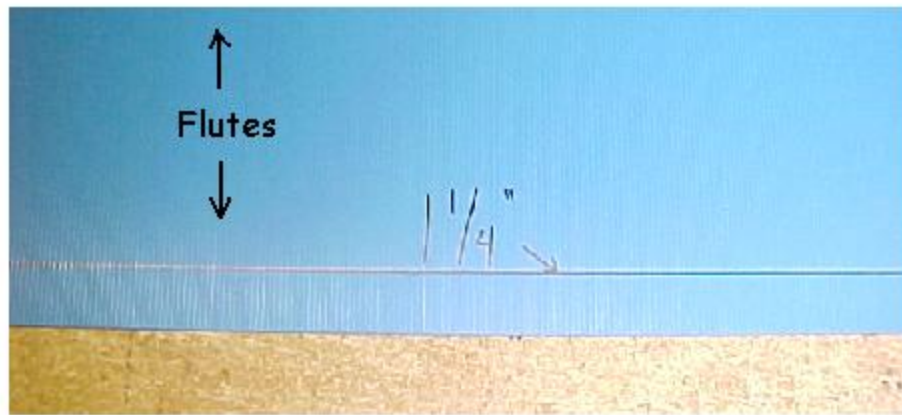
Mark a line all the way across the upper wing panel that is 1 1/4" in from the edge. You will crease this line next with a blunt tool. You will crease across the flutes this time. Crease the Coroplast all the way across the piece using a straight edge as a guide.

This picture shows my ruler clamped to the piece of 2 mil right on the line. I've already creased the line - now I am folding the Coroplast up to make the crease more flexible.   Make 2.

These pieces will glue on to the 4 mil lower wing panels later.
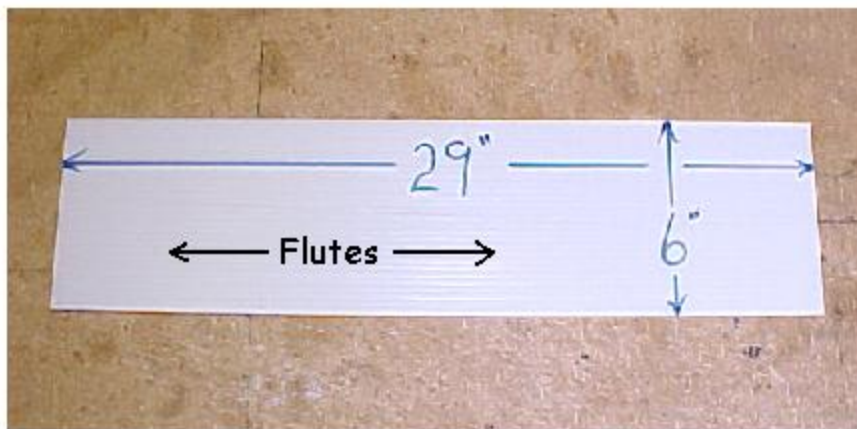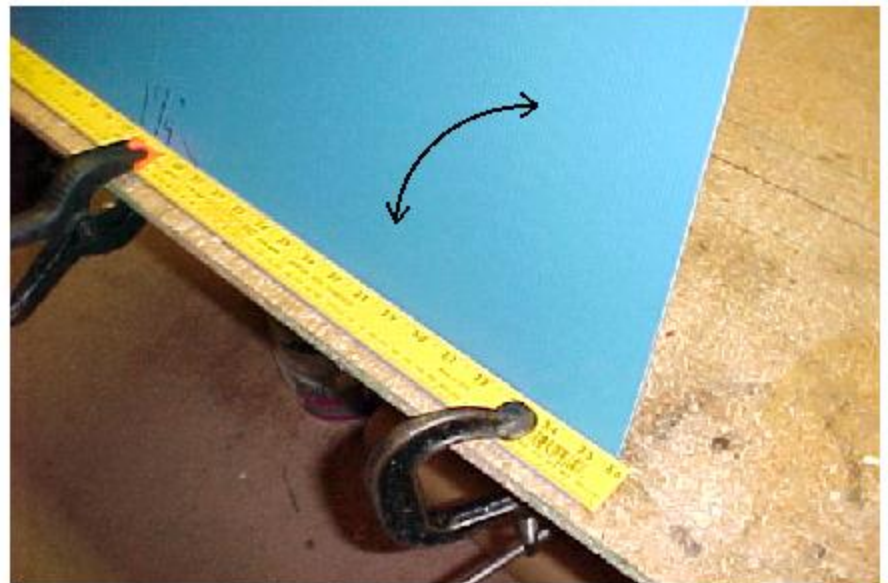
Cut out a piece of 4 mil Coroplast measuring 6" X 29" - with the flutes running in the 29" direction. This piece will make both the R/H and the L/H ailerons.

2 1/2"   3 1/2"

3 1/2"   2 1/2"
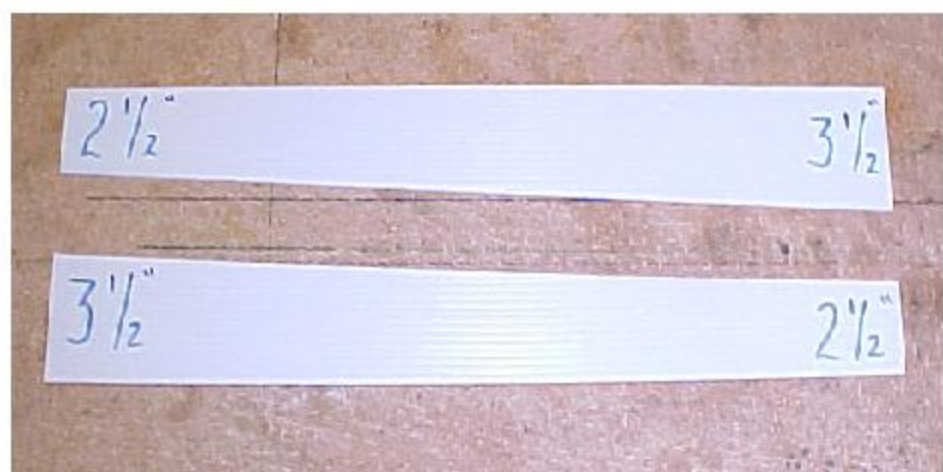
Split the 6" X 29" piece lengthwise at an angle by following the dimensions shown to the left. This will make the two ailerons.

Mark in 1/2" in on the straight edge of the aileron - make sure it is not the angled edge - this will be where the flute will be cut out for the hinge. Make sure that you make a L/H and a R/H aileron!!!!!

3 1/2"   ↙ HINGE LINE ↘   1/2" ↓   2 1/2"

3 1/2"   1/2" ↑   2 1/2"

Wingtip crease

2"

|← 28 1/2" (approx) →|
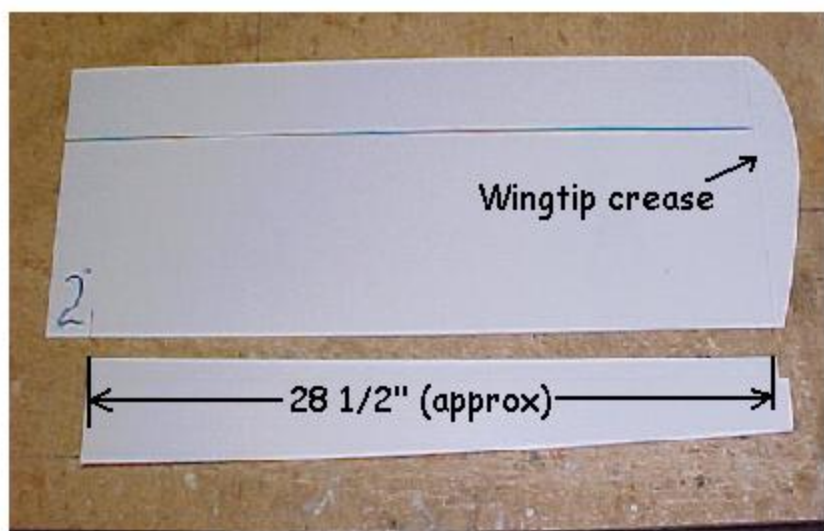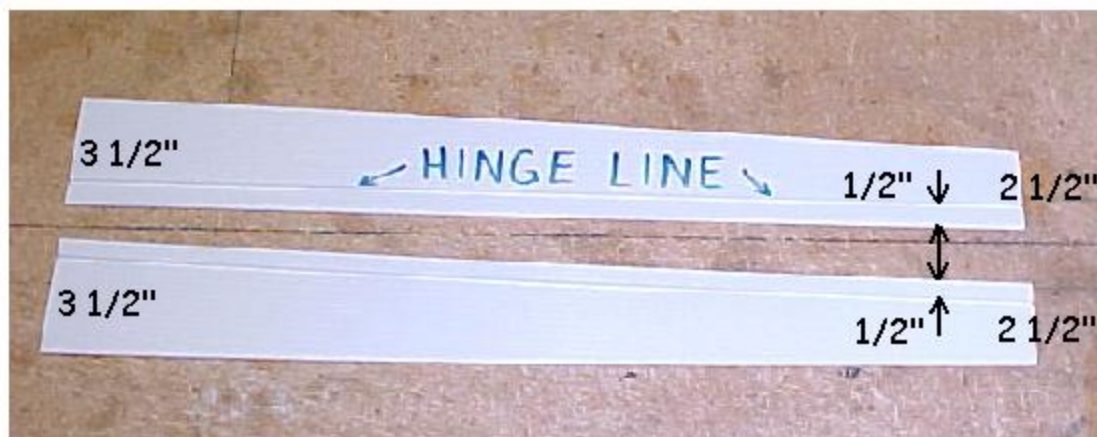
Measure over 2" on the inboard portion of the lower wing panel. Align the inner edge (the 3 1/2" side) of the aileron with the line and mark the outer edge even with the crease for the wingtip - then cut it off up to the hinge line on the aileron. You will cut the outer edge flush after the upper wing panel is glued in place - so you have a reference.

Make sure you make a left and a right!

This is the R/H wing panel right side up
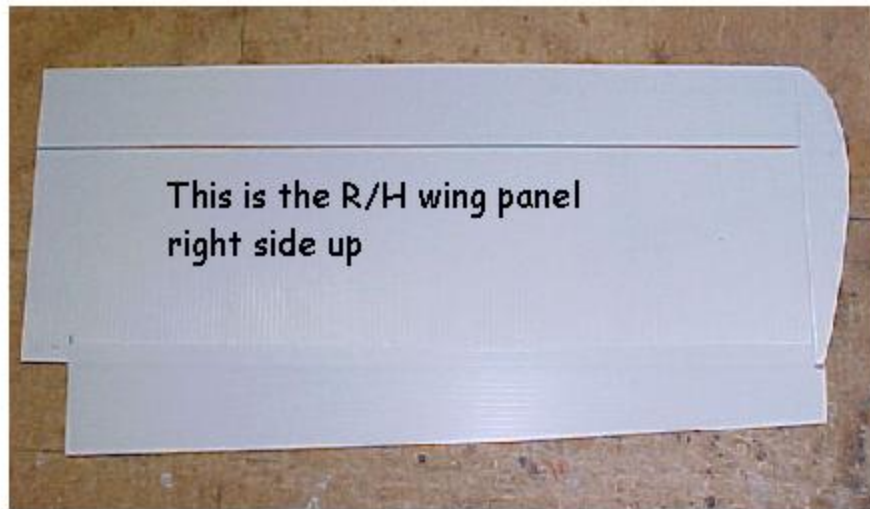
Here the aileron is glued in place. Make sure that you make a left and a right!!!

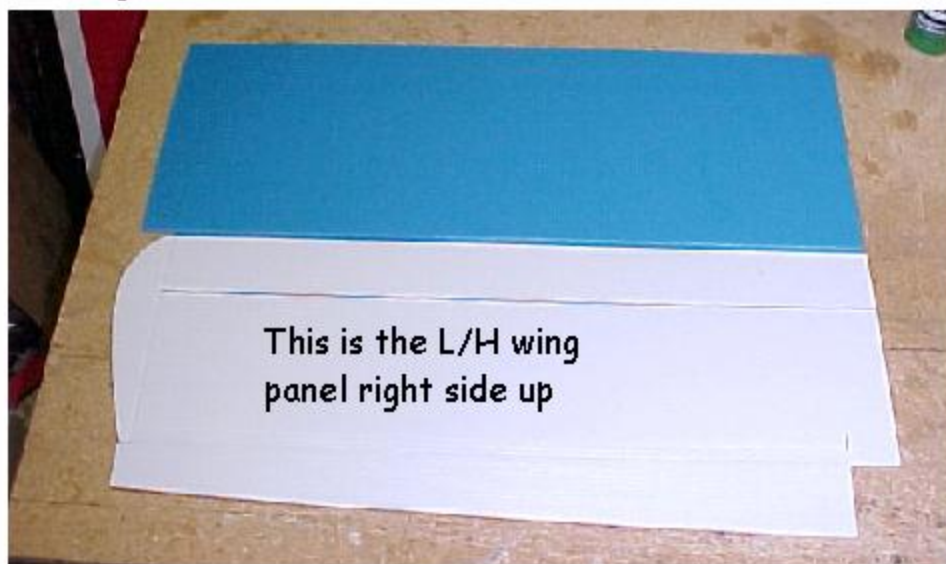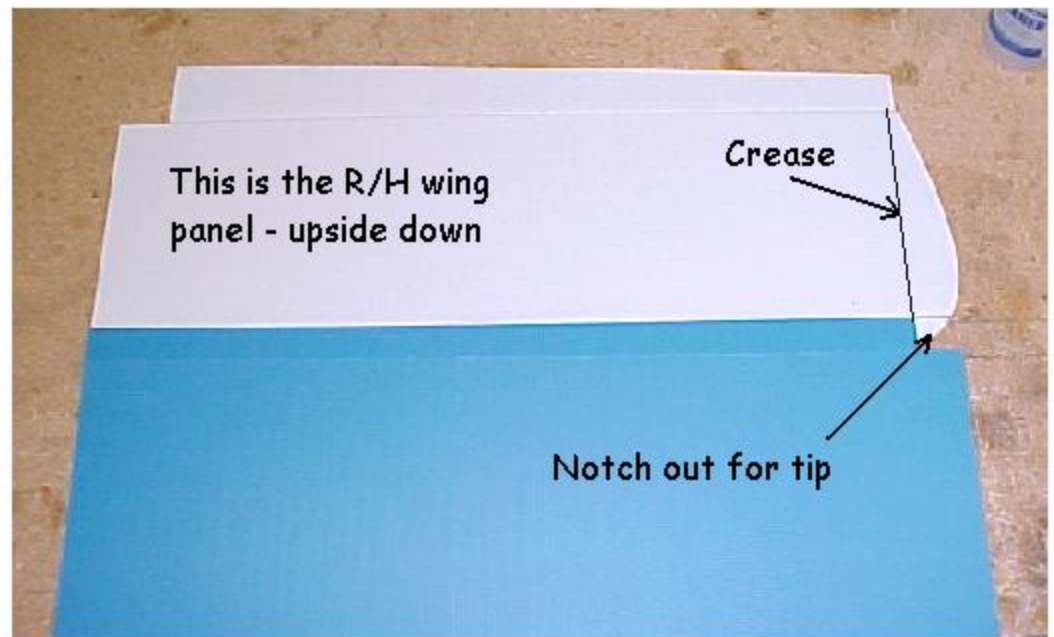Now flip the lower 4 mil wing panel over and glue the upper 2 mil panel to it at the 1" line that you drew earlier. Remember - we are working with the bottom of the wing panel now. You will want the crease on the upper panel to face down. Glue the upper panel to the lower panel with CA and let it cure. Notice the notch cut out in the outboard corner - that is necessary because that is where the lower wing panel tip folds up. Make a left and and a right!!!!

This is the R/H wing panel - upside down

Crease

Notch out for tip

This is the L/H wing panel right side up

Here is a shot of the left wing panel flipped over so that the correct side is up now. Notice the spar line. Next we'll make the spar!

The picture above shows the two spars and the two doublers. To make them - take two yardsticks and cut a six inch piece off of each of them. The 30 inch pieces will be the spar, and the 6 inch pieces wil be the doublers. Lay the two 30 inch yardstick pieces on the table end to end (making the spar 60 inches long). Align one edge even with the front of the table - and move the tip of the other yardstick 5 inches away from the edge of the table to create 5 inches of dihedral. Lay the 6 inch pieces centered on the middle of the spars and mark a line that matches the angle of the yardsticks. Notice the two six inch pieces have angles cut into the bottom edge to match the dihedral angle of the bottom of the yardsticks set up at 5 inches of dihedral. Next we will glue both of the doublers to the spars.

doubler

5"

Edge of table
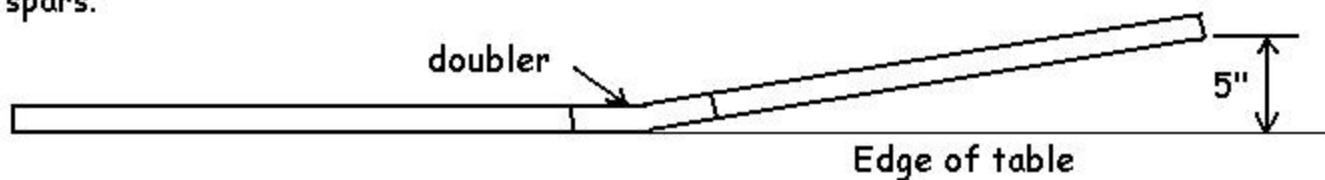
Here the spar is laid on the table with the correct dihedral - then I clamped the spars so they wouldn't move. Next I glued one of the doublers centered on the two spars - and I clamped it in place until the glue cured. Glue the other doubler on the other side once the first one is done.
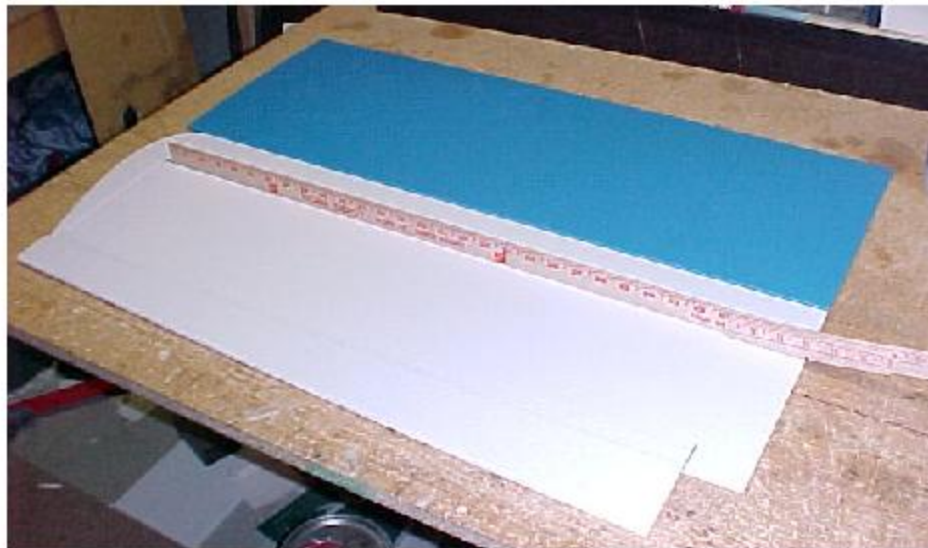
Once the spar is glued together - go ahead and flash the glue line on one of the bottom panels (doesn't make a difference which one) and glue the spar down. Make sure it is centered. Shown in the picture is the left panel.

After you get the spar glued down on one side - flash and glue the spar down to the other panel. Make sure that everything is lined up squarely and evenly. This is what the wing should look like now! ⟶

This shot shows what the center of the wing and ailerons should look like. That is a 4 inch gap between the root of the ailerons. We will trim an angle at the root of the ailerons later.

Now you're ready to fold and glue the left hand upper panel to the bottom panel. I use a jig to hold the leading edge down to simplify things. The upper panel is a bit too long - so you will have to temporarily fold the upper panel over on to the lower panel so you can mark where the upper needs to be trimmed to fit. (see the next picture)

Fold the upper panel over and hold it in place with a board. Now take a pen and mark where the upper panel overlaps the lower panel/aileron. Mark the upper panel even with the forward edge of the aileron hinge. Flip the panel over and trim as needed. I wait to mark the other side until I am ready to actually glue it in place.

Holds the leading edge down
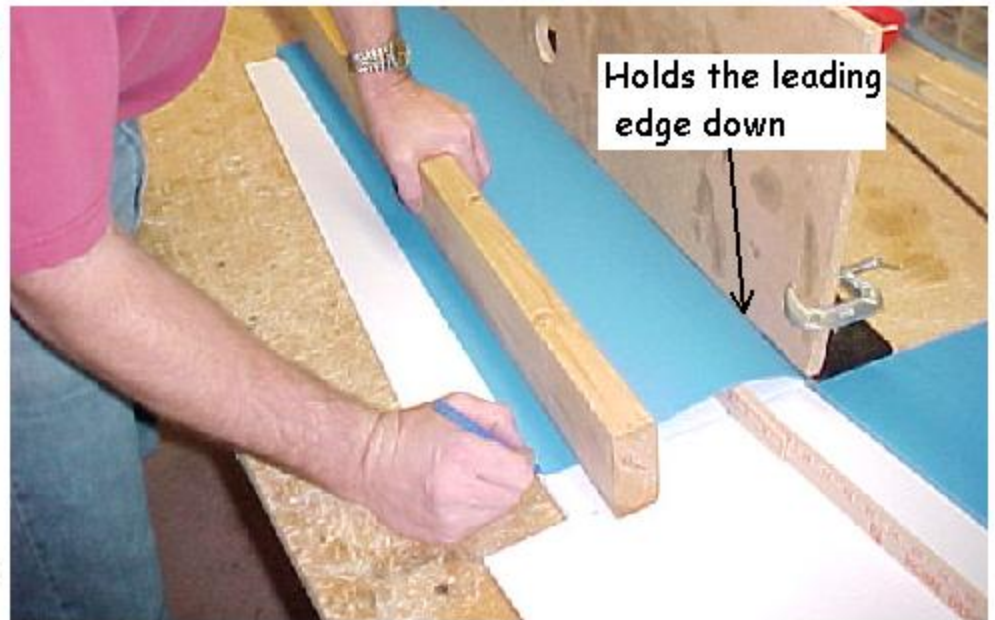
Flash the upper and lower wing panels. Apply glue to the spar and the glue area on the aileron piece. Use dots spaced 1/2" or so on the aileron gluing area, and apply the glue in a continuous bead on the spar.

Spritz the areas on the upper panel with water that will make contact with the glue you just applied to the spar and aileron piece, then fold the upper panel over and hold it down with a board (I use a 36" long 2 X 4. Hold (or clamp) until the glue sets.

This is what the L/H panel looks like after the glue has dried. Now we will tackle the other panel. The wingtips will be dealt with later.

Trim to clear the other panel

Now slide the wing over and do the exact same thing to the other panel. One thing of note - you will have to trim the inner upper panel to clear the other inner upper panel where they meet in the center. The cut doesn't have to be perfect - it will be covered up with the center wrap later. (see above)
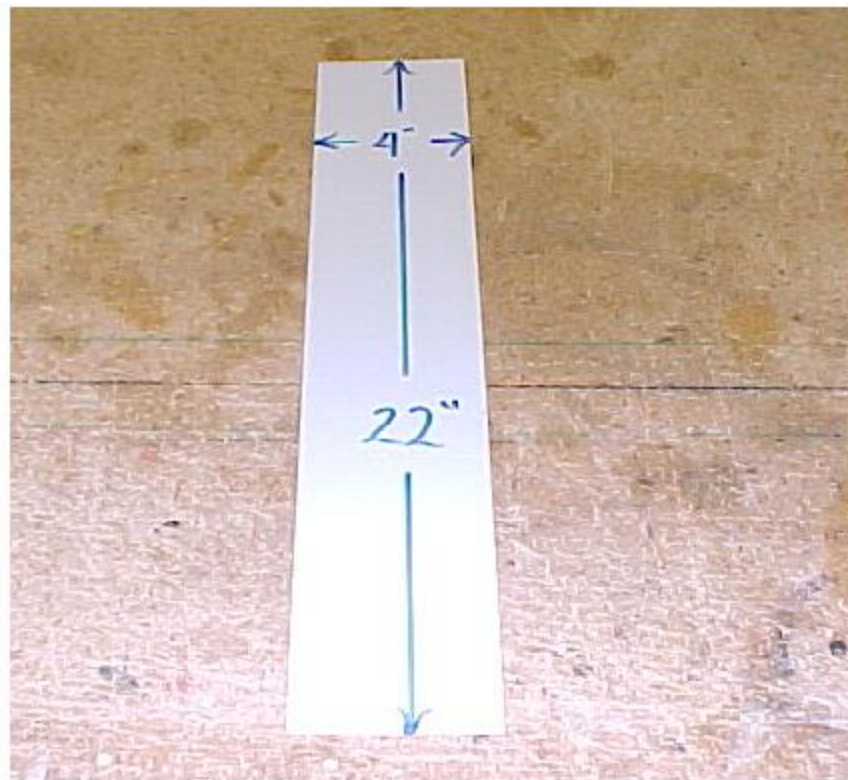
Once you are happy with the way the center pieces match up - flash and glue the opposite panel exactly the way you did the last one. Hold (or clamp) the upper panel in place until the glue sets.

Getting close now!!!!

Looks kind of like a wing now!!
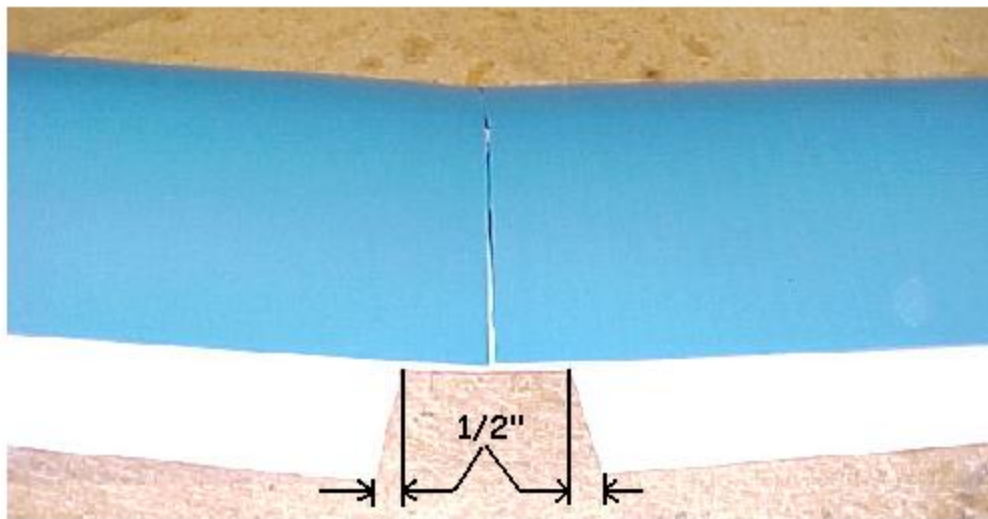
Trim the inboard edge of the ailerons so they are tapered 1/2".

1/2"

Next you need to make a wing wrap for the center section. Cut out a piece of 2 mil Coroplast measuring 4" X 22" - with the flutes running in the 4" direction. This piece will get CA'd to the center area of the wing. It is very important that you ensure this piece is glued down well because the structural integrity of the wing is depending on it!!! The center wrap piece is slightly oversized (lengthwise) and it will be trimmed to length after installation is complete.

Score the wing wrap with a blunt tool (like a ball driver, or a screwdriver). Score the flute you marked - and the next four flutes (away from the trailing edge)
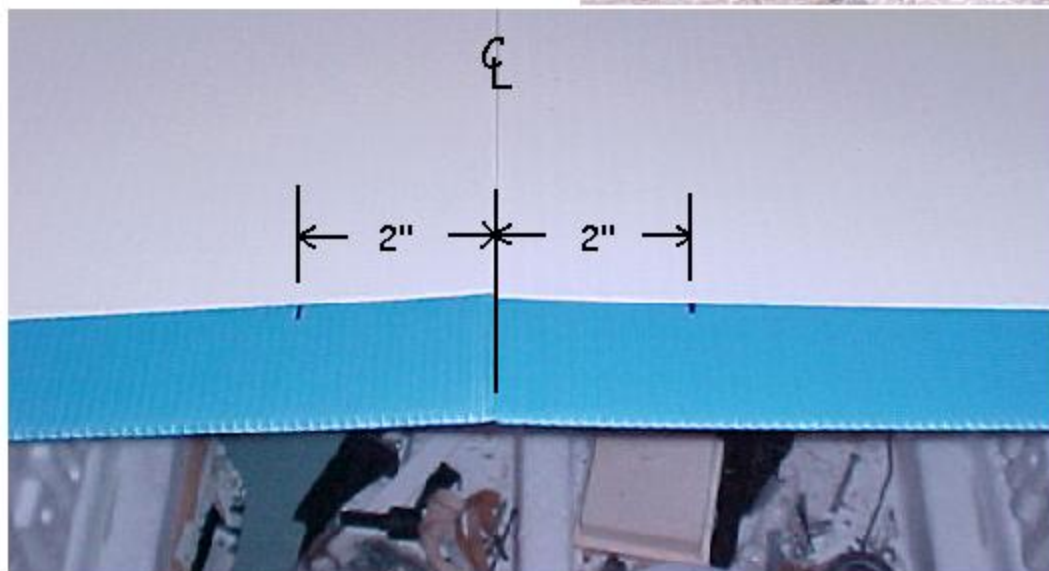
Flip the wing over so the bottom of the leading edge point towards you (like the picture shows). Make a mark 2 inches out from the center of the wing on both halves. This is a reference line to help you to center the wing wrap.

Temporarily lay the wing wrap on the wing and mark where the wrap needs to fold to go over and around the leading edge. Crease the flute that you marked - and the next four (for a total of five flutes). This will allow the wing wrap to curve around the leading edge. Once you're satisfied with the fit - flash and glue the wing wrap to THE BOTTOM ONLY!

Just use dots of CA glue on the wing wrap (see below for reference)

Now you're ready to fold and glue the wing wrap over the upper wing panels. Don't worry about the length right now - you will trim it once you're done. Flash and glue the wing wrap and the area on the upper panels where the wing wrap makes contact - Grab the wing wrap (at the back edge) and pull it hard up-and-over the upper wing panel towards the trailing edge to ensure that the wing wrap stays snug against both upper wing panels as you draw it down and back.

CA Glue dots

insert 4" piece of coathanger wire here
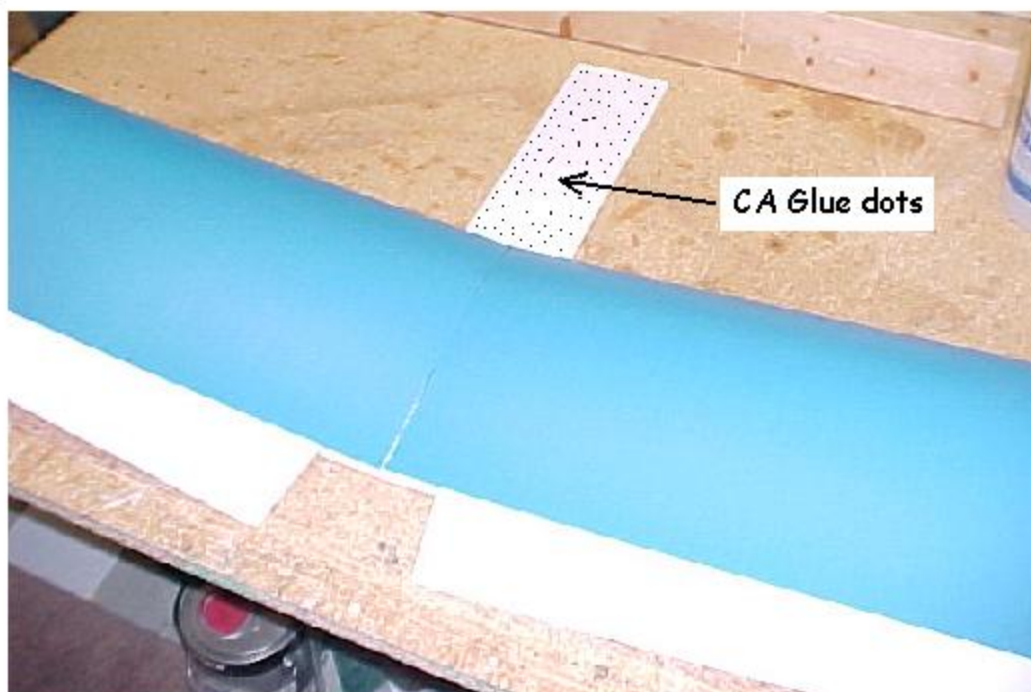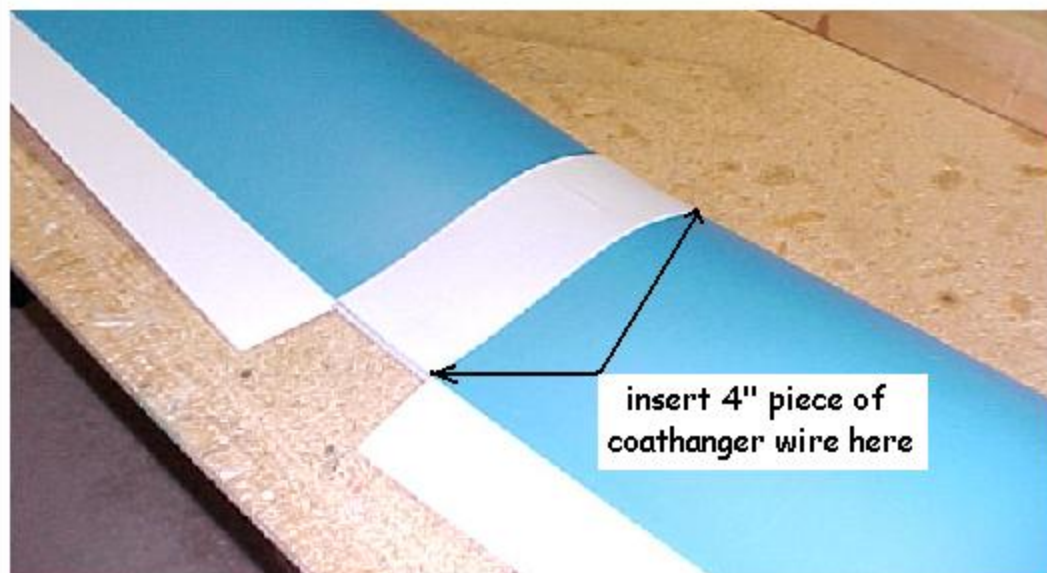
After the glue sets up - trim the trialing edge of the wing wrap so it is flush with the trailing edge of the wing. I like to insert some 4 inch pieces of coathanger wire in the first and last flutes on the upper part of the wing wrap to help minimize the crushing force of the rubber bands used to hold the wing on.

Next you will trim and glue the wingtips. In this picture - I have the wing laying on the table upside down - and I am marking the outline of the wingtip on the upper 2 mil wing panel. Push the wingtip so it folds (at about a 45 degree angle) against the upper wing panel - then mark it with a marker. Then simply cut the outline with a pair of scissors!!! I usually complete (cut and glue) one side before I start the other.
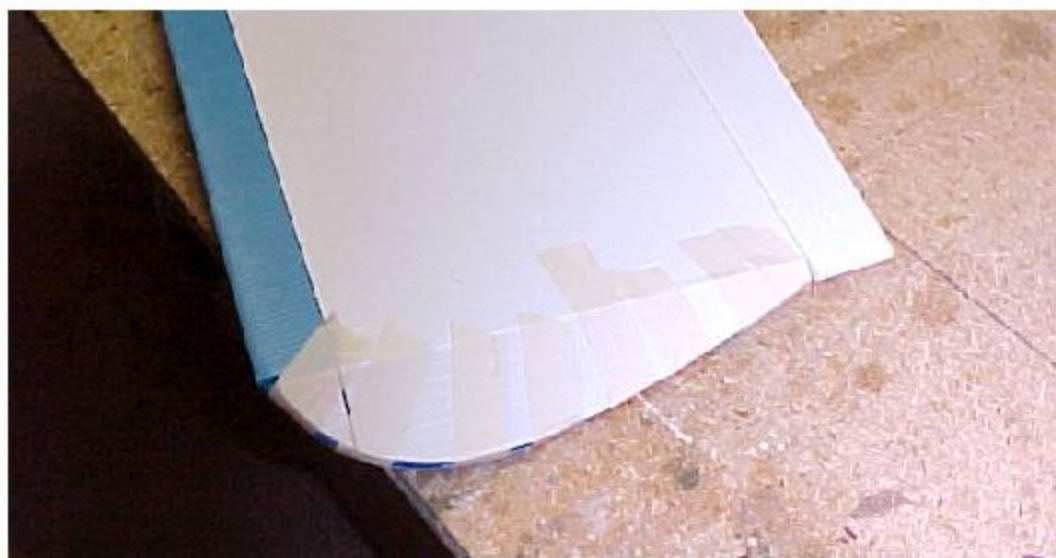
Carefully flash and glue the upper and lower panels, then apply a row of CA dots. Get some masking tape and fold the bottom tip into the upper panel and tape the edges to close the gaps. Let the glue cure. Repeat all wingtip cutting/gluing steps for the other side.

After the wingtip glue is set - take off the tape and trim the ailerons at the tips so that they line up with the tip outline. Make sure and do both sides.

Set your aileron servo on top of the wing - centered, approximately 5" from the trailing edge. Mark around the servo with a pen - then cut out the opening with a utility knife. You want the servo to fit tightly in the hole.

5" (approx)
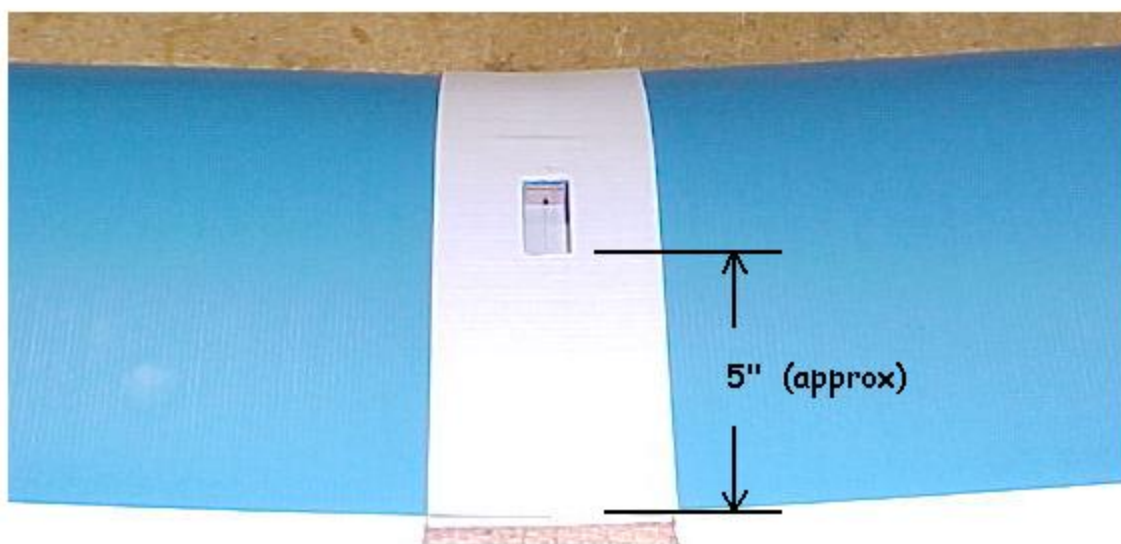
Here is a close up of the aileron servo hole. You will need to drill two holes (spaced as wide as the servo) through the bottom wing panel. These two holes are where the aileron servo ziptie will pass through.
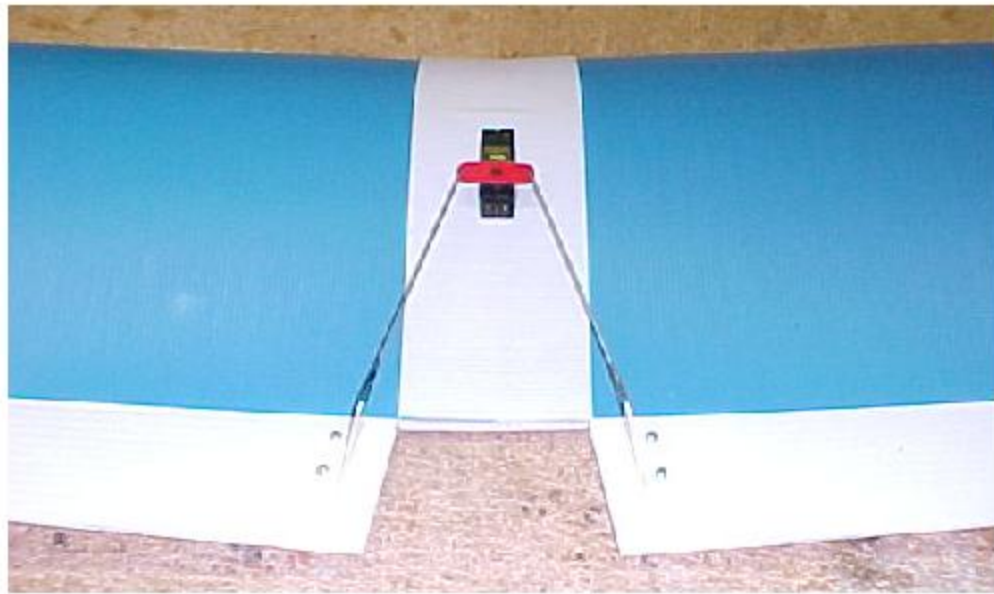
Servo lead hole

Two ziptie holes

Leading edge
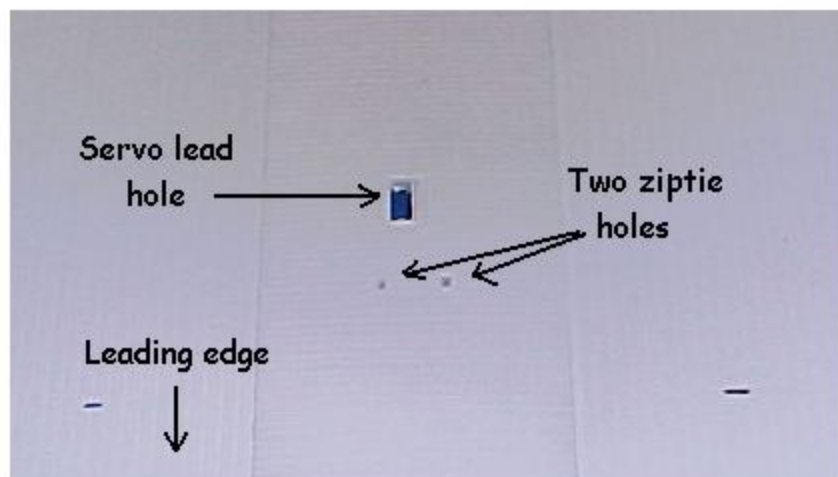
This picture is of the bottom of the wing - it shows the two ziptie holes, and the hole you need to cut for the servo lead to pass through.

Make a ziptie doubler from a scrap of PVC to the dimensions shown.

7/8"

1/2"

1 1/2"
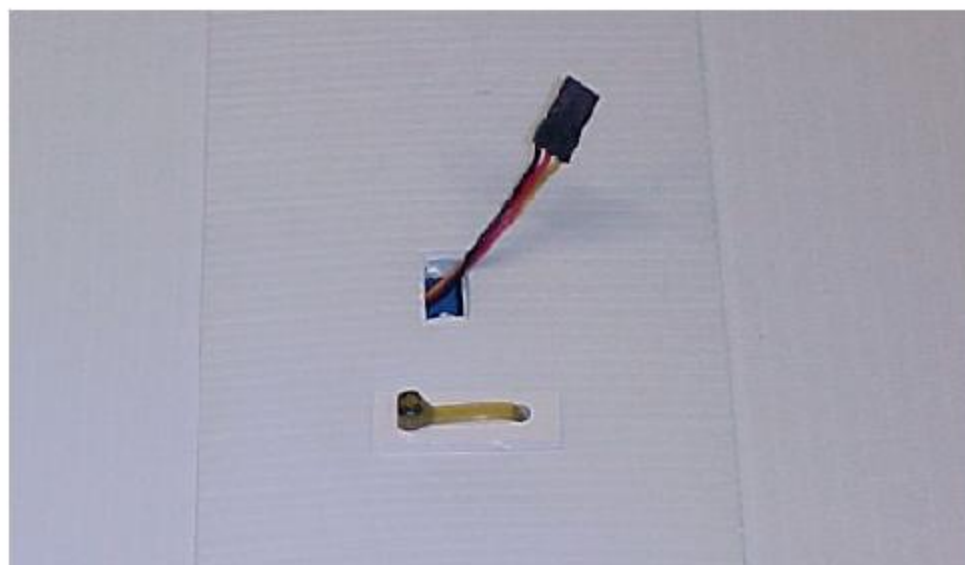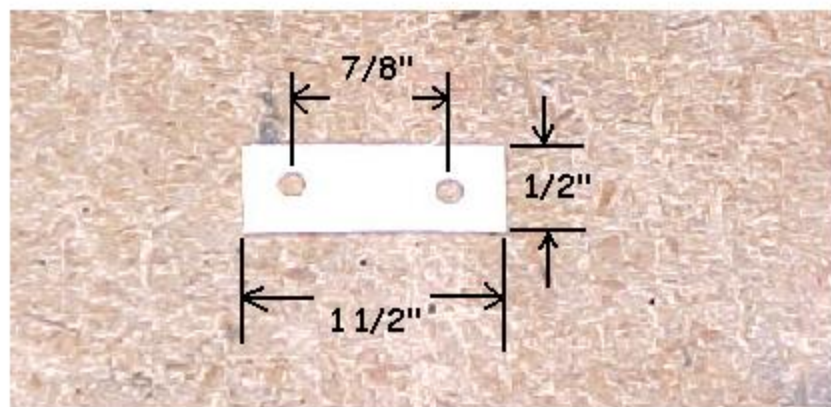
This what the bottom of the wing should look like after you get the aileron servo installation done.

Now either fabricate two horns from PVC, or use some commercially available horns, attach them to the ailerons and finally connect the servo arm to the horns. Make sure that the ailerons don't droop at all - I try and make them level - or even slightly reflexed up.

Now go and decorate your wing with your favorite color scheme!!!!

As a final step, you will need to temporarily rubber band your wing on so you can determine the final CG. Make sure the plane is supported on the spar (the spar is the correct location for the CG). Use the battery and the receiver to achieve the correct CG balance. Don't forget to put the switch in also! I put mine on the L/H side to avoid the exhaust! Once the correct CG is set, make sure that the ailerons move in the correct direction, AND - the ailerons aren't drooping (even in the slightest). Also check to ensure that the throttle, elevator, rudder and nose gear steering are also moving in the correct direction! Once you are sure that all the controls work the way they are supposed to - it's time to take her to the field!!!! Make sure that you follow all AMA safety guidelines - and if you have never done this before - PLEASE GET AN INSTRUCTOR!!! Please post your flight reports, and show us pictures!!!!!

I hope you enjoy your SPADET LC-40!