

Spad Corostang



Wing Span-40"

Length-34"

Channels-3 (Throttle,
Elevator, Ailerons)

Engine- .21-.26

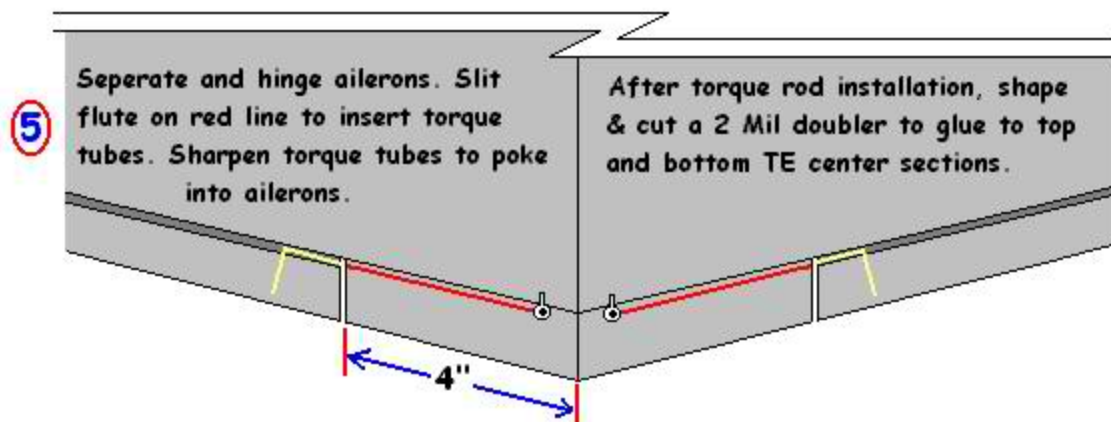
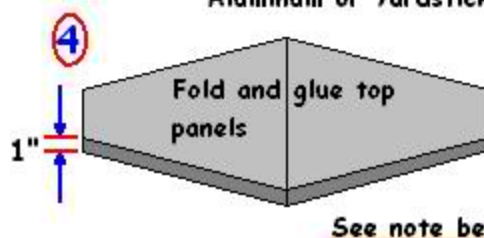
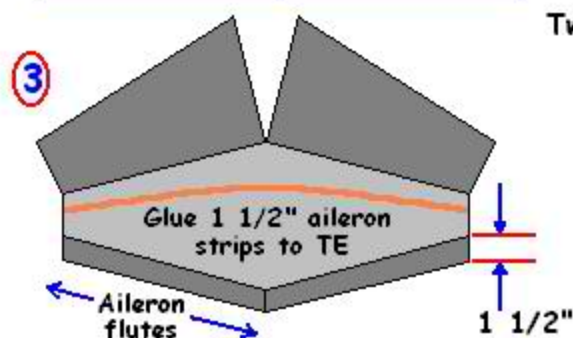
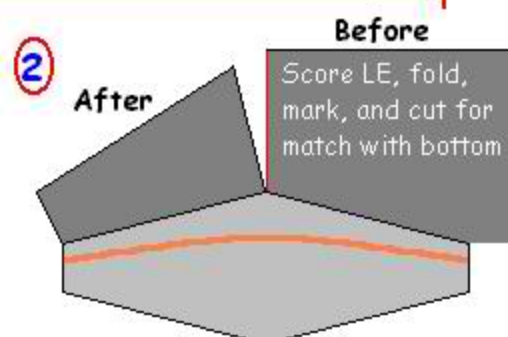
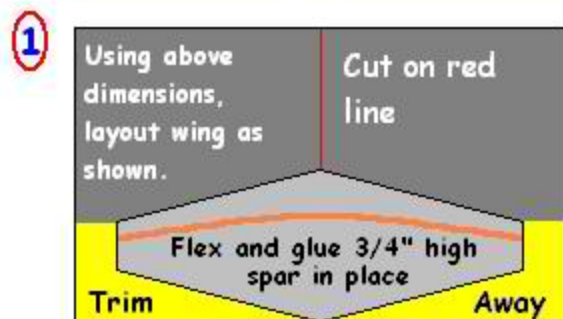
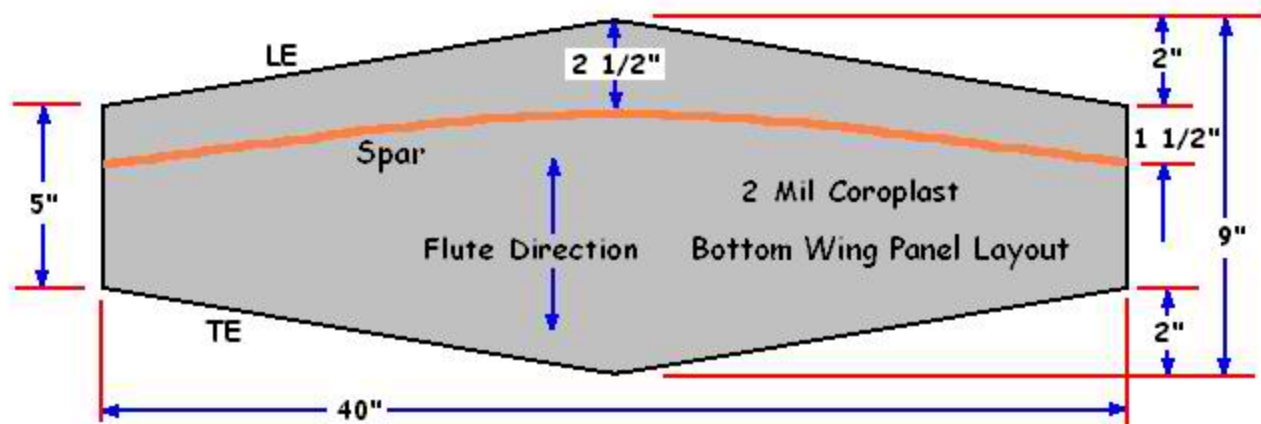
The Corostang is very fast, maneuverable and recommended for experienced pilots only! The dimensional drawings and photos presented here are intended for builders experienced with coroplast building techniques. This airplane is scaled up 10% from 1/12 scale for use in AMA 2610 combat competition. The wing tip chord has been enlarged slightly to prevent tip stalls common with the P-51, this is in accordance with the RCCA scale rules section 3 paragraph 3.2.1. This is also open to an event CD's interpretation, and these plans would have to be modified with a 4 1/2" total tip chord to stay within +10% of 1/12 scale. Medium CA was used for all glueing of the prototype and all coroplast parts must be "flashed" with a propane or butane torch prior to glueing. The prototype used a Norvel bushed .25, 9 x 4 MAS prop, 2 1/4" spinner, Hayes 6 ounce tank, all HS-81 mg servos, 600 ma battery, Hitech 555 Rx and RTF weight is 2 pounds 8 ounces.

Materials

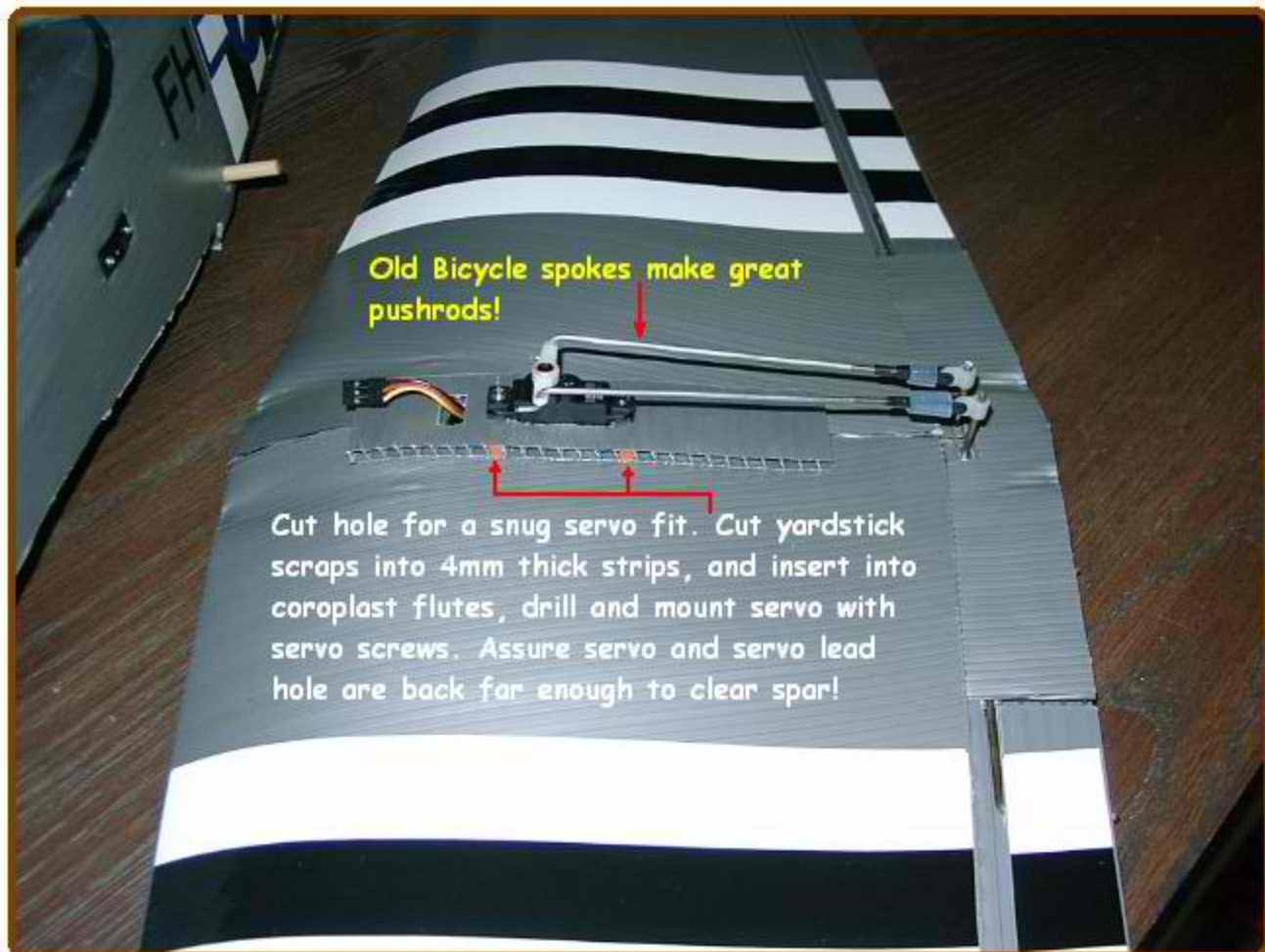
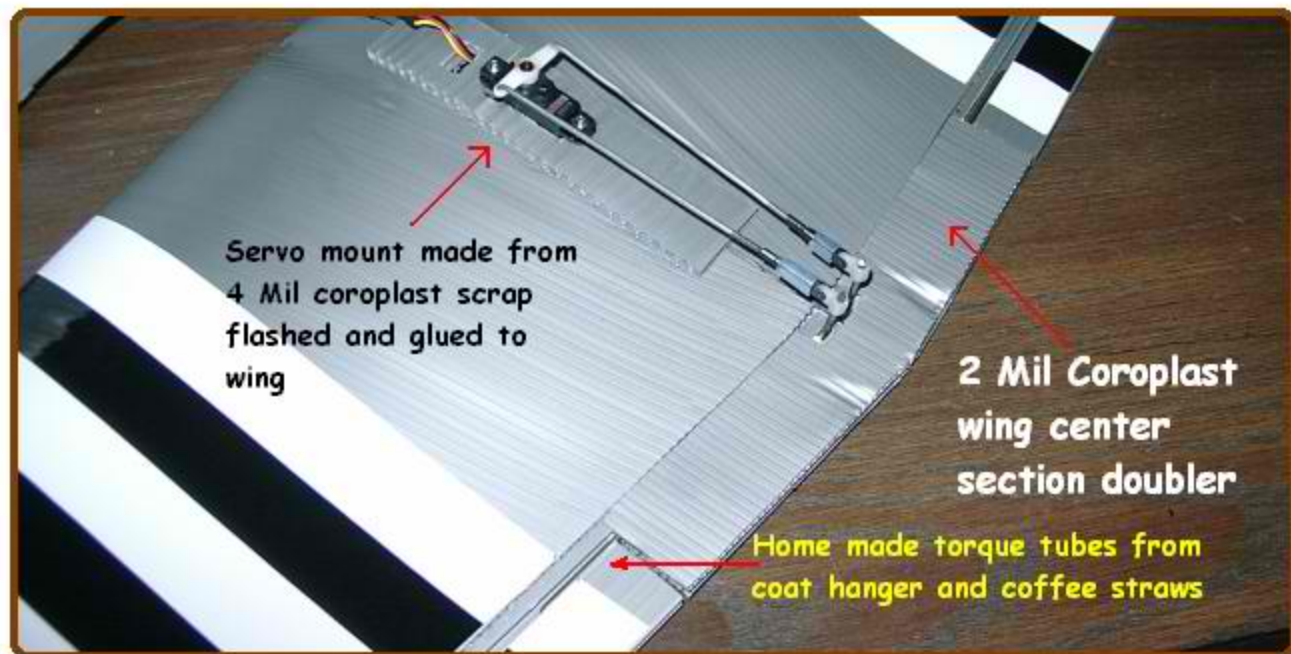
- 1) 2 Mil (wing) and 4 Mil (fuselage, tail, ailerons) Coroplast
- 2) 1/4" plywood (Firewall)
- 3) 1/4" balsa (fuselage former) and 1/2" balsa (tail mount block)
- 4) 1/4" dowel (wing hold downs) and 5/32" dowel (tail mounting)
- 5) Yardsticks (wing saddle doublers, spar)
- 6) 1/4" x 3/4" aluminum screen door center bracing (alternate spar)
- 7) PVC scraps (elevator horn, servo mounting) and coat hanger (elevator joiner)
- 8) Zip-ties (servo mounting) and double sided foam mounting tape
- 9) Medium CA (we like Zap-a-gap the best)
- 10) Propane or butane torch
- 11) Your radio, engine, mount, tank, hardware (including aileron torque rods)
- 12) Standard shop tools and masking tape

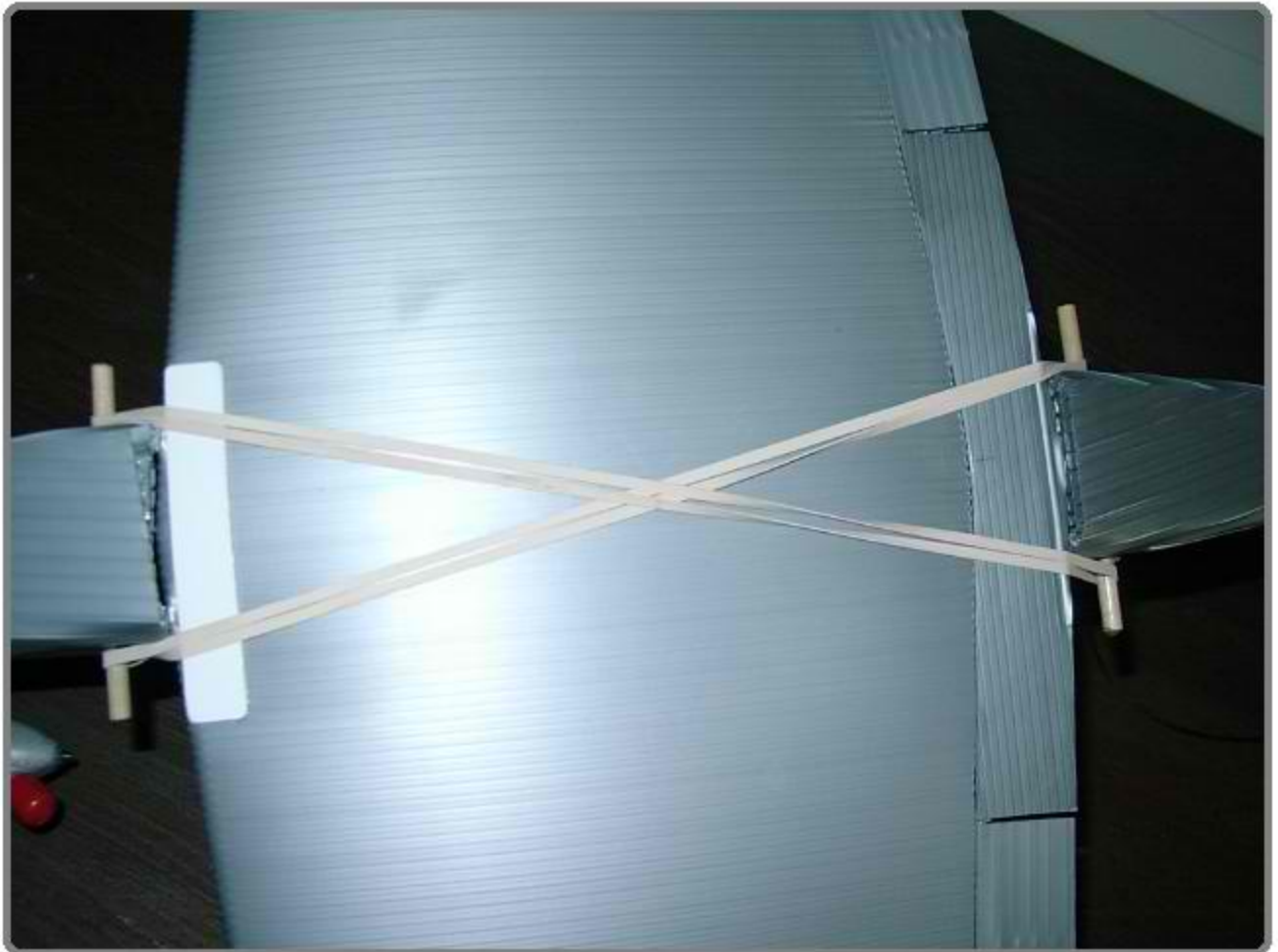
Note: Coroplast varies slightly from different brand names and batches, and can have slightly different scoring and folding properties. Deminsions of firewall and fuselage former may need to be slightly modified. Make these parts from cardboard first before committing them to ply or balsa!

CAD files in DXF format by Minnesota Jim available by right clicking [HERE](#) and downloading fthe files.

Corostang Wing

NOTE: Upon completion of step 4, use a piece of thin cardboard or equivalent, cut a notch in it for the spar, insert it into the center section of the wing, and trace your wing's airfoil profile. YOU WILL NEED THIS TEMPLATE FOR FUSELAGE BUILDING!

Coroplast aileron servo installation

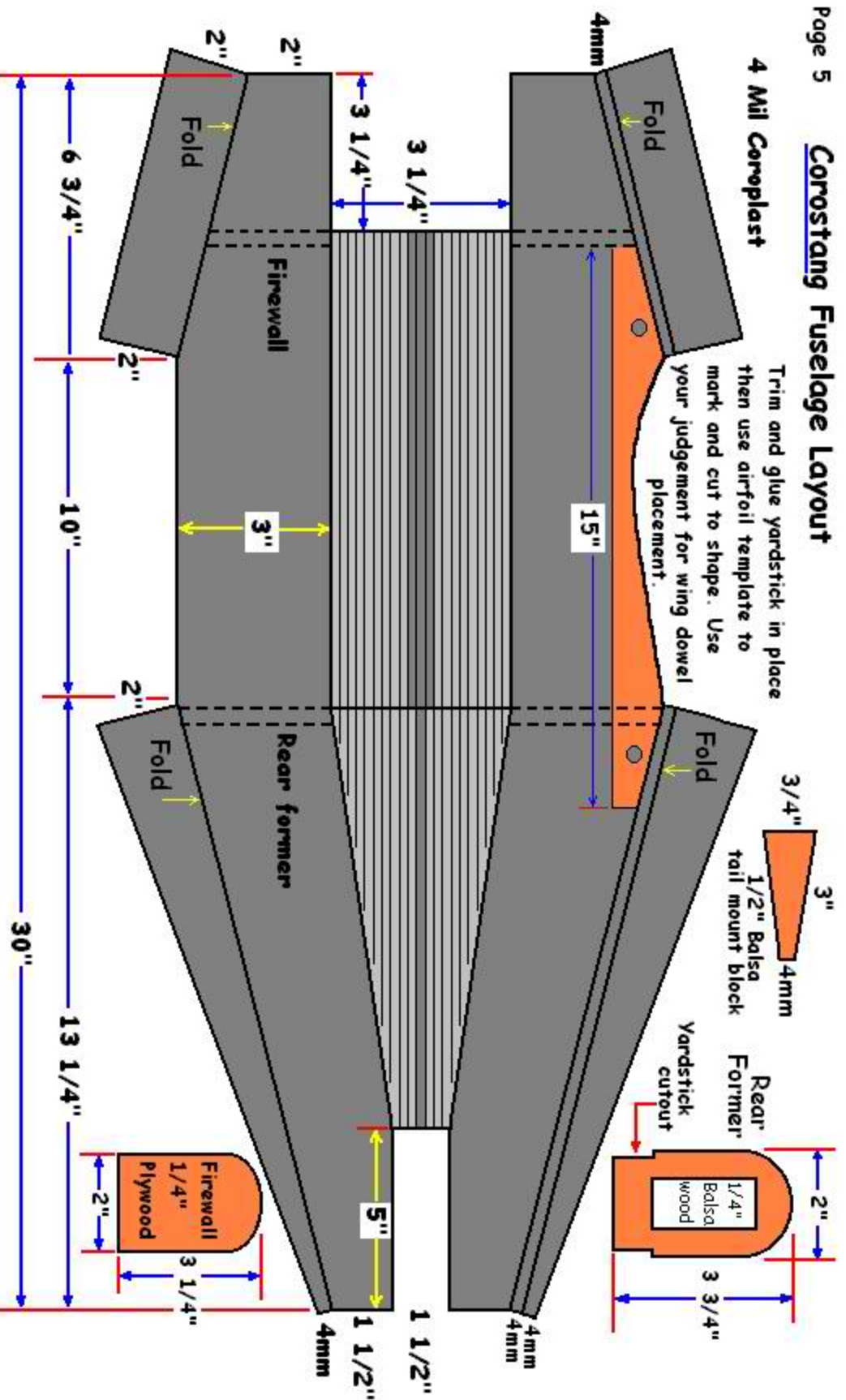
Corostang lower wing rubber band protection

Cut the lower wing center section doubler from 2 mil Coroplast with the flutes running in the chordwise direction, glue in place and insert a piece of coat hanger into a flute as shown. Glue a piece of scrap PVC to the LE area.

A word about the wing spar: The prototype used 1/4" wide x 3/4" high aluminum screen door center bracing carefully bowed into the shape shown on the wing construction drawing. A spar can also be fabricated by cutting two 20" sections of yardstick to 3/4" high, and joining them with at least a 6" spar doubler in the center. You will need some help flexing it to shape while gluing it to the lower wing panel...this is where your wife or girlfriend are handy!

4 Mil Coroplast

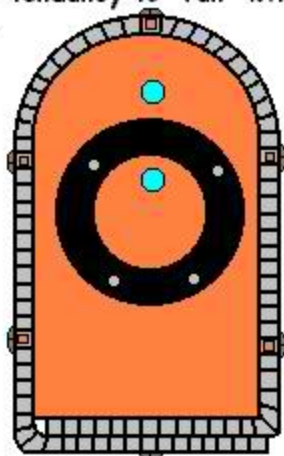
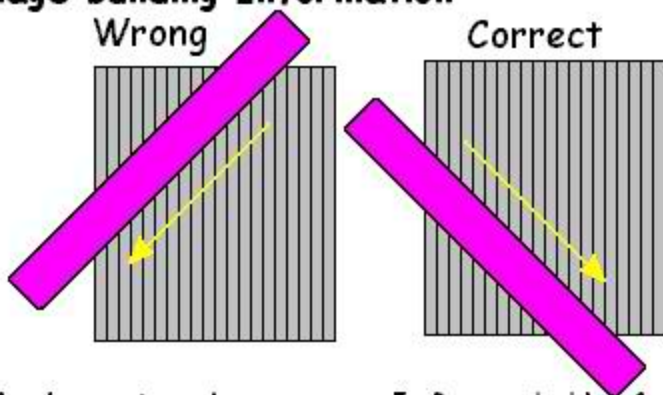
Trim and glue yardstick in place then use airfoil template to mark and cut to shape. Use your judgement for wing dowel placement.



Layout fuselage as shown. Cut out inside layer (same as if hinging) of all upper deck flutes shown in light grey. Also notice that there is a 4mm compensation on one side for fuselage lower panel folding. You will notice that the upper fuselage will be slightly concave. This will not effect flight performance, and is almost unnoticeable on the finished plane.

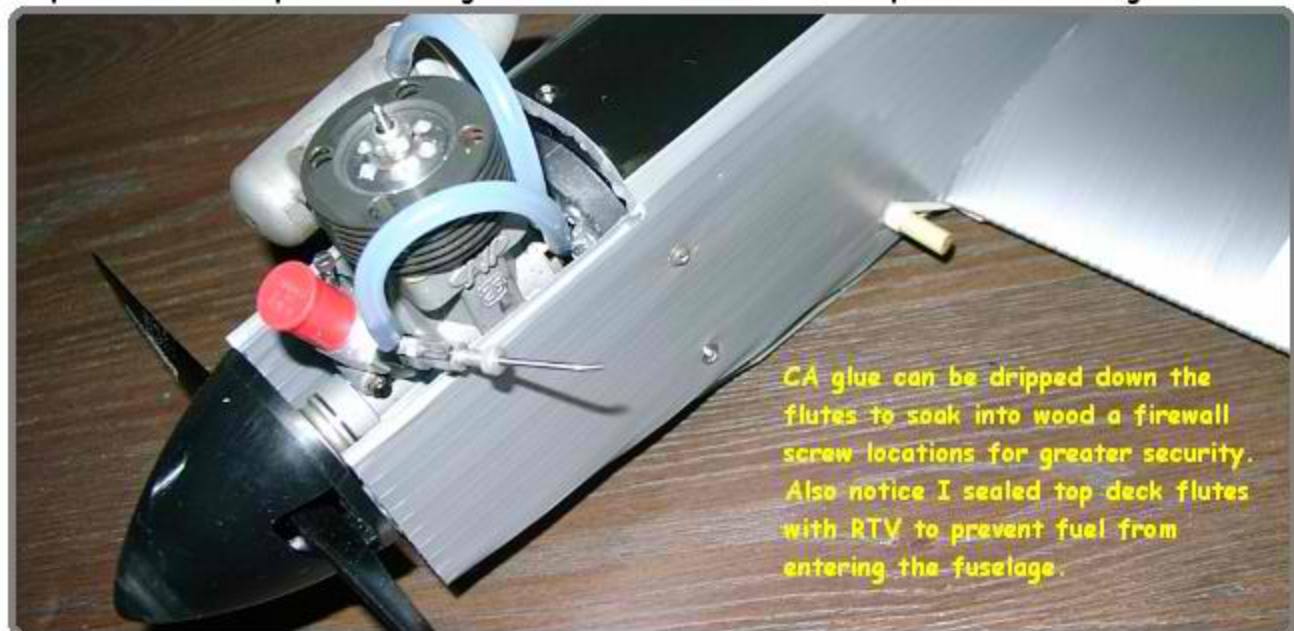
Corostang Fuselage building Information

When cutting out coroplast parts at an angle to the flutes, or when scoring for a fold at an angle to the flutes, position straight edge so that knife blade or scoring tool (I like using a #1 Phillips screwdriver) is driven INTO the straight edge. If done the wrong way, the tool will have a tendency to "run" with the flutes.

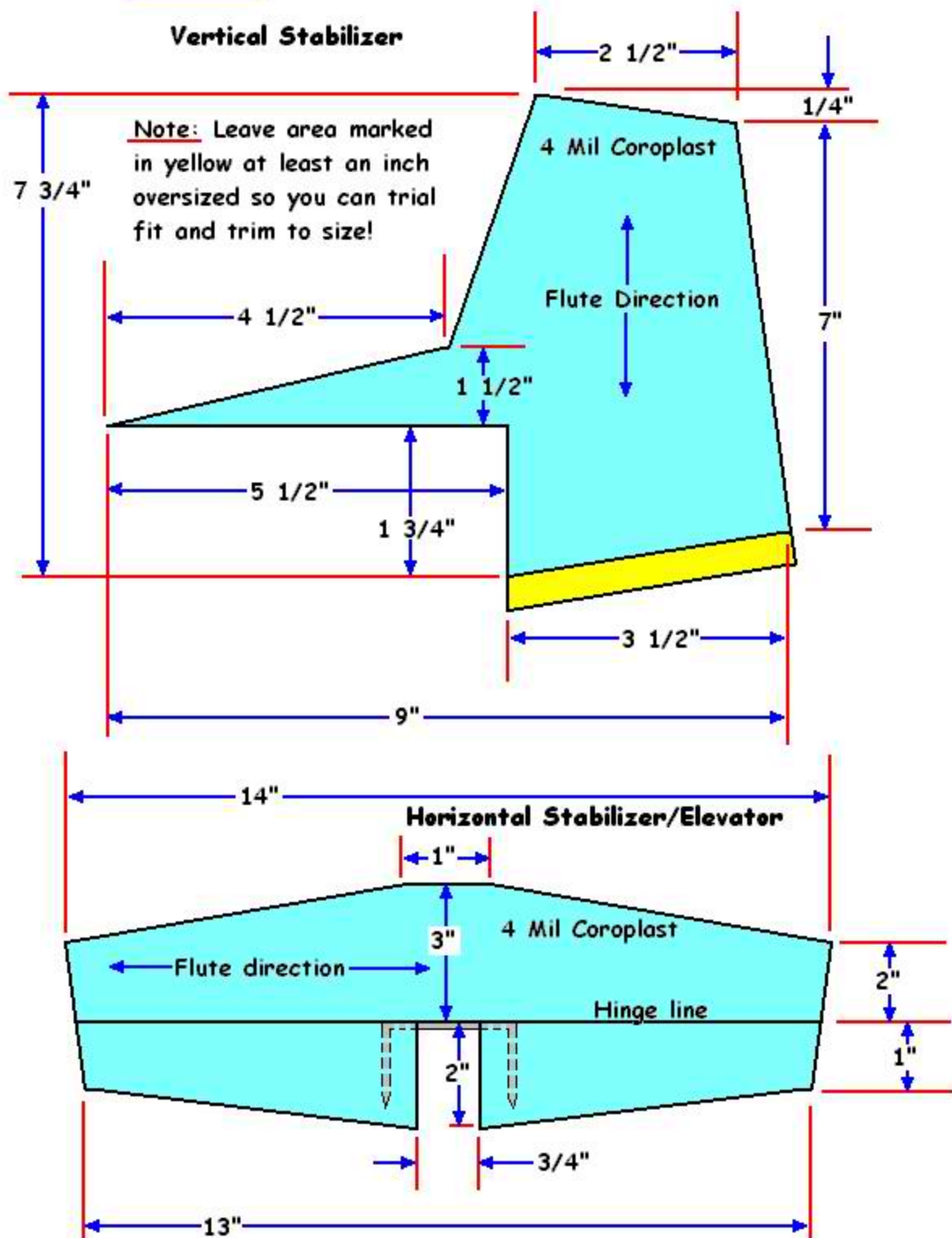


Cut fuselage out as shown on page 5. Remove inside of all light grey flutes shown in the drawing (Same as when hinging), making sure to leave 3 whole flute in the middle of the forward deck, and one whole flute in the middle of the rear deck. Trim two 15" pieces of wing saddle yardstick to match fuselage contour, and glue in place. Use wing airfoil template (made during wing construction) to mark and cut wing saddles. I used a table top scroll saw which works great. Drill for 1/4" wing dowels. Score lower panel fold lines, making sure to leave 4mm between marked line on one side to compensate for the lower panels folding over eachother!

Engine is mounted conventionally with blind nuts, and firewall should also be drilled for fuel lines before fuselage assembly to make life easier. Glue fuselage up around firewall and rear former and install 1/4" x 4" long wing dowels. Fold and glue lower panels together...masking tape works great here to hold things together while the glue sets. Further solidify firewall mounting by cutting five 4mm x 1" long pieces of yardstick, sliding down the flutes, drilling, and installing screws. I used servo screws for this, and also ran one up through the bottom panels. Take extreme care when building the fuselage to keeps things straight and square or you will end up with a banana! Trim wing opening for a perfect fit with wing. Cut out balsa tail mount block, and glue in place in the forward section of the tail opening...this can be positioned to compensate for slight unevenness so that the tail is parallel to the wing!



CA glue can be dripped down the flutes to soak into wood a firewall screw locations for greater security. Also notice I sealed top deck flutes with RTV to prevent fuel from entering the fuselage.

Corostang Tail

Join elevators by using a piece of coat hanger, sharpen both ends to a point, bend into a "U" and poke into elevator halves. A couple drops of CA will hold it in place just fine. Ask permission before cutting up hangers :)



Top deck flute slotted
(same as hinging) to
receive vertical fin.
Size slot length so
point of fin is
trapped in flute.

Note two 5/32" dowels,
sharpened and drove down
vertical stab flutes, through
horizontal stab into tail
mount balsa. Drip CA glue
down into flutes to glue in
place.

Page 8 Corostang Tail Installation photos



Home made PVC scrap
control horn

Note
antenna
routing
through
flutes

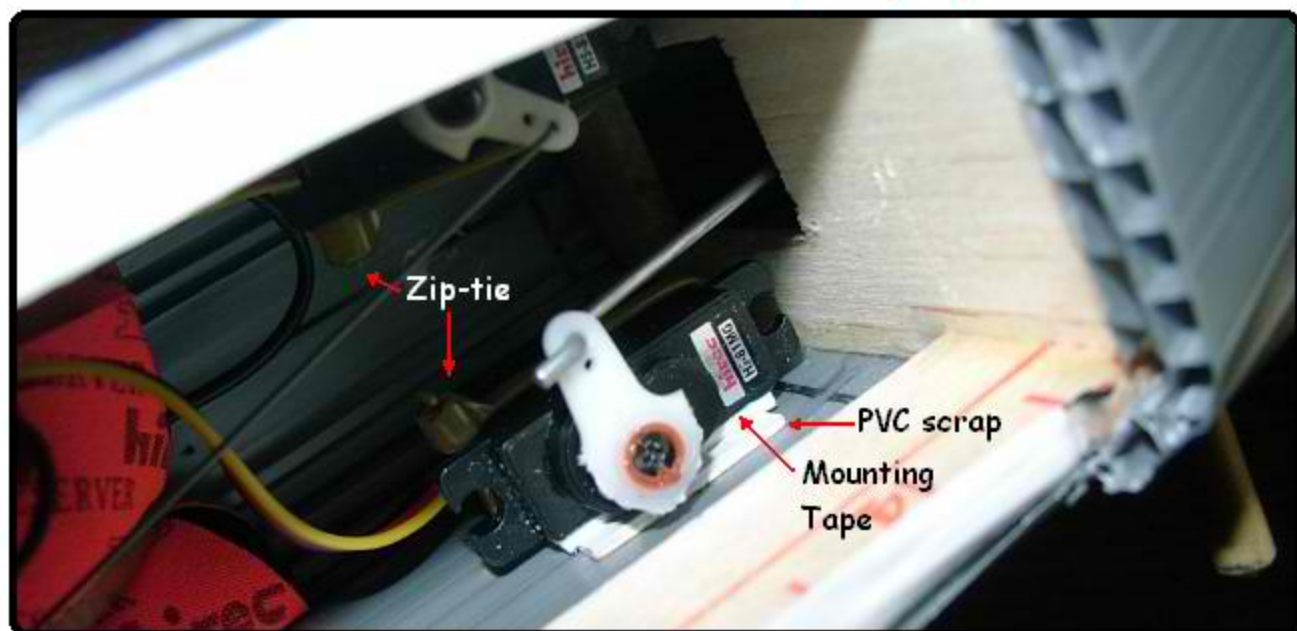
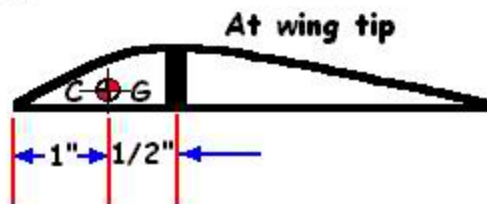
Vertical
stab
glueing
area

Elevator pushrod simply
poked through fuselage side

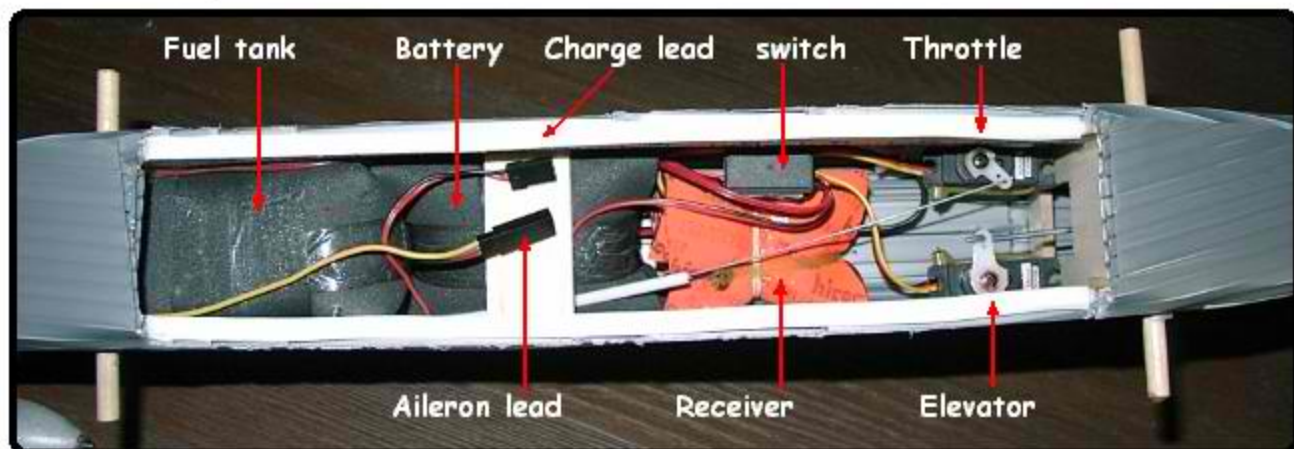
Glue horizontal stab in
place. Trim vertical stab
to fit and install. Pry
fuselage apart and drip
glue in and clamp.

Corostang Radio Installation

Use radio installation placement to achieve proper CG. CG is 3" behind LE at WING ROOT, and 1" behind LE at WING TIP as shown.



The elevator and throttle servo are installed by first glueing a piece of PVC scrap to the fuselage side for support. Poke a hole on each side of the PVC in ONLY ONE LAYER of a flute. Curl the tip of a zip-tie and push into one hole, and it will exit out the other hole. Stick the servo in place with two sided foam mounting tape and secure with the zip tie. The receiver is mounted to the top of the fuselage in the same manner. The battery is wedged in place and retained by a piece of 1/4" balsa. The fuel tank was a very tight fit! So tight in fact, that I used foam mounting tape on both sides, and installed it as I folded up the fuselage. I used Nyrod inner casing for the throttle outer casing, and .050 music wire for the throttle pushrod, it is run inside a flute, and exits inside the cowl.



Corostang Finishing and Flying



I hope I've provided you with enough information to build and fly a Corostang! As usual, I've built and flown two of them before committing anything down on paper...so I had to go by the finished aircraft while working on these plans. Please don't take all measurements verbatim, as some modification and trimming may be required to get parts to fit properly. The prototype used a store bought SIG 9" canopy, cut down to what I thought looked about right, and glued on with rc-Z-56 canopy glue. All markings are cut out by hand from vinyl sign lettering material. The firewall is fuel proofed with black SIG Supercoat dope and all areas of the engine bay I thought may let fuel through are sealed up with clear RTV. In combat, I simply tie the streamer leader string to a wing hold down dowel. My ailerons are set up for 1" TOTAL travel, and my elevator has 1 1/2" TOTAL travel. This makes it quite a handful, but great for combat! Please follow all AMA safety guidelines when flying your Corostang, and if you need any more information than this to get your plane in the air...YOU ARE NOT READY FOR A COROSTANG YET!!!

Design, Plans, and Instructions by Tattoo...simply for the fun of it!

[[S.P.A.D.](#)] [[SPAD Index](#)] [[Corostang](#)] [[Wing Layout](#)] [[Aileron Install](#)]

