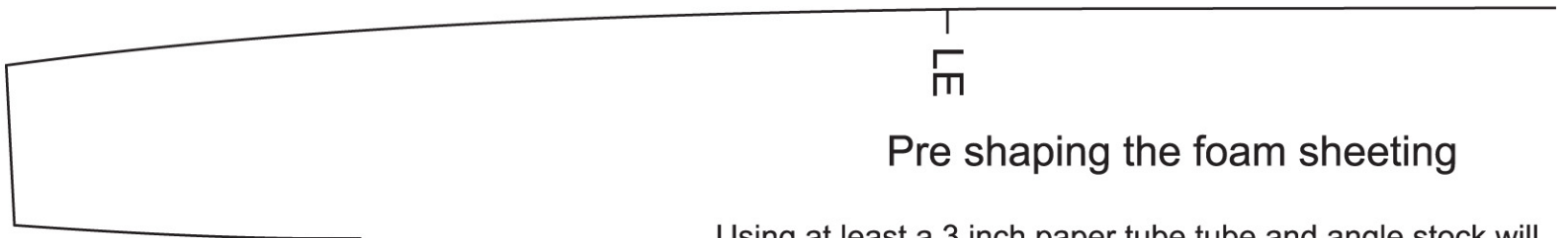
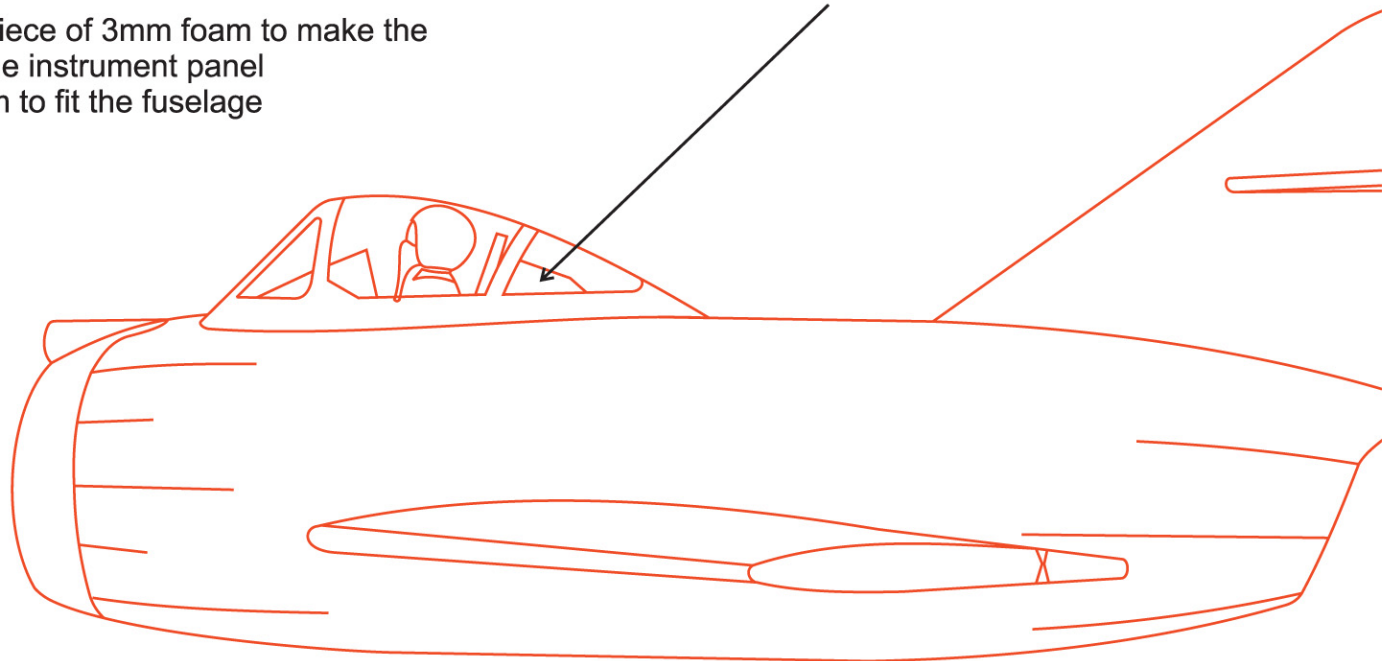
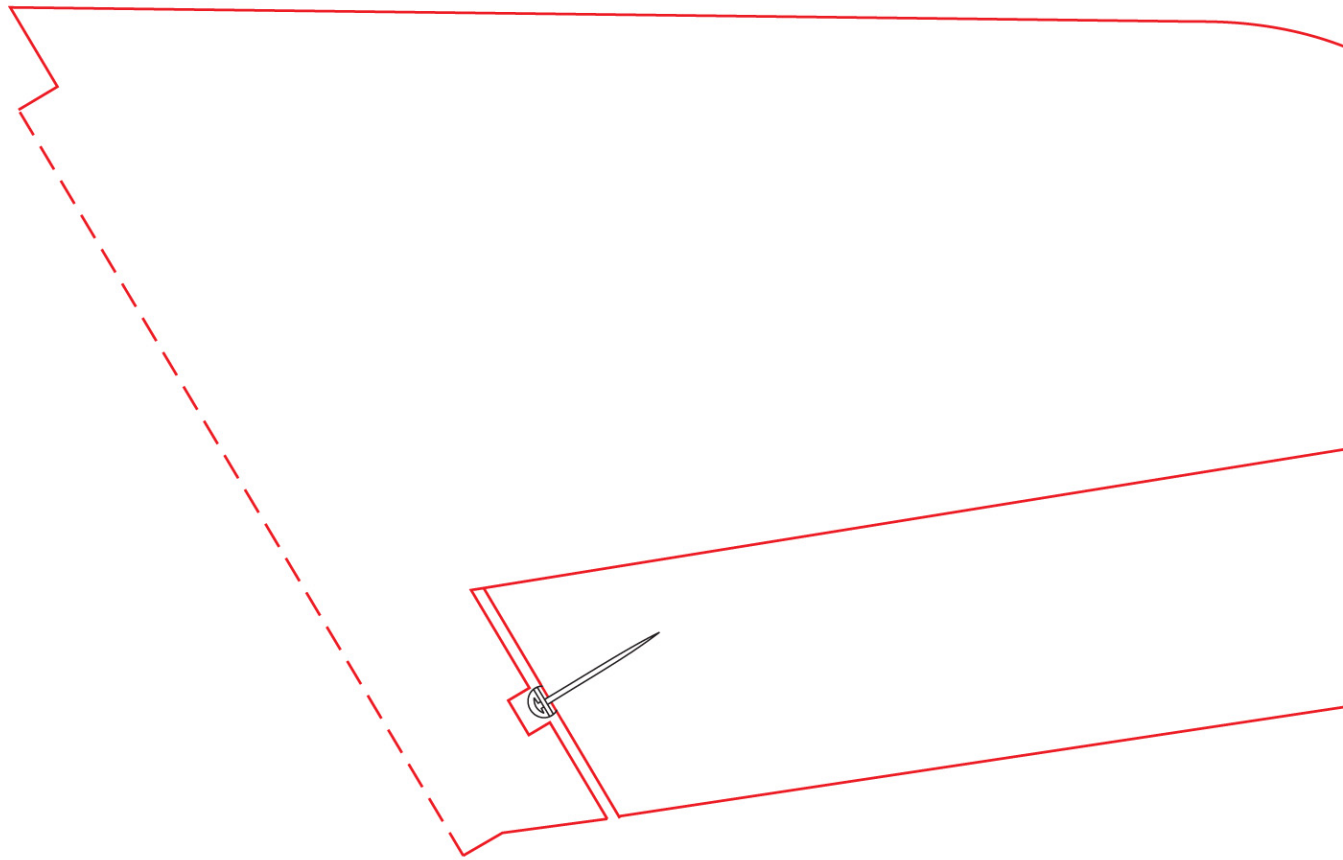
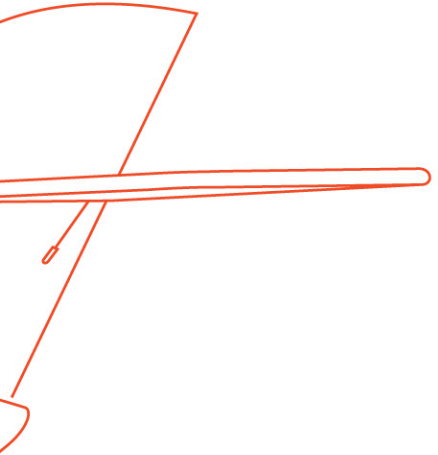


Curl a piece of 3mm foam to make the top of the instrument panel then trim to fit the fuselage

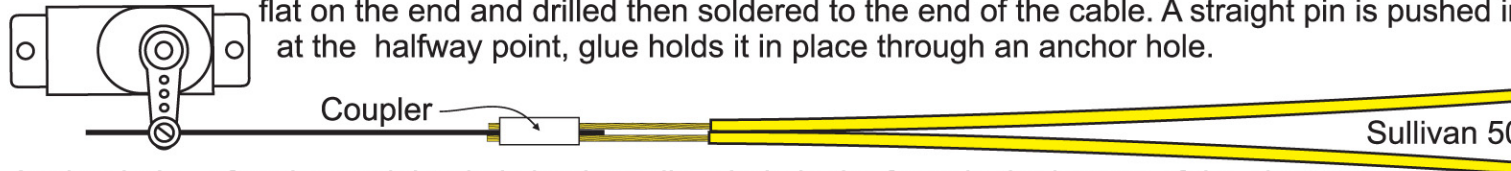


Using at least a 3 inch paper tube tube and angle stock will



TE
5/8

The Mig requires a flexible push rod for the elevator. A steel wire is coupled to the cables with a brass tube. Then threaded through the stabilizer. To attach the cable to the elevator; the smallest brass tube K&S make flat on the end and drilled then soldered to the end of the cable. A straight pin is pushed in at the halfway point, glue holds it in place through an anchor hole.



Anchor hole , after the straight pin is in place dig a hole in the foam in the bottom of the elevator until you reach the pin then fill the hole with glue.

When all is in place, if the elevators are not rigged evenly reheating the coupler will make them adjustable.

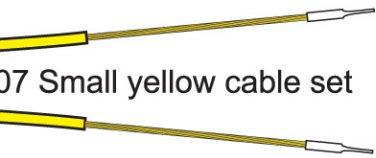
It has been suggested that making the hinge line straight would simplify the elevator arrangement requiring only one push rod to move the elevator. I believe it would work however the model will become more pitch sensitive. and it would also require a metal torque rod to couple the two surfaces.

Stab

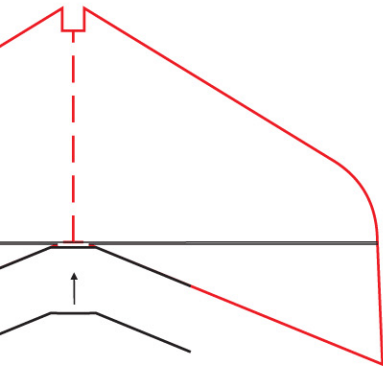
Battery compartment

I'm leaving this up to the builder. I cut the belly open and used 3mm foam to build a battery box on the bottom. The box extended into the model about half way into the wing just aft of the wing leading edge. This was deep enough to hide the three cell battery. In both models the motor mount was effected but the box actually made the mount stronger. If you are thinking that a velcro patch will hold it on top of the wing and installation can be through the inlet. Consider a way to prevent the battery from coming loose and breaking the prop. Yep, that is experience talking. Keep in mind that both models build tail heavy, any changes you make should be toward moving equipment forward so the battery can be moved rearward. In any case the battery placement should be your last step

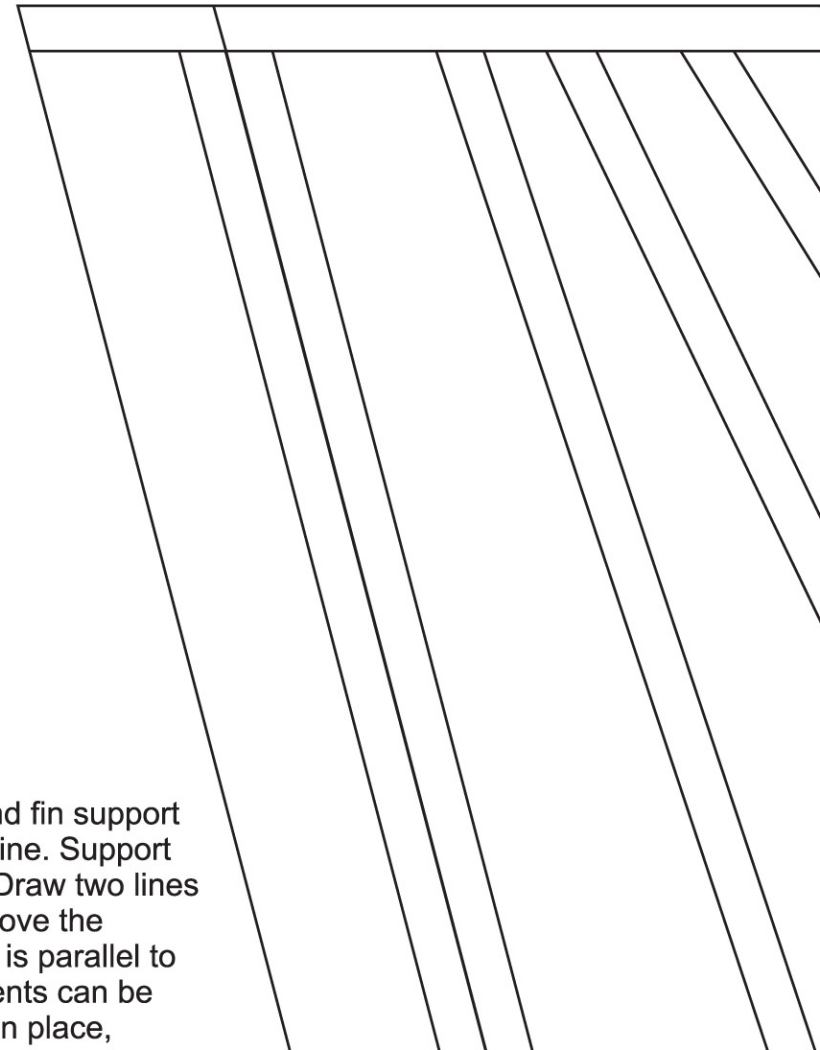
and soldered.
is smashed
into the elevator



07 Small yellow cable set

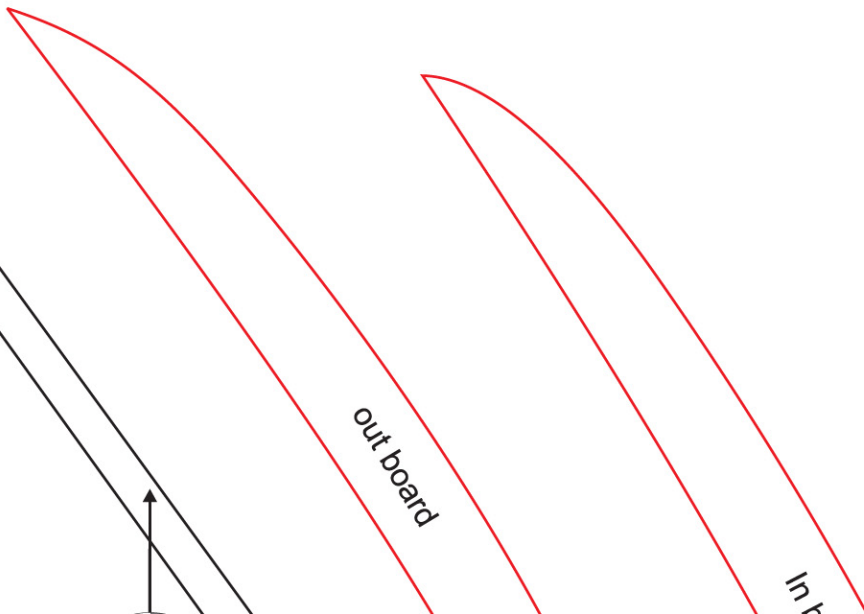
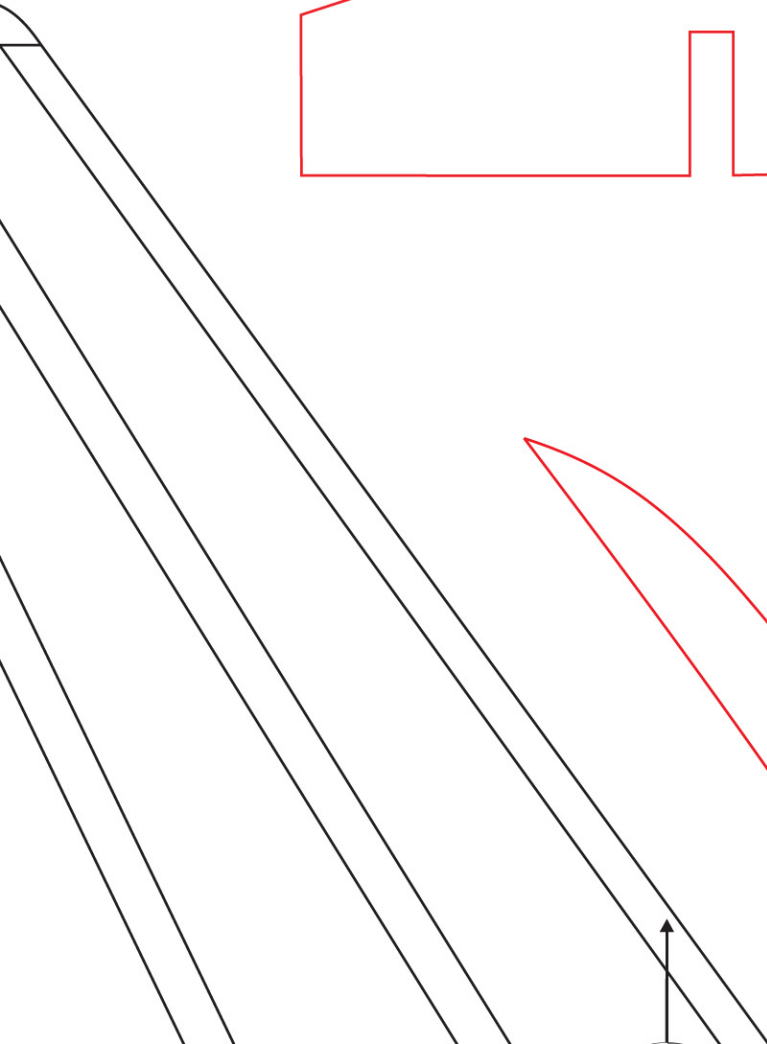
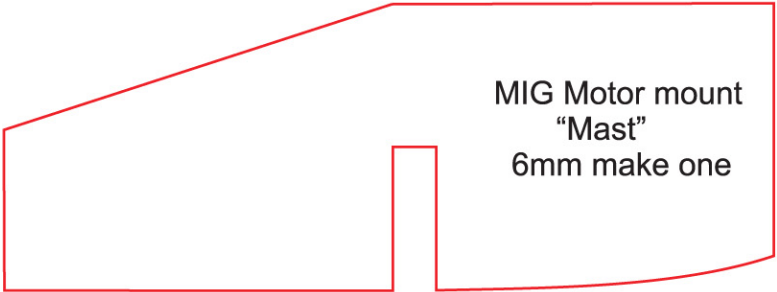
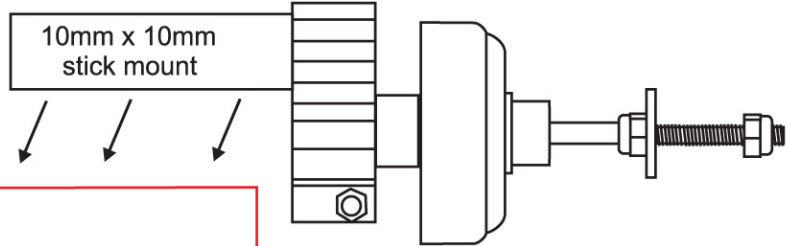


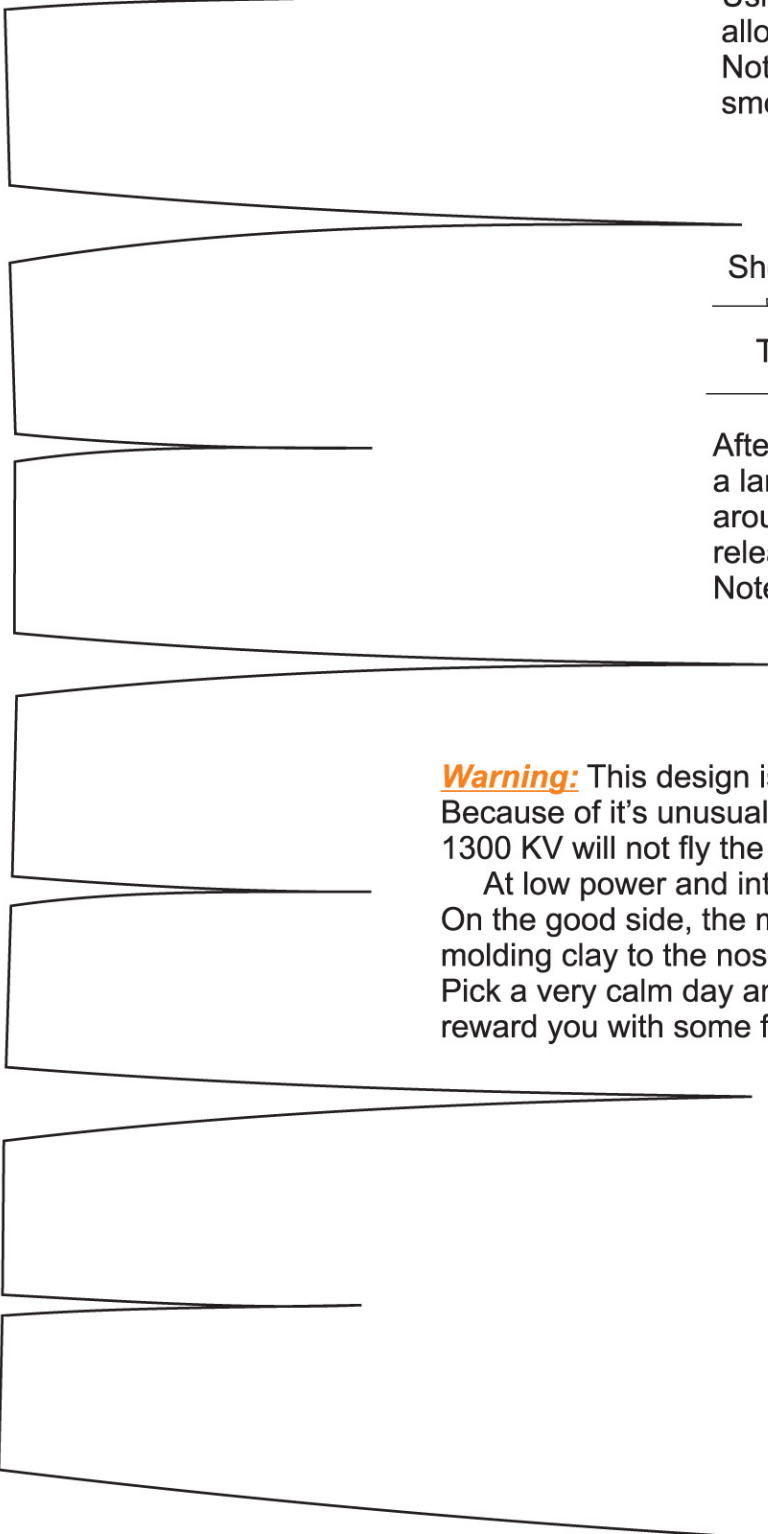
stabilizer angle setting



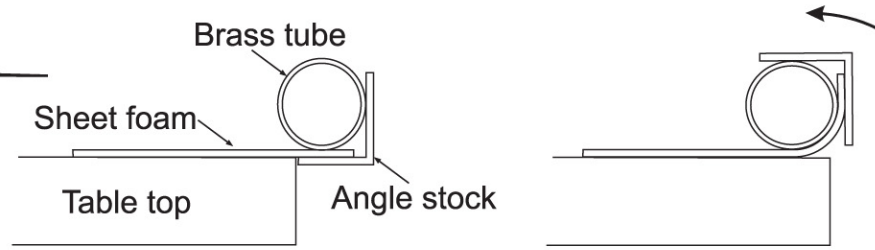
Assemble the Mig fin using the Saber fin illustration below. After the wing and fin support has been bonded to the fuselage, Bond the fin to the fuselage on the centerline. Support the model on blocks under the wing with a 6mm shim at the trailing edge. Draw two lines 6mm apart, parallel to the work surface on the fin as shown below. Remove the material using a razor and check that the horizontal stabilizer will be parallel to the work surface and wings when installed. Some small adjustments can be done with sandpaper. Before bonding the horizontal stabilizer in place,

x
ng
icro
o prevent
ng





Using at least a 6 inch paper tube tube and angle stock will allow you to curve the foam sheeting from the edge. Note that foam sheeting has a "grain" and will bend smooth in one direction. Some experimentation will be needed.



After a curl has been established, roll the foam like you would a large sheet of paper and wrap a rubber band or two loosely around the sheeting for a day or two. When the sheeting is released it will be easier to assemble the fuselage.

Note: The pre-shaping step is done before the fuselage skin

Warning: This design is a drag Queen.

Because of it's unusual shape it has some strange tendencies. As you would expect 1300 KV will not fly the model with this prop; even indoors. I'm recommending a

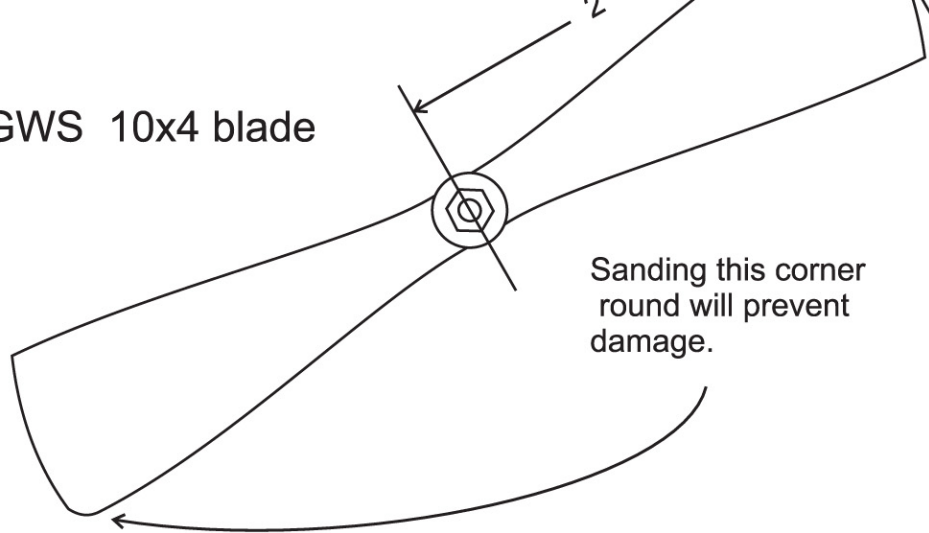
At low power and into the wind (breeze) the model will pitch nose up and stop. On the good side, the model will float all the way to the ground slightly nose high molding clay to the nose gave the same results.

Pick a very calm day and some tall grass to fly over. This unusual design comes reward you with some fun flying days.

Thanks

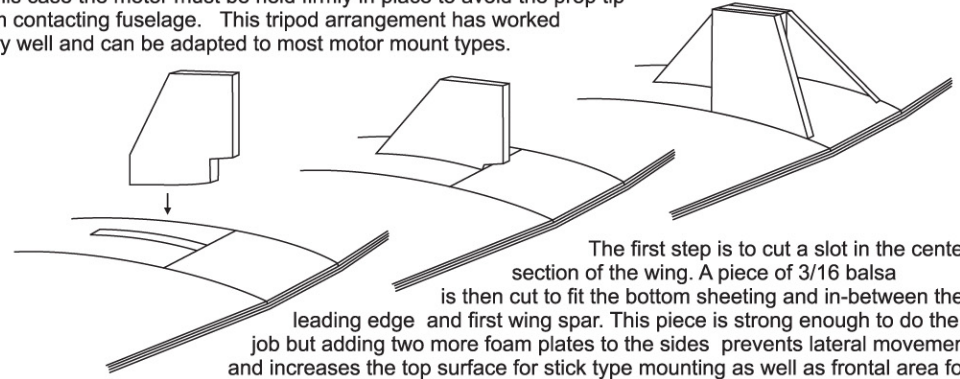
SPARKY

GWS 10x4 blade



Sanding this corner round will prevent damage.

What you are looking for in any motor mount is a stable platform that will support the motor, endure the thrust loads as well as any vibration the prop may produce. In this case the motor must be held firmly in place to avoid the prop tip from contacting fuselage. This tripod arrangement has worked very well and can be adapted to most motor mount types.



The first step is to cut a slot in the center section of the wing. A piece of 3/16 balsa is then cut to fit the bottom sheeting and in-between the leading edge and first wing spar. This piece is strong enough to do the job but adding two more foam plates to the sides prevents lateral movement and increases the top surface for stick type mounting as well as frontal area for firewall type mounting. Patterns are provided for stick type motor mounting only.

Temporarily mount the motor to the center foam sheet with tape. Test fit the wing to the fuselage with the prop installed. check for motor center and prop clearance and adjust the center foam plate to obtain both, then add the last two panels to lock it all in place.

Note: a hard landing may allow the prop to contact the fuselage skin due to the skin flexing. You can either remember to stop the motor just before contact. Or better yet, bond a thin strip of report cover plastic to the inside of the fuselage around the prop ark.

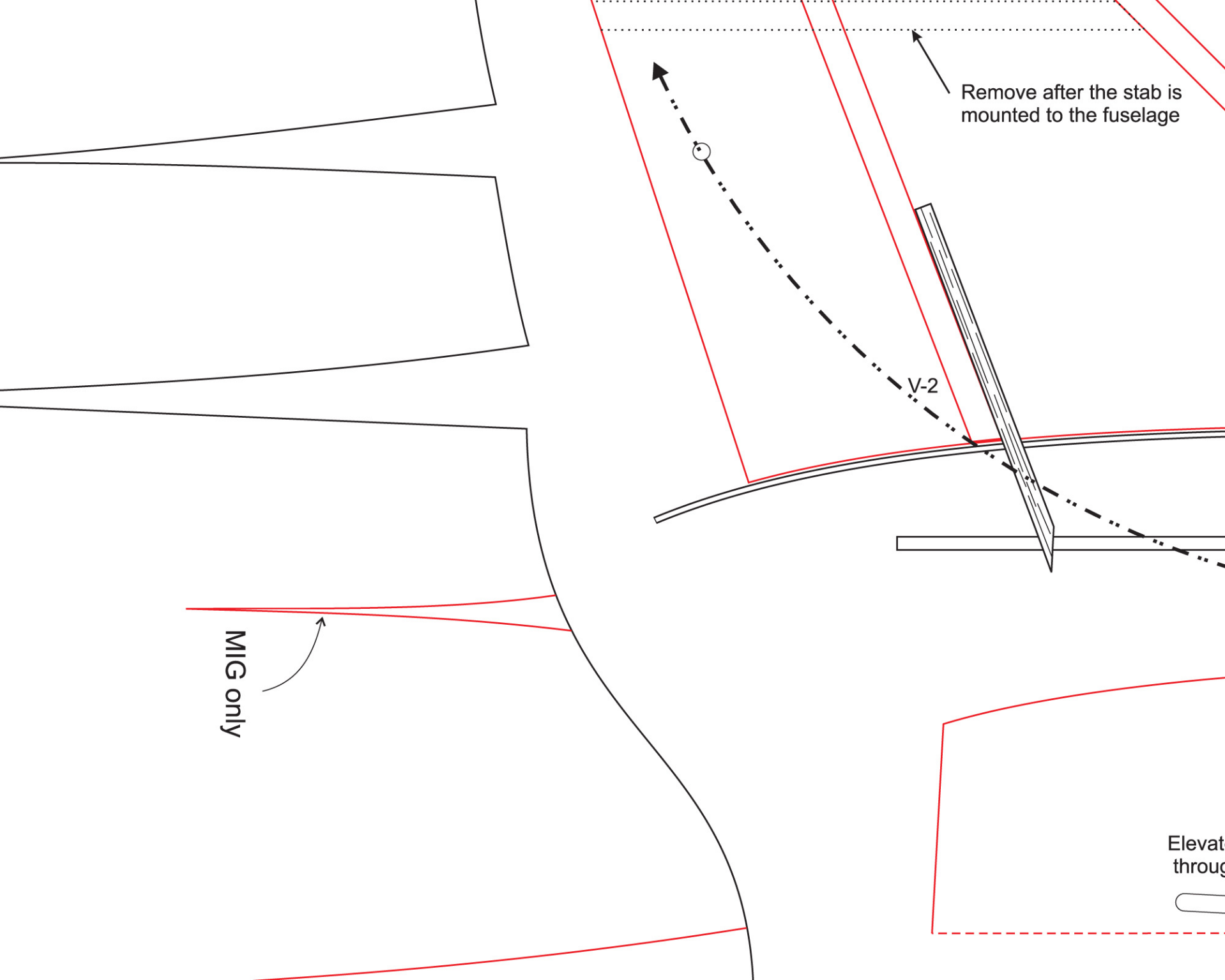
ect power is everything. Any motor below 2000 KV motor so it can be flown outside. Without air flow over the elevator it becomes useless. The CG is correct, extensive testing by adding

with some quirks, give it a chance and it will

ed.

d

n is cut.



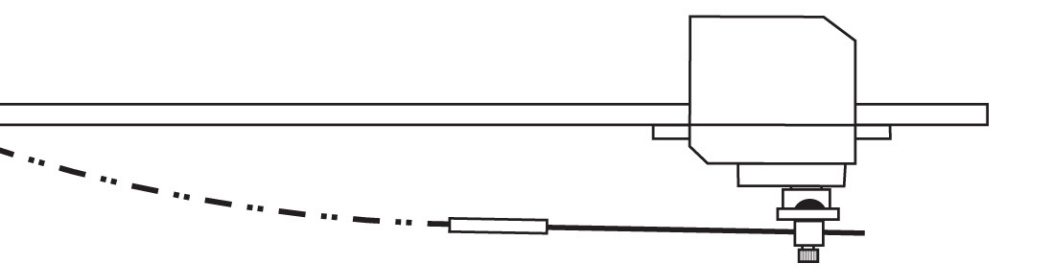
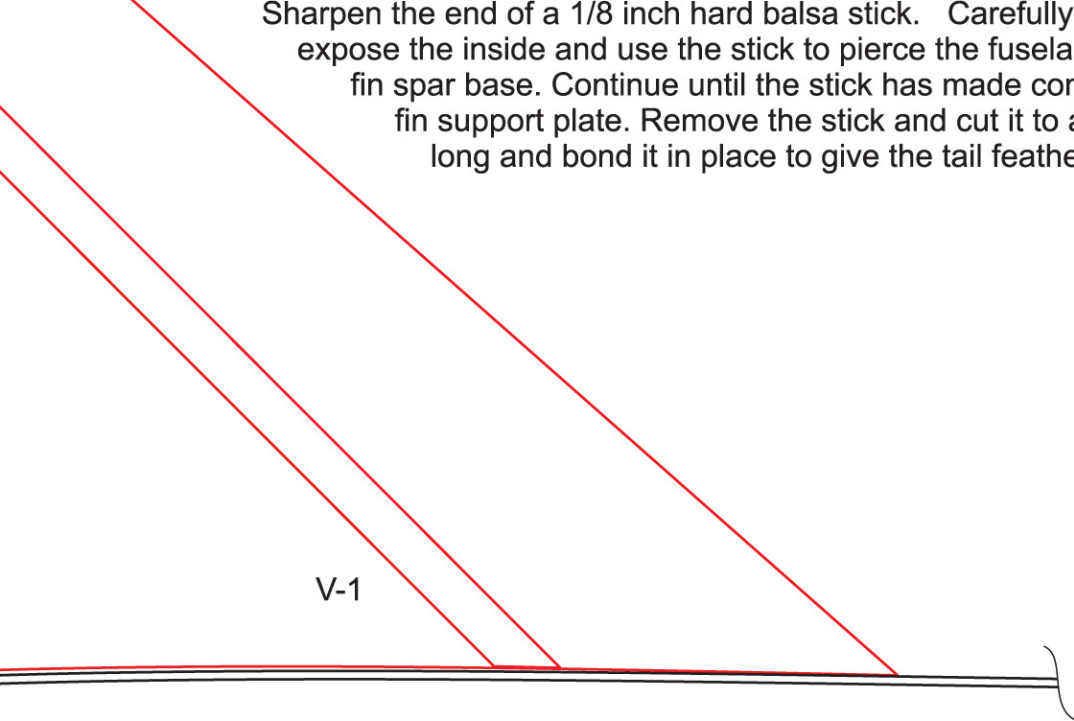
Remove after the stab is mounted to the fuselage

V-2

MIG only

Elevat
through

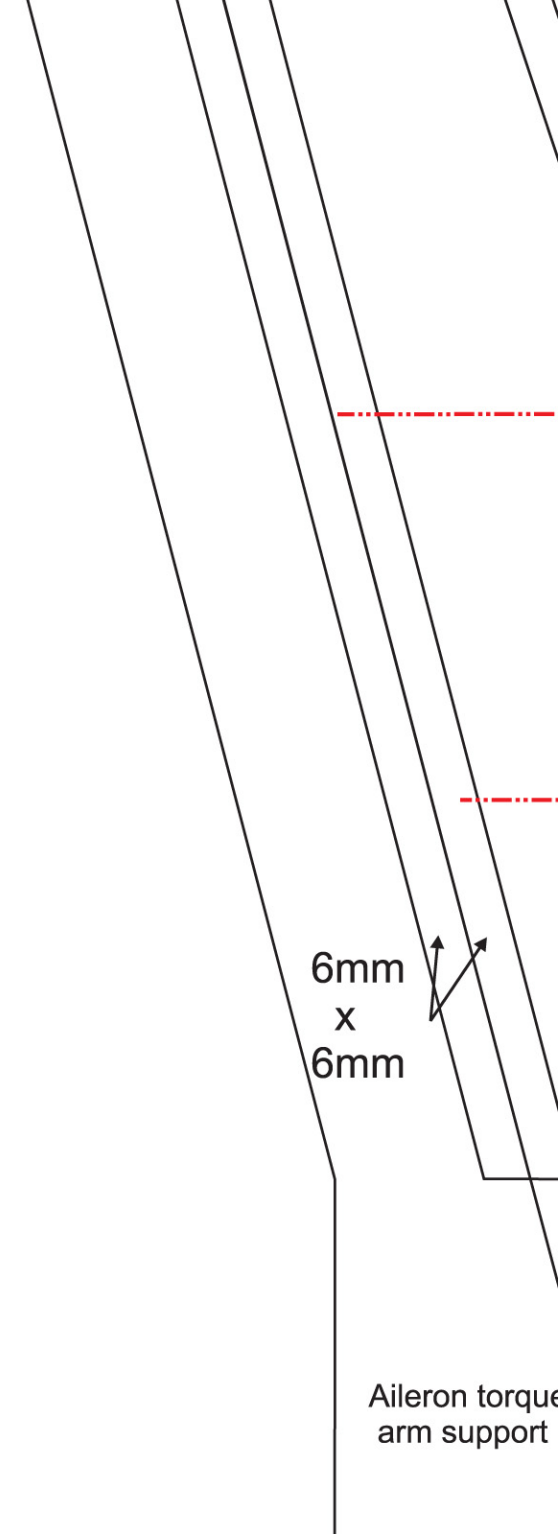
Sharpen the end of a 1/8 inch hard balsa stick. Carefully twist the fin tip to expose the inside and use the stick to pierce the fuselage skin at the fin spar base. Continue until the stick has made contact with the fin support plate. Remove the stick and cut it to about 3 inches long and bond it in place to give the tail feathers a firm mount.

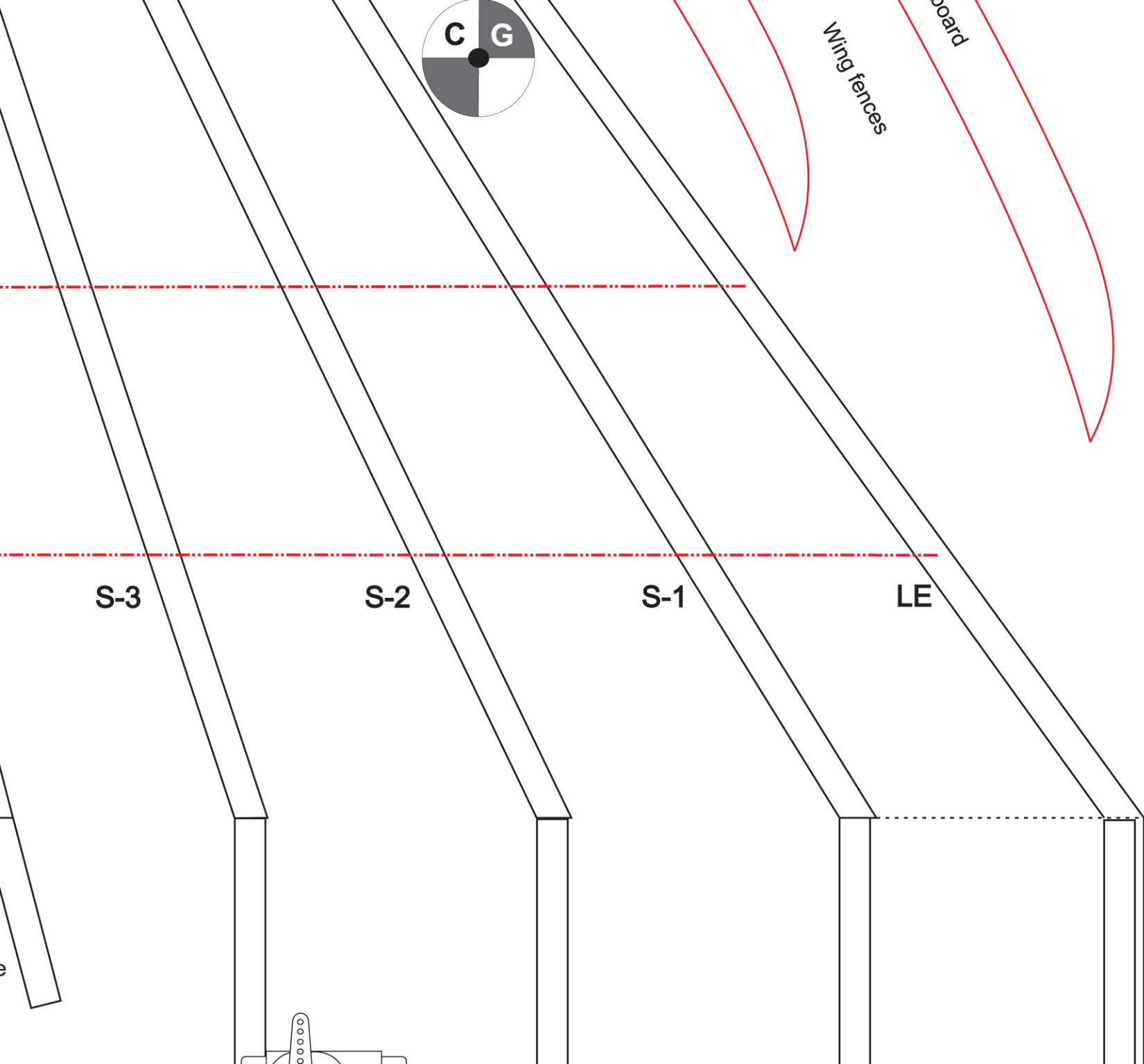


Mig Fin support
Half pattern
3mm foam sheet

Servo mount hole
one side only

for control cable feed
hole, both sides





S-3

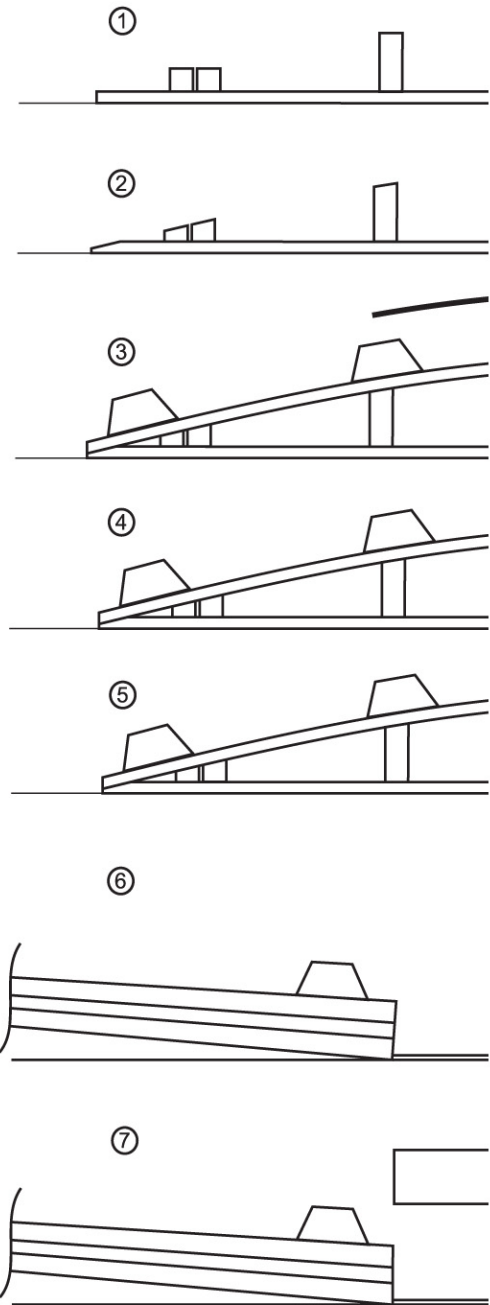
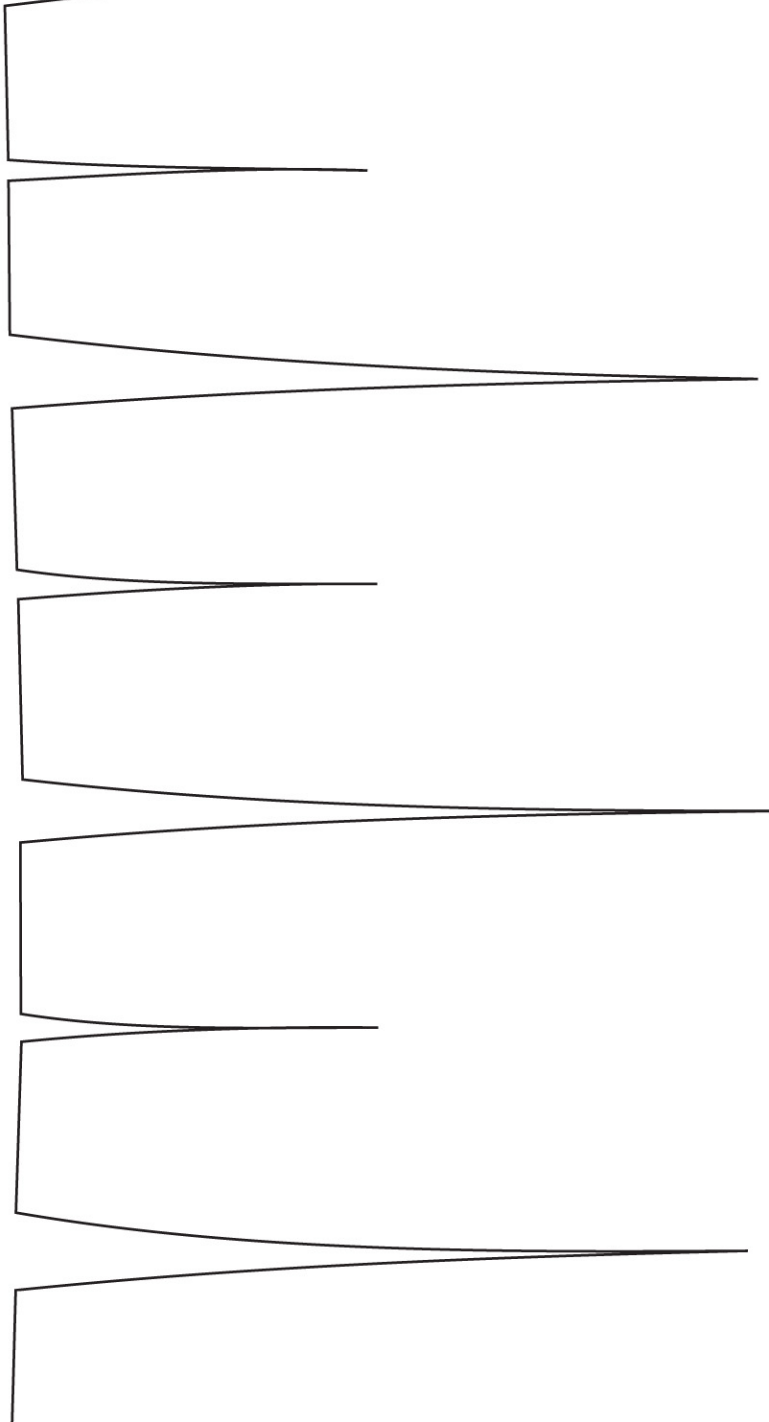
S-2

S-1

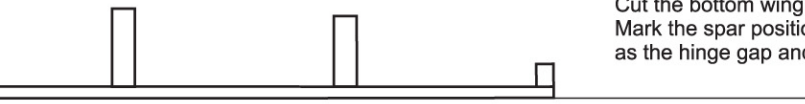
LE

Wing fences

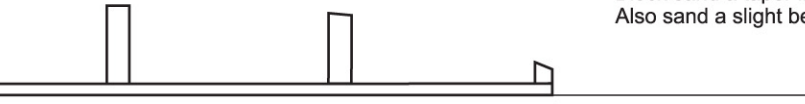
board



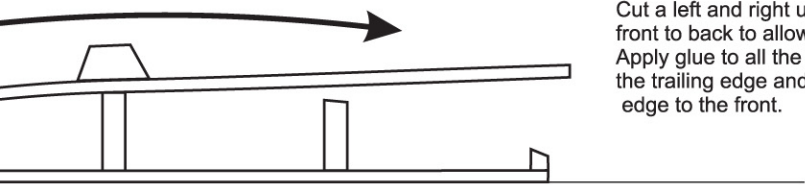
Use a bright light against the wing to locate the hinge.
Cut the ailerons free from the wing and sand the angle.
Clear tape can be used as a hinge or fiber hinge mat.



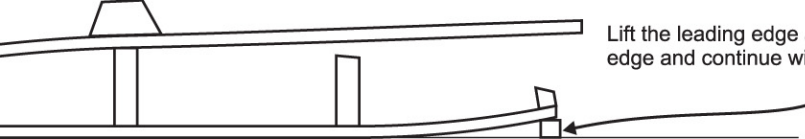
Cut the bottom wing sheeting using the pattern on the plans. Mark the spar positions and bond the spars in place as well as the hinge gap and leading edge doublers.



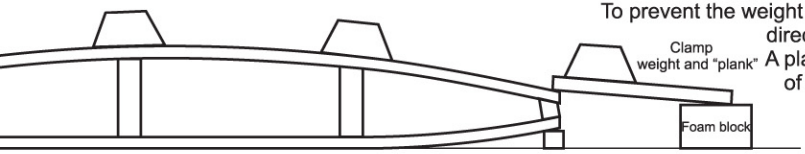
Block sand a taper in the hinge gap and trailing edge. Also sand a slight bevel from one spar to the next.



Cut a left and right upper wing panel about 1/4 inch longer, front to back to allow for the curve of the airfoil. Apply glue to all the spar strips then align the two panels at the trailing edge and apply weights working from the trailing edge to the front.



Lift the leading edge and slide the shim under the forward edge and continue with the clamp weights.

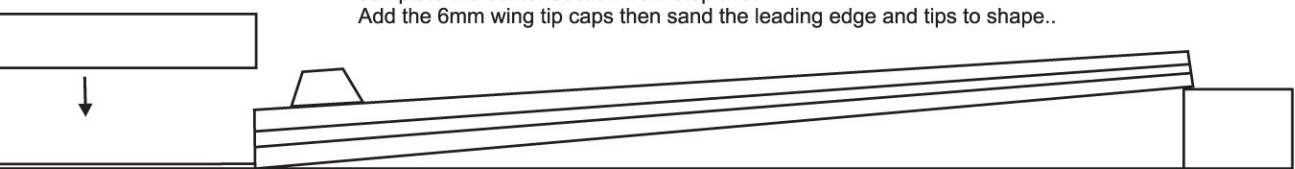


To prevent the weight from sliding off the leading edge and to direct the clamp pressure to the leading edge. A plank can be used along the entire length of the wing.

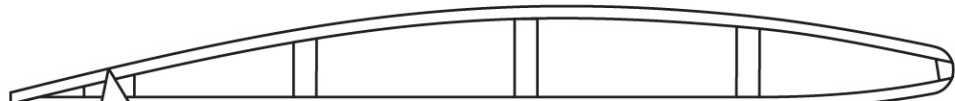
Support the wing tips 1 inch from the table top and use weights to hold down the center section. Use a sanding block with the sandpaper stuck to the side to trim the wing roots to a 90 degree angle.



With the wing tips still supported, cut 6mm foam spar joiners to fit in between each spar and complete the center section from step two. Add the 6mm wing tip caps then sand the leading edge and tips to shape..

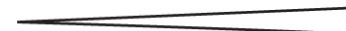
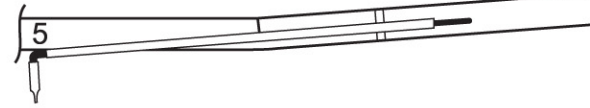
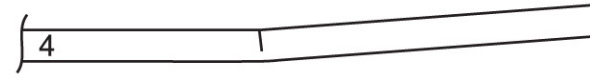
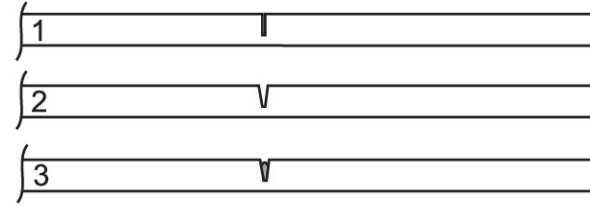


gap and mark the gap. e into the wing and aileron. erial.



Saber stabilizer angle deta

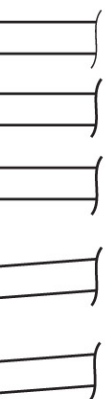
- 1 Use a hacksaw blade to cut a groove 1/3 the way through
 - 2 Fold a sheet of sand paper and sand a "V" shape into the
 - 3 Fill the groove with a small amount of glue.
 - 4 Use a weight to hold down the center section of the stab and support the stab tip 3/4 inch above the work surface u
 5. Use step 1 and 2 when cutting the grove for the elevat
- The torque arm installs from the bottom



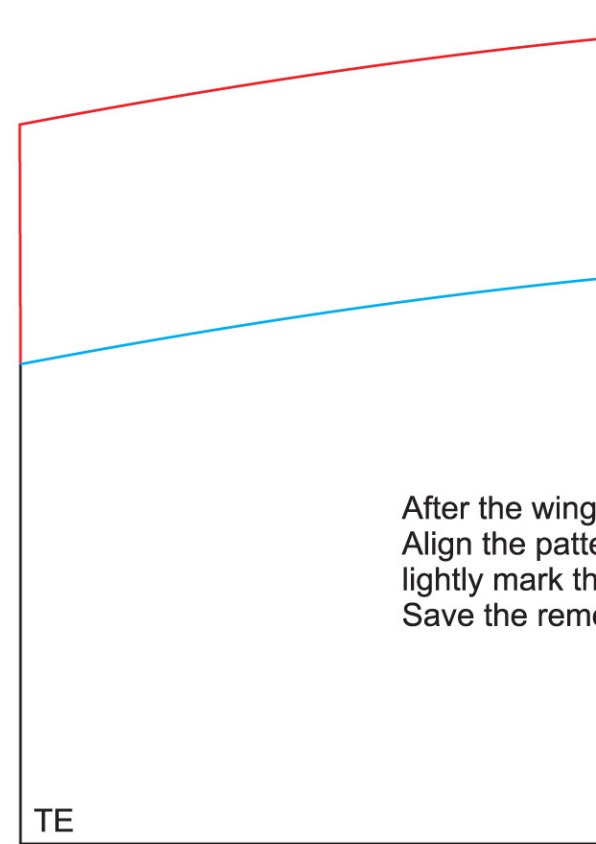
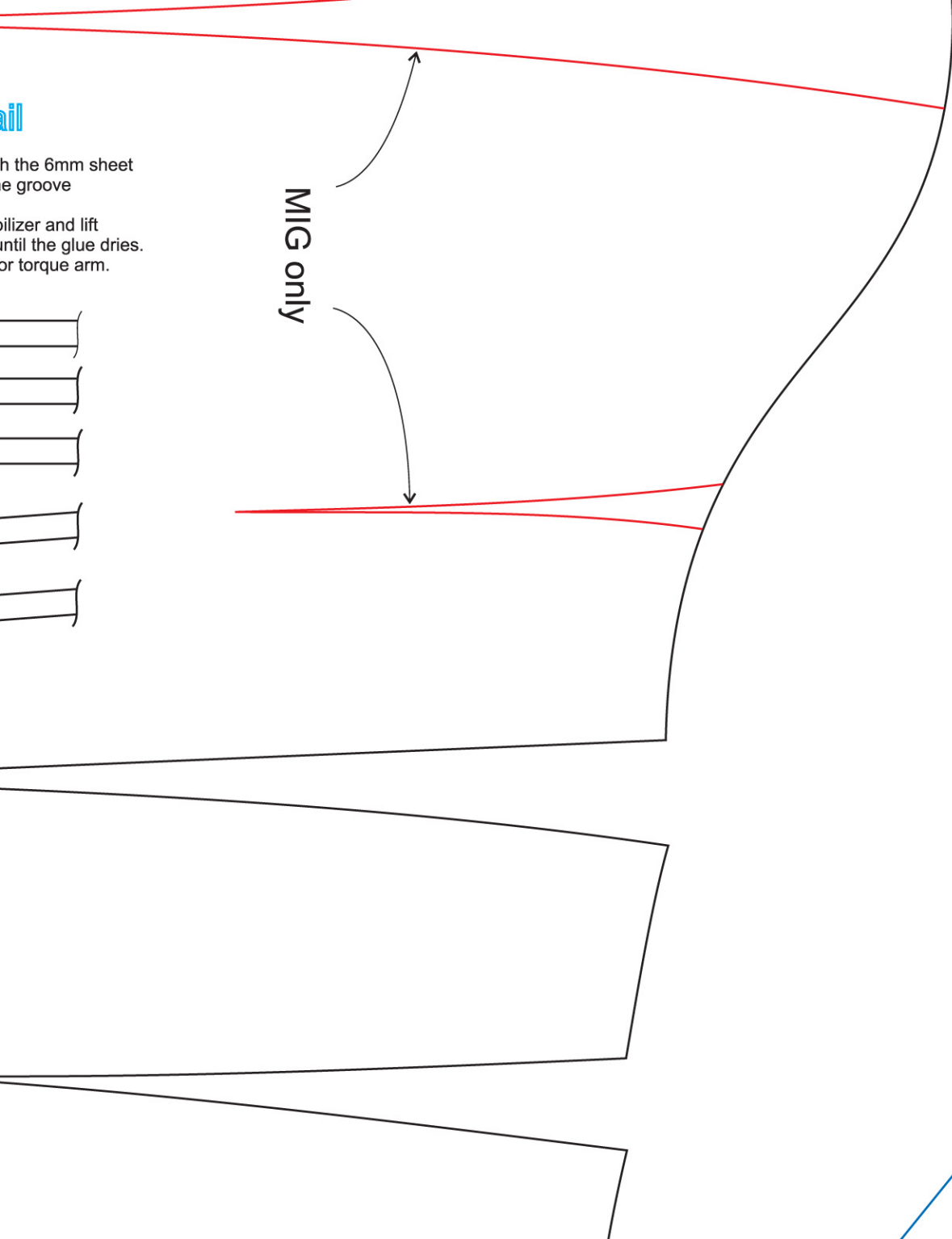
ail

h the 6mm sheet
e groove

bilizer and lift
until the glue dries.
or torque arm.

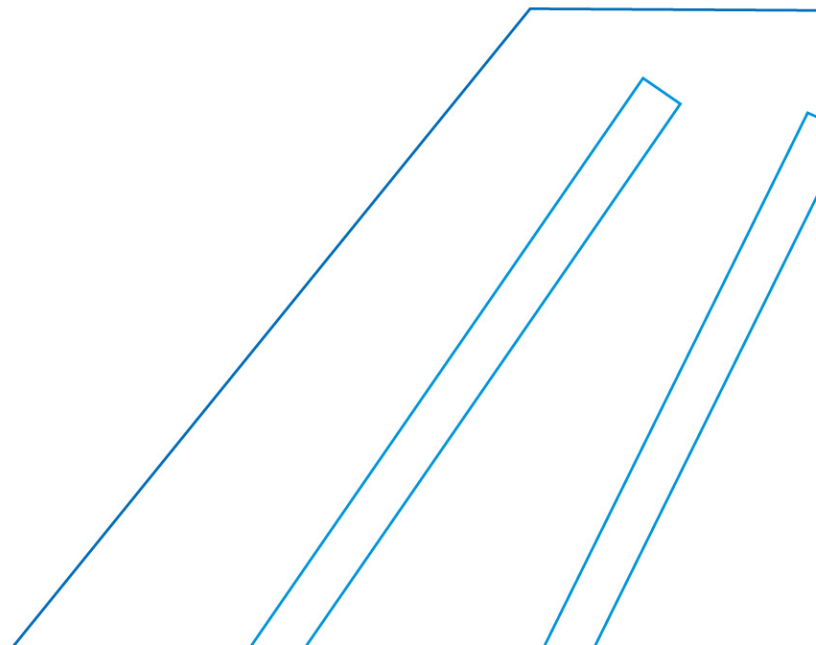


MIG only



After the wing
Align the patte
lightly mark th
Save the reme

TE



MIG wing saddle trim line

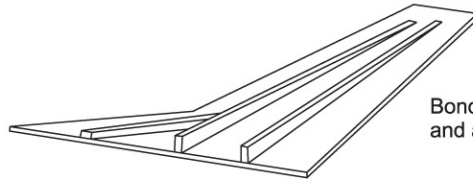
Saber wing saddle trim line

Wing saddle Pattern

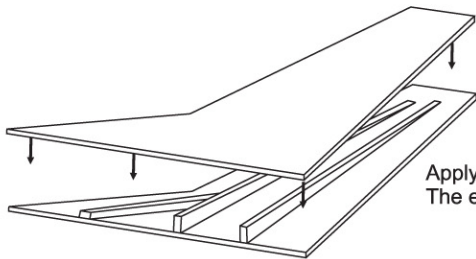
is ready to install, use this pattern to cut the fuselage tube to fit the wing.
ern at the center line seam and the leading and trailing edge marks on the fuselage.
e fuselage then flip the pattern and repeat for the other side.
oved material to bond back when the wing installation is complete.

Center line seam

LE



Bond the spars in place
and allow the glue to dry.

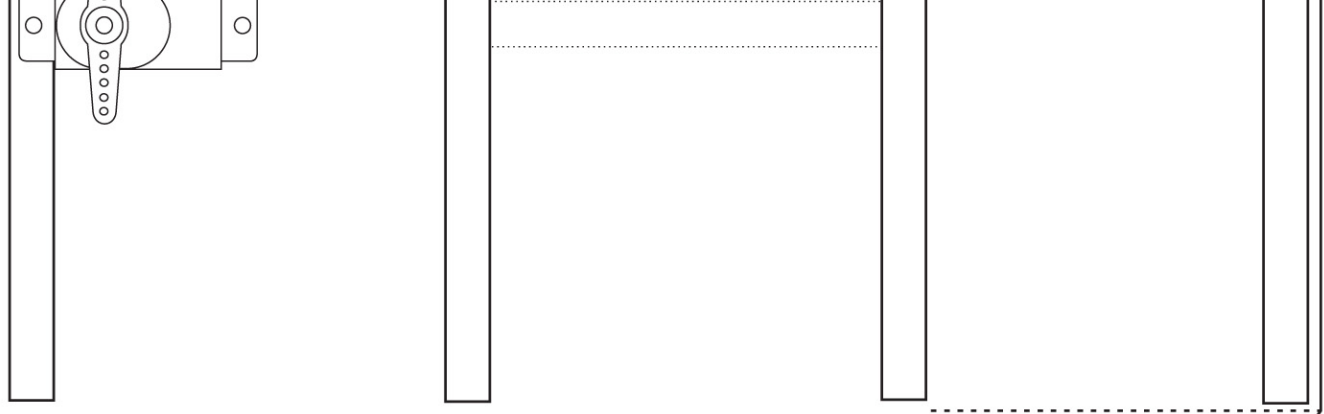


Apply glue to the spars and
The edges of the foam sheet panel.

A s
tor

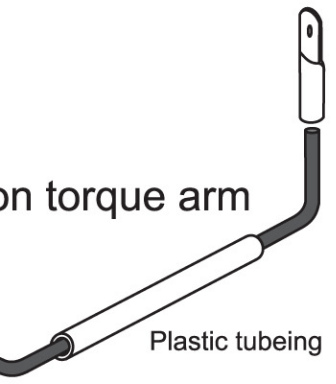
Ailer

Control throw
measured at the
Elevator 1/2" u



Cut here to allow the bottom sheeting to be lifted to meet the top sheeting.

It is cut in the wing skin down to the arm support and the plastic tube is bonded in place.

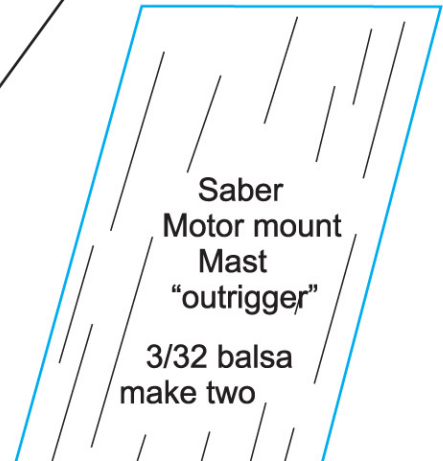


on torque arm

Plastic tubing

Aluminum tubing smashed flat at the tip and drilled to accept the servo push rod then bonded to the steel wire with epoxy.

the trailing edge and down



Saber
Motor mount
Mast
"outrigger"
3/32 balsa
make two

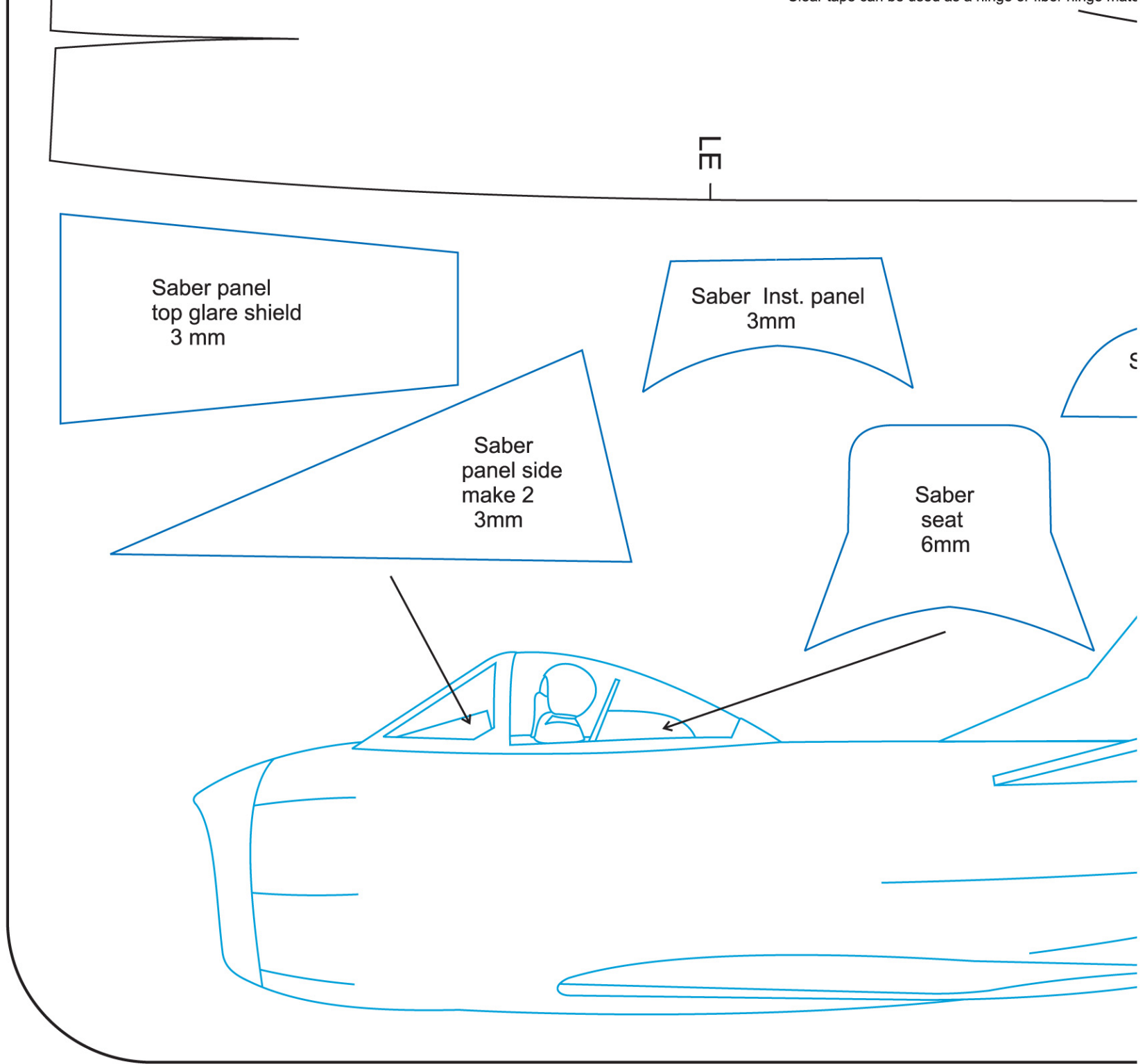
LE

Saber panel
top glare shield
3 mm

Saber Inst. panel
3mm

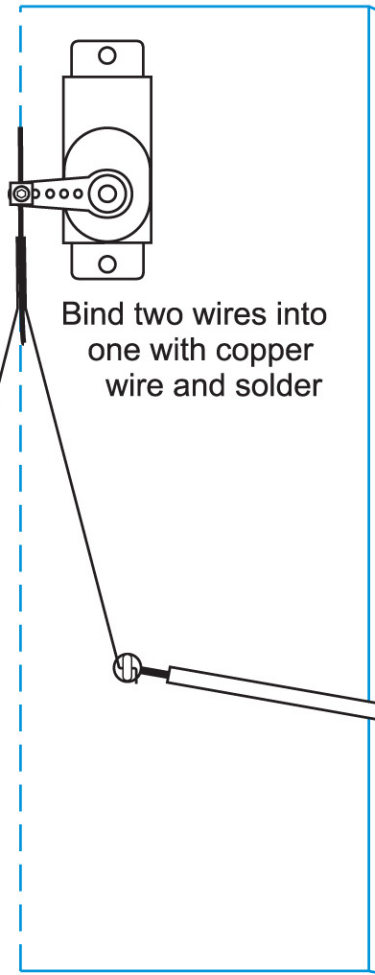
Saber
panel side
make 2
3mm

Saber
seat
6mm



TE-

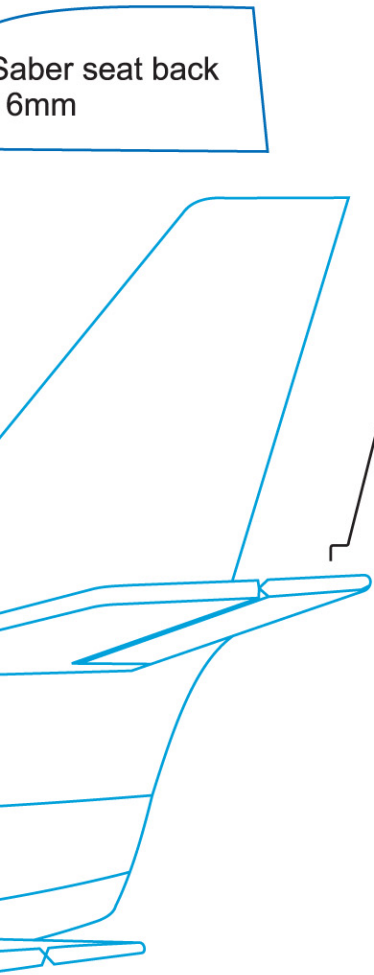
Saber seat back
6mm

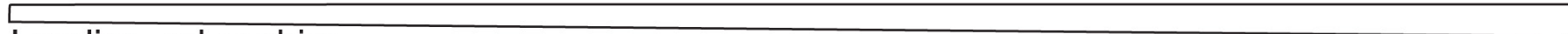
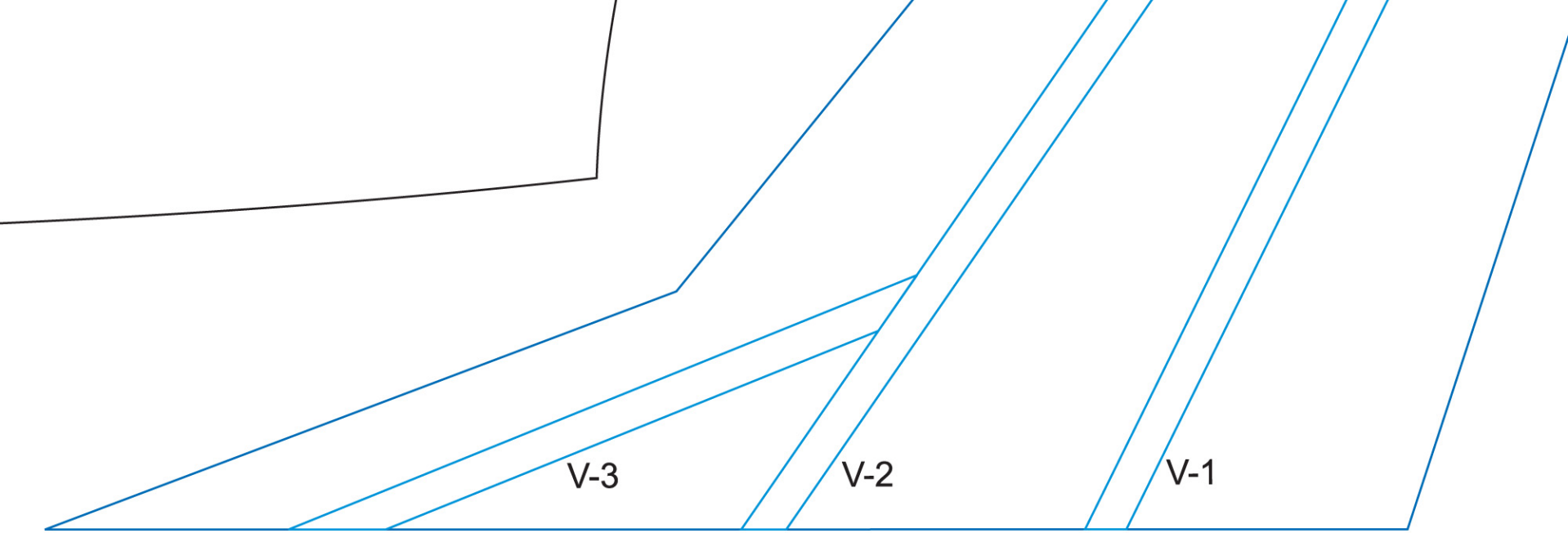


Bind two wires into
one with copper
wire and solder

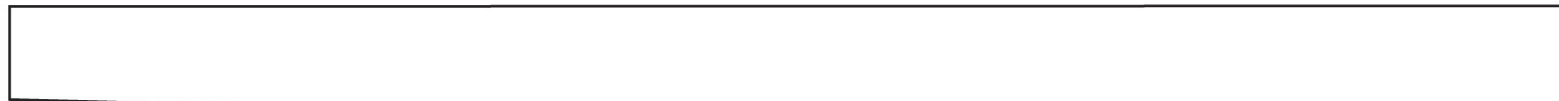
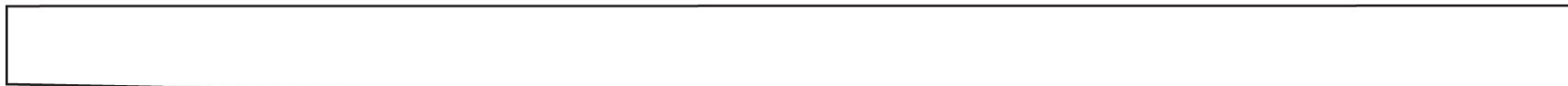
See aileron torque arm detail
for elevator control

Saber Vertical Stabilizer



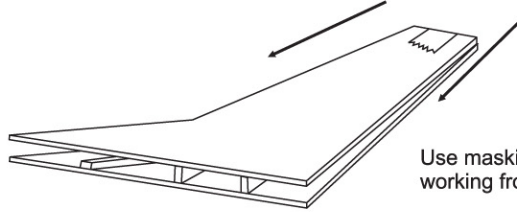


Leading edge shim

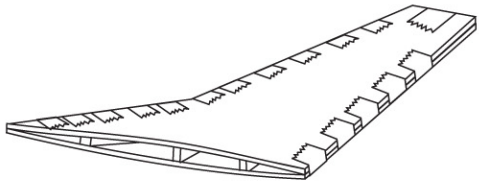


All the parts below are 6mm, make two each

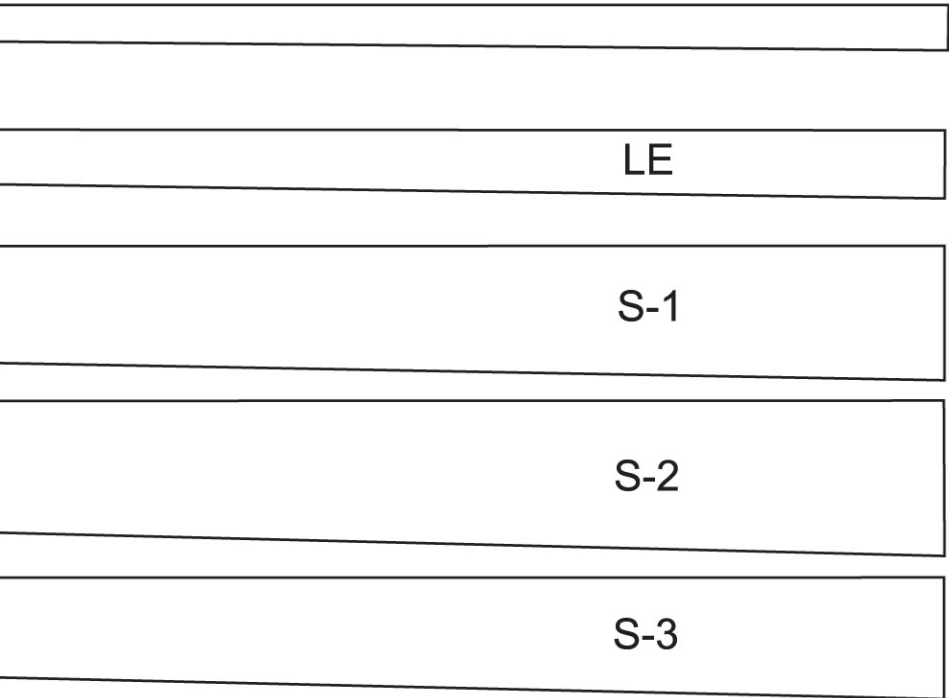
Vertical fin Assembly



Use masking tape to draw the edges together working from the tip to the root. Watch for warping often.



Allow the glue to dry over night then sand the excess glue to clean up the edges



Ailerons 1/4" U
Test fly at these
to 3/16 if need

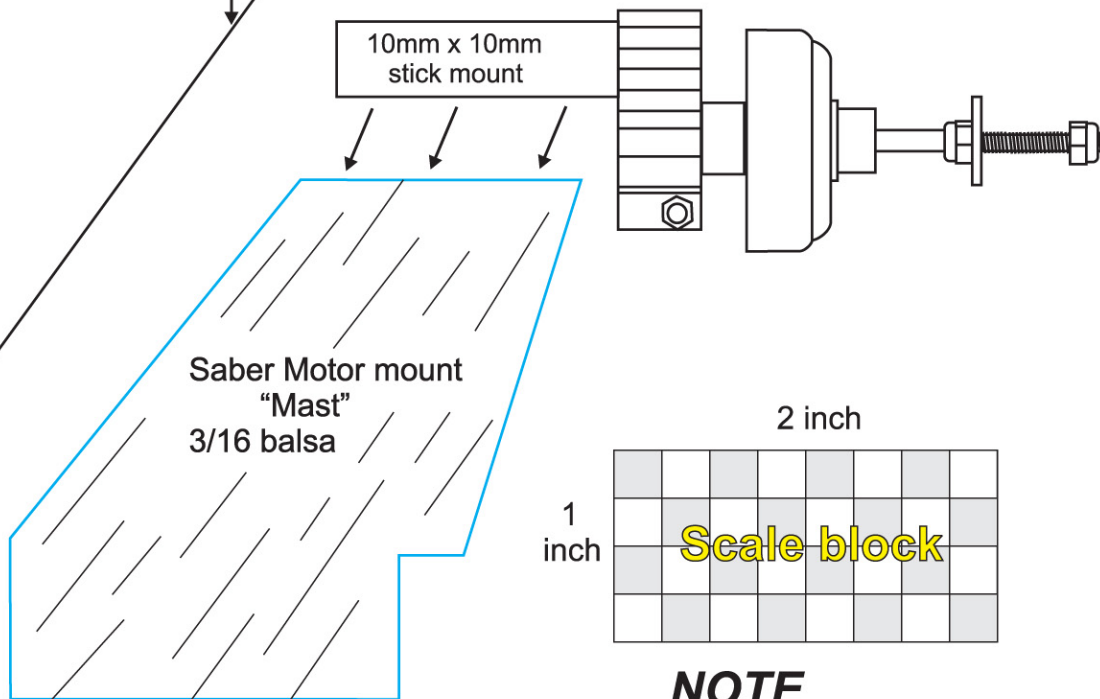
Equipment used

Parkflyer reciever
Two micro servos
10 amp ESC
800 MAH three cell Lipo battery
2000 KV outrunner
modified GWS 9x7 three blade
Motor AX 2306n 1800 to 2000



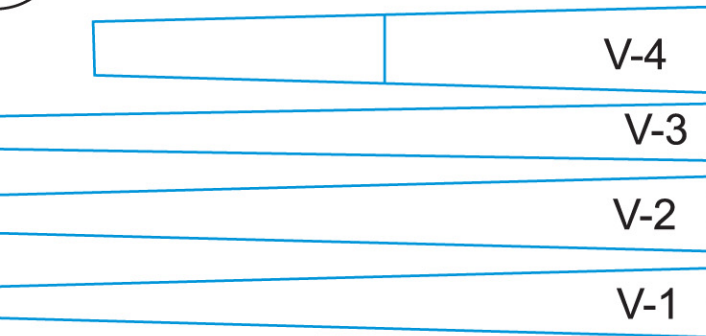
up and down
 se rates reduce the ailerons
 ed

prop.
 KVA



NOTE

The **Saber parts are drawn in blue**; **MIG parts are red**.
 Patterns drawn with black are shared by both planes.
 The plastic parts (canopy, inlet ring, pilot)
 are available from parkflyerplastics.com. under short kits



| | |
|---|---|
| Cartoon Jets | |
| Designed and drawn by Keith Sparks | |
| Model type | Electric powered Ducted Prop, RC |
| Specs. | Span..... 27 in. length..... 24 in. weight ..7.5 oz (no battery) wing area... 168 sq in. |
| Construction type | Sheet foam / Real Fun Scale |