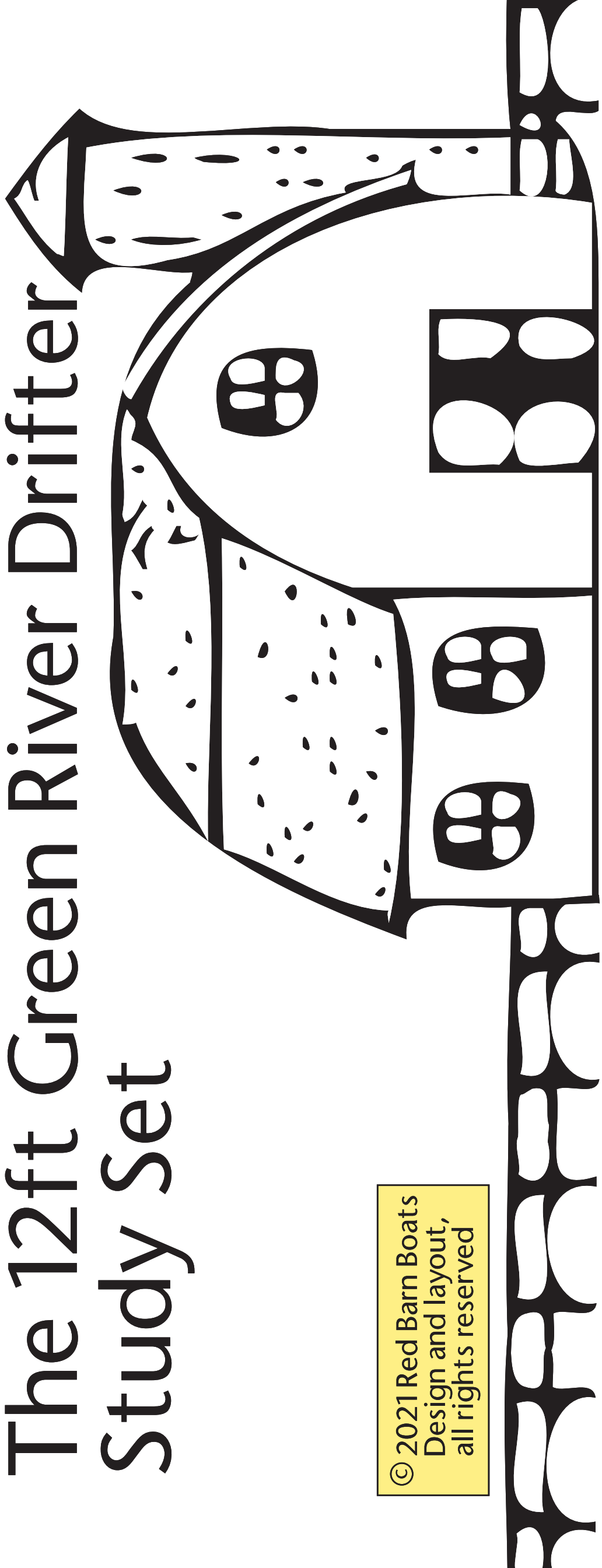


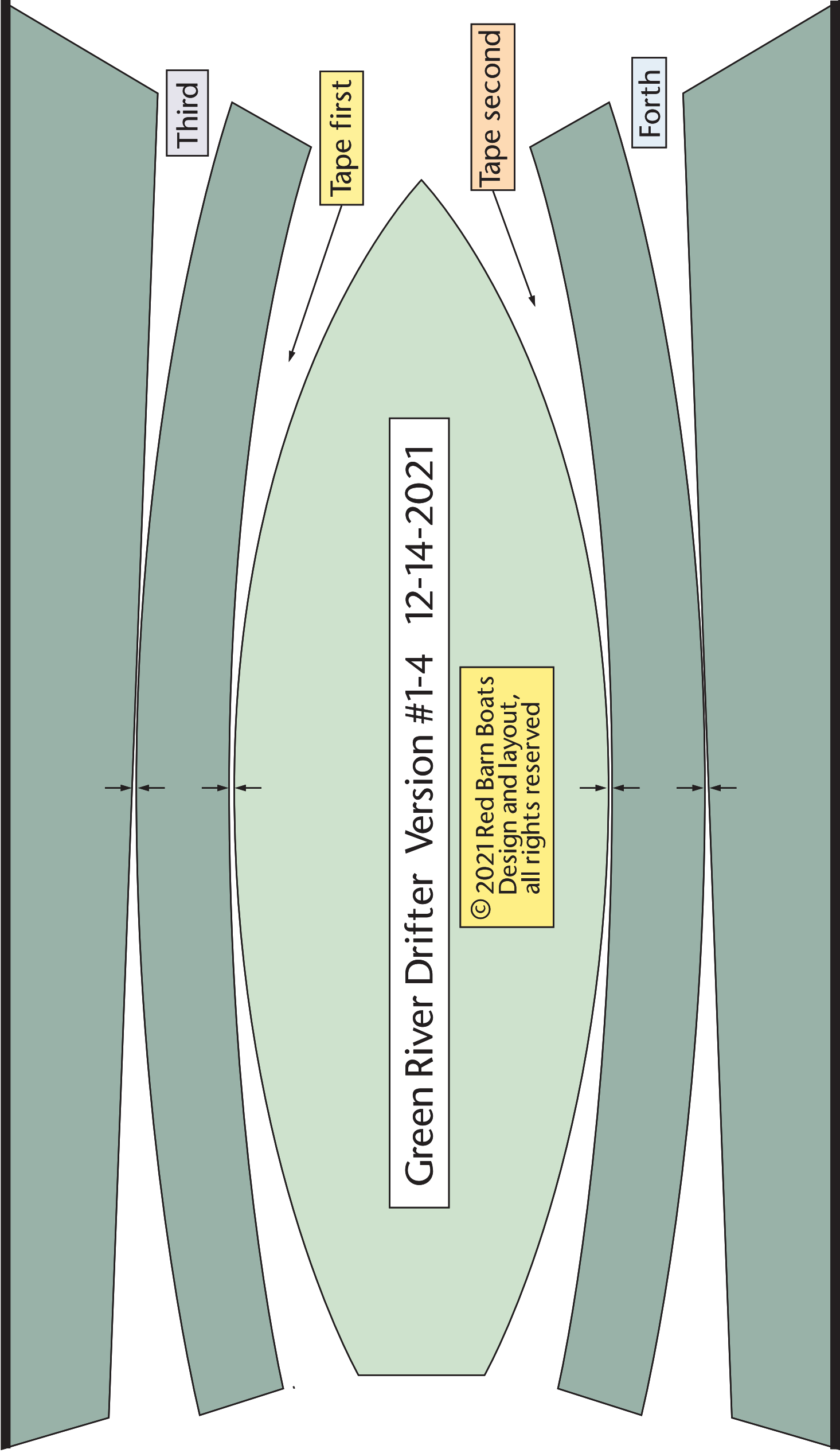
# RED BARN BOATS

## The 12ft Green River Drifter Study Set

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[www.youtube.com/redbarnboats](http://www.youtube.com/redbarnboats)



Third

Tape first

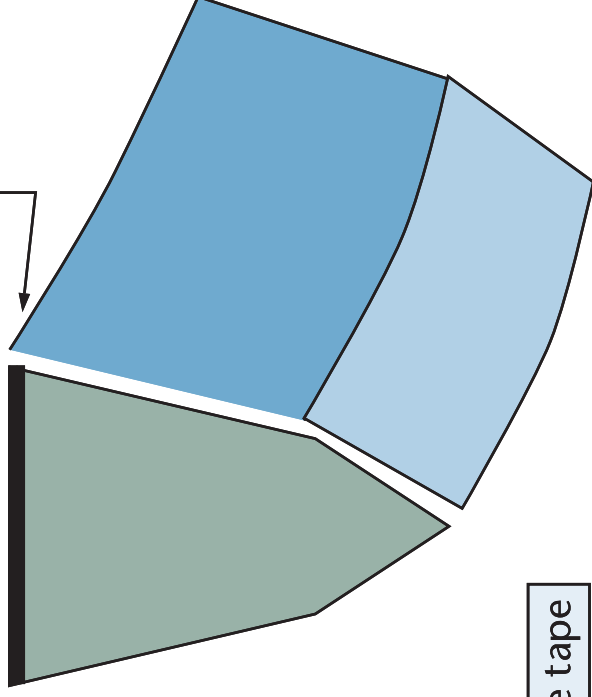
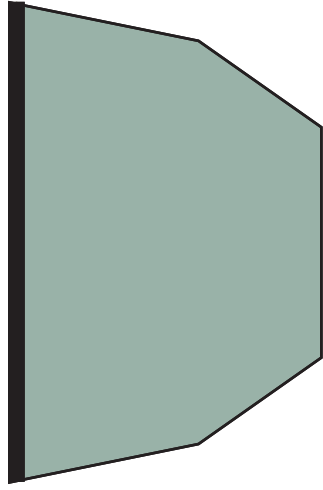
Tape second

Forth

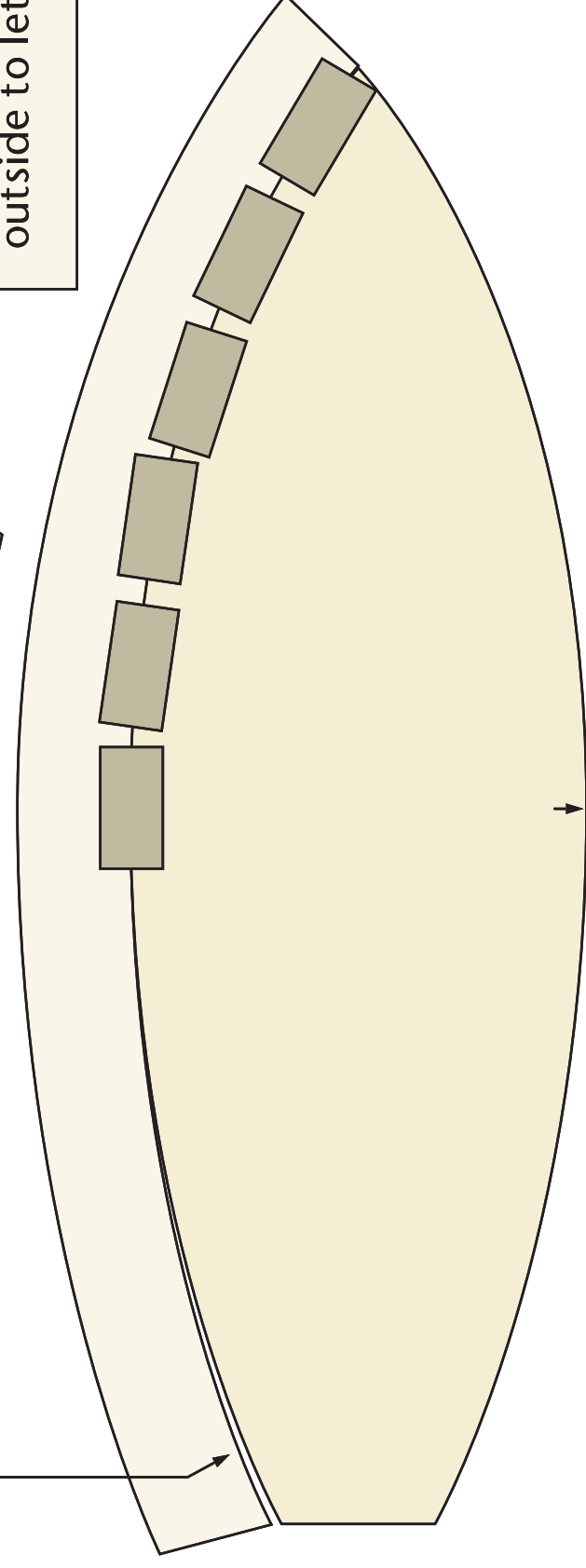
Green River Drifter Version #1-4 12-14-2021

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Start taping at the top!

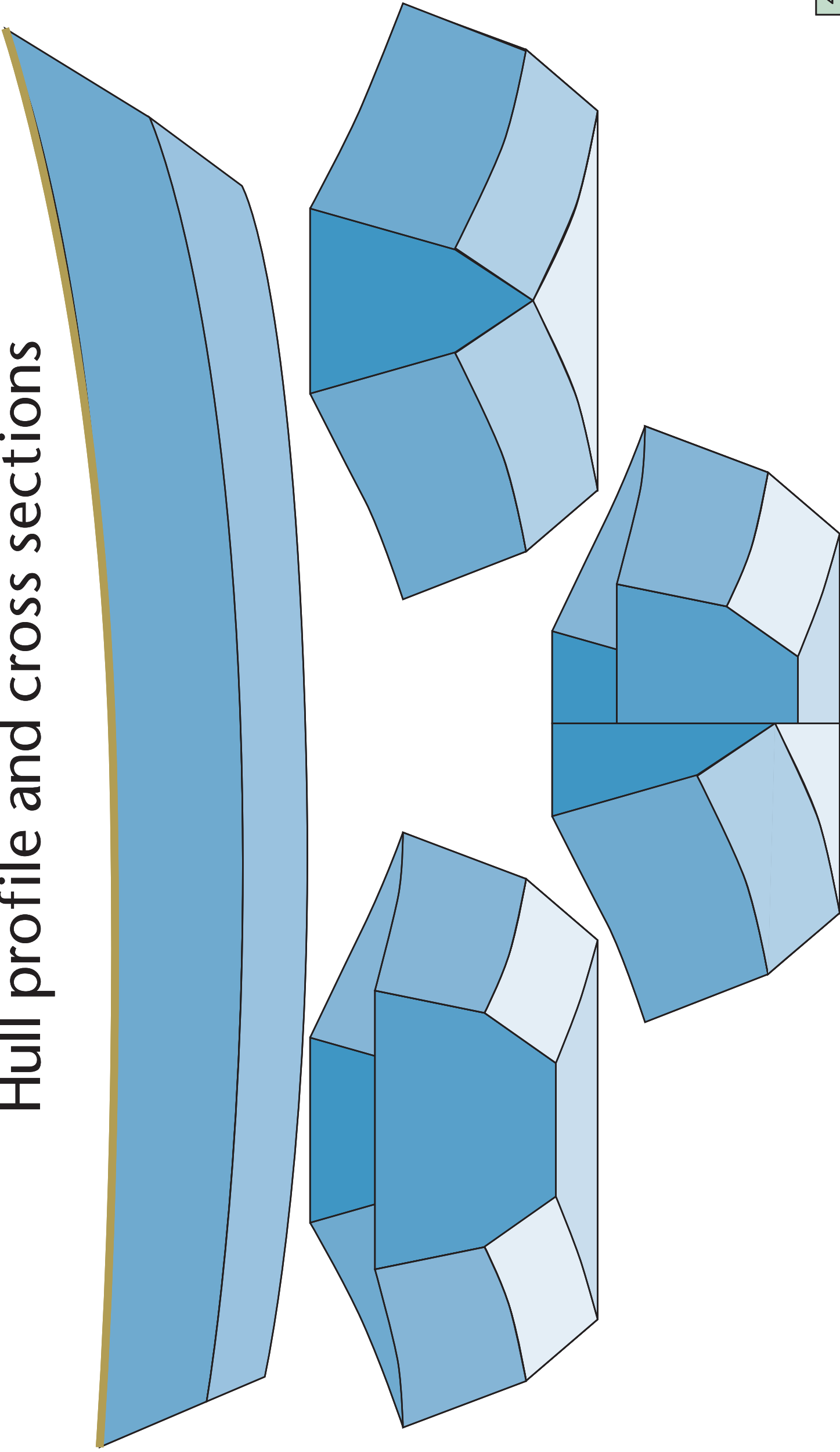


Bend down and in as you apply the tape

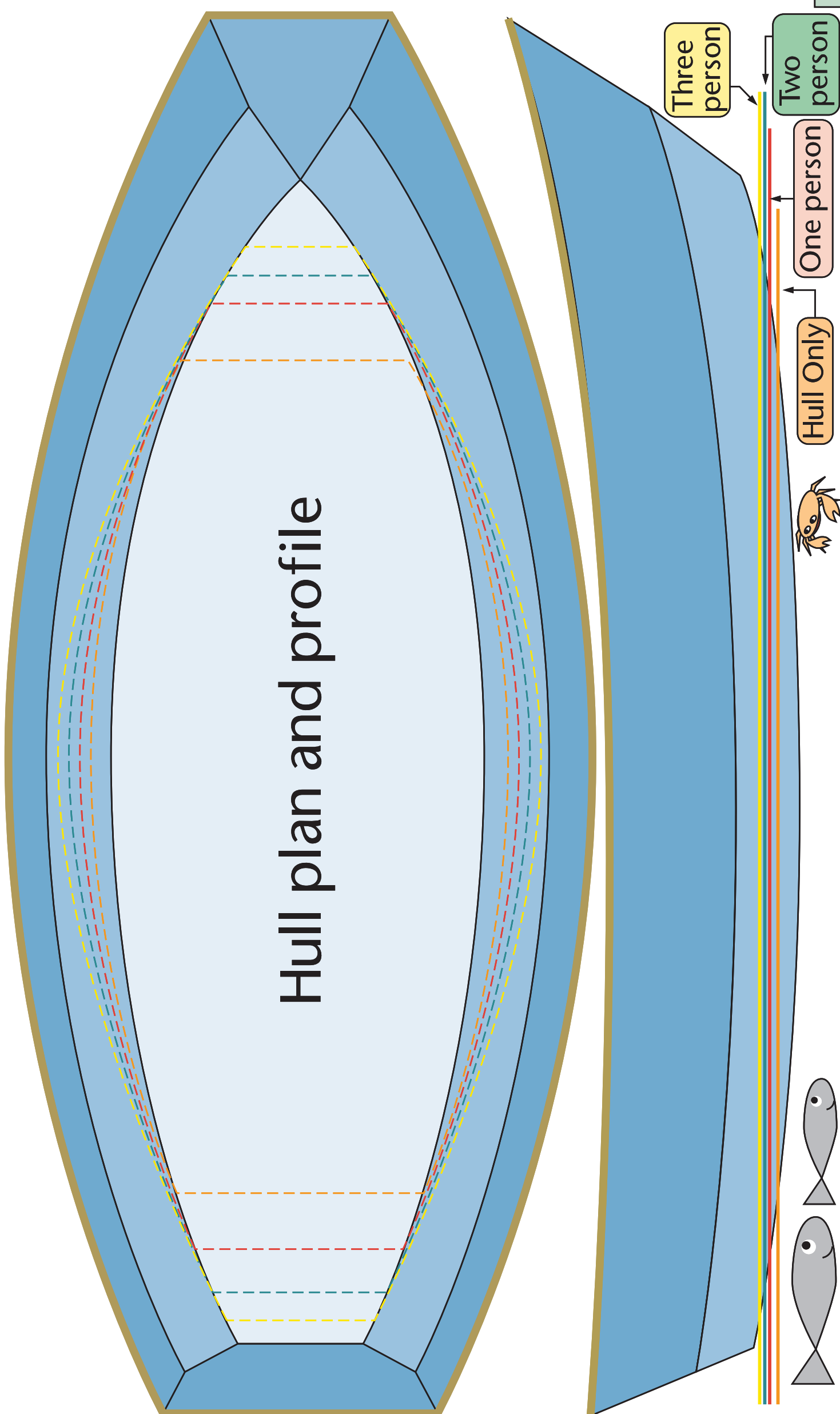


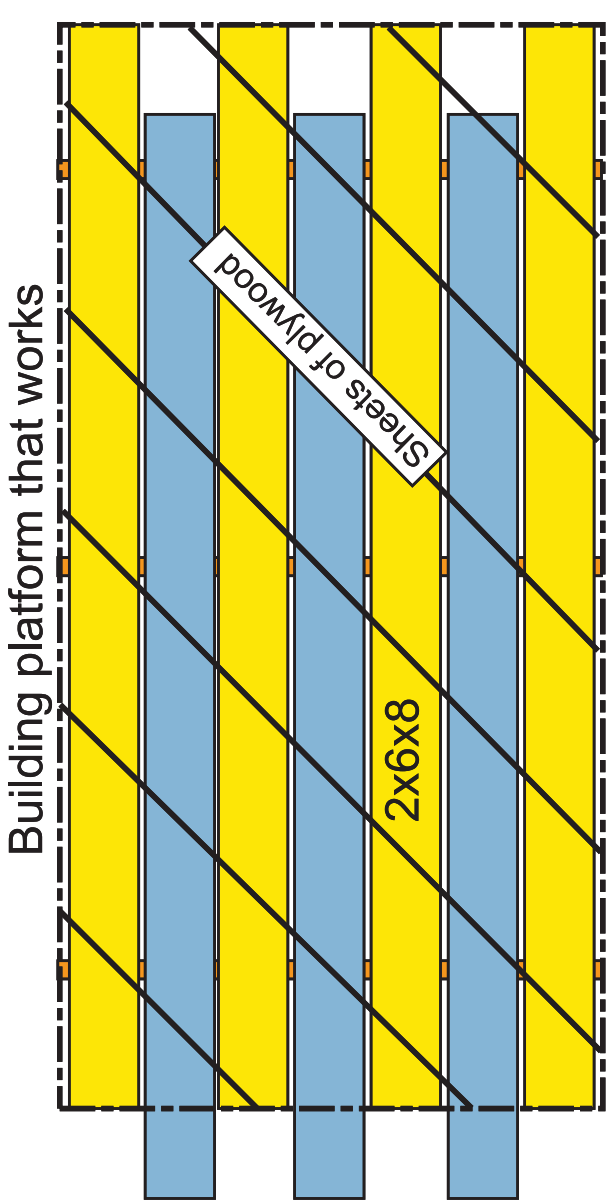
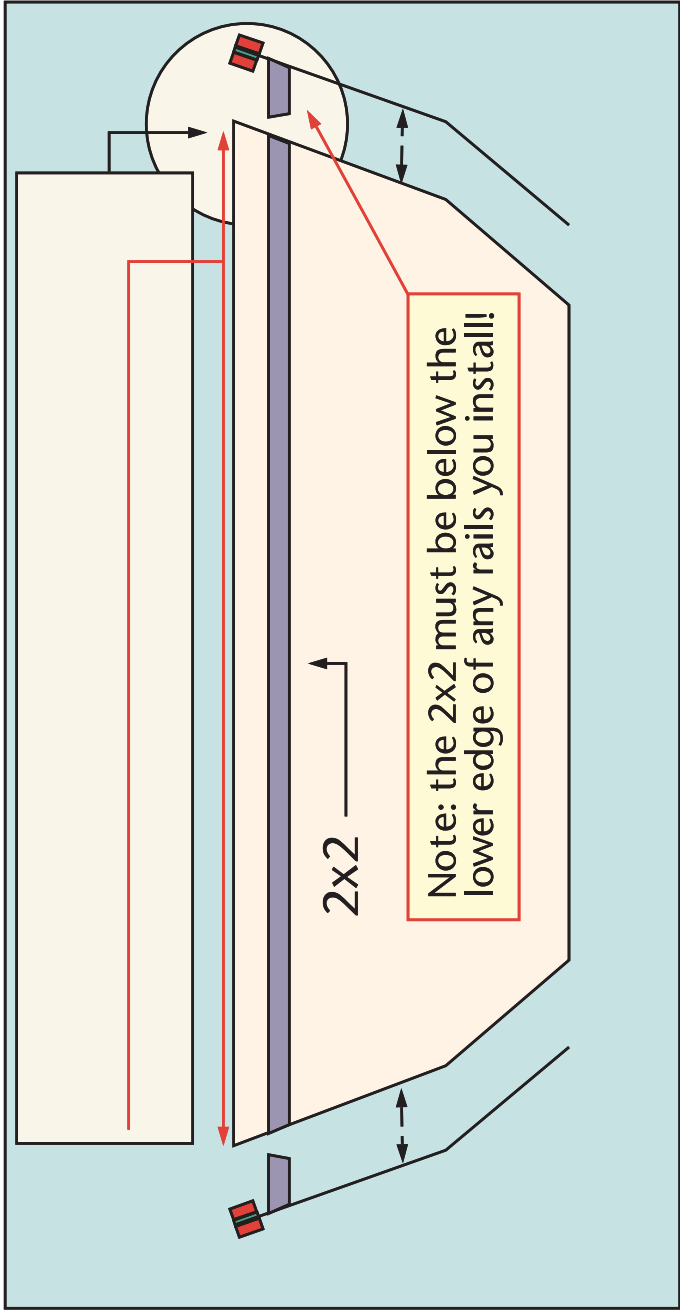
To assemble the model.  
Glue print outs to light cardboard  
Cutout the hull panels- stay outside the lines!  
Use masking tape on the inside to join the panels.  
Line up the "arrows" of each panel with the  
matching arrow of the other panel.  
Start by taping the bottom and lower side panel  
together at the arrows, and go in either direction as  
you pull the edges together to where they are  
touching. Then apply the masking tape.  
Tape to the ends of the matching panels, and  
then do the same with the other panels.  
Add the bow and transome panels last, and  
tape them to the side panels starting at the top  
and working down. Use "clear tape" on the  
outside to let the hull color show through.

# Hull profile and cross sections

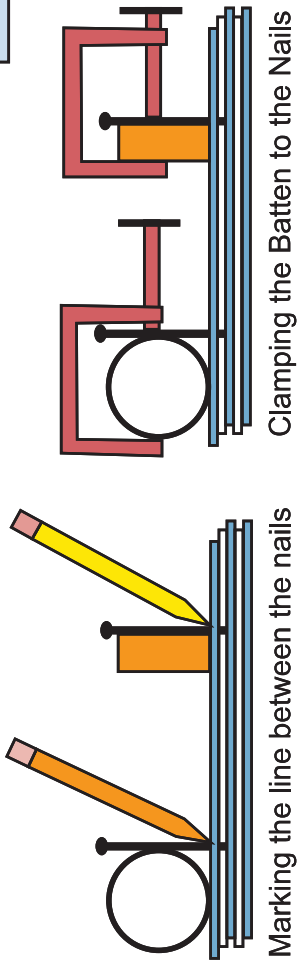


# Hull plan and profile

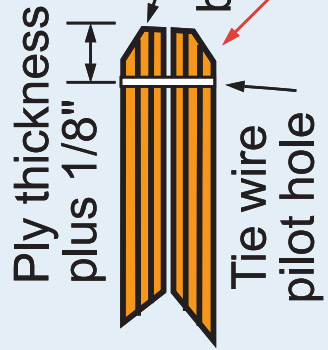
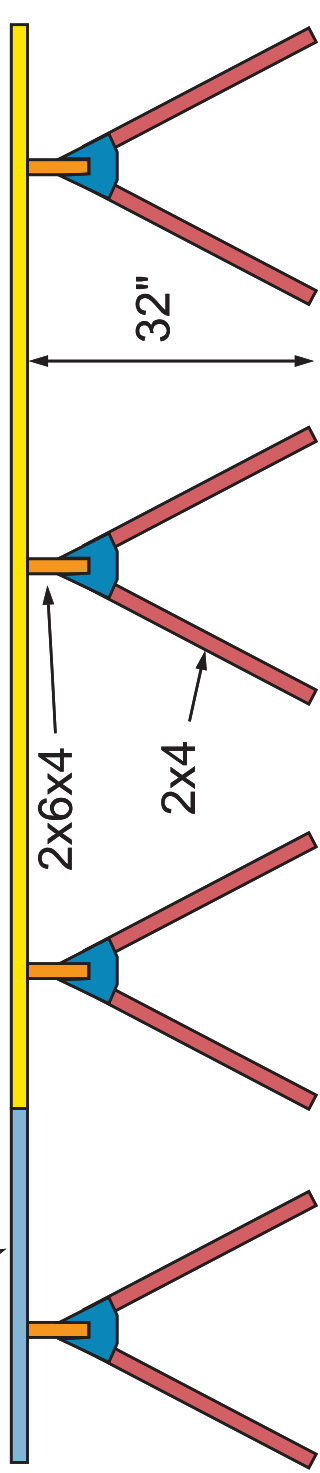




Extra legs and 2x6x8 supports can be used while scarfing and lofting up the long panel sets. The extra legs can be removed and the 2x6x8's shoved back after the panels are cutout and wired up.

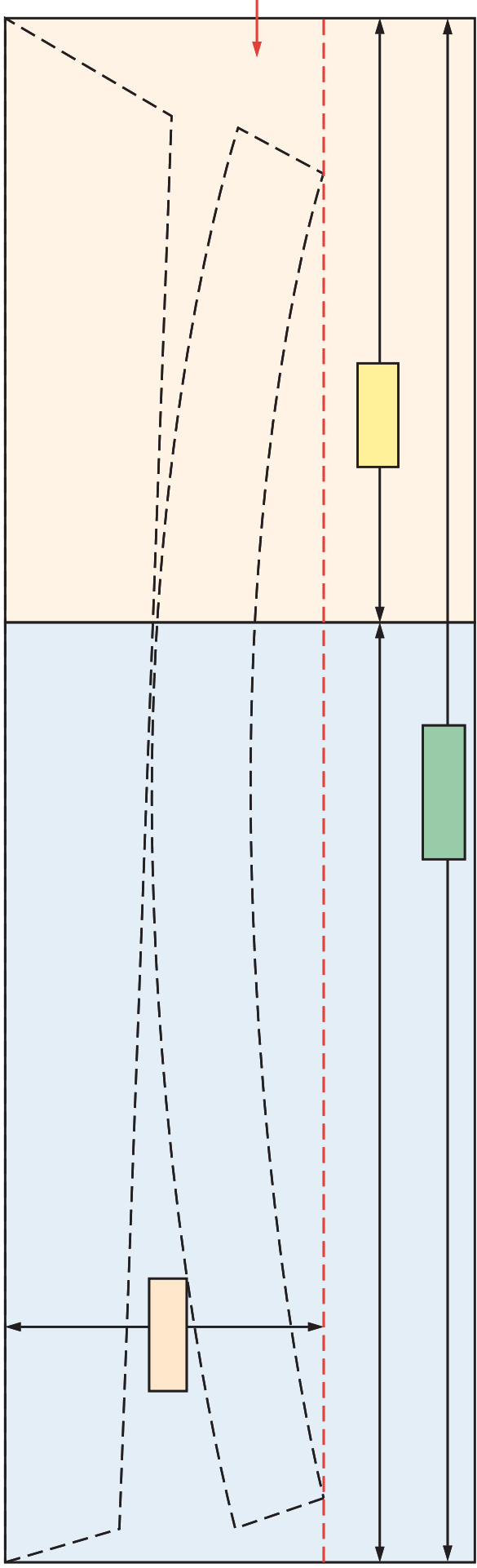


Slide out 2x6x8

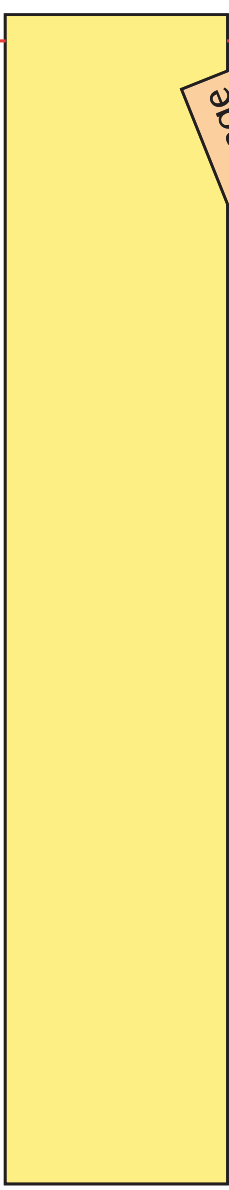


Side view of panels when the tie wire holes are drilled and the inside edges are beveled. The "outside" panel faces are together. When wired up the bevels are now on the inside.

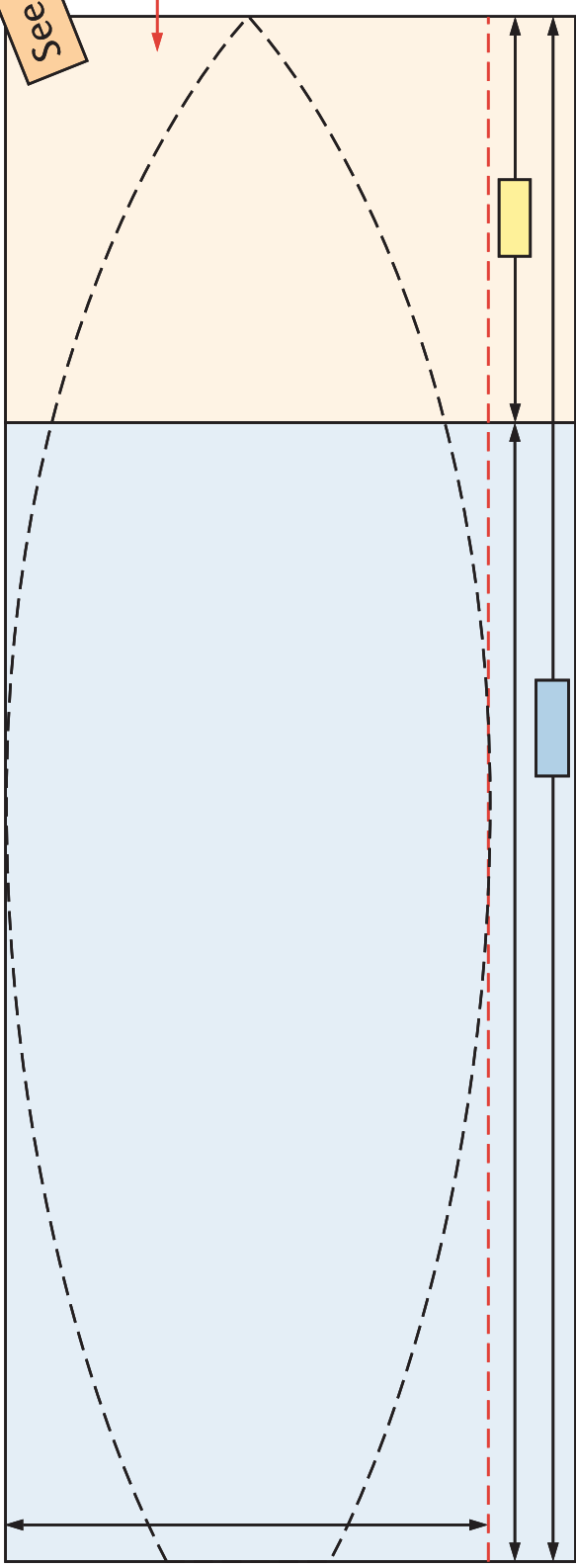
Side to Bottom chine seam

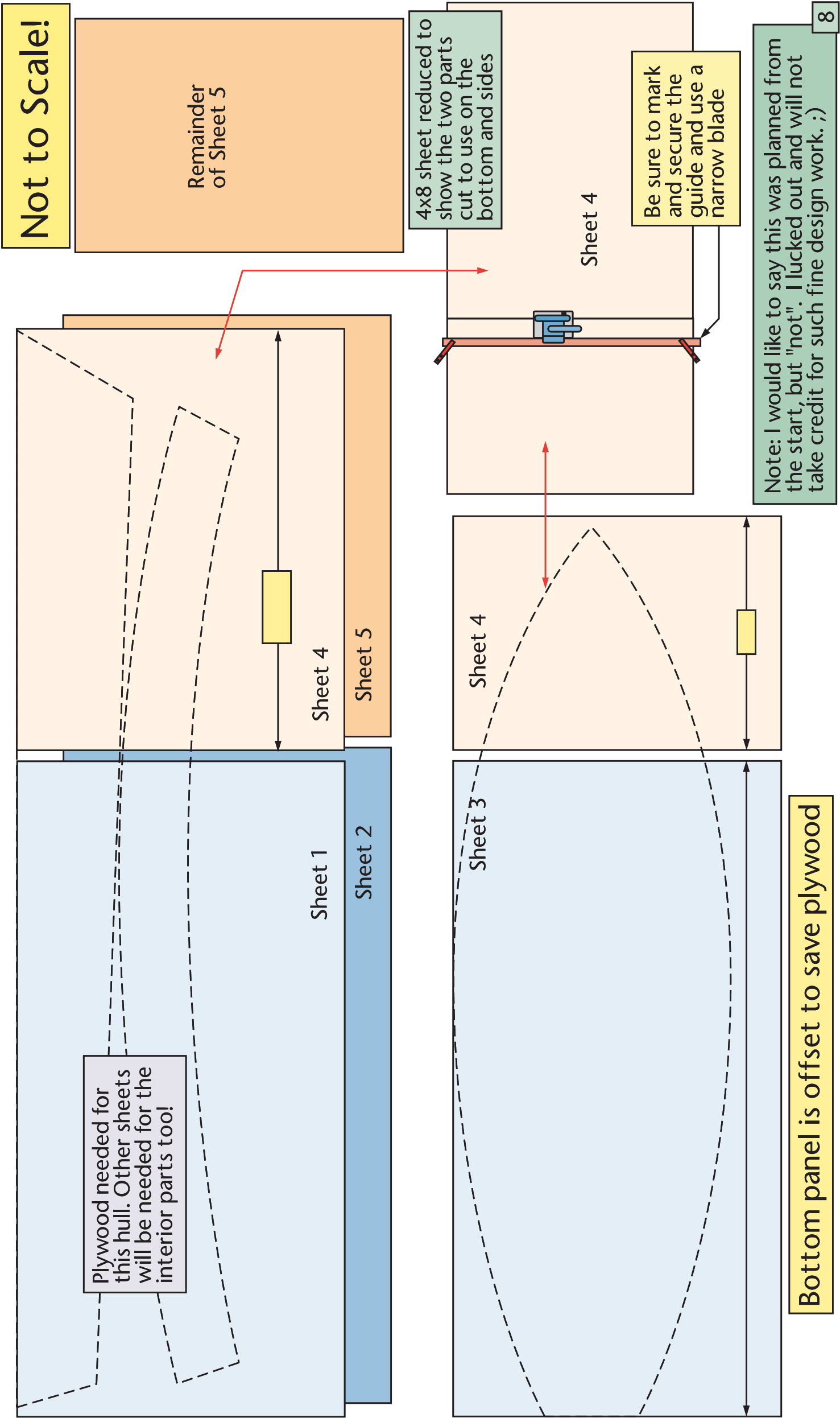


Outline of the hull panels for this hull to show the "cut size" of the plywood for these parts of the hull.



See next page

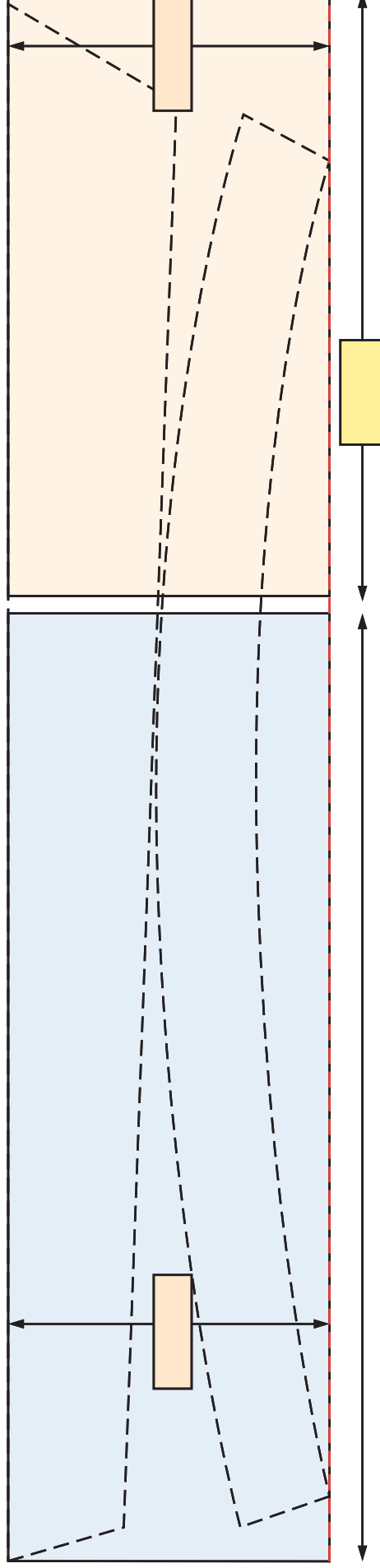
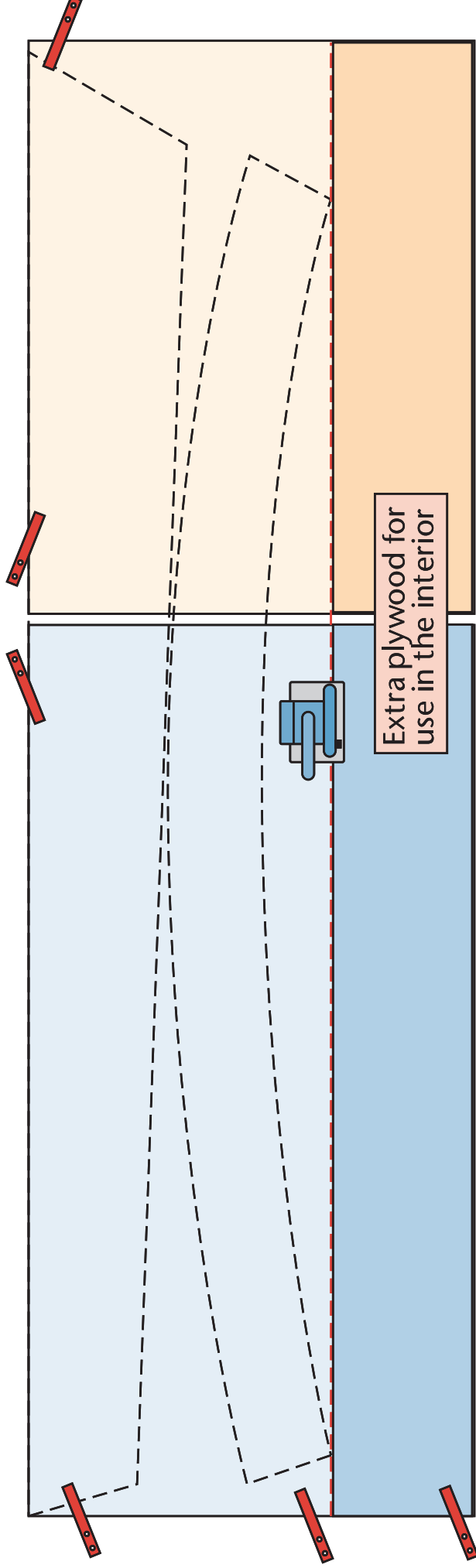




Not to Scale!

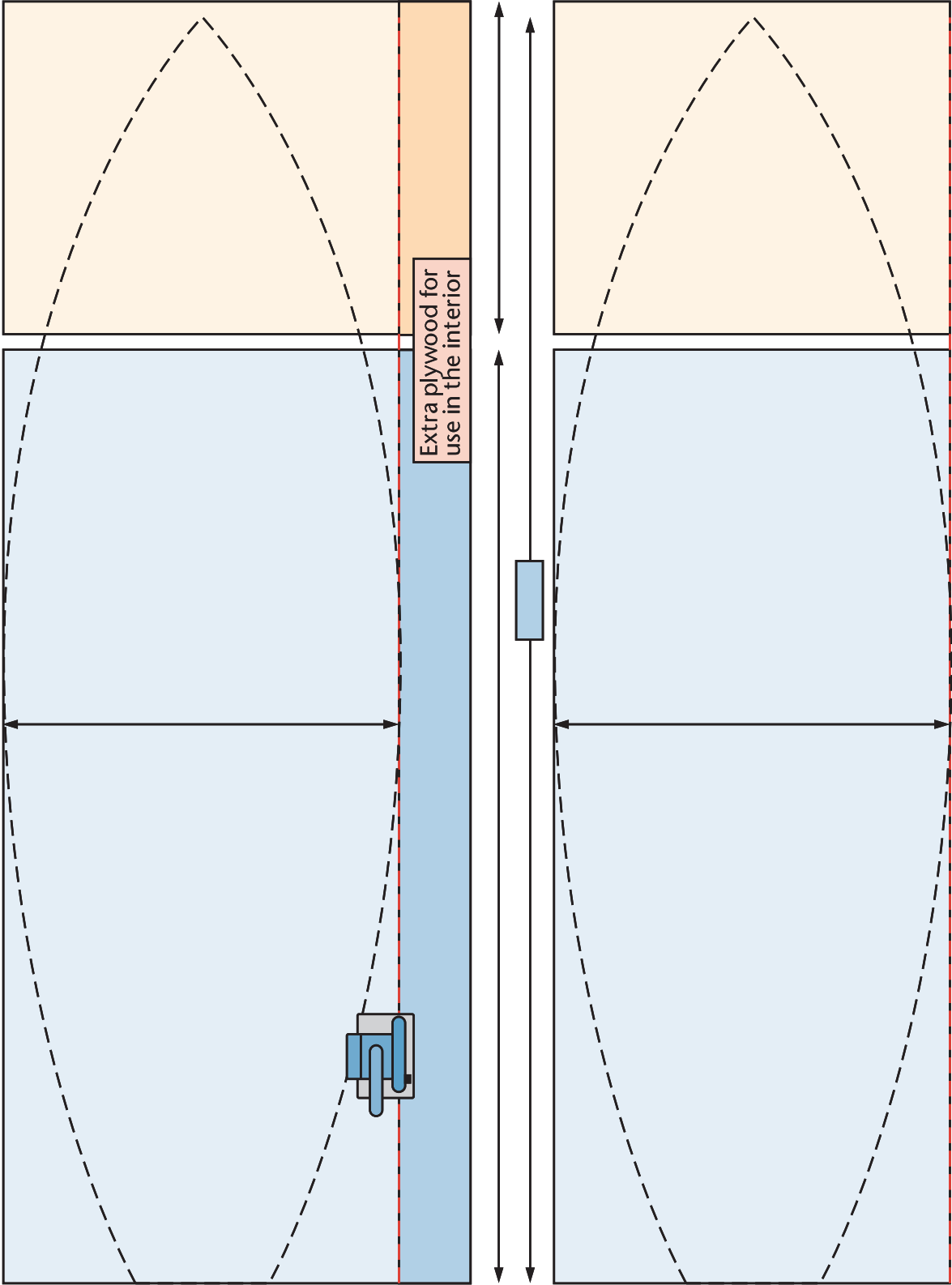
Note: Best to cut both sheets at the same time to be sure you have matched sets!

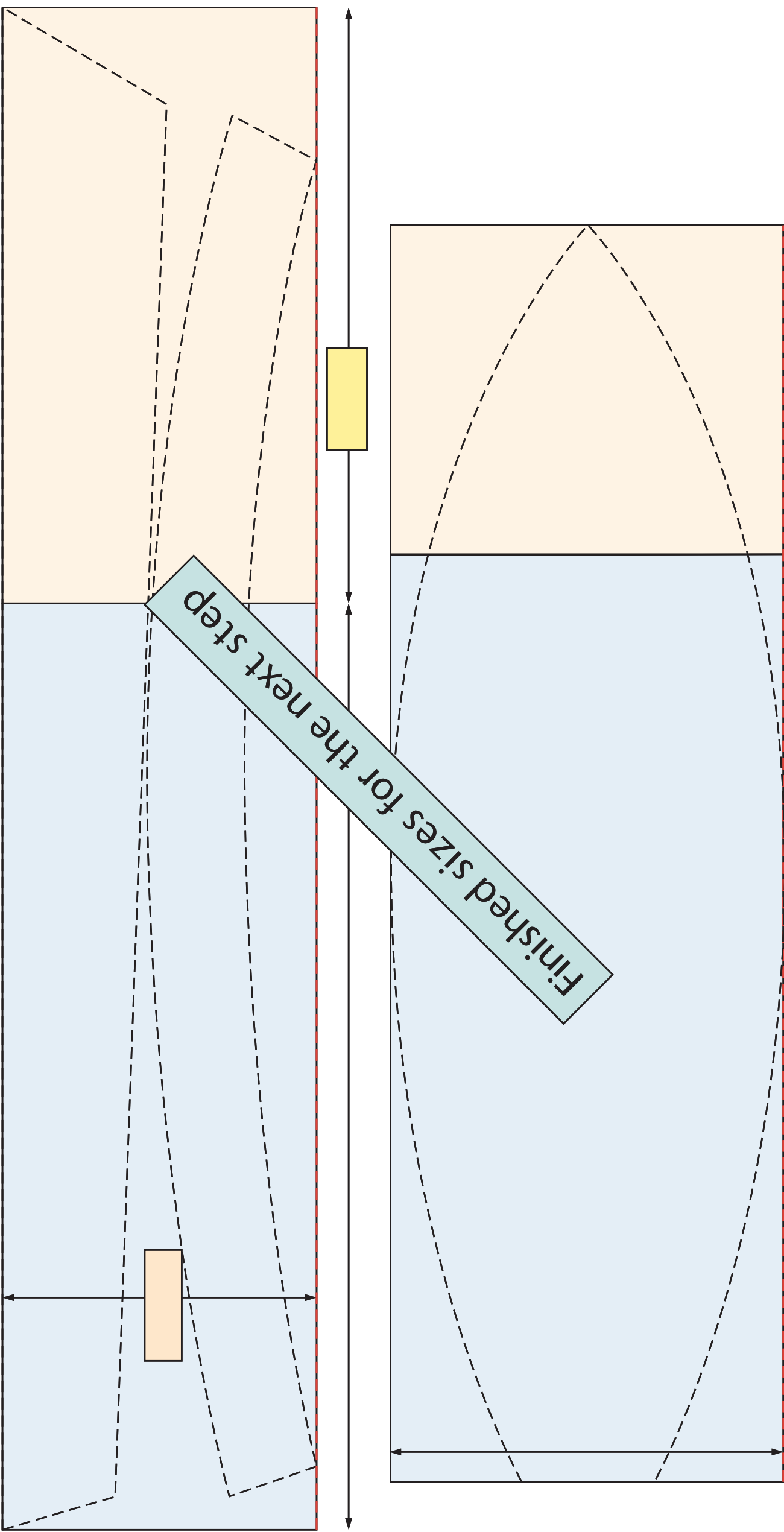
Cut down the sheets as shown on this page to make them ready for the next step.



Not to Scale!

Cut down the sheets as shown on this page to make them ready for the next step.





# Making the Payson Joint

Use the "factory" straight edges for the top edges!

Wet out each layer of glass cloth with epoxy. Let set for a couple hours to "turn green" and then use the utility knife to trim the tape off the edges!

Inside face of panels

Install a dual layer of glass cloth on the inside seams. First a layer of 8" wide cloth and then a layer of 14" wide cloth.

8" glass cloth

Layer of 14" glass cloth with masking tape to cover the edges and to give a line to cut to when the epoxy has cured!

Note: Remember to cover work platform with plastic to keep the panels from bonding to it!

14" wide

Inside of panel faces!

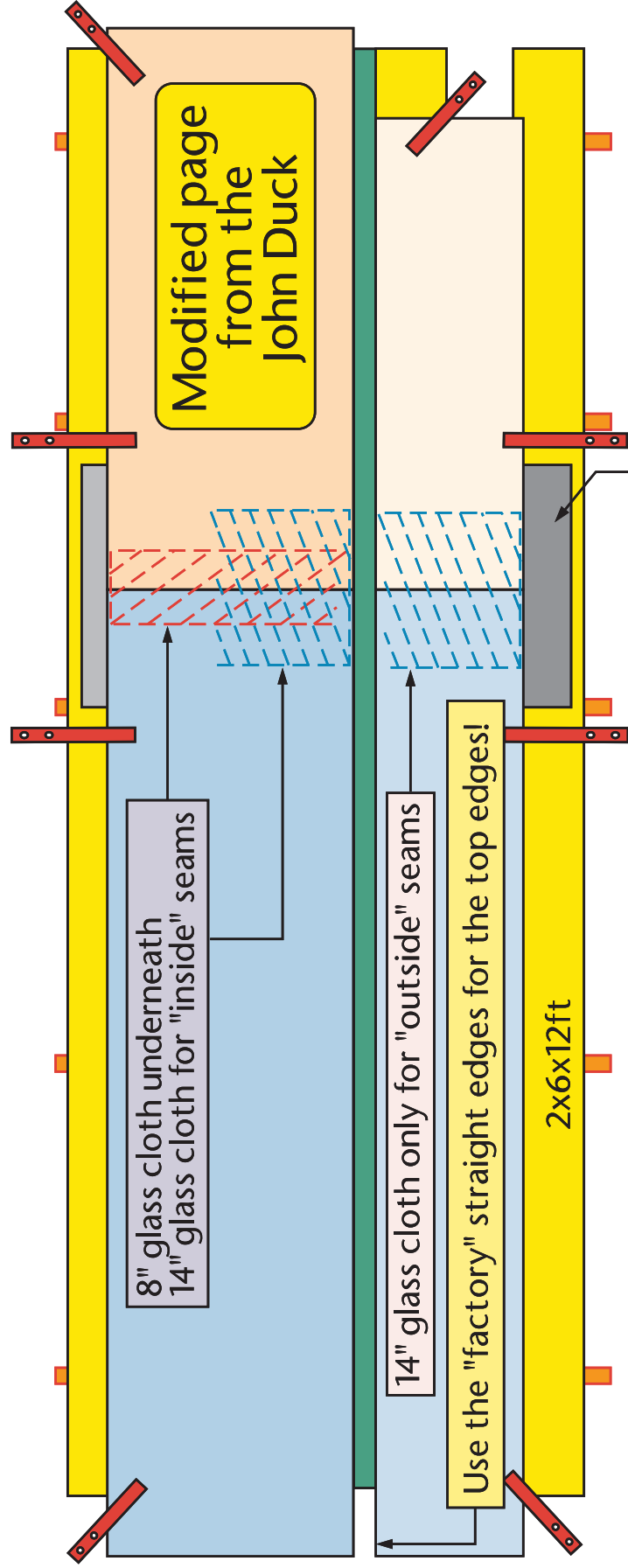
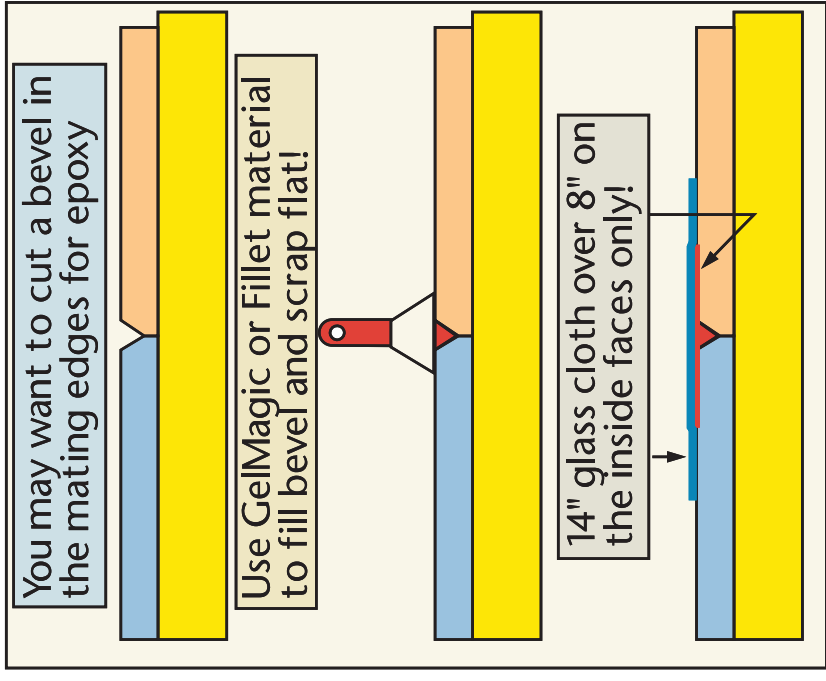
Note: The bottom panel is joined in the same way as the side panels, with the same glass cloth widths of 8" and 14" on the inside and 14" on the outside of the panels.

The outside face will have a layer of glass cloth too.

14" wide

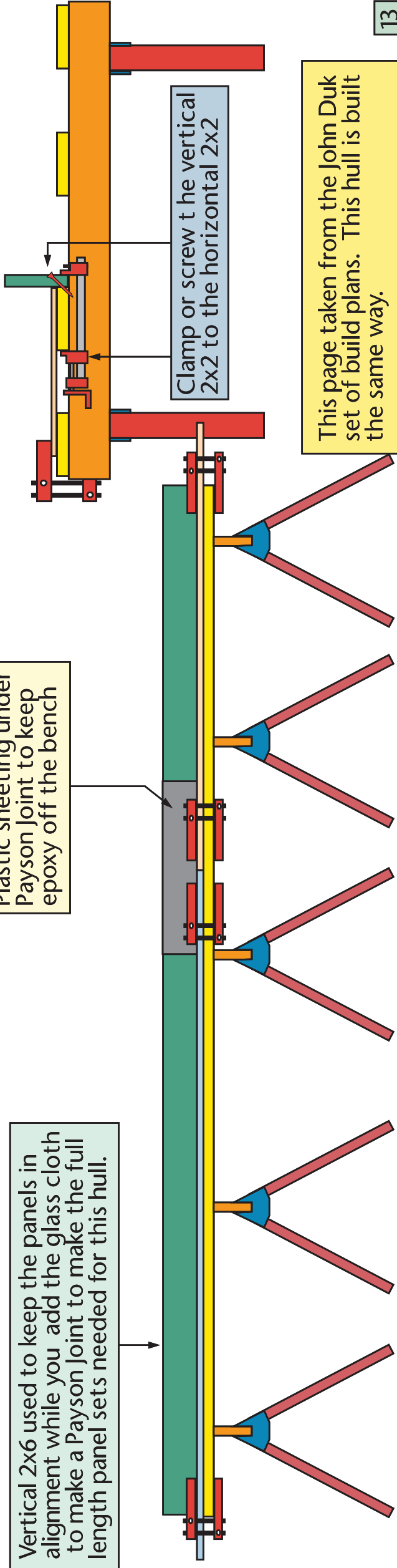
Outside face of panels

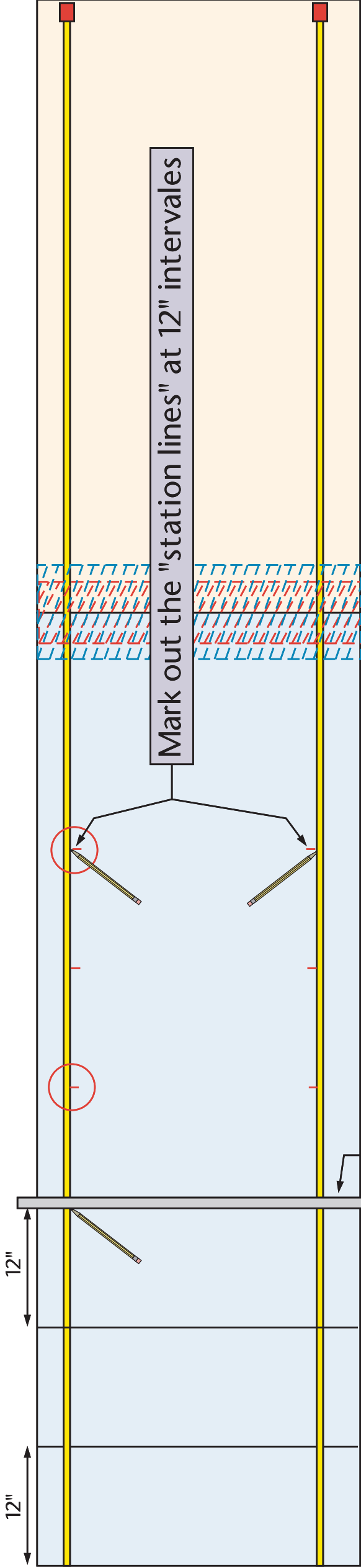
Single layer



Plastic sheeting under Payson joint to keep epoxy off the bench

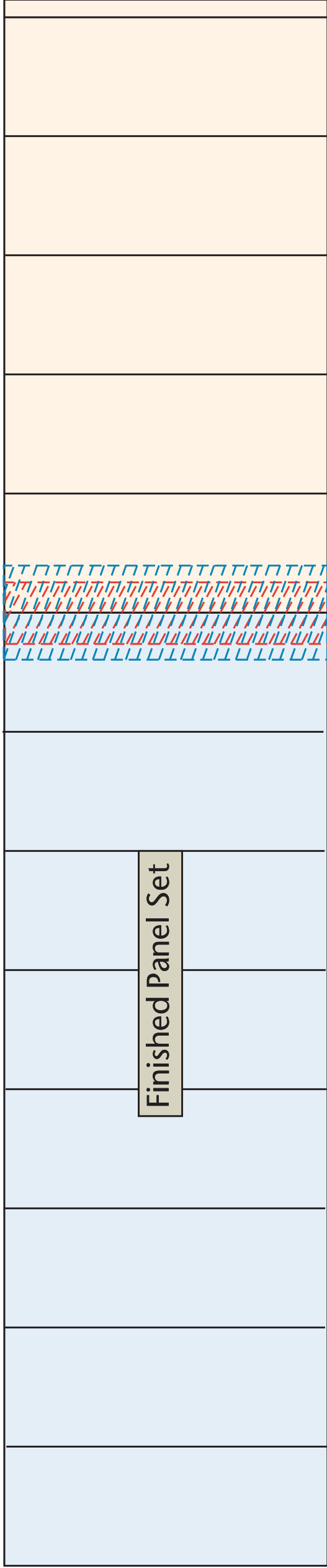
Vertical 2x6 used to keep the panels in alignment while you add the glass cloth to make a Payson joint to make the full length panel sets needed for this hull.

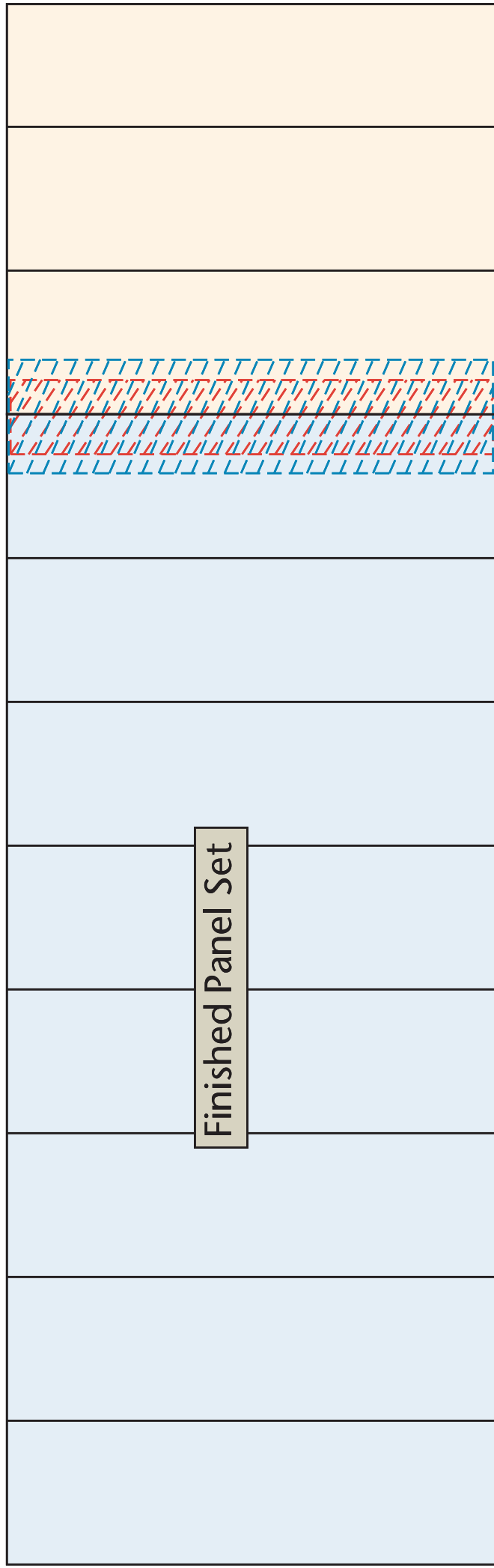
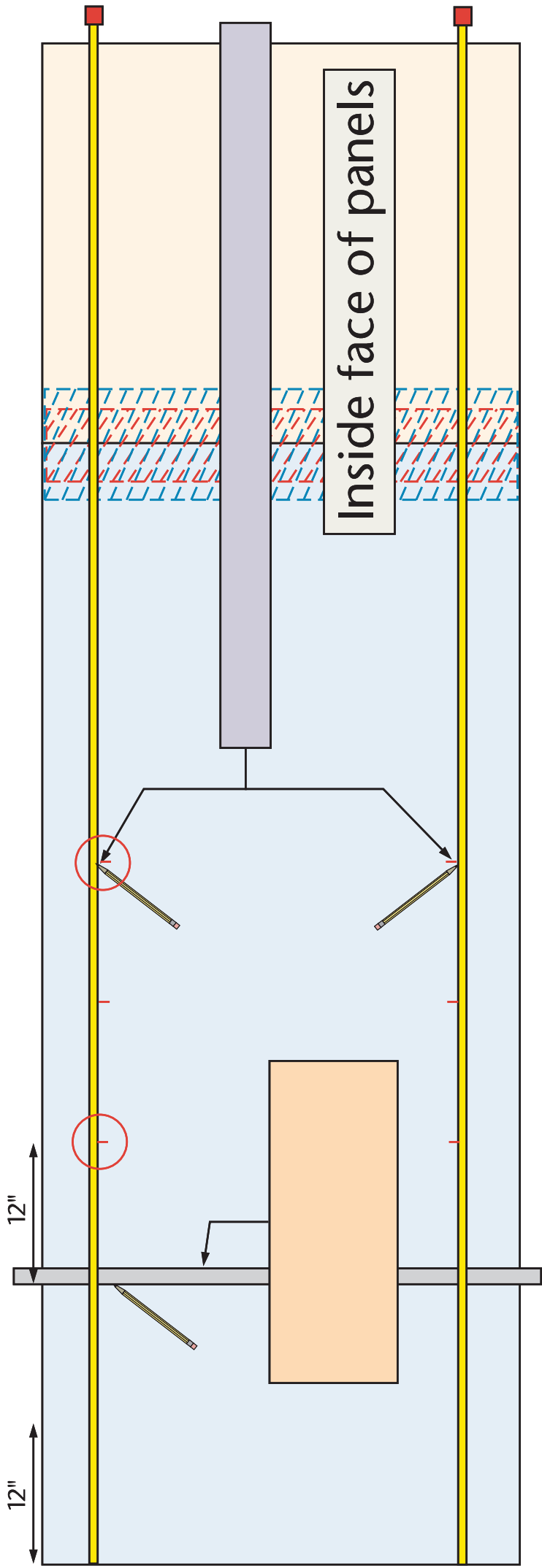




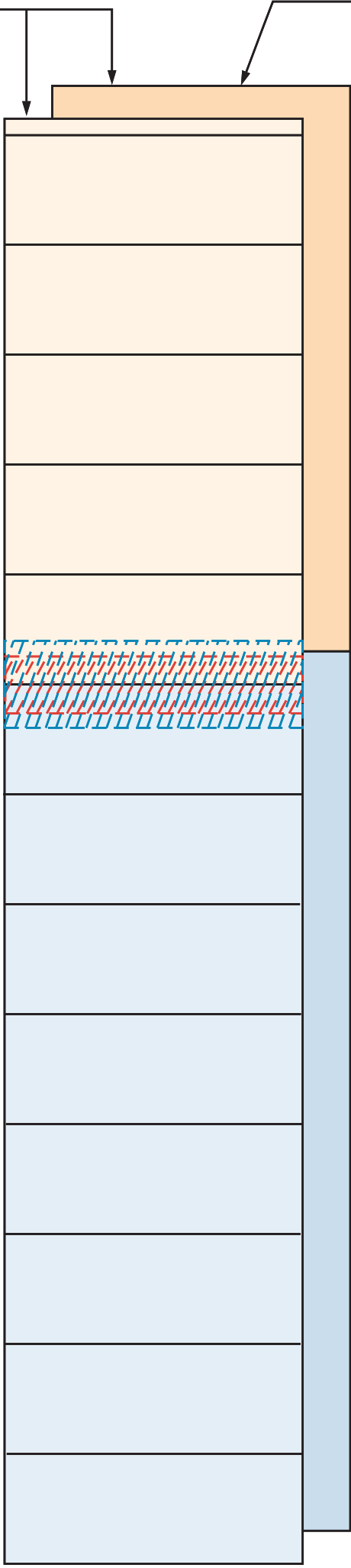
Only the top panel set  
needs to be marked

Inside face of panels





Double setup for  
the bottom panel



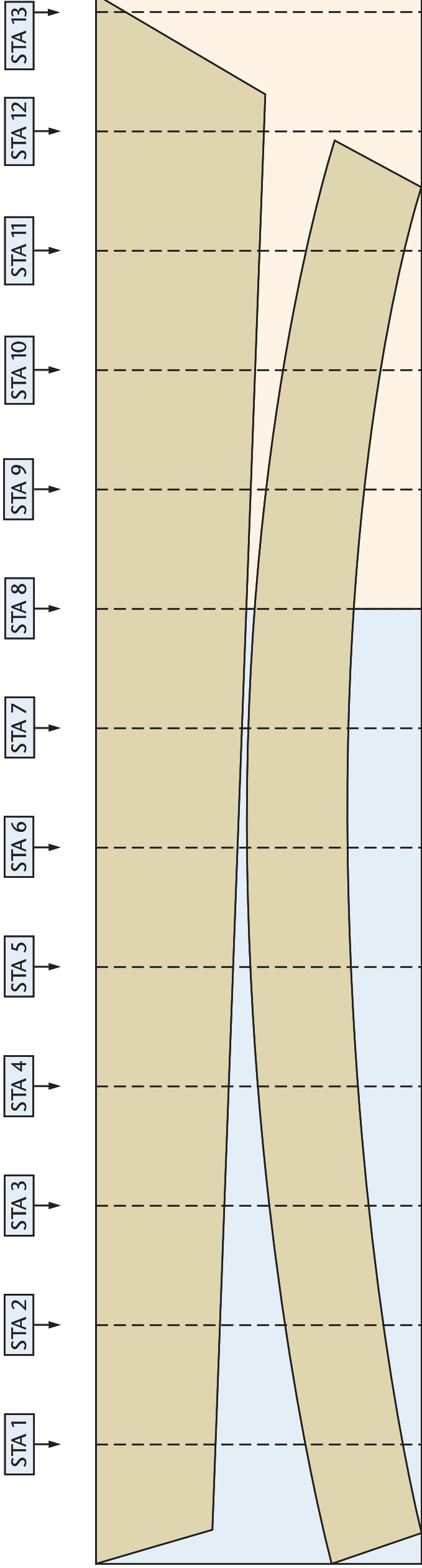
Bottom set  
not marked!

Finished Panel Sets  
ready to loft the offsets

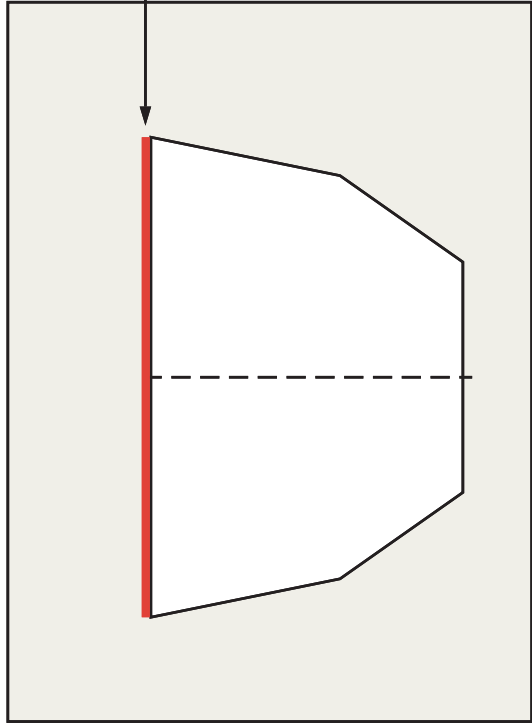
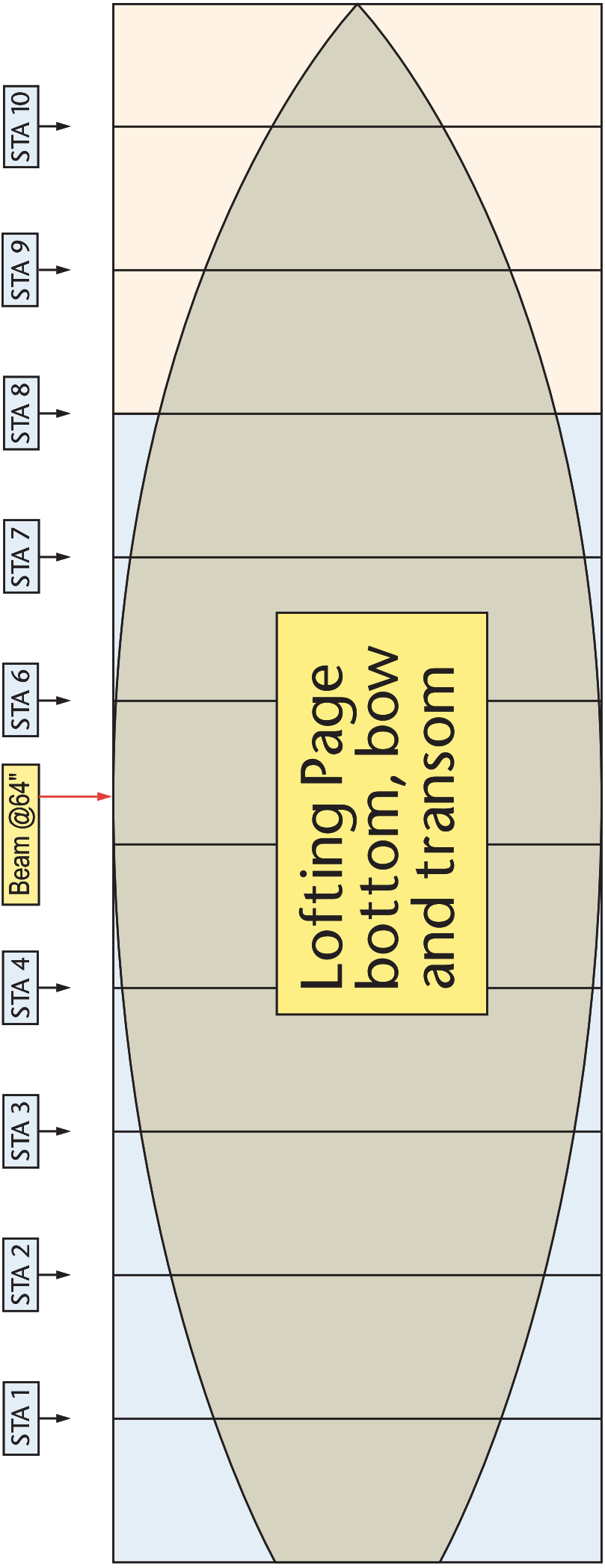
Not to Scale!

Single setup for  
the bottom panel

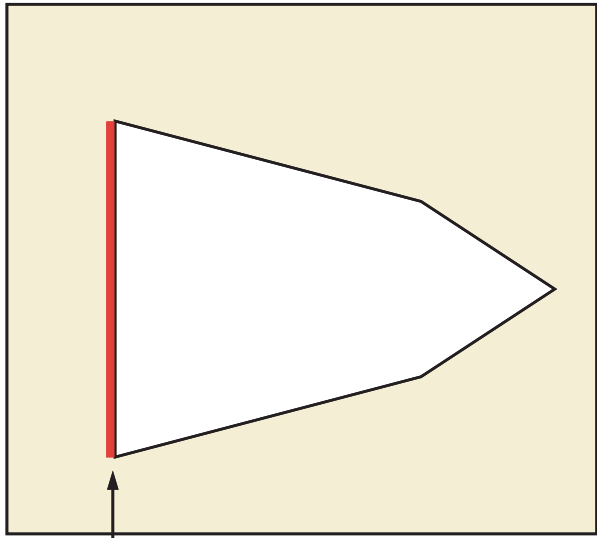


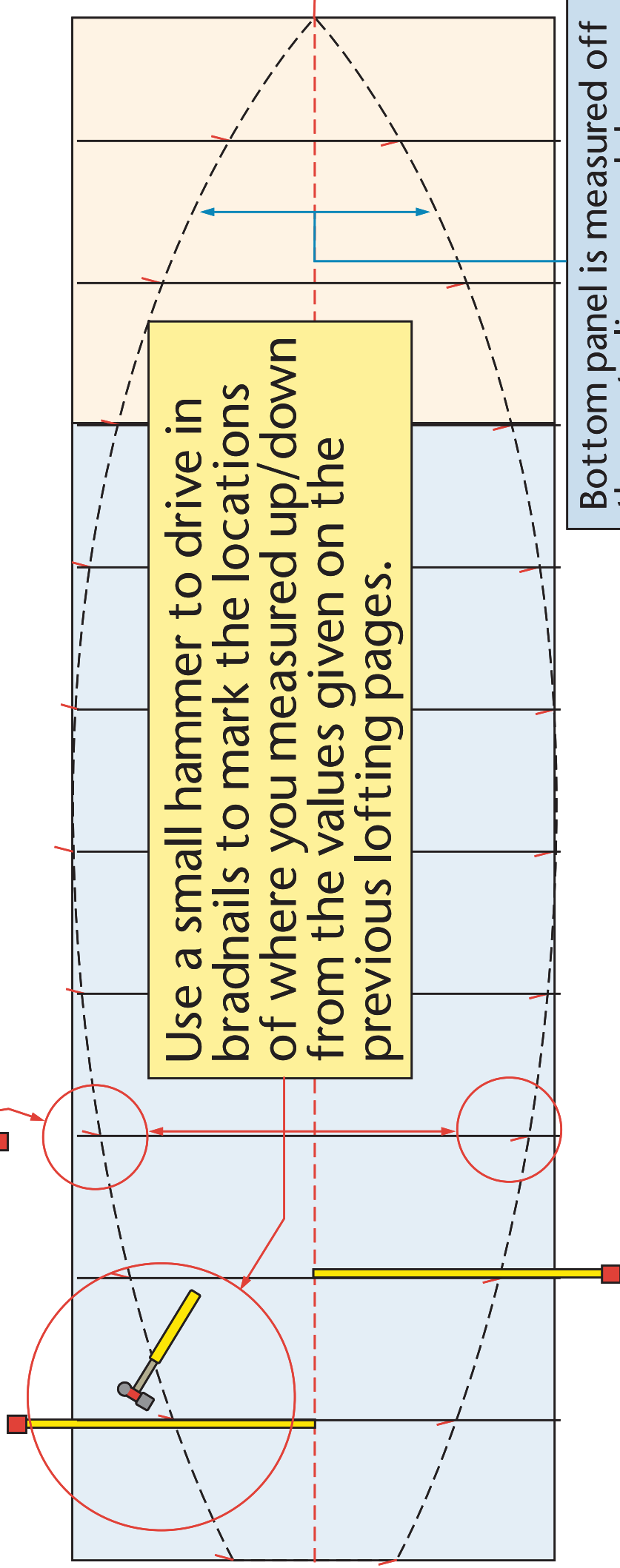
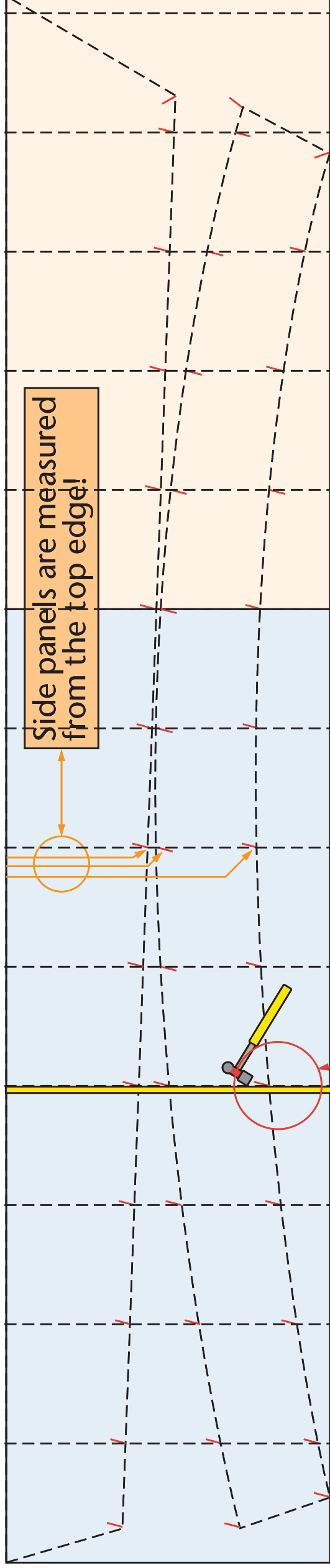


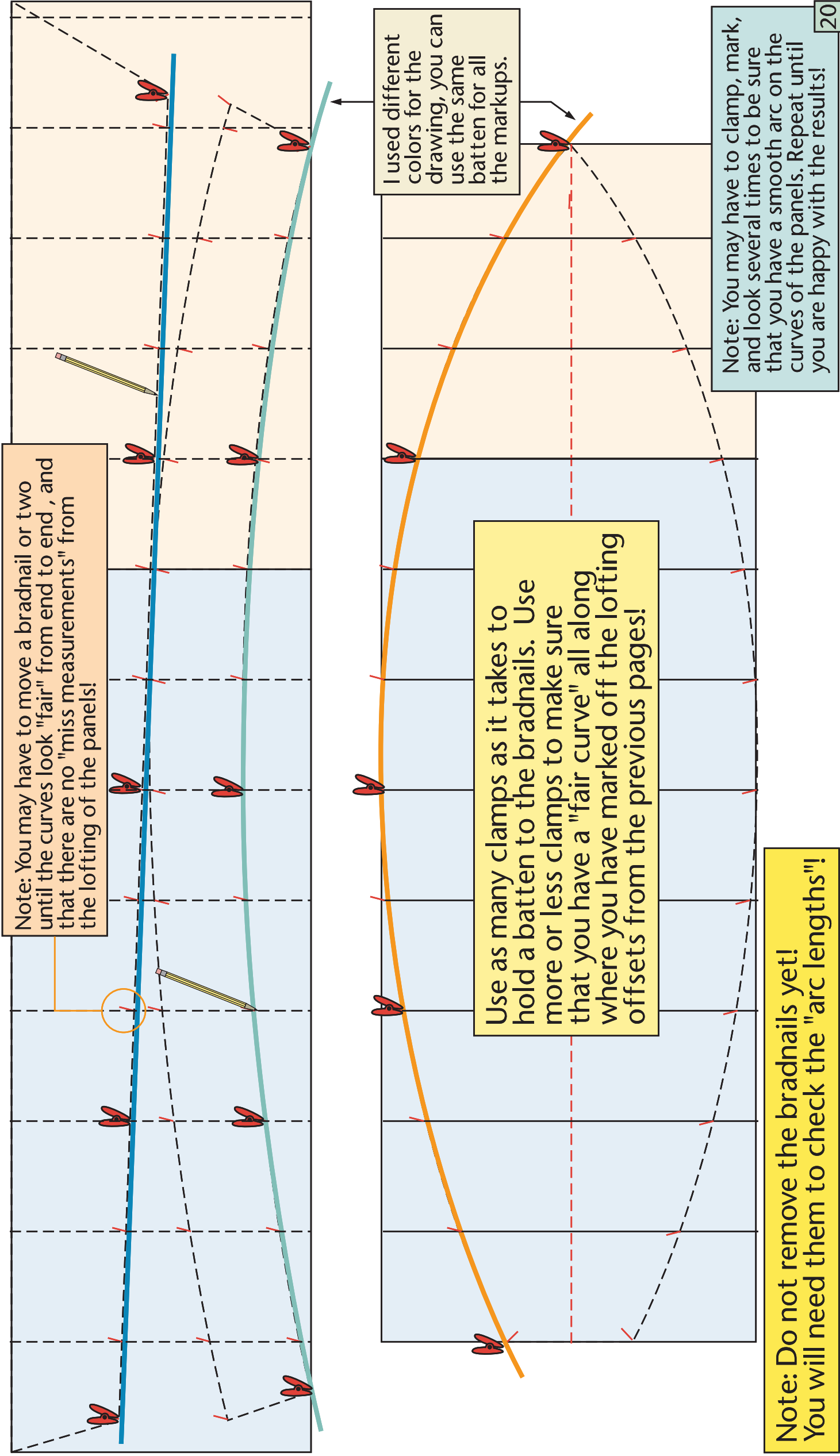
# Lofting Page



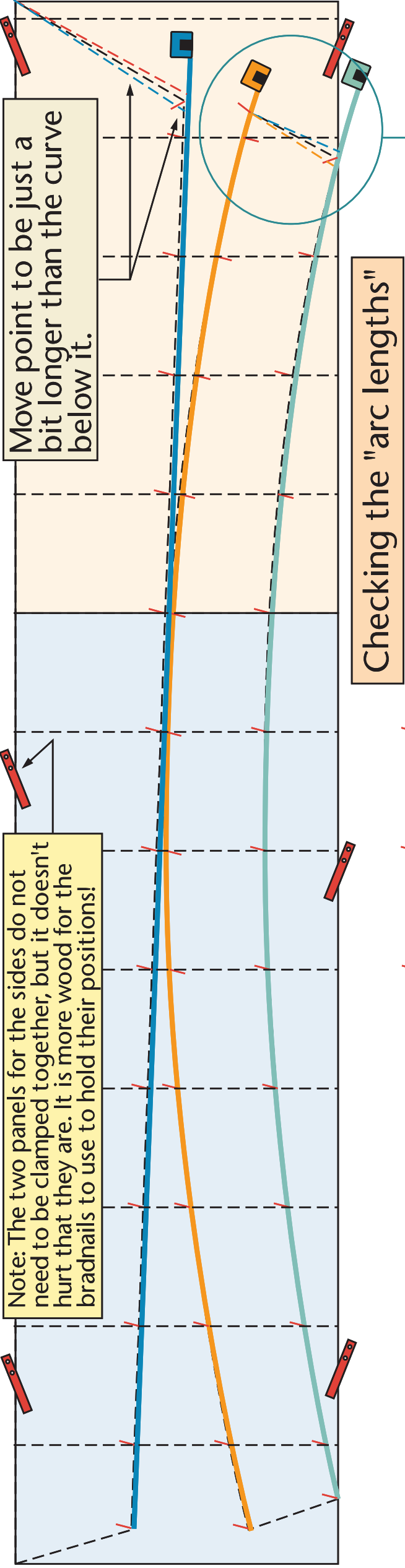
It helps with installing the rails to add an extra 1/4" to the tops of the bow and transom panels!







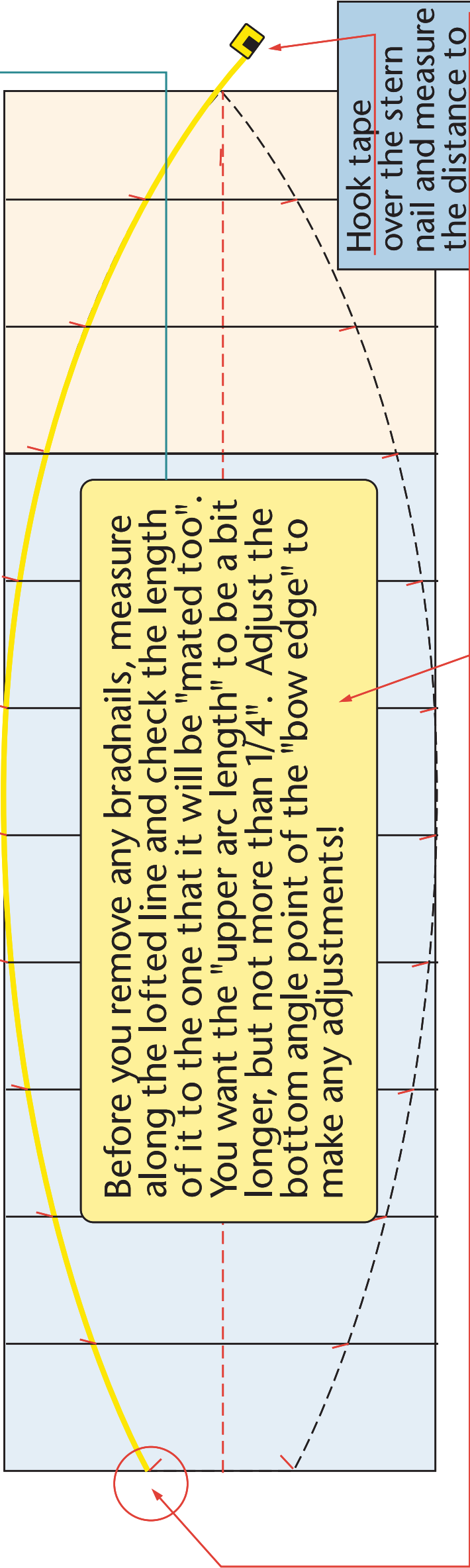
Note: The two panels for the sides do not need to be clamped together, but it doesn't hurt that they are. It is more wood for the bradnails to use to hold their positions!

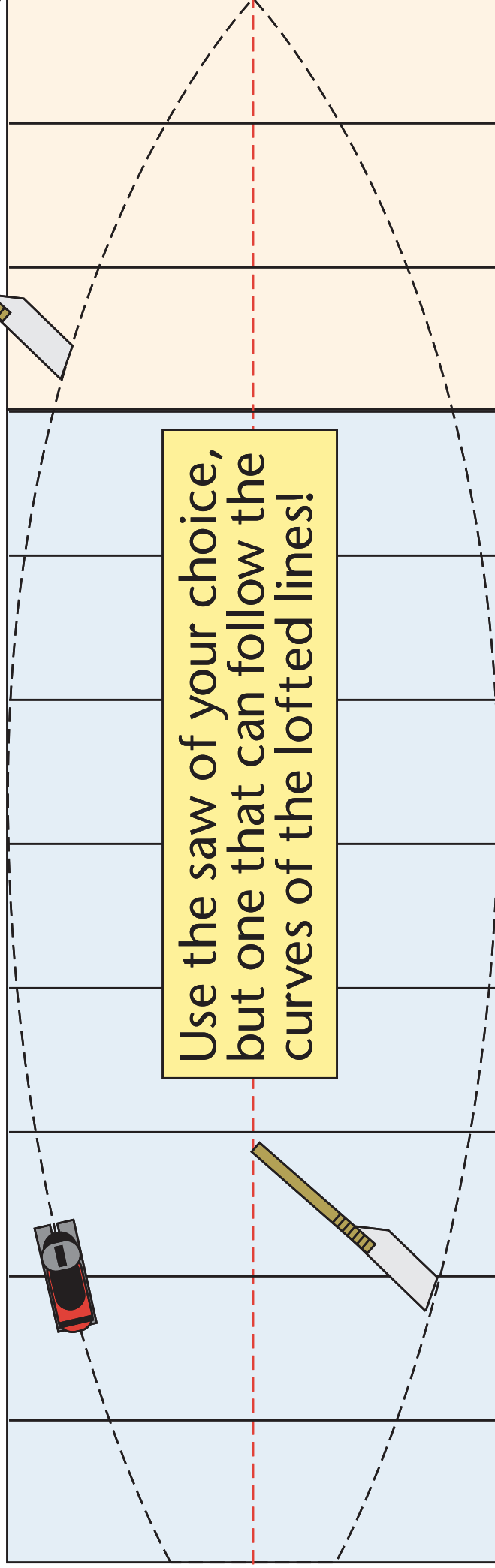
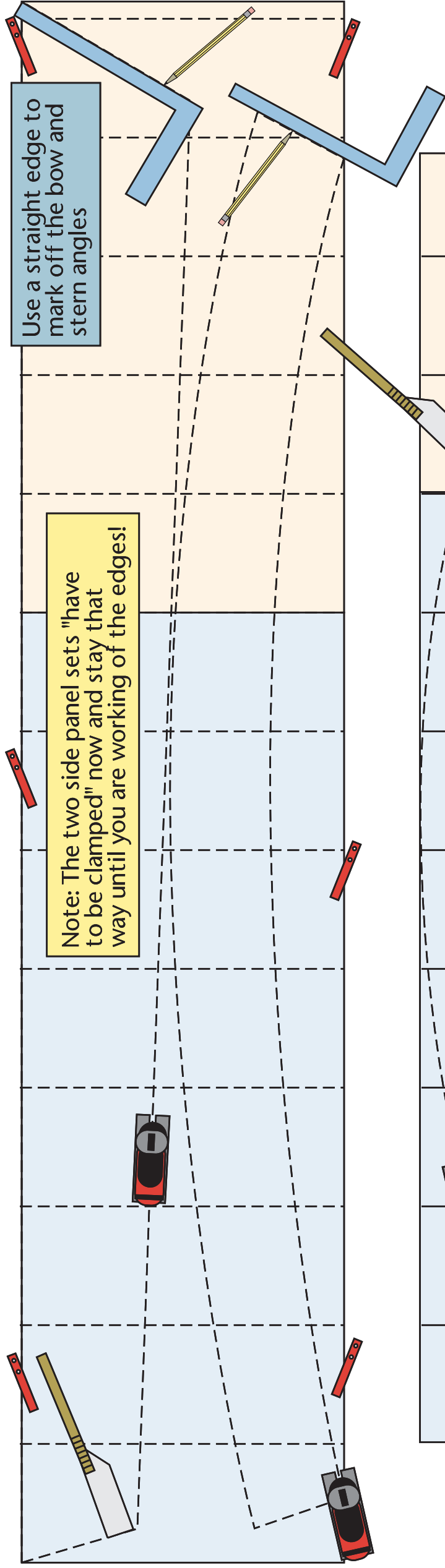


### Checking the "arc lengths"

Before you remove any bradnails, measure along the lofted line and check the length of it to the one that it will be "mated too". You want the "upper arc length" to be a bit longer, but not more than 1/4". Adjust the bottom angle point of the "bow edge" to make any adjustments!

Hook tape over the stern nail and measure the distance to the bow nail



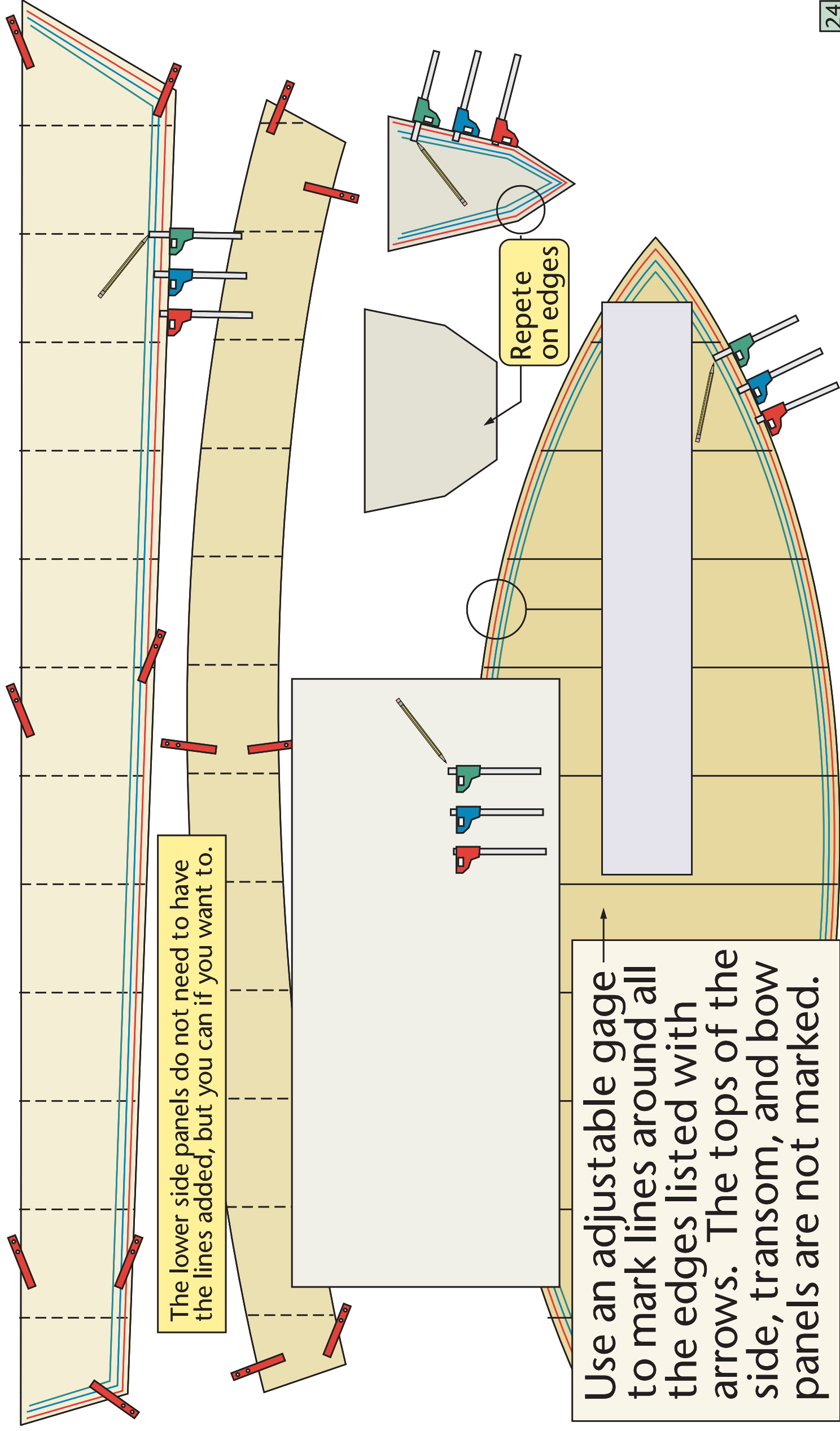


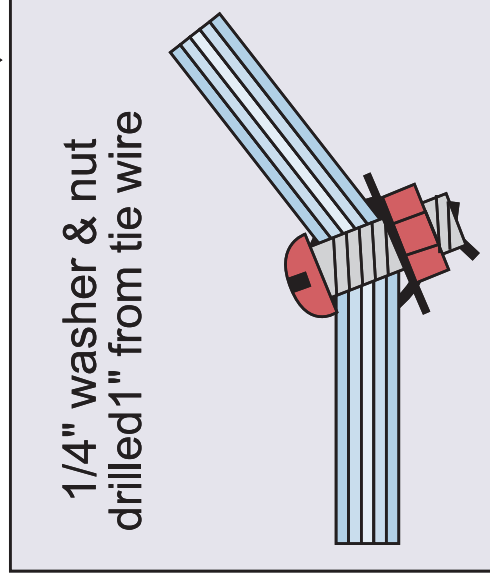
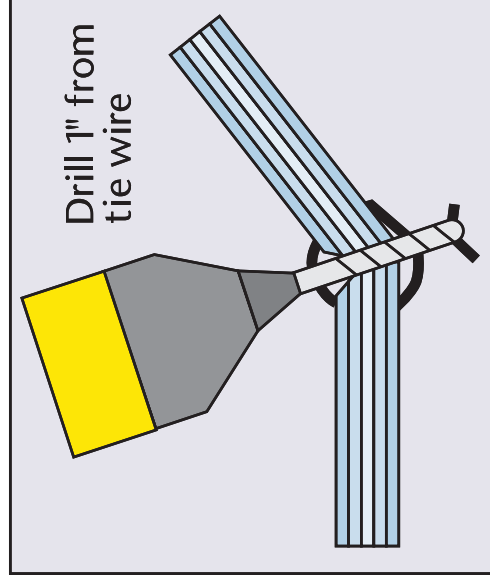
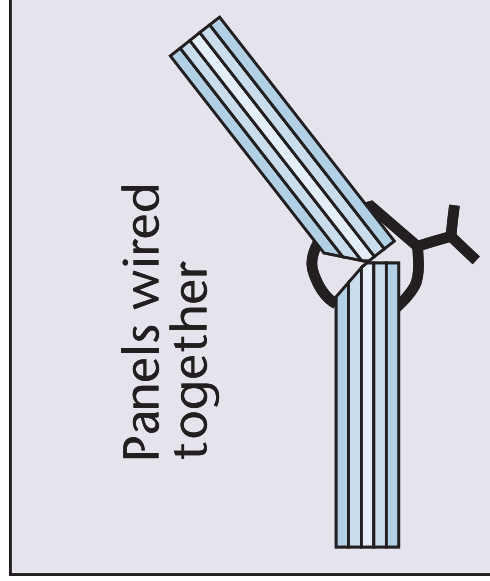
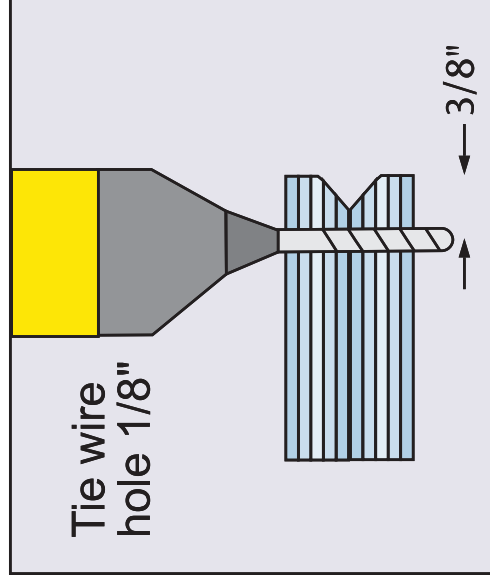
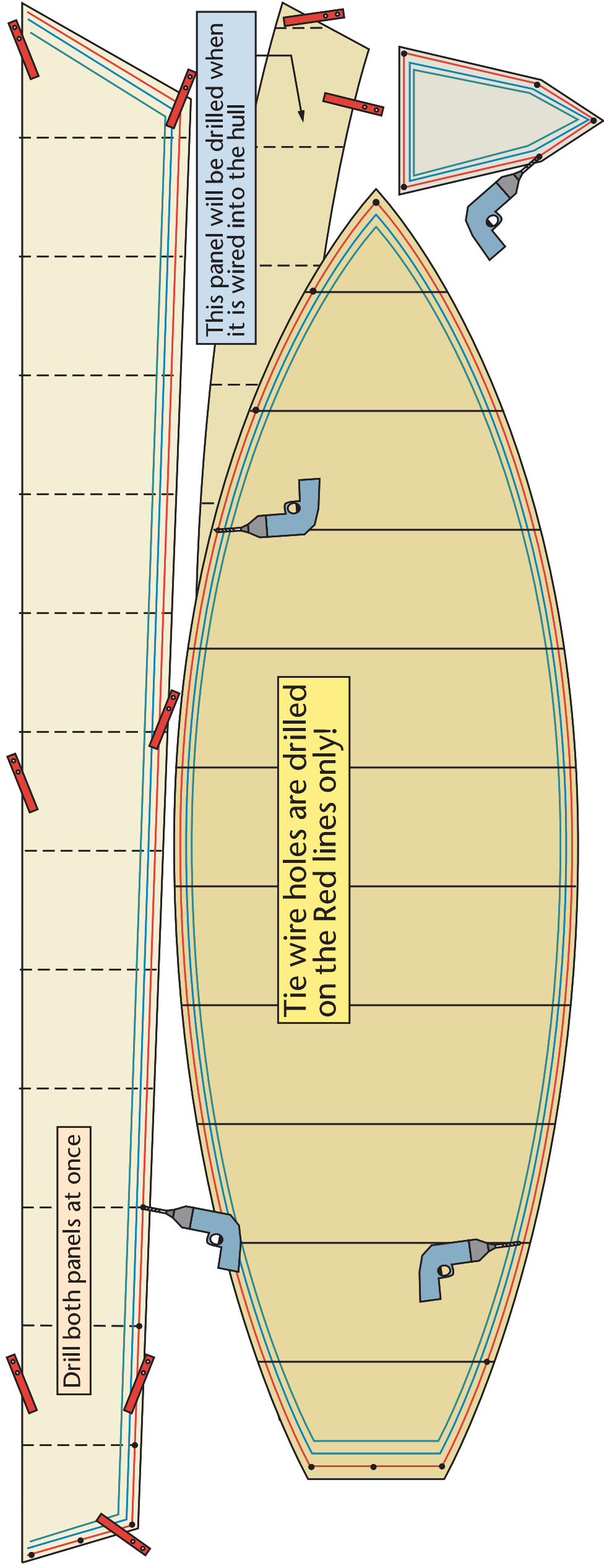
Before you unclamp the top side panel set, take a saw and make a 1/8" cut at each of the station lines. These will be the "station line cut marks" that will be referred to in the "build plans". They are used to line up all the interior parts so it's all square!

Making the "station line cut marks"

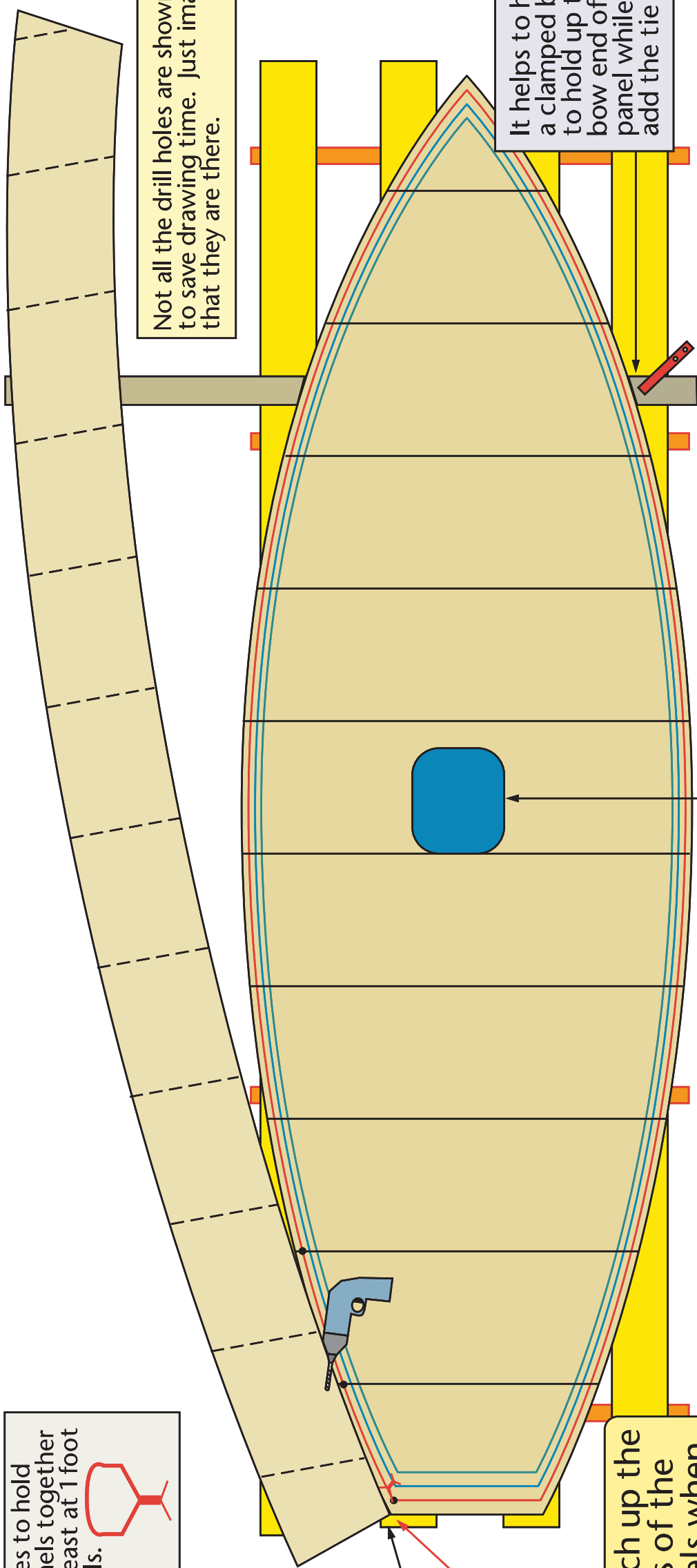
Finished panel sets with the grid lines showing on the top panels only. The upper panels will need to "stay clamped" until the following steps are completed.

Panels offset to show that there are two of them. Think of them as being one behind the other.





Tie wires to hold the panels together set at least at 1 foot intervals.



Not all the drill holes are shown to save drawing time. Just imagine that they are there.

It helps to have a clamped board to hold up the bow end of the panel while you add the tie wires

Sand bag to hold down bottom panel while wiring up

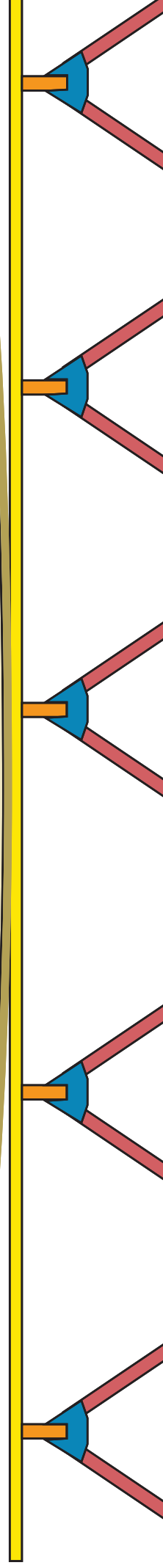
Match up the ends of the panels when you start!

Pads to hold up ends for wiring together

Drill and wire from the transom to the bow

Support board used while you wire up the upper panels

Match up the ends of the panels when you start!



If you checked and fixed any "arc length" errors, this should not happen, but if it does, you can fix it now.

Not all the tie wires or nuts and bolts are shown in the drawing to keep down the clutter. Read the text instructions and you look at the build drawings to see what needs to be done!

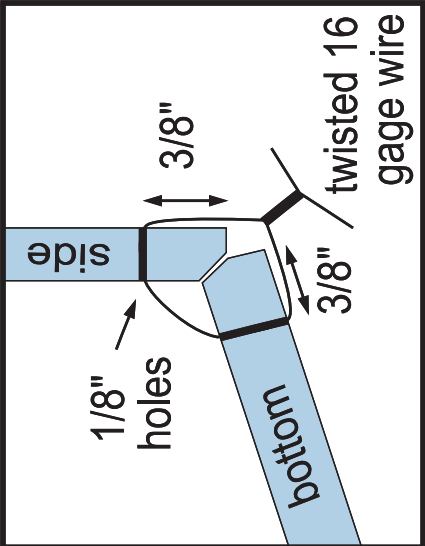
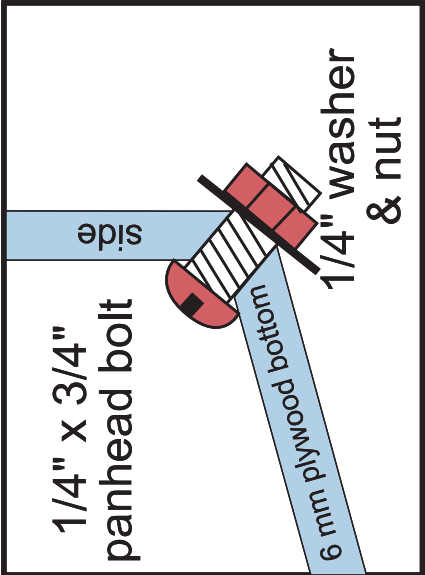
The transom and bow on this hull are flat panels, so make any adjustments now so it fits in a "straight line" with the aft end of the two side panels! Adjust the ends of the top to lower side panel corners!



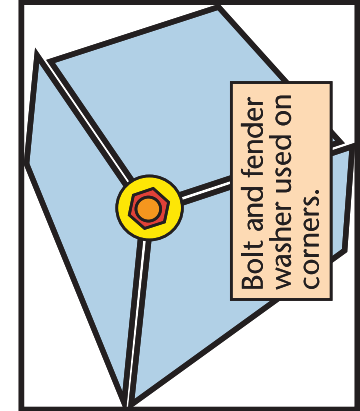
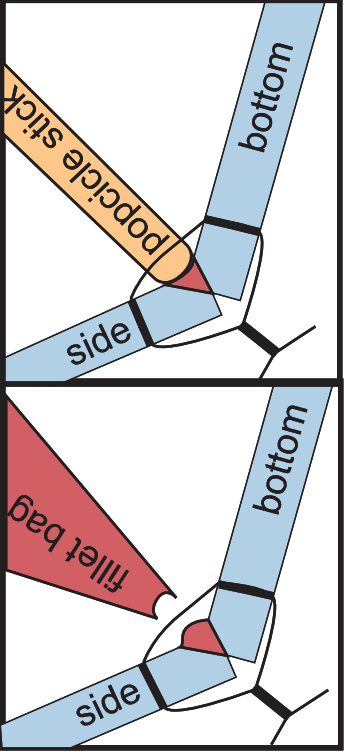
Drill bolt holes 1" aft of wires!

Make sure the "transom" edges are even!

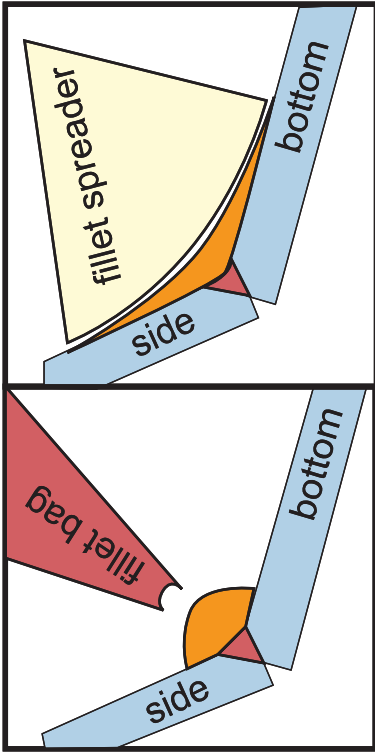
See the next page for details on this



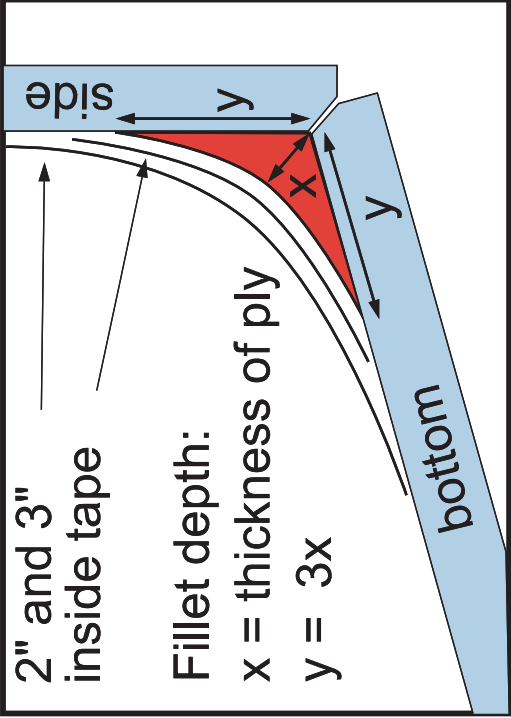
Wiring and bolting the panel sections together



Jump Stitch

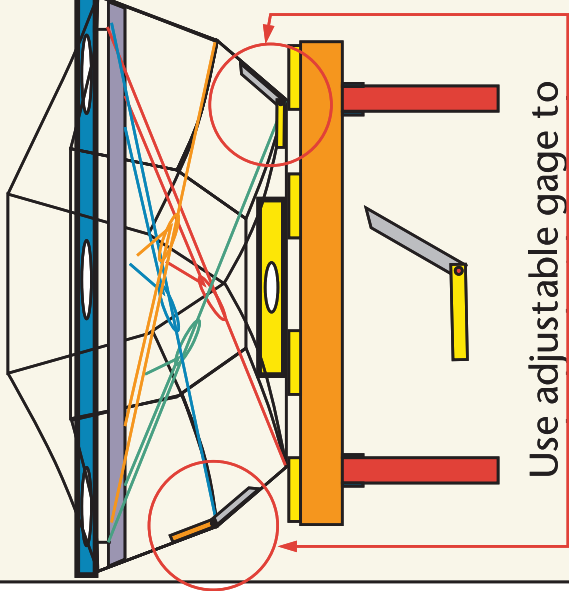
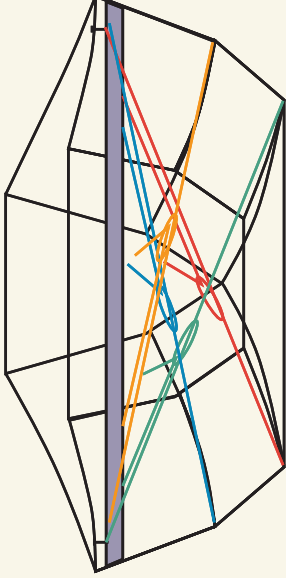
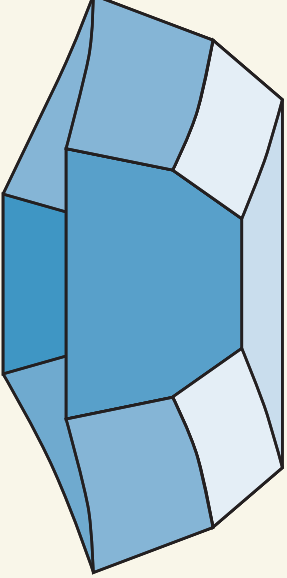
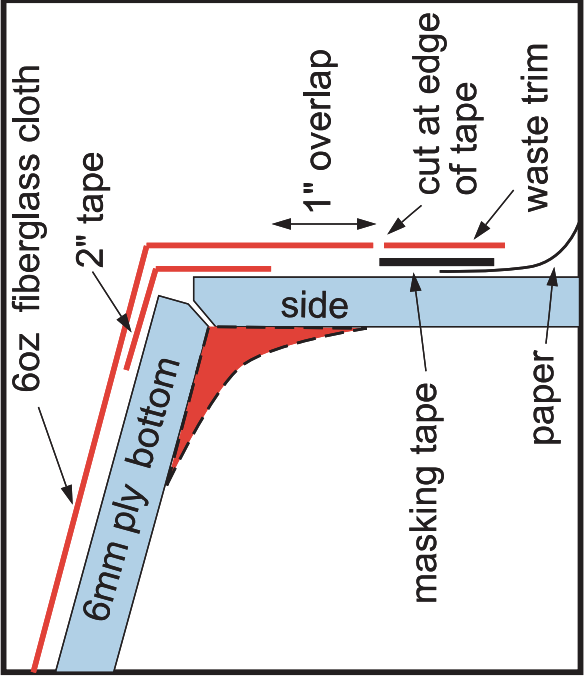


Applying and Spreading the Fillet



Cross section of taped seam

Bottom outside edge details

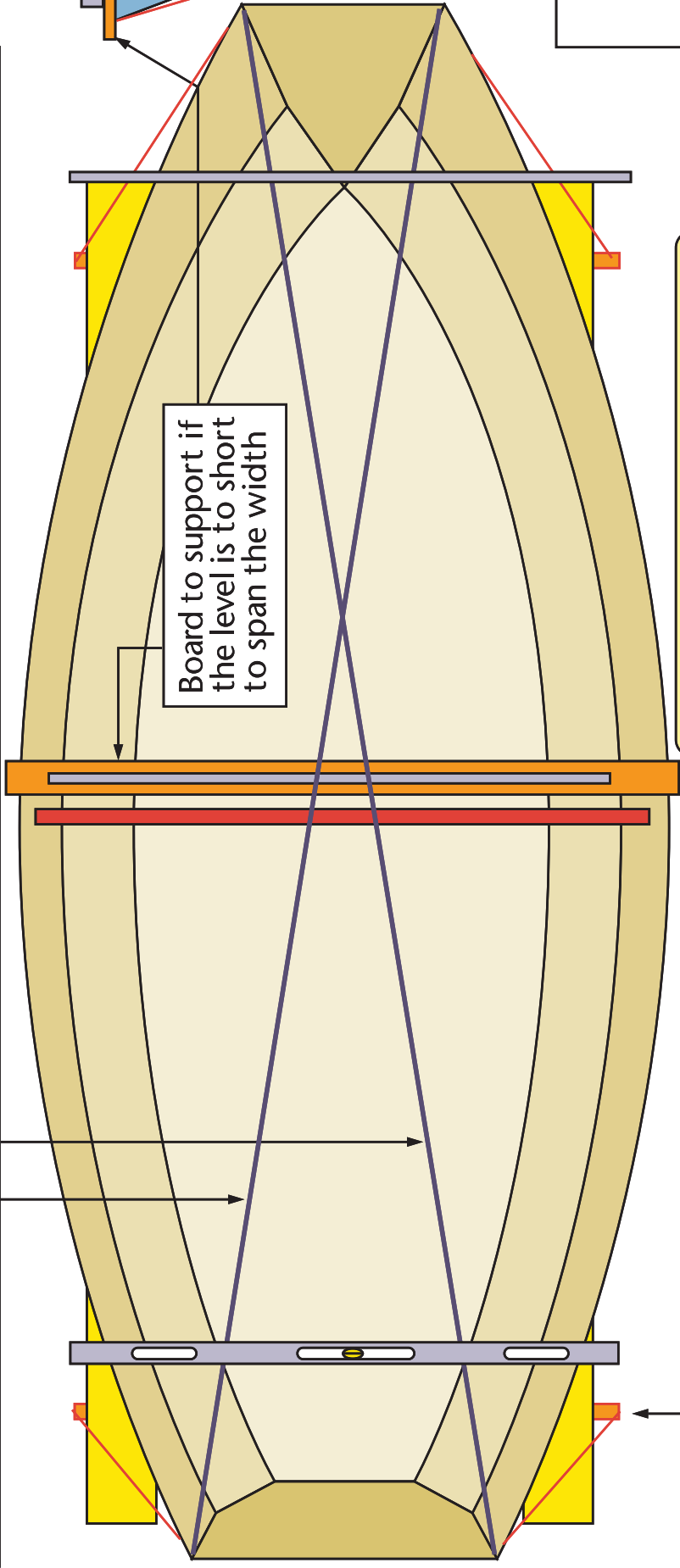


Use adjustable gage to make both sides equal to the level bottom of the hull.

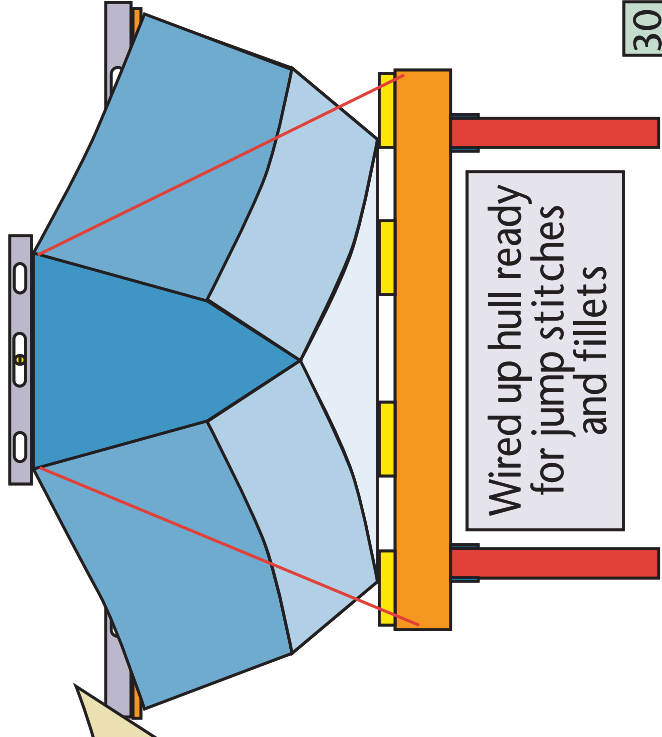
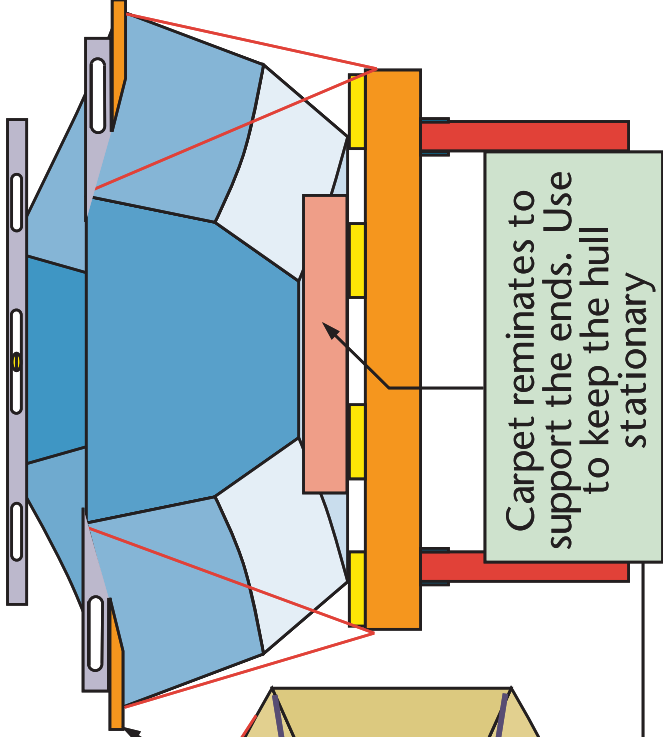
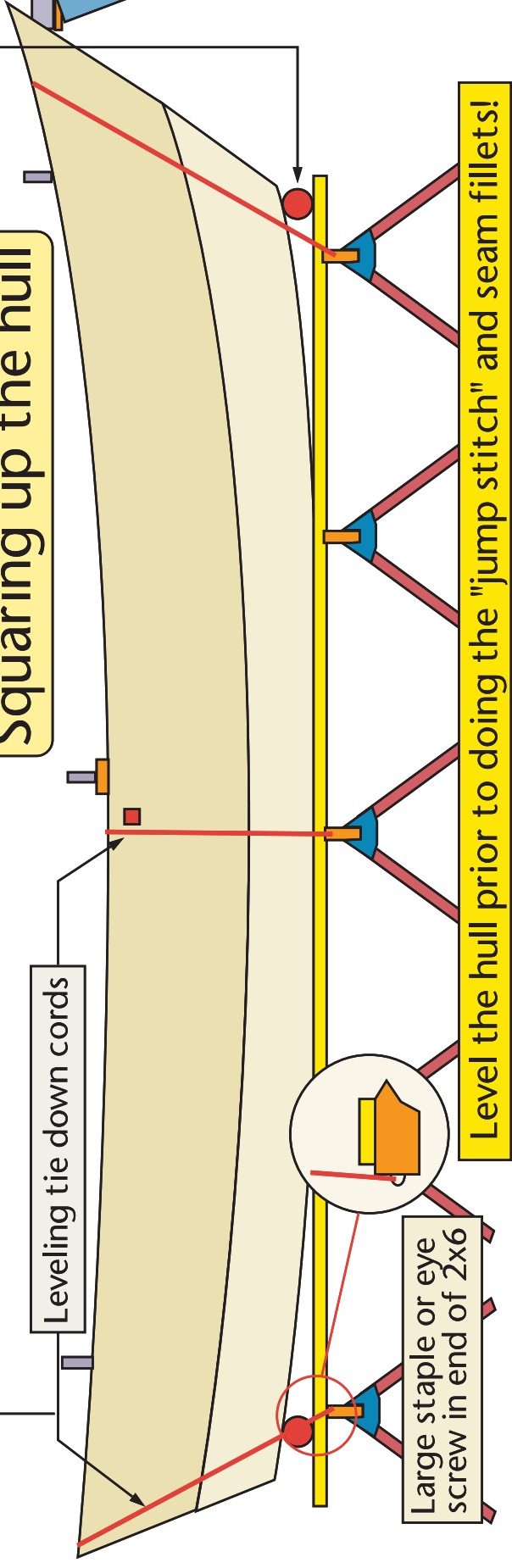
Squaring up the hull

Read the instructions as you study these drawings. Each picture tells a story. Use the cardboard model you made to visualize the directions.

Cross hull tension lines used to "square up" the hull. Adjust until the "cross hull distances" are the same!

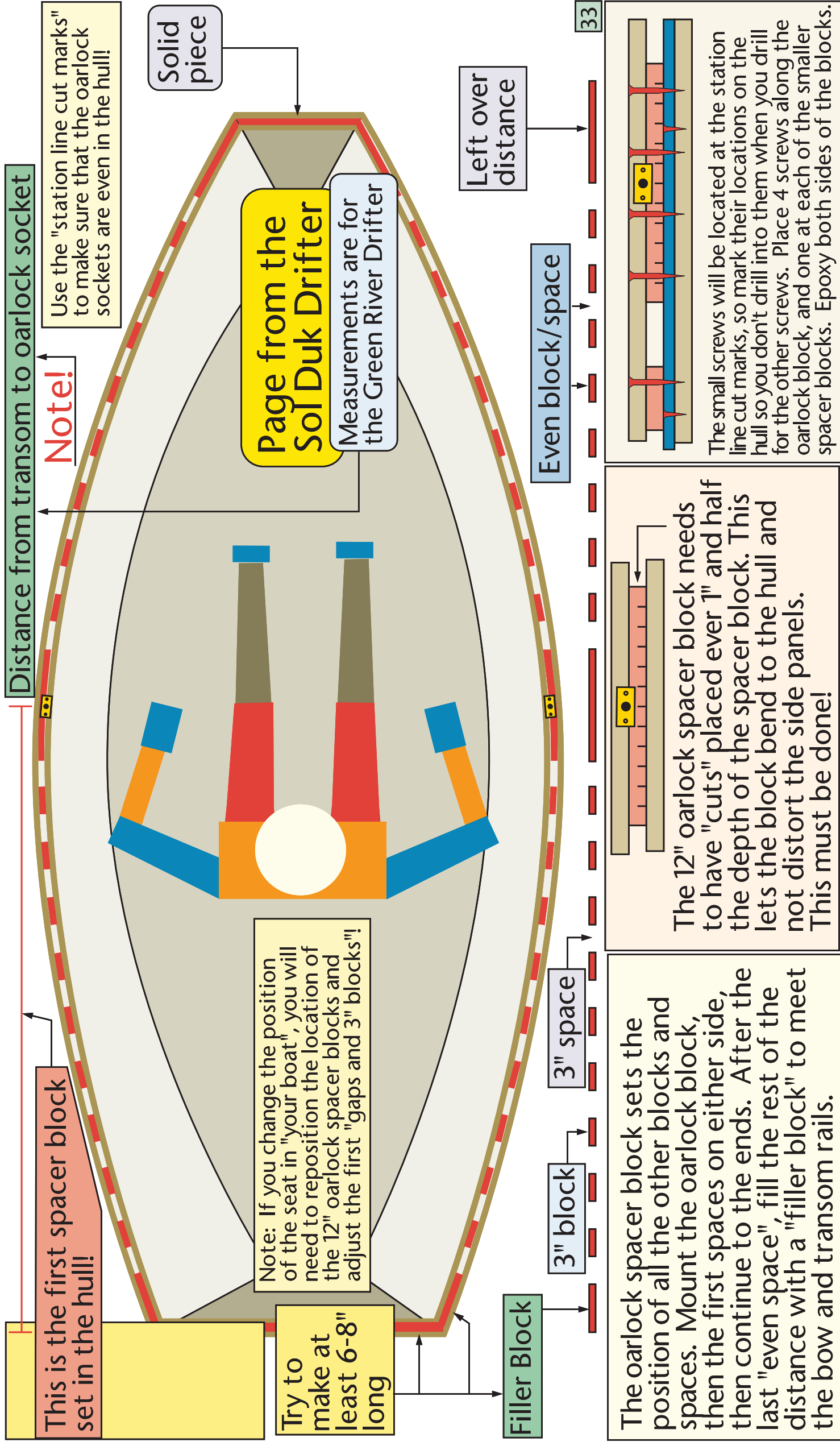


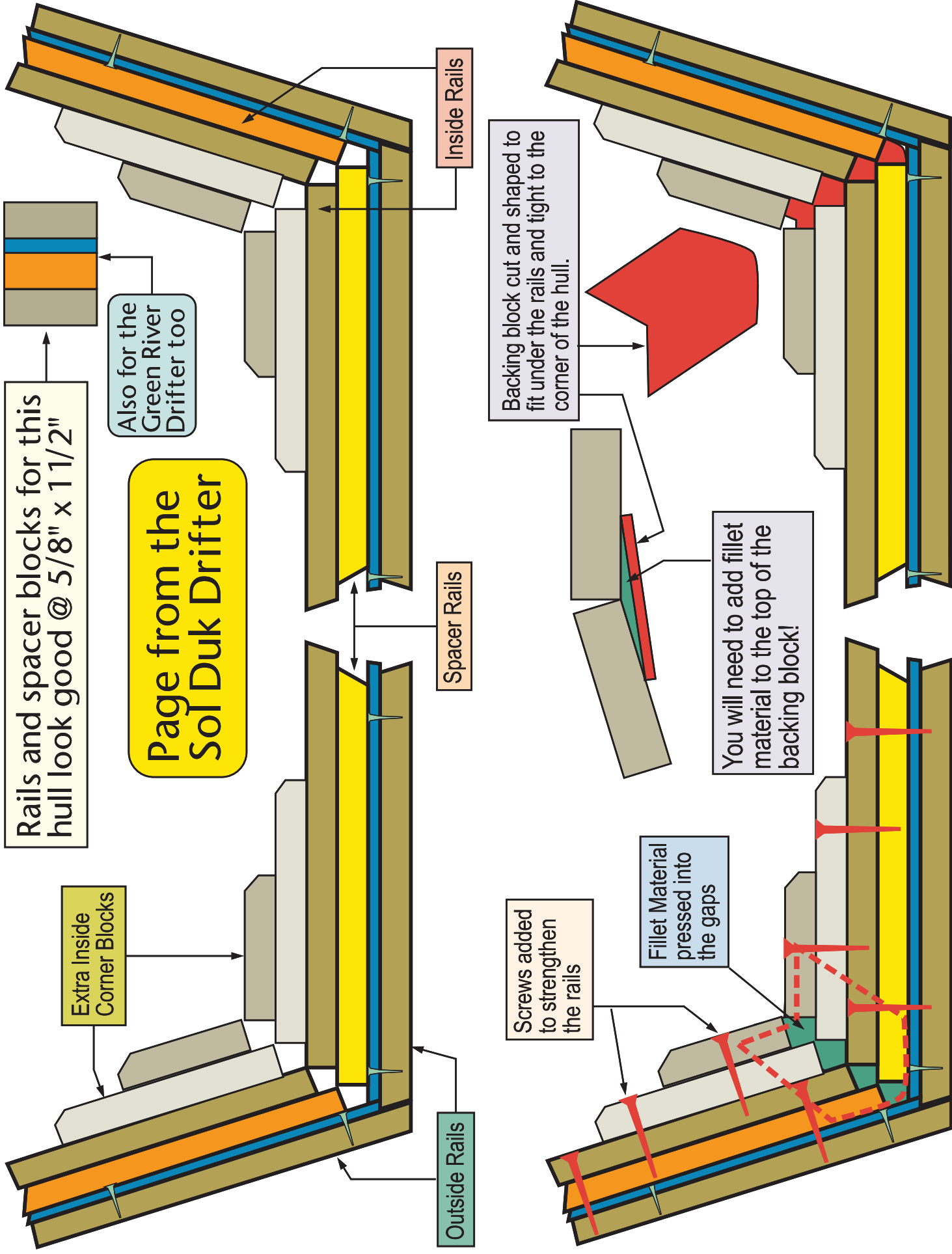
## Squaring up the hull



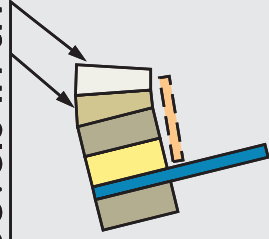
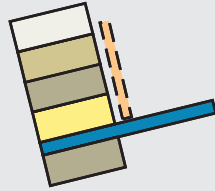


Note: Once the hull is completed there is not much difference in how a hull is finished off inside. Your idea of an ideal interior will be different from what some other boat builder will have in mind. So the following pages are just for reference to help you decide how you want to build your interior. Just remember that the empty hull balances at about the "beam point", which is about 70 inches from the transom. Your hull should also come in at about that point too. Just try to keep the hull balanced at that point when you are installing your interior. Try not to make either end heavier than the other with interior parts, fittings, or gear. Put a 2x2 or pipe under the hull every so often as you build it to see how the balance changes with each addition of the interior.



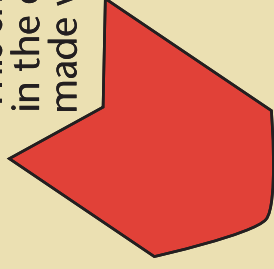


To keep the height of the blocks down, it helps to put bevels in the two smaller blocks.



Page from the  
So! Duk Drifter

This shape will also work in the corners, and can be made wider if you want.



Plywood scrap glued to bottom of corner for added strength!

Wear plate for motor bracket inside and out!

Be sure your motor's bracket can span this width of rail!

Wood filled epoxy or EZ-Fillet used to fill and finish the gaps in the corners

Compartments can be larger or smaller, but have them for extra flotation!

Interior with center pyramid seat and a bow and stern compartment with hatches

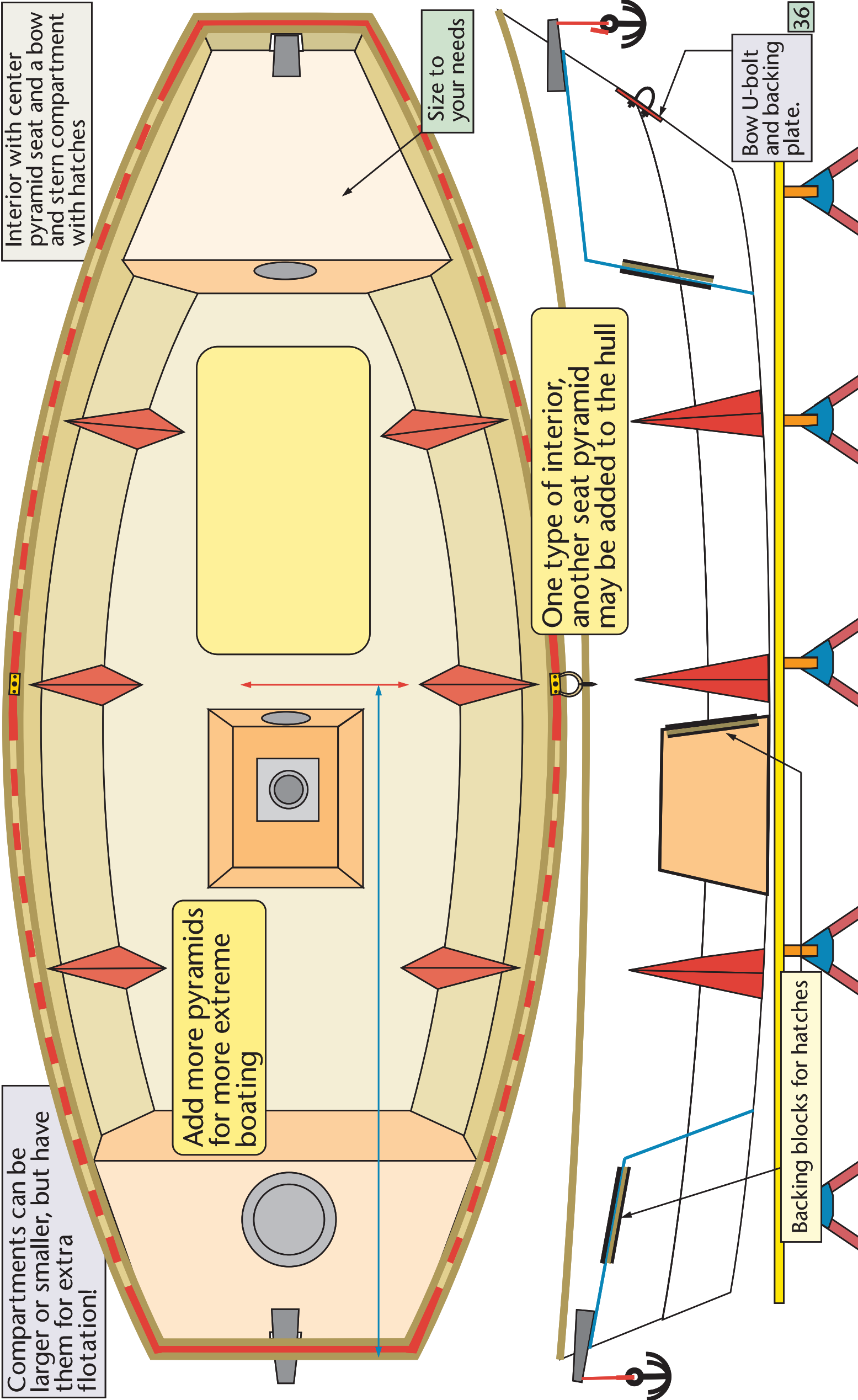
Size to your needs

Add more pyramids for more extreme boating

One type of interior, another seat pyramid may be added to the hull

Bow U-bolt and backing plate.

Backing blocks for hatches



Compartments can be larger or smaller, but have them for extra flotation!

Interior with center seat and a bow and stern compartment with hatches

Size to  
your needs

One type of interior, another seat may be added to the hull

**Bow U-bolt and backing plate.**

## Backing blocks for seats and hatches

Hatch with backing block  
Make sure the block  
clears the 2x2!

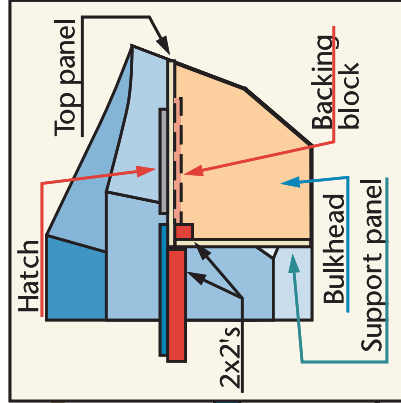
Adjust seat placement fore  
and aft for hull balance!

You might want  
to sit in the boat  
before you make  
it "permanent"

Cutout showing the 2x2  
support under the tank  
top cover plywood

Support 2x2 to epoxy  
the plywood sheets to.

Bulkheads fitted to the  
hull for support and to  
provide more floatation!



Hatch with backing block  
Make sure the block  
clears the 2x2's!

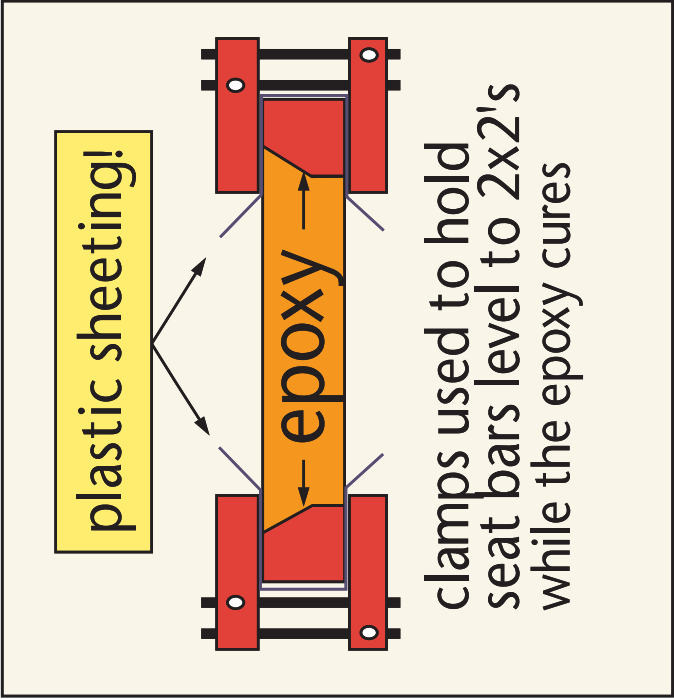
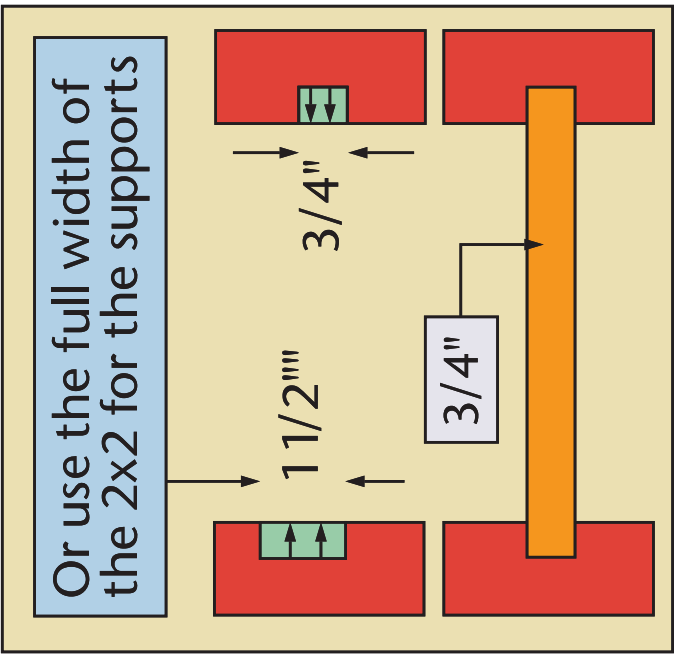
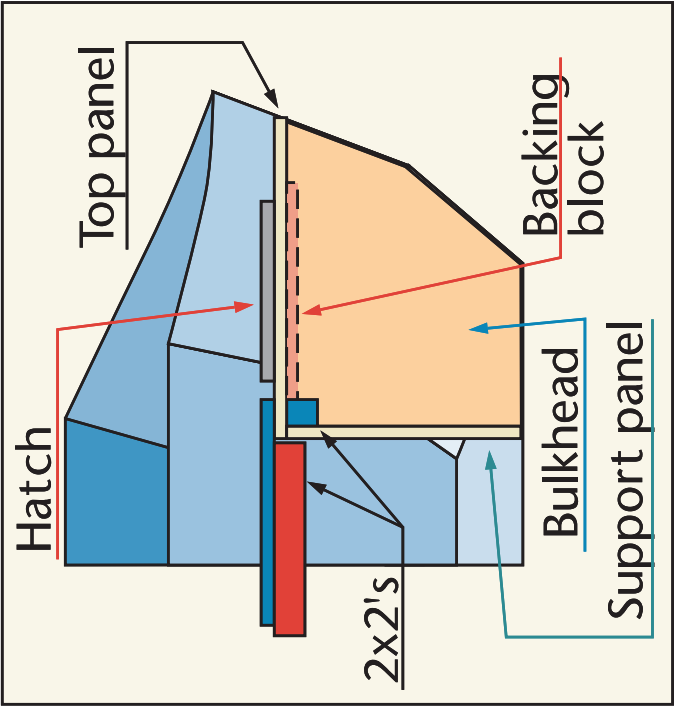
Interior seat support  
2x2's installed to give  
extra strenght to hull

Note: You may add more  
bulkheads if you want, and  
more support 2x2's. You  
may also add or remove  
hatches to your boat.

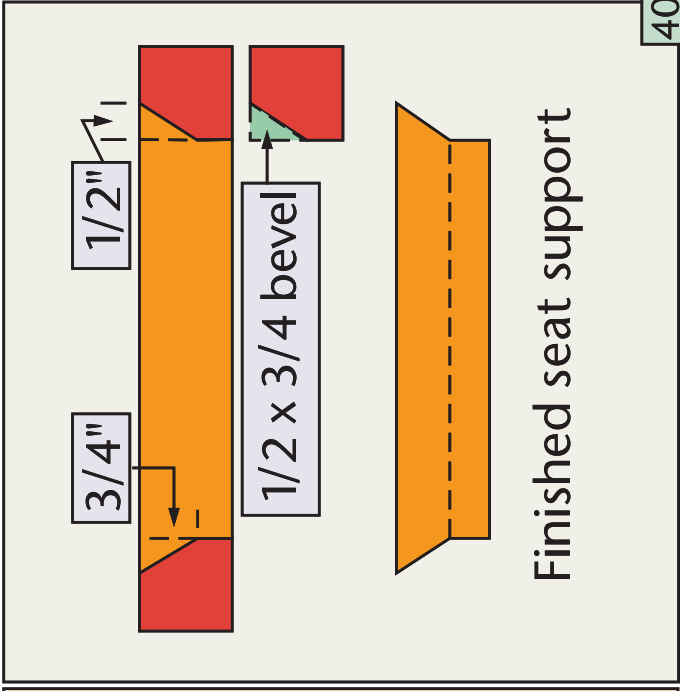
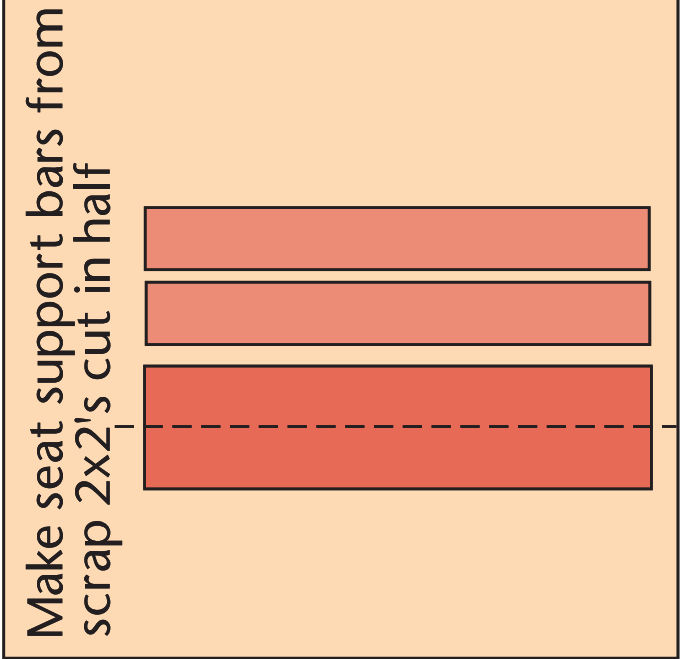
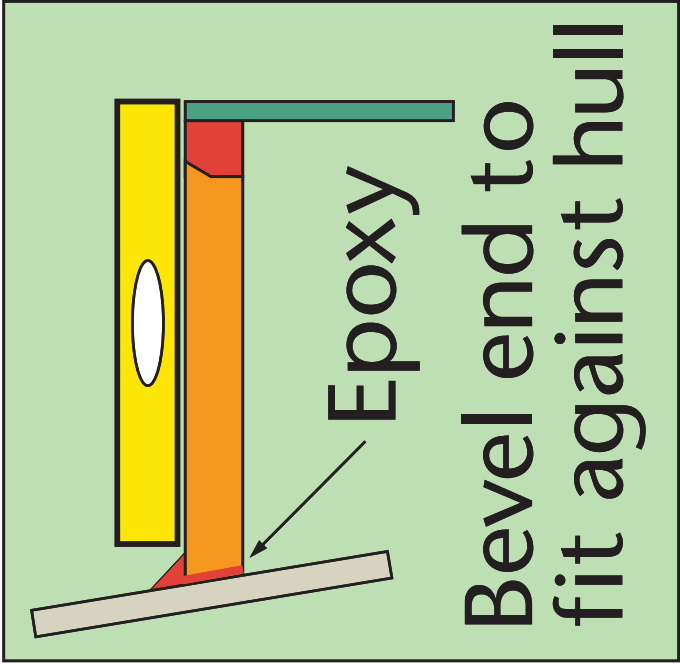
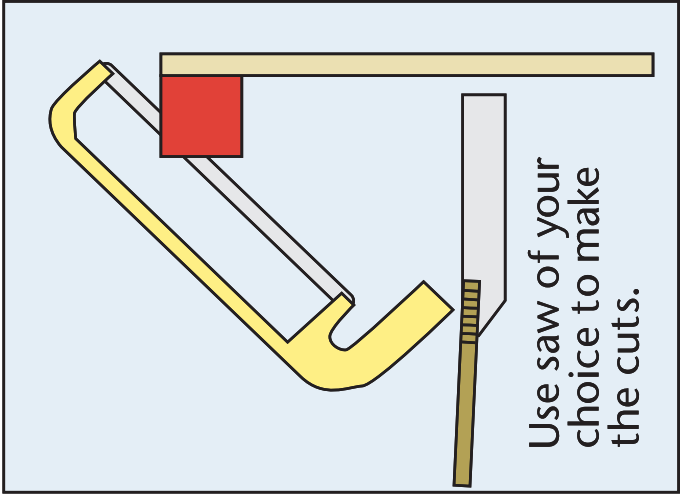
2x2's added to give  
extra support to the  
flat areas of the bow  
and stern floatation  
chambers.

Try to install all the 2x2 supports  
before you add the tops to the  
compartments. I would advise  
to leave them off until you have  
finished the epoxy work and have  
painted the interior parts!

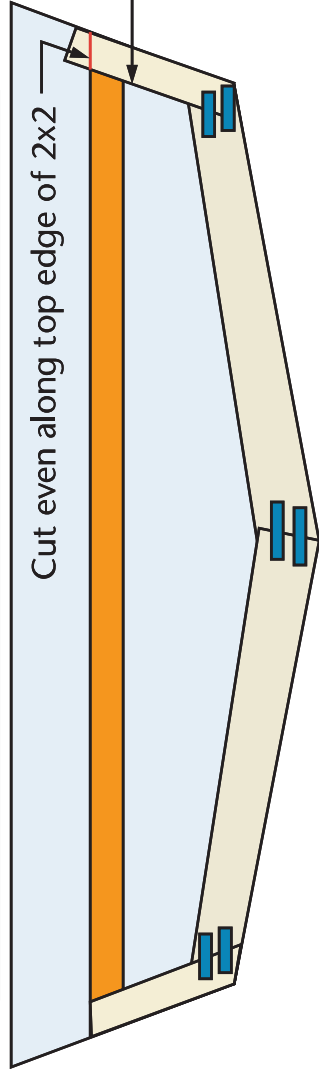
Note: Placement will depend on where you install the hatches in your hull! Try to place them evenly in the hull to get maximum support for the seats.



## The following pages contain detail drawings of how to complete parts of the hull interior

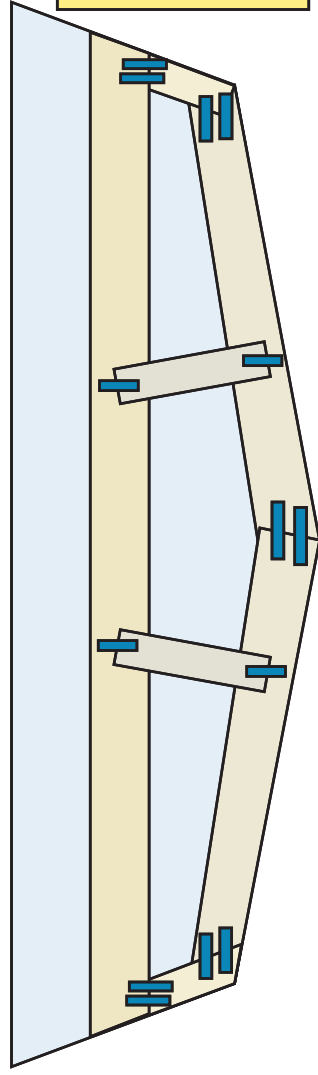


An easier way to fit the interior panels!

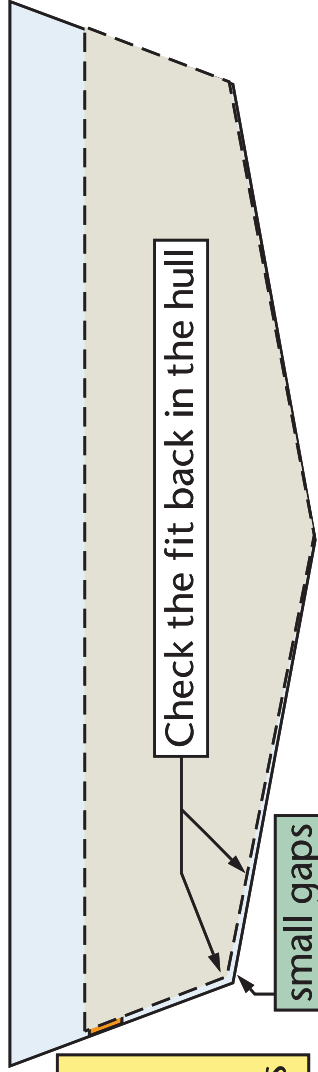


Cardboard strips sheet

Note: Only and example of how to to this

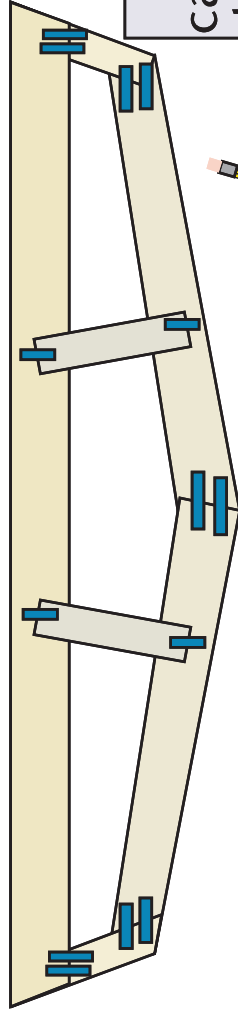


This is an alternative to using a spiling stick to find the dimensions to the interior panels

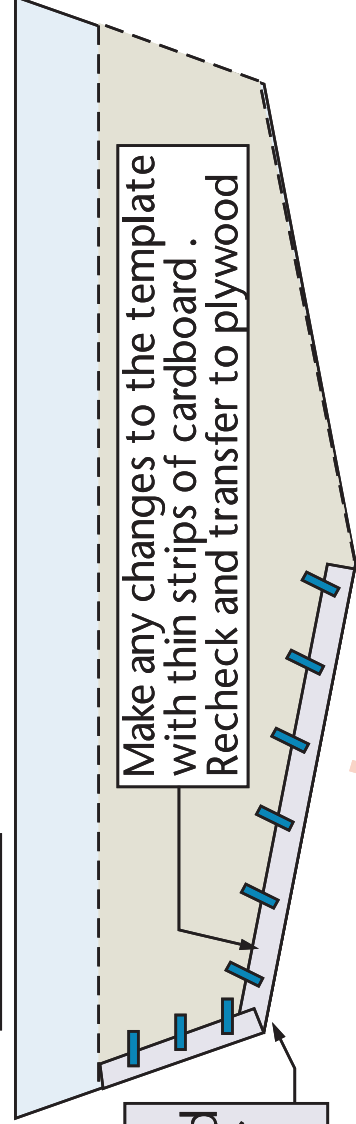


Check the fit back in the hull

small gaps

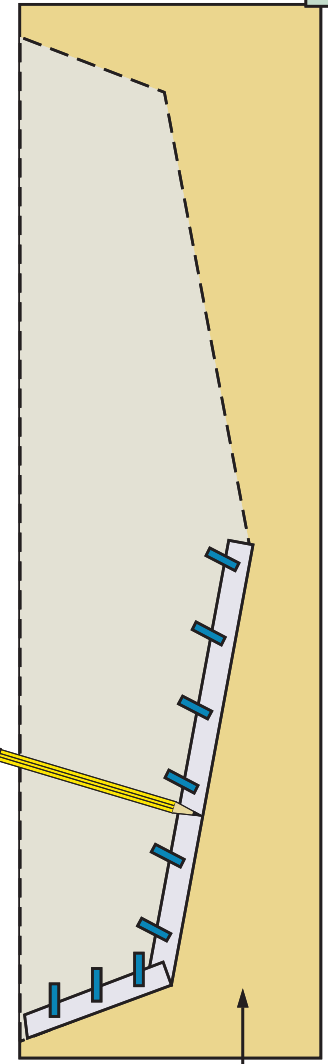
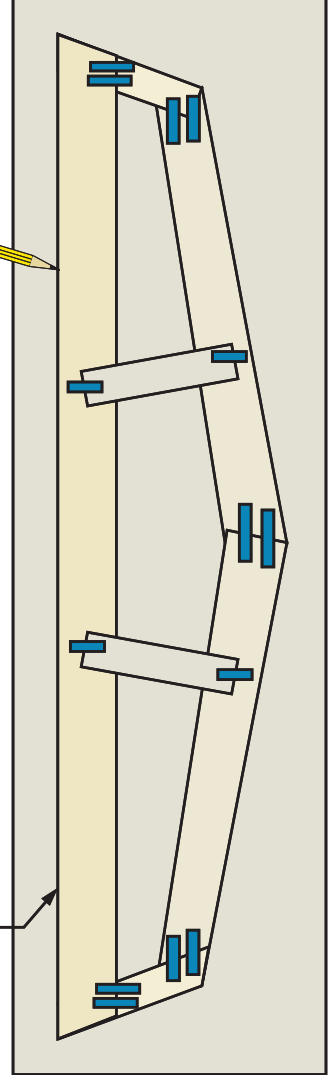


Use a pencil to outline the template you have taped together from the interior dimensions of your hull. Remember, all hulls will be different!

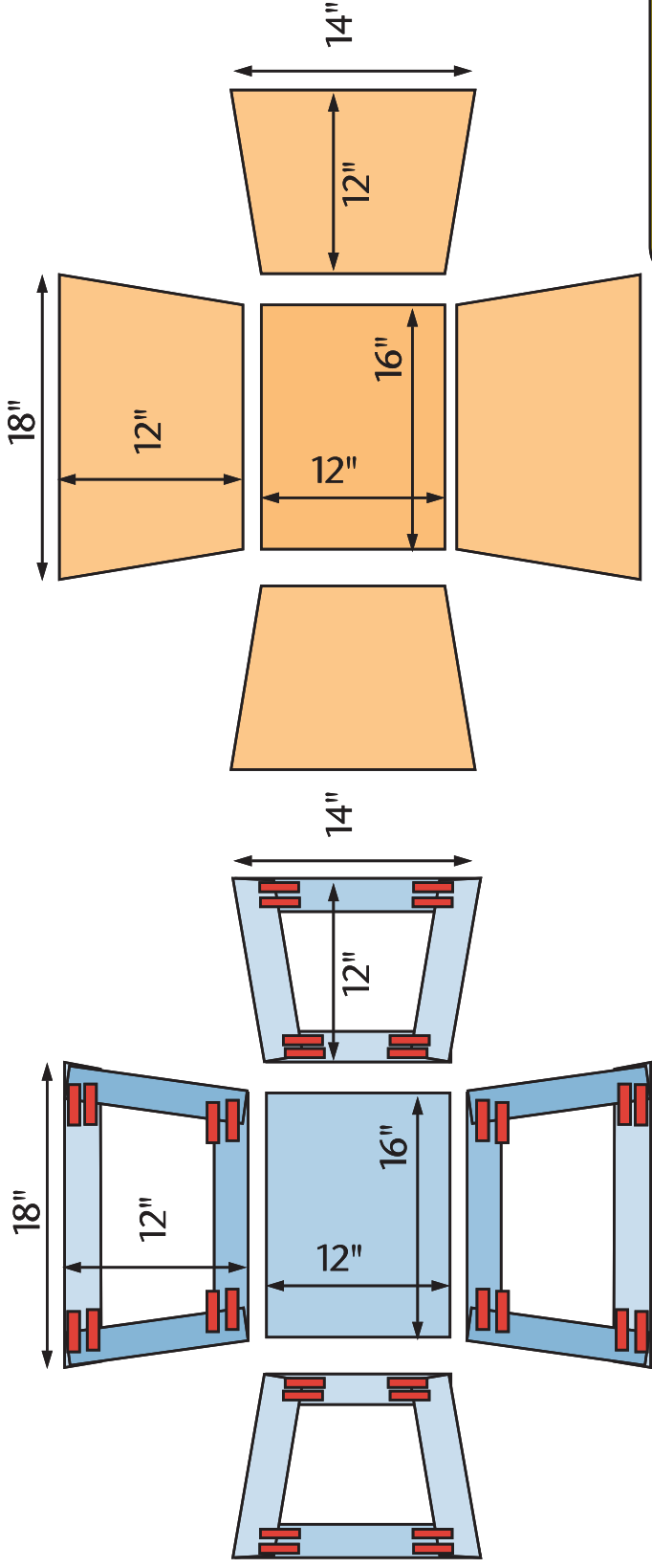


Light weight cardboard taped to template for a better fit

Make any changes to the template with thin strips of cardboard. Recheck and transfer to plywood

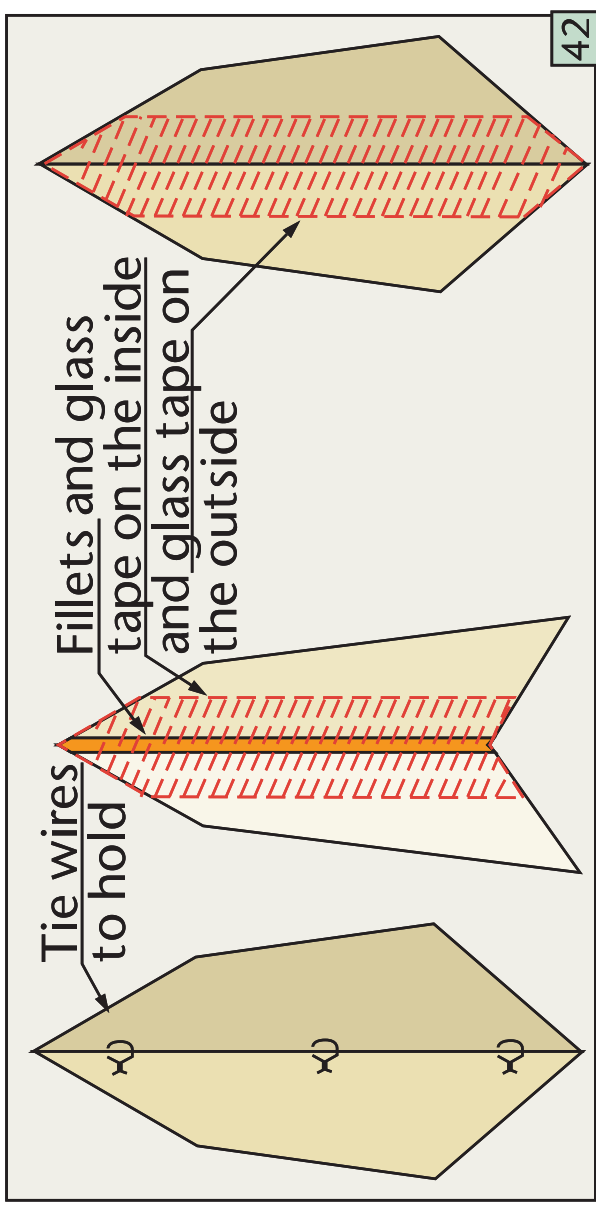
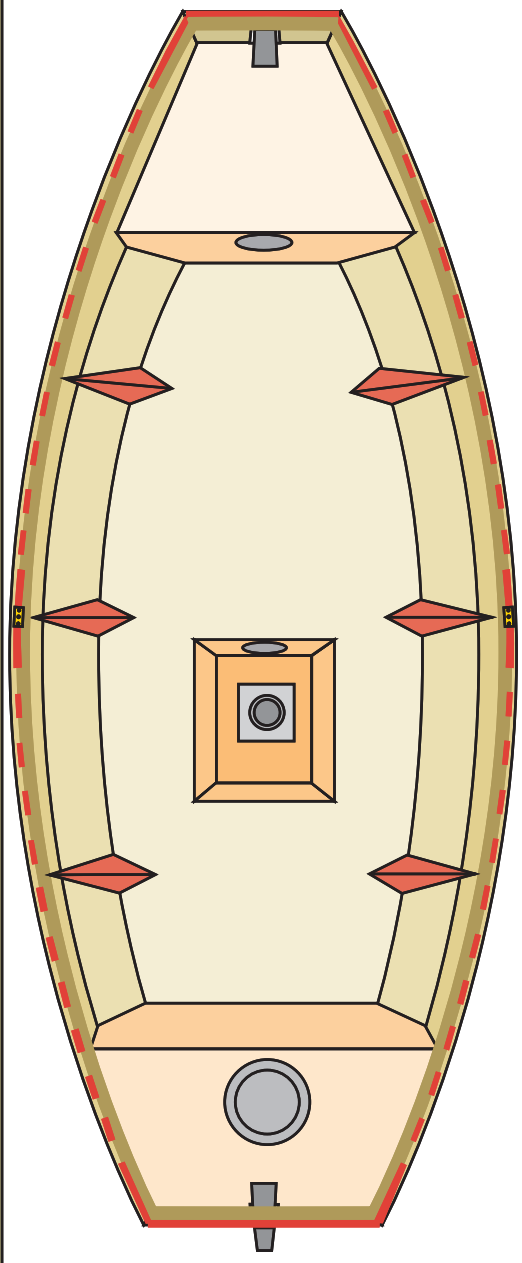


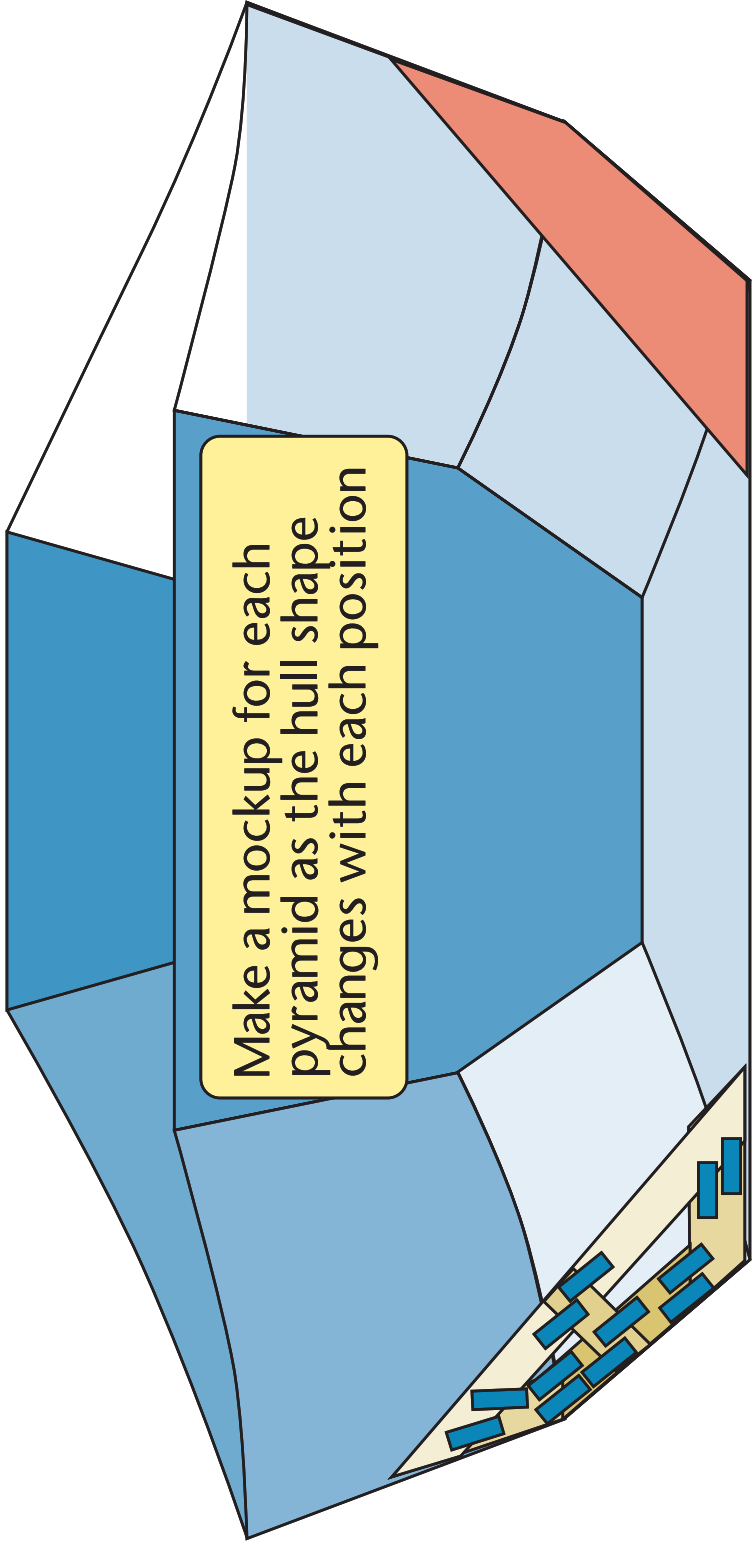
Plywood sheets



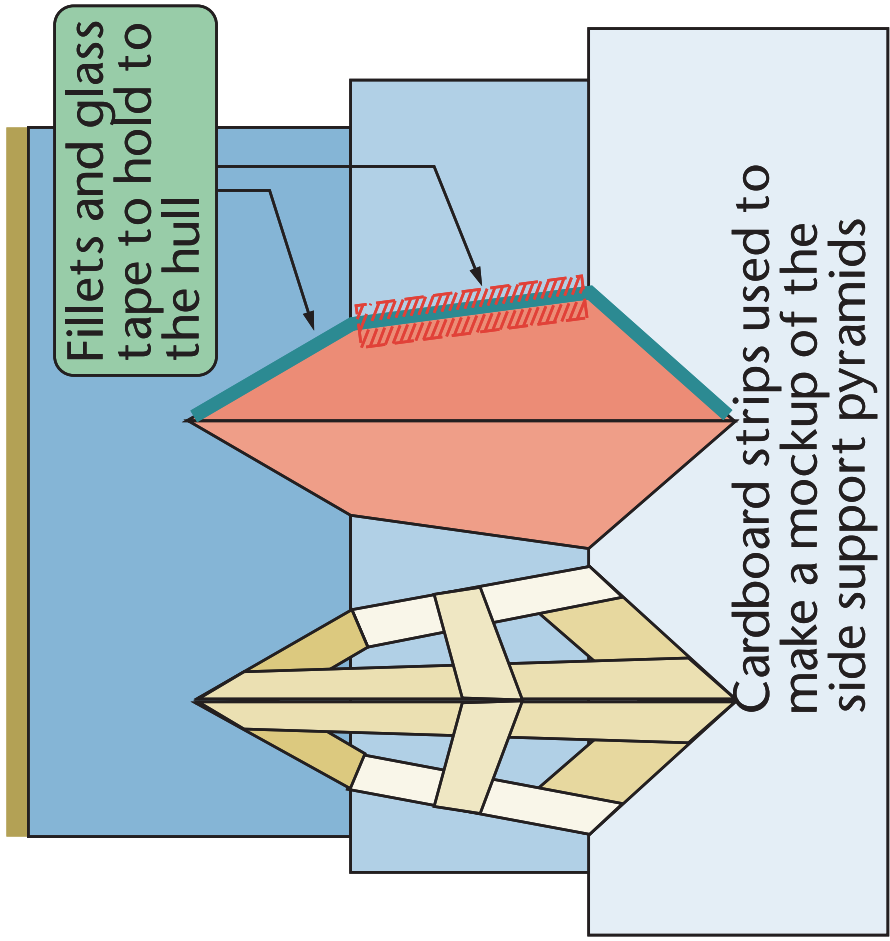
Page from the  
SoI Duk Drifter

Use the information on the previous page to figure out the sizes for the seat panels in "your hull". I have found that this is the most accurate way to find the sizes of the seating panels and any other compartment panels on a hull!



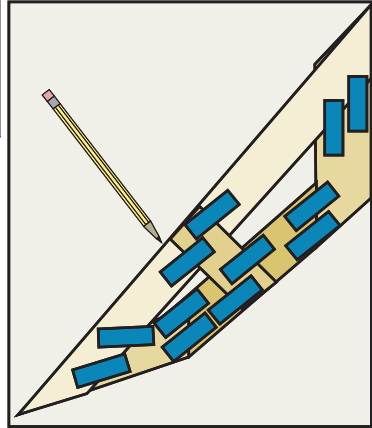


Make a mockup for each pyramid as the hull shape changes with each position

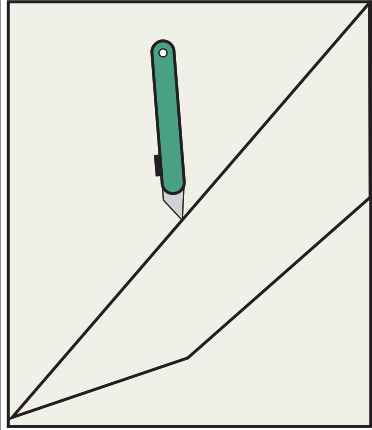


Fillets and glass tape to hold to the hull

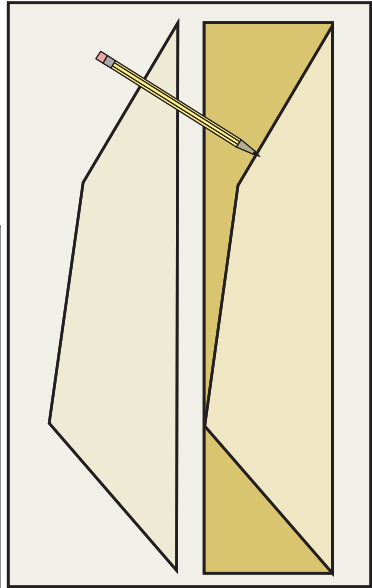
Cardboard strips used to make a mockup of the side support pyramids



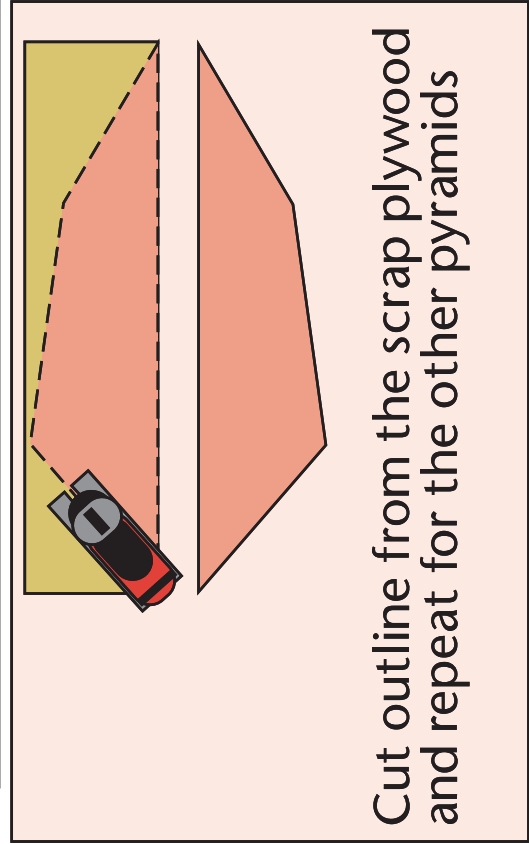
Make cardboard template of the pyramids and place on more cardboard



Trace outline of pyramid and cut with a sharp knife on a good piece of cardboard

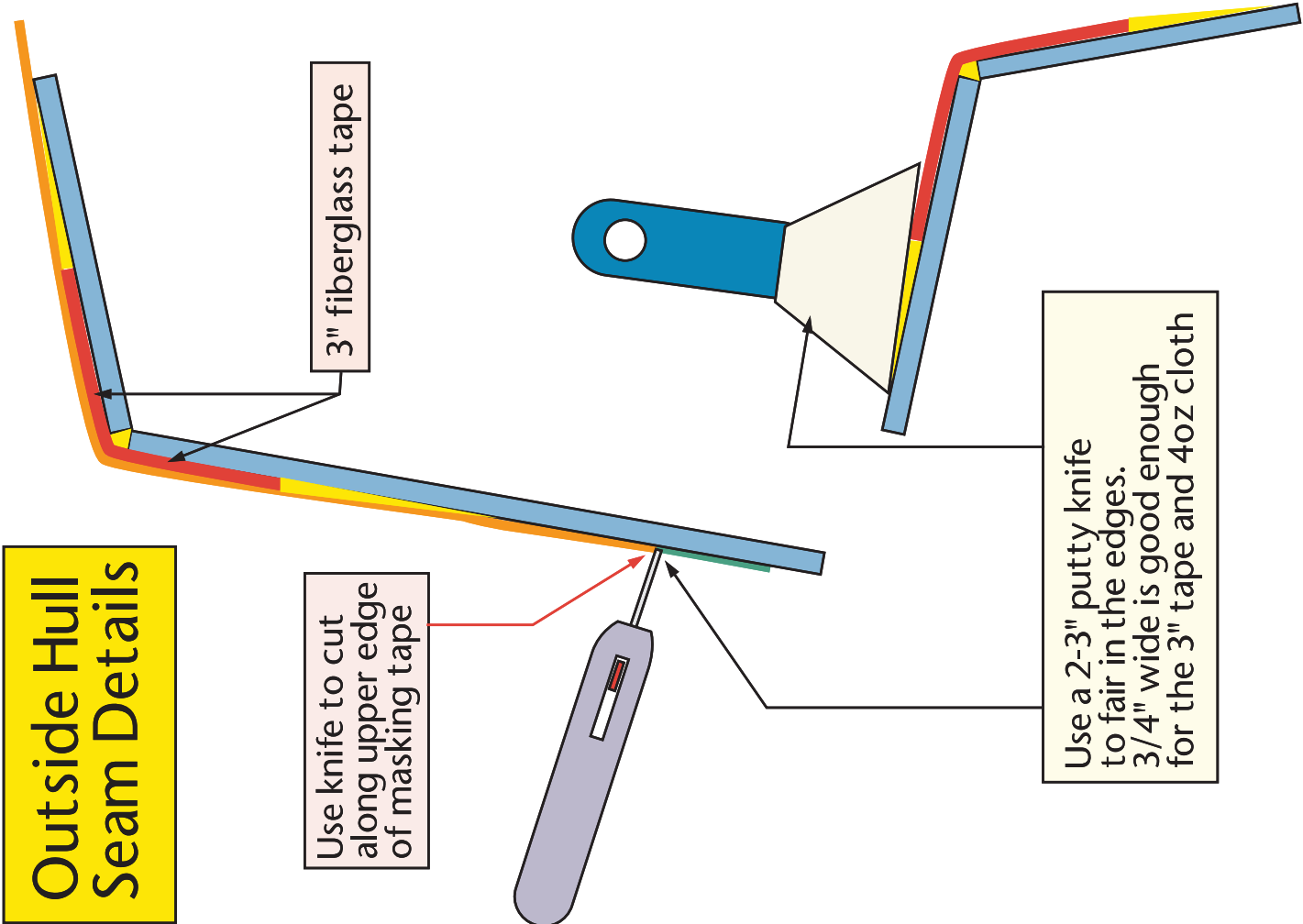


Place cardboard model on some scrap plywood and mark the outline with a pencil

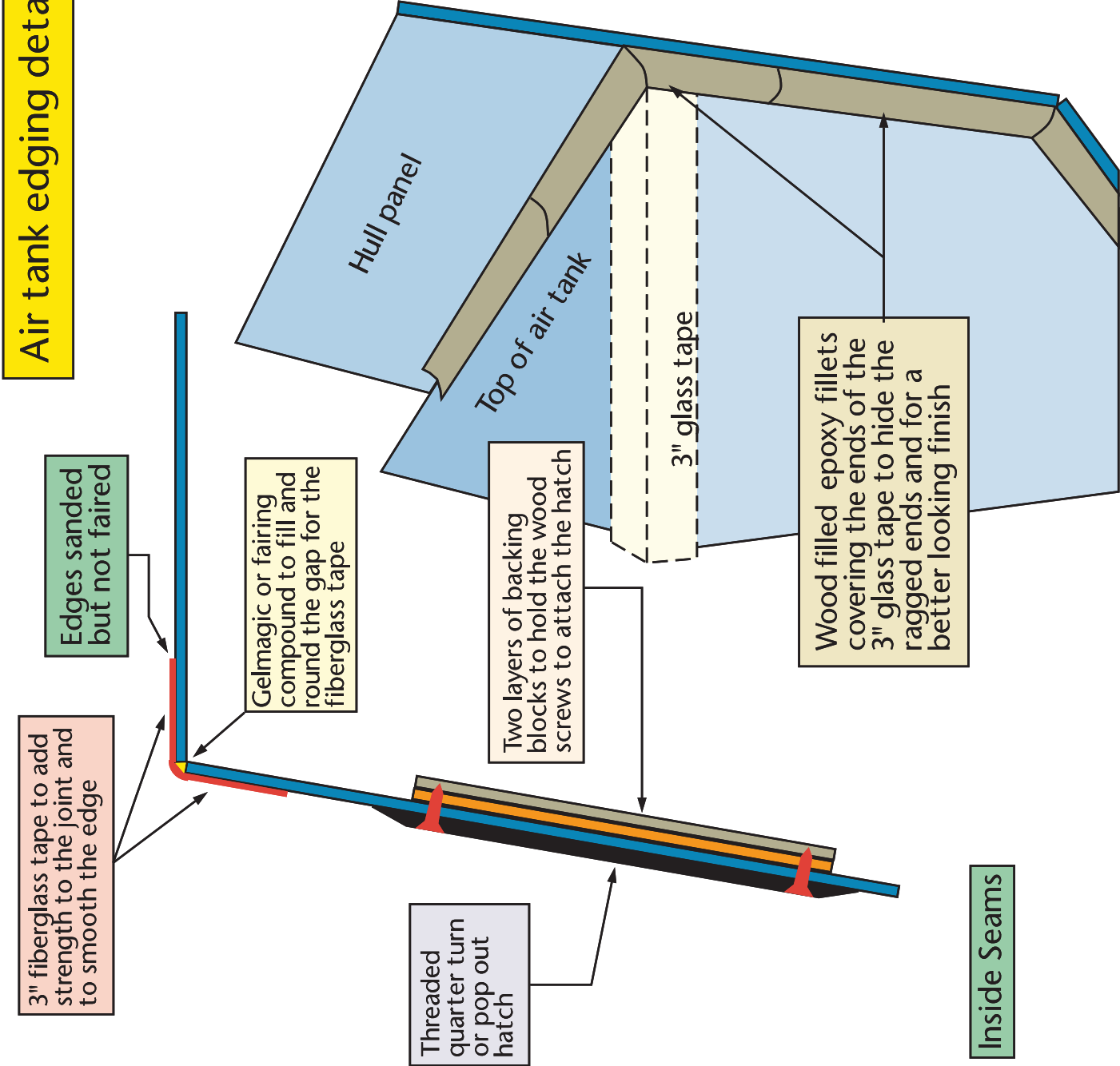


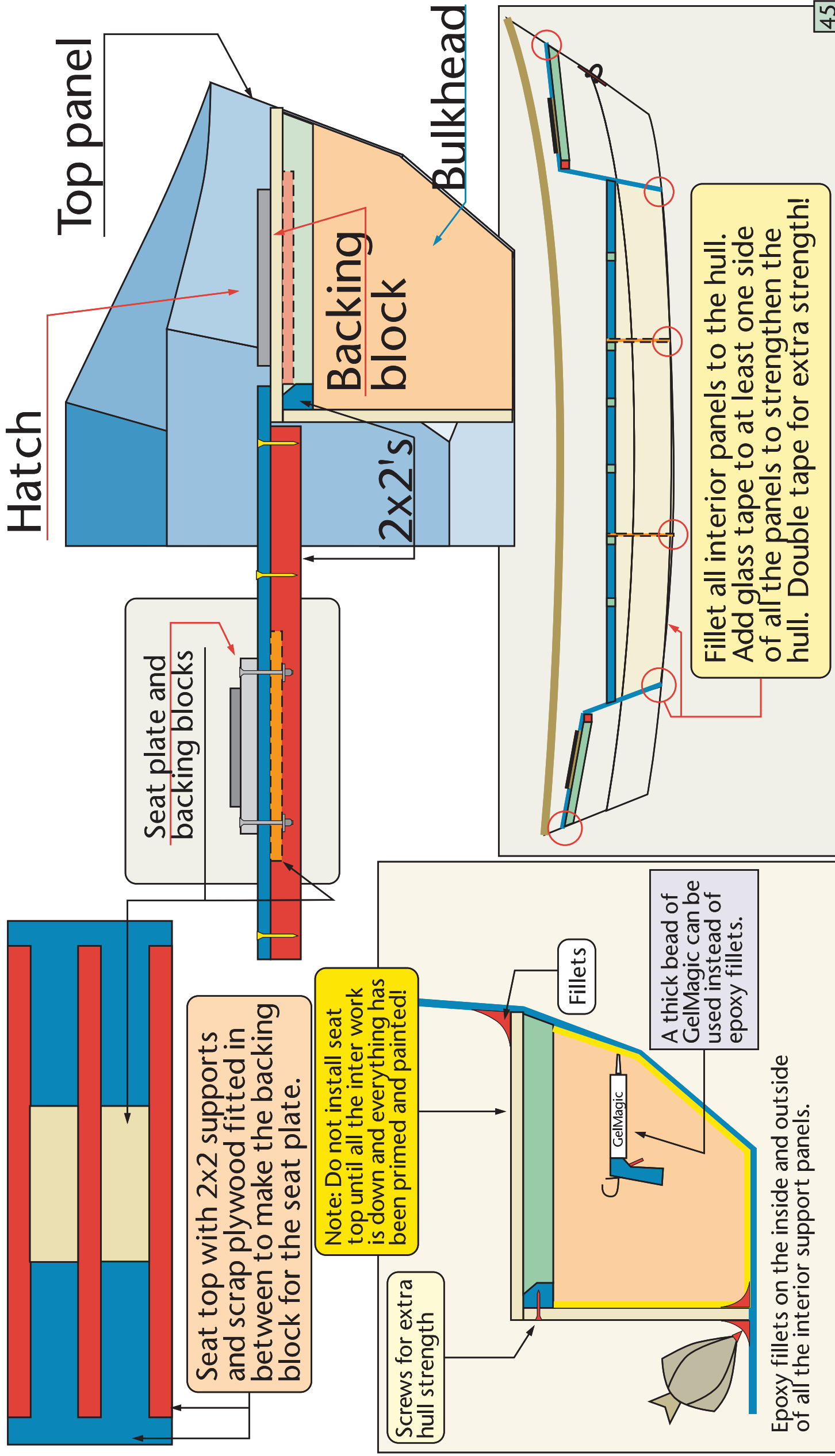
Cut outline from the scrap plywood and repeat for the other pyramids

# Outside Hull Seam Details



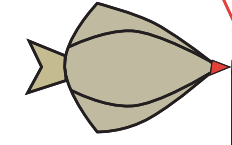
# Air tank edging details



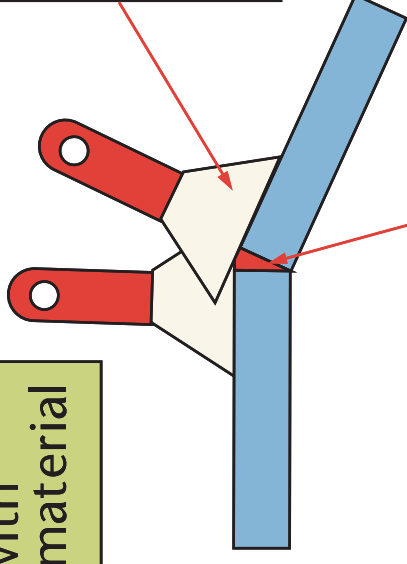


Start with this first! Then the fillet material!

Thoroughly wet out the plywood edges at the seams with epoxy!



Fill all gaps with epoxy fillet material



Use a wide putty knife to smooth the fillet material into the groves. Make sure to keep most of the blade on the plywood to "fill the center" of the gap!

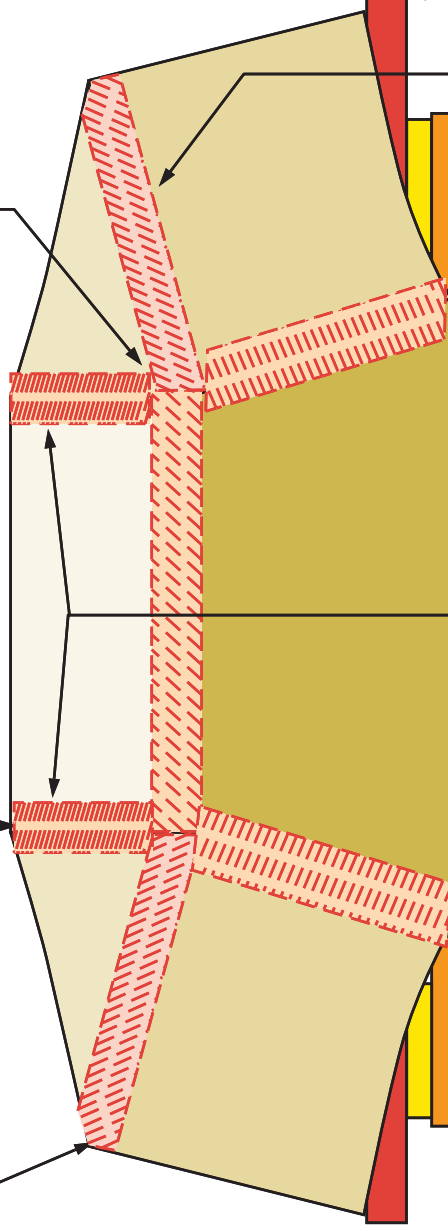
After this, then this

3" glass tape centered on all outside seams

Chine seam tape end cut to match

See page #31 for more details!

Trim tape ends to match the corner angles!



Page from the So! Duk Drifter

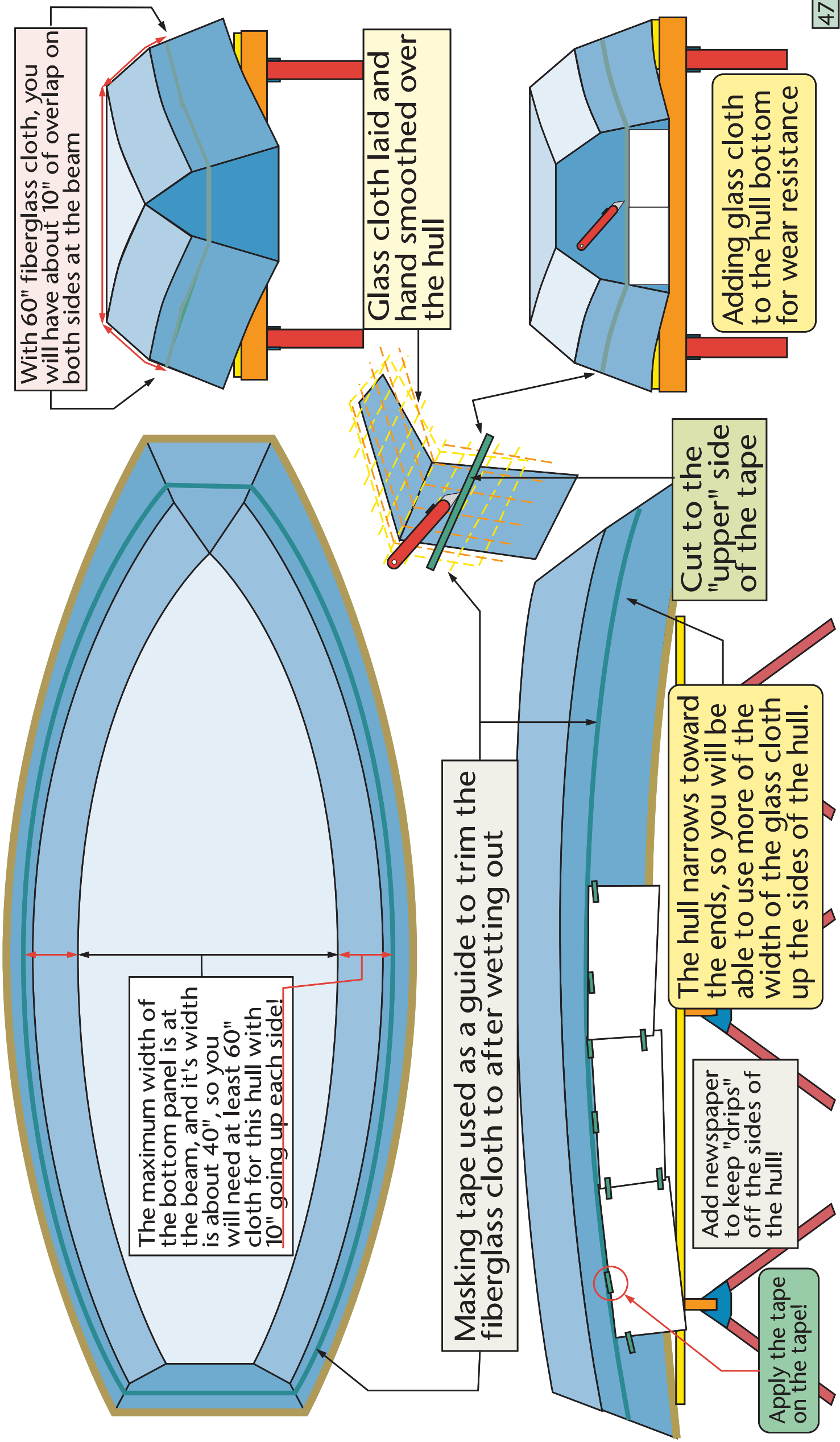
Single tape from transom to bow

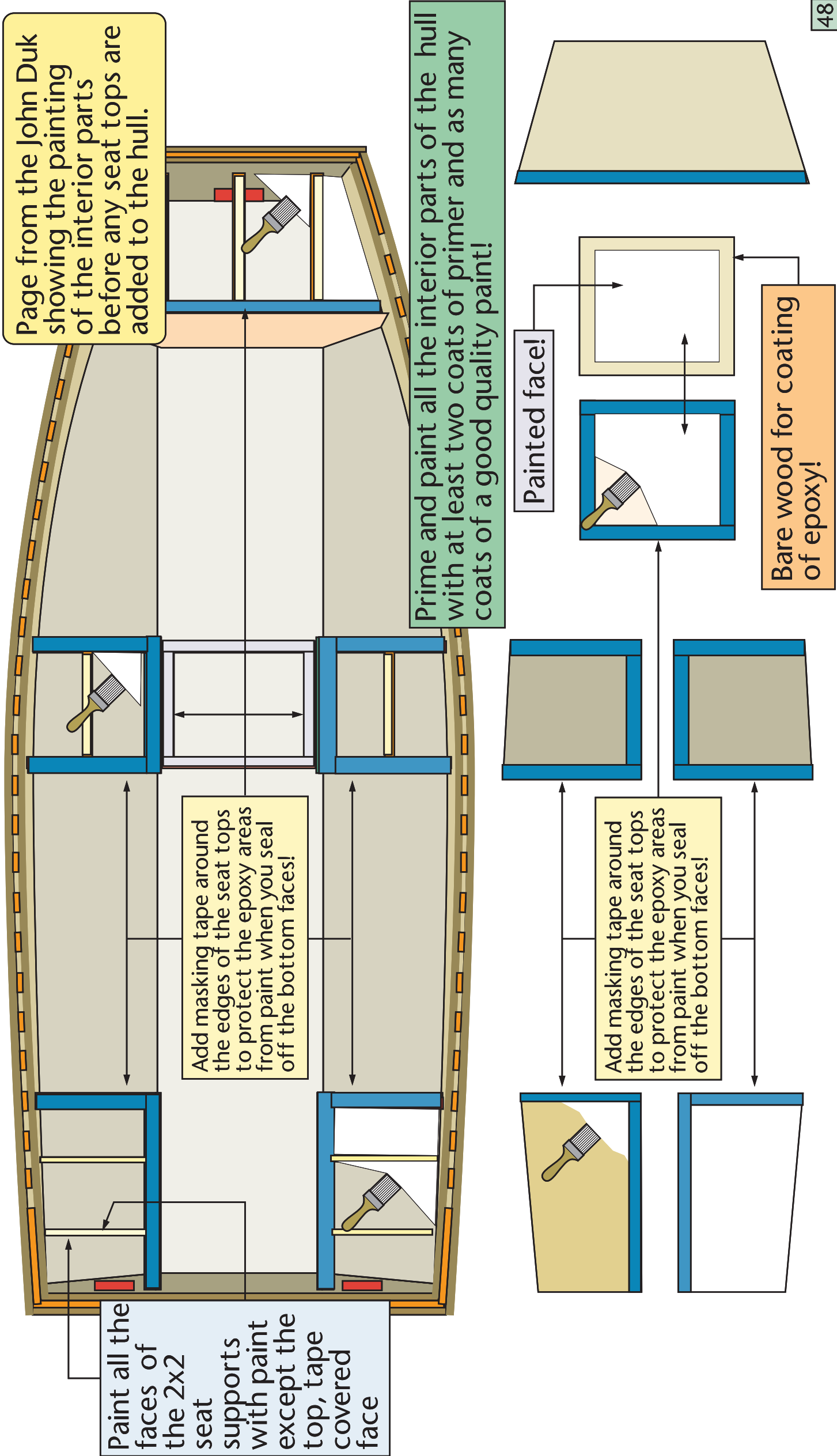
Or 2" tape if you used that on the inside of the hull

Outside seam details

Note: You may need to add a 2x4 to support the hull!

Use fairing compound to smooth and hide the edges of the glass tape





Would have to move oarlock sockets!

**Possible double setup but you will have to experiment with the seat placement before you make them permanent!**

Page from the  
Sol Duk Drifter

Or use double pyramids

## Backing Block

Adjust seat placement fore and aft for hull balance!

