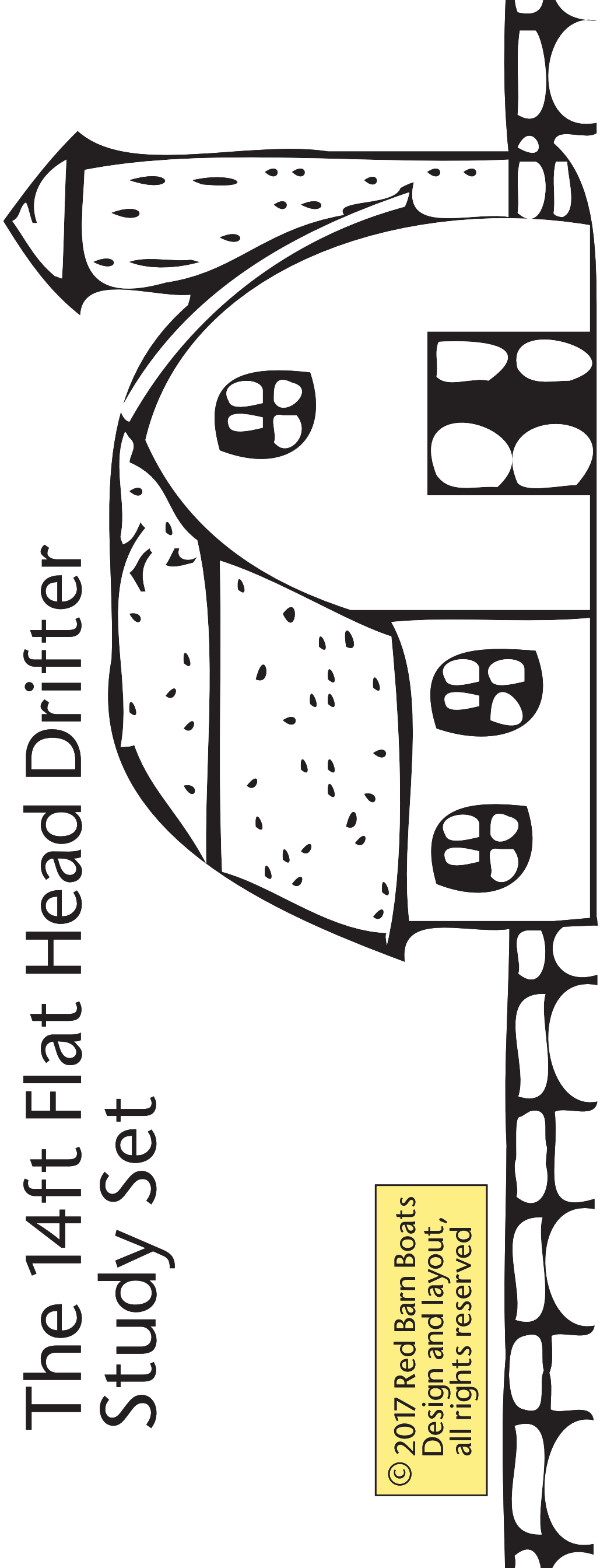


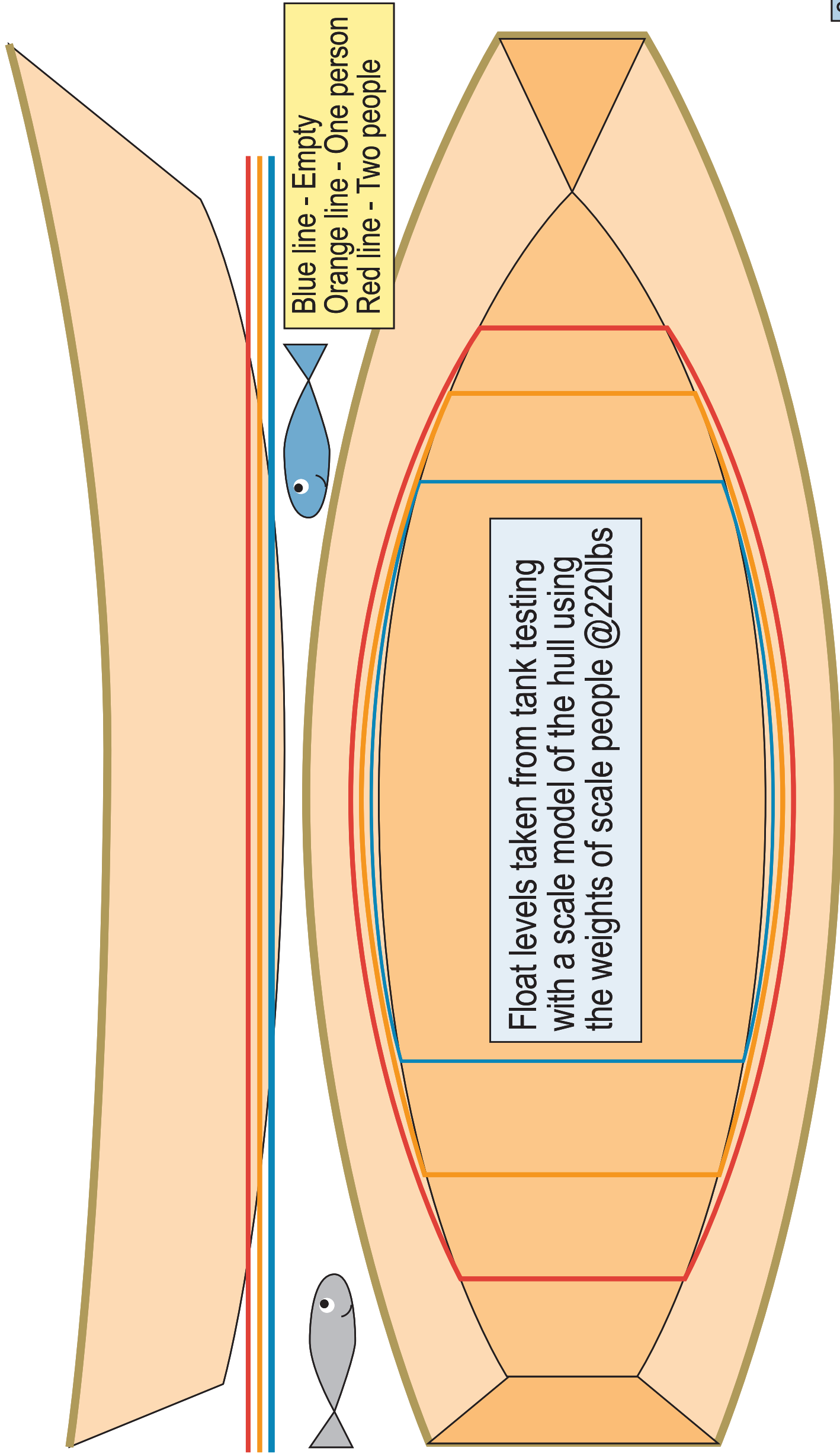
RED BARN BOATS

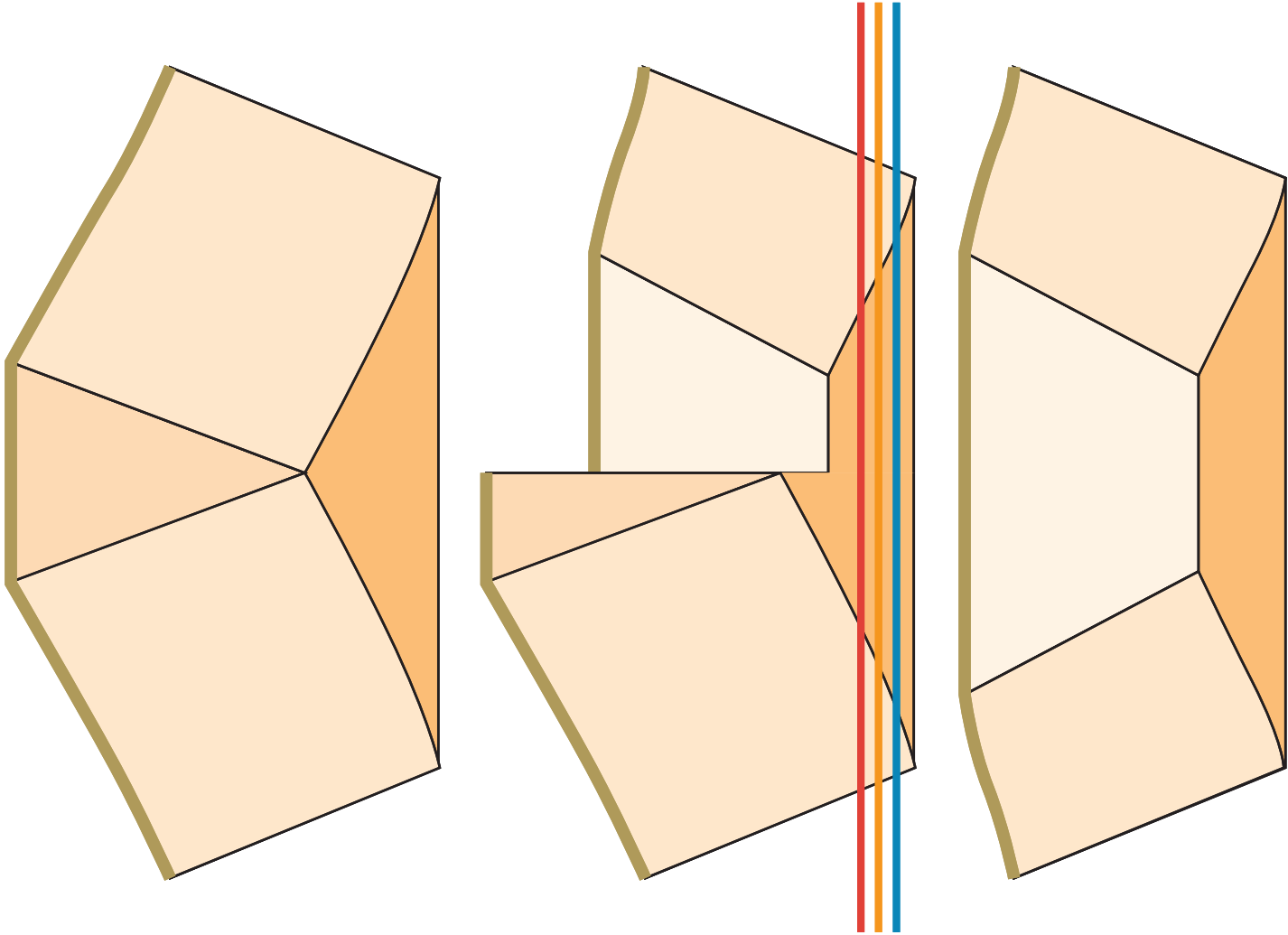
The 14ft Flat Head Drifter Study Set

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Seat Top

Try to get the top seat panel to overlap the side panels. This will make it easier to finish the edges.

Seat Top

If you don't overlap the side panel, you will have to fair in the corner with fillet material and shape it.

Filler strip method

You can cheat if most of the seat top rests on the 2x2.

Radius the edges so the glass tape will smoothly roll over the edge!

Radius the edges or the glass tape will not smoothly roll over the edge!

Seat Top

2x2

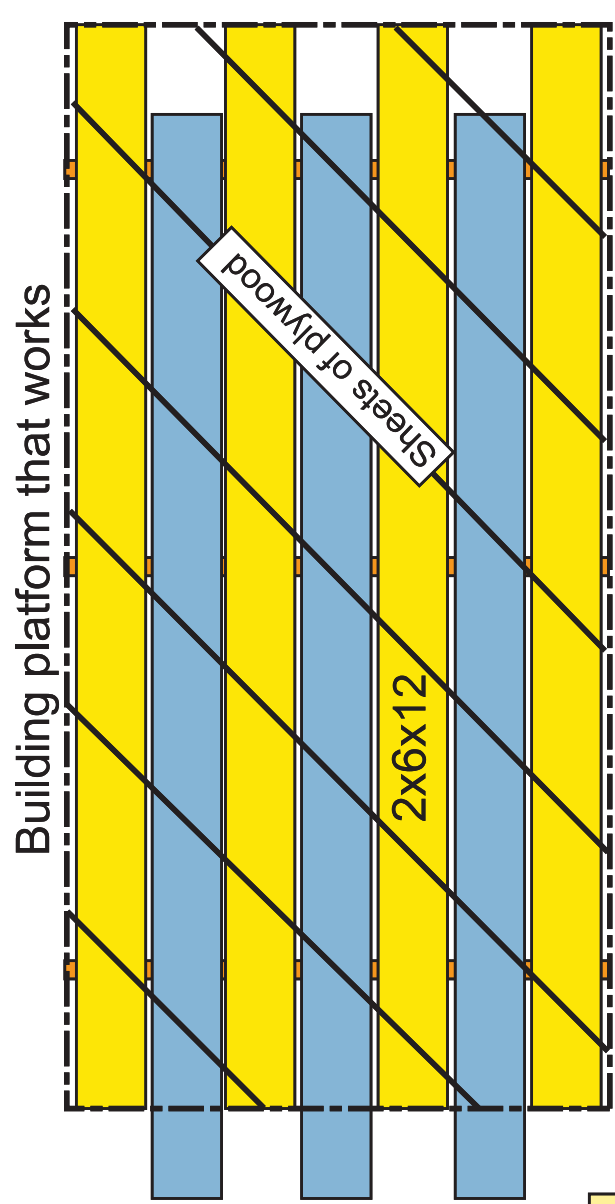
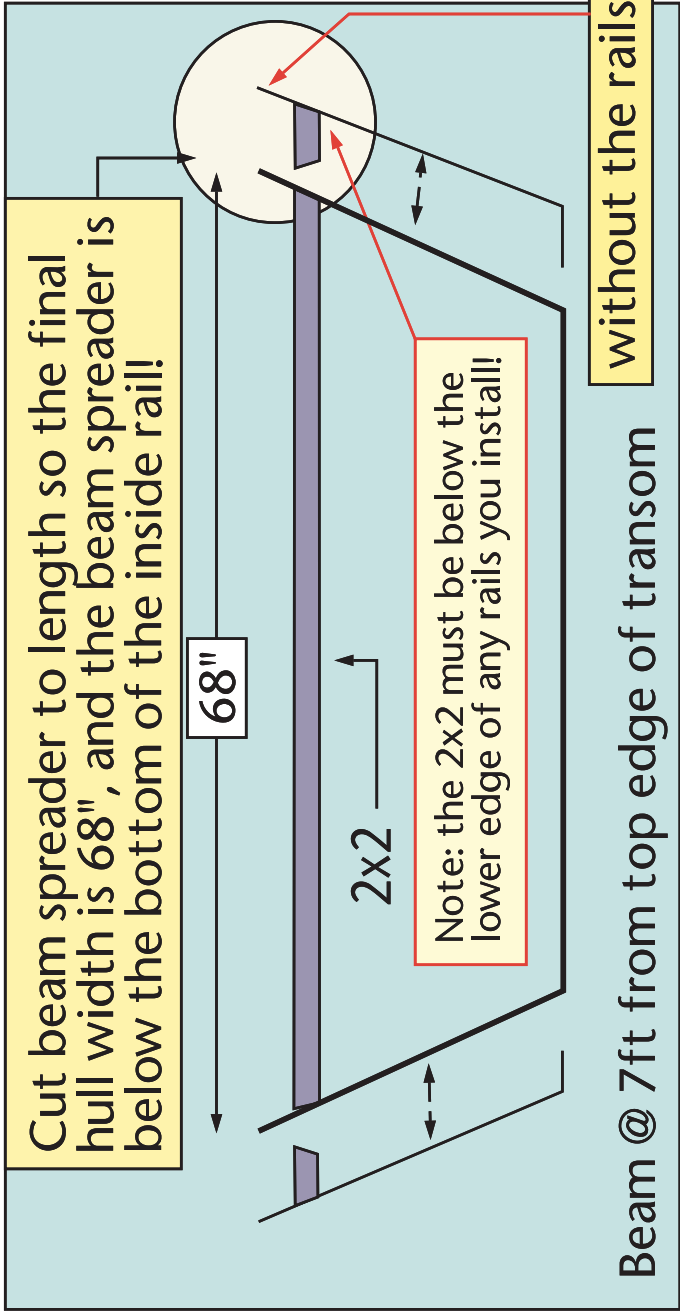
Details on finishing the interior

Seat Mount

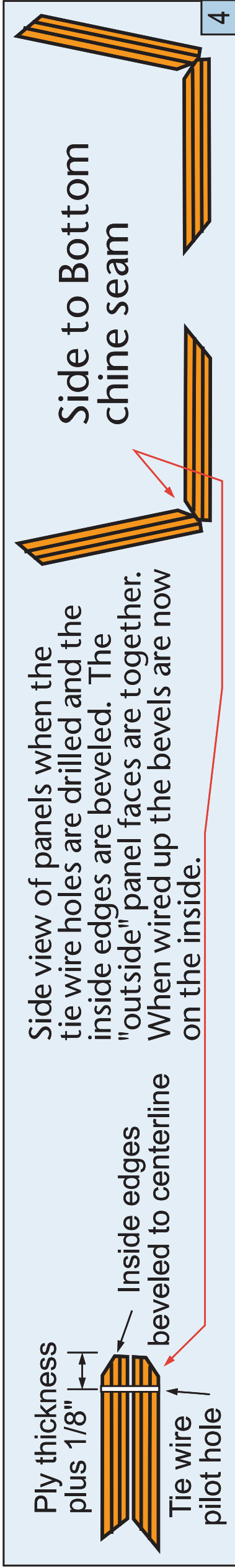
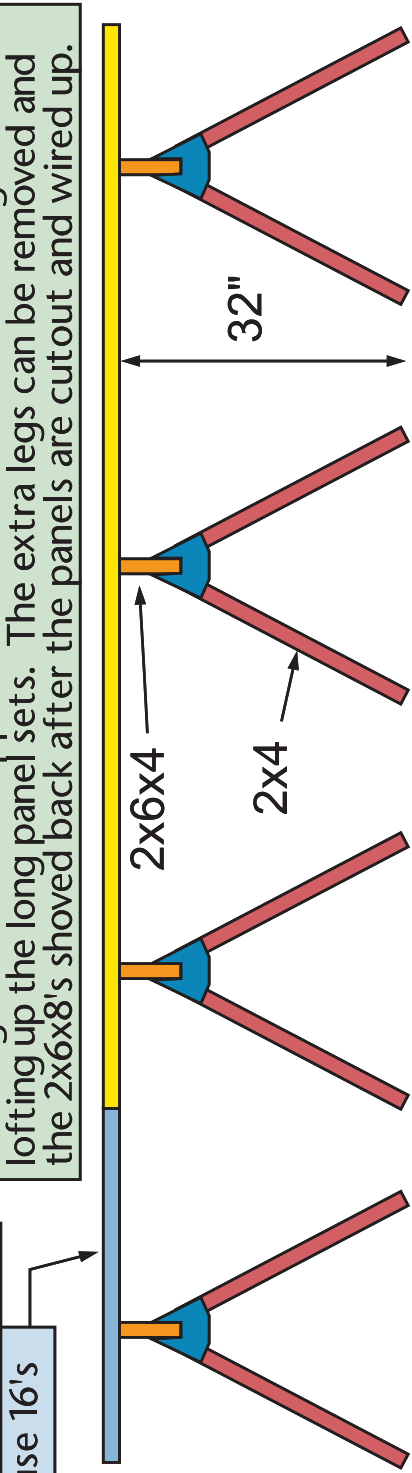
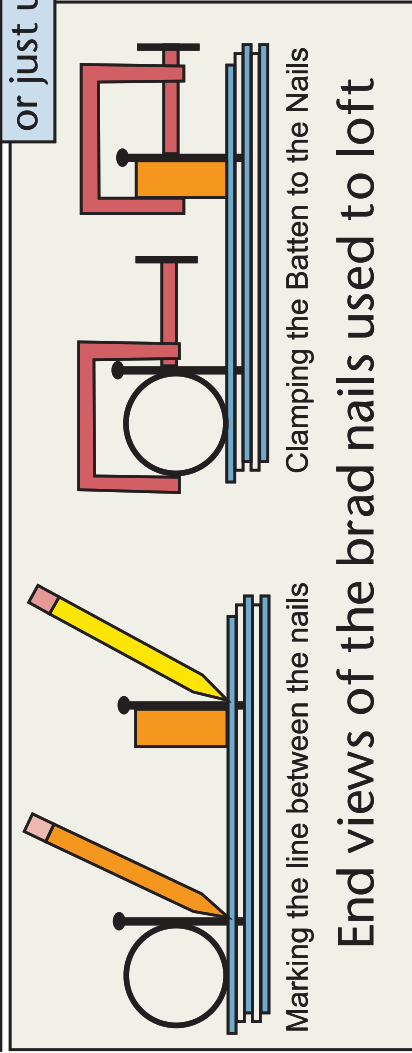
Seat Top Panel

Backing Block

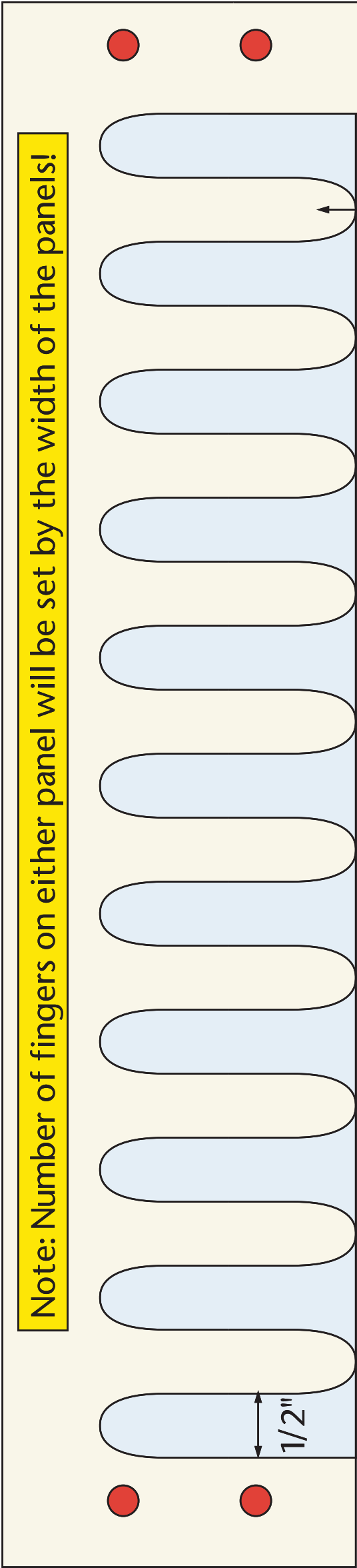
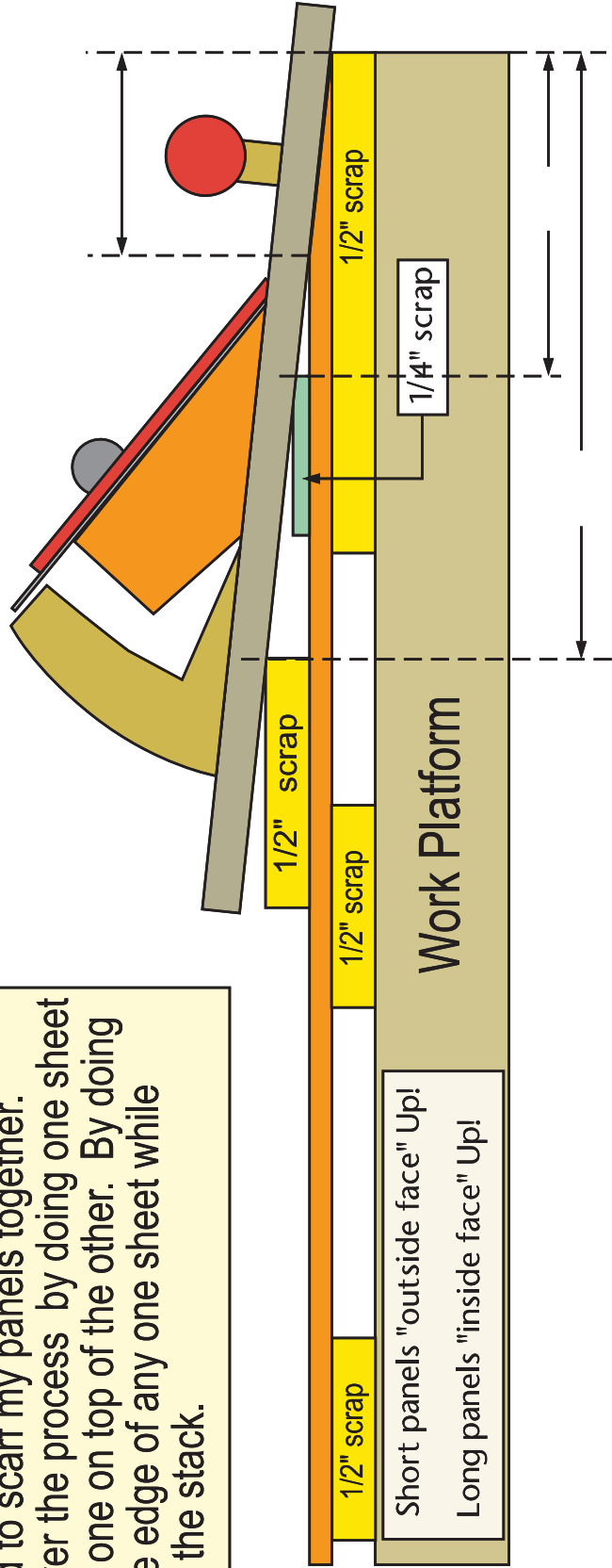
Screw or bolt seat mount to seat top panel



Extra legs and 2x6x12 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.



I have gone to using this method to scarf my panels together. I find that I have more control over the process by doing one sheet at a time, than by stacking them one on top of the other. By doing it this way, you can't mess up the edge of any one sheet while scarfing the rest of the sheets in the stack.

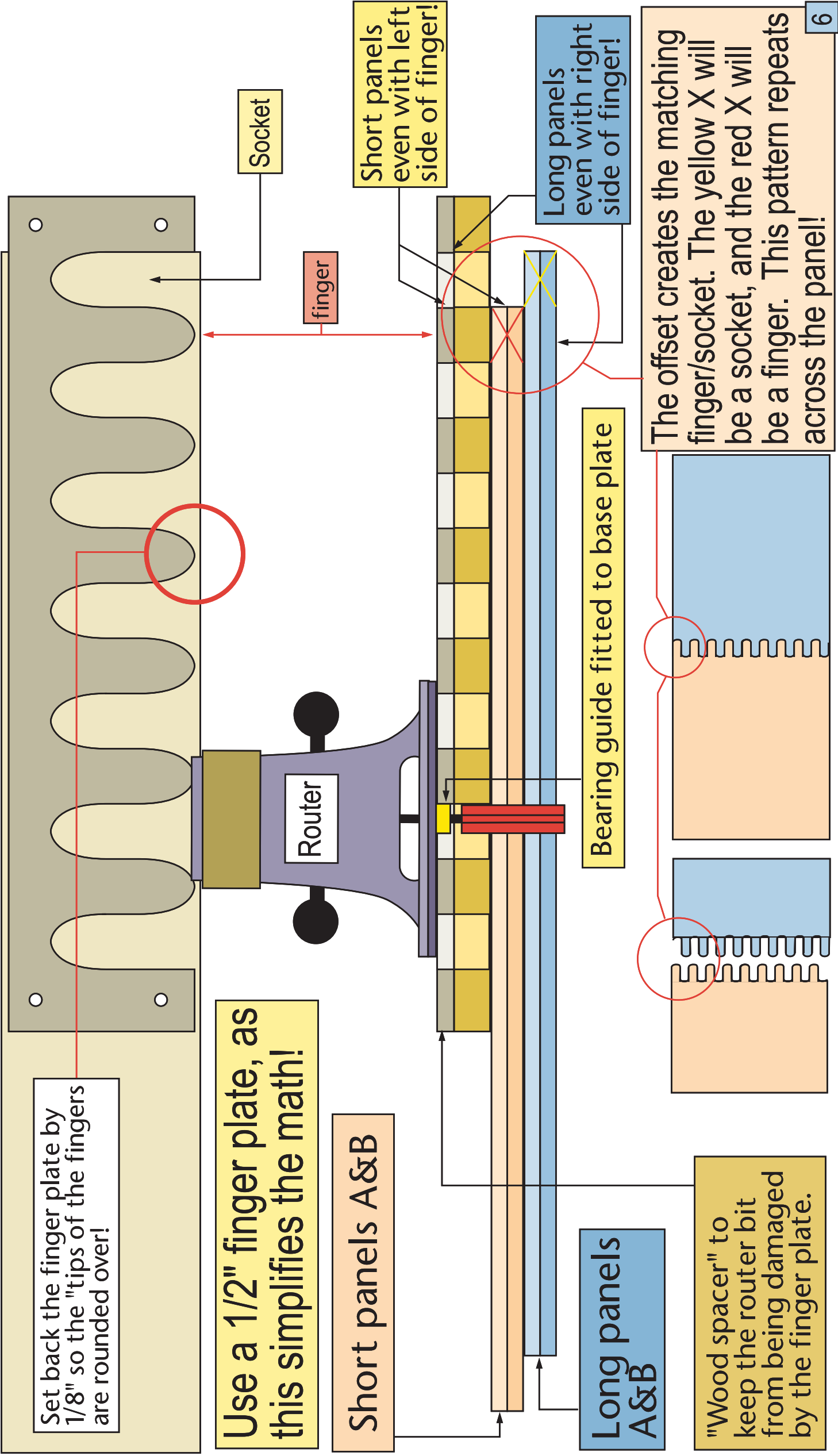


1/2 Finger plate is best to keep "fractions" to a minimum!

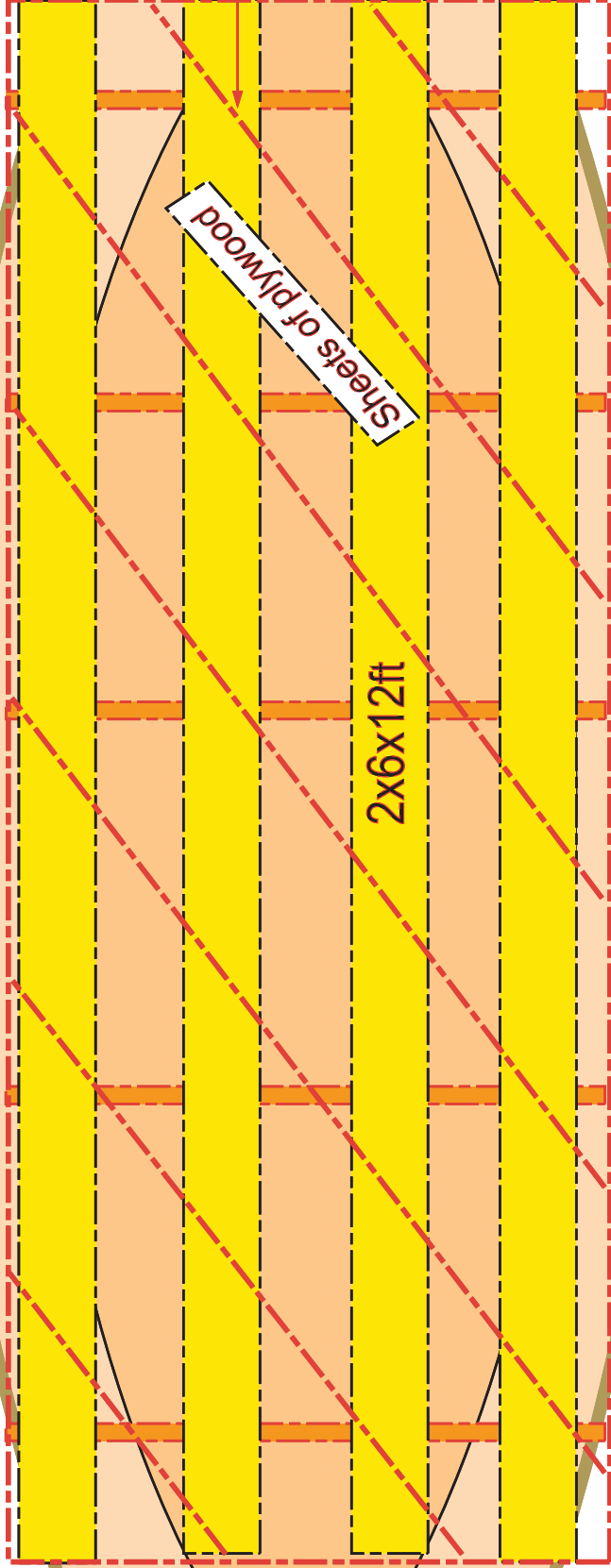
1/2" offset

male finger

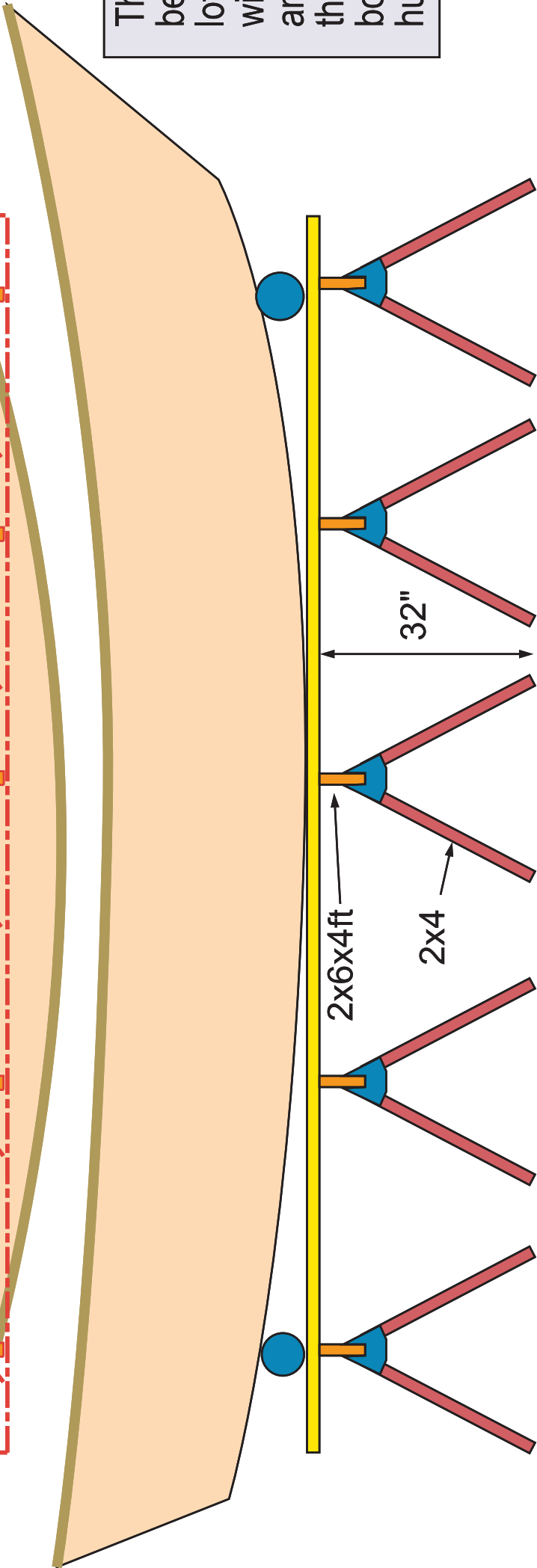
female cut



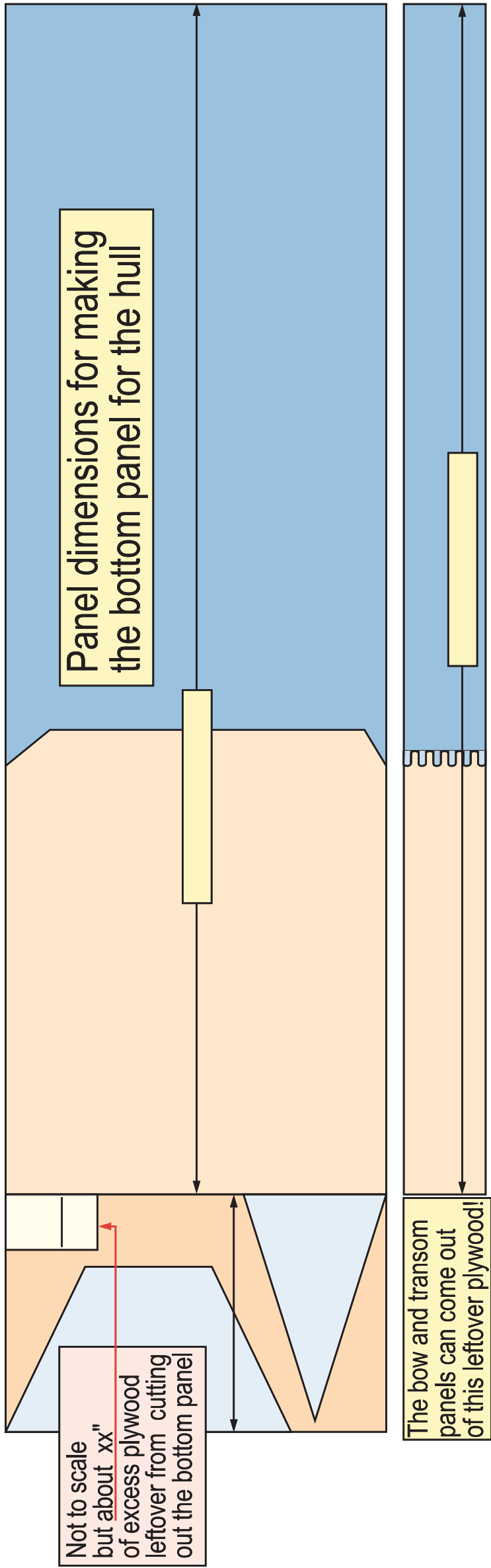
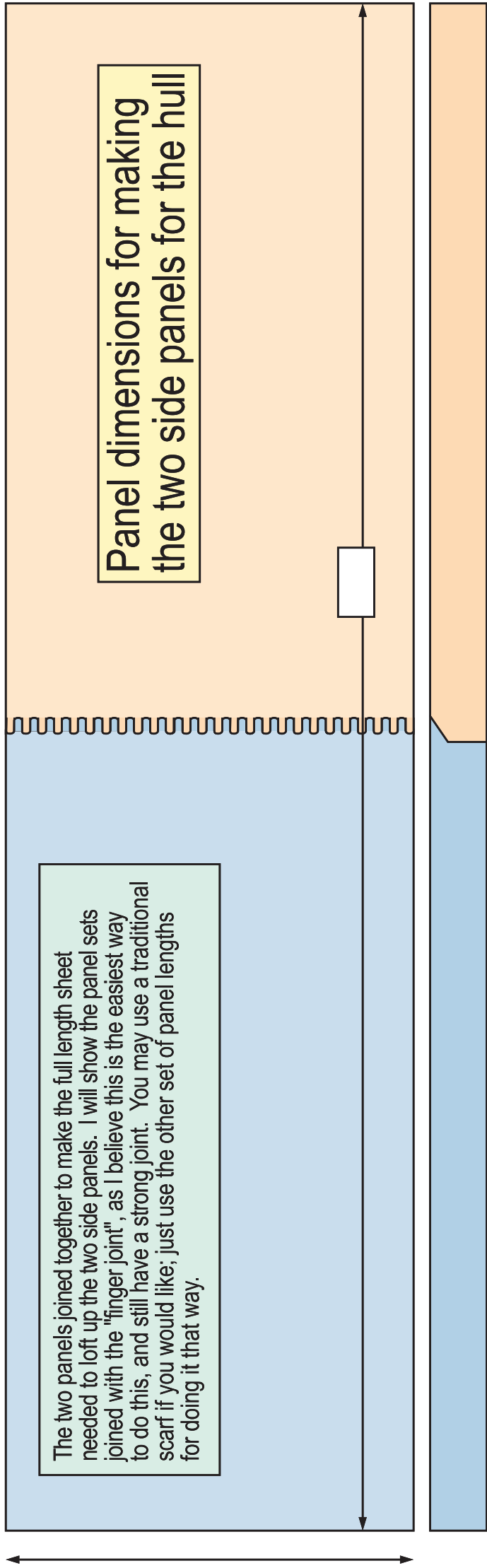
Building platform that works



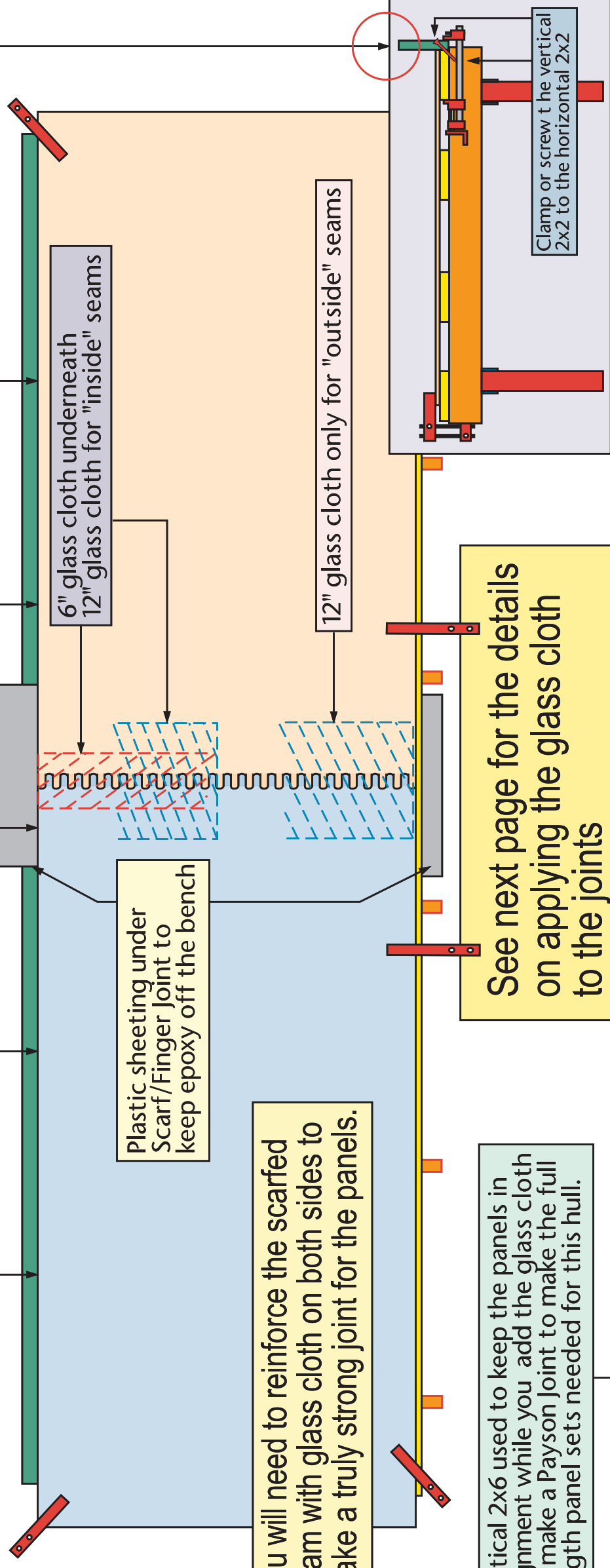
The 2x6's let you saw through the gaps, but still support the hull and plywood when lofting.

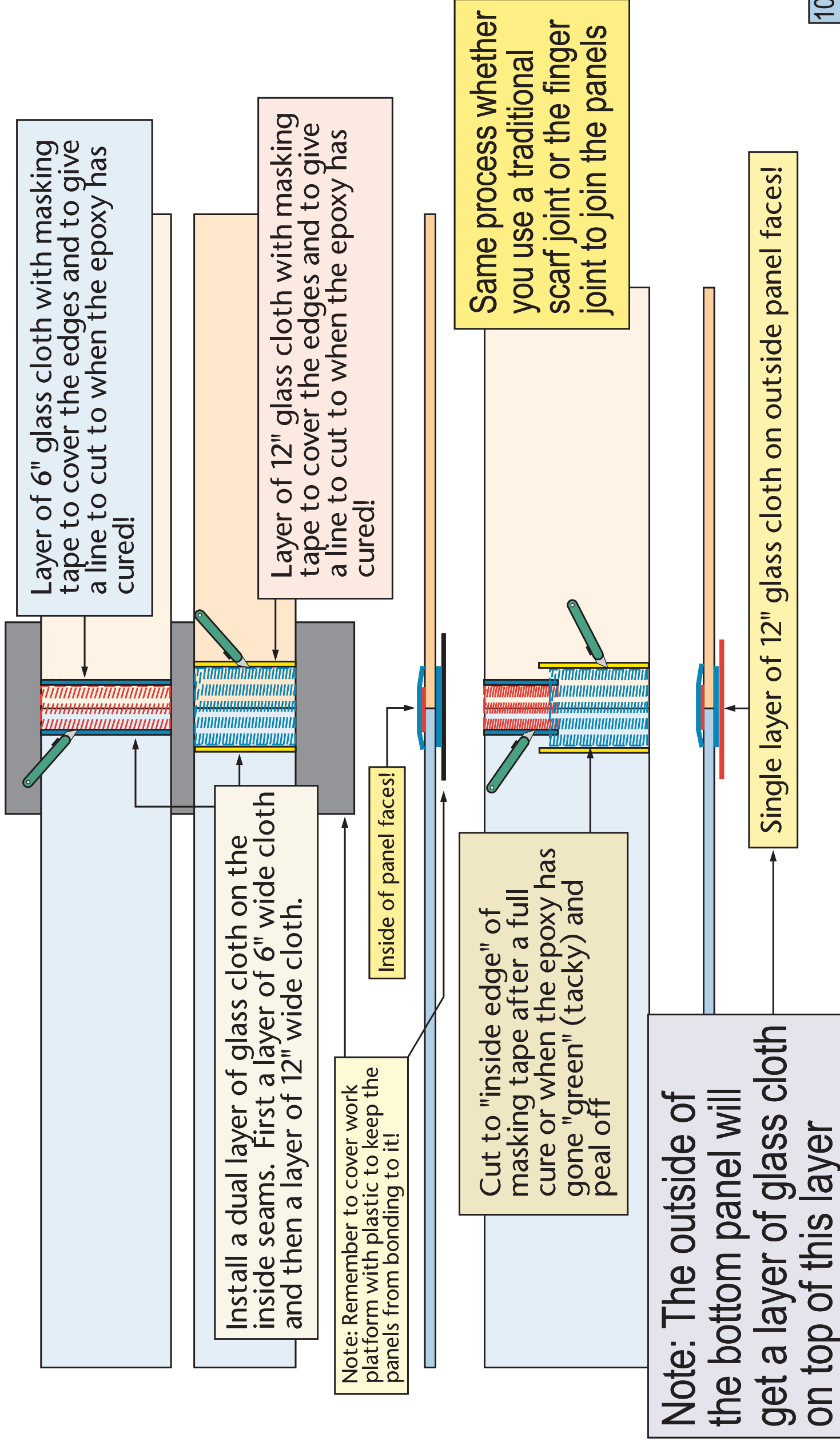


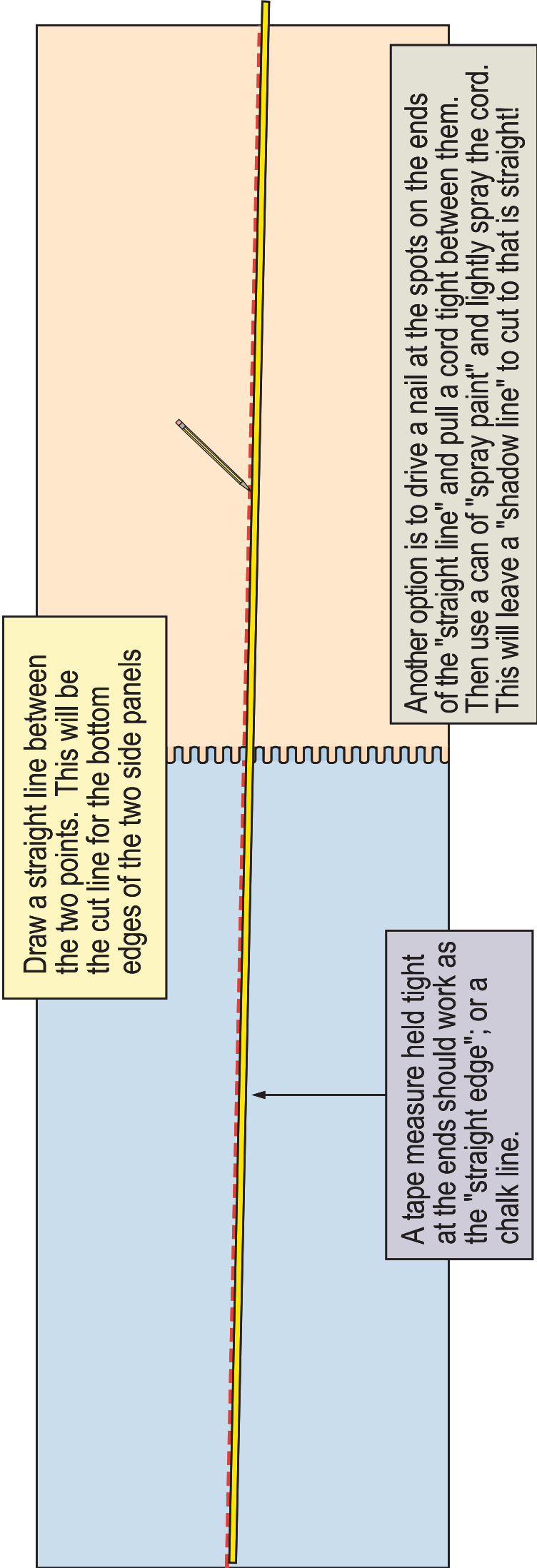
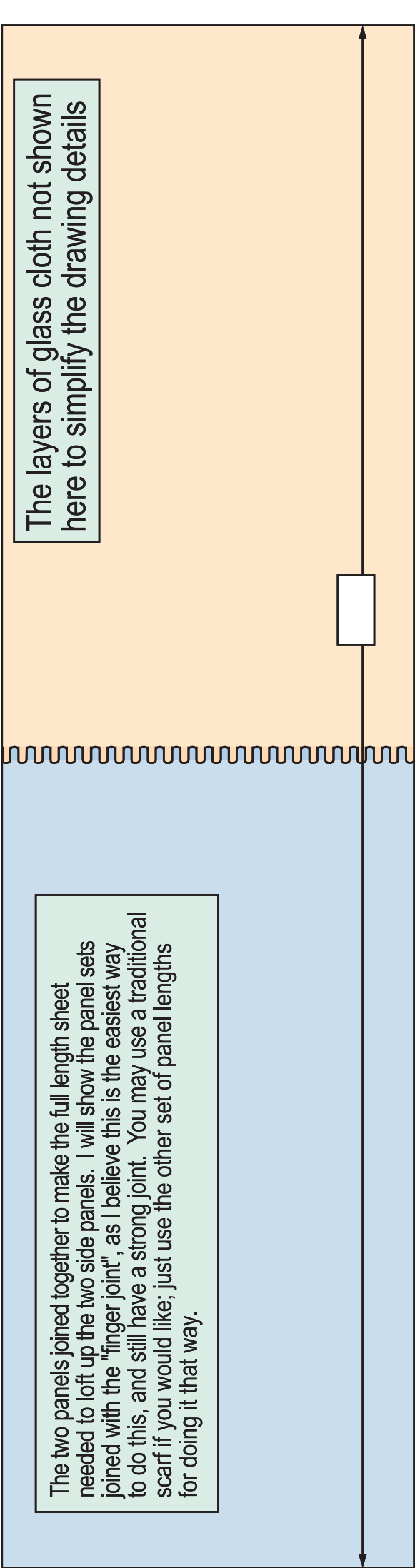
This platform can be used for cutting, lofting, and for wiring up the hull and for working on the interior and bottom of the hull.

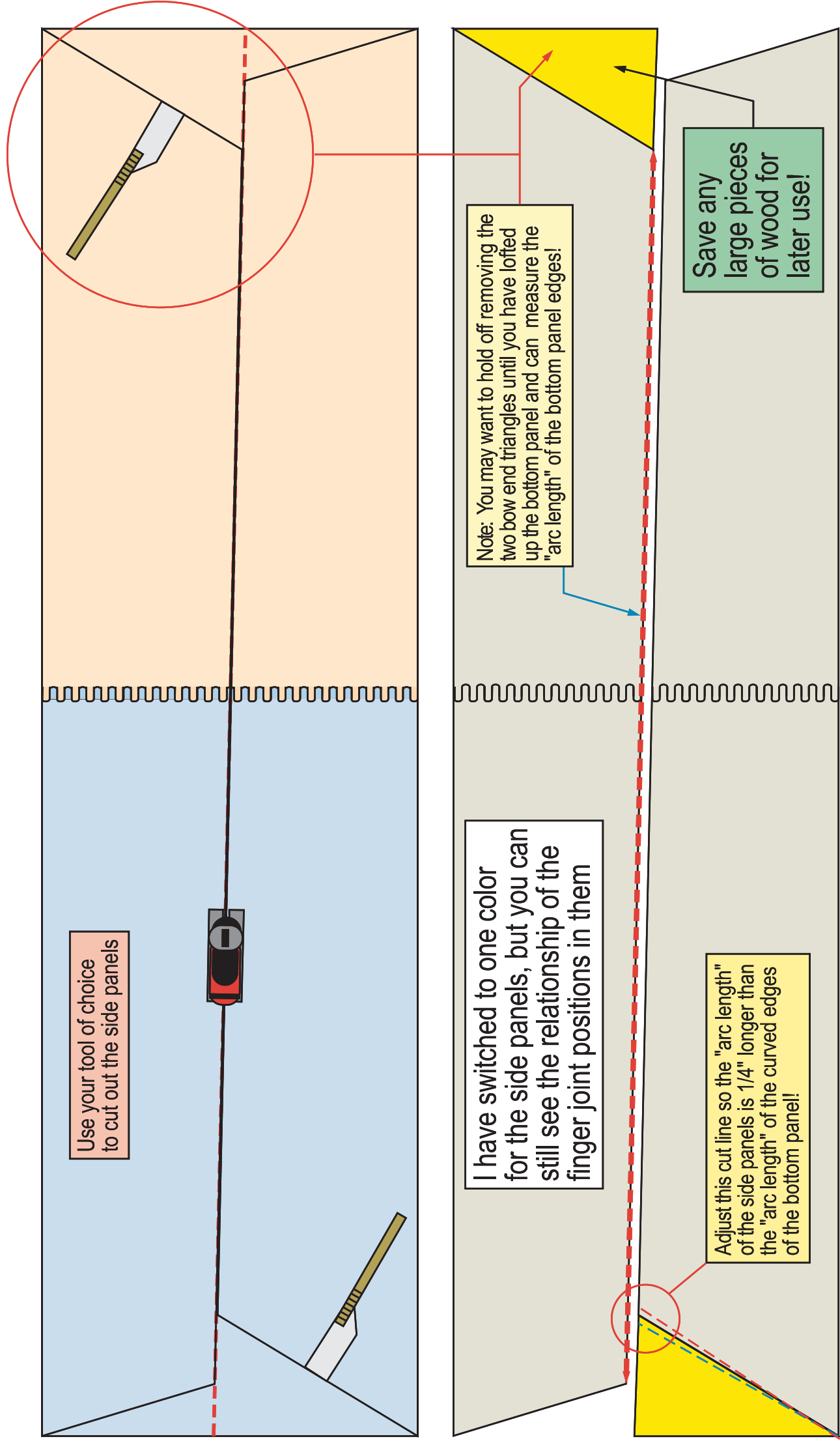


Be sure that you have a straight edge along both sides when you join the panels!

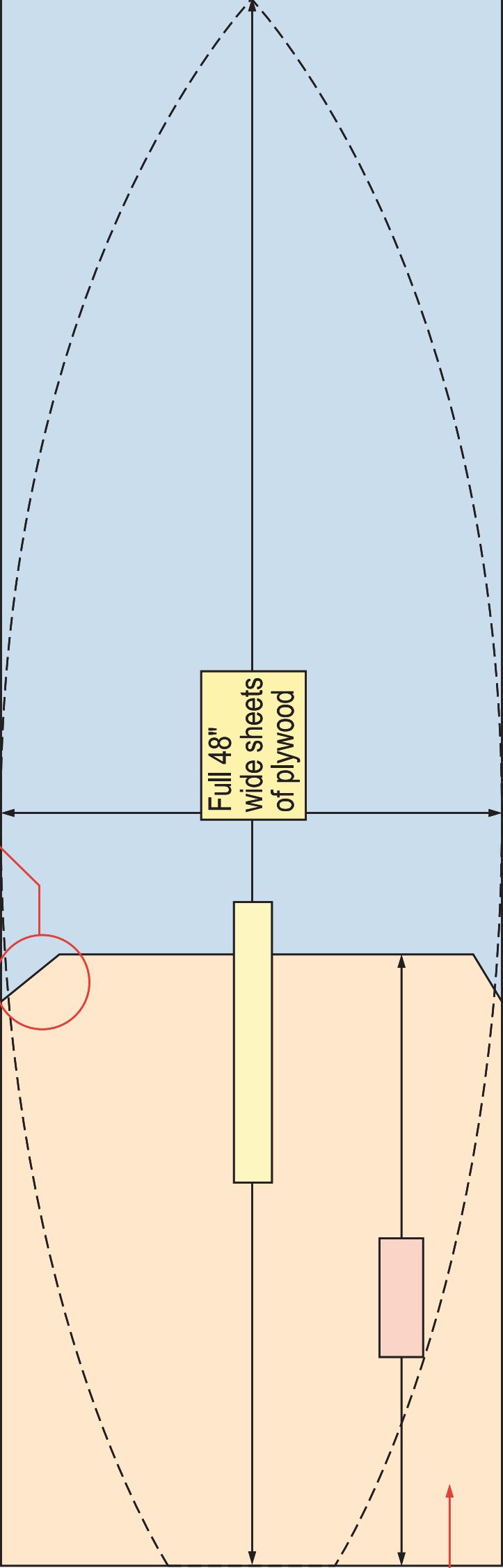








4.5" overlap for traditional scarf



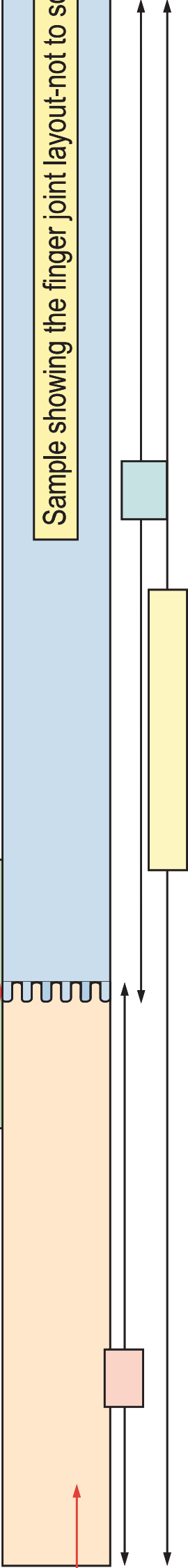
Full 48" wide sheets of plywood

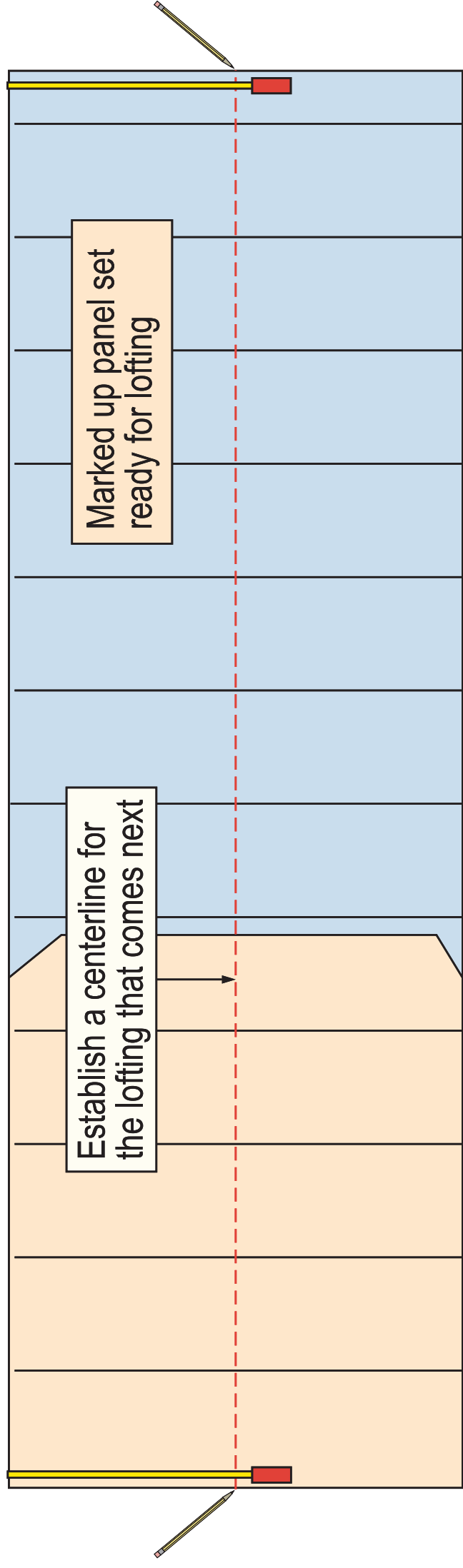
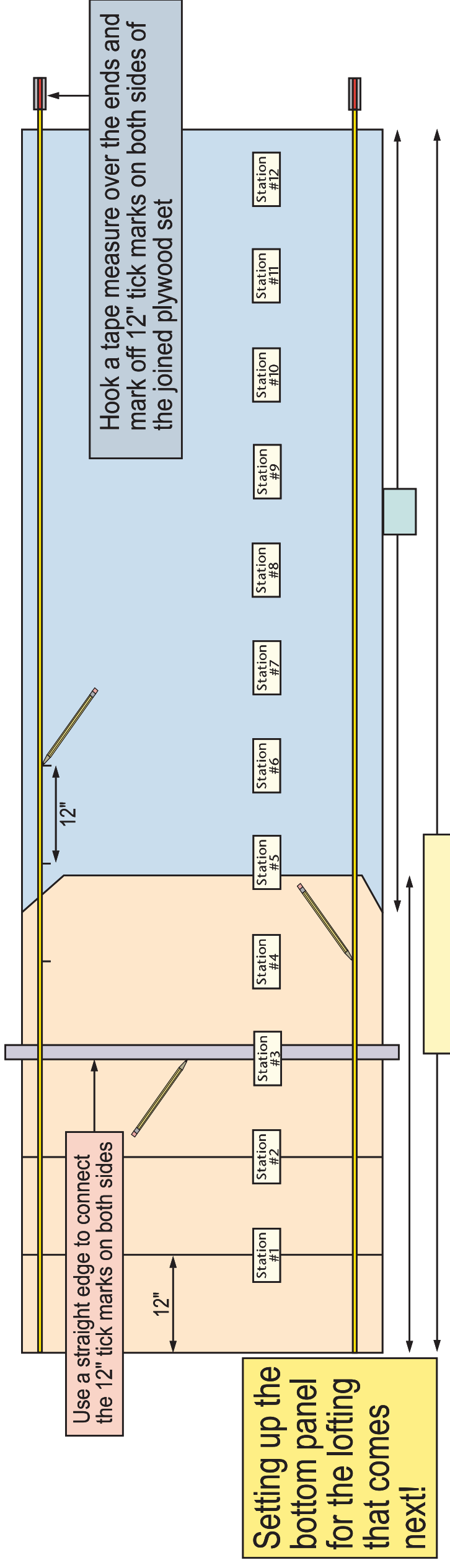
These two panels can be "bumped up" to full inches; But you will need to trim them back to XXX" overall later!

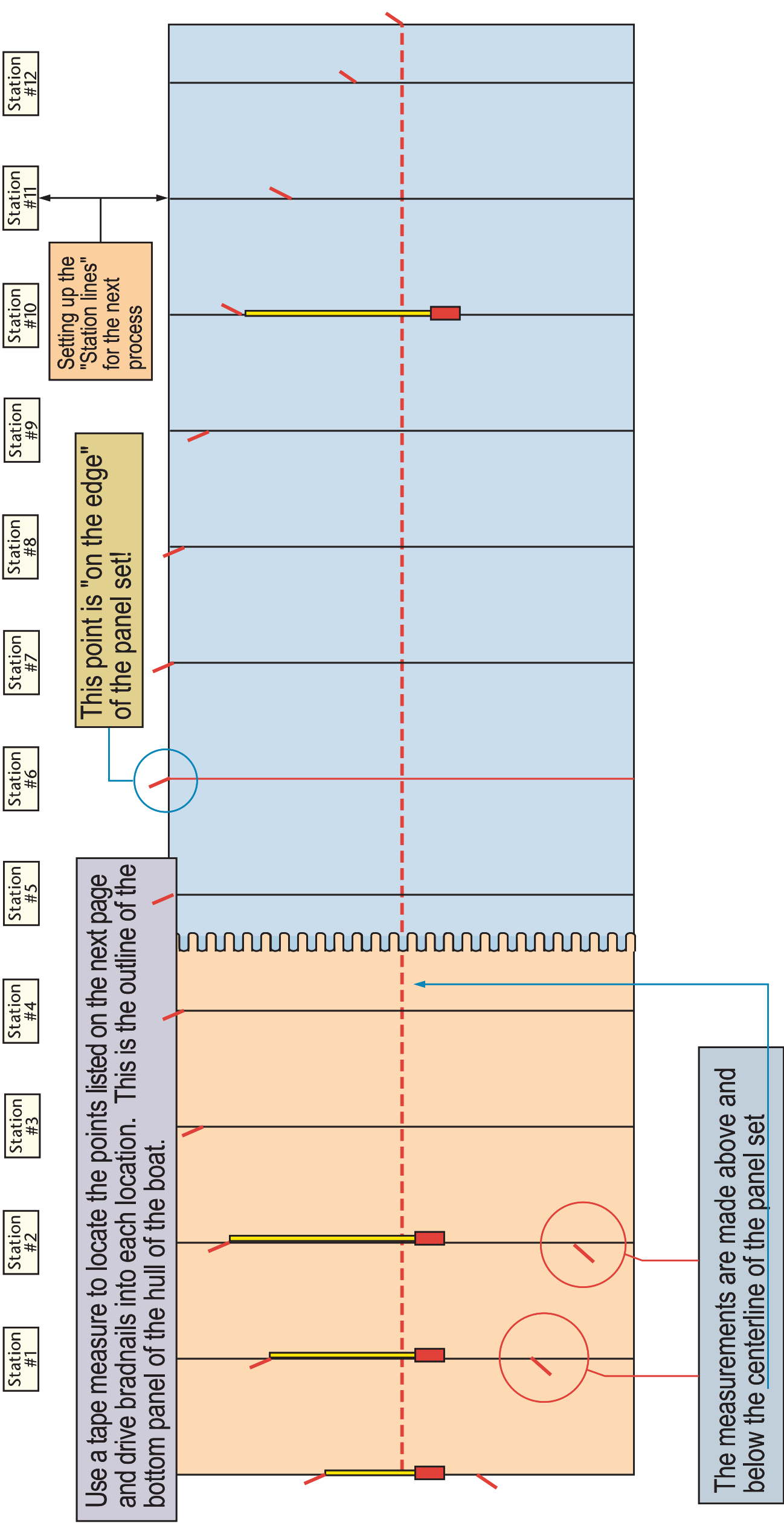
Plywood layout for making the bottom Panel

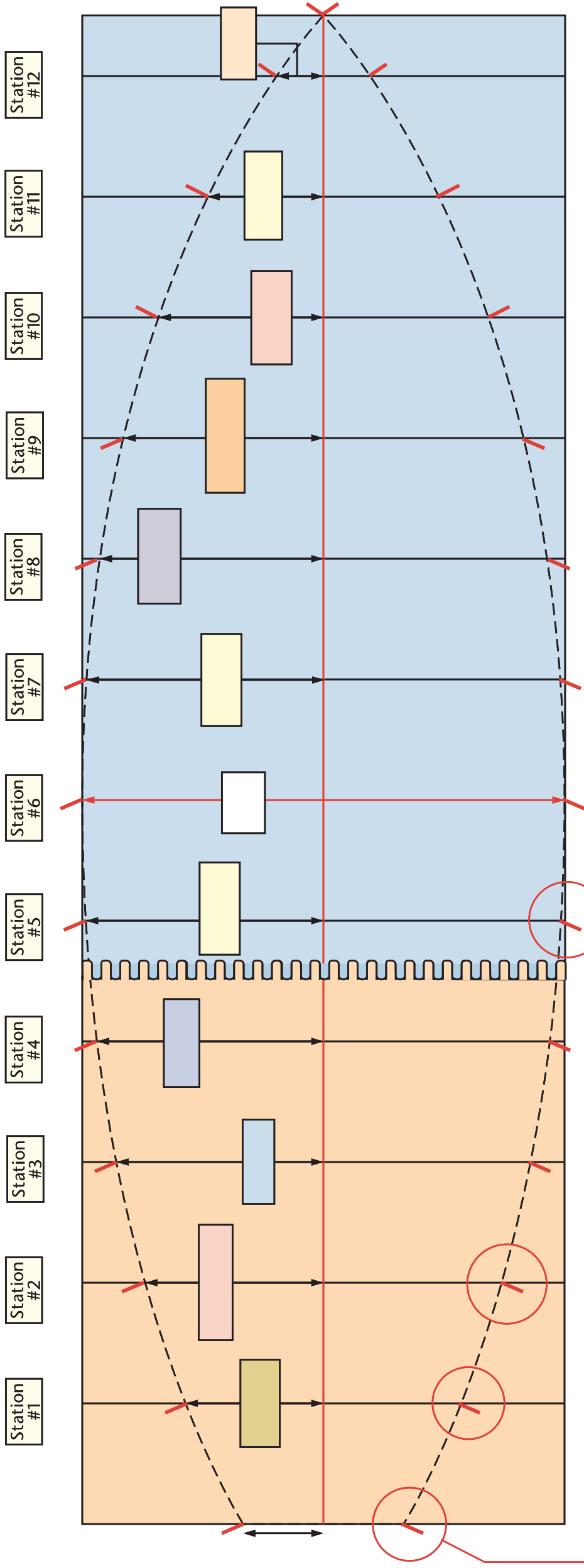
2" overlap at the Finger Joint!

Sample showing the finger joint layout-not to scale!









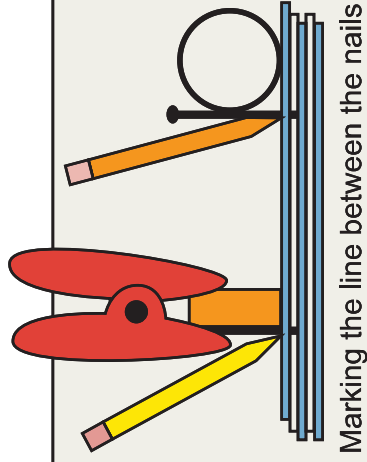
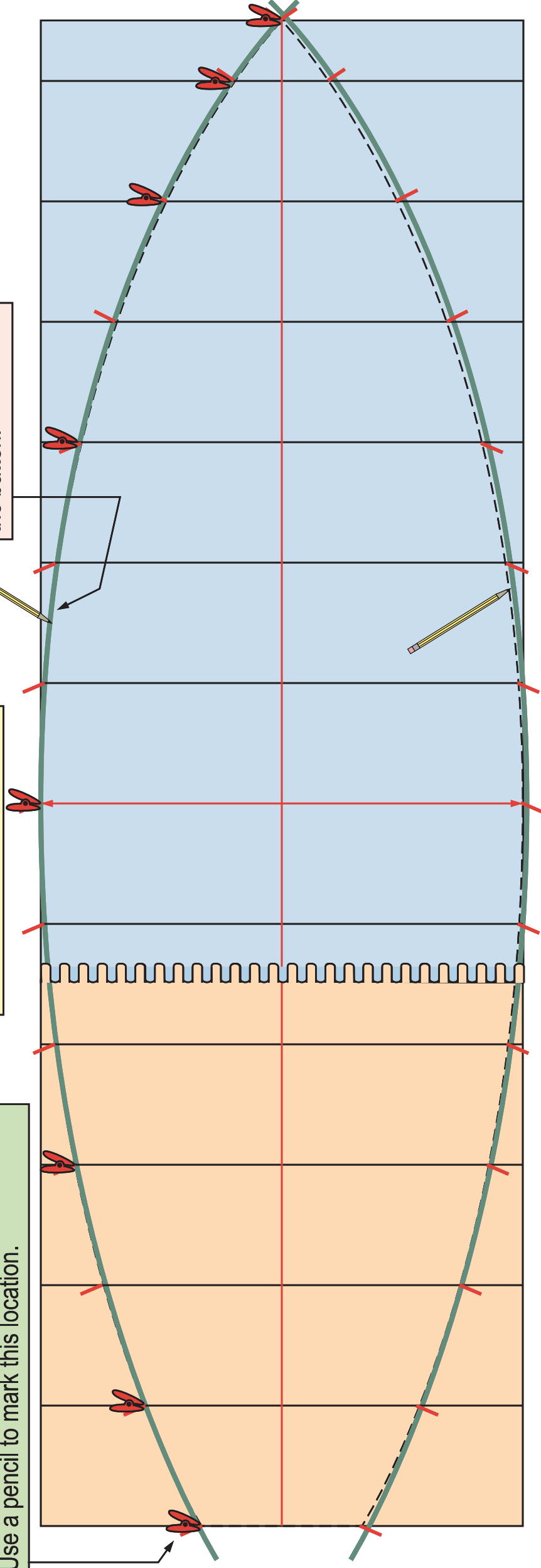
Drive a brail nail on those "marked points" above and below the centerline on the panel. You will use them to place the flexible batten against.

Take your time and do this right. How well you do the lofting here will determine the shape of the hull for all the construction that comes next!

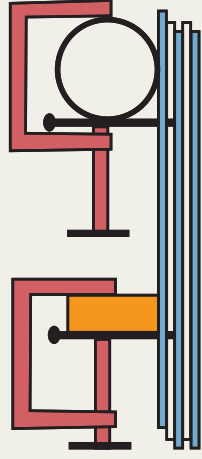
Use some small clamps to hold down the batten to the bradnails marking the "outline" of the hull. Use a pencil to mark this location.

Note: The batten is clamped to the "outside of the bradnails"!

Mark on the "inside" of the batten!



Marking the line between the nails

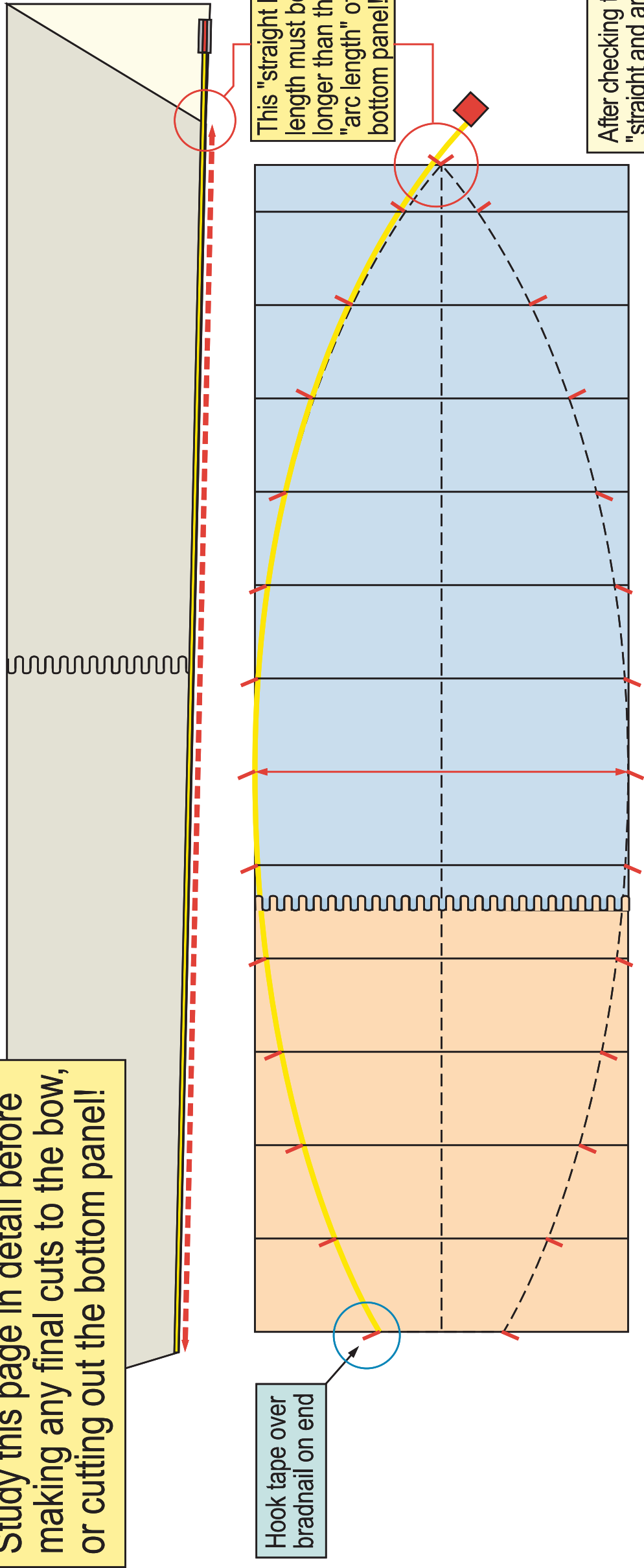


Clamping the Batten to the Nails

End views of the brad nails used to loft

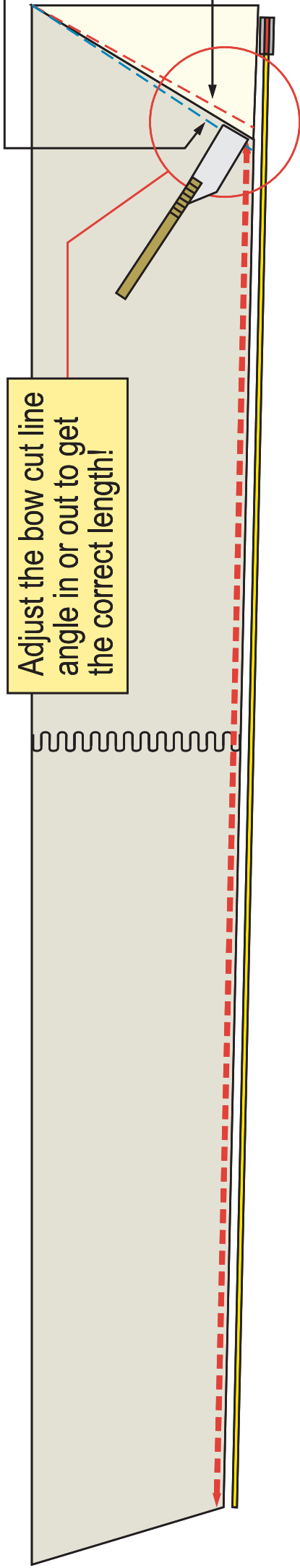
You may have to do this more than once to get a fair curve to the bottom panel on both sides. Be sure that the panel is symmetrical on both sides, and the curves are smooth. Lightly draw in the pencil lines the first few times to make any adjustments. Then mark the final cut line when you are happy.

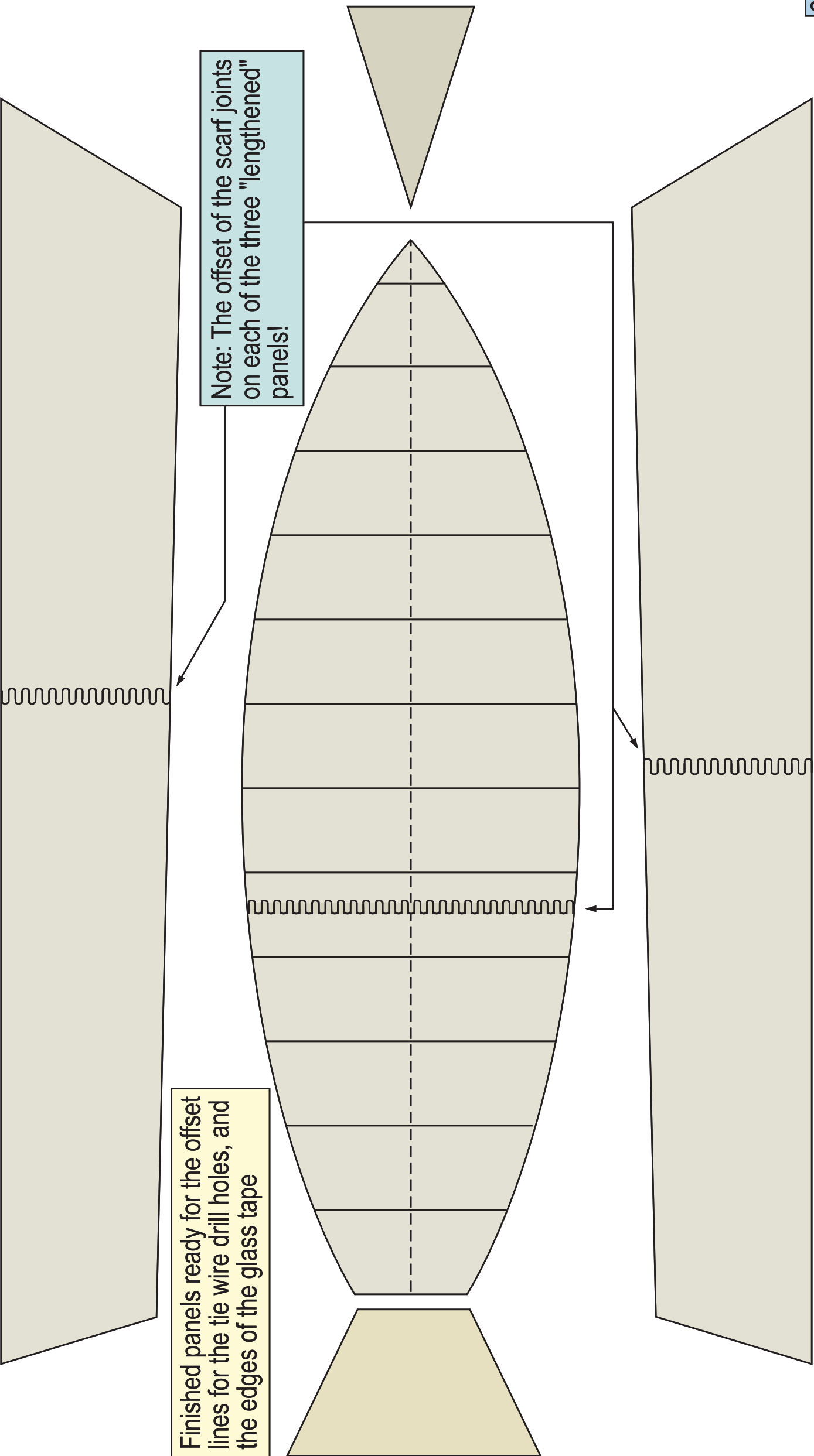
Study this page in detail before making any final cuts to the bow, or cutting out the bottom panel!



After checking the "straight and arc" lengths, make any adjustments to the cut out for the bow end of the side panels. Measure several times to be sure you have the correct lengths!

Adjust the bow cut line angle in or out to get the correct length!

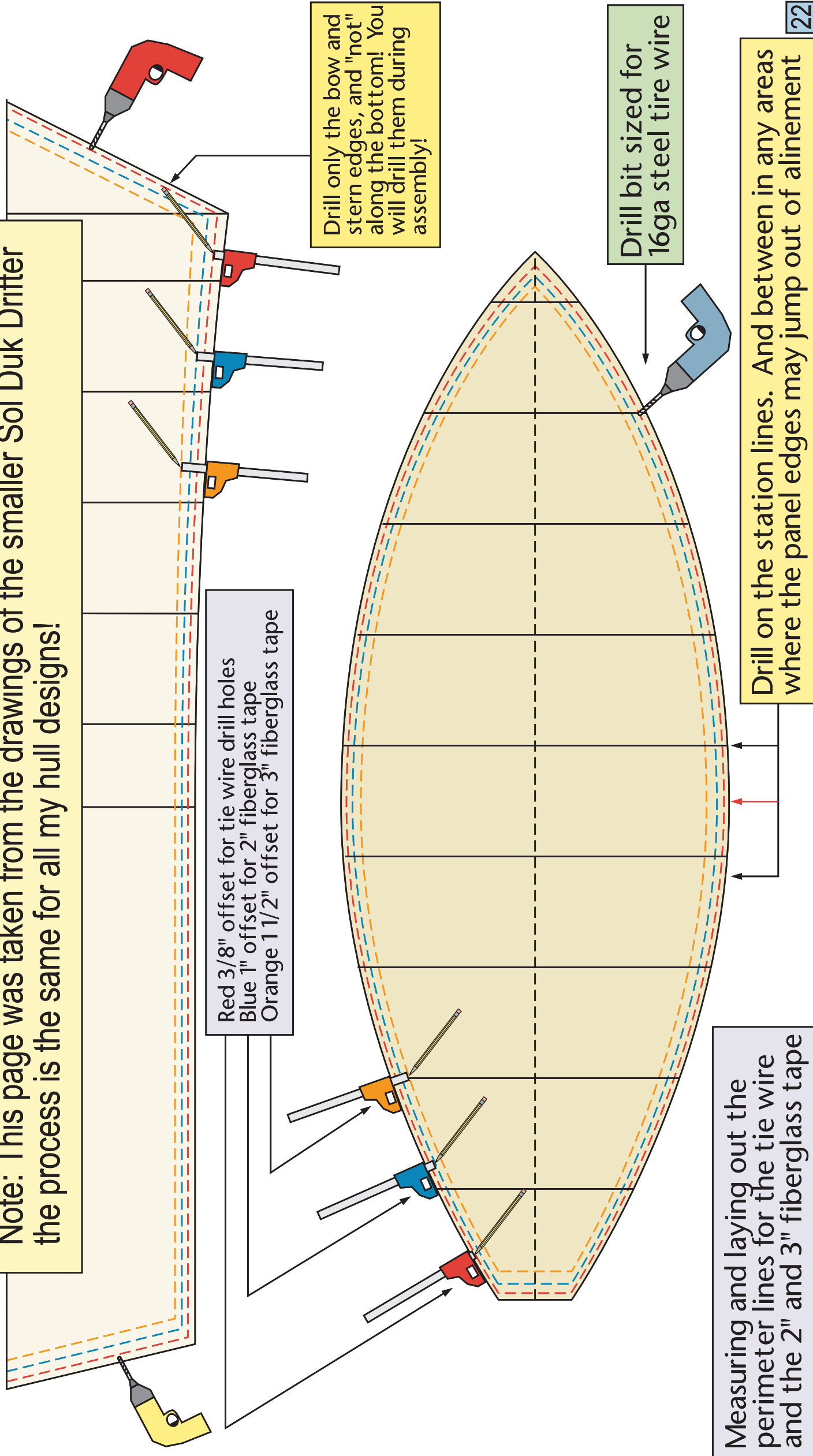




Finished panels ready for the offset lines for the tie wire drill holes, and the edges of the glass tape

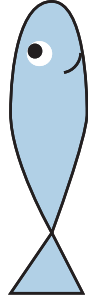
Note: The offset of the scarf joints on each of the three "lengthened" panels!

Note: This page was taken from the drawings of the smaller Sol Duk Drifter the process is the same for all my hull designs!



Note: This page was taken from the drawings of the smaller Sol Duk Drifter
the process is the same for all my hull designs!

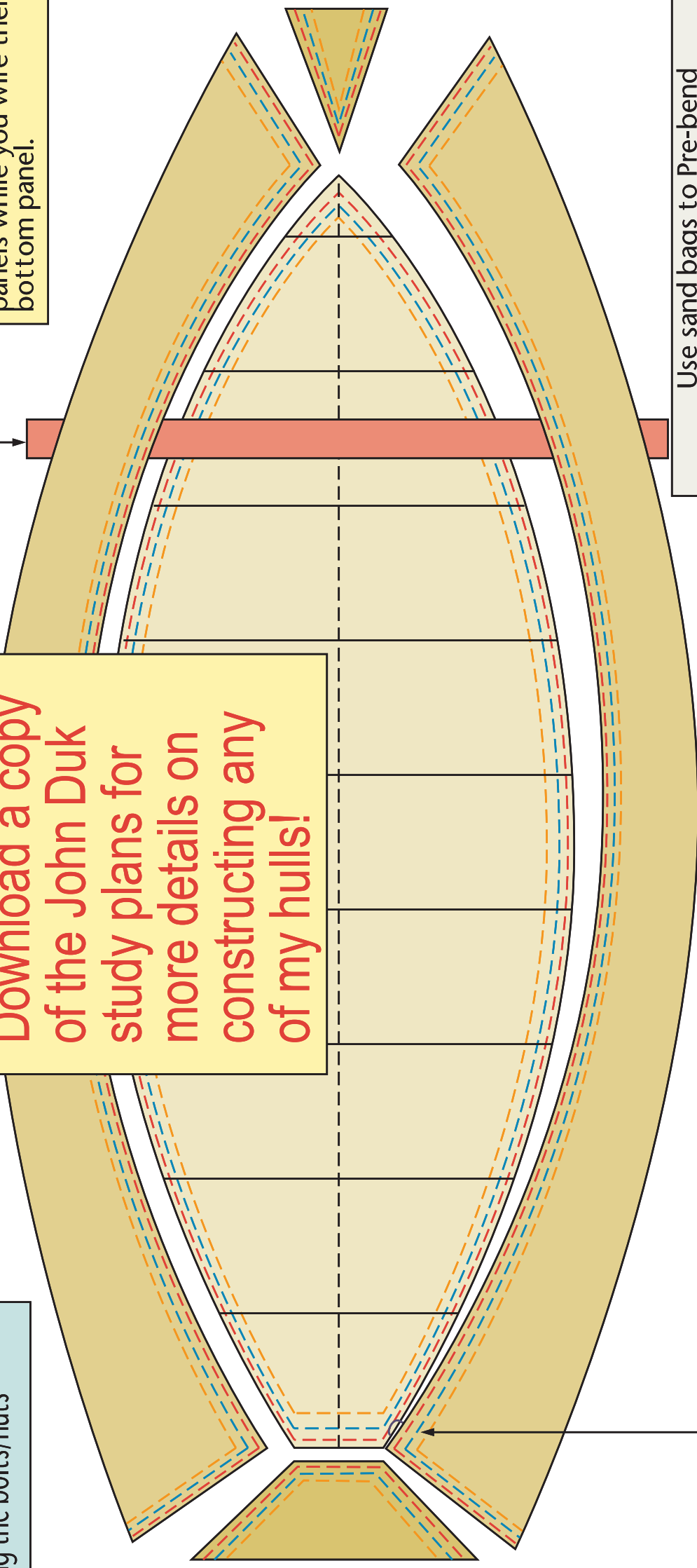
Finished panel sets ready
to be wired together



See the following page for the details on wiring the panels and installing the bolts/nuts

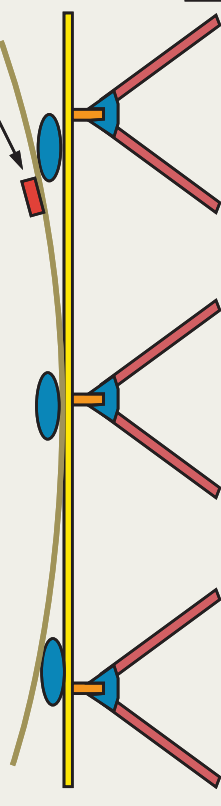
Sol Duk Drawing!
Download a copy of the John Duk study plans for more details on constructing any of my hulls!

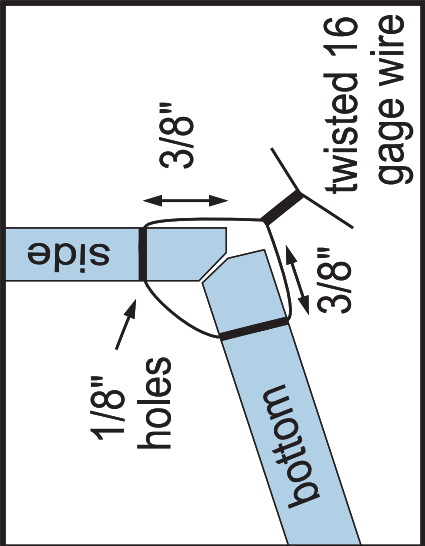
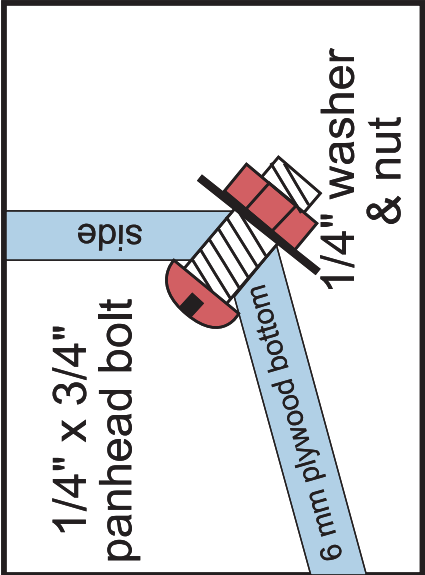
Note: It helps to lay a 2x4 across the top of the bottom panel to help support the fronts of the side panels while you wire them to the bottom panel.



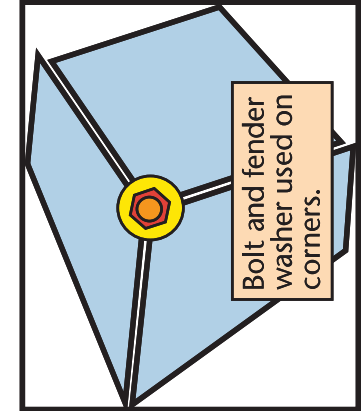
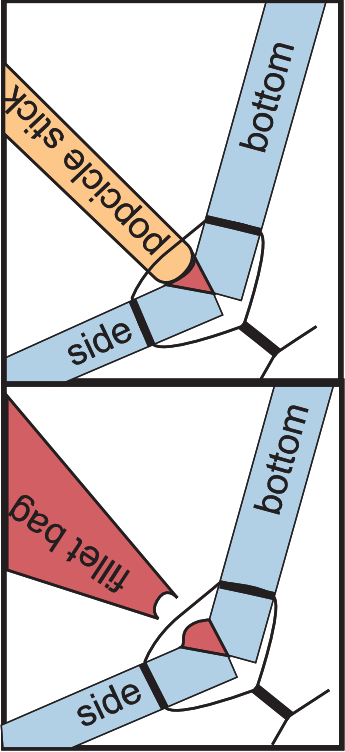
Wire the side panels to the bottom panel, starting at the stern. Add 5 to 6 wires along the seam to pull in the side panels enough to start the curve, and to check to see that the "arc lengths" are correct. If you are happy that the side and bottom panels fit, then start drilling for the 1/4" bolts and nuts and adding the rest of the tire wires. Only snug up the bolts and nuts, and tire wires at the time!

Use sand bags to Pre-bend the bottom panel. It helps when wiring on the side panels

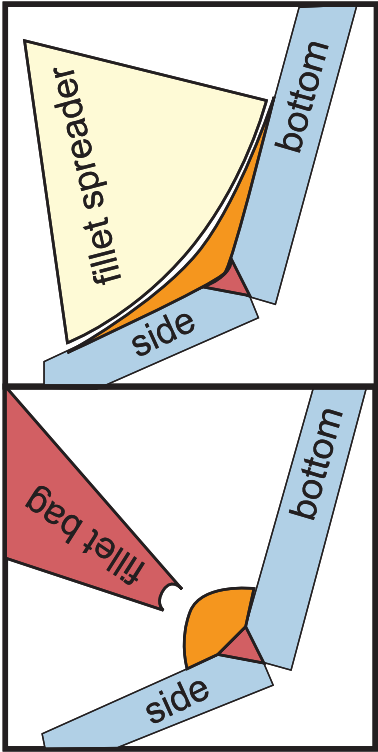




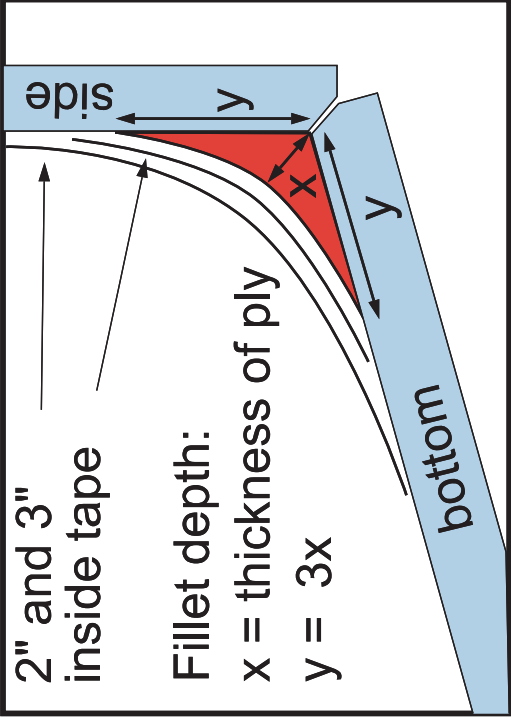
Wiring and bolting the panel sections together



Jump Stitch



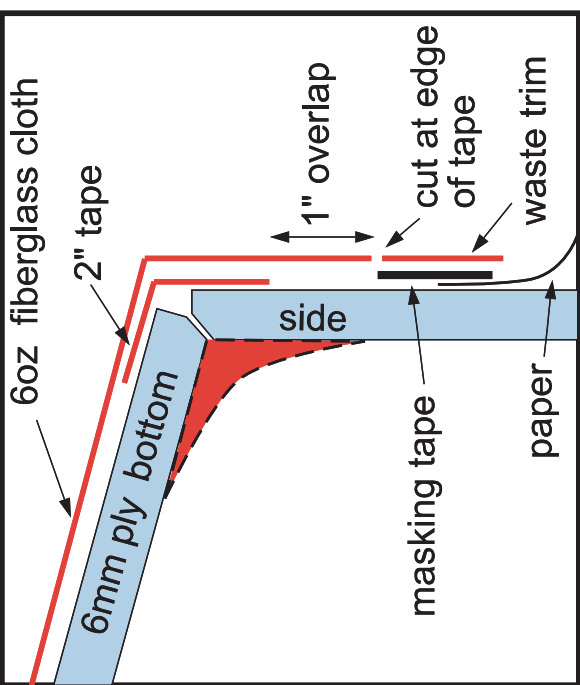
Applying and Spreading the Fillet



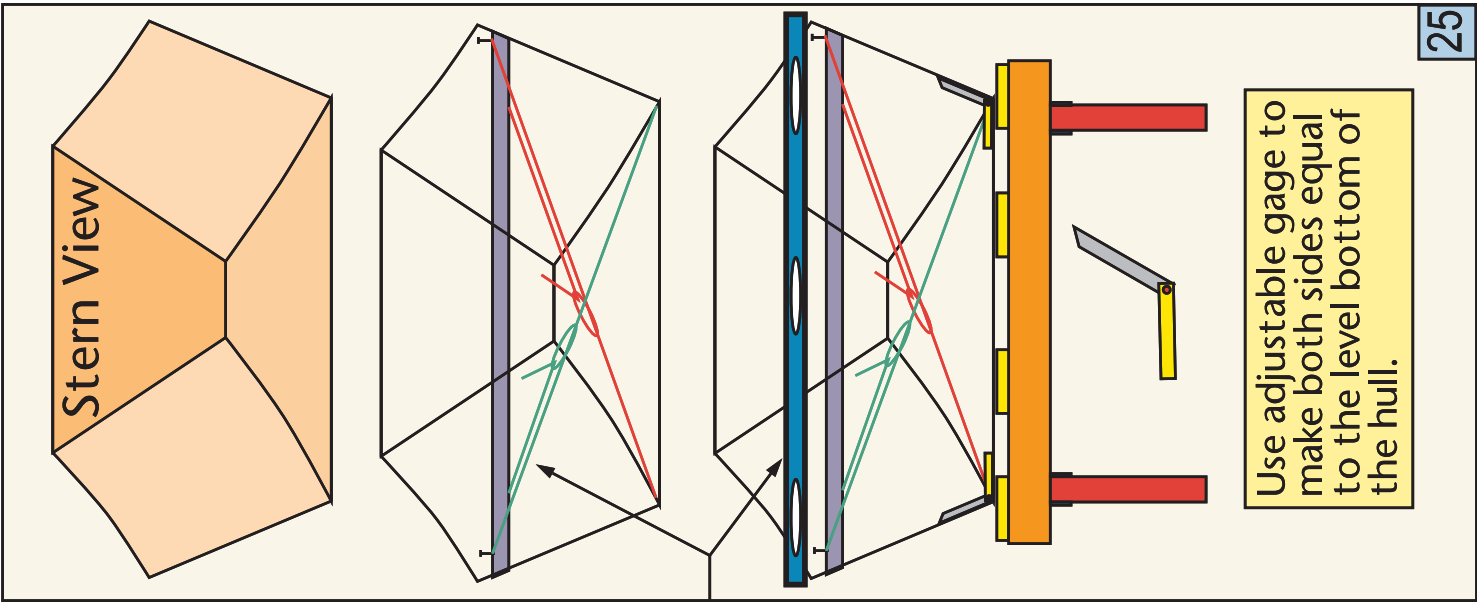
Cross section of taped seam

Method used to make sure the sides are at equal angles to the bottom! Be sure the hull is tied down and level on the work platform.

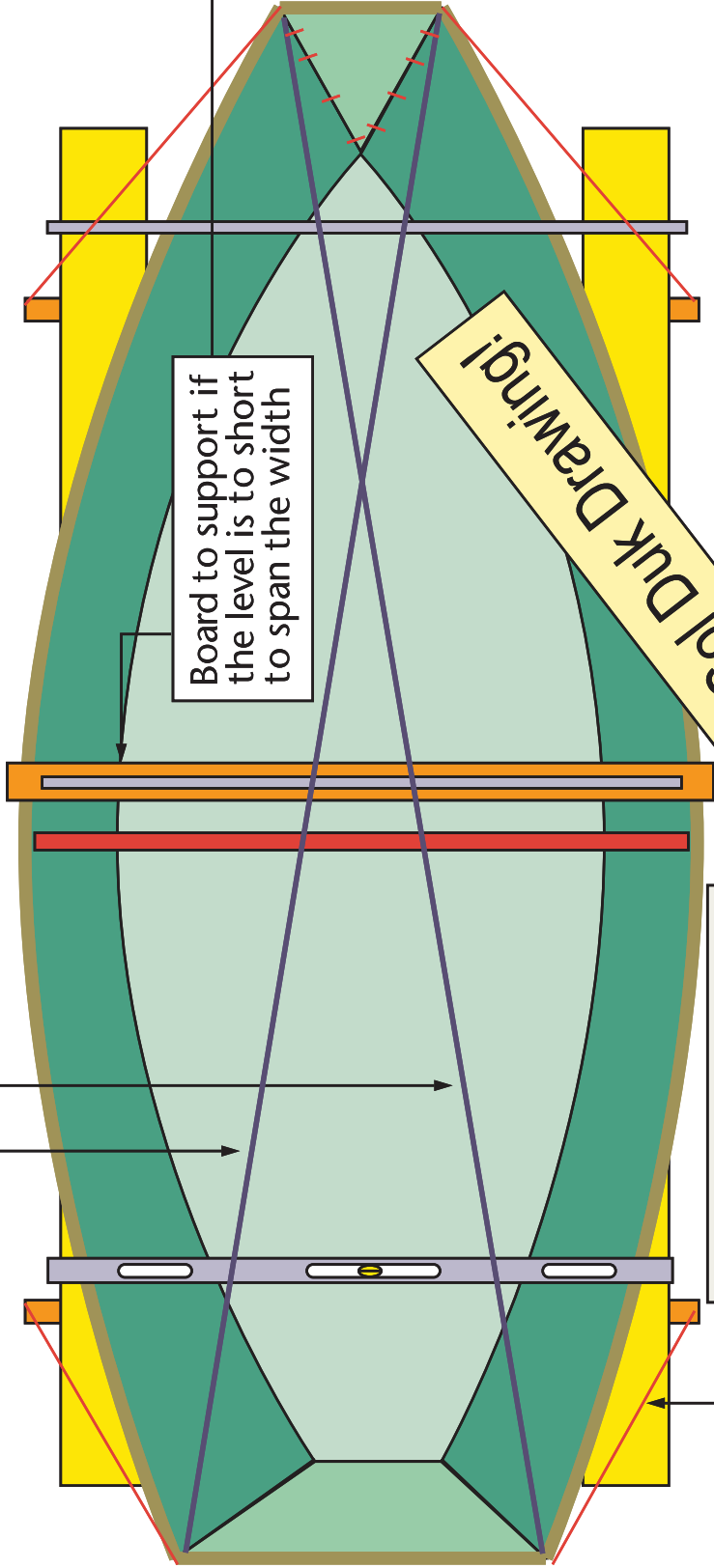
Bottom outside edge details



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



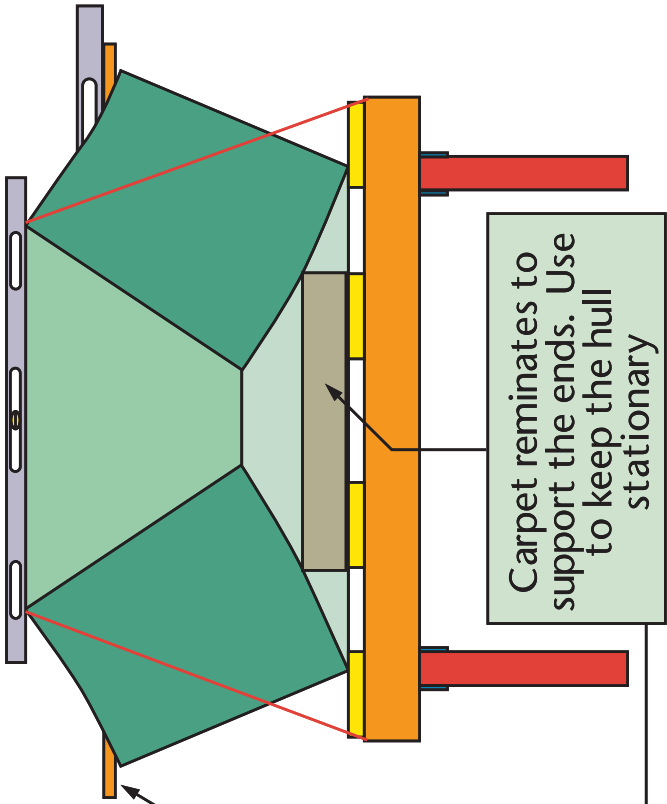
Cross hull tension lines used to "square up" the hull. Adjust until the "cross hull distances" are the same!



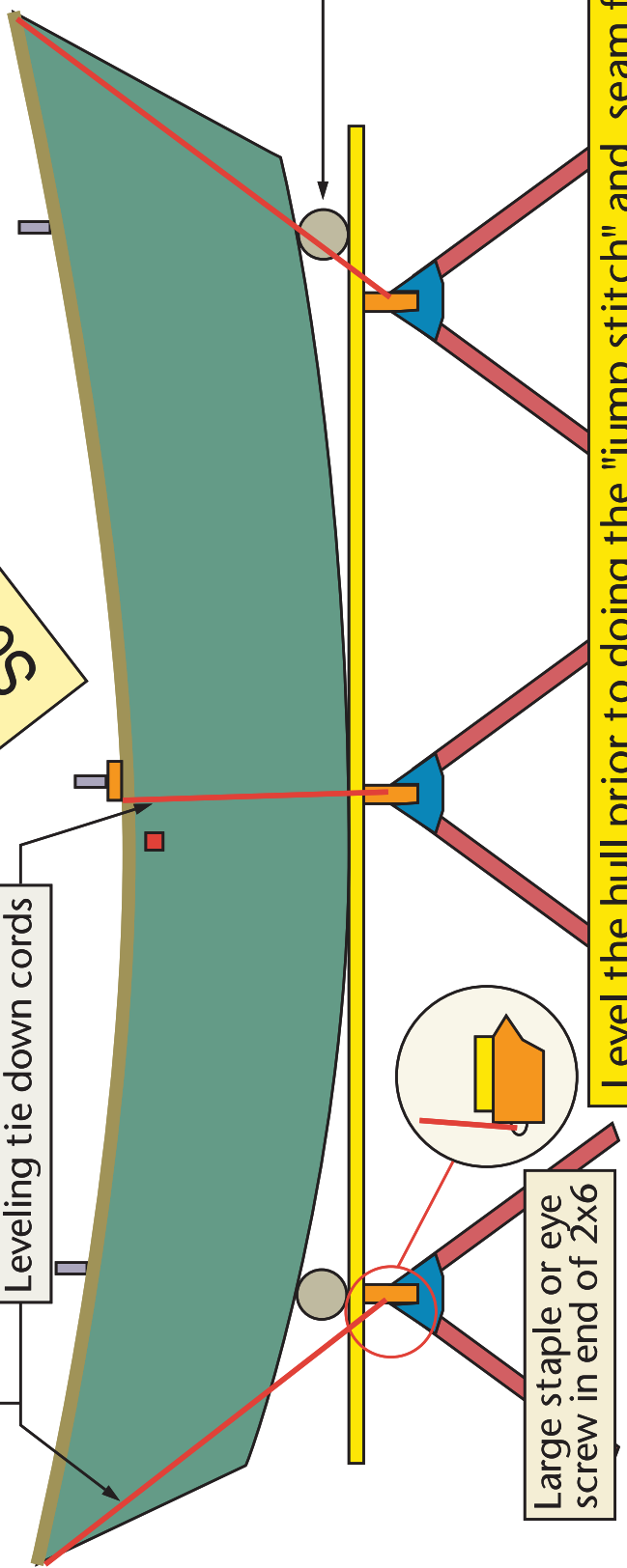
Board to support if the level is to short to span the width

Sol Duk Drawing!

Carpet remيناتes to support the ends. Use to keep the hull stationary



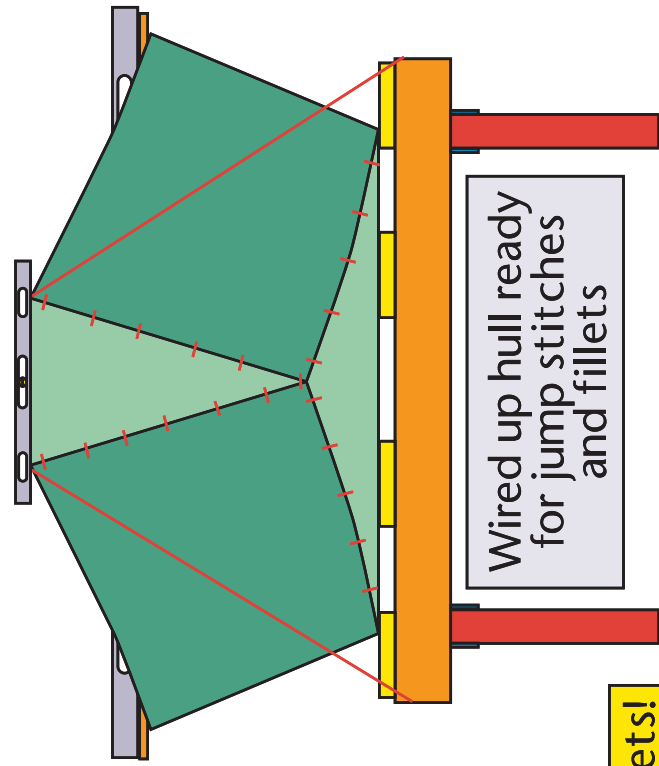
Leveling tie down cords



Large staple or eye screw in end of 2x6

Level the hull prior to doing the "jump stitch" and seam fillets!

Wired up hull ready for jump stitches and fillets



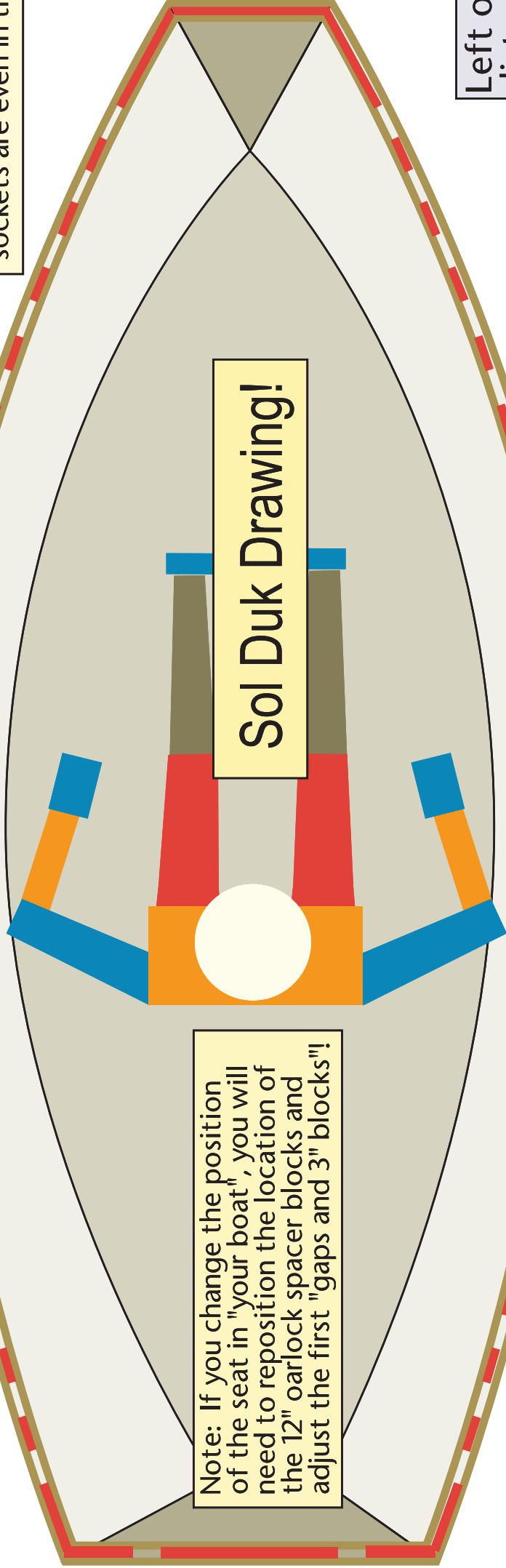


This is the first spacer block set in the hull!

See next drawing about this and page 47!

Distance from transom to oarlock socket

Use the "station line cut marks" to make sure that the oarlock sockets are even in the hull!



Note: If you change the position of the seat in "your boat", you will need to reposition the location of the 12" oarlock spacer blocks and adjust the first "gaps and 3" blocks"!

Sol Duk Drawing!

Filler Block

3" block

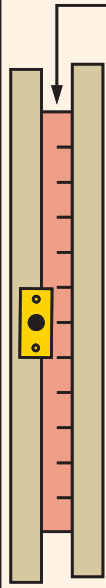
3" space

Even block/space

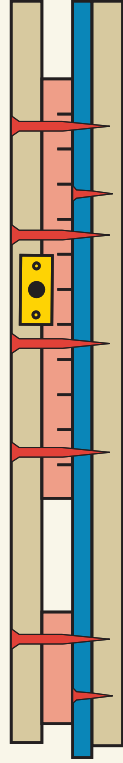
Left over distance

27

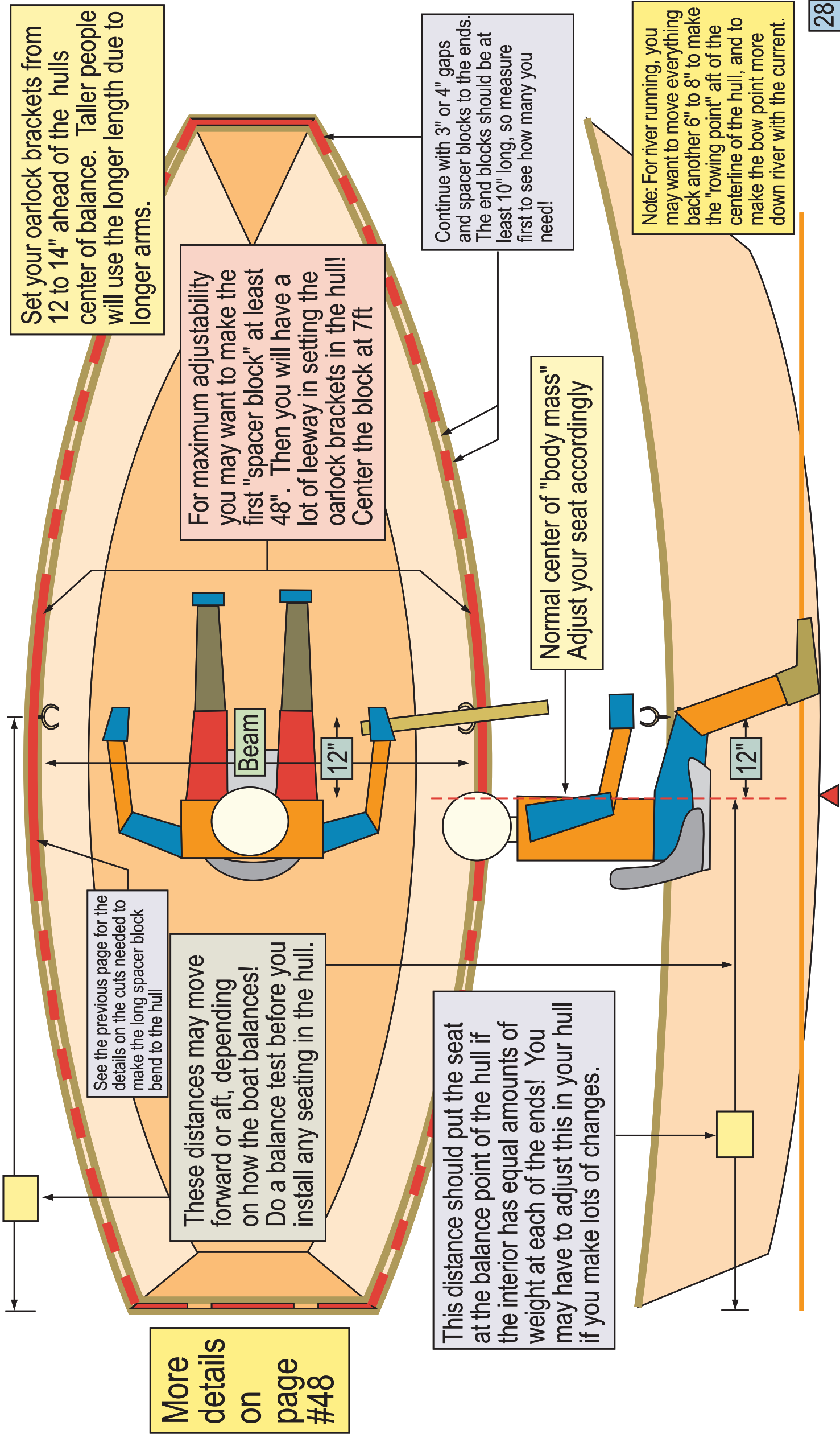
The oarlock spacer block sets the position of all the other blocks and spaces. Mount the oarlock block, then the first spaces on either side, then continue to the ends. After the last "even space", fill the rest of the distance with a "filler block" to meet the bow and transom rails.



The 12" oarlock spacer block needs to have "cuts" placed ever 1" and half the depth of the spacer block. This lets the block bend to the hull and not distort the side panels. This must be done!



The small screws will be located at the station line cut marks, so mark their locations on the hull so you don't drill into them when you drill for the other screws. Place 4 screws along the oarlock block, and one at each of the smaller spacer blocks. Epoxy both sides of the blocks.



More details on page #48

Set your oarlock brackets from 12 to 14" ahead of the hulls center of balance. Taller people will use the longer length due to longer arms.

For maximum adjustability you may want to make the first "spacer block" at least 48". Then you will have a lot of leeway in setting the oarlock brackets in the hull! Center the block at 7ft

Continue with 3" or 4" gaps and spacer blocks to the ends. The end blocks should be at least 10" long, so measure first to see how many you need!

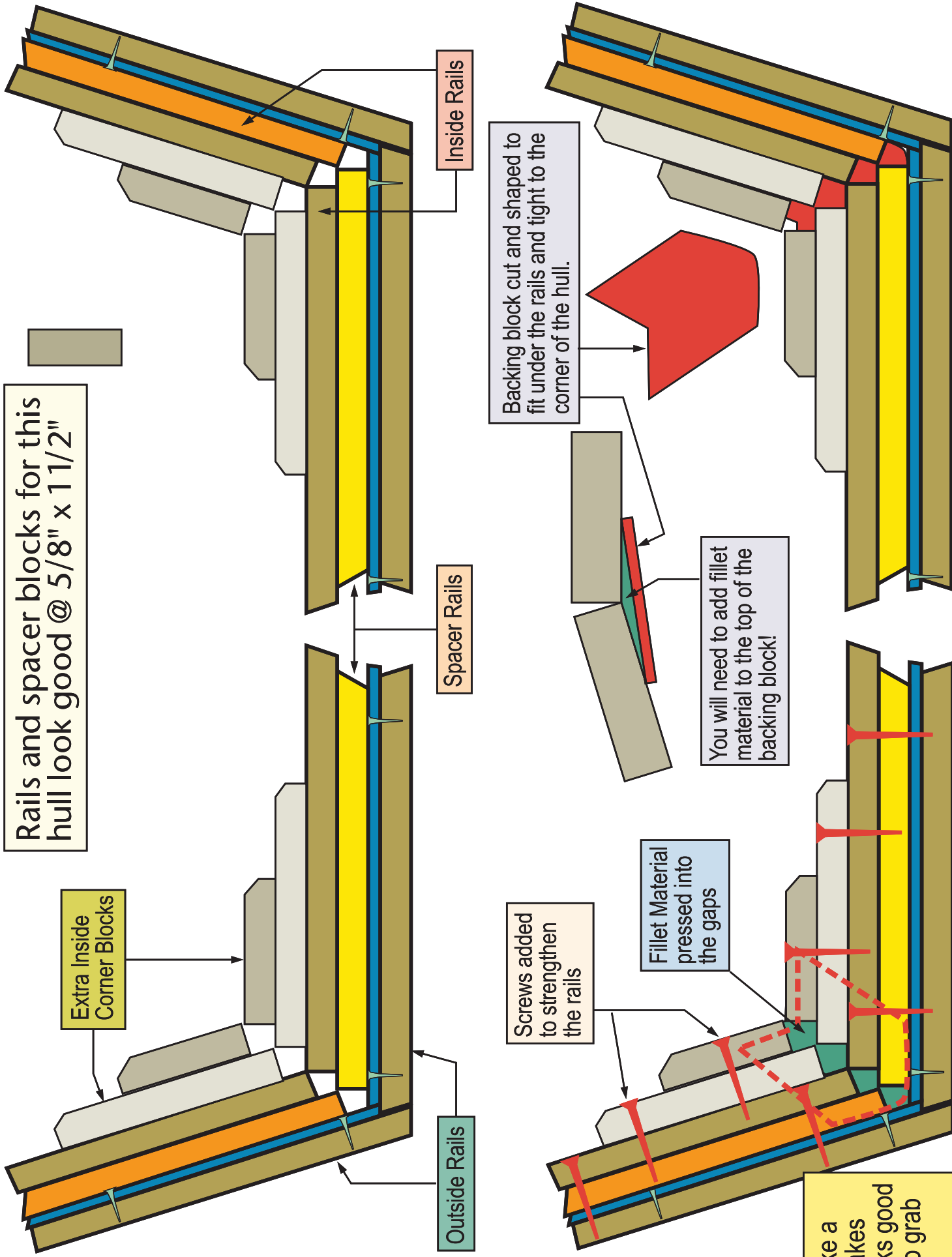
Note: For river running, you may want to move everything back another 6" to 8" to make the "rowing point" aft of the centerline of the hull, and to make the bow point more down river with the current.

Normal center of "body mass" Adjust your seat accordingly

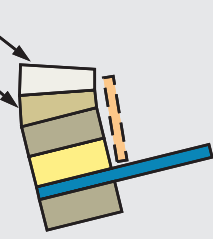
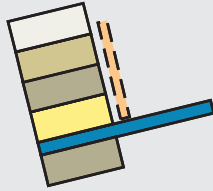
See the previous page for the details on the cuts needed to make the long spacer block bend to the hull

These distances may move forward or aft, depending on how the boat balances! Do a balance test before you install any seating in the hull.

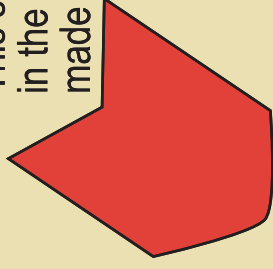
This distance should put the seat at the balance point of the hull if the interior has equal amounts of weight at each of the ends! You may have to adjust this in your hull if you make lots of changes.



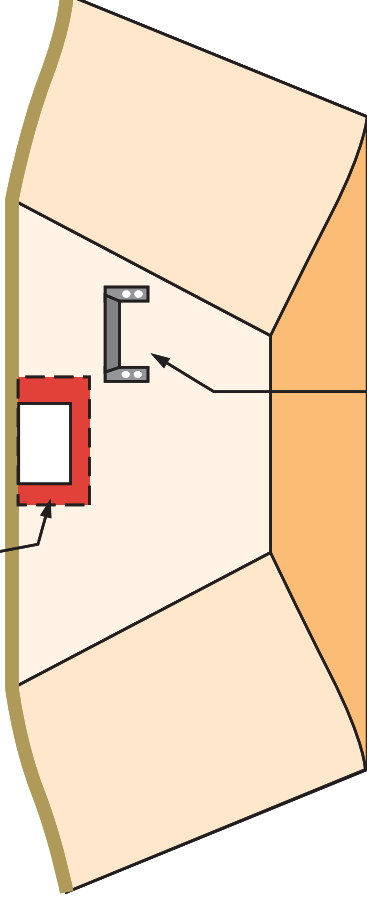
To keep the height of the blocks down, it helps to put bevels in the two smaller blocks.



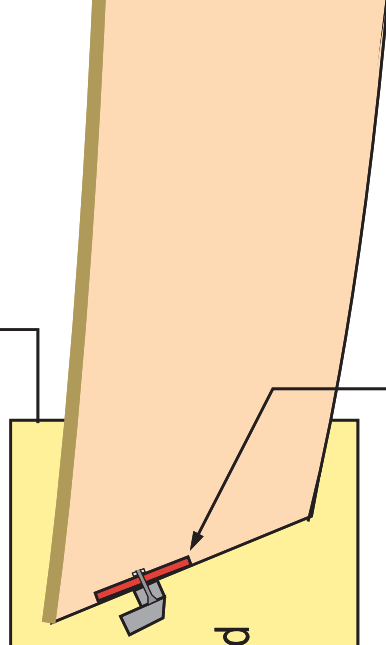
This shape will also work in the corners, and can be made wider if you want.



Backing block on inside or outside to reinforce the opening

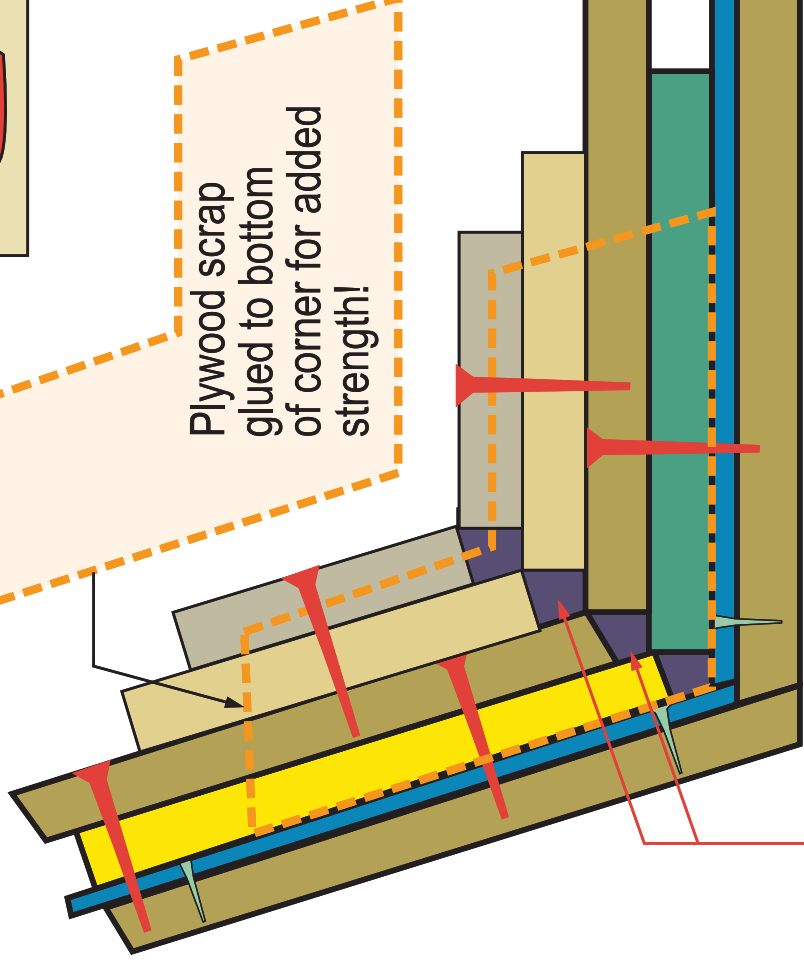


For safety, you might want to add a step/handle to the transom to help get back in the hull if you should ever fall out!



Backing block

Plywood scrap glued to bottom of corner for added strength!



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

The hull of the scale model balances at 7ft from the top of the transom. That is also the balance point for the hull when I did the tank tests. You can check for changes in your hull by balancing it on a 2x2 as you construct the hull. Do this again with the completed hull, and then do a "temporary" fit of the seating you will use. That may be for a single or double seat arrangement!

See Page #48 for the details

See Page #49 for the details

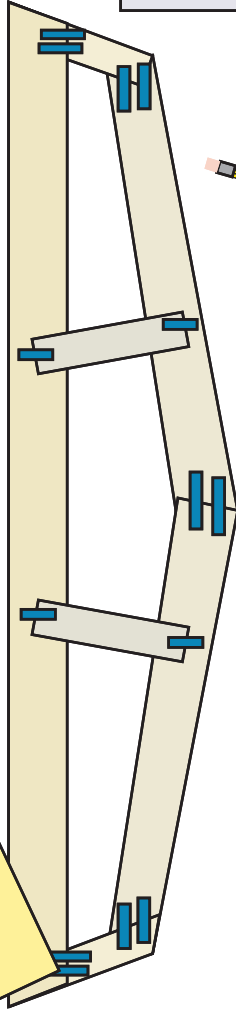
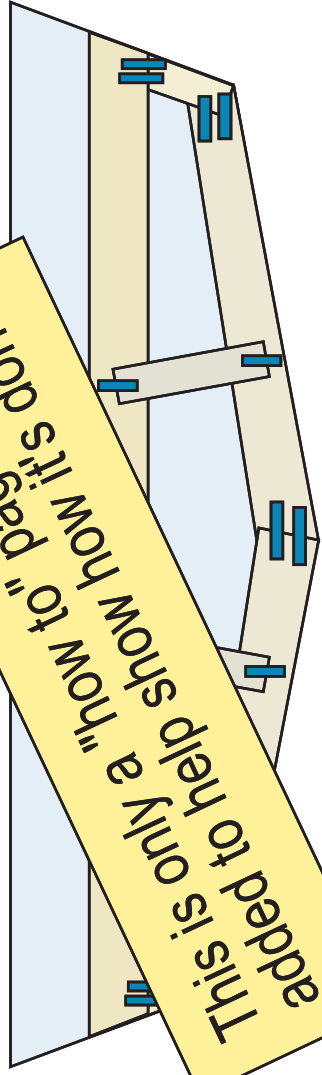
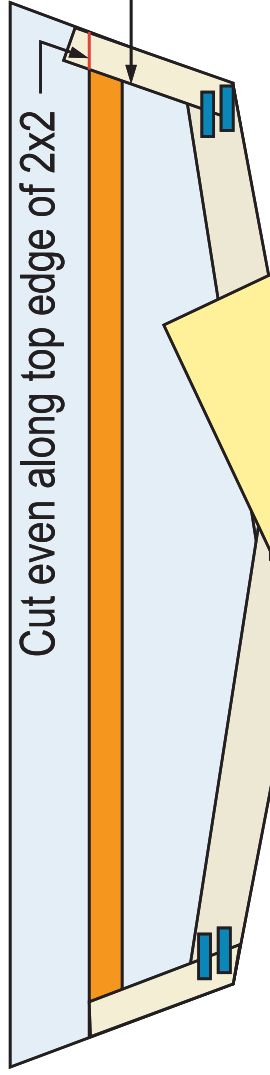
Do a tempary test of any seating you install before "fixing it in place"!

Has the balance point moved?

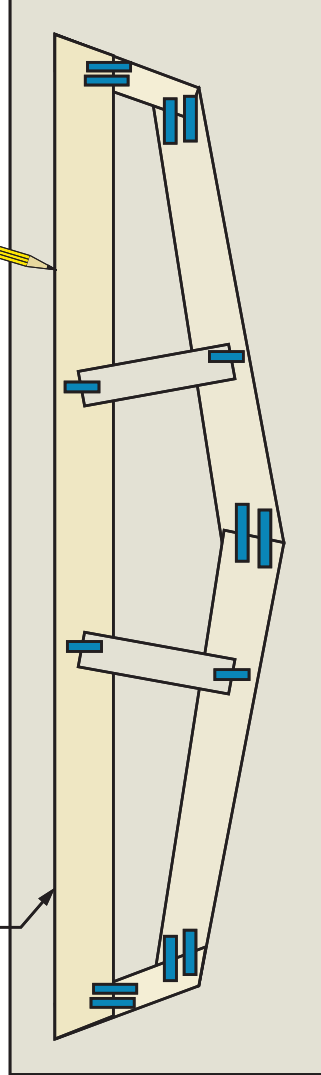
An easier way to fit any interior panels!

Cut even along top edge of 2x2

This is only a "how to" page added to help show how it's done

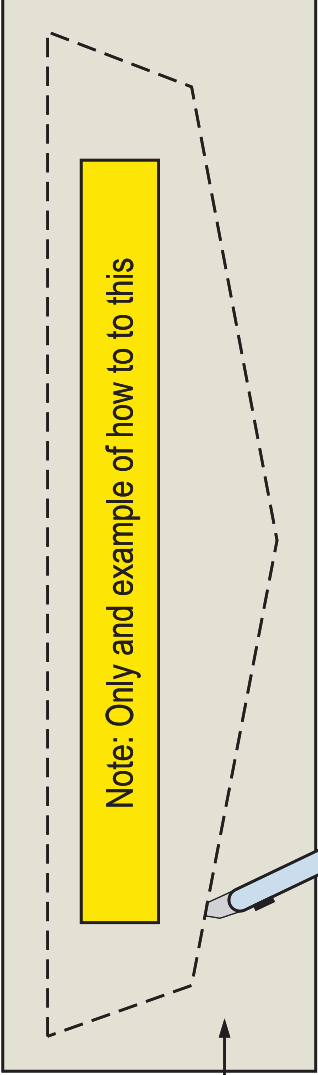


Use a pencil to outline the template you have taped together from the interior dimensions of your hull. Remember, all hulls will be different!

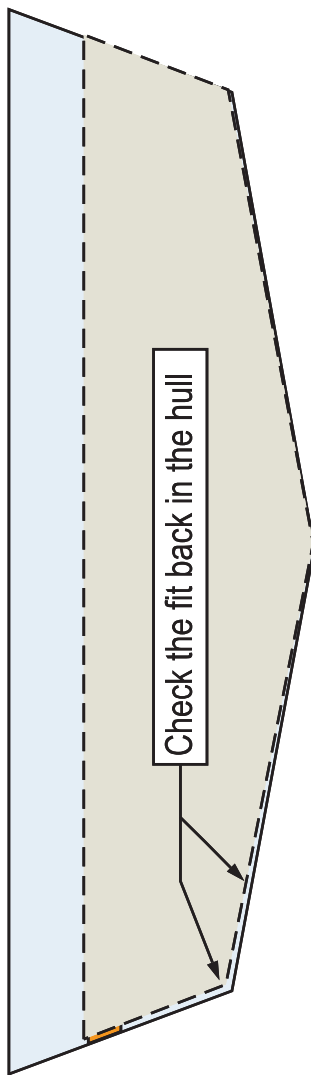


Cardboard strips sheet

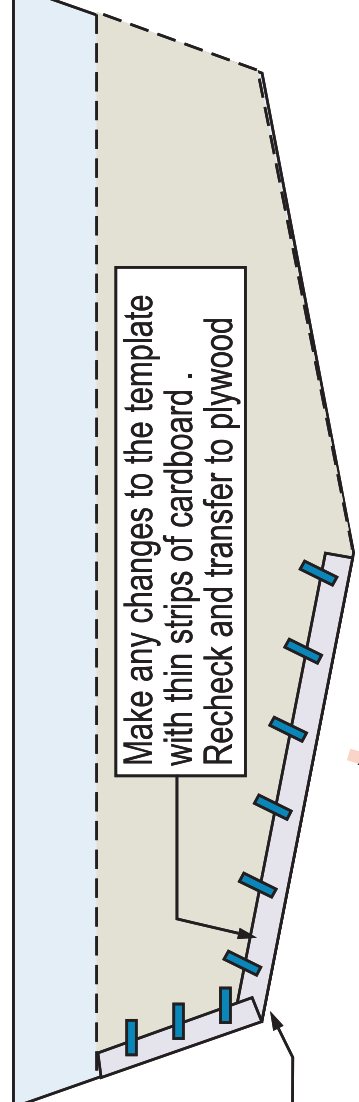
Note: Only and example of how to do this



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

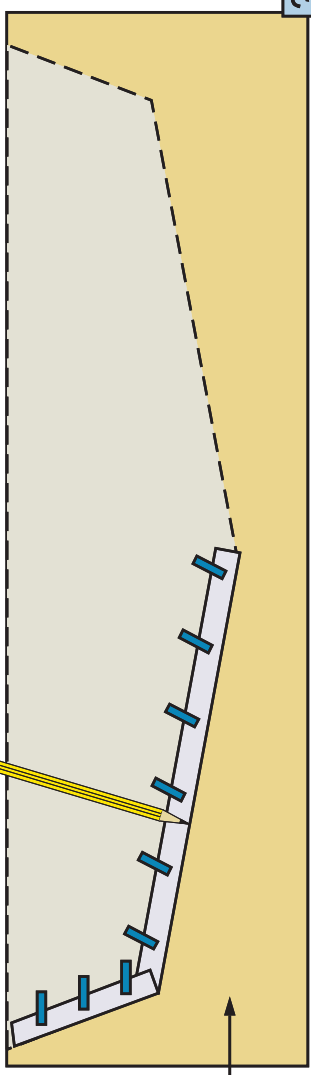


Light weight cardboard taped to template for a better fit

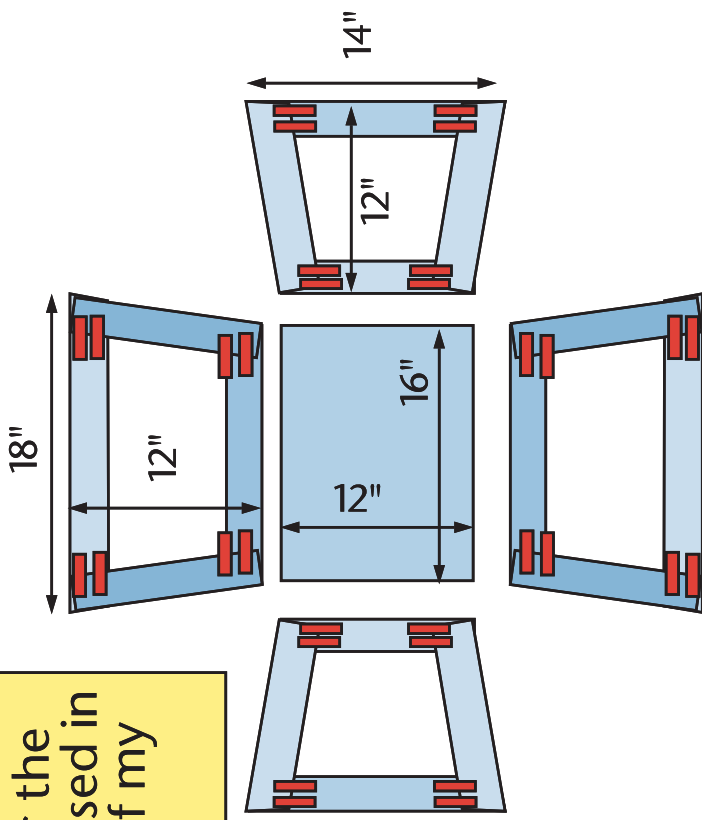


Make any changes to the template with thin strips of cardboard. Recheck and transfer to plywood

Plywood sheets

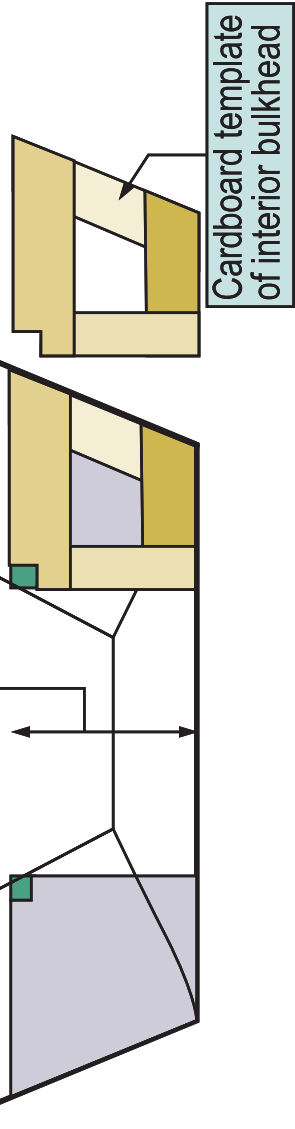


Sample size for the pyramid seat used in several other of my fishing hulls.



Make cardboard templates of the bulkhead frames, then transfer the "fitted" templates to plywood and cut out and fit to hull

Set tops of the 2x2's so when you add "your seat" the seat top will be at 18-20"

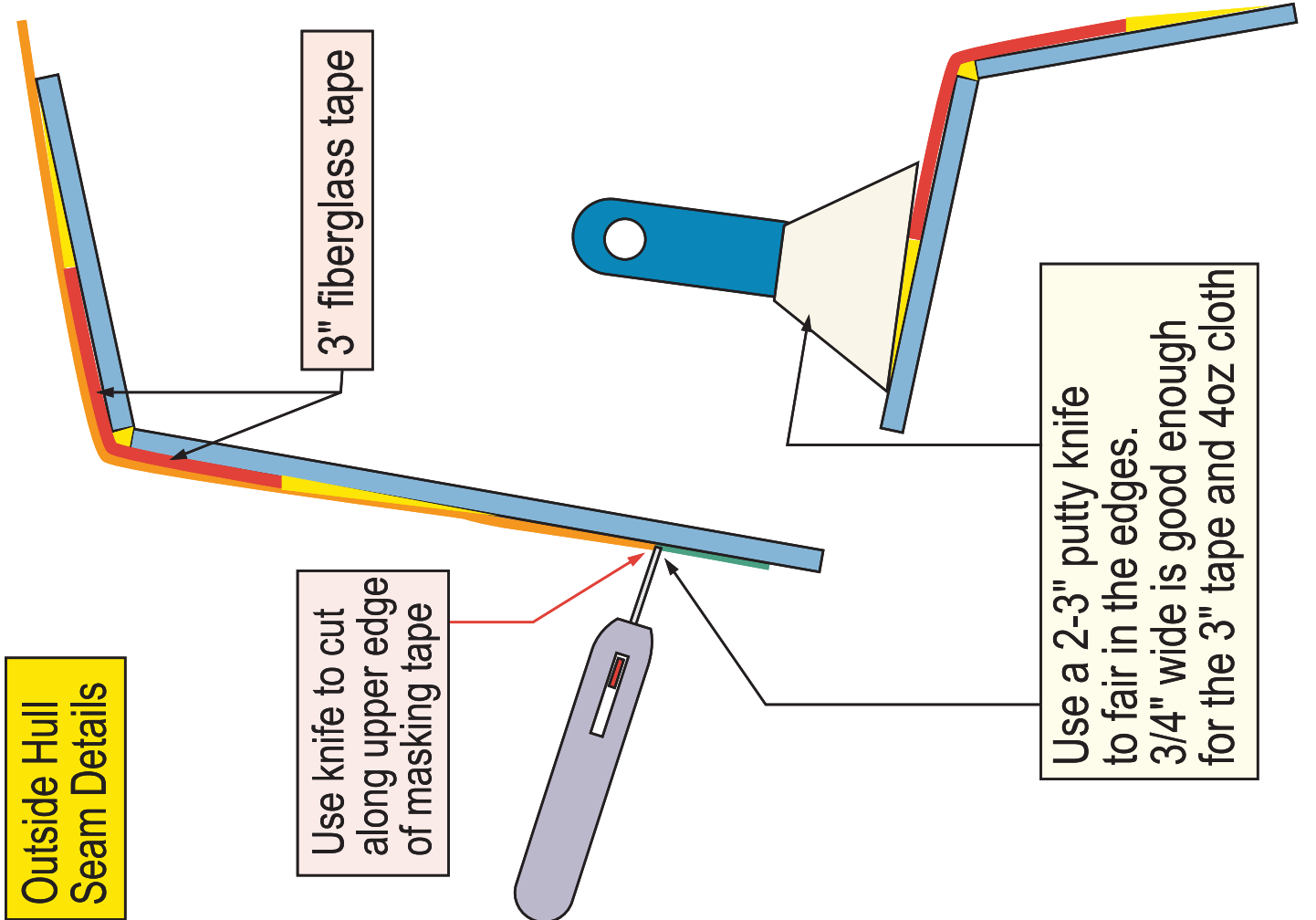


Cardboard template of interior bulkhead

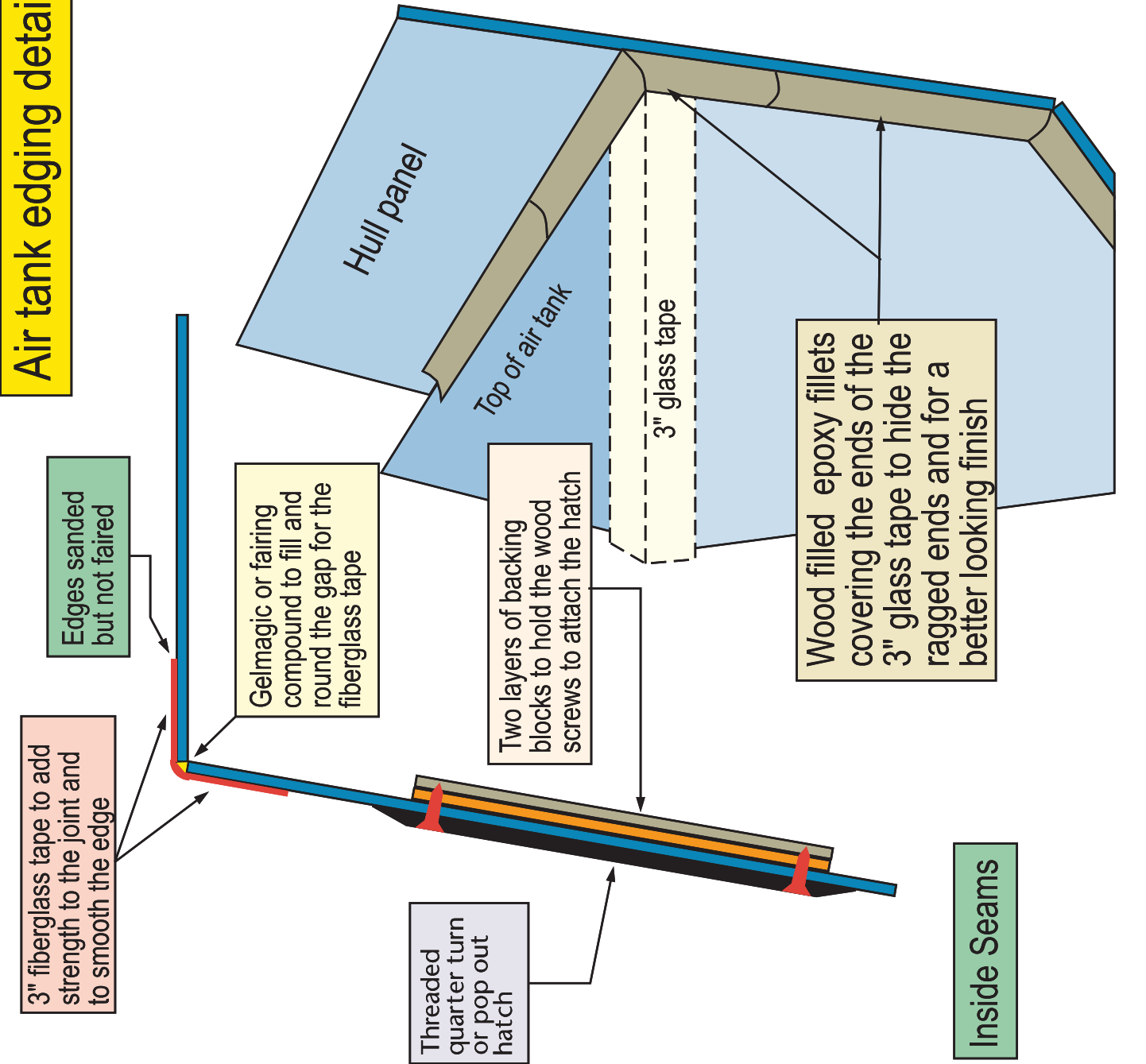
Can be made bigger for this hull, and heavy use!

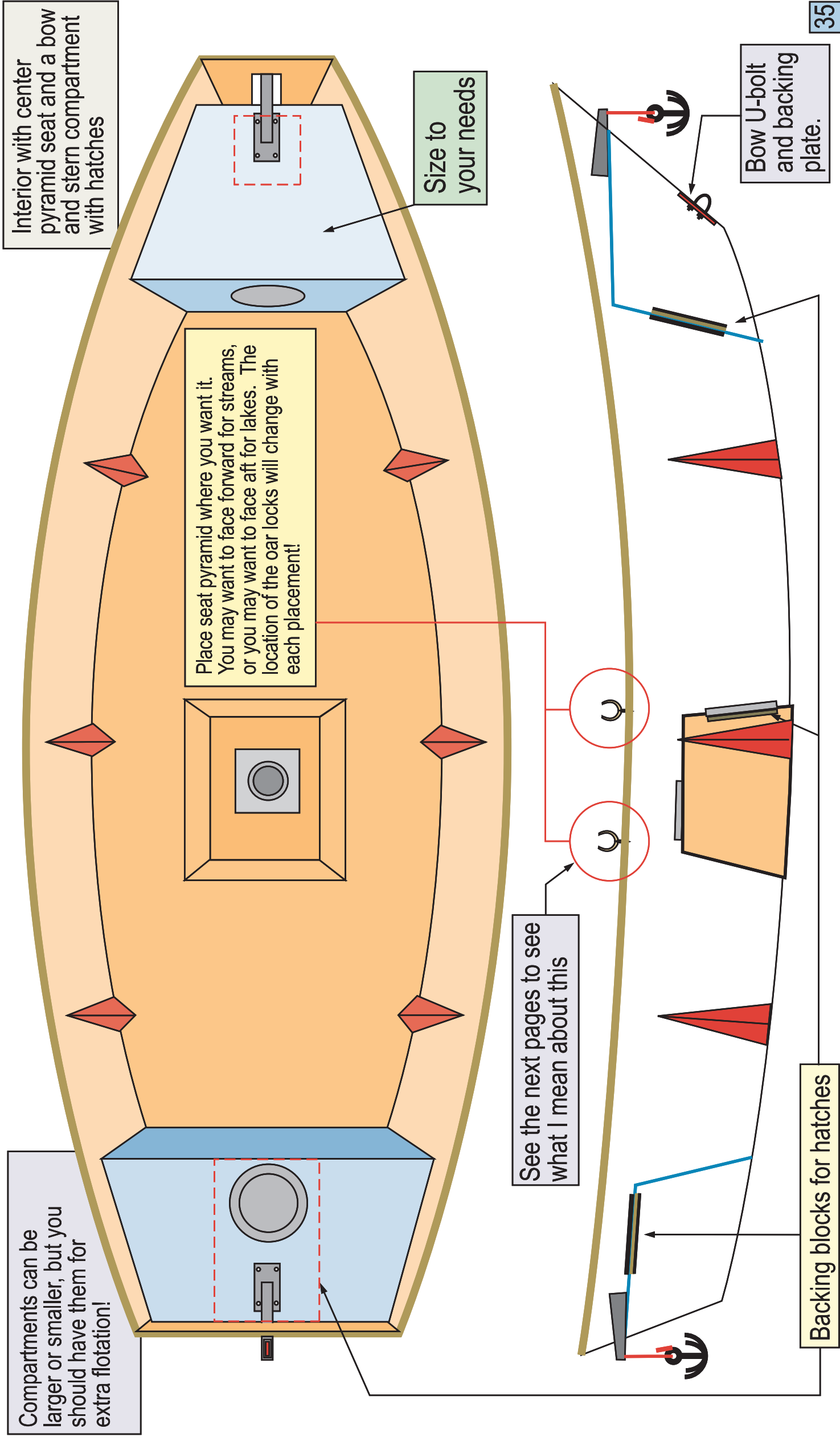
Fit each bulkwarks pair to it's position in the hull and number them

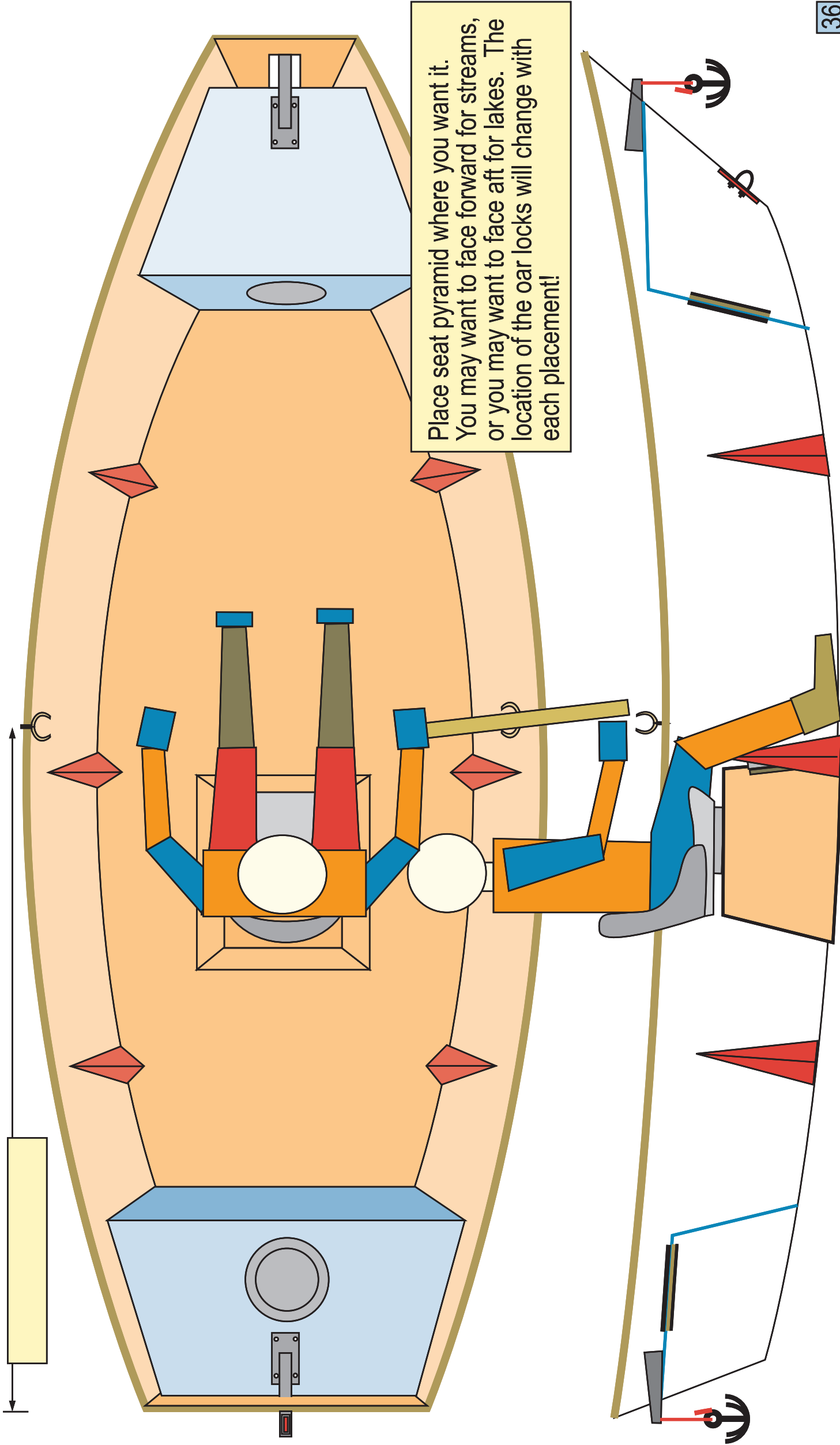
Outside Hull Seam Details



Air tank edging details

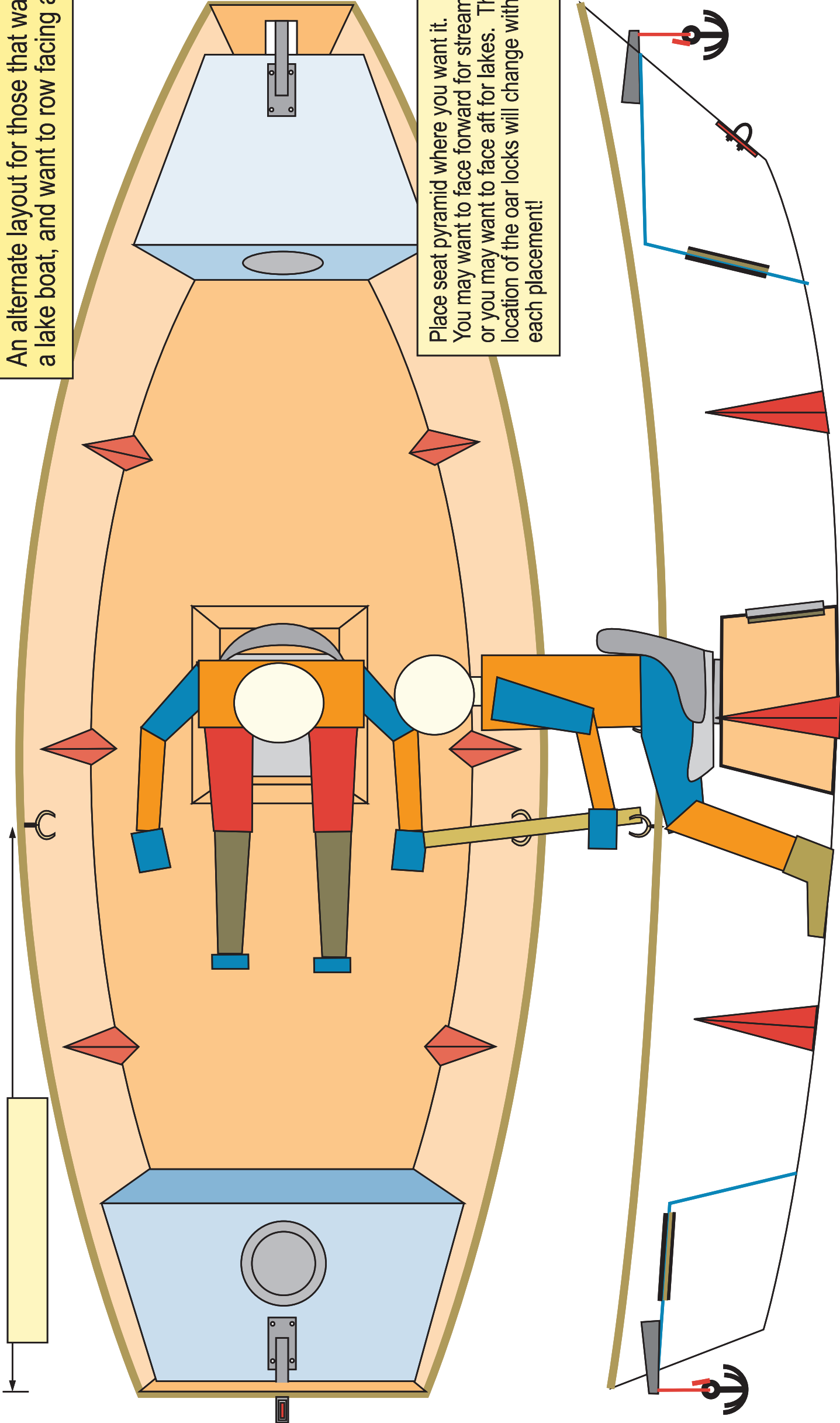






An alternate layout for those that want a lake boat, and want to row facing aft

Place seat pyramid where you want it. You may want to face forward for streams, or you may want to face aft for lakes. The location of the oar locks will change with each placement!



2x2's used for the seat supports in the hull, install them first!

Install the fore and aft air tank bulkheads before you measure, cut, and install the long 2x2's!

The following pages show a more versatile layout for those that do mainly class 1&2 river fishing.

24" is a good width for room and to have lots of side tank storage in the hull. You can make it wider if you chose.

Some trim work will be needed to get 2x2 to fit tight to the bow and transom panels!

Set the tops of the 2x2's so you have a "top of seat" between 18" to 20". That is a comfortable height to sit and to stand up easily.

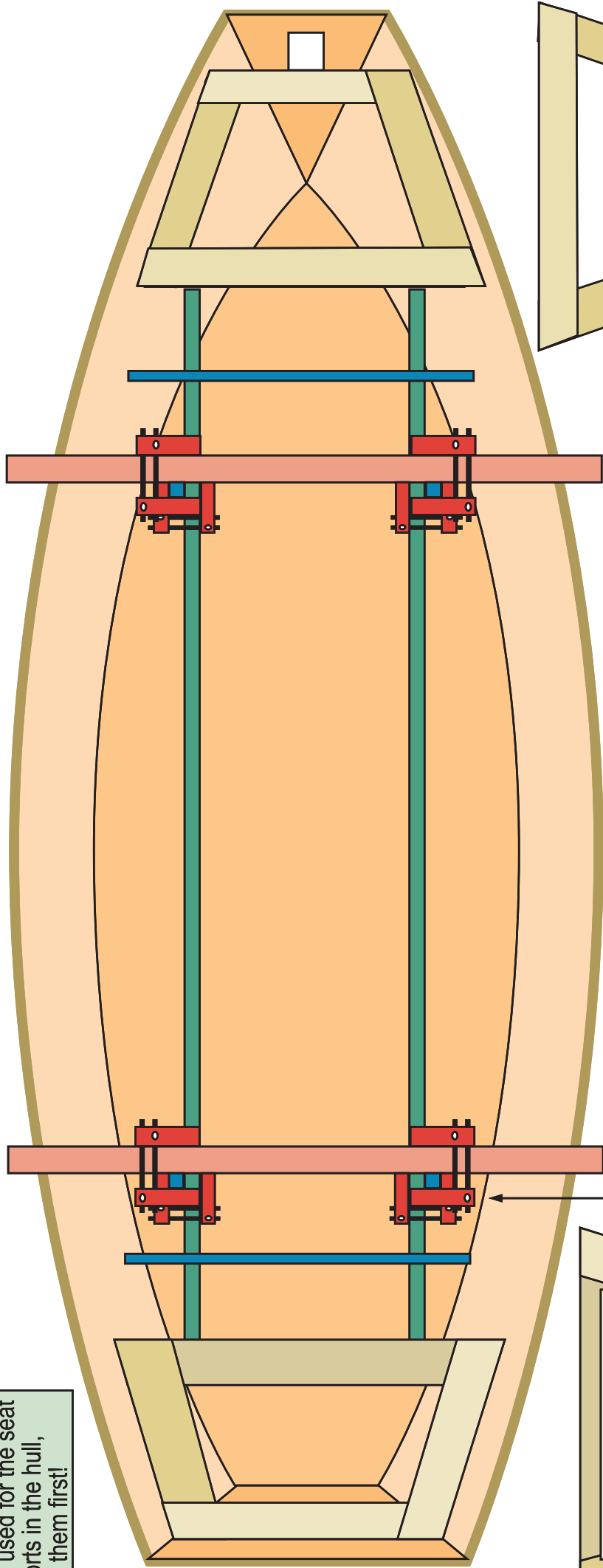
Screw through bulkhead into 2x2 to hold in place while epoxy cures

Installation Order:
1. Install the cross hull seat support 2x2's on the ends
2. Install the vertical bulkheads for the bow and stern compartments.
3. Install the fore and aft 2x2's at the height that you want for your seats.
4. Install the bulkheads for the side tanks.

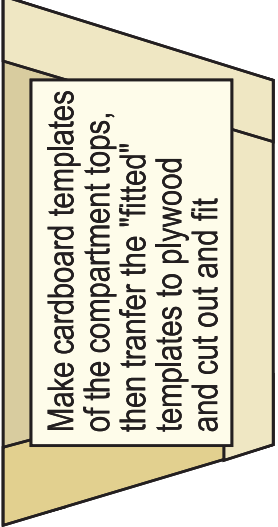
Set deck tops at a slight angle so water does not get trapped at the ends

Padding on work platform to keep hull level.

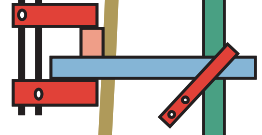
2x2's used for the seat supports in the hull, install them first!



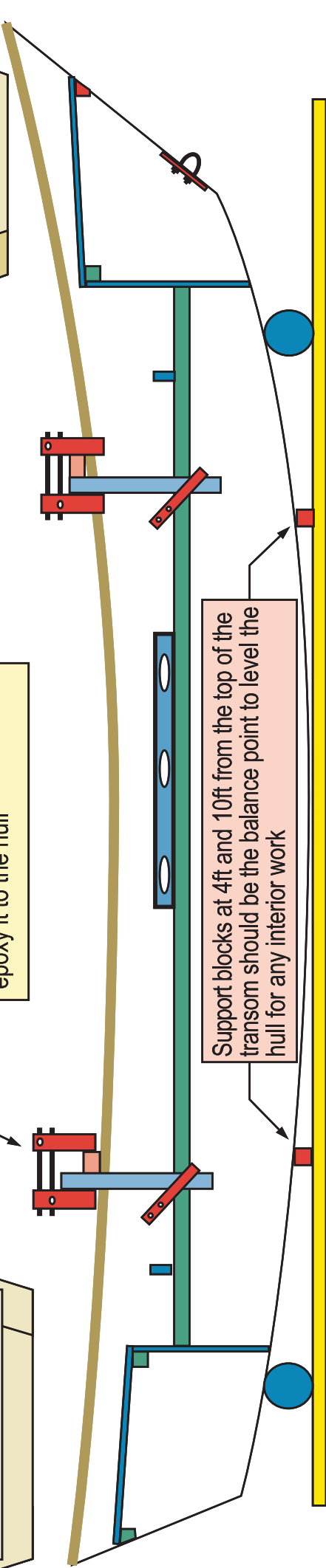
Make cardboard templates of the compartment tops, then transfer the "fitted" templates to plywood and cut out and fit

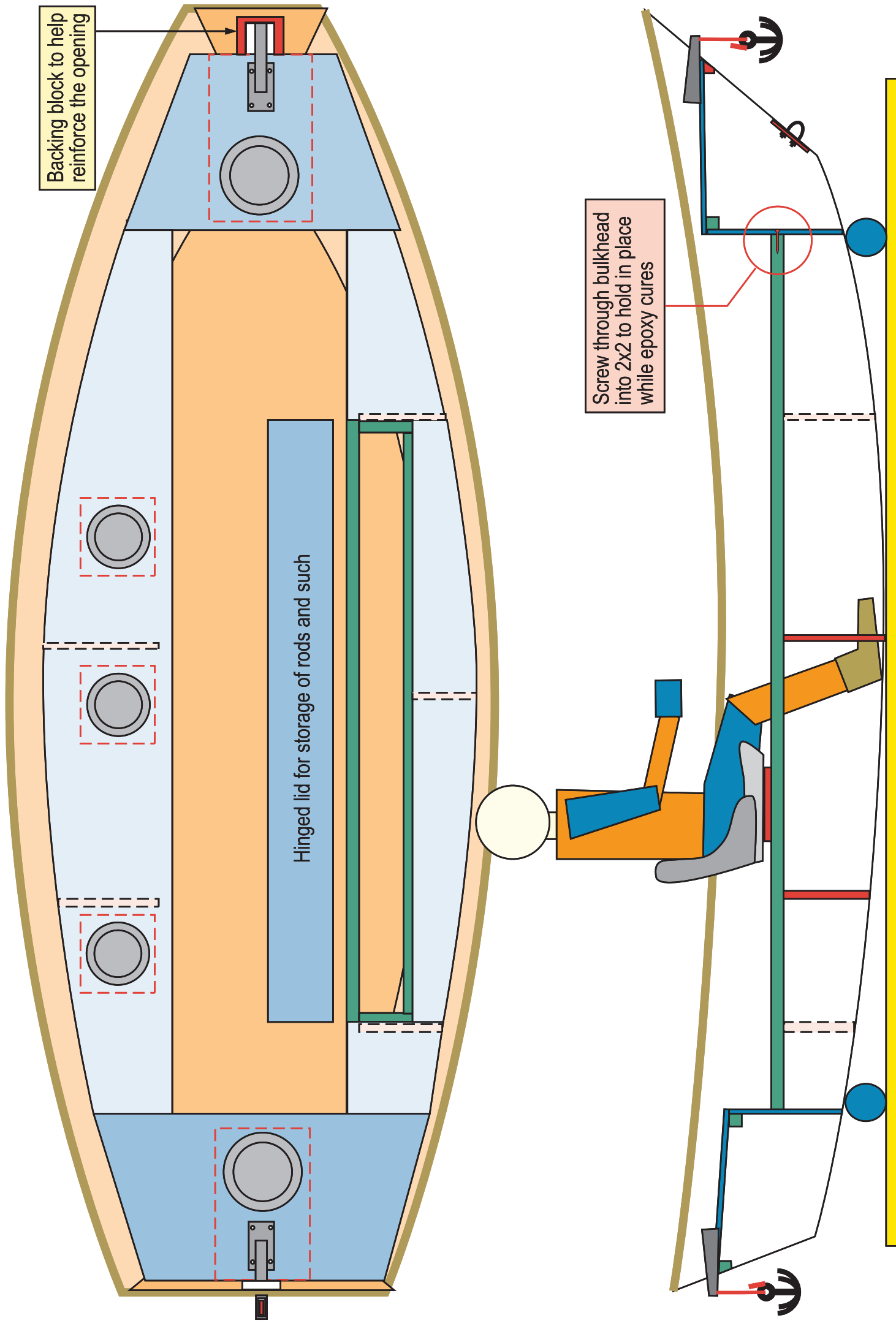


Use some clamps and 2x2's to support the "green" saddle tank framework while you level and epoxy it to the hull



Support blocks at 4ft and 10ft from the top of the transom should be the balance point to level the hull for any interior work



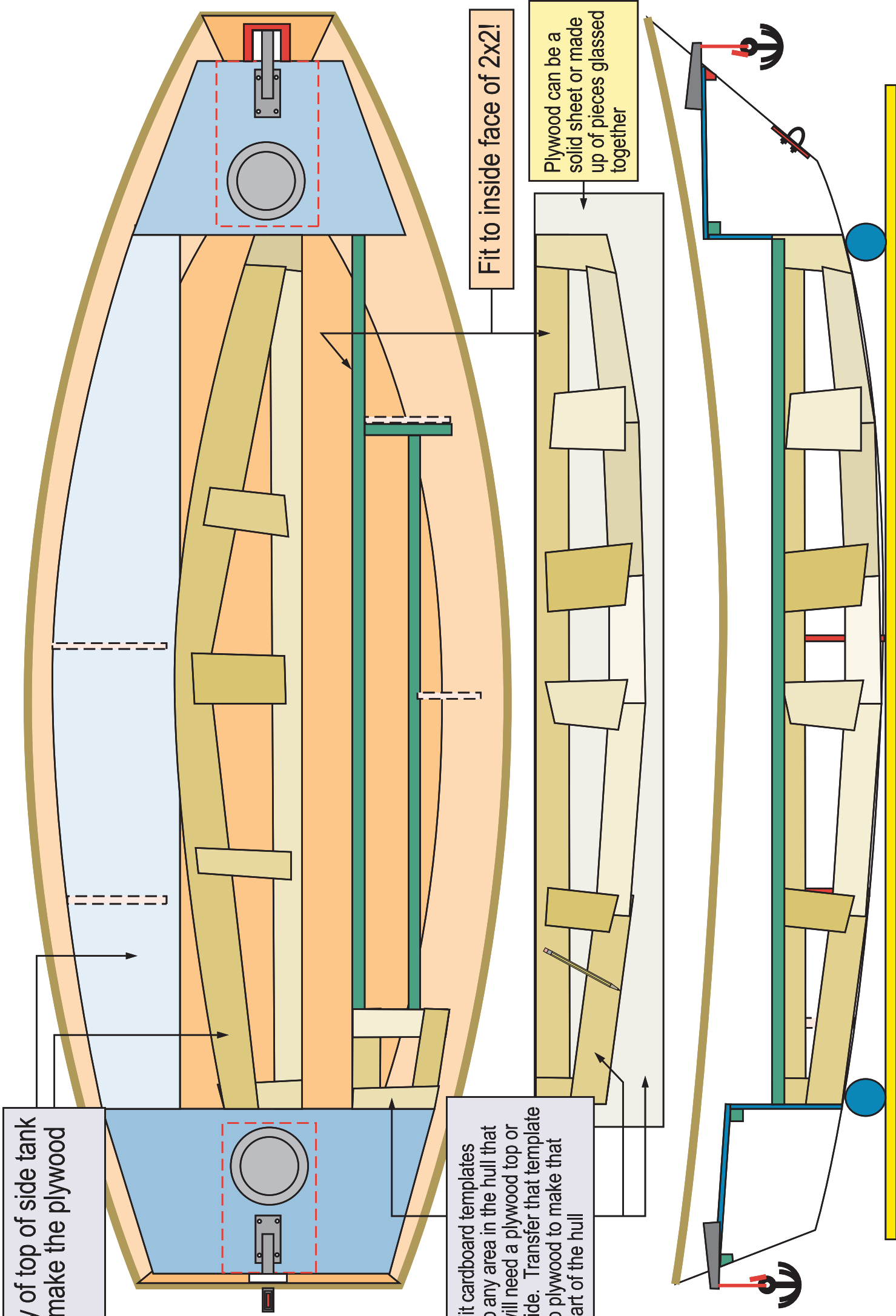


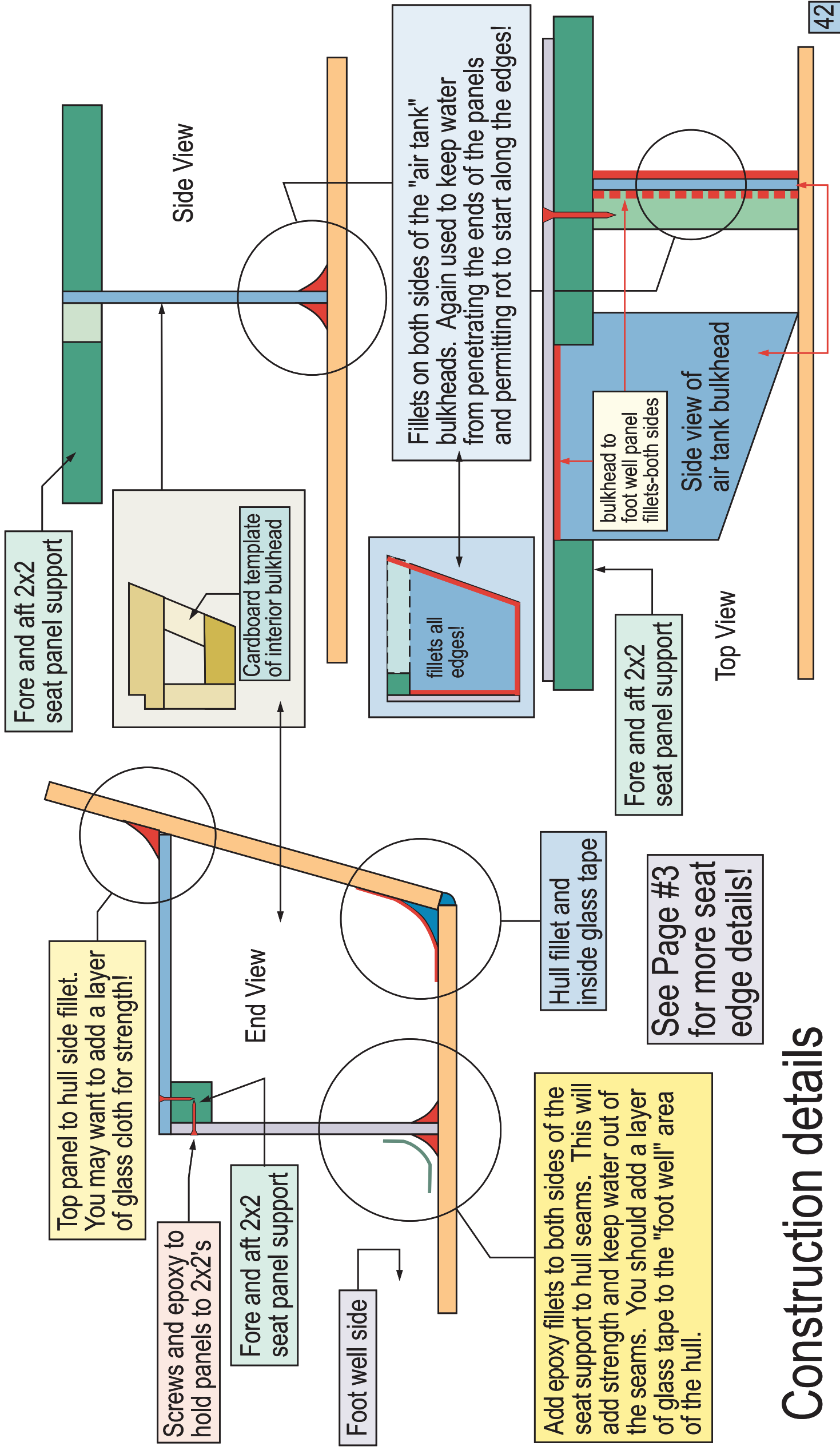
Template copy of top of side tank to be used to make the plywood panel

Fit cardboard templates to any area in the hull that will need a plywood top or side. Transfer that template to plywood to make that part of the hull

Fit to inside face of 2x2!

Plywood can be a solid sheet or made up of pieces glassed together





Construction details

John Duk drawing to show details on a way to add more support to the side tank covers on the Flat Head Drifter

Epoxy
Bevel end for level in hull!

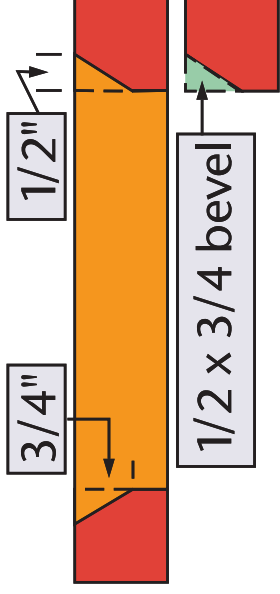
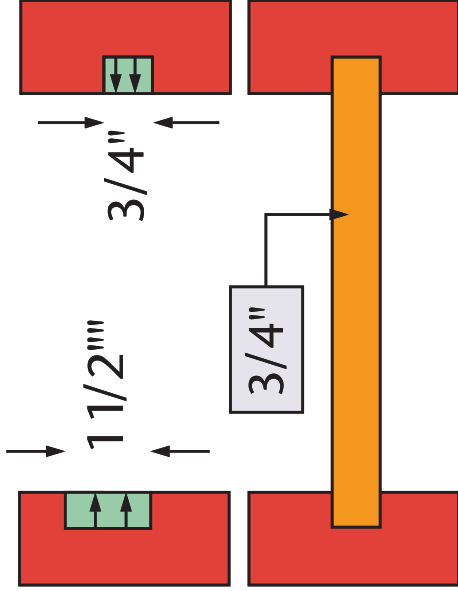
Support bars inset into the seat support 2x2's

Note: Placement will depend on where you install the hatches for each seat!

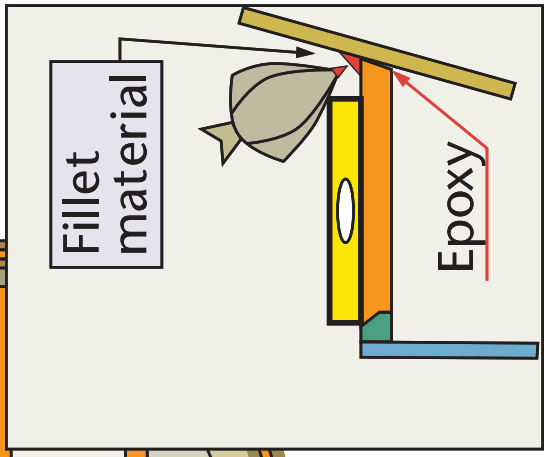
Make seat support bars from scrap 2x2 cut in half

plastic sheeting!
epoxy
clamps used to hold seat bars level to 2x2's

Or use the full width of the 2x2 for the supports

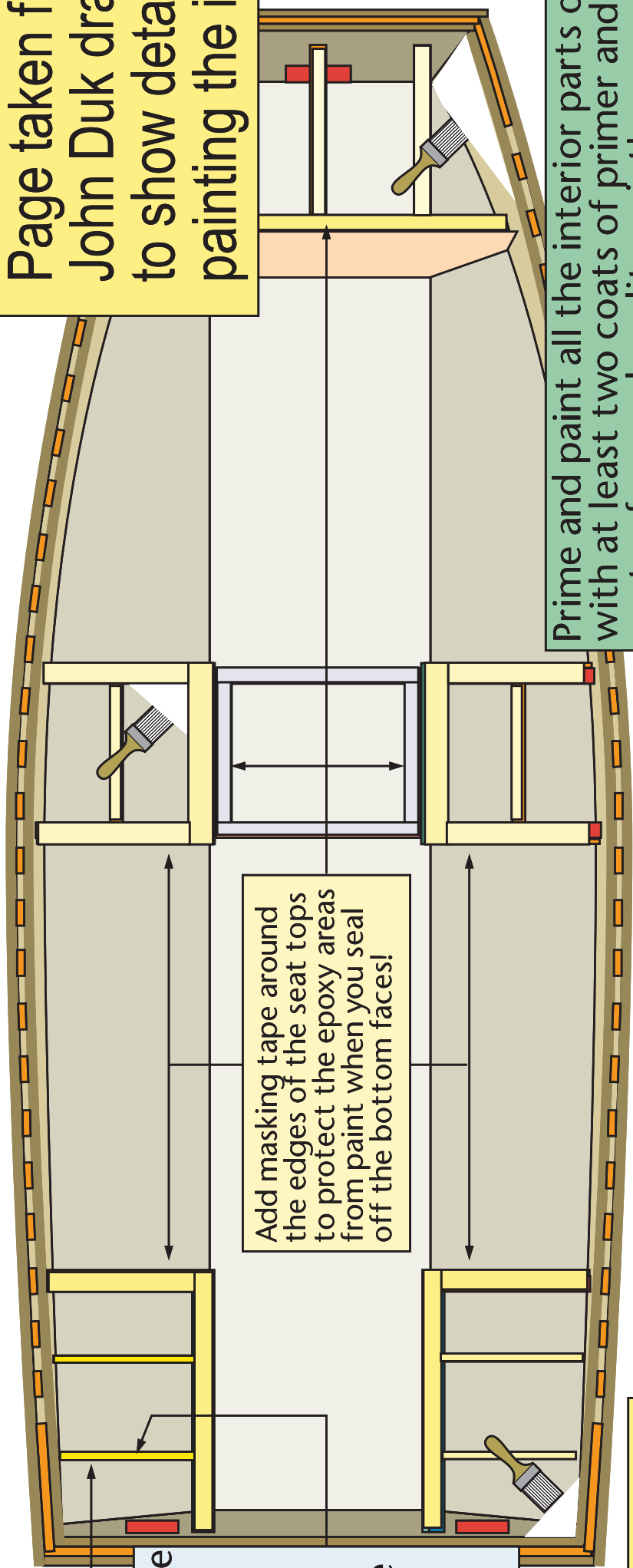


Finished seat support



Page taken from the John Duk drawings to show details on painting the interior

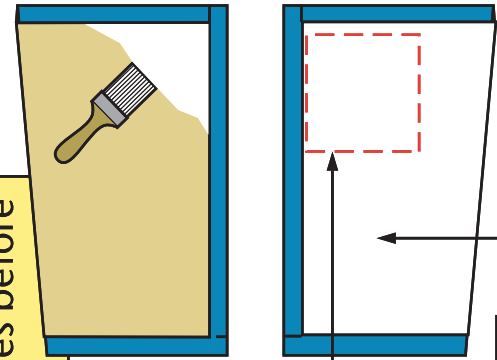
Prime and paint all the interior parts of the hull with at least two coats of primer and as many coats of a good quality paint!



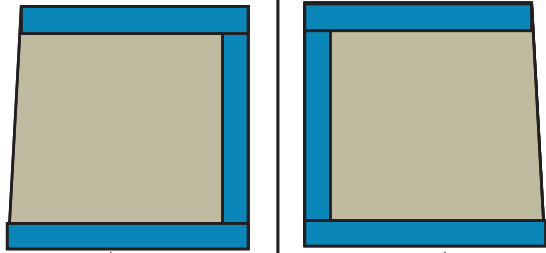
Paint all the faces of the 2x2 seat supports with paint except the top, tape covered face

Add masking tape around the edges of the seat tops to protect the epoxy areas from paint when you seal off the bottom faces!

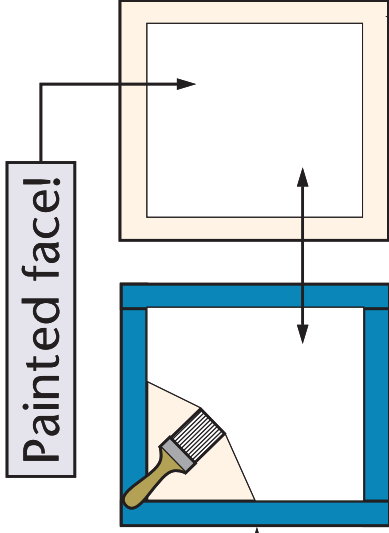
Install any backing blocks for the seat bases before you paint!



Painted face!

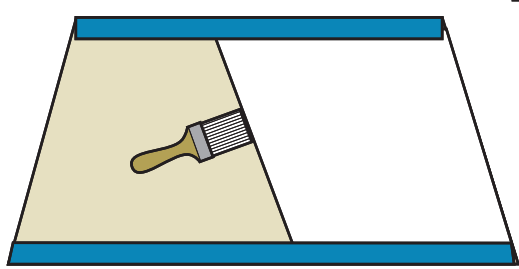


Add masking tape around the edges of the seat tops to protect the epoxy areas from paint when you seal off the bottom faces!

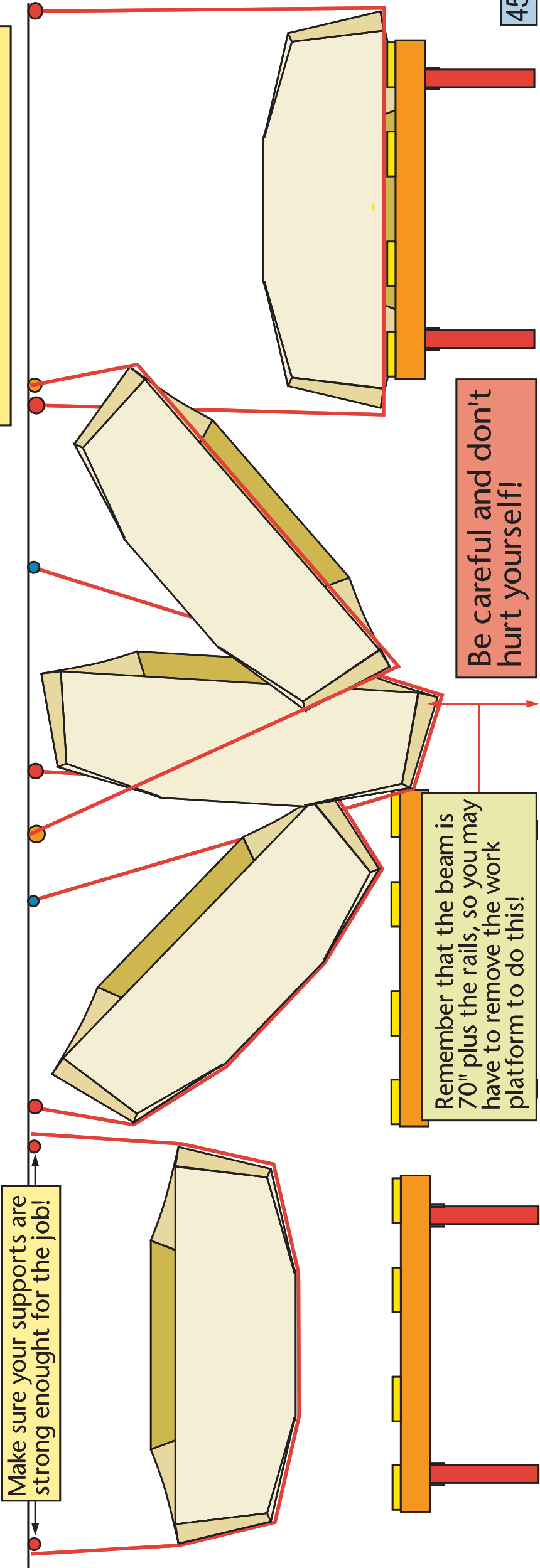
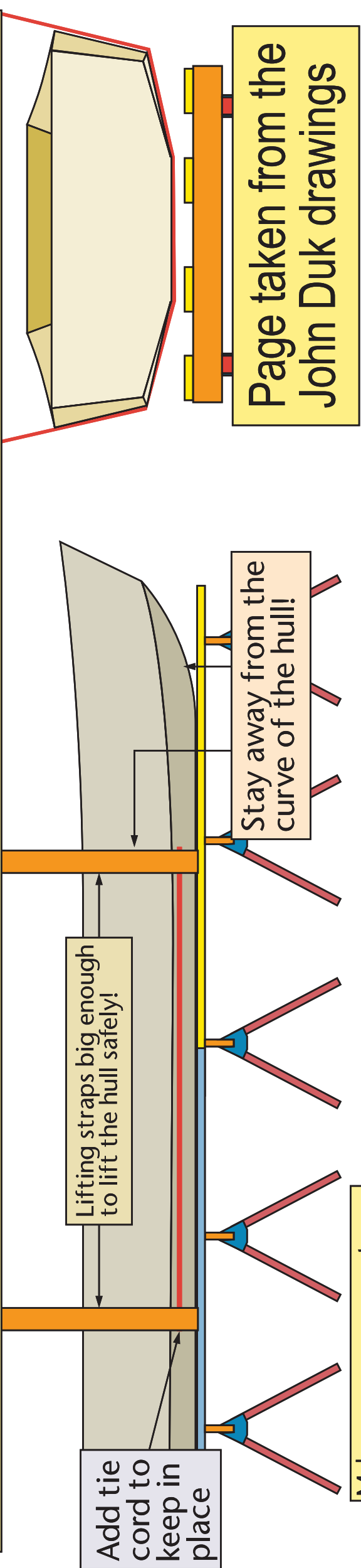


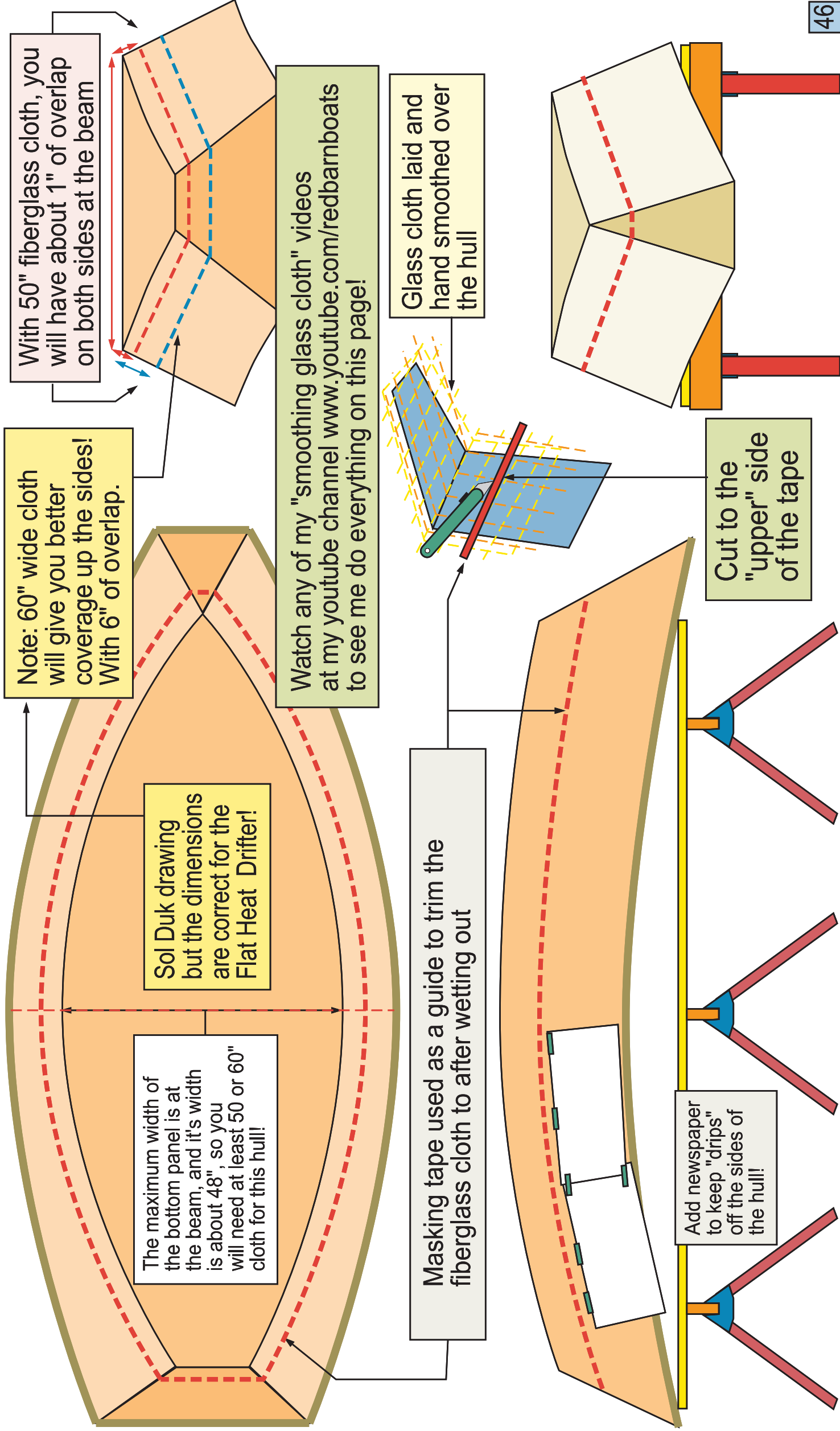
Painted face!

Bare wood for coating of epoxy!

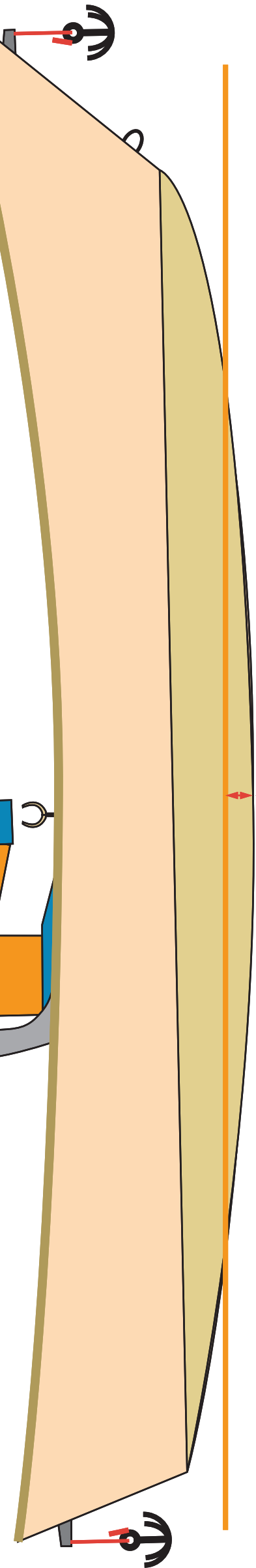
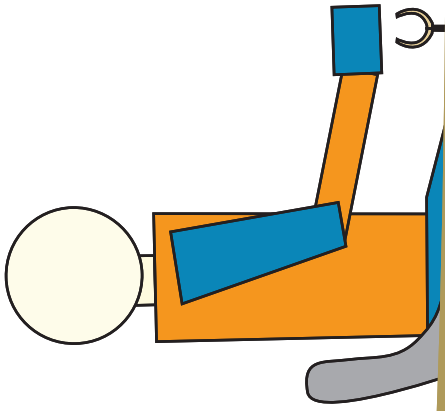
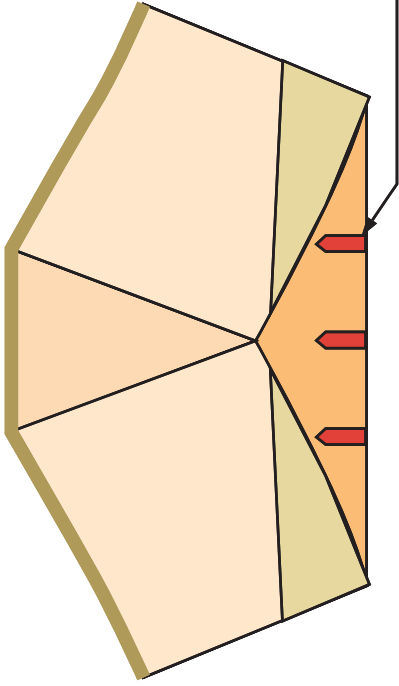


Note: Before you finish off the interior of the hull you will need to flip the hull and finish all the bottom work!



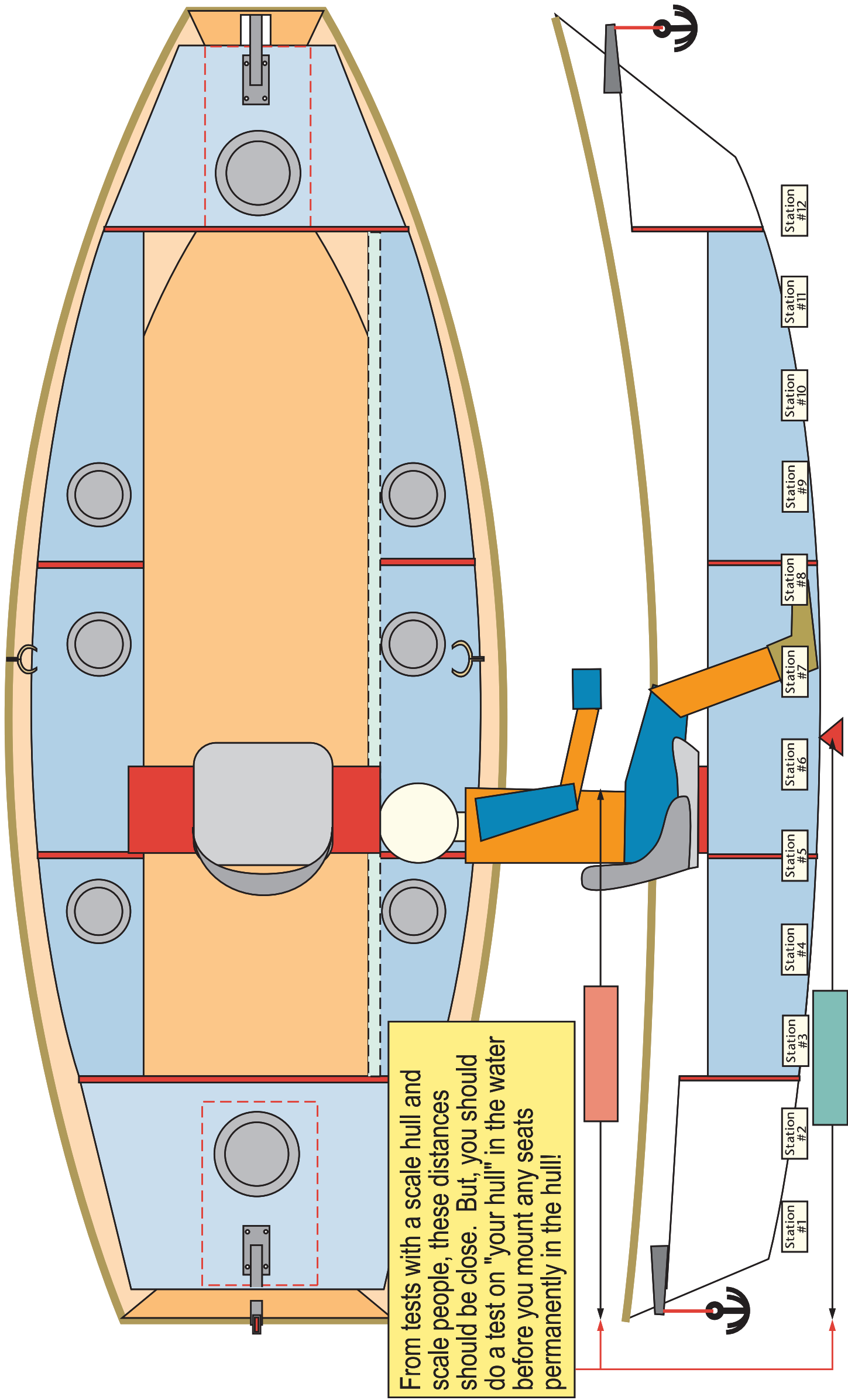


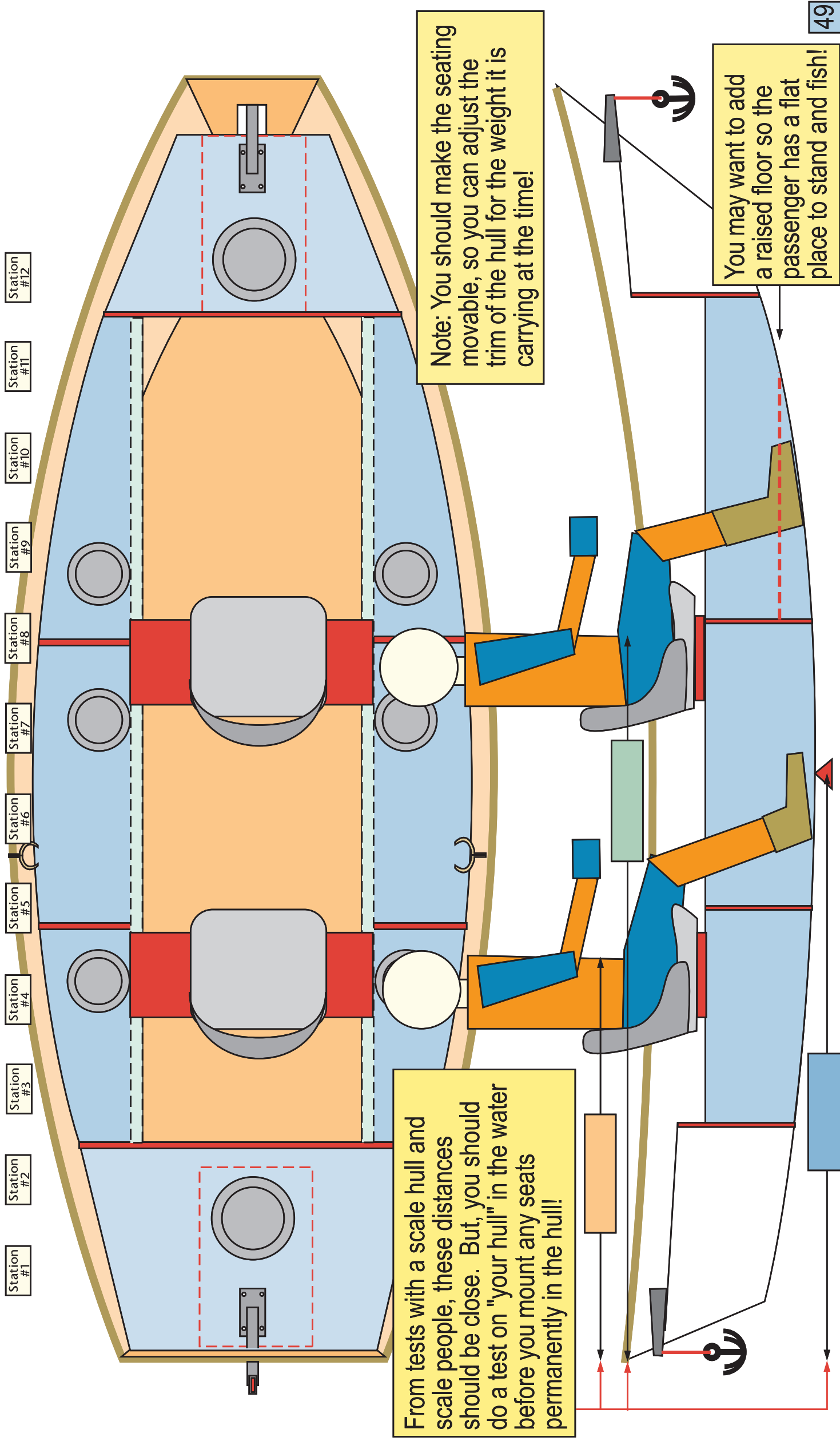
Rub strips can be added to if you wish

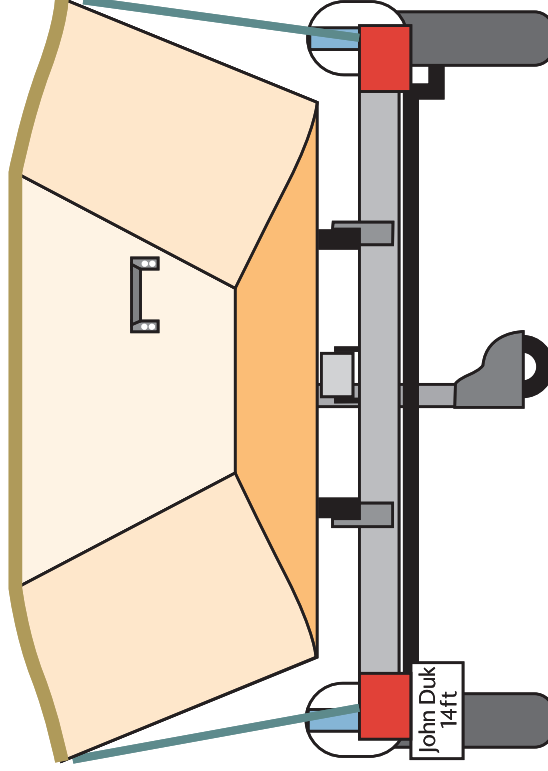
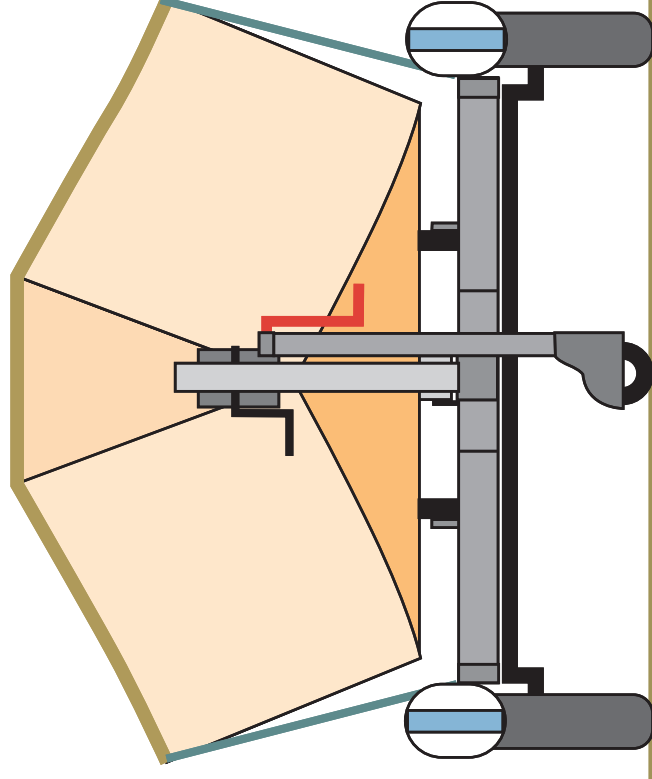
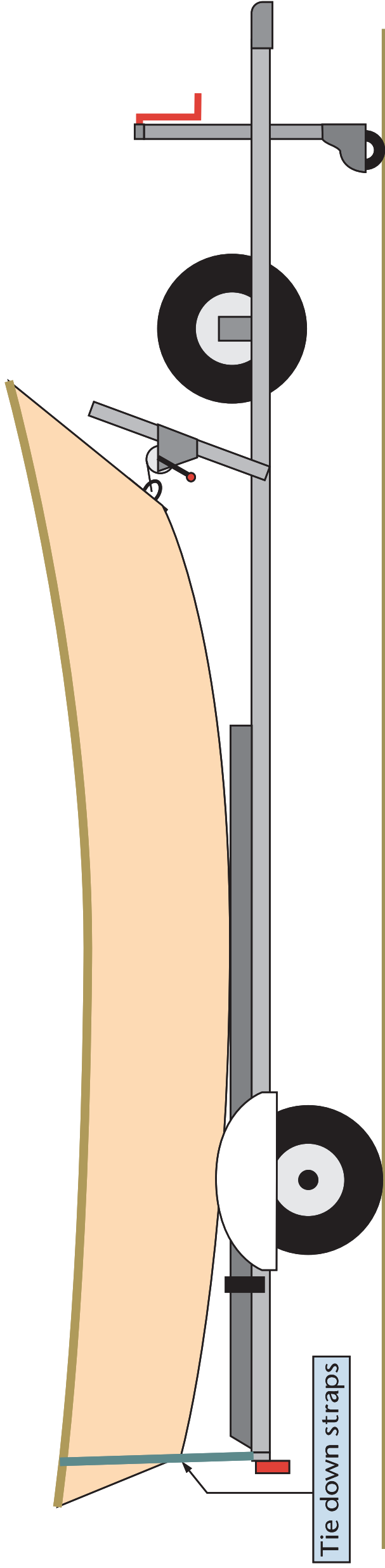


Waterline with one person on board

If you have leftover scrap, or want to "armor plate" the lower hull sides for use in rocky streams, you can add an extra layer to the bottom of the side panels. You can do this before or after you have glassed the bottom of the hull.







Try to set the support bunks under the seams at the edges of the bottom panel