

12ft Padilla Bay Skiff  
04-23-2014

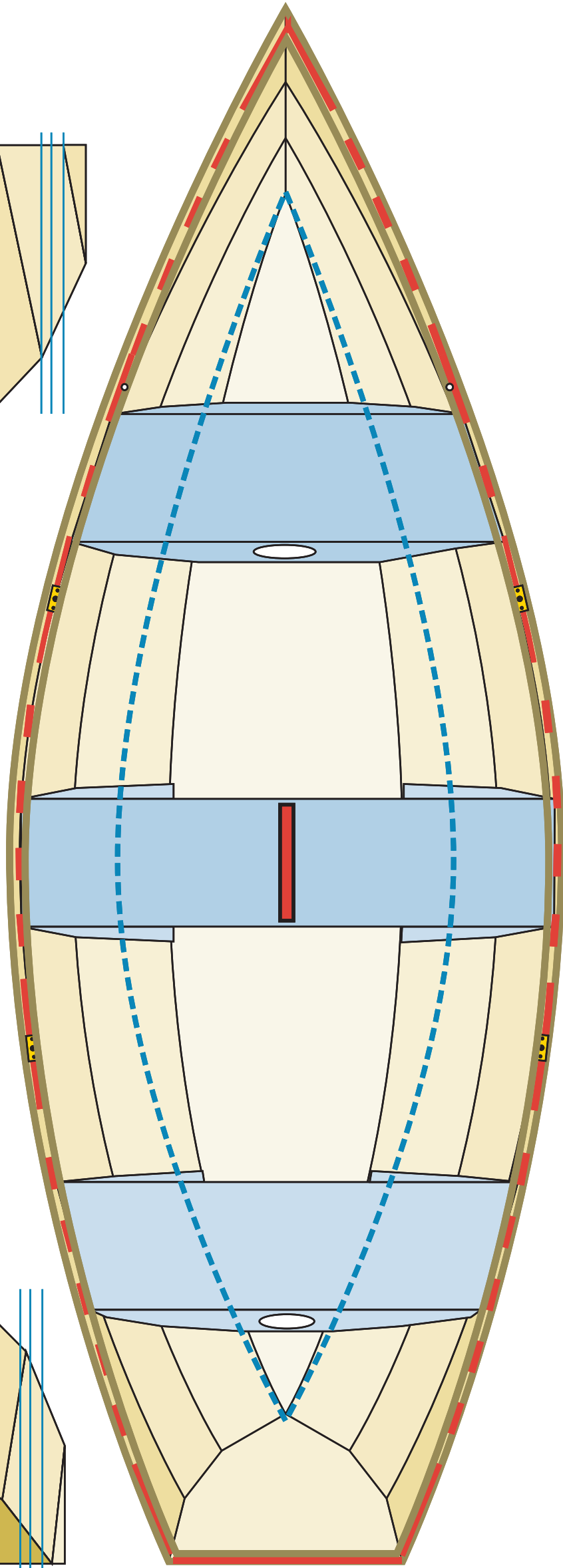
Water lines per number of people

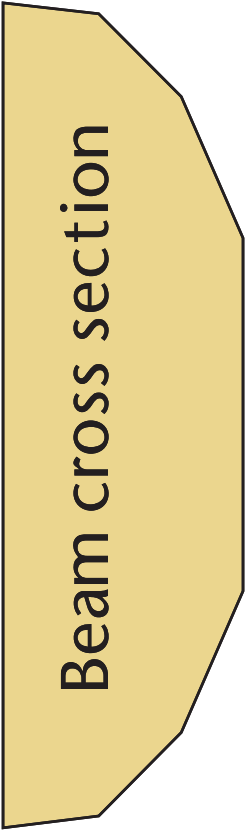
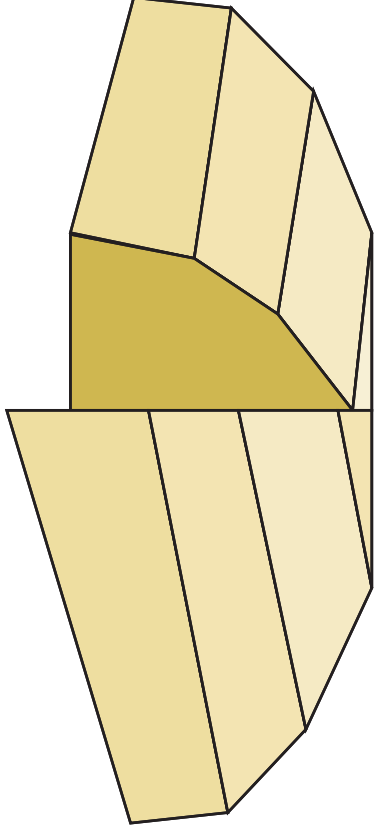
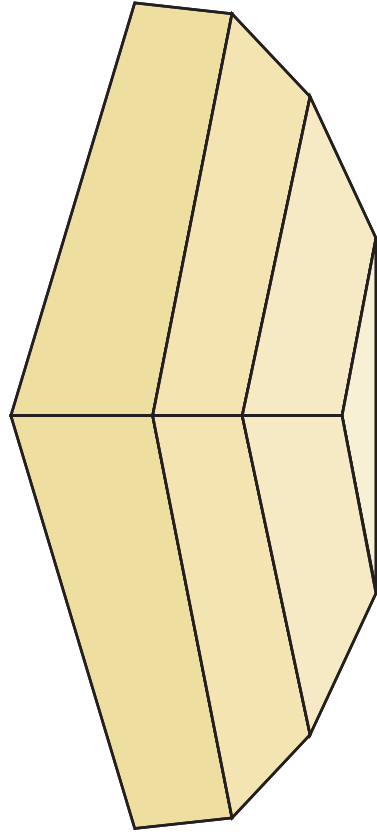
Three People

Two People

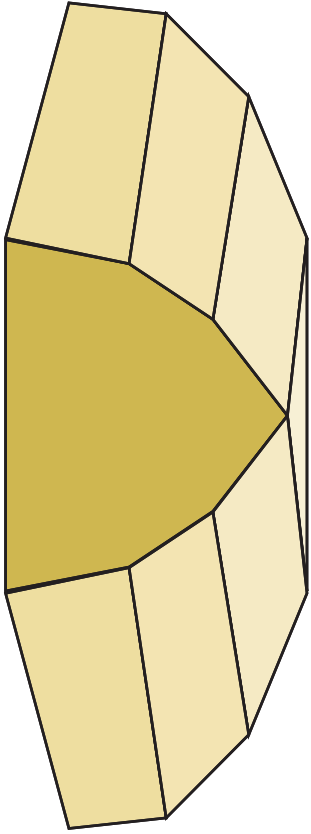
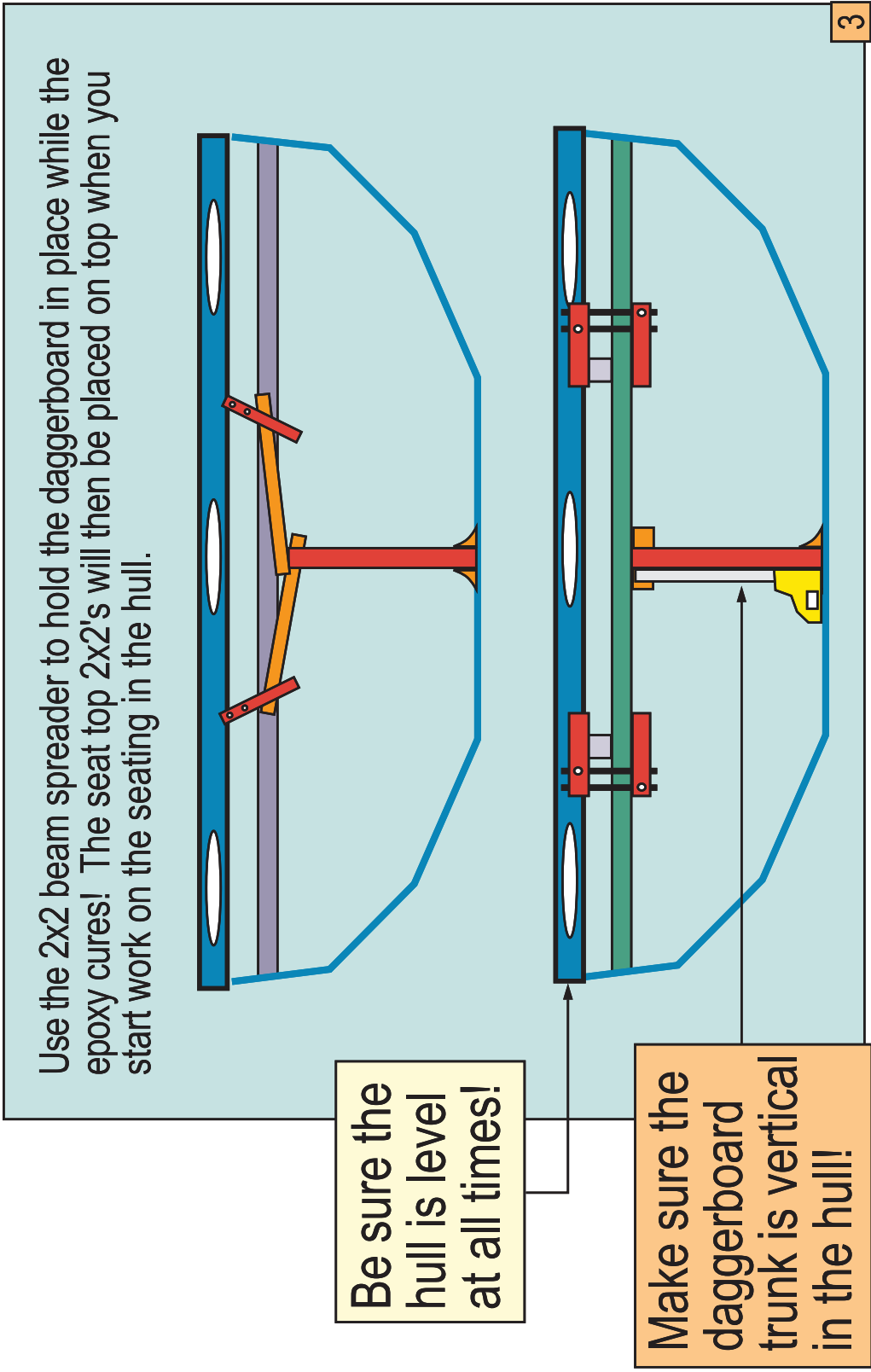
One Person

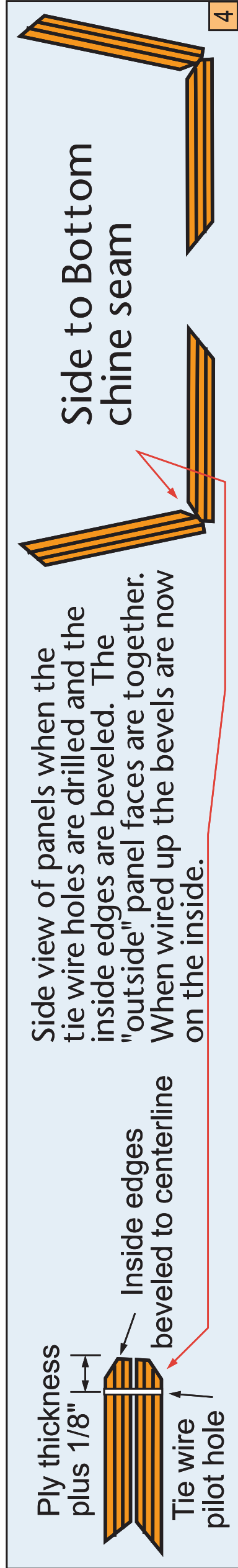
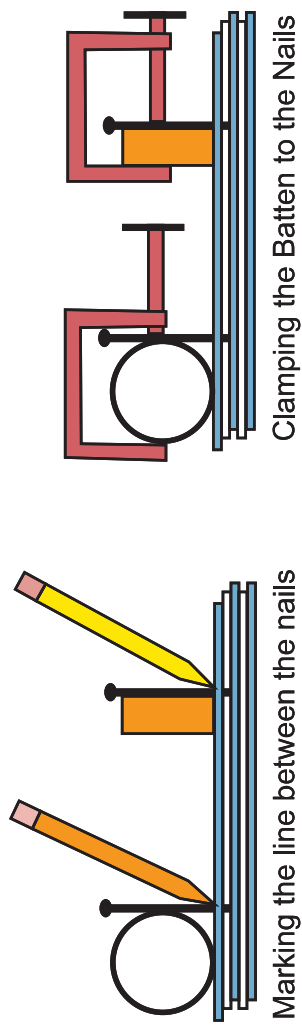
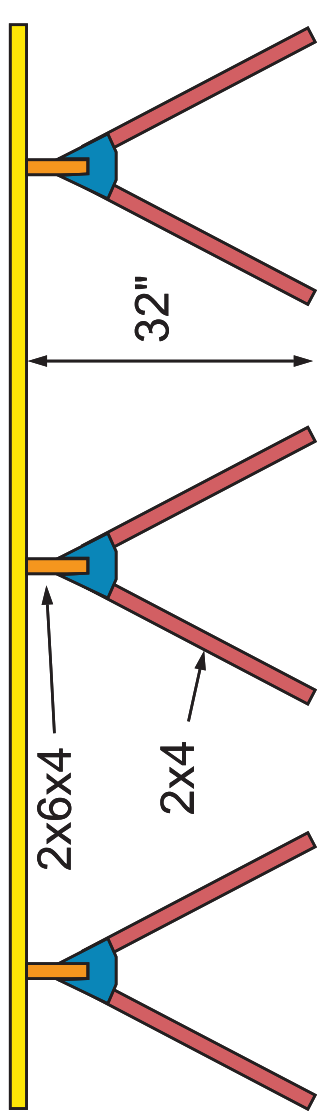
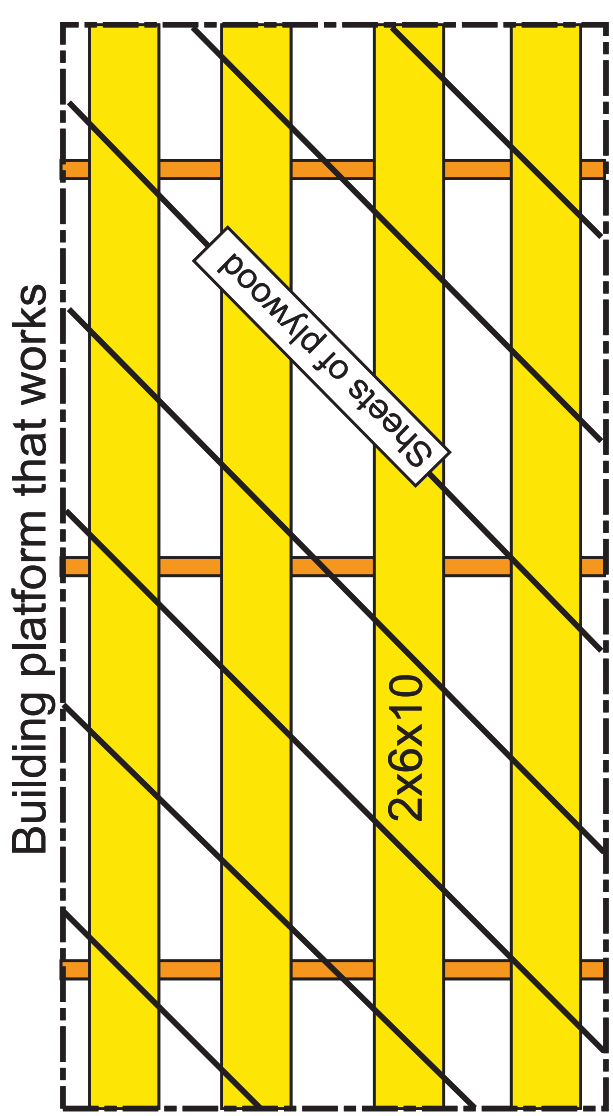
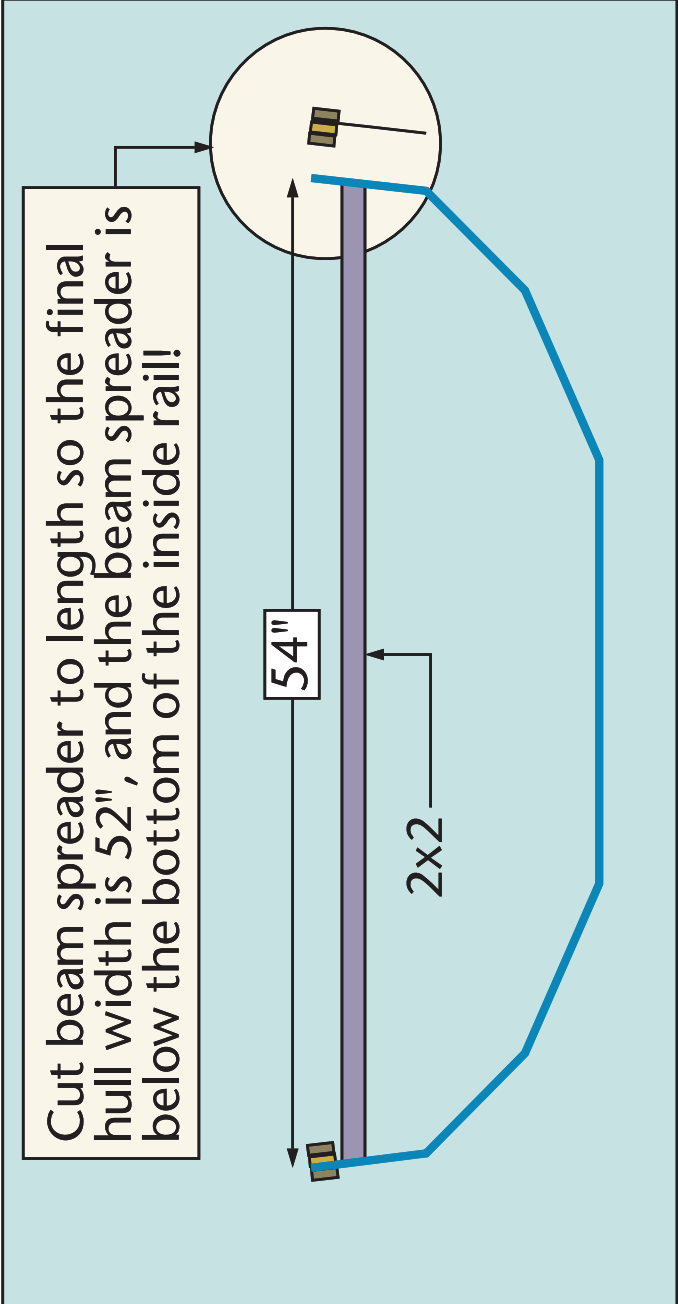
Overall Length 12ft 3"  
Beam 54"

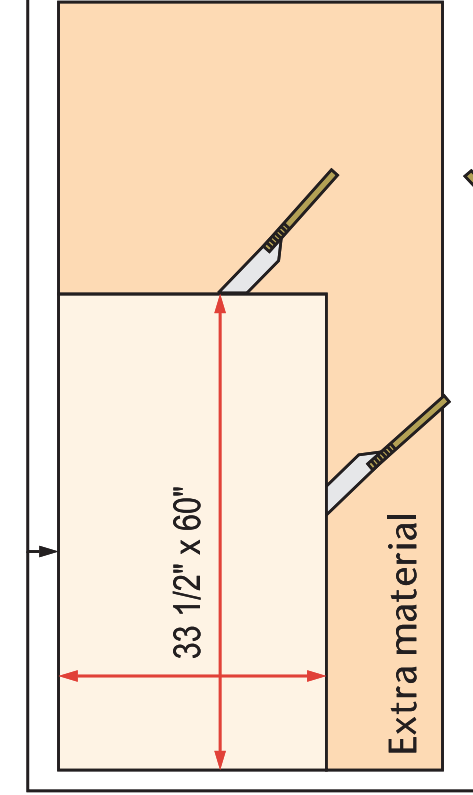




Beam cross section

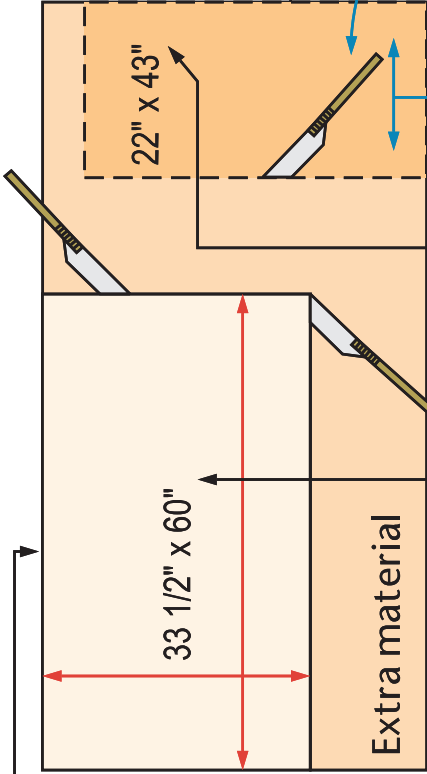






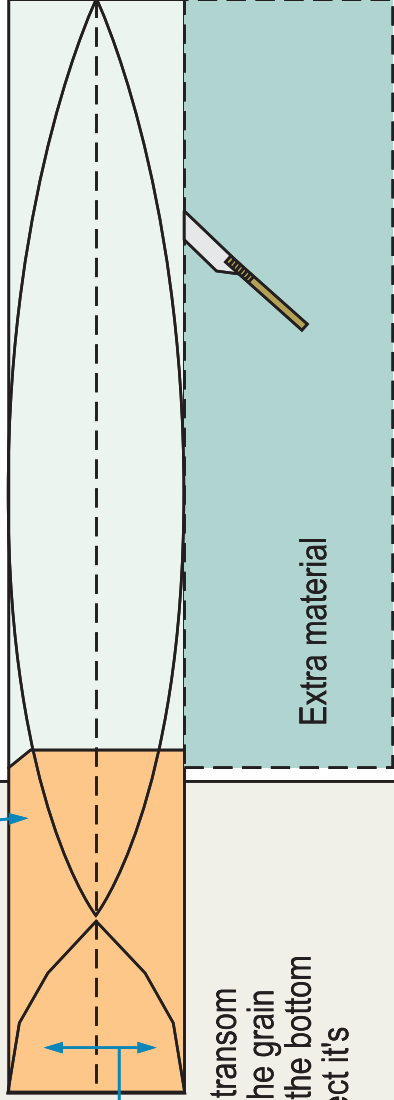
Make the panels cuts as show so that you will have "factory" cut edges to "line up" when you joint the panel parts together!

This page is to show you the layout of the "hull panel parts" that will be needed for this hull, and the "extra material" that will be leftover for use on the interior of the hull, and for other projects. A flat bottomed hull uses more wood than my "V" bottomed hulls.

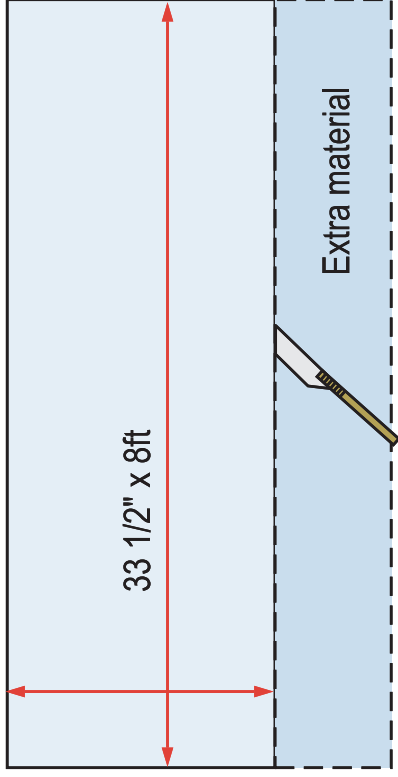
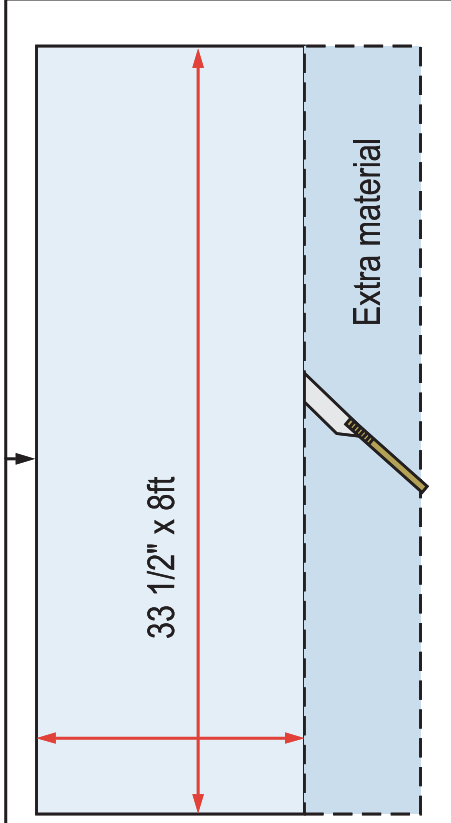


Note: The lengths for the shorter panels are set for a 2" finger joint, if you use a traditional scarf joint, which would be a 3" overlap, add an extra 1" to the length dimensions listed above!

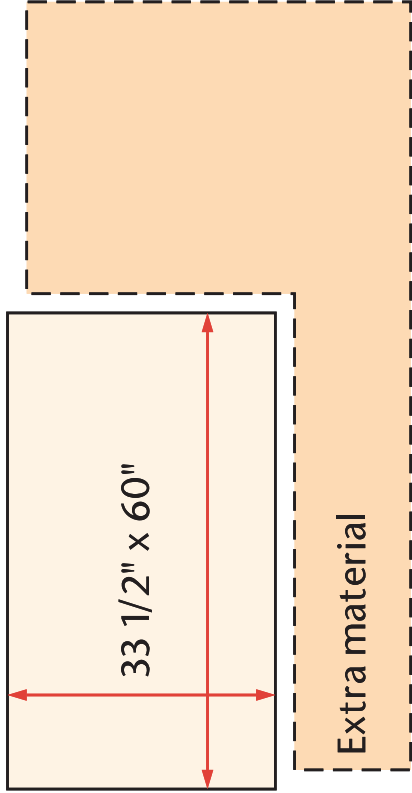
Surface grain!



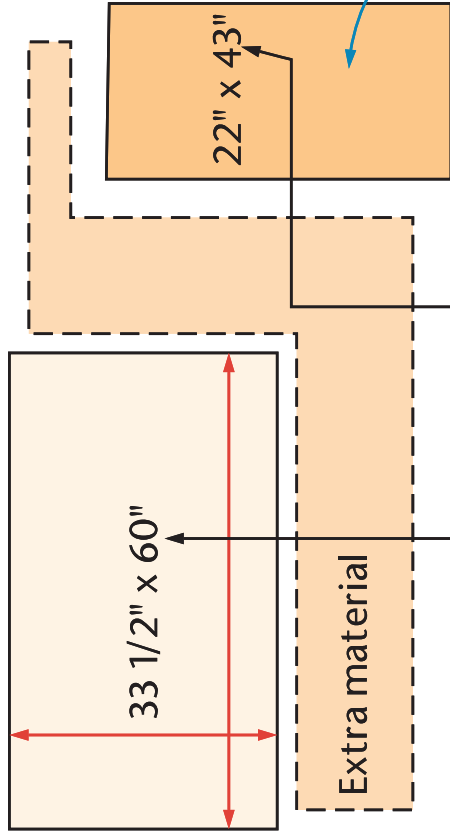
The grain for the transom panel is ok, and the grain for the aft end of the bottom panel will not affect it's strength.



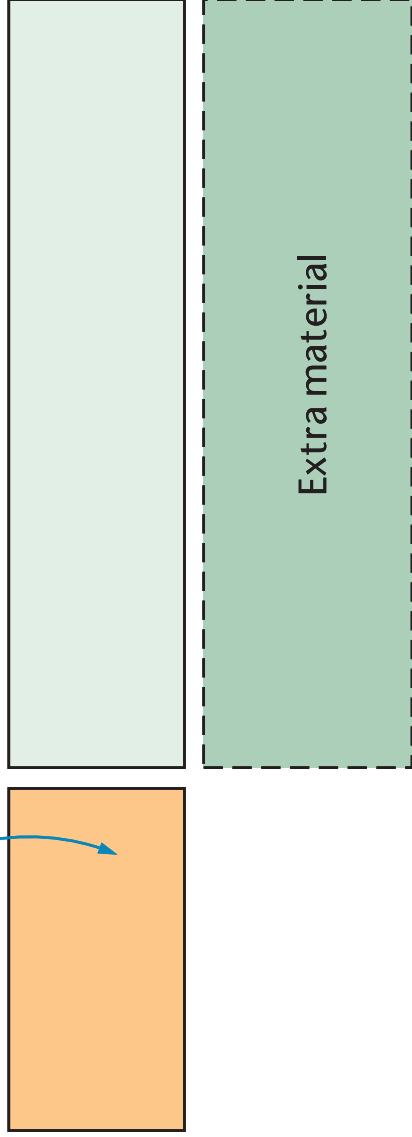
Five sheets of 6mm plywood for the hull with extra material for the interior parts. You may need to have a 6th sheet to complete the hull depending on how you complete "your" interior.



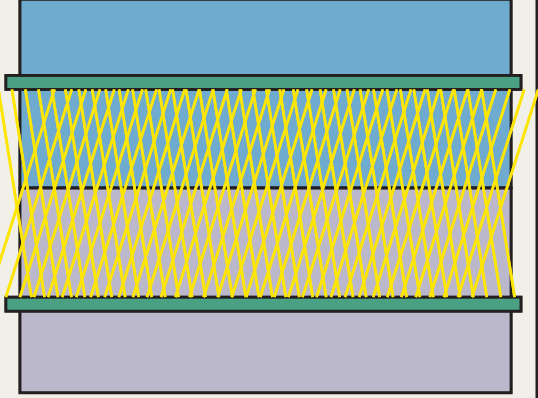
This page is to show the panels after being cut out and the parts leftover to be used on the interior.



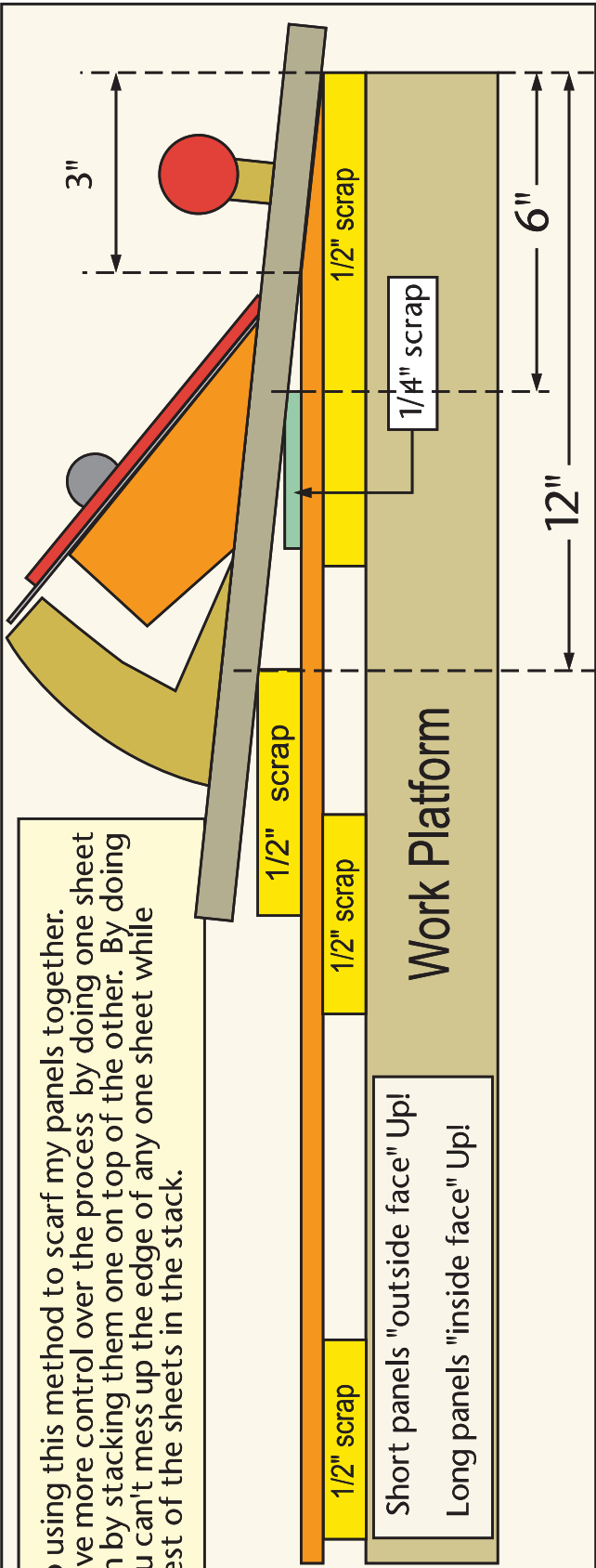
Note: The lengths for the shorter panels are set for a 2" finger joint, if you use a traditional scarf joint, which would be a 3" overlap, add an extra 1" to the length dimensions listed above!



Masking tape to set limits of glass cloth on both sides of a scarf or finger joint!

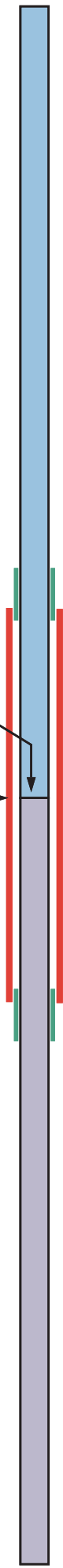


I have gone to using this method to scarf my panels together. I find that I have more control over the process by doing one sheet at a time, than by stacking them one on top of the other. By doing it this way, you can't mess up the edge of any one sheet while scarfing the rest of the sheets in the stack.



Butt joint with a layer of glass cloth on each side

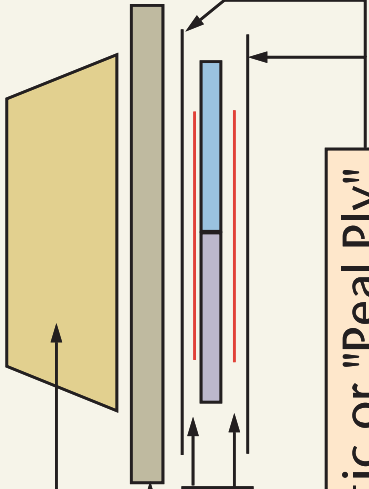
Be sure to apply enough epoxy to "wet out" the mating edges of the plywood!



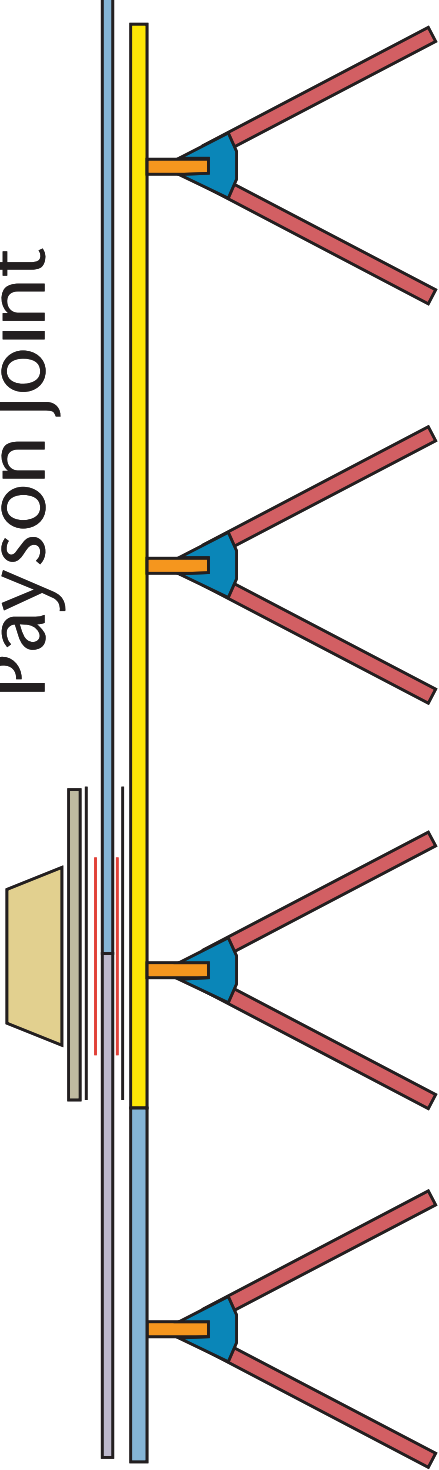
Something to spread weight & Weight

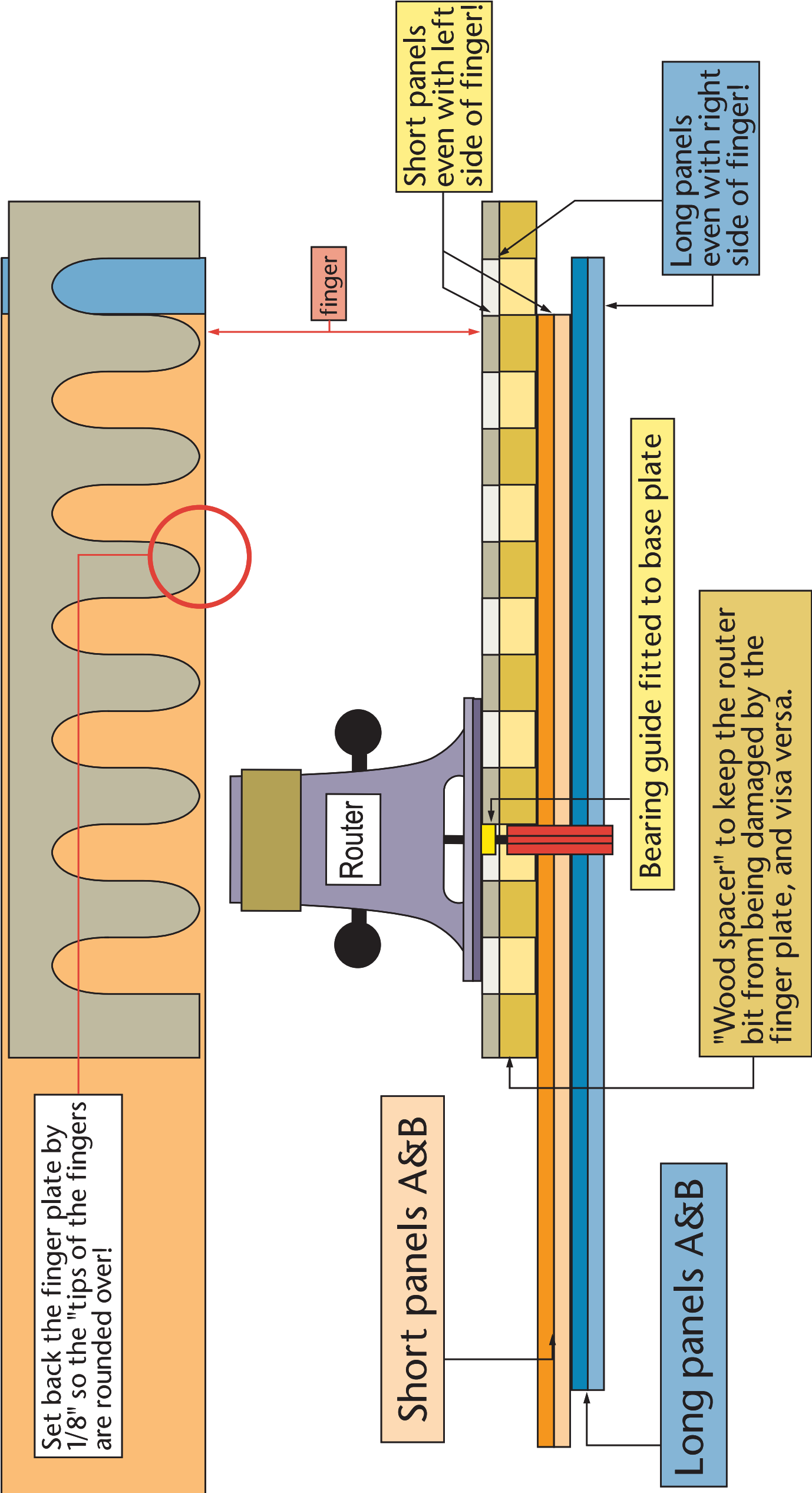
Glass Cloth "wet out"

Black plastic or "Peel Ply"



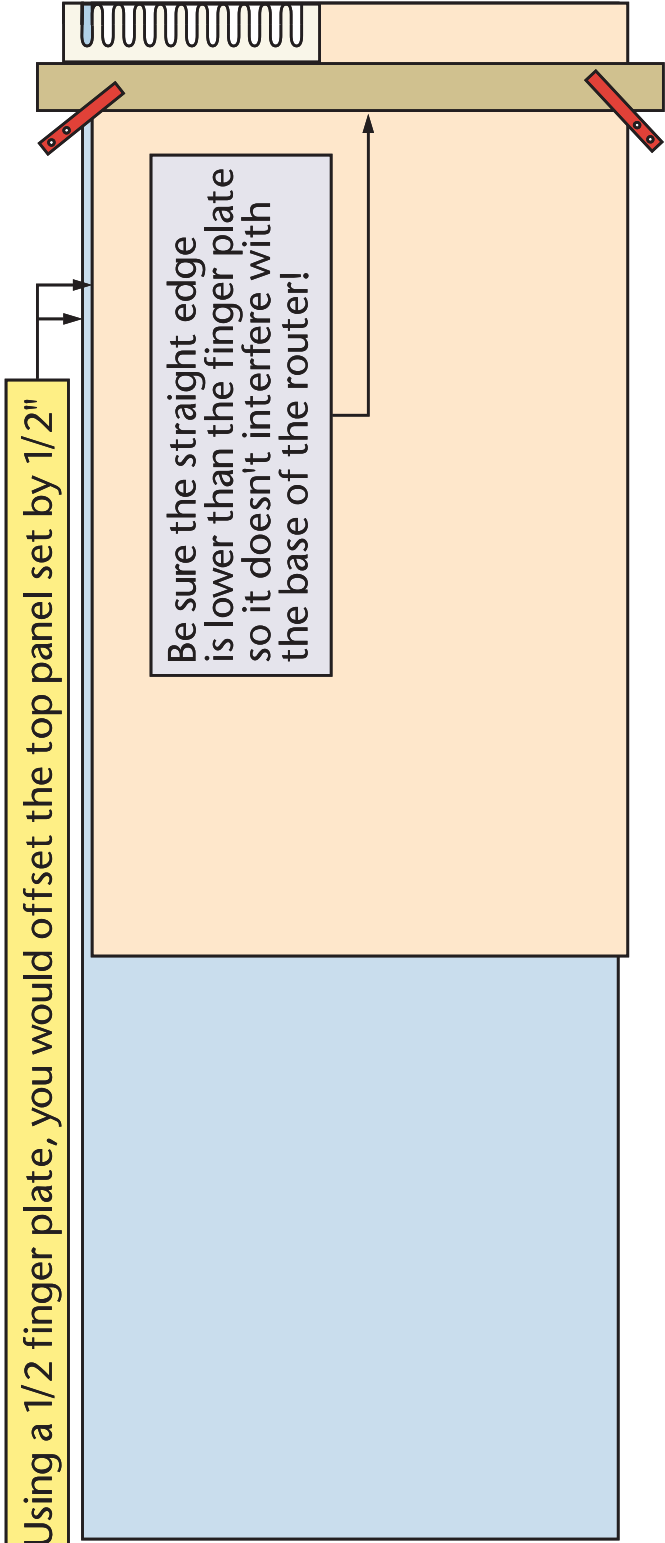
Payson Joint



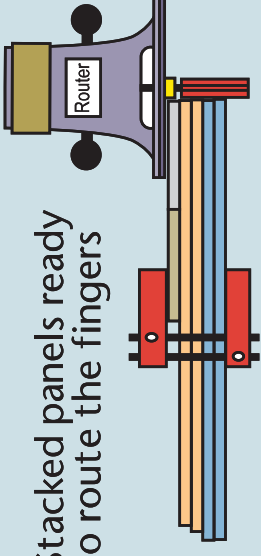


Using a 1/2 finger plate, you would offset the top panel set by 1/2"

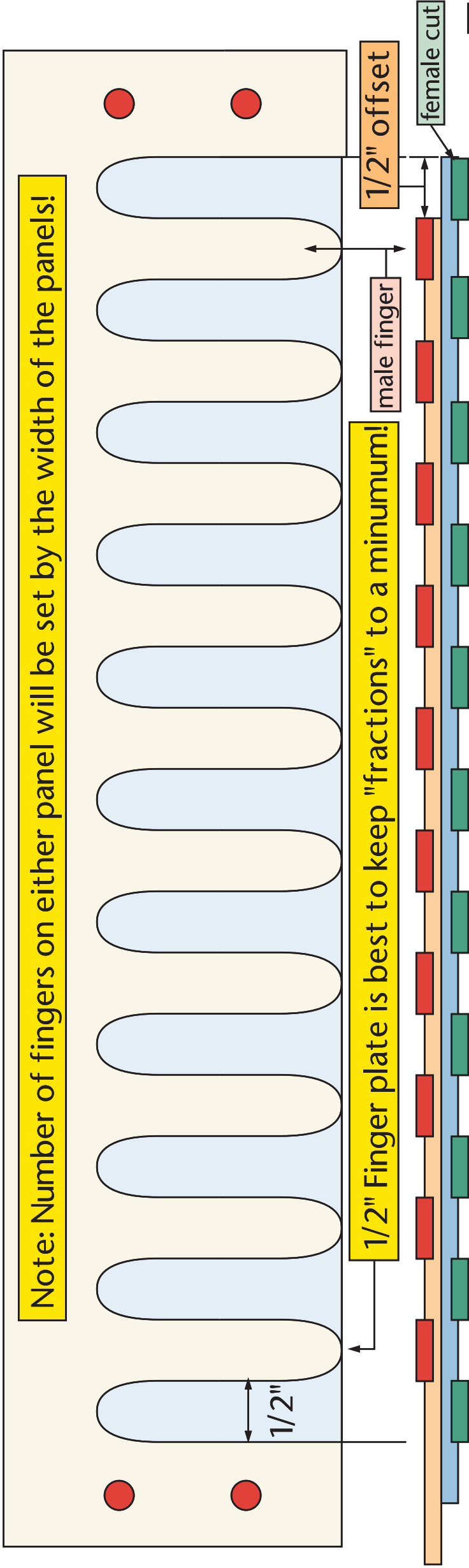
Be sure the straight edge is lower than the finger plate so it doesn't interfere with the base of the router!

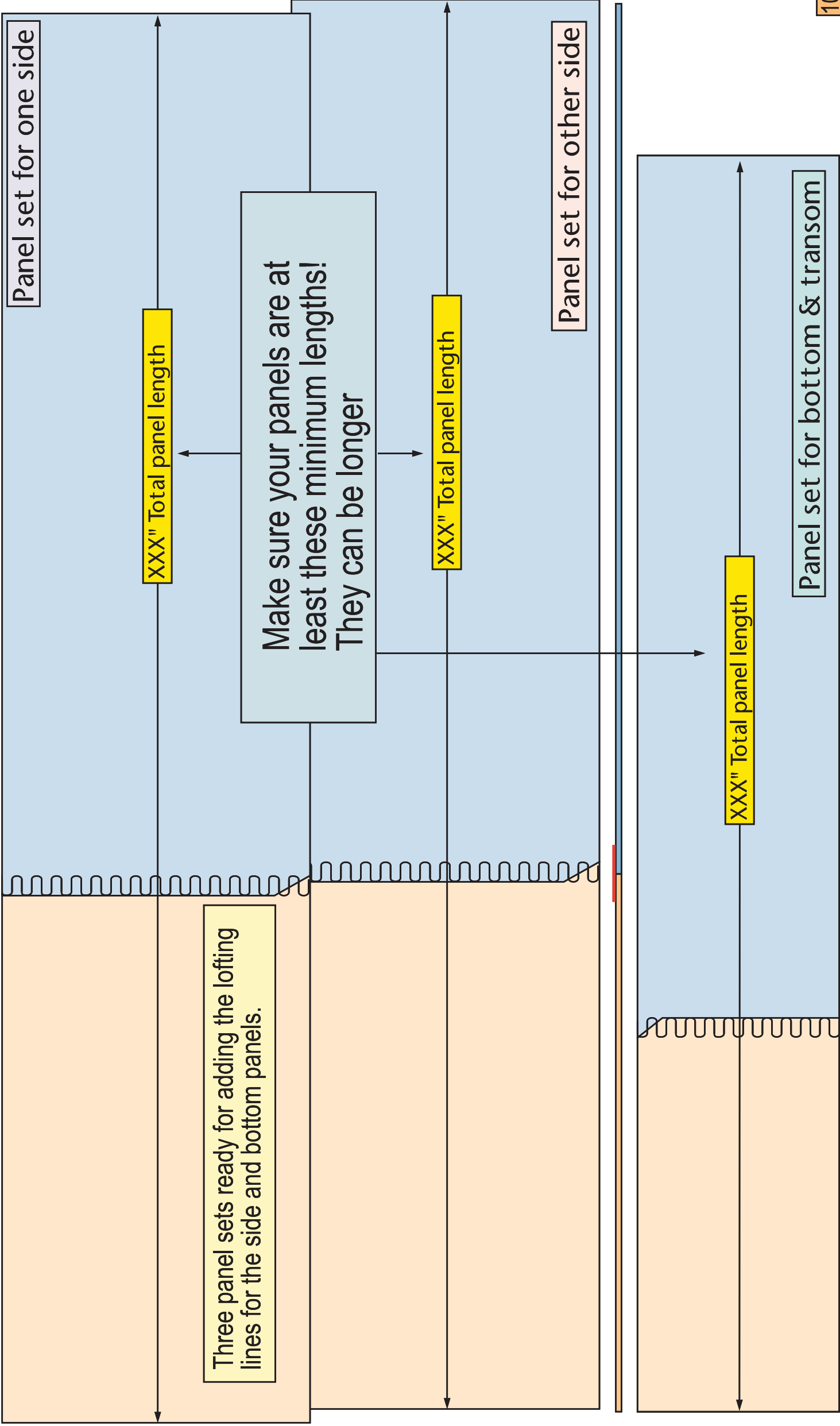


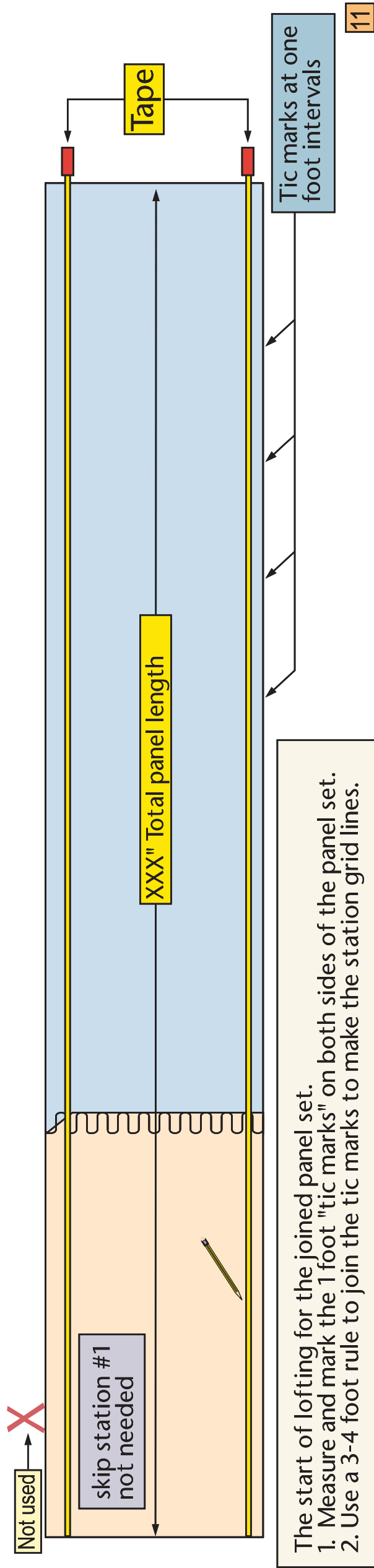
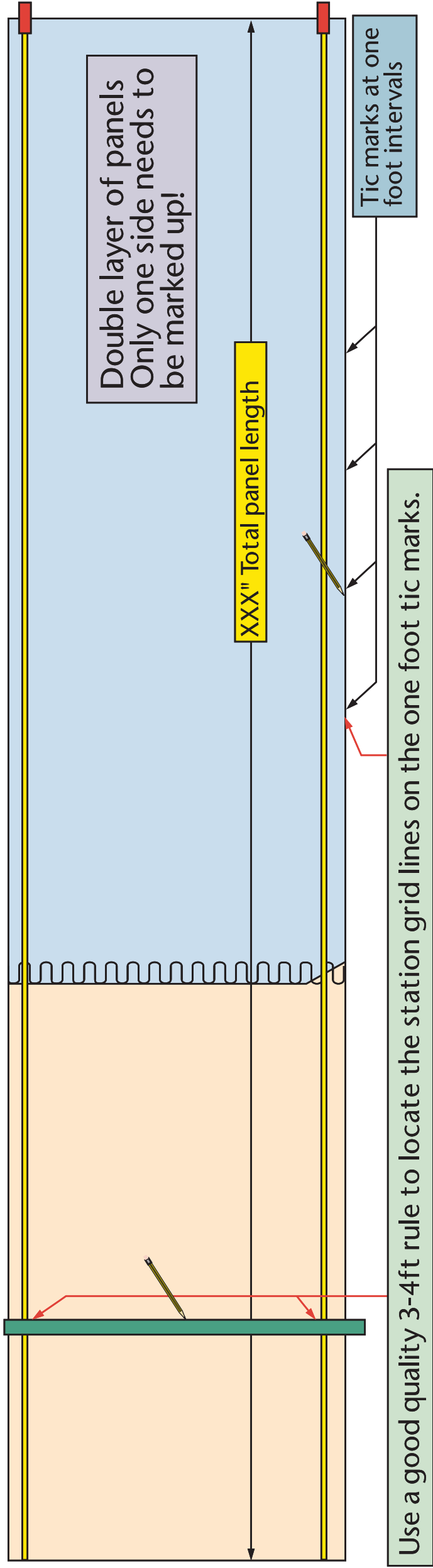
Stacked panels ready to route the fingers

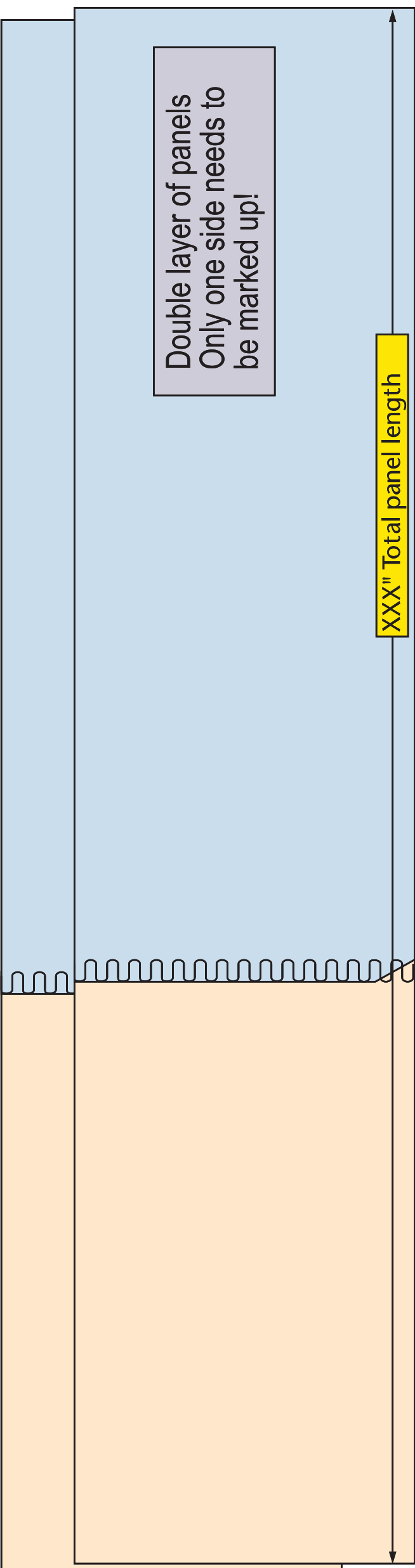


Note: Number of fingers on either panel will be set by the width of the panels!

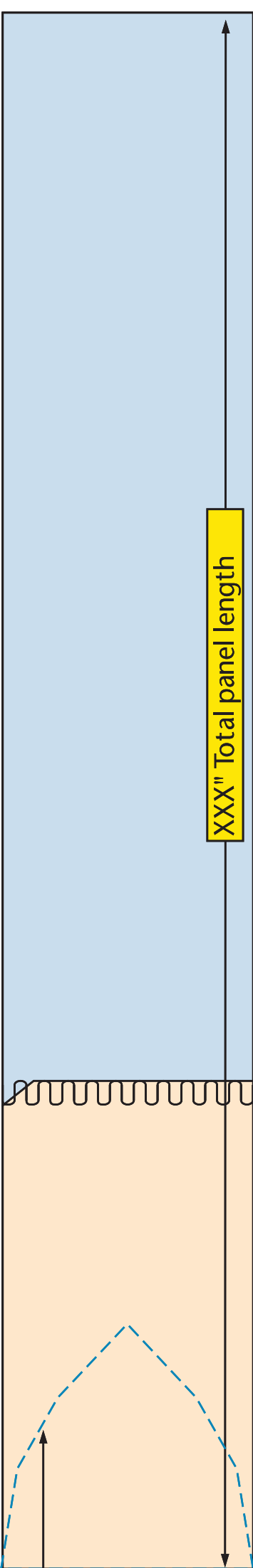




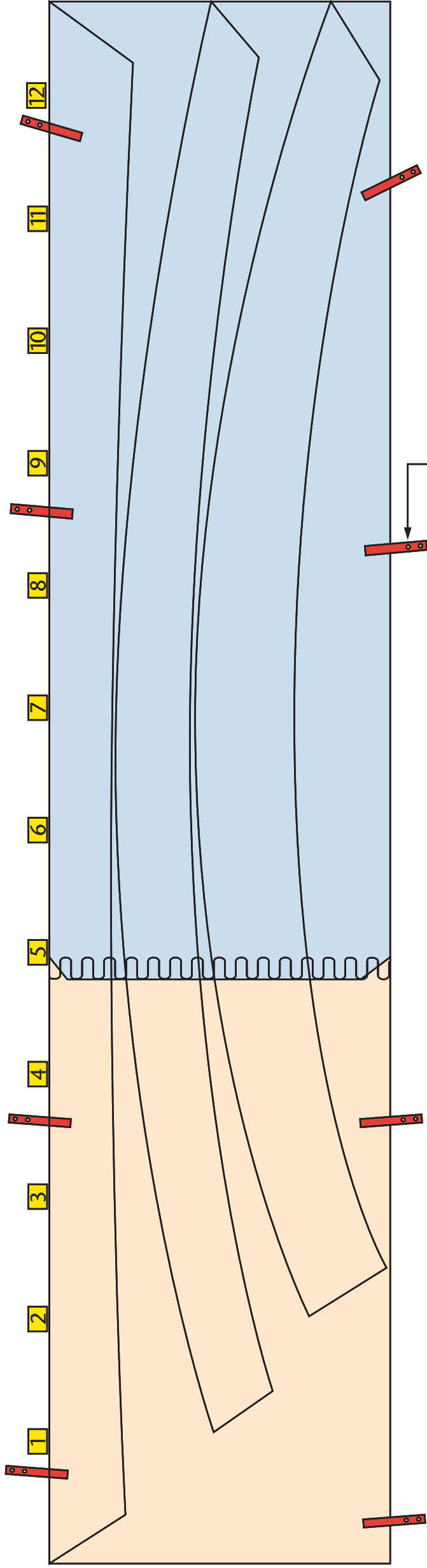




Finished panel sets ready to add the lofting offset marks to determine the outlines of all the hull panels!

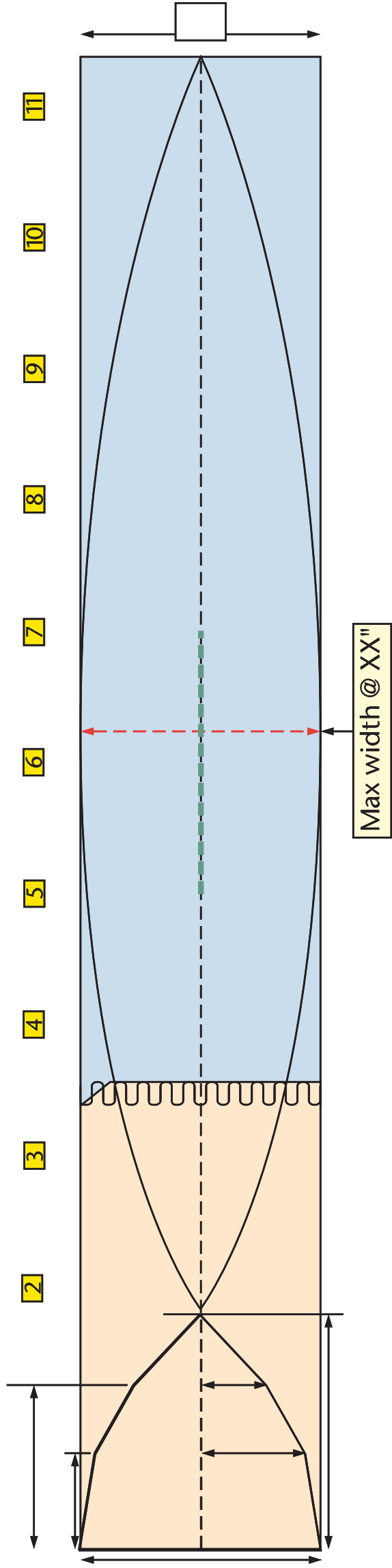


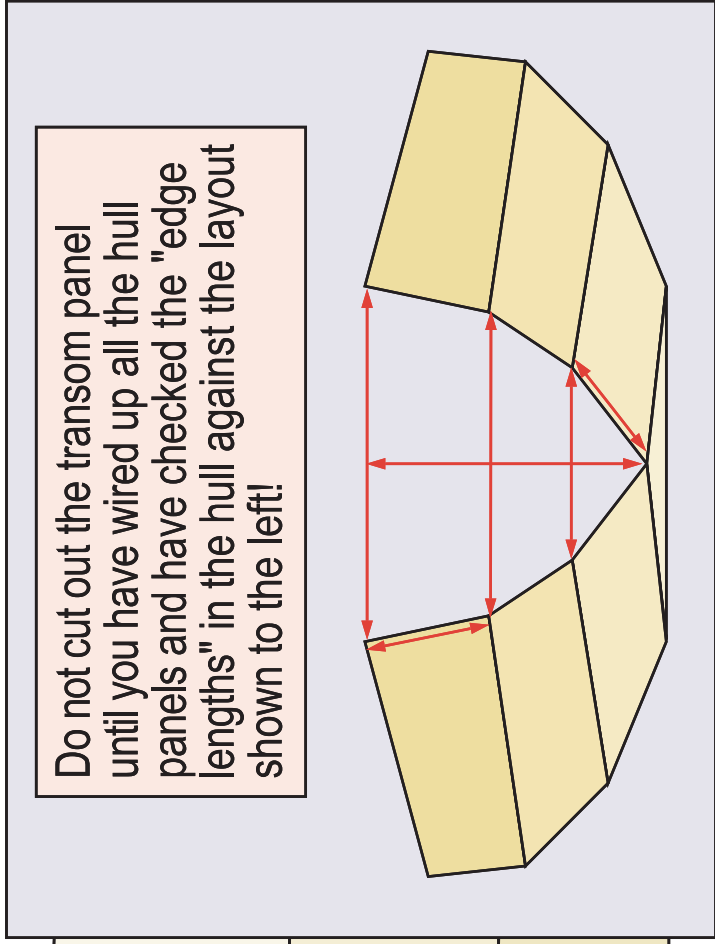
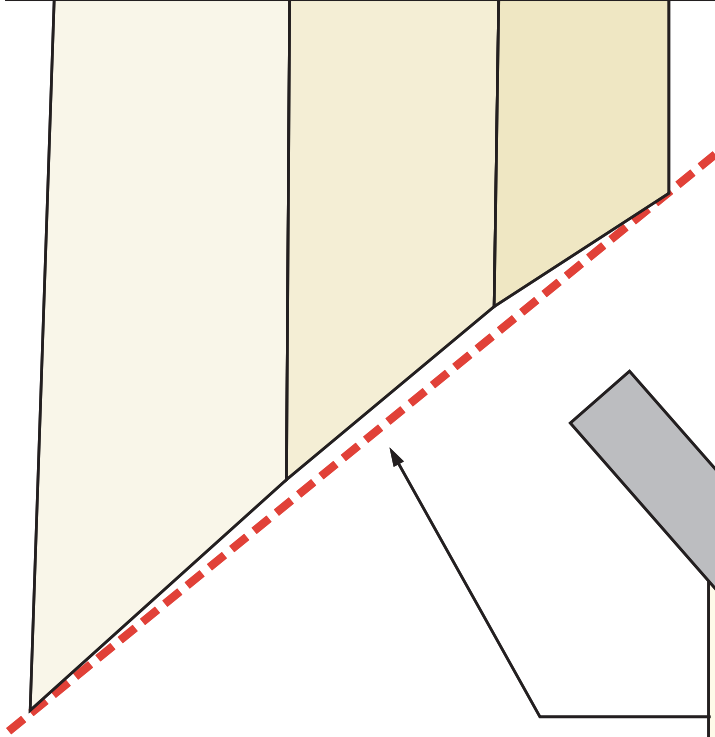
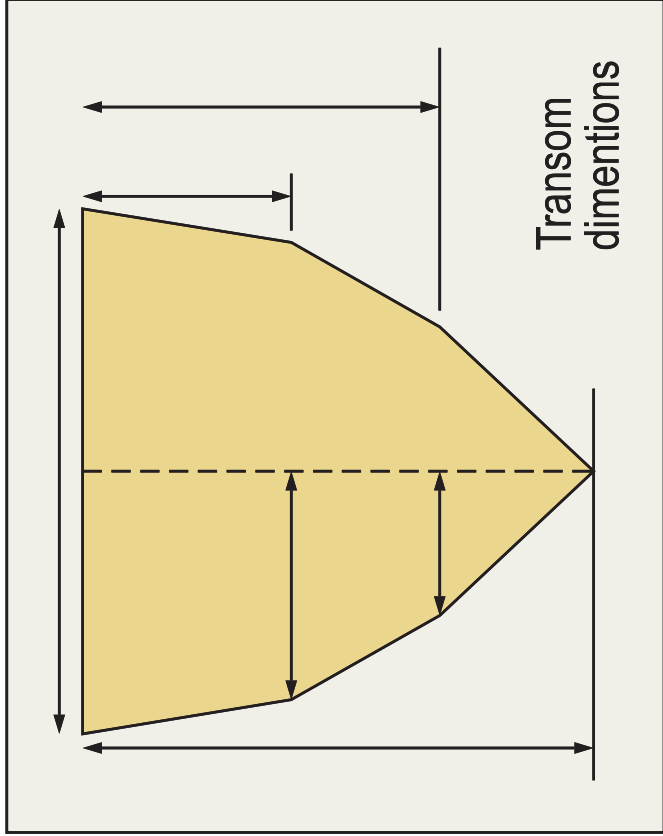
Transom will be laid out and marked up later.



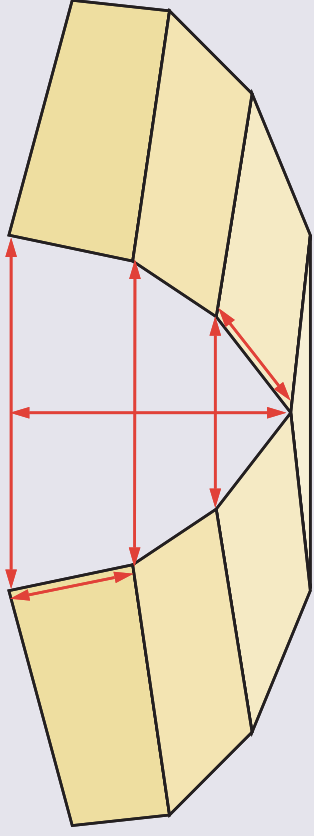
Keep side panels clamped together while lofting and cutting out!

Lofting page with all the values removed!

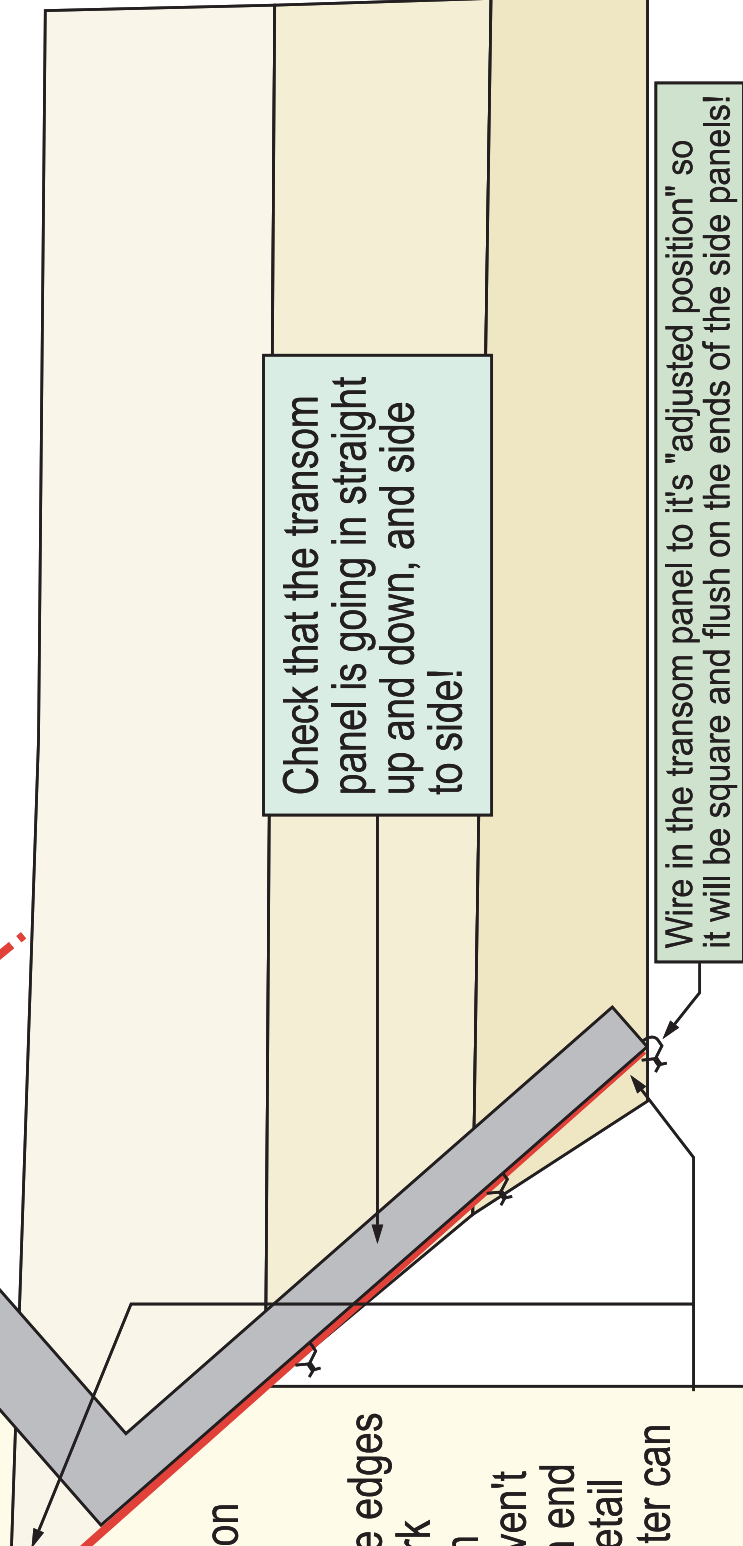




Do not cut out the transom panel until you have wired up all the hull panels and have checked the "edge lengths" in the hull against the layout shown to the left!



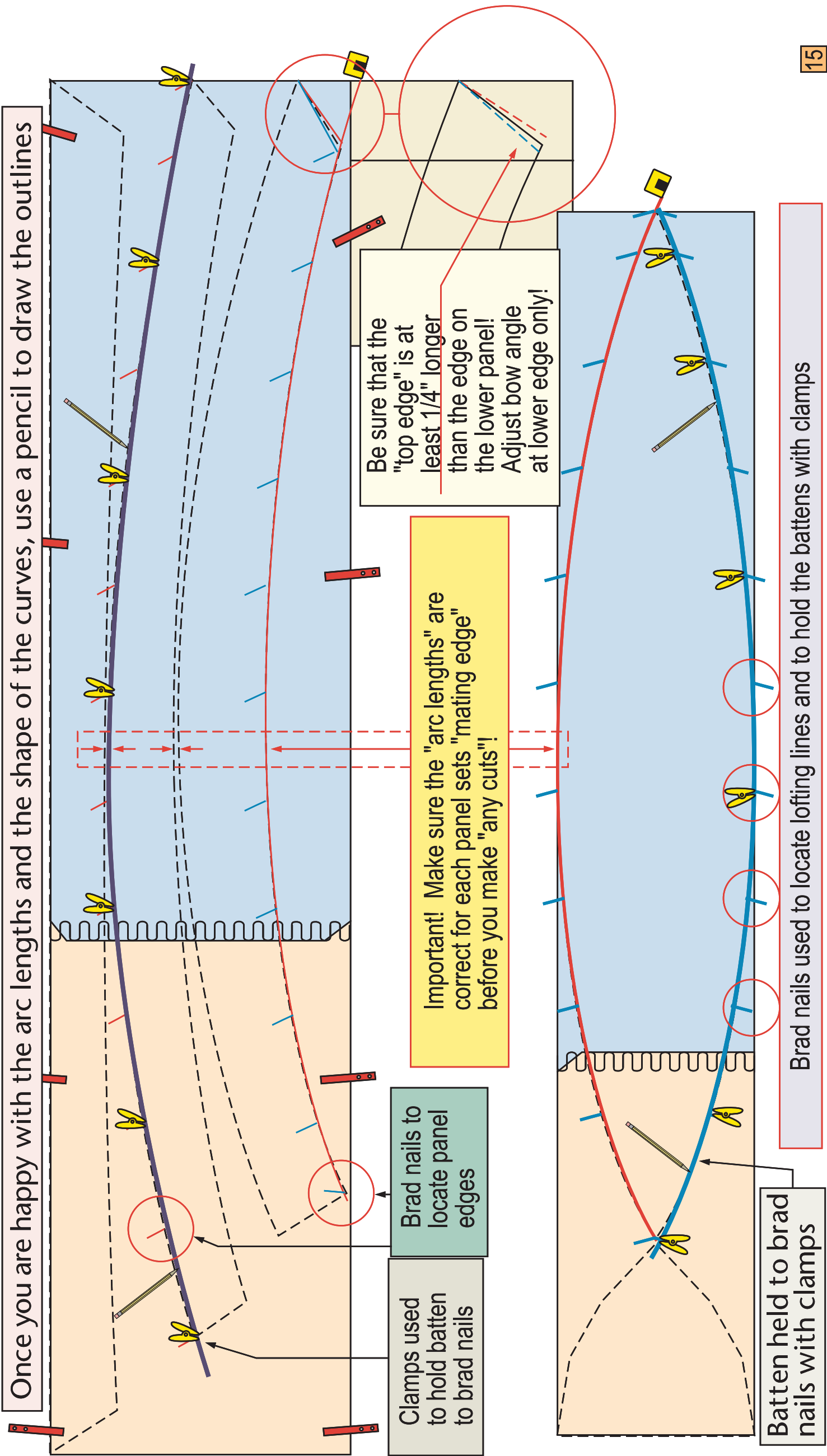
Note: If after you have wired up the hull and try to install the transom panel and you find that there is a slight curve to the ends of the side panels; then fit the top and bottom of the transom panel to a "best fit" position in the hull and wire it in that position. Do all the jump stitching, fillets, and glass taping on the inside seams, and do the trimming on the edges on the outside when you flip the hull over to work on the bottom. Just make sure that the transom panel is "square" in the hull on both sides! I haven't made this hull so I have not "adjusted" the stern end points of the corners. I cannot see that fine a detail when I make the models, as a line from the printer can be 1/4-3/8" wide.

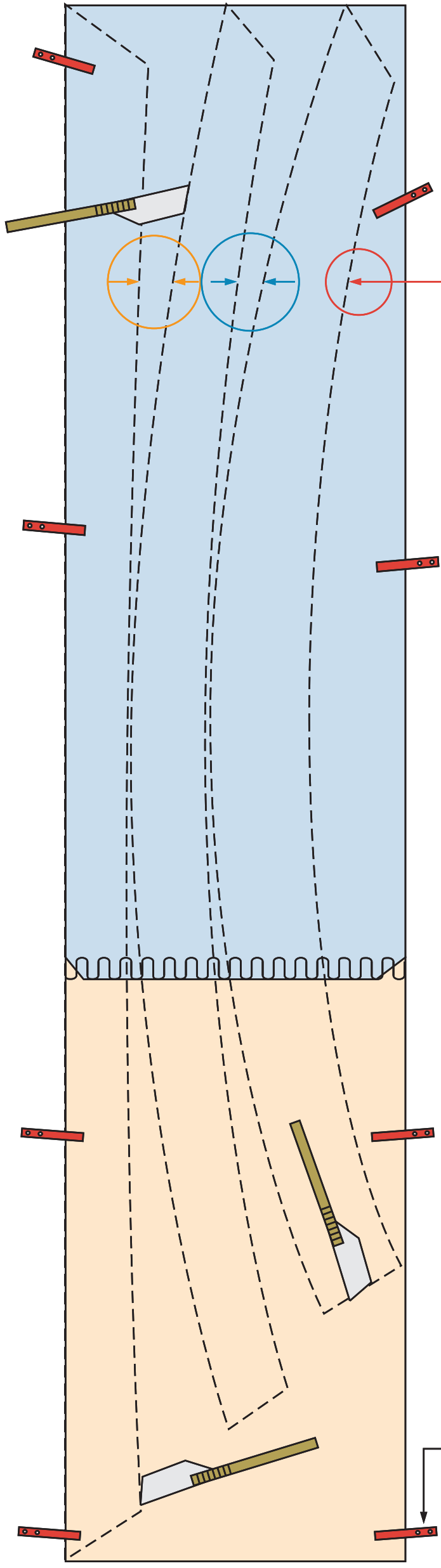


Check that the transom panel is going in straight up and down, and side to side!

Wire in the transom panel to it's "adjusted position" so it will be square and flush on the ends of the side panels!

Once you are happy with the arc lengths and the shape of the curves, use a pencil to draw the outlines

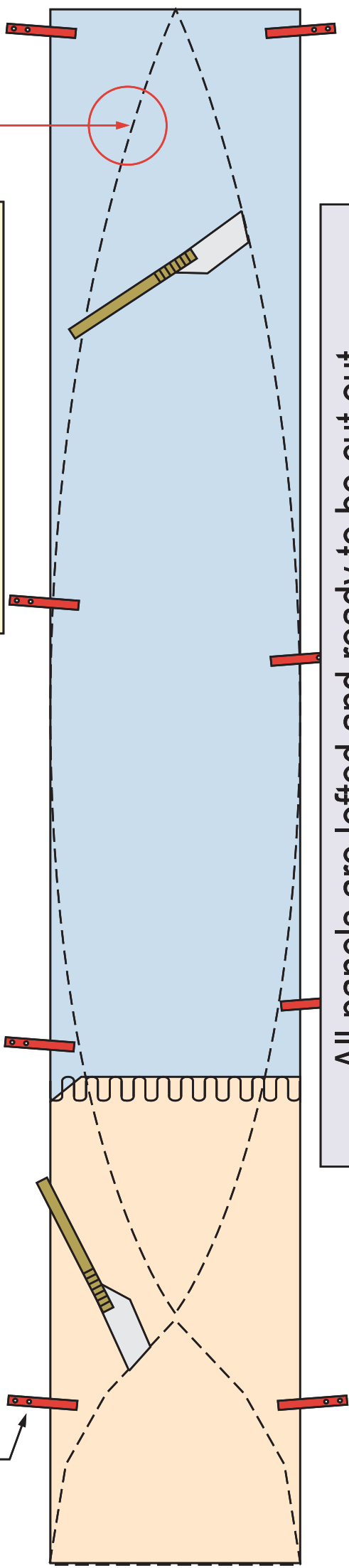




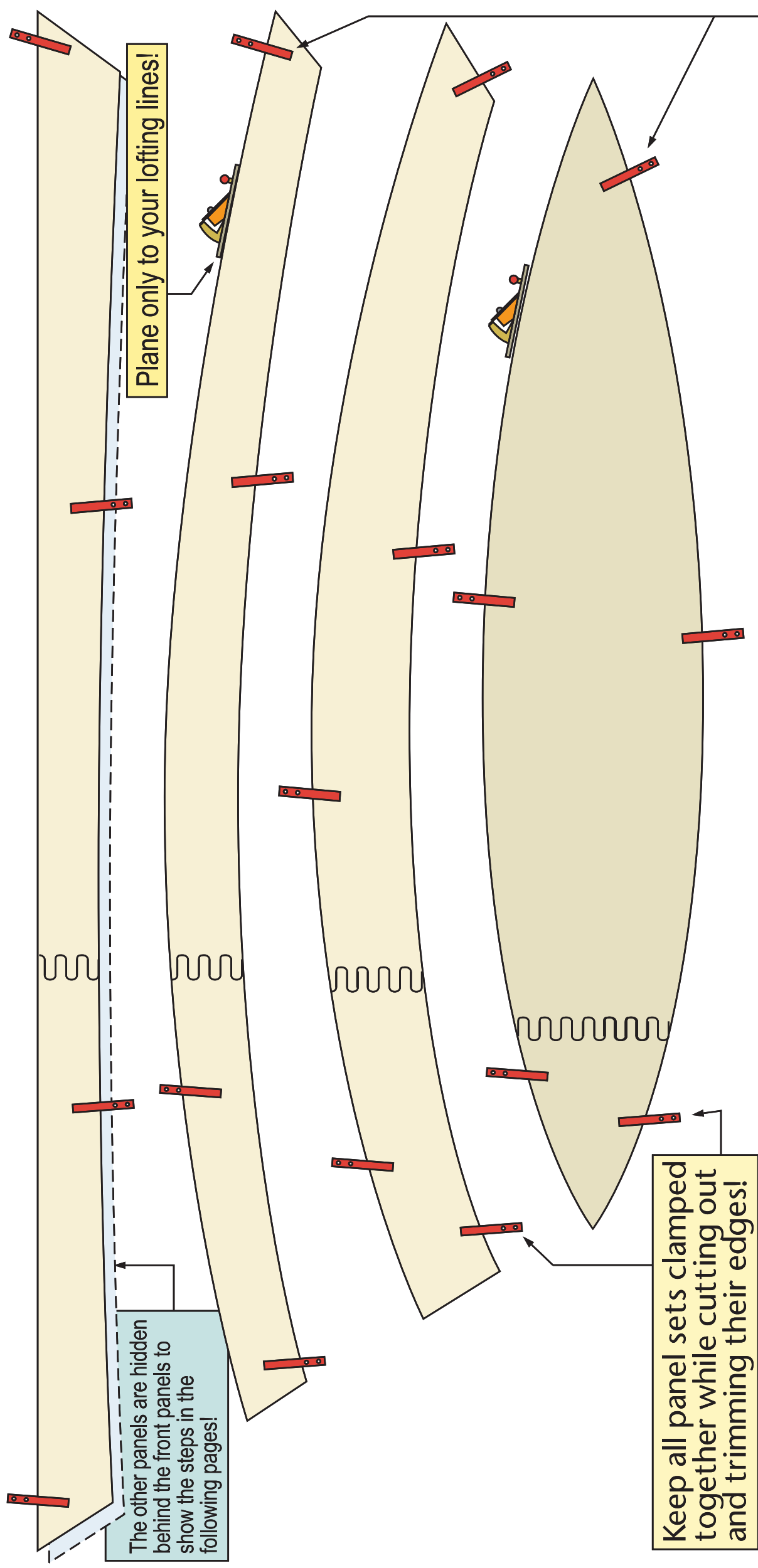
Make sure you check again that the "arc lengths" are correct before you make the first cut!

Make sure you keep each panel set pair clamped to together as you cut them out!

Keep side panels clamped together while lofting and cutting out!



All panels are lofted and ready to be cut out

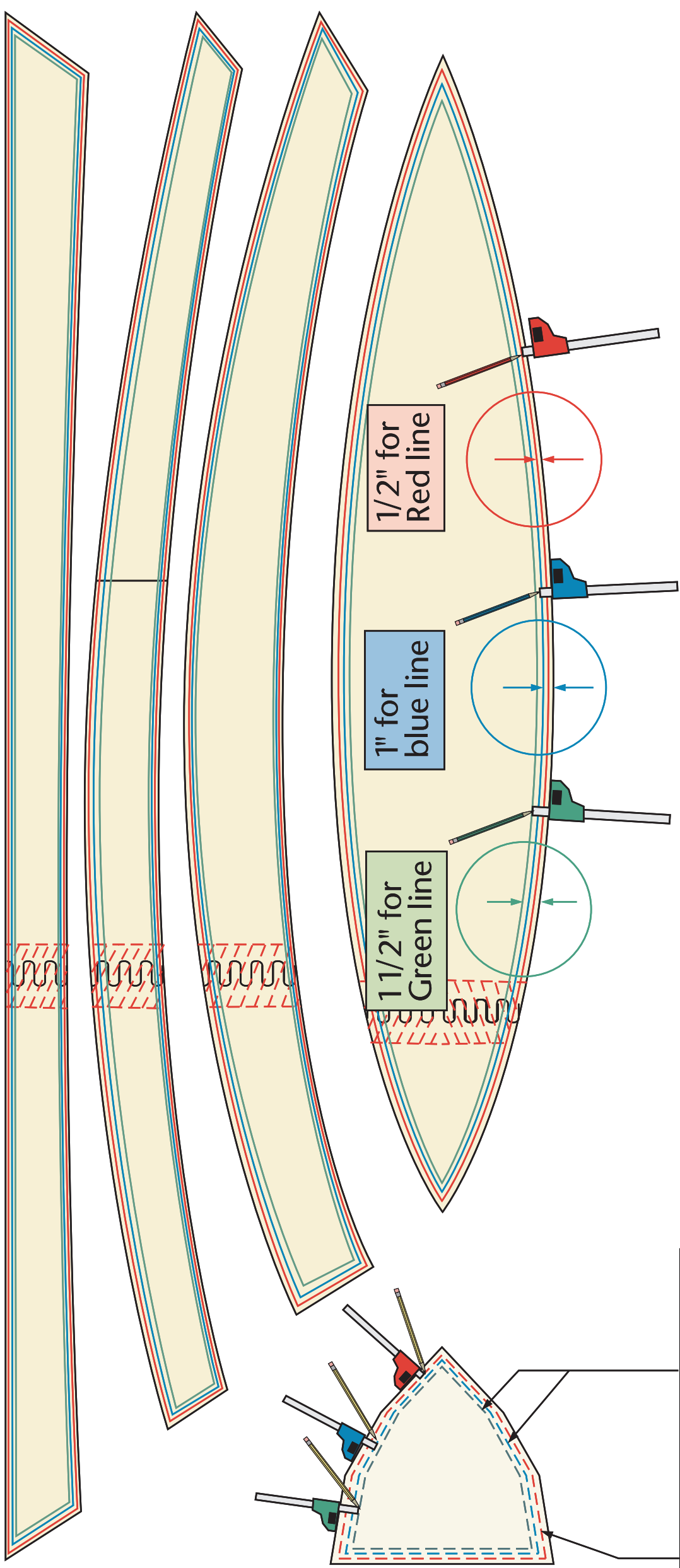


Plane only to your lofting lines!

Keep all panel sets clamped together while cutting out and trimming their edges!

The panels are stacked and clamped when you plane or rasp the edges!

The other panels are hidden behind the front panels to show the steps in the following pages!

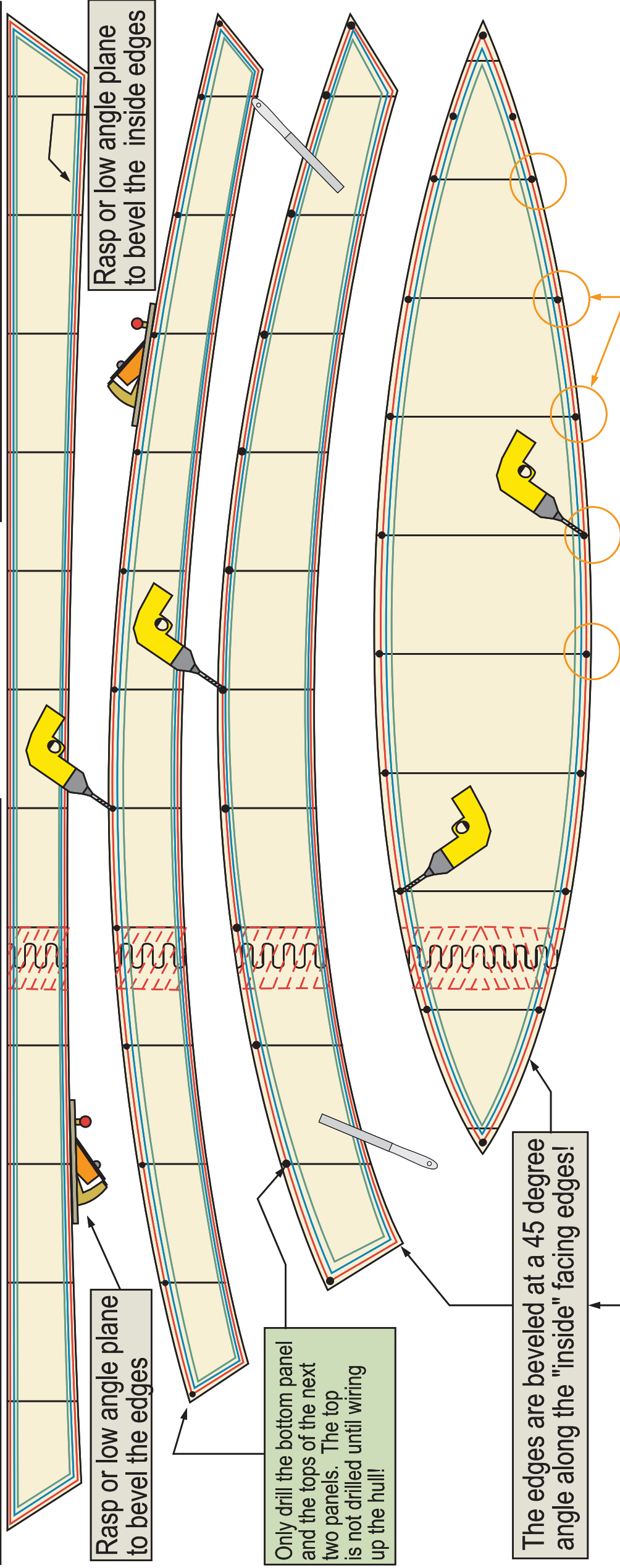


Lines drawn to mark the locations of the wire holes, and the edges for the 2" & 3" glass tapes.

- 1/2" offset for the tie wire
- 1" offset for the 2" glass tape
- 1 1/2" offset for the 3" glass tape

Note: The "inside faces are exposed at this point. The "outside faces are touching/hidden.

Drill no holes in the top panels until you are wiring up the hull!!



Rasp or low angle plane to bevel the edges

Rasp or low angle plane to bevel the inside edges

Only drill the bottom panel and the tops of the next two panels. The top is not drilled until wiring up the hull!

The edges are beveled at a 45 degree angle along the "inside" facing edges!

Ply thickness plus 1/8"



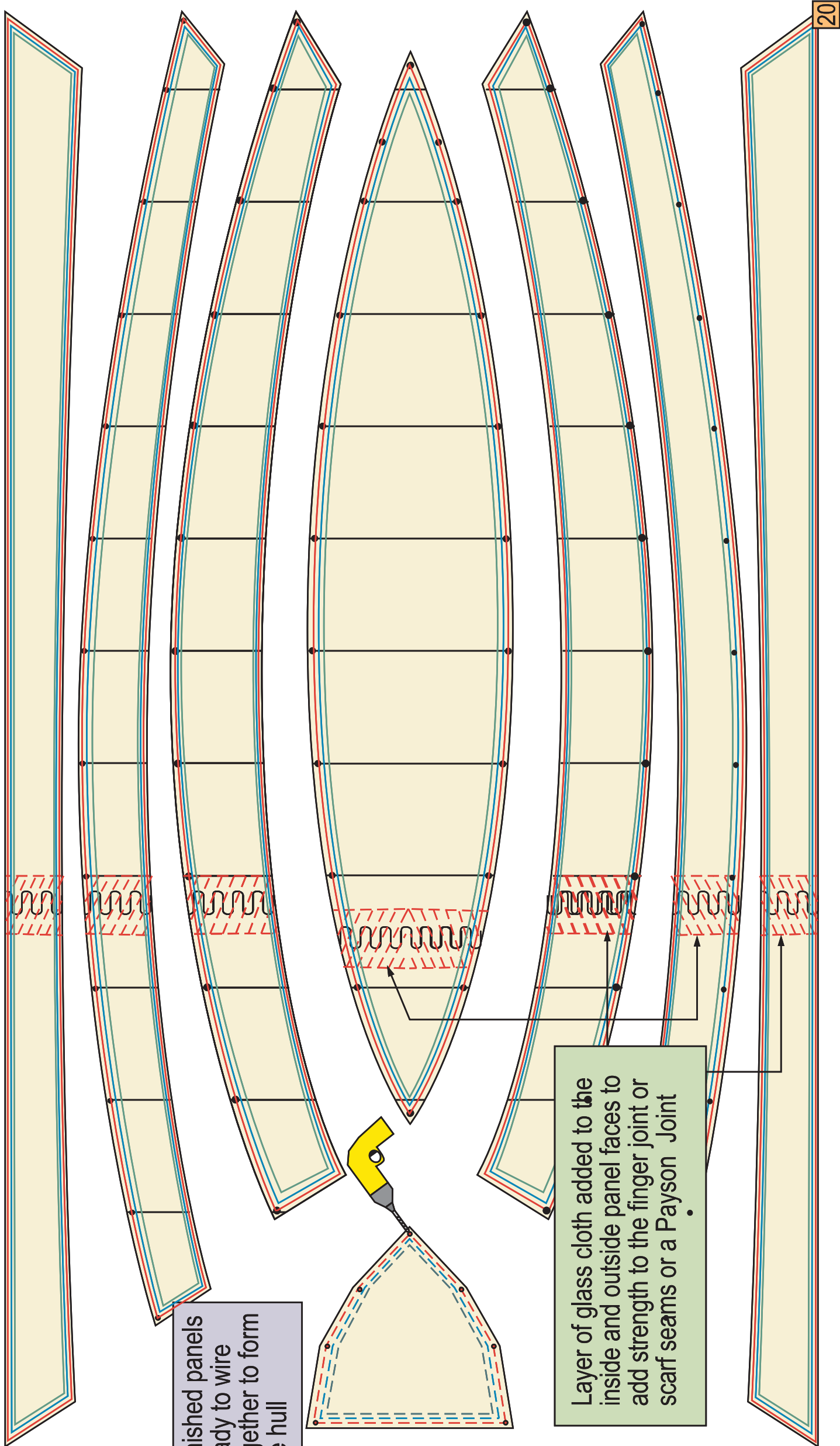
Tie wire pilot hole

"Inside edges" beveled to centerline of plywood sheet!

Rasp

45°

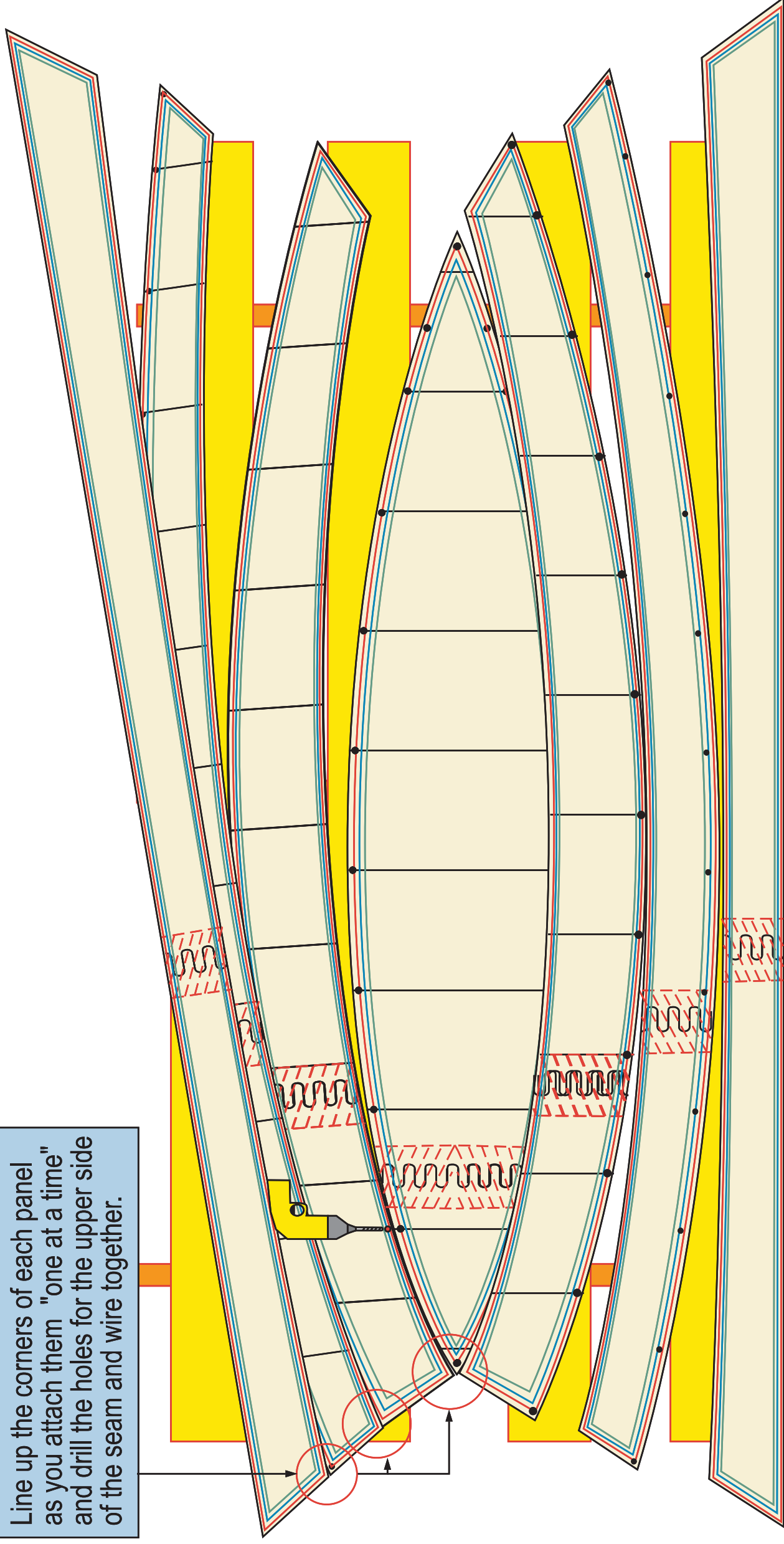
Drill holes for the tie wire size that you use, and all the way around the stacked bottom panels except for the transom. Drill on the station lines to use them as a guide.



Finished panels  
ready to wire  
together to form  
the hull

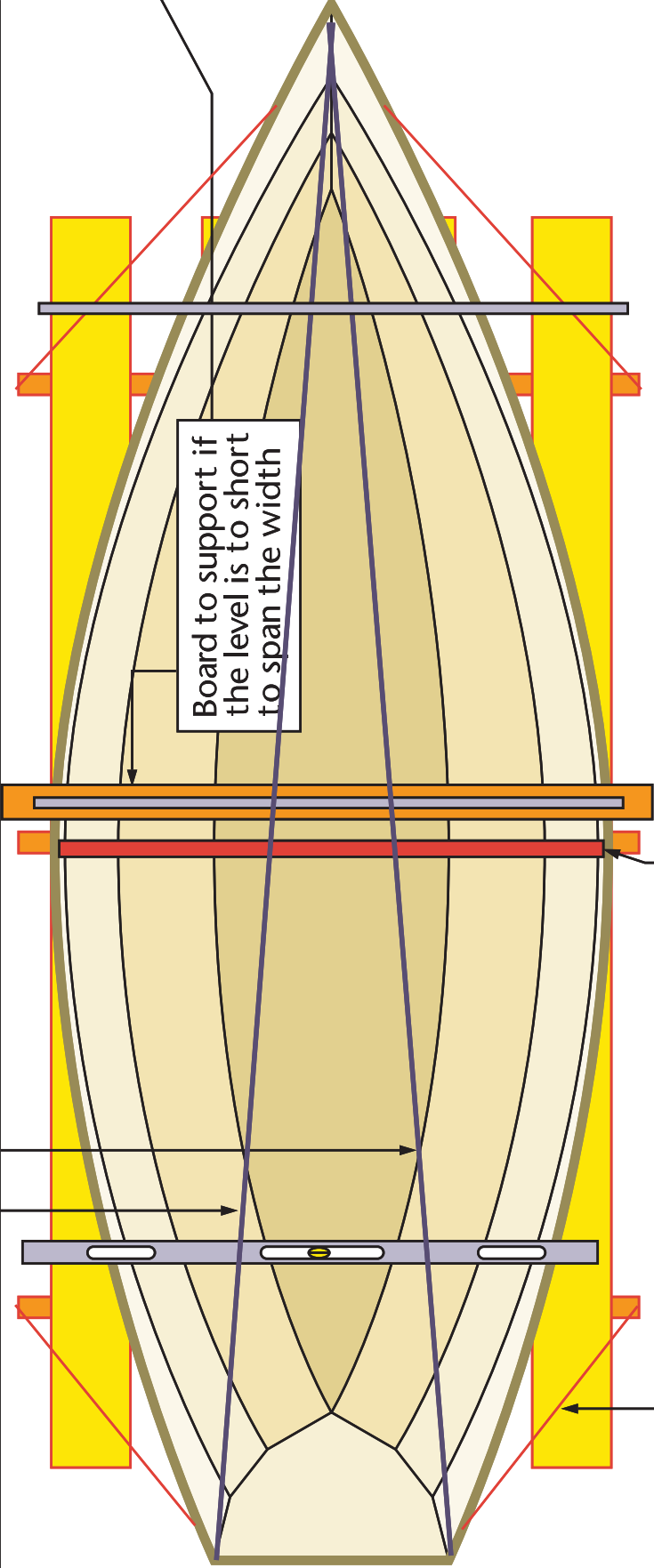
Layer of glass cloth added to the  
inside and outside panel faces to  
add strength to the finger joint or  
scarf seams or a Payson joint

Line up the corners of each panel as you attach them "one at a time" and drill the holes for the upper side of the seam and wire together.



Be sure that the lower corner of each of the side panels at the bow overlap the one below it by at least 1/4" this should have been checked when you did the test for "arc length" when you cut out the panels. You will want to be sure that this is correct before you drill for the 1/4" bolts/nuts that will hold the panel edges in place along the length of the hull panels. If you have to re-drill a hole, don't worry as the fillets and glass tape will cover them!

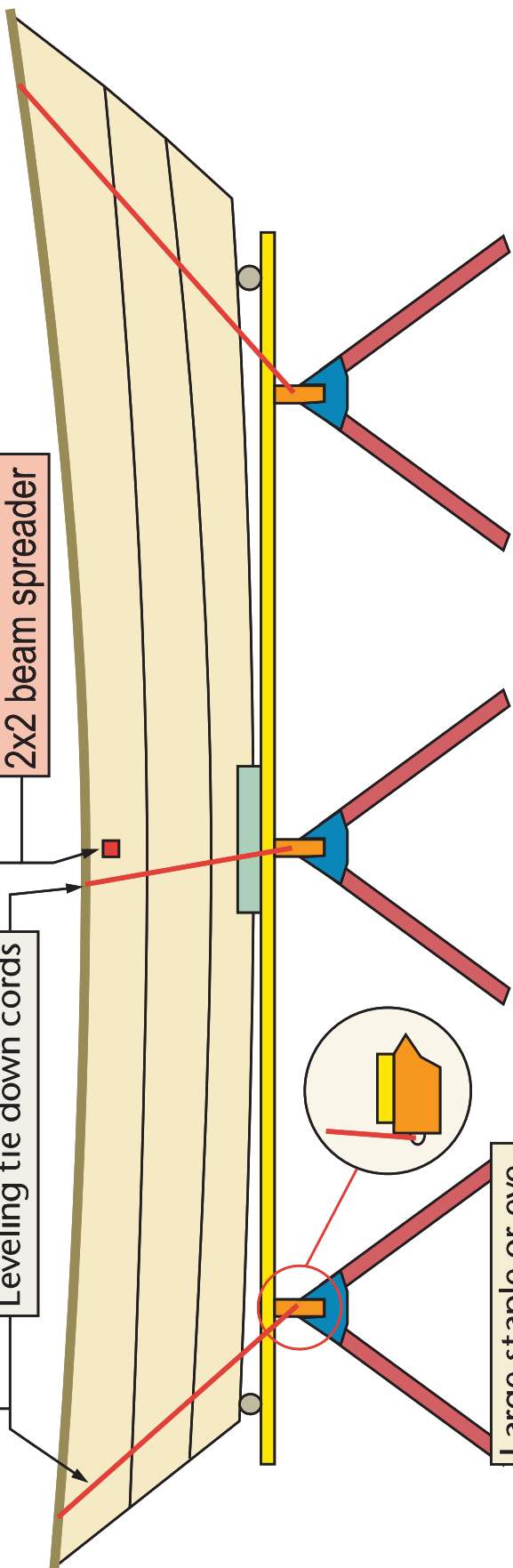
Cross hull tension lines used to "square up" the hull. Adjust until the "cross hull distances" are the same!



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

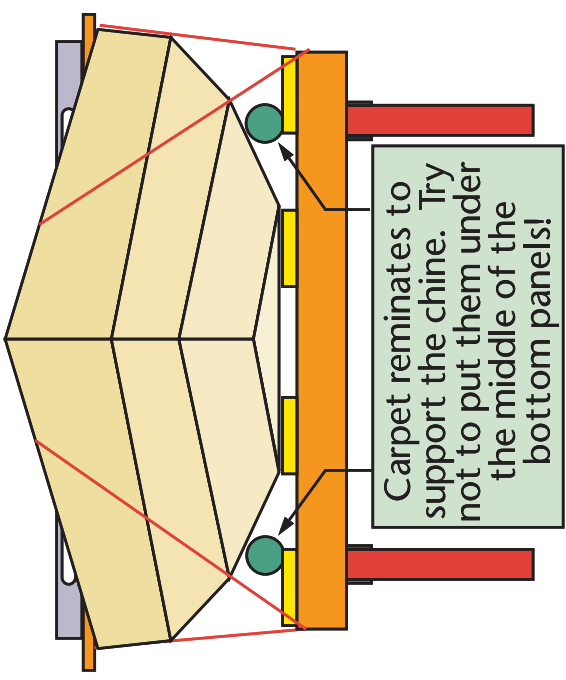
2x2 beam spreader

Leveling tie down cords

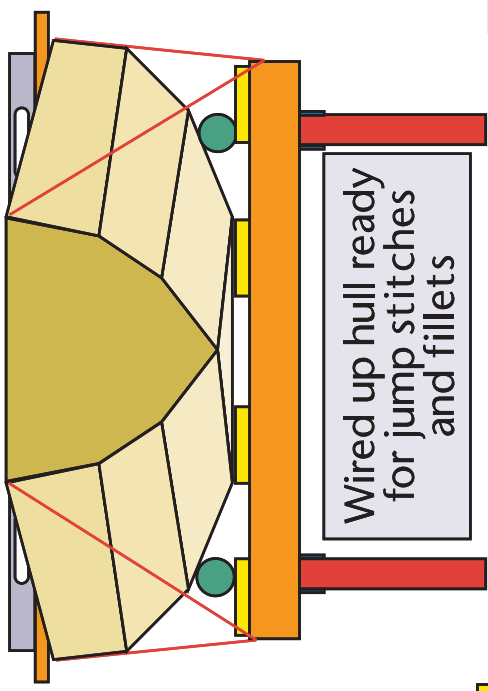


Large staple or eye screw in end of 2x6

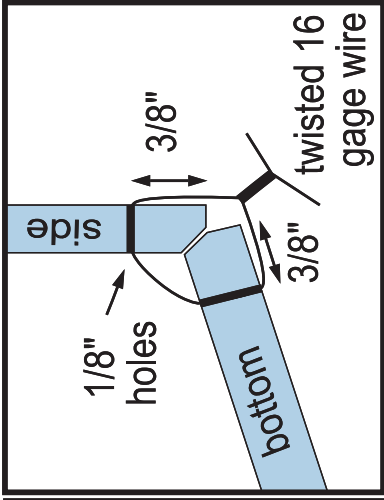
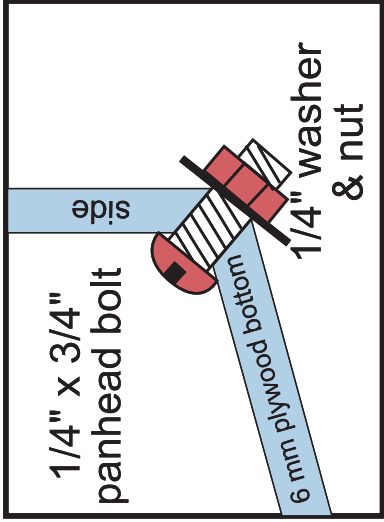
Level the hull prior to doing the "jump stitch" and seam fillets!



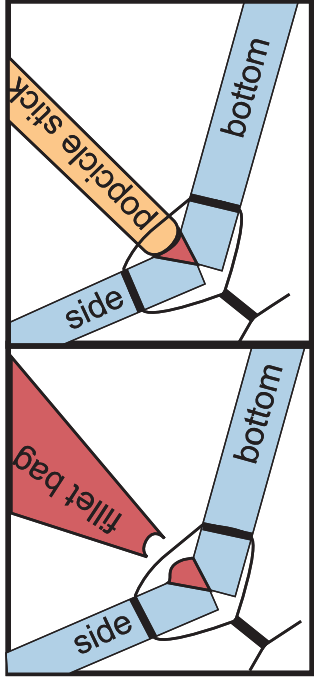
Carpet remnant to support the chine. Try not to put them under the middle of the bottom panels!



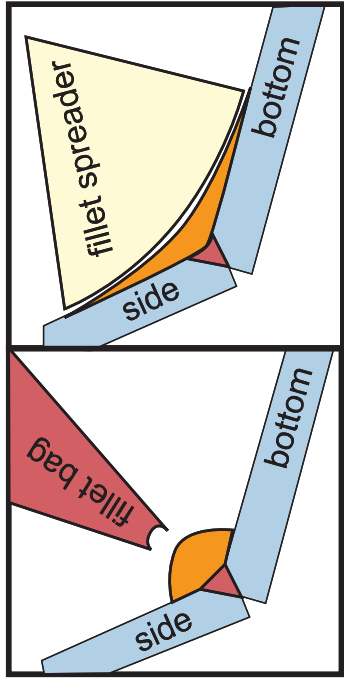
Wired up hull ready for jump stitches and fillets



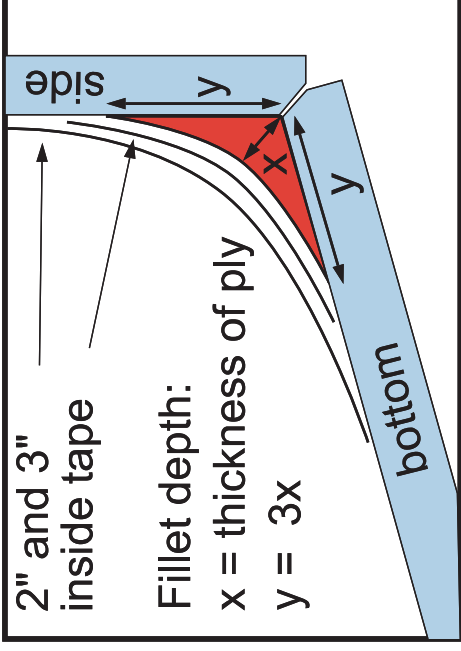
Wiring and bolting the panel sections together



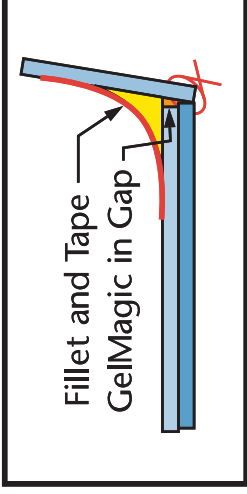
Jump Stitch



Applying and Spreading the Fillet

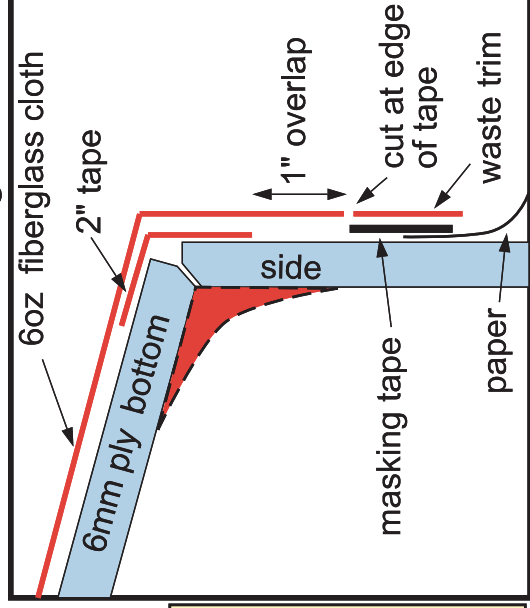


Cross section of taped seam



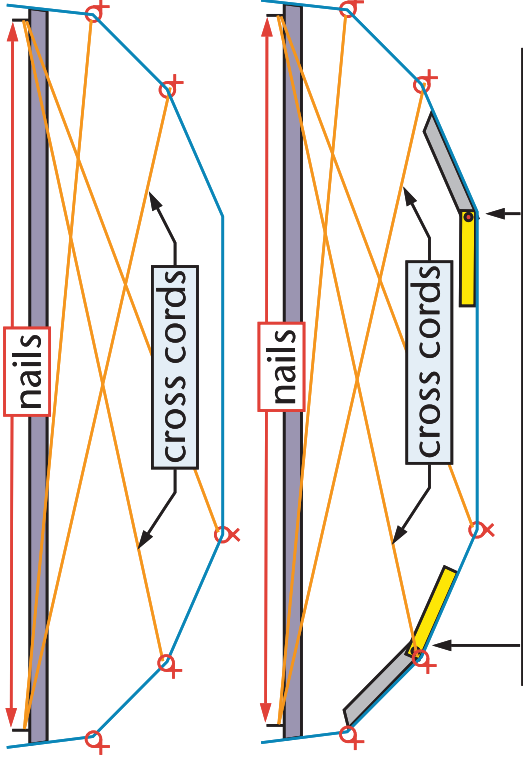
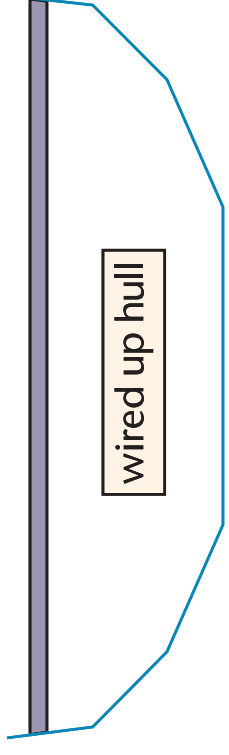
Double Transom Panel

Bottom outside edge details



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

Squaring up the side to bottom panels at the beam of the hull



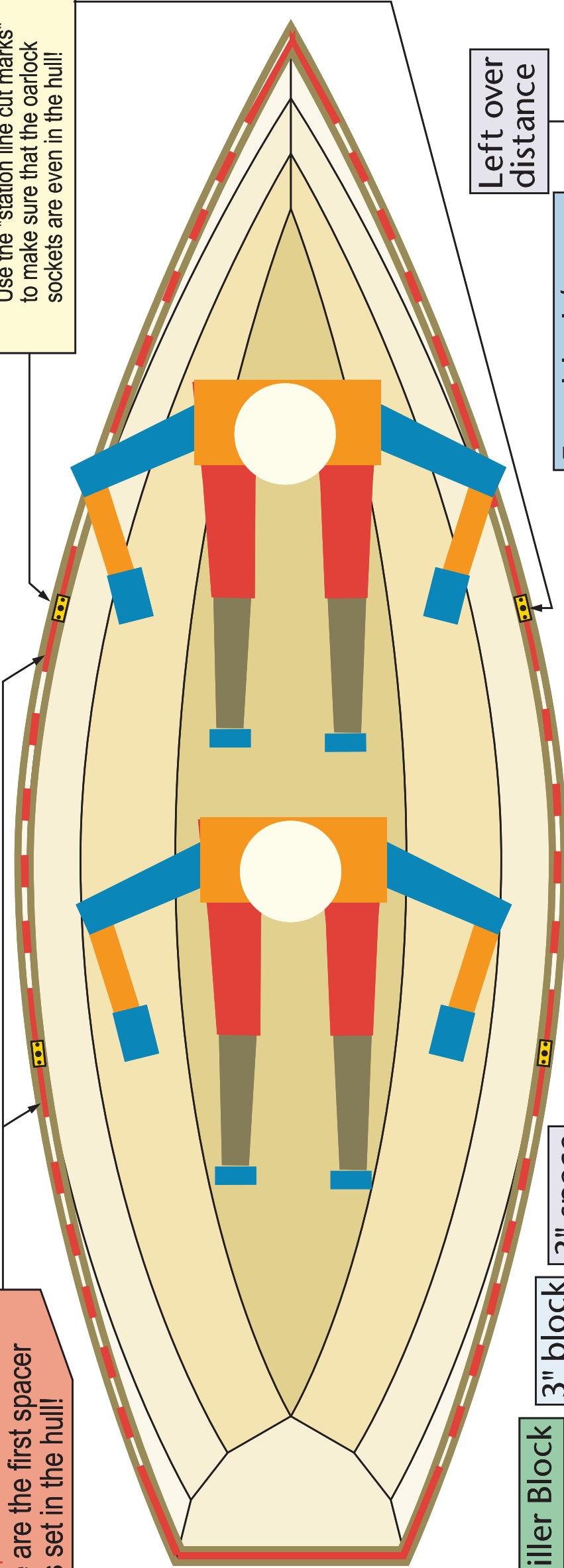
Compare the angles on both sides and tighten or loosen one or both "green" cords until the angles are the same. Recheck the level and square of the rest of the hull after you do this. Recheck again if those need adjusting too; until you are happy and the hull is level and square!



These are the first spacer blocks set in the hull!

Distance from transom to oarlock socket

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



Left over distance

Even block/space

Filler Block

3" block

3" space

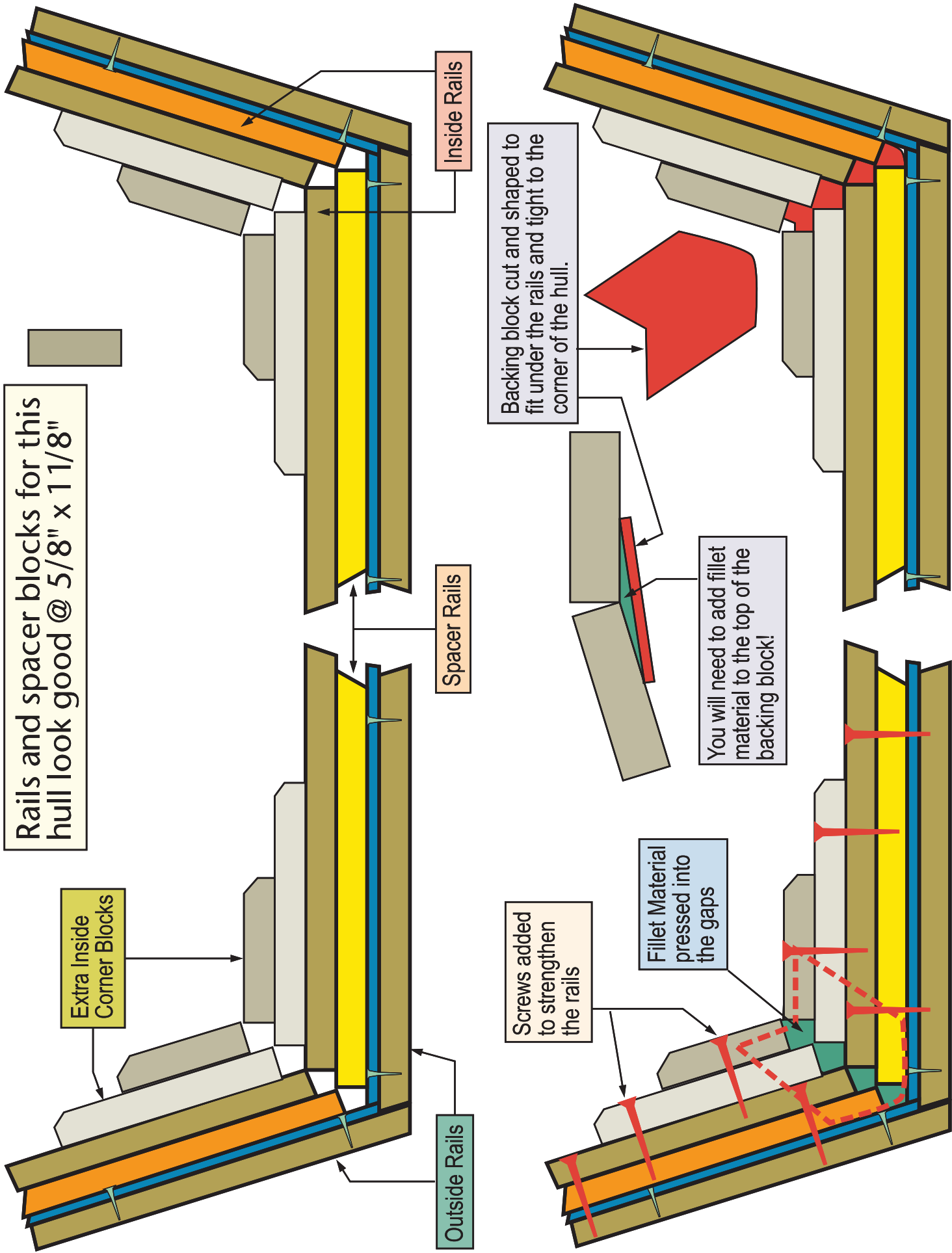
25

The oarlock spacer block sets the position of all the other blocks and spaces. Mount the oarlock blocks, 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.

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Note: I do not know what you will do with your hull, but this is one way to strengthen the bow joints. There are many ways to do this and you can chose which works best for your boat.

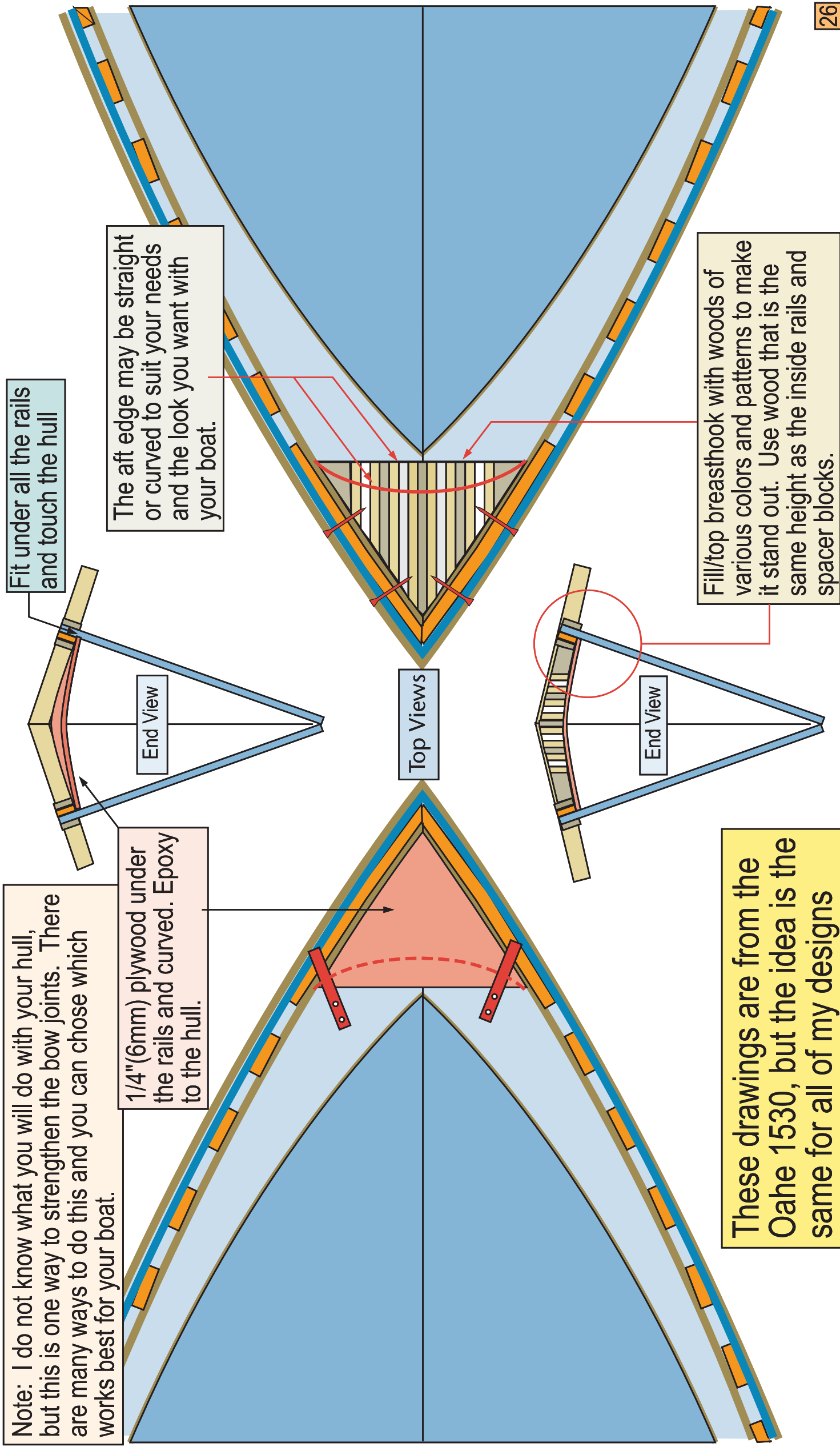
1/4"(6mm) plywood under the rails and curved. Epoxy to the hull.

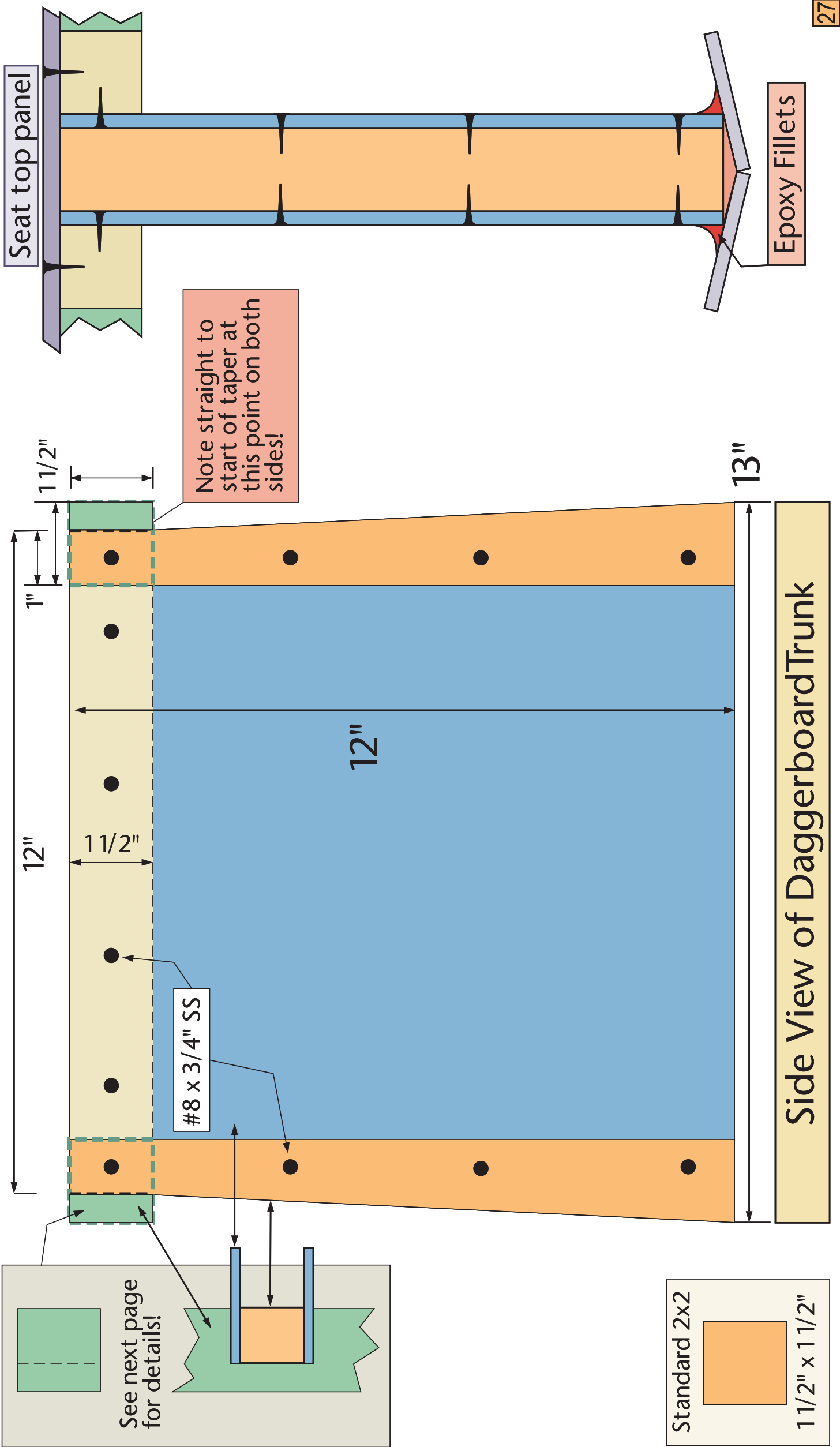
Fit under all the rails and touch the hull

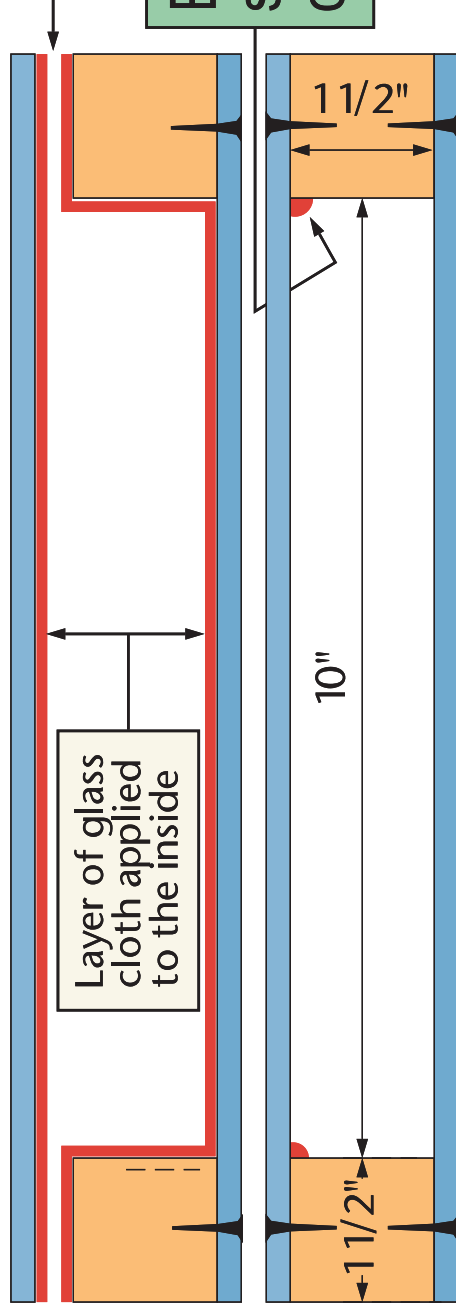
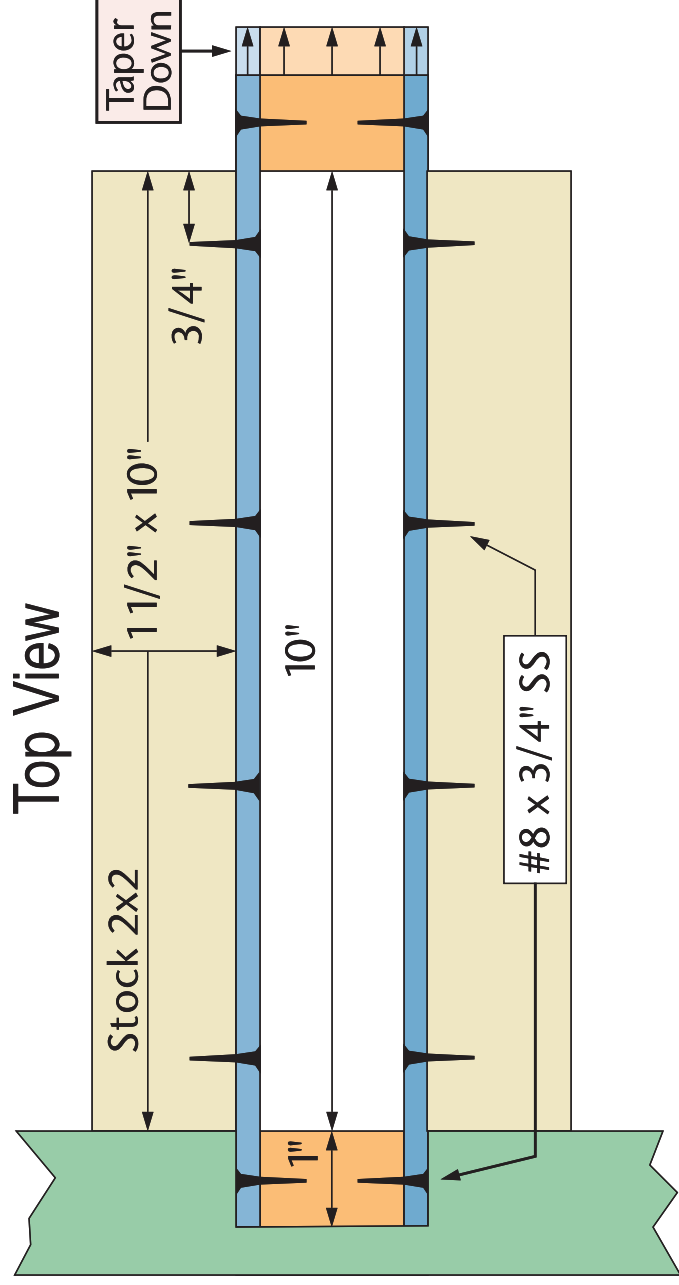
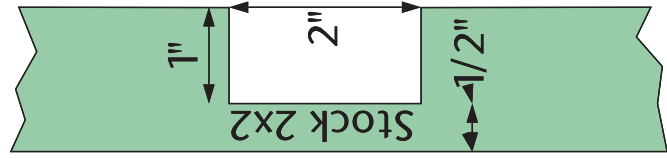
The aft edge may be straight or curved to suit your needs and the look you want with your boat.

Fill/top breasthook with woods of various colors and patterns to make it stand out. Use wood that is the same height as the inside rails and spacer blocks.

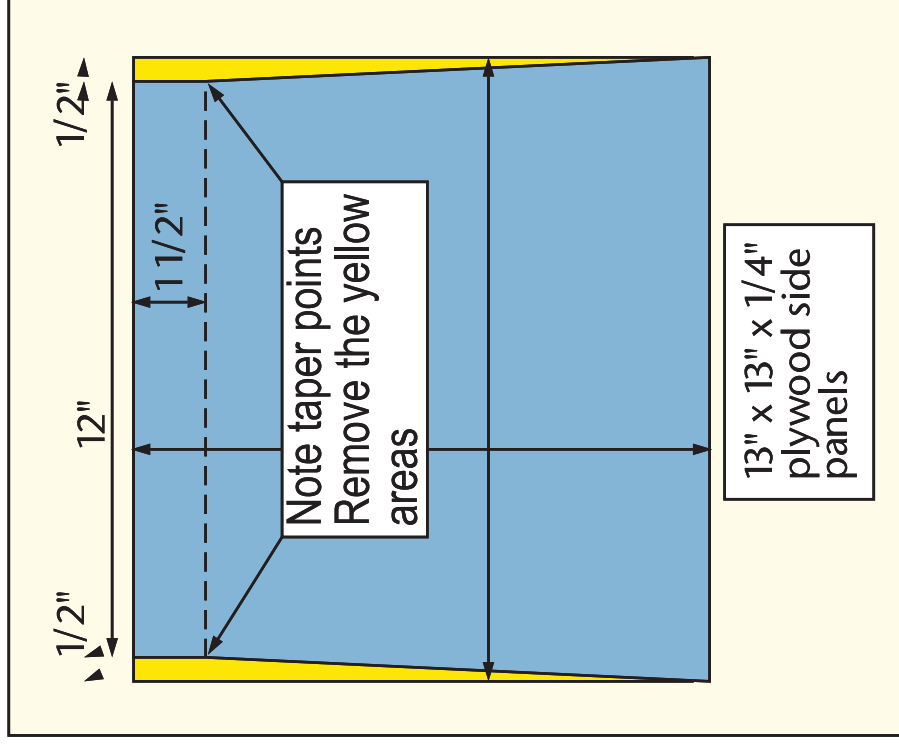
These drawings are from the Oahe 1530, but the idea is the same for all of my designs







Epoxy together, and make sure that a small bead forms on the inside.



Daggerboard trunk has to be set first, before any 2x2 seat support rails are installed in the hull. See previous page.

Make sure the hull is level when you install the 2x2's!

Long side is Aft on both center seat 2x2's

Note: The long side of the 2x2 is on the forward side of the stern seat support rails!

The center seat supports are mounted first

Beam spreader 2x2 can be used to align/epoxy DB trunk

Note: You have two cut angles on each end of the 2x2. Be Careful!

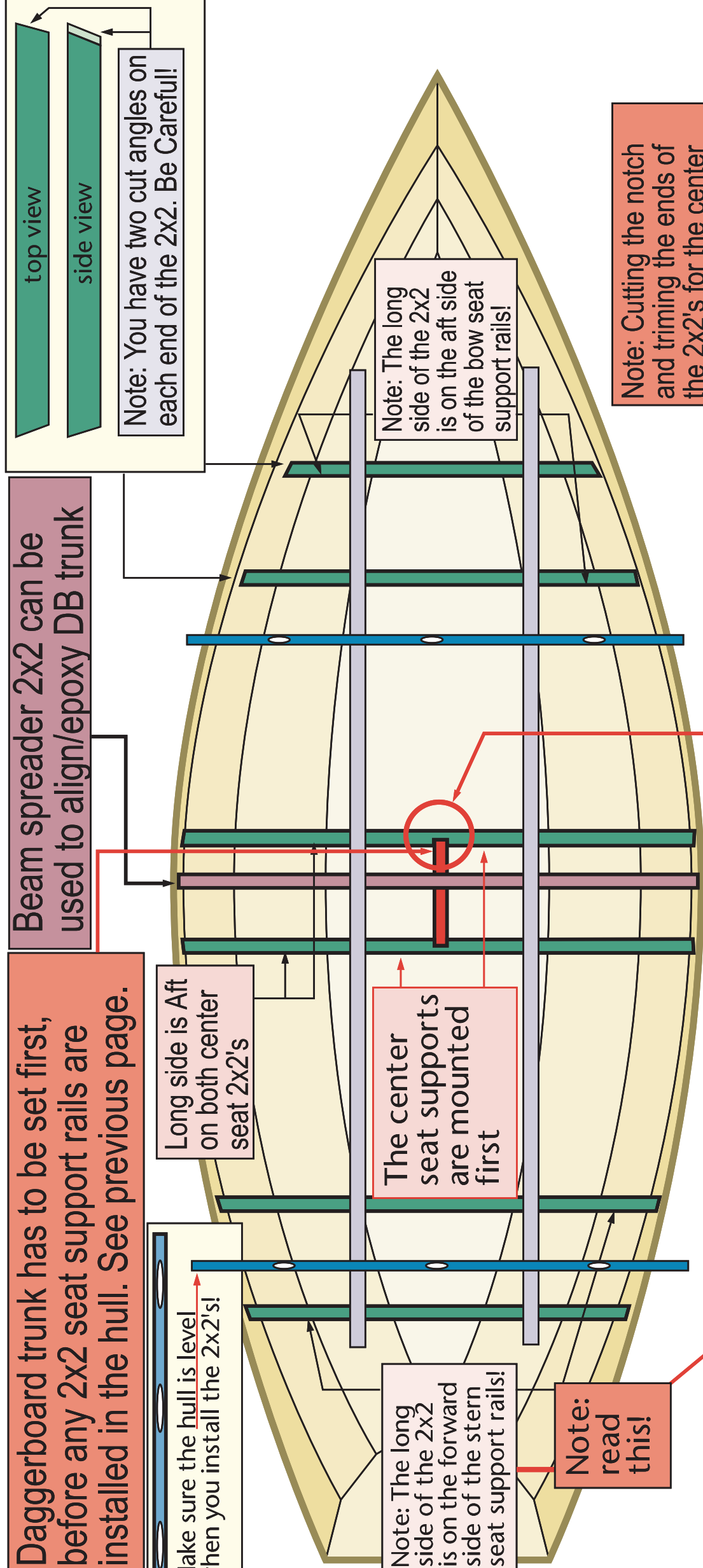
Note: The long side of the 2x2 is on the aft side of the bow seat support rails!

Note: read this!

Note: Cutting the notch and trimming the ends of the 2x2's for the center seat, can be problematic. Take your time, and try not to make bad cuts. Measure 3 times cut 1

Epoxy and screw square of 1/4" ply to end of 2x2 on excessive gaps. It looks bad, but it works, and will be covered on all sides by plywood for strength.

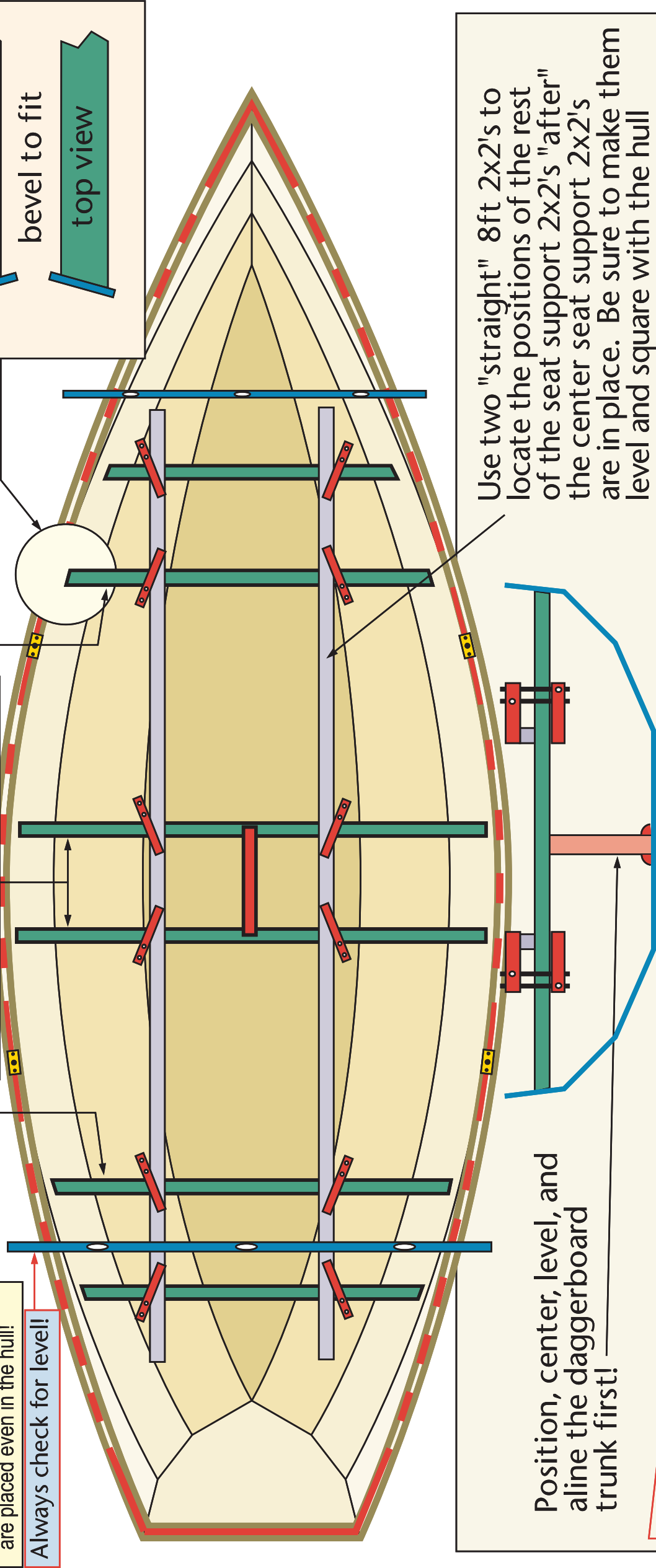
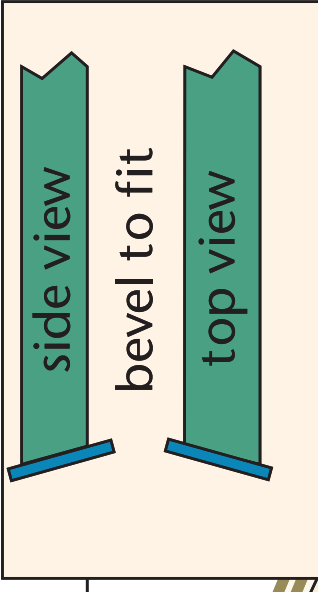
Use GelMagic to fill the gap between the 2x2 and the hull. Use a screw to hold alignment until cured.



Use the "station line cut marks" to make sure that the seat 2x2's are placed even in the hull!

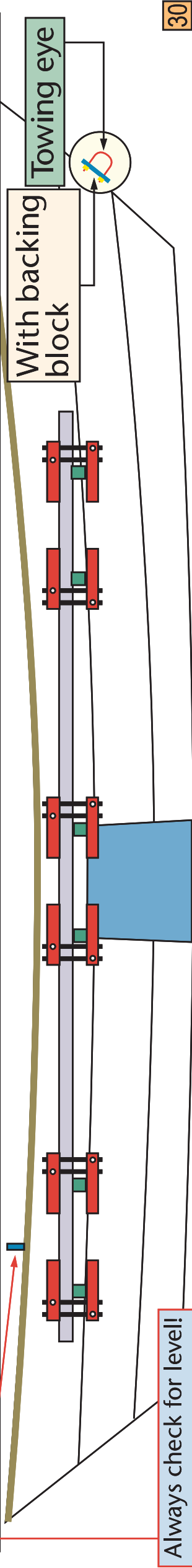
Always check for level!

See the next page for the seat 2x2 spacing, all dimensions are measured from the transom!



Use two "straight" 8ft 2x2's to locate the positions of the rest of the center seat support 2x2's "after" are in place. Be sure to make them level and square with the hull

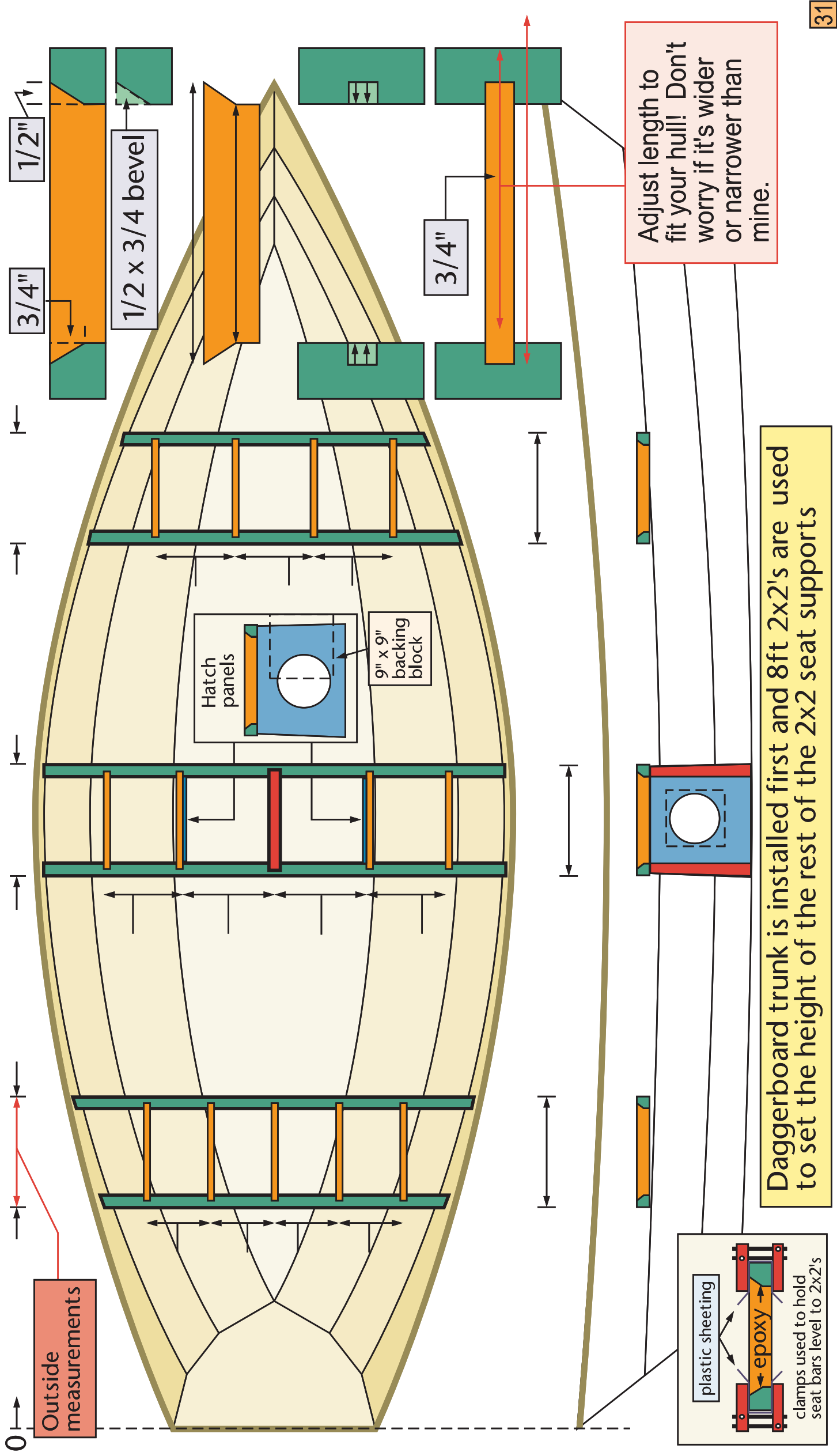
Position, center, level, and aline the daggerboard trunk first!



With backing block

Towing eye

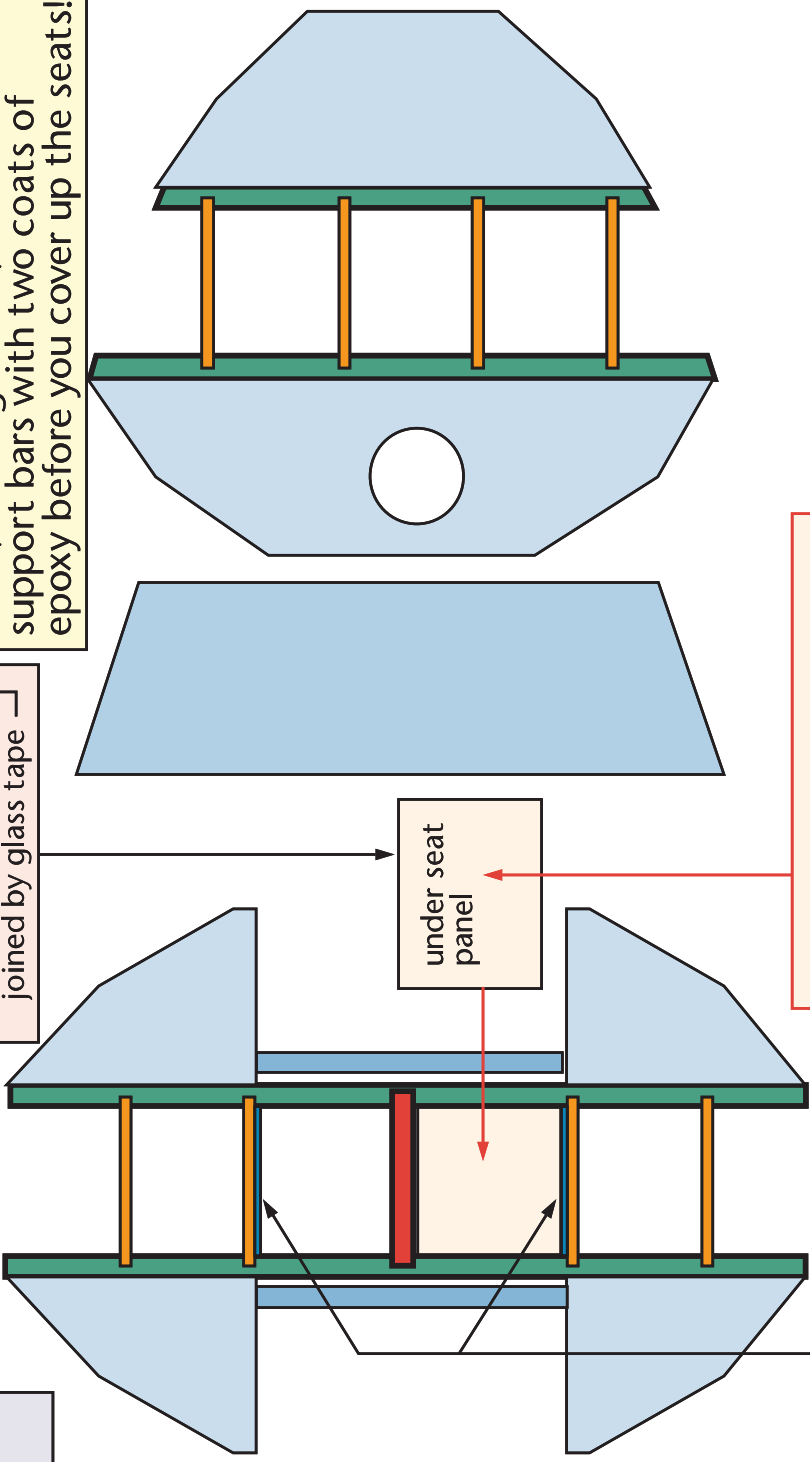
Always check for level!



As long as most of the seat top panel is sitting on the 2x2's, scrap can fill the edges!

Coat all inside panel faces and all 2x2's, backing blocks, and seat support bars with two coats of epoxy before you cover up the seats!

can be made from pieces joined by glass tape



Joint

under seat panel

Easier and better looking method

Overlap and radius top of side panels

Two pieces may be used for the center seat tops

Small hatches on each side!

See the panel layout pages for details on saving scrap for using on the seat tops

For easier painting and construction you may want to place a cover panel under the seat support 2x2's

Wood filled epoxy filet

3" glass tape

Seat facing panels

Layout of the fore and aft sides of the center seat

Cardboard template is laid on a section of scrap plywood and marked off

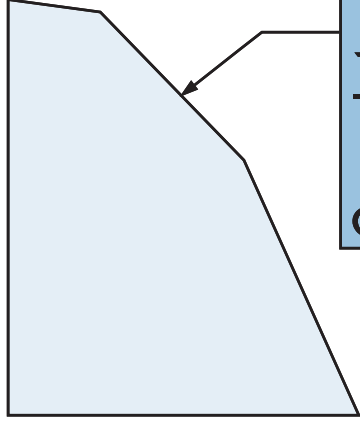
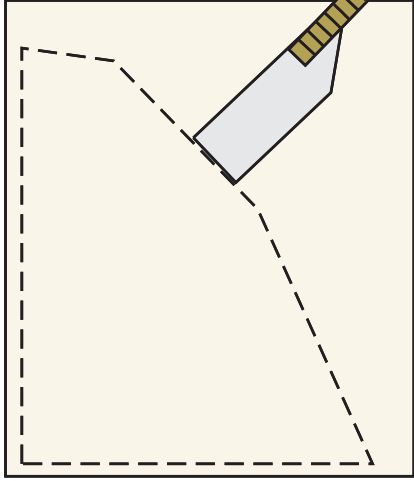
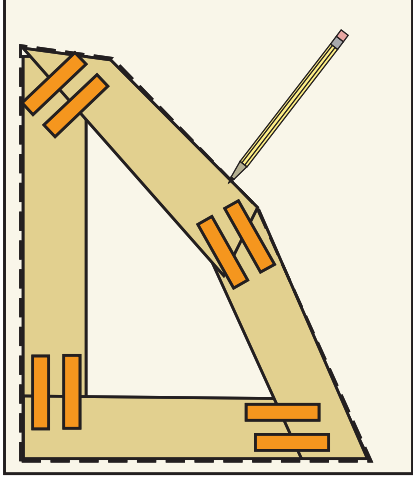
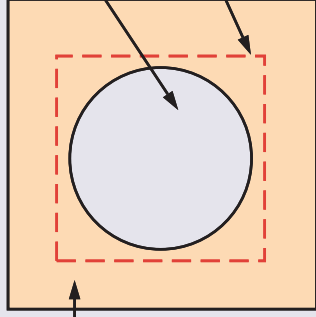
Use this technique for each of the seat panels in the hull

Cardboard strips cutout and taped together

filler strip

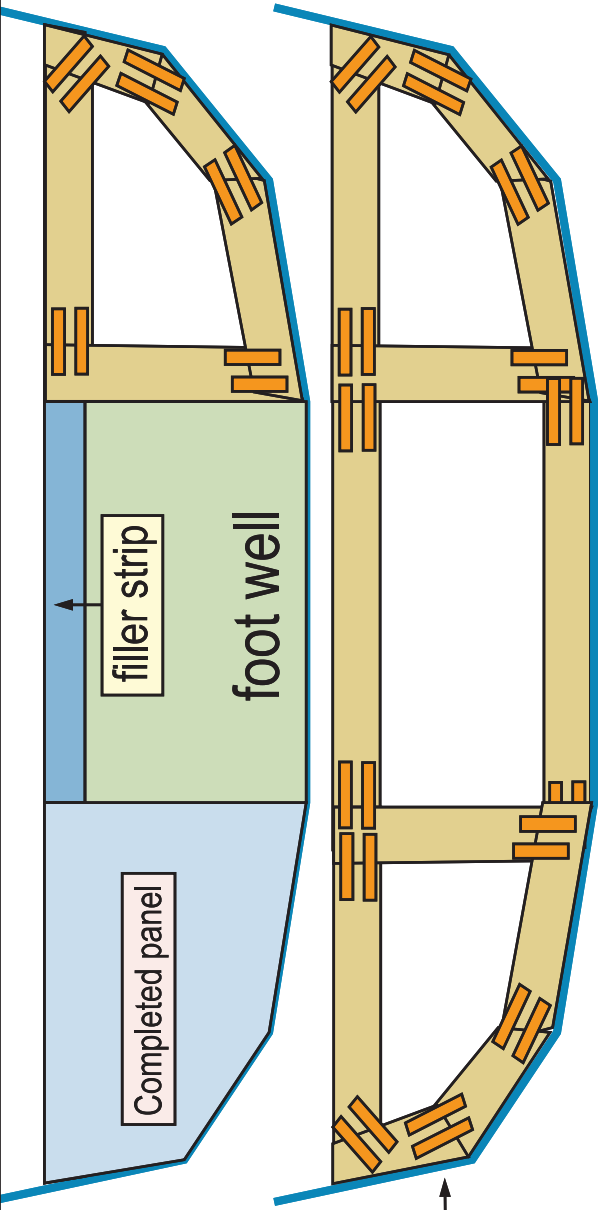
Filler strips used to cover the gaps on the 2x2 supports between the port and starboard seat panels on both the fore and aft sides of the seat sets.

Cut and fit a panel for a small hatch to access the space to either side of the center seat. It will add storage and more flotation!

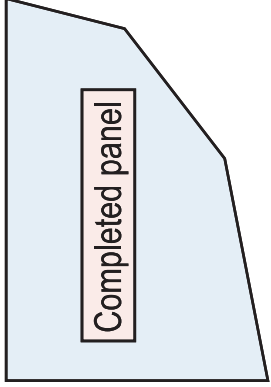
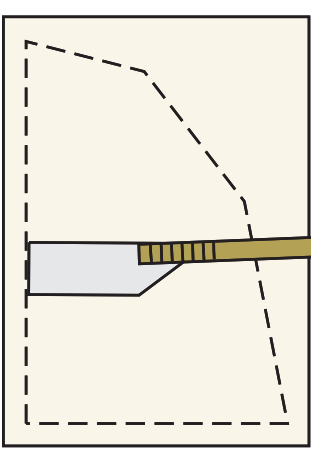
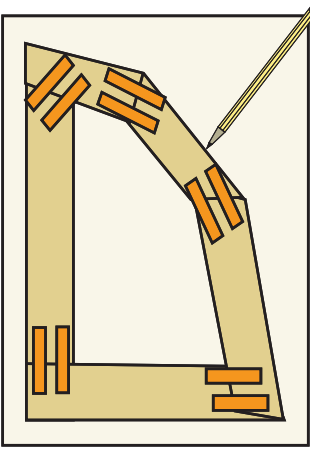


Completed panel

Forward side of the stern seat showing the foot well

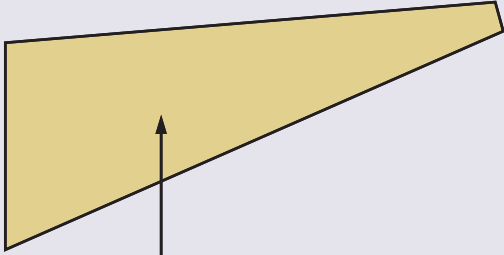


Cardboard template is laid on a section of scrap plywood and marked off

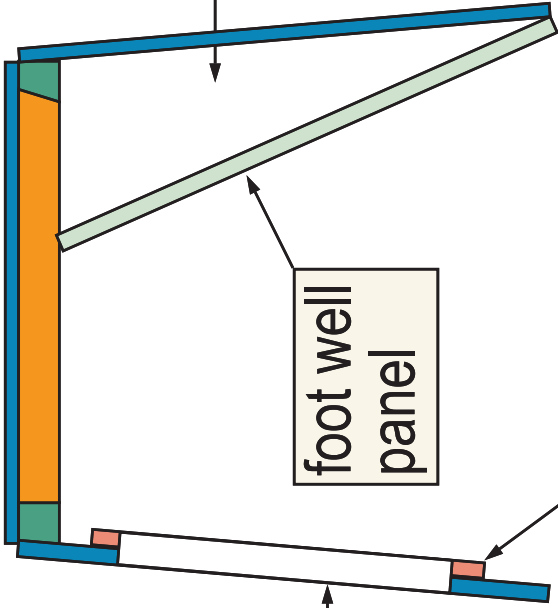


Cut out and tape together strips for the rest of the seat panels and mark on your plywood and cut out. Make sure to check several times that you have the correct dimentions before you cut out the plywood!!!

Filler panels for either side of the foot well panel. The foot well can be make out of the hull and installed after the seat panels are in place, but before the seat top is installed!

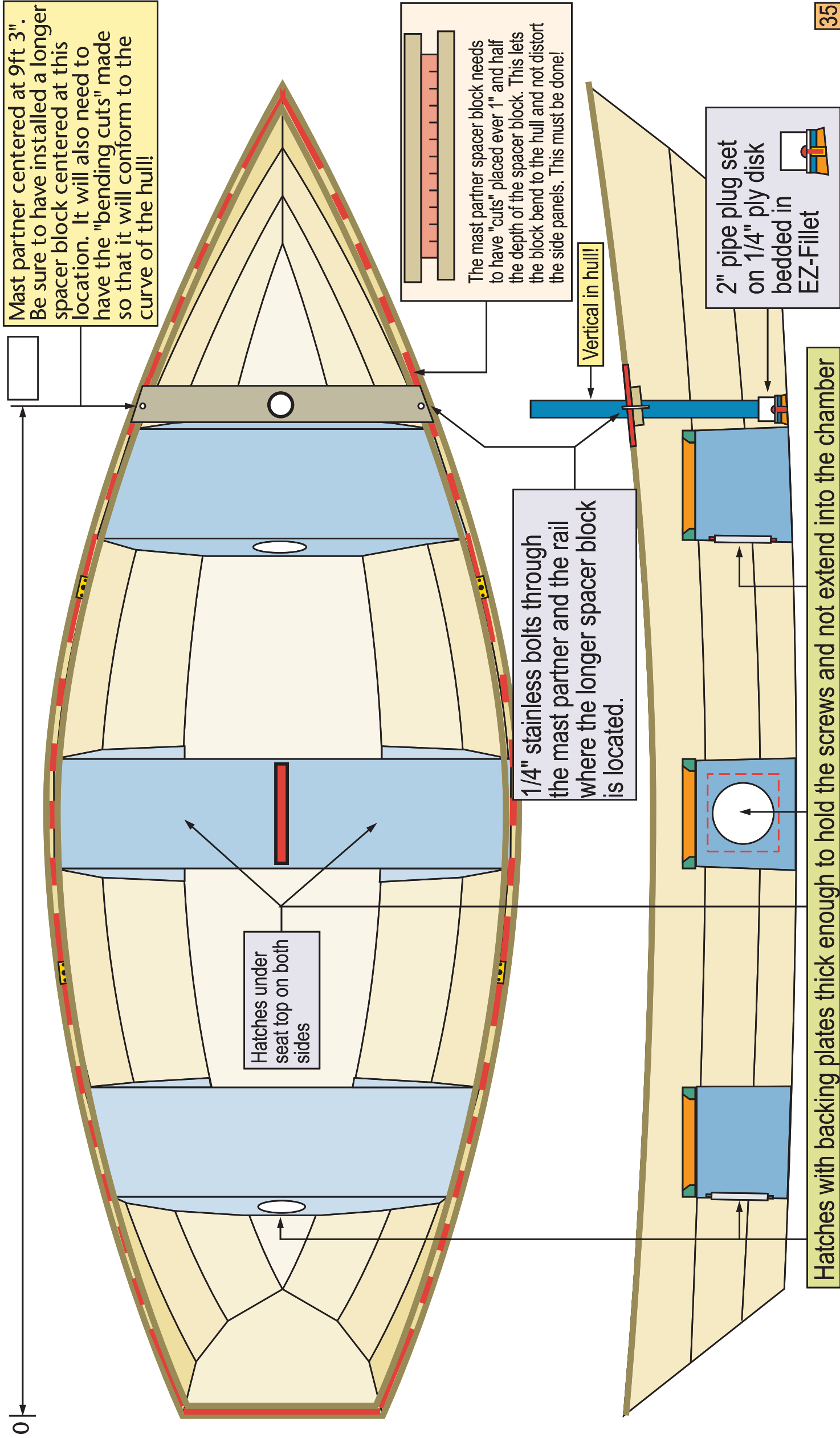


View of aft side of seat showing how to use cardboard strips to find the layout of the panel. Remember that small gaps along the edges can be filled with fillet material!

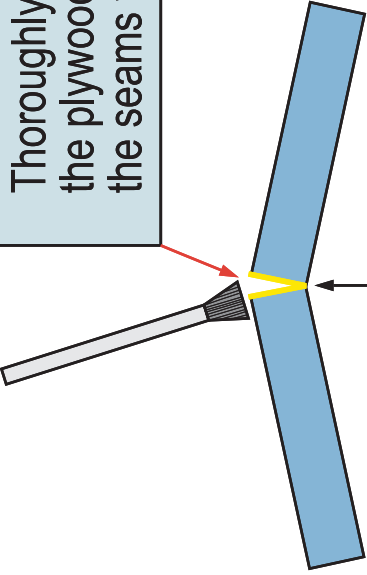


Hatch and backing plate

Dimensions are given on a pervious page but you may want to enlarge the opening, or make it open all the way through like the center seat

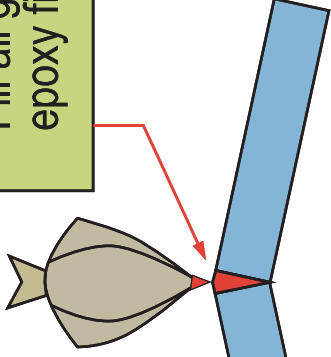


Thoroughly wet out the plywood edges at the seams with epoxy!

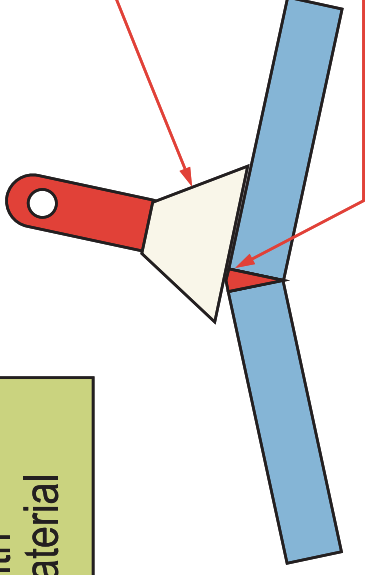


The epoxy will seal the seam edges and prevent water from seeping in and rotting the wood

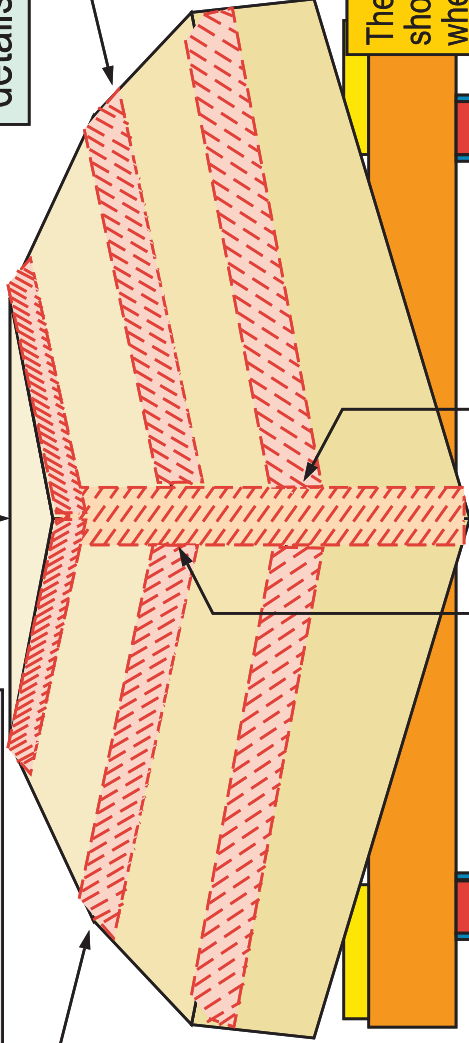
Fill all gaps with epoxy fillet material



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!

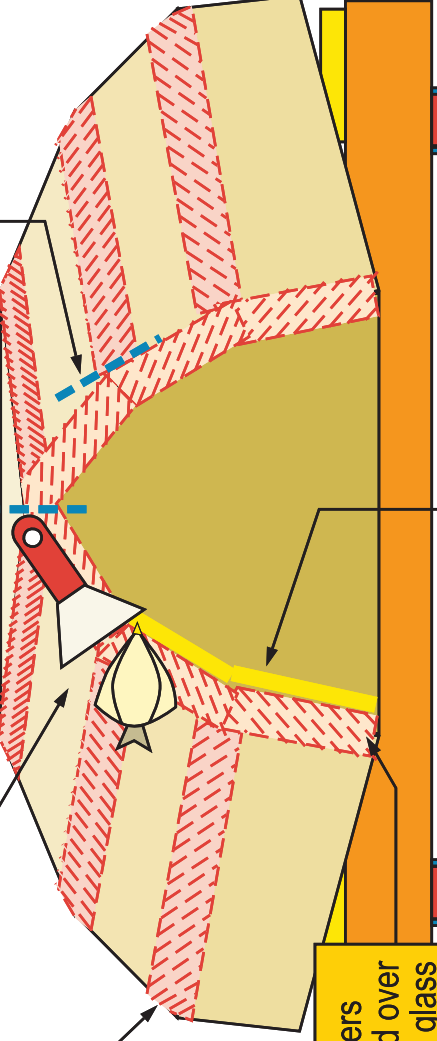


2" glass tape centered on all outside seams

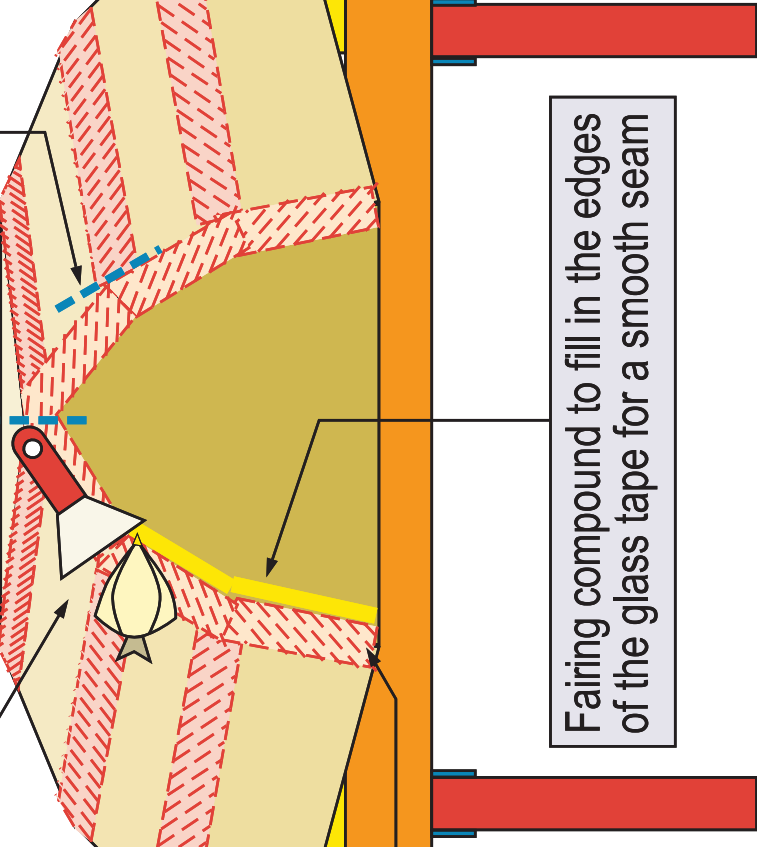


See page #38 for more details on the seams!

Trim tape ends to match the corner angles!



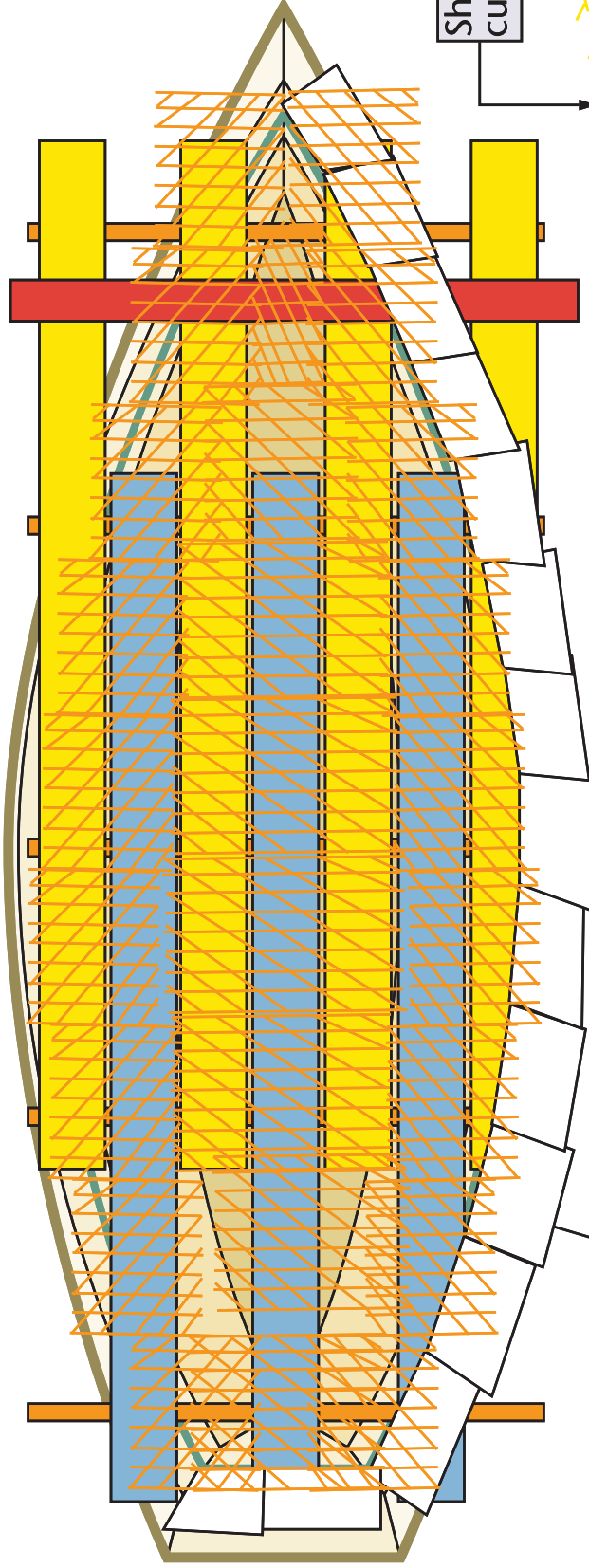
Trim tape ends to match the edge of the bow seam tape



Or 3" tape if you used that on the inside of the hull

Fairing compound to fill in the edges of the glass tape for a smooth seam

Outside seam details



Masking tape used as a guide to trim the fiberglass cloth to after wetting out

Follow the seam with the masking tape at the same width set at the widest part. The hull narrows, so the glass will cover it.

Let the excess cloth overlap the hull sides

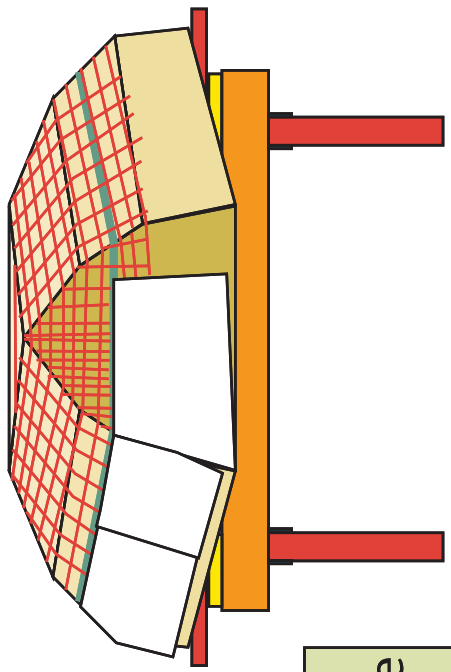
Add newspaper to keep "drips" off the sides of the hull!

Sharp knife to cut glass cloth

Cut to the "upper" side of the tape

Glass cloth laid and hand smoothed over the hull and then wet out with epoxy

With 50" wide fiberglass cloth you will have about 3" of cloth overlapping up the sides of the second side panel



Outside seam details for the glass tape and fairing compound layers

Use knife to cut along upper edge of masking tape

Outside Seams

3" fiberglass tape

Use a 2-3" putty knife to fair in the edges. 3/4" wide fairing bevels are good enough for the 3" tape and 4oz cloth

A

3" fiberglass tape to add strength to the joint and to smooth the edge

Edges sanded but not faired

Gelmagic or fairing compound to fill and round the gap for the fiberglass tape

Two layers of backing blocks to hold the wood screws to attach the hatch

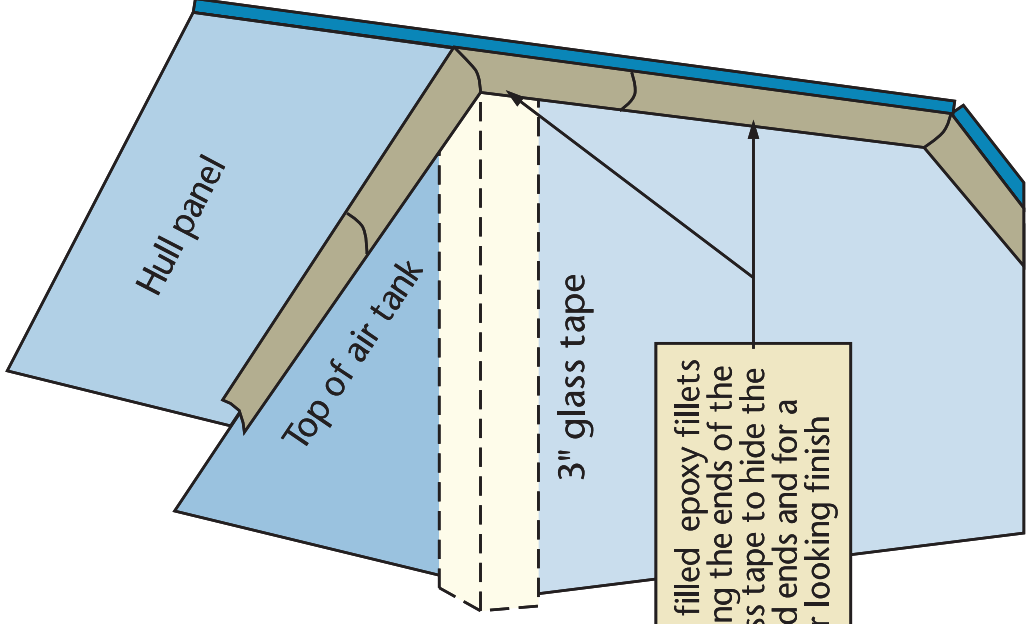
Threaded quarter turn or pop out hatch

Inside Seams

Construction details if you install interior compartments for storage or for extra flotation safety.

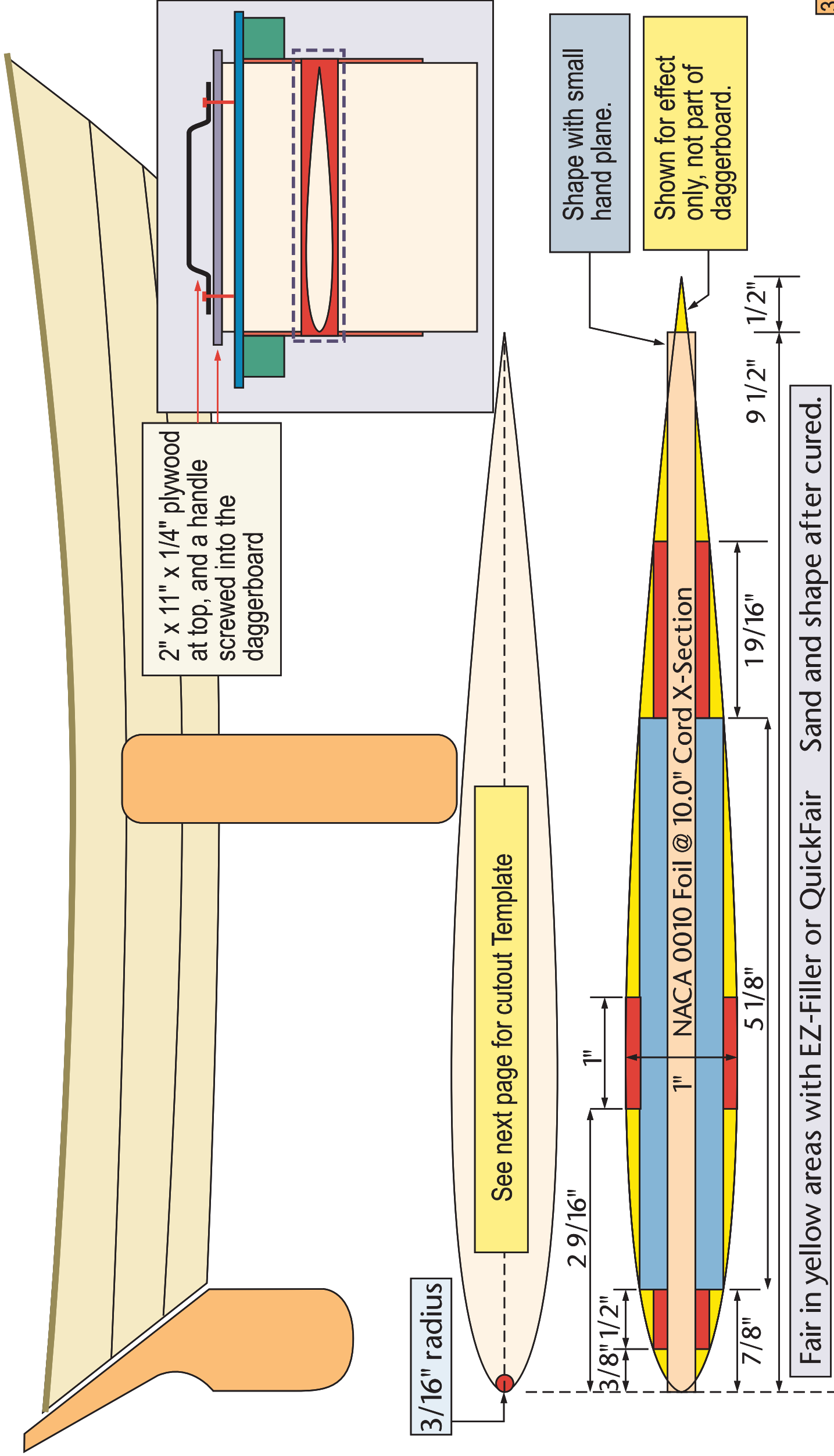
B

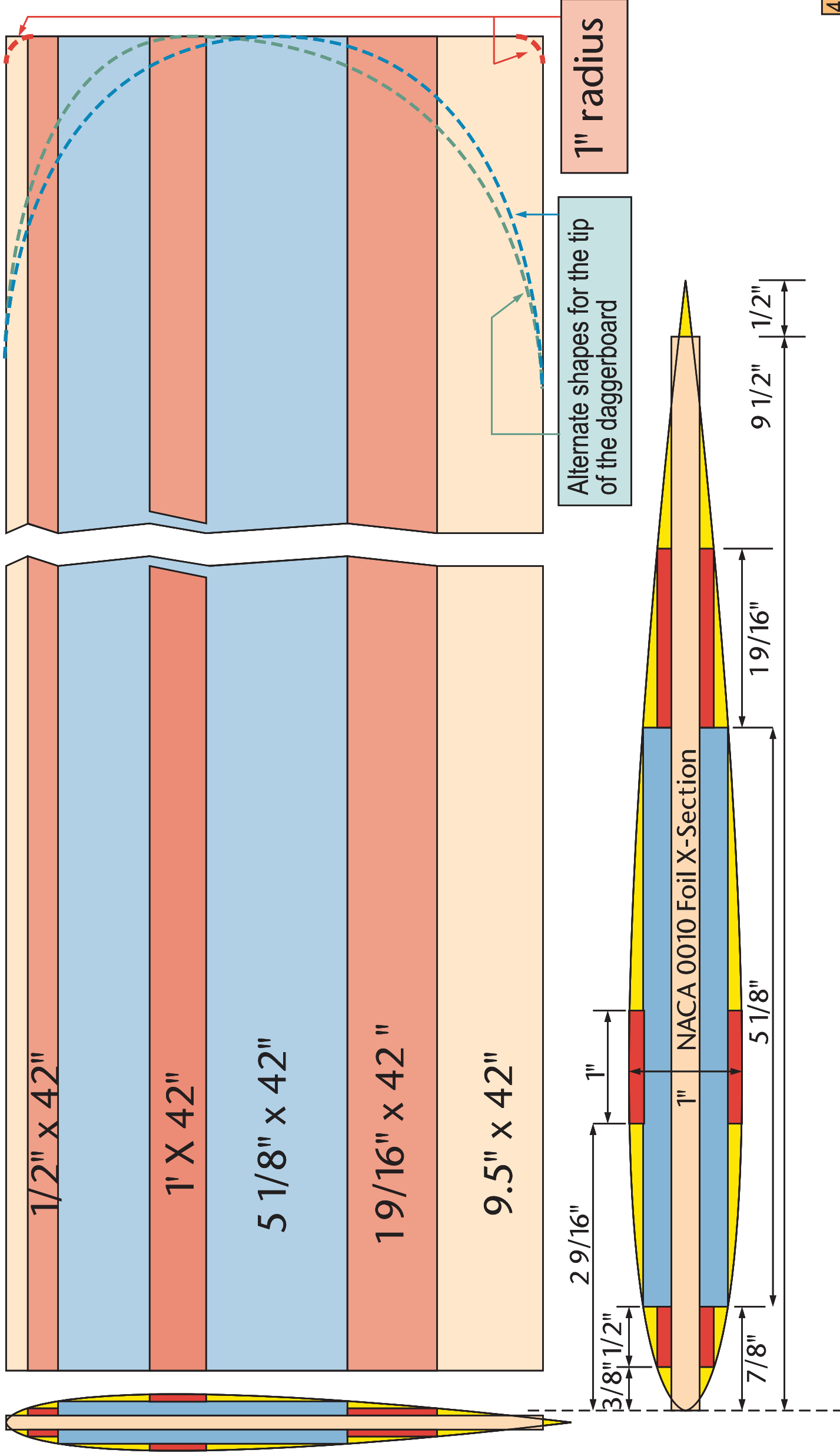
Air tank edging details

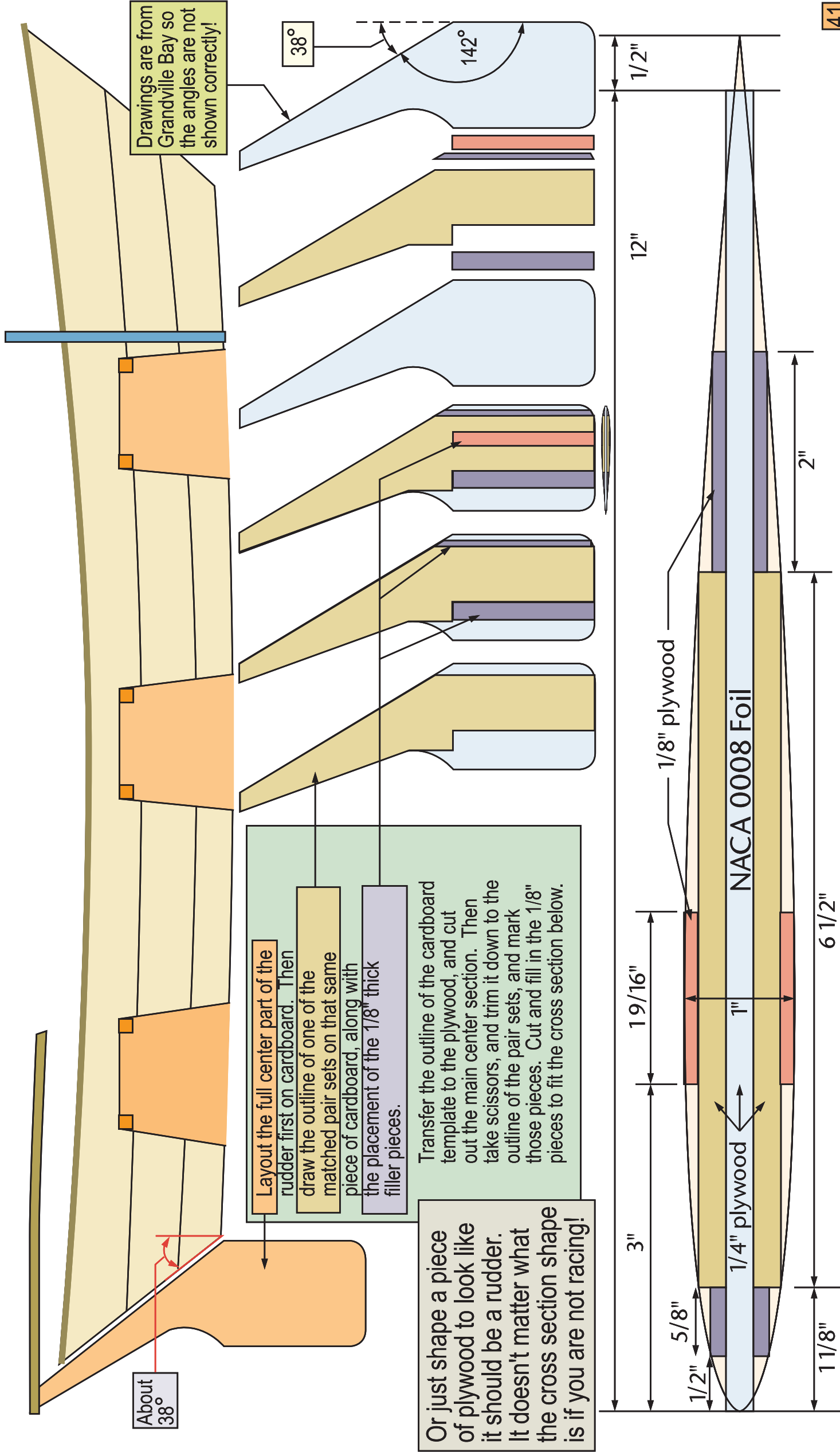


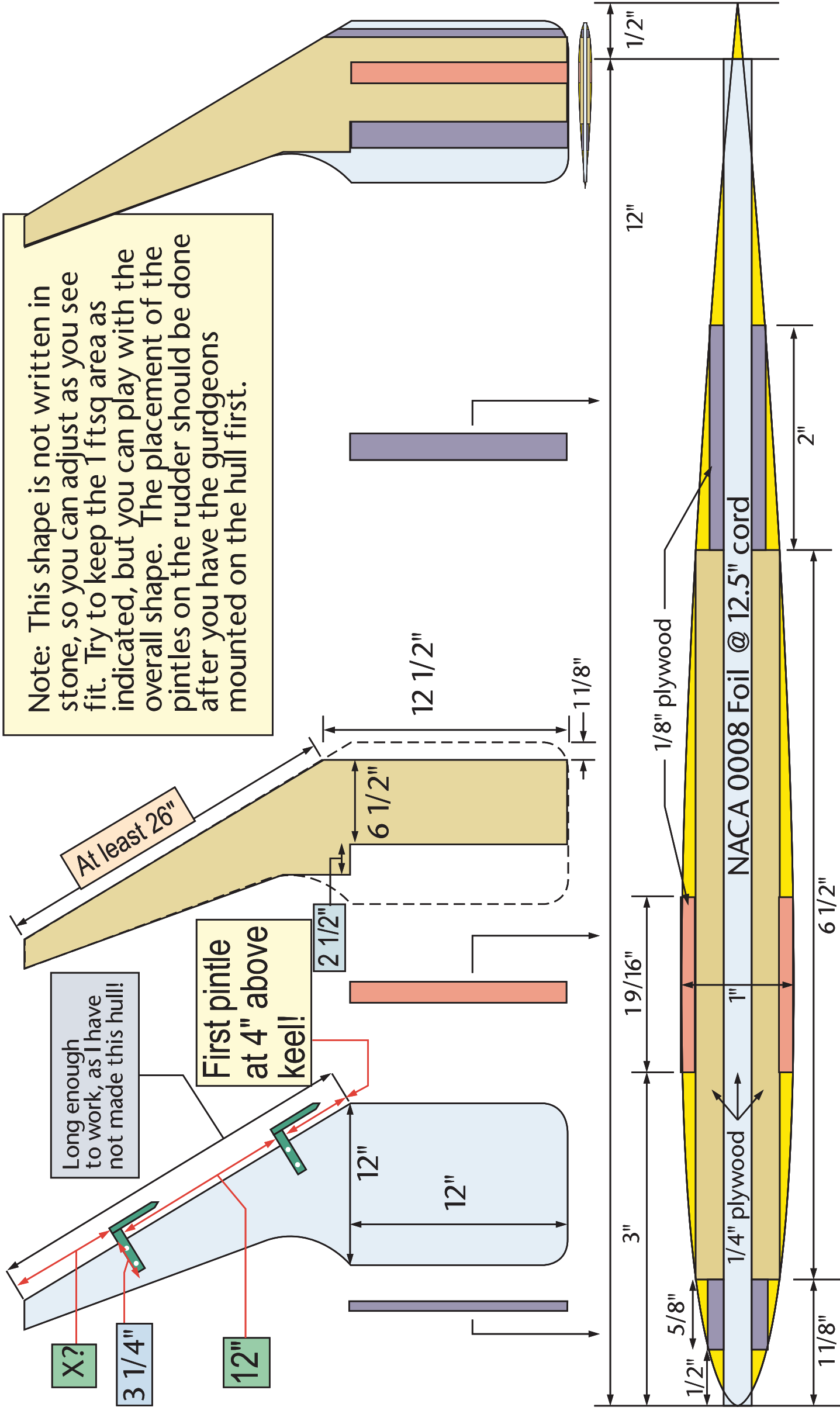
Wood filled epoxy fillets covering the ends of the 3" glass tape to hide the ragged ends and for a better looking finish

C

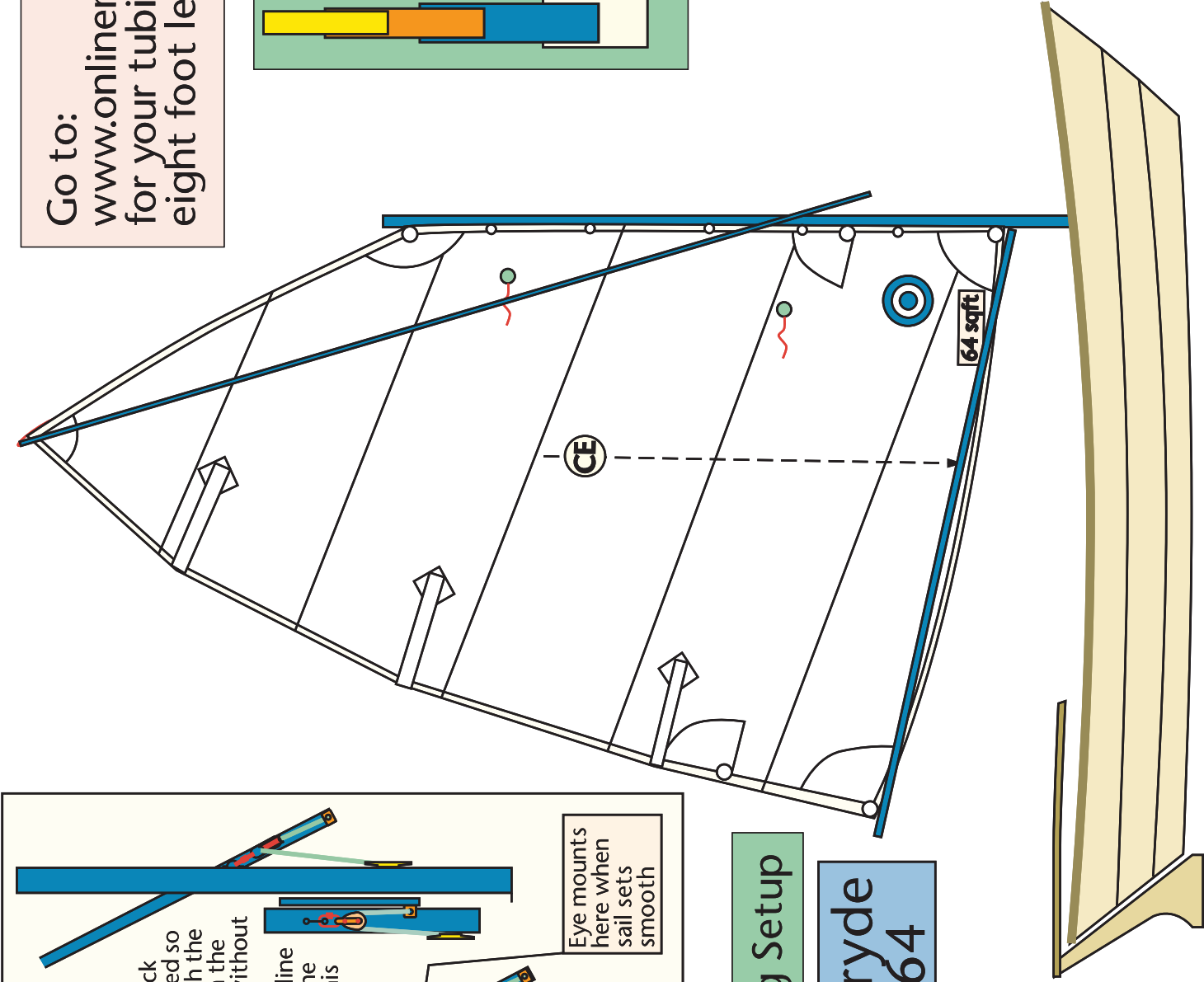
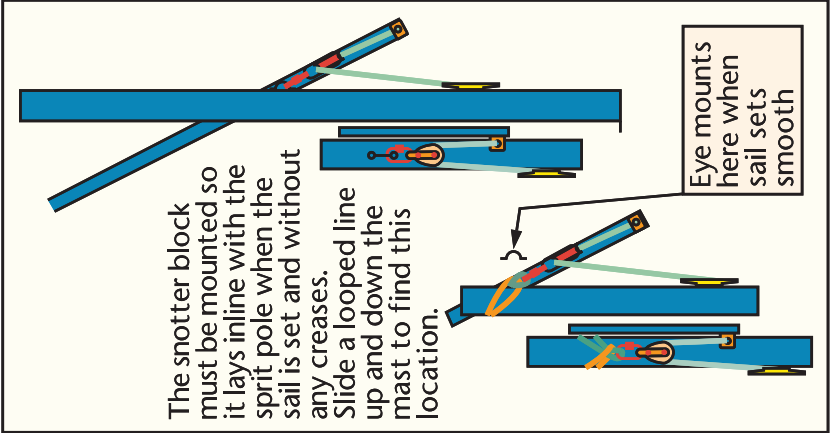




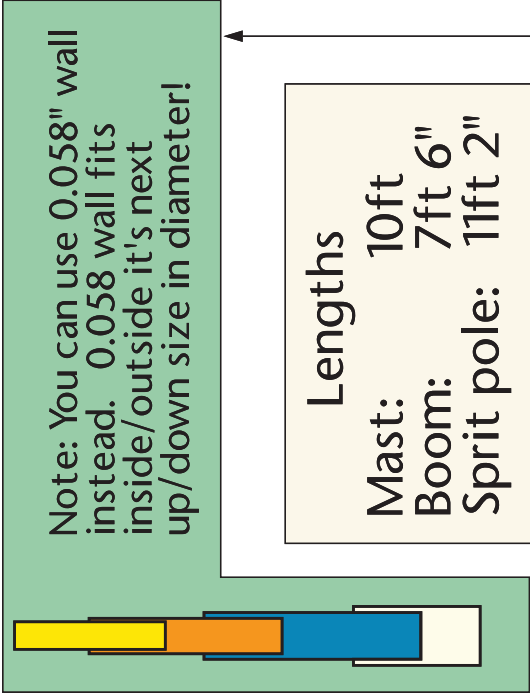
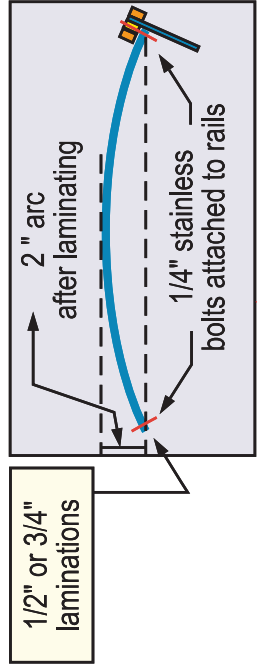




Note: This shape is not written in stone, so you can adjust as you see fit. Try to keep the 1 ftsq area as indicated, but you can play with the overall shape. The placement of the pintles on the rudder should be done after you have the gurdgeons mounted on the hull first.



Go to:  
[www.onlinemetals.com](http://www.onlinemetals.com)  
 for your tubing. Ships in  
 eight foot lengths UPS.



Can also be made straight!

Lengths  
 Mast: 10ft  
 Boom: 7ft 6"  
 Sprit pole: 11ft 2"

Diameters/Wall  
 Mast: 2" / 0.065"  
 Boom: 1 1/2" / 0.065"  
 Sprit pole: 1" / 0.065"

Mast Partner  
 Use turning blocks and camcleats instead of straight cleats. Also holds mast in boat.

Sprit Rig Setup

Neil Pryde  
 Pram 64

