SIMPLE 8' PRAM

An Easy to Make, Paddle and Transport Family Pram

Drawn 05-10-2013

Rev. 06-21-2014

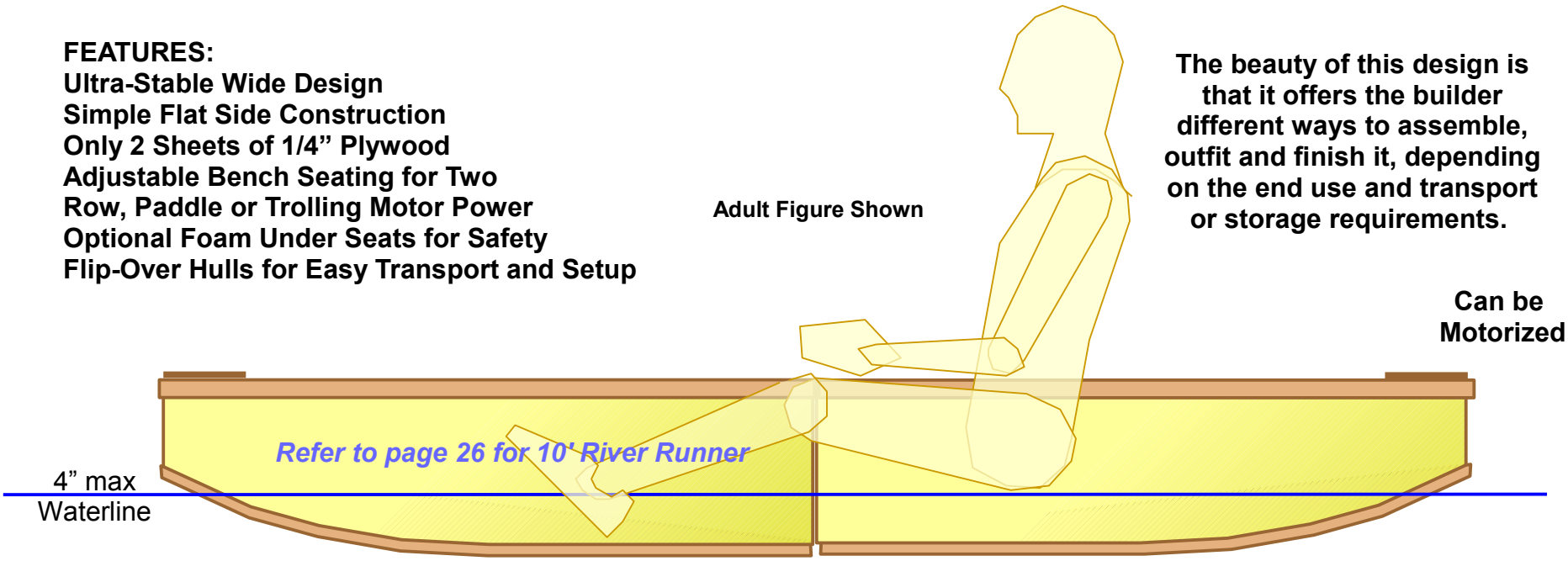
Print in Landscape Mode with ¼ inch borders.

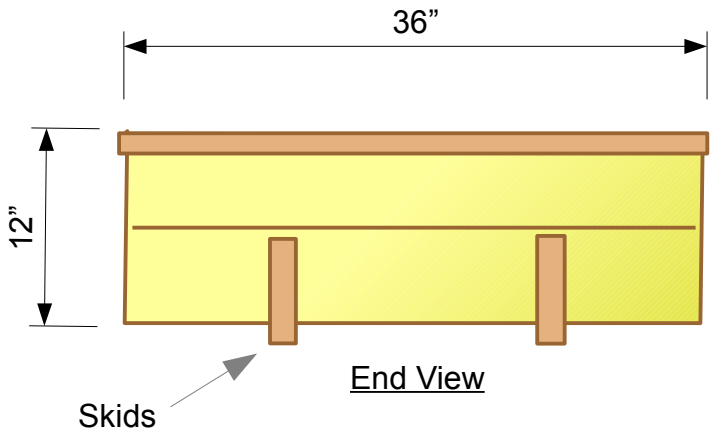
FEATURES:
Ultra-Stable Wide Design
Simple Flat Side Construction
Only 2 Sheets of 1/4" Plywood
Adjustable Bench Seating for Two
Row, Paddle or Trolling Motor Power
Optional Foam Under Seats for Safety
Flip-Over Hulls for Easy Transport and Setup

Adult Figure Shown

The beauty of this design is that it offers the builder different ways to assemble, outfit and finish it, depending on the end use and transport or storage requirements.

Can be Motorized

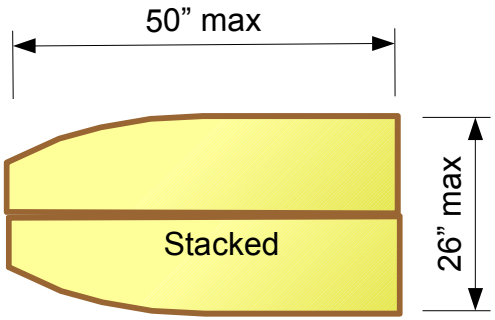




End View

The hull modules can be glued and screwed together for those that do not have transport or storage constrictions.

OAL = 96" (8 feet)"
OAW = 36" (3 feet)
OAH = 12" (1 foot)
Weight = 50 pounds
Capacity = 2 People or 450 pounds



Folded for Transport

Drawings are not to scale.

General Notes

The design of the SIMPLE 8' PRAM is in response to a request for a low cost, stable, portable boat.
It includes a wide beam, good freeboard, generous volume, seating for two, and safety buoyancy.
It is sturdy, easy to build, quite portable, easy to paddle and can utilizes a trolling motor.

To have strength and yet be lightweight, the plans use some non-traditional methods of assembly ,
specifically the “Tape & Glue” construction process developed and incorporated by the designer.
This provides a durable, yet truly portable, finished boat, and the building process is easily
mastered by the home handyman and amateur boat builder.
As a result, only hand tools, a jig-saw, a power drill and a large carpenters square, scissors,
and tape measure are all that will be required throughout the assembly process.

Be selective in your choice of materials. Use plywood that is preferably exterior rated.
Luan Plywood may not be available, so the use of ACX Grade is suggested, but be choosy .
It is important to note, the final choice of materials is the decision of the builder.
We have made specific recommendations, but if the builder has previous experience with different
methods and materials, that is their choice, and we respect that decision.
Certainly, minor changes in design are encouraged, to provide a 'custom' boat to
satisfy a builders specific needs. We do not make changes to the drawings.
This would be up to the individual builder, and their responsibility. Also, it is very
important that none of the basic design parameters be drastically modified,
as this may adversely affect overall boat safety or performance.

Seating choice is also up to the builder. I have folding seat plans available for free on the website.
It should also be noted that the hull modules can be glued and screwed together,
for those that do not have limitations of storage or transportation.

The hull exterior can also be completely fiber-glassed for durability, allowing yet
thinner and lighter (4 or 5 mm) plywood hull building material .

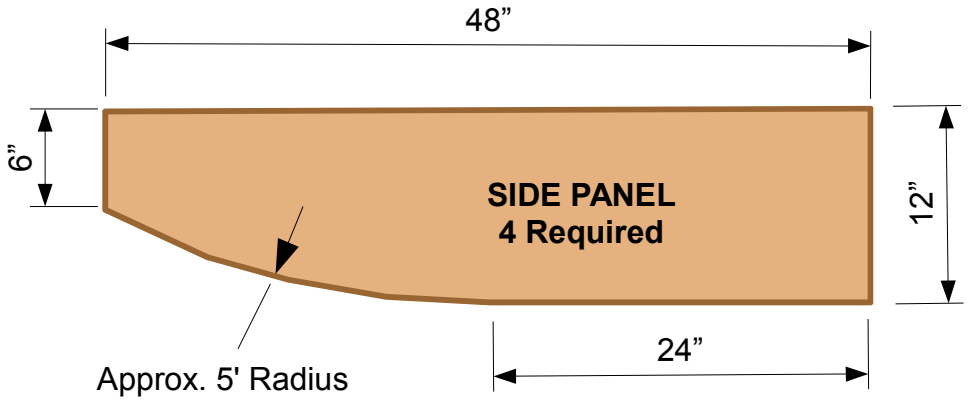
Any questions or comments regarding the construction and/or design of this project will be responded to in a timely fashion.
Thank you for your interest, and for purchasing these plans, and good luck with your project.
And don’t forget to visit www.PortableBoatPlans.Com for new designs and updates.

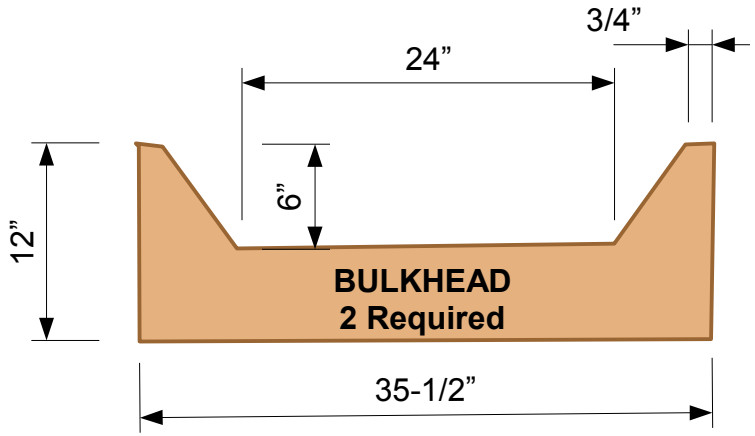
Happy Boating !

Ken Simpson , Designer

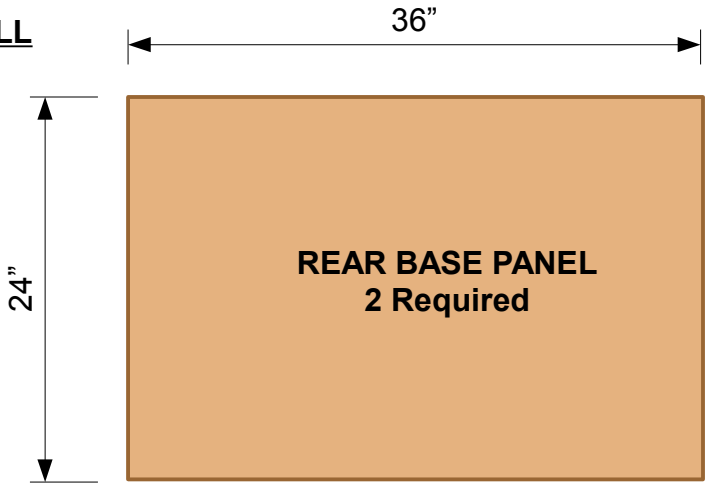
PANEL LAYOUT

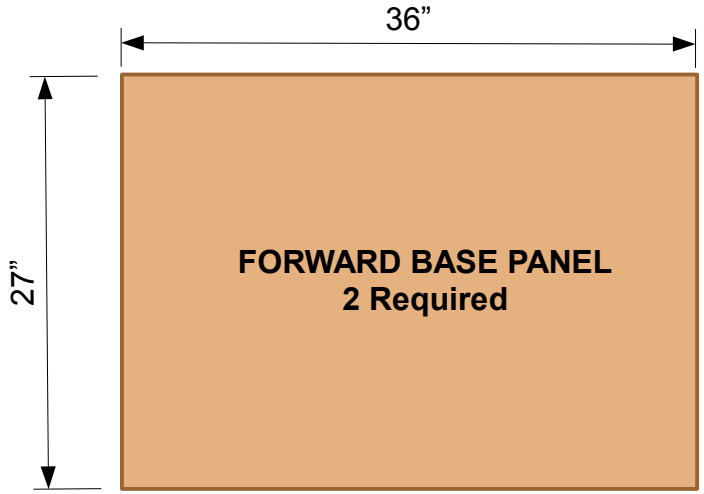
For
2 MODULE HULL

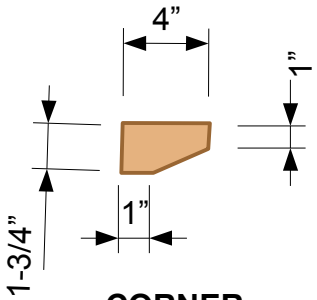




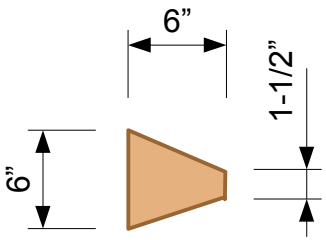
1/4” Plywood is recommended, but 5 MM can be used if hull weight is a concern. A double floor would then be necessary.





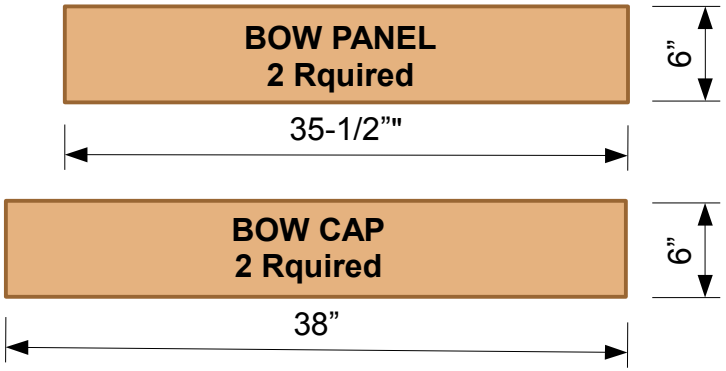


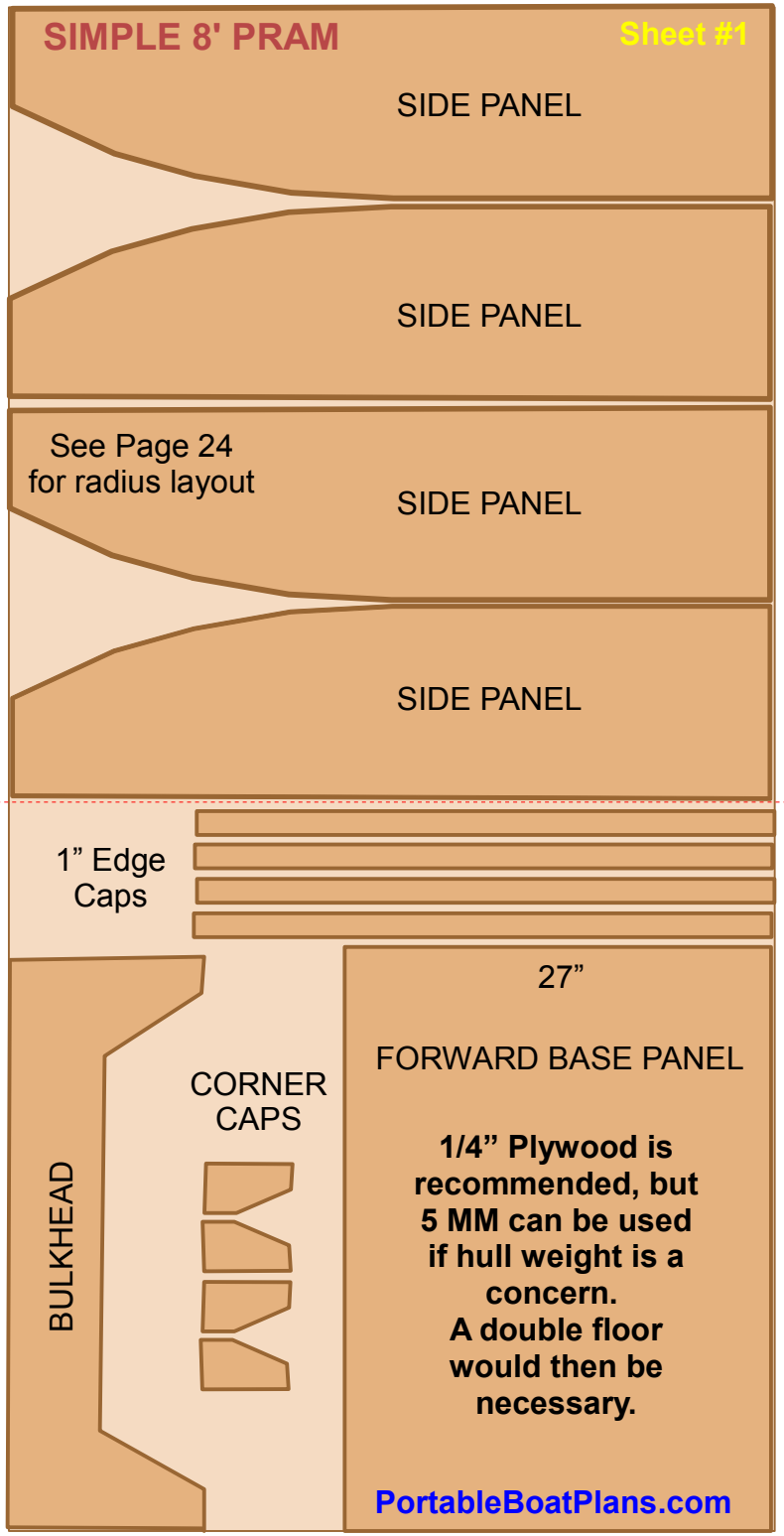
CORNER CAPS
4 Required



ASSEMBLY SUPPORTS
4 Required

Drawings are not to scale.





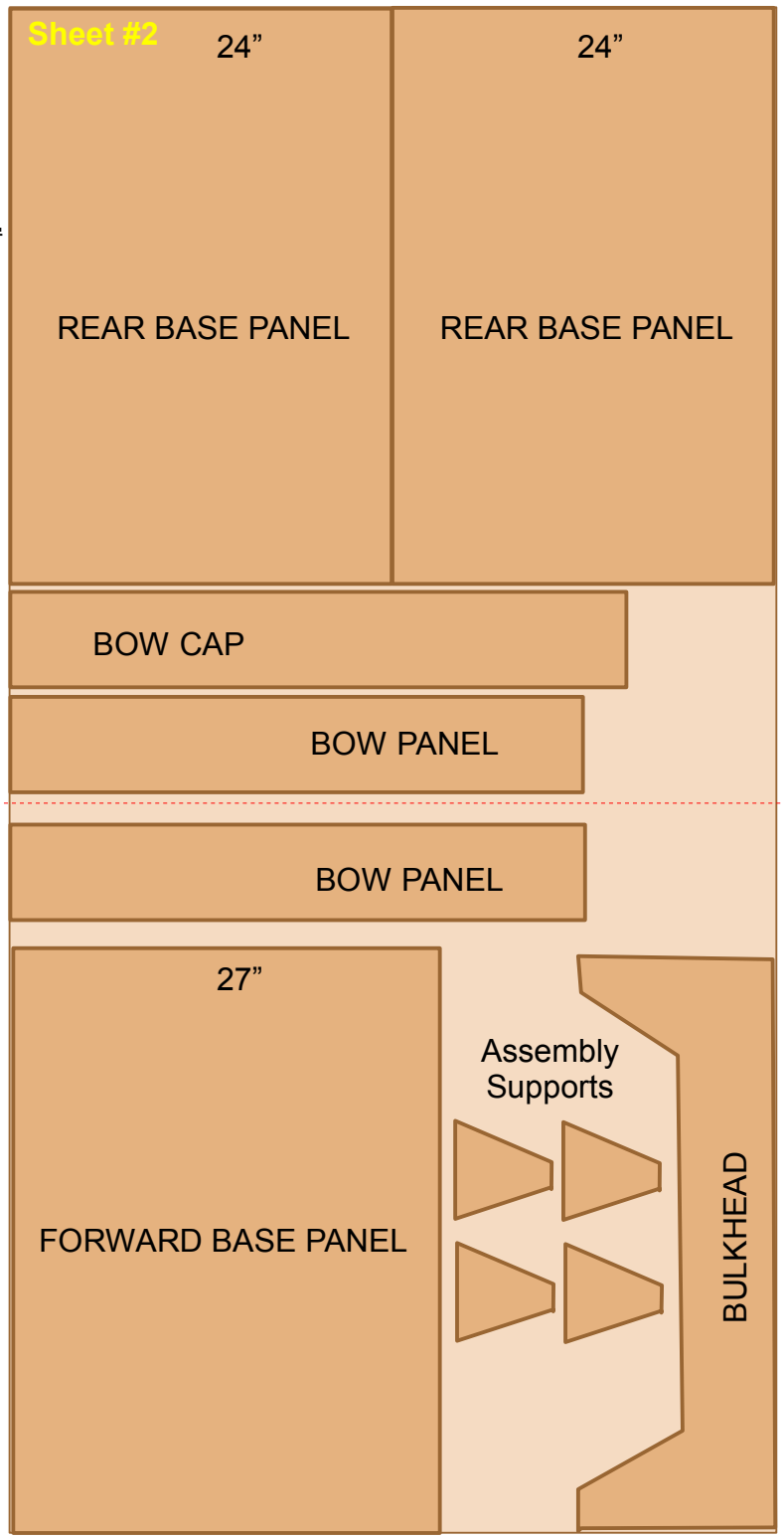
1/4" PLYWOOD LAYOUT

For
2 MODULE HULL

It is very important that the Panels be cut from the plywood sheets exactly as shown on this page.

The Plywood specified is ACX Grade, or better. This insures that waterproof glue is used to bond the layers.

Remember, there is a good side, and a not so good side to plywood. The good side should always be on the outside of the boat. It is smoother and has less knots.



CONSTRUCTION NOTES

The first thing to do is to **read the instructions thoroughly** before cutting any plywood. There are areas where you have to make a decision that affects further assembly. So, take your time, plan your work, and enjoy the building process.

The plans are laid out in a sequence of steps dedicated to a specific hull module. Usually the easiest assembly is presented first. Photos are used as much as possible to assist in describing the assembly process, with sketches developed to provide dimensions and clarity. Some detail will be the builders option, such as motor mounting and seating choices. Each build should have the stamp of the builder on it, items that are not on the plans, but desired by the builder. Such as fishing rod holders, oar locks, or a cooler compartment. This is your project, so personalize it, you will be glad you did.

STEP 1 LAYOUT PLYWOOD SHEET # 1 & 2 (Both Modules)

Take special note of the red cut lines of the plywood cutout pages. If you have difficulty transporting a full sheet of plywood, have the store cut the plywood into sections, per the red dimensions defined and shown on the plan pages.

Using a dark pencil, layout the relevant panels defined on Page 4 to Plywood Sheet #1. Plywood generally has a good side, and a not so good side. I suggest the use of ACX grade plywood, or better, side A being the good side. The X signifies exterior, and waterproof glue was used to bond the plywood layers. Underlayment plywood is acceptable. Do ALL your marking on side C, because you want the good side A to be down when cutting, as it minimizes splinters on the good side. The good side A will always be on the outside of the boat. It is important that you take your time, use a good straight edge, and double check each dimension. Always measure twice and cut once ! And remember Murphy's Law of Boat Building: The glue dries before the mistake is found !

The use of a fine tooth plywood saw blade is recommended. Cutting a straight line is critical, and where like panels are cut (Side Panels for instance) make sure they are identical. Note, the plywood panel layout insures that there is a right and a left panel. After a panel is cut, sand the edges lightly to minimize splinters. Lay panels aside on a flat surface, to prevent them from warping. Weigh down if necessary.

The next steps will describe the assembly process for each panel. The glue recommended is **TiteBond III**, waterproof wood glue, available at most home improvement stores. I suggest you buy a Gallon, as it is less expensive in the long run. Should cost about $32, and may require a special order at your store, so plan ahead. Other glues can be used, but try not to use Poly glues (Gorilla Glue), as they expand when curing. The curing time of glues vary greatly depending on weather conditions; hot or cold, humid or dry. Read the manufacturers recommendations first.

Panel assembly requires the use of #6 x 3/4” wood screws. Brass or Stainless preferred. Zinc plated is acceptable.
Now, on to the assembly !

CONSTRUCTION NOTES

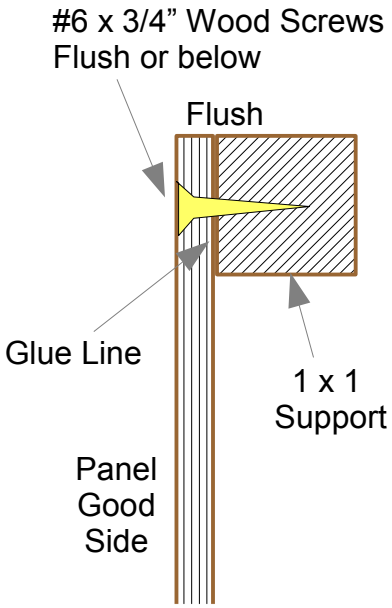
STEP 2 BULKHEAD ASSEMBLY (Both Modules)

Read Assembly Instruction Thoroughly Before Cutting.

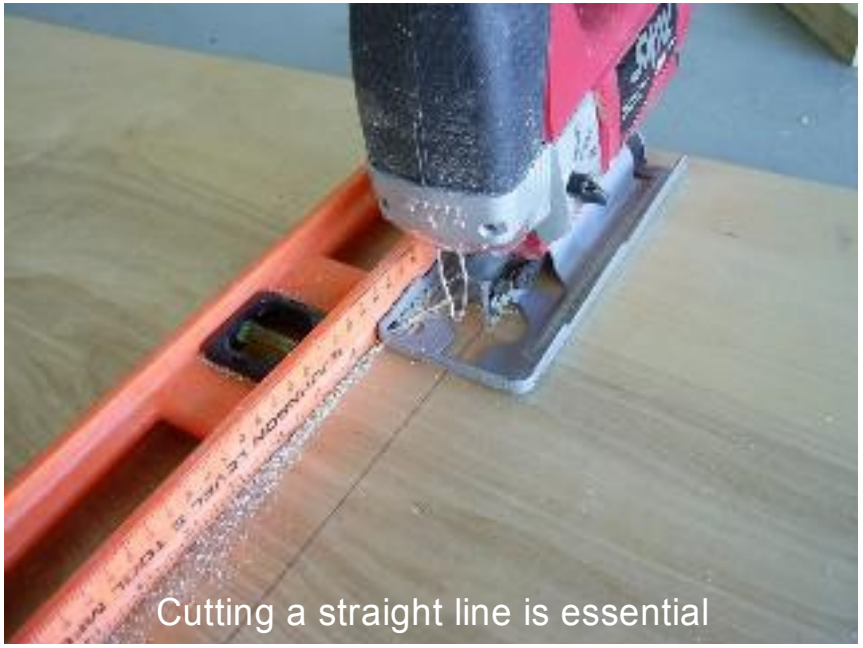
The joining of the Supports to the Panel is very straight forward. The sketch at right is very typical.

First pre-drill clearance and countersink holes from the outside of the panel, about every 4 inches. Next apply a thin bead of TB3 glue to both surfaces to be glued. Rub into the wood. This eliminates any possible dry spots. Now apply a thicker bead of TB3 on the support, align it to the edge of the panel, clamp if necessary. Apply the screws, do not overtighten.

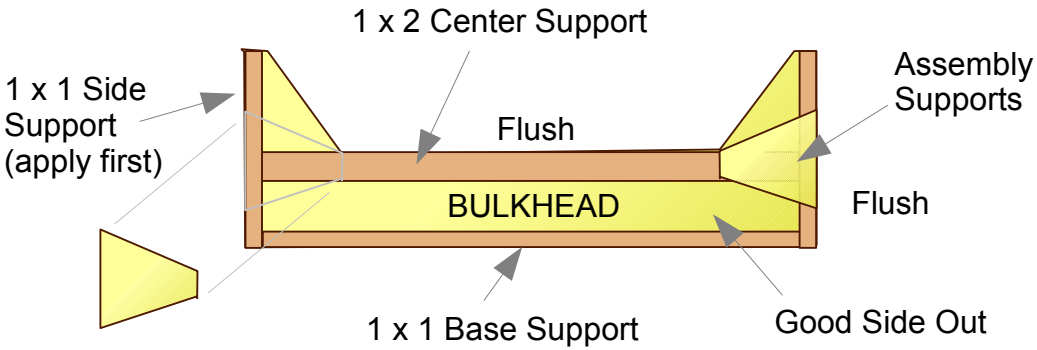
Remove any excess glue.
Repeat this process for all supports.



Typical Support Assembly
Cross Section



Drawing Not to Scale



Note:
1 x 2 lumber is actually 3/4" x 1-1/2" in size
1 x 1's are 1 x 2's cut in half down the middle
Make from framing lumber, but be selective in your choice. Straight, few knots and dry.
Supports need to be flush to all outside edges of the Bulkhead.

Place the 2 Side Supports first, followed by the Base Support and the Center Support. Glue & screw the Assembly Supports to the side and center supports as shown.

Repeat the process for the other Bulkhead.

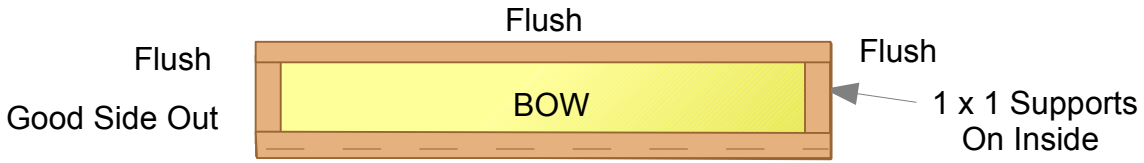
After all supports are assembled, lay bulkhead on a flat surface and allow the glue to cure. Weigh down, if necessary, to prevent warping of the panel.

CONSTRUCTION NOTES

STEP 3 BOW PANEL ASSEMBLY (Both Modules)

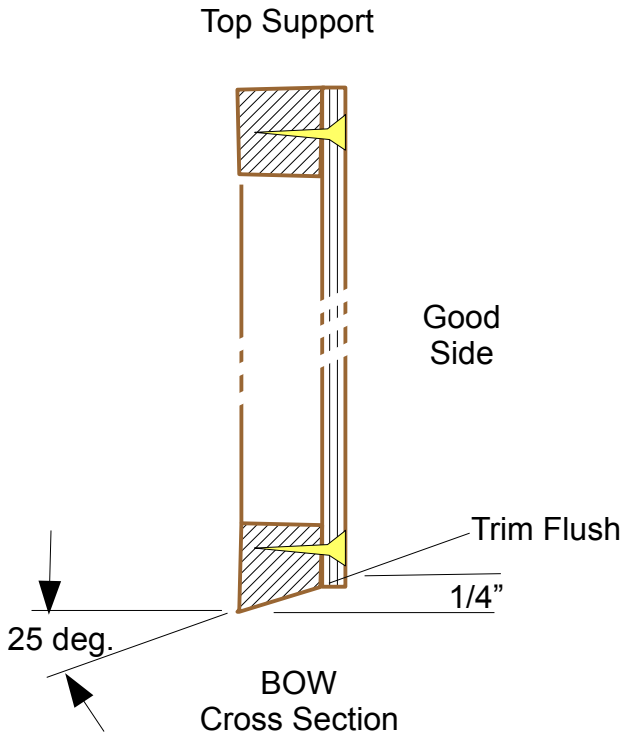
First, trim a 6 foot length of 1 x1 lumber with a 25 degree angle on one side, about ¼ inch, as shown in sketch at right. Then cut into two 36 inch lengths.

Using the same process as in Step 2 (Bulkhead), Glue and Screw the 1 x1 Supports as shown. It is important that the Top Support be positioned so that it is flush to the top edge of the Bow Panel. It is also important that the Bottom Support be located so that it is at the inside edge of the Bow Panel, as shown at right.



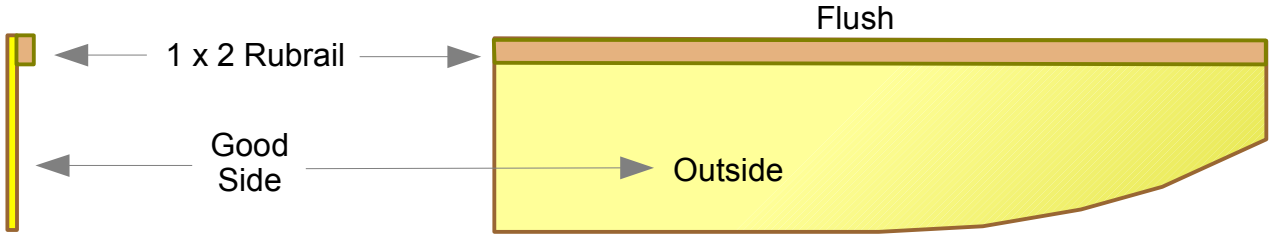
Place the Top and Bottom Supports first.
Then the 2 Side Supports, as shown.

After all supports are assembled, lay bulkhead on a flat surface and allow the glue to cure. Weigh down, if necessary, to prevent warping of the panel.



Drawings are not to scale.

STEP 4 SIDE PANEL ASSEMBLY (Both Modules)



End View

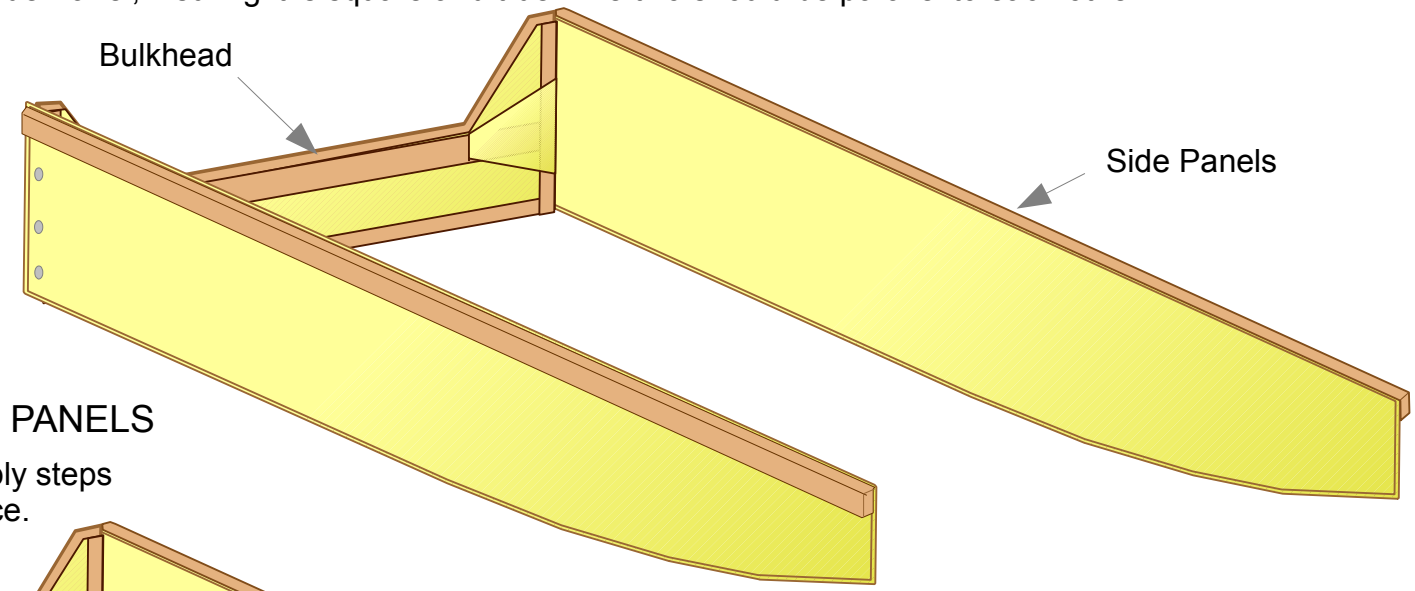
Glue and screw a 1 x 2, as shown, on the outside of each of the Side Panels. These Rubrails will keep the panels rigid during assembly of the Bulkhead and Bow.
Select a harder grade wood for this purpose, as it helps provide torsional strength to the finished hull assembly.

CONSTRUCTION NOTES

STEP 5 SIDE PANELS TO BULKHEAD

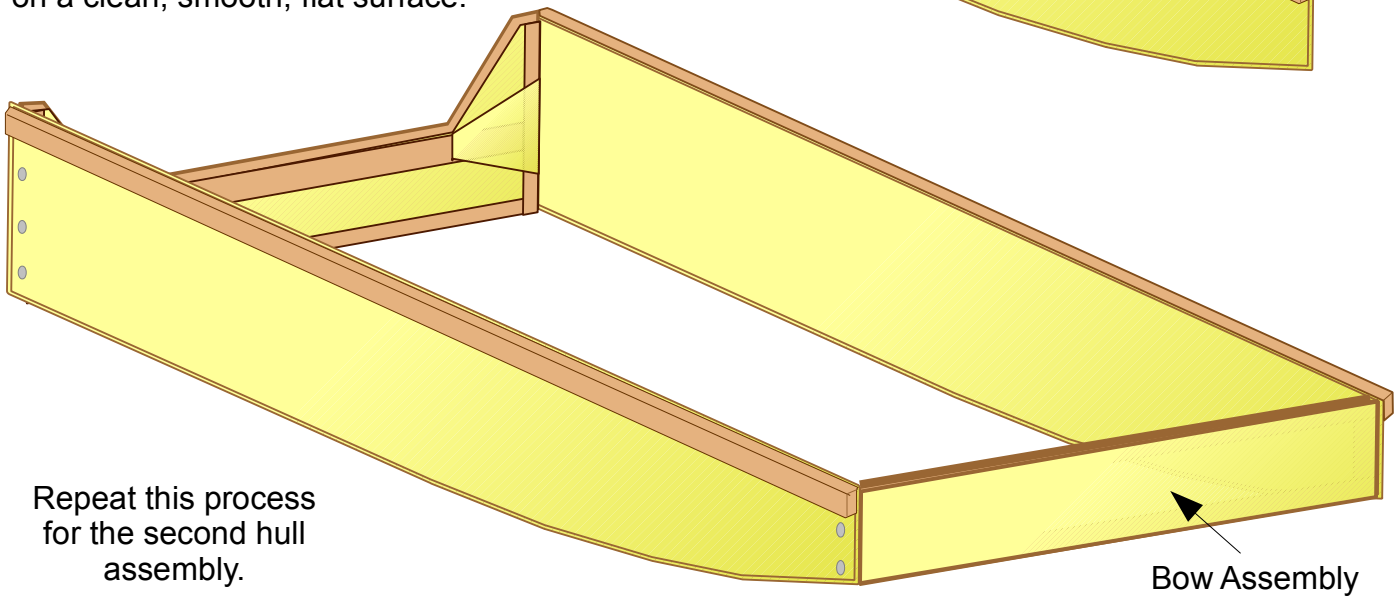
Using the same method of applying glue from Step 2, glue and screw the Side Panels to the Bulkhead, as shown below. Prior to applying screws, check to make sure the first Side Panel is square to the Bulkhead, and that the Bulkhead is square to the floor. Also check to make sure the end of the Side Panel is flush to the outside surface of the Bulkhead Assembly. Then assemble the second Side Panel, insuring it is square and true. The two should be parallel to each other.

Repeat this process for the second hull assembly.



STEP 6 BOW TO SIDE PANELS

Always perform these assembly steps on a clean, smooth, flat surface.



Repeat this process for the second hull assembly.

Using the same process as the Bulkhead, align, glue and screw the Bow Panel between the Side Panels. Insure the Bow is vertical, and that there is no twist or mis-alignment in the complete assembly.

You can turn the assembly upside down to perform this function, if it would be easier.

Allow to cure before next step.

CONSTRUCTION NOTES

STEP 7 PREPARATION FOR BASE ASSEMBLY

This is a straight forward assembly. Cut a 35-1/2 inch length of 1 x 2. Insure it is straight and not warped. This will be the Base Cross Support. Glue and screw, from the outside, both ends of the Cross Support, flush to the bottom of the Side Panels, as shown.

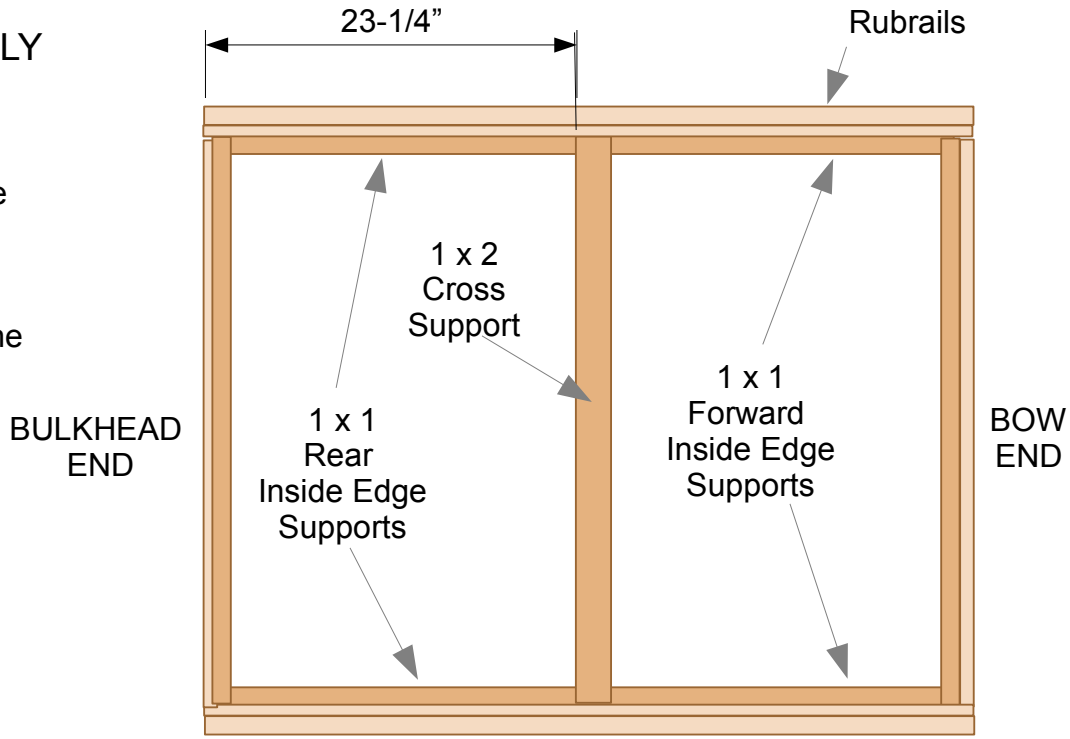
Next, cut 2 lengths of 1 x1 lumber to fit on each side of the assembly between the Bulkhead and the Cross Support. These are the Rear Edge Supports. Glue and screw in position, flush to the edge of the Side Panels.

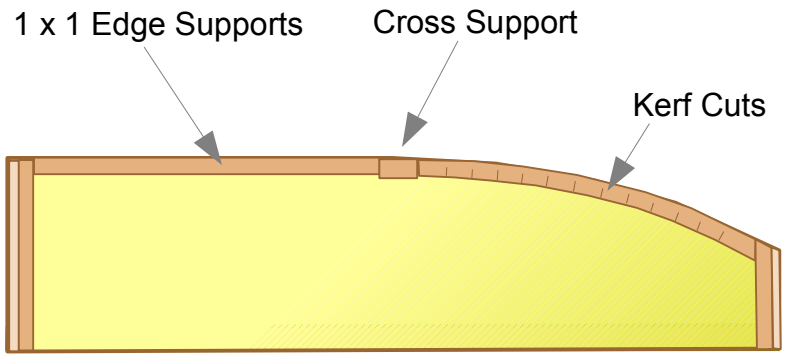
You can choose to use Spring Clamps to hold these Supports in place, instead of screws. This applies to other assembly steps as well. Your choice.

Now cut 2 lengths of 1 x1 lumber about 27 inches long. These will be the Forward Edge Supports. Because the lumber will not easily bend around the bow curve, it is necessary to "Kerf" each to fit properly. Kerfing is the slotting of the lumber to allow it to bend in one direction. Do this by slotting with a hand saw every 1 to 1-1/2 inches apart, as shown in the sketch below. Slot about 1/2" deep. When complete, carefully bend the support to fit the radius of the bow. Mark the end location, and cut to proper length. Glue the 2 supports in place, flush to the side panel edge.

Allow to cure.

Typical Kerf Cuts





CROSS SECTION

Drawings are not to scale.

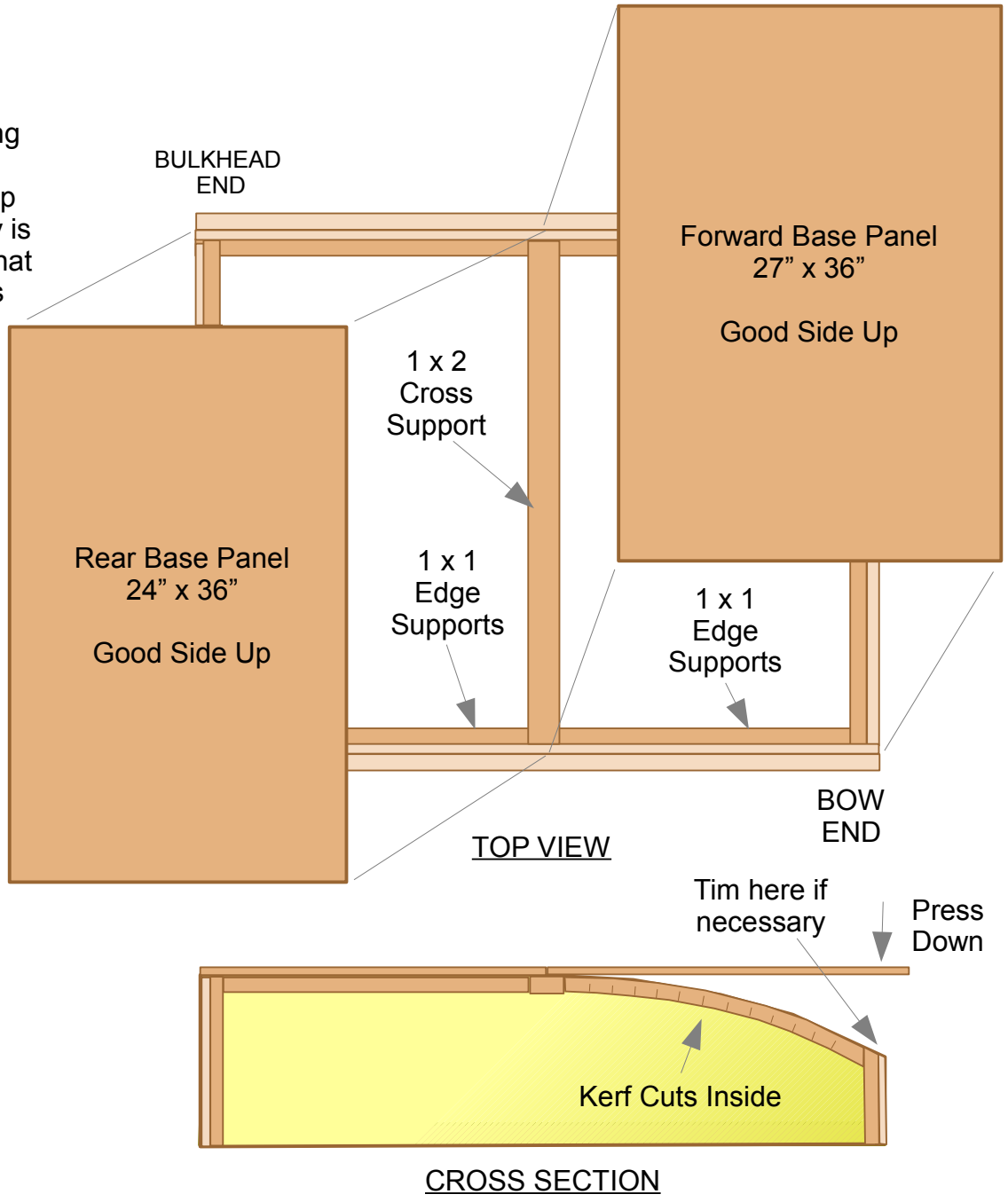
STEP 8 ASSEMBLY OF BASE PANELS

This is also a straight forward assembly. Again, using the previous glue process, align and glue the Rear Base Panel to the Edge Supports and Side Panel top edges, and the Cross Support. Insure the assembly is square. Screw the panel in place, all 4 sides. Note that the panel covers only half of the cross support. This will facilitate placement of the Forward Base Panel. If the base Panel is wider than the assembly, you can trim it to size after the assembly has cured.

Now carefully align the Forward Base Panel onto the assembly. Glue and screw to the Cross Support only, as shown in the cross section view. Then slowly bend the Forward Base Panel down until it touches the Bow Panel. If there is overlap, you can trim it after the assembly has cured. If the panel will not bend easily, wet the outside of the panel with hot water, until it bends all the way. Release the panel, and start to apply glue to the Side Panel edges and Edge Supports, and apply screws until you reach the Bow. Finally, glue and screw to the Bow Panel. Insure there are no gaps, and that the assembly is straight and true. **To do this quickly, apply glue to all joint surfaces, and use straps to hold the Base Panel down against the Sides and Bow. Apply screws, and allow to cure (page 12).** Cut off any overhang on the sides and at the bow with a fine tooth hand saw.
Lightly sand the entire assembly.

Again, check for glue voids or gaps in the edge assembly. Fill with TB3 glue if necessary. Sand smooth all edges and remove any glue residue.

Repeat this process for the other hull module.

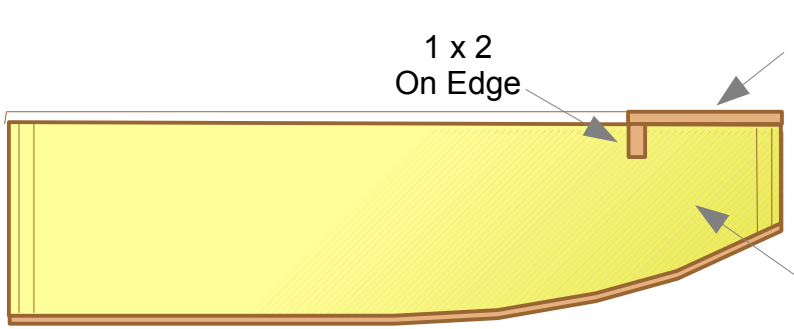


CONSTRUCTION NOTES

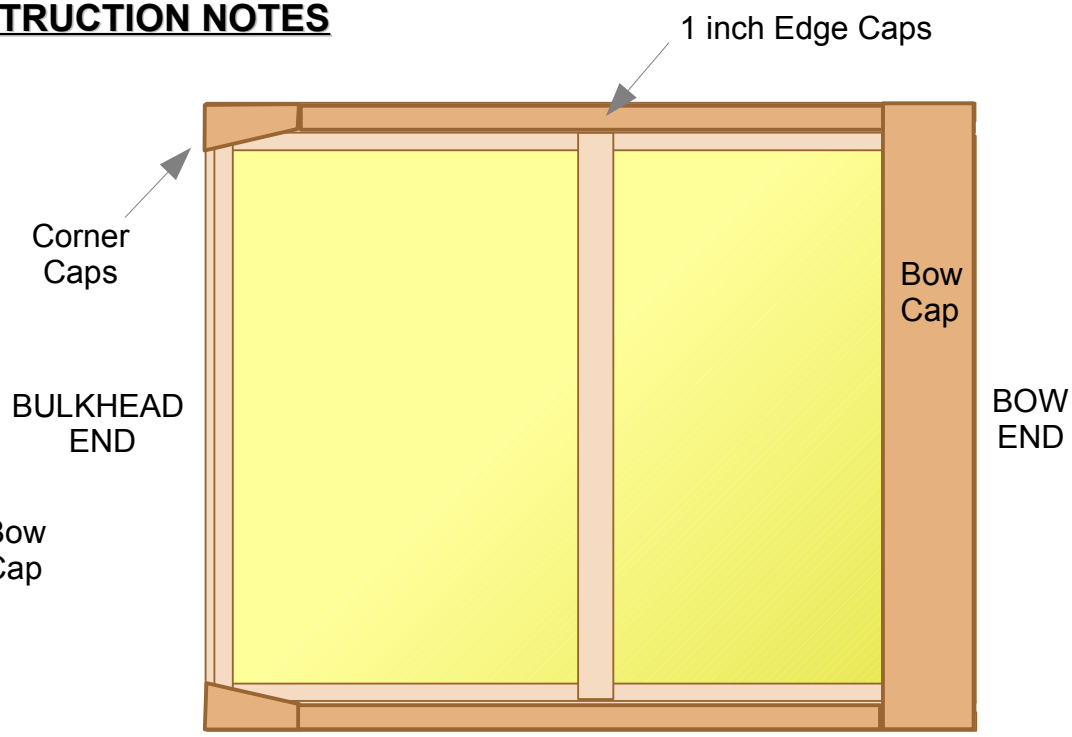
STEP 9 ASSEMBLY OF TOP CAPS

To finish off the hull details, and to add rigidity, Top Caps are applied on the corners, sides and the bow. These should be glued in place and held with clamps, or weighted down until cured. This way no screws are evident on the top side.

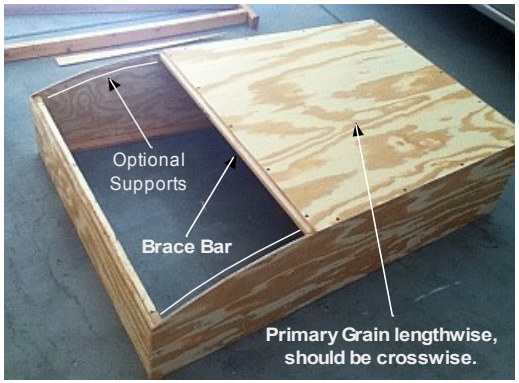
To make the Bow Cap strong, apply a 1 x 2 on edge, underneath the inside edge. Hold in place with clamps until cured.



Cross Section

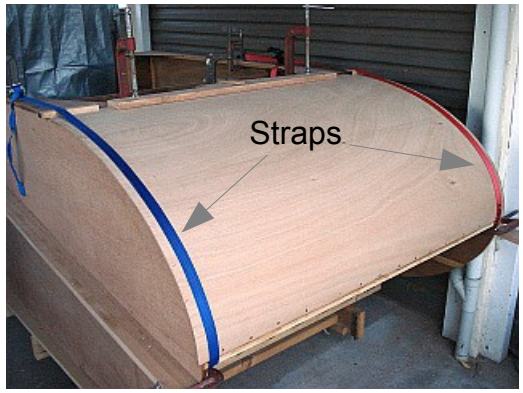


TOP VIEW



This is a sample photo from a different build, but it is representative of the Base assembly.

The next phase of construction is the finishing. This includes sanding all the surfaces and edges, in preparation for the Tape & Glue Process, which seals all outside panel interfaces to prevent water intrusion. Waterproofing and painting are the last of the hull major finishing activities.

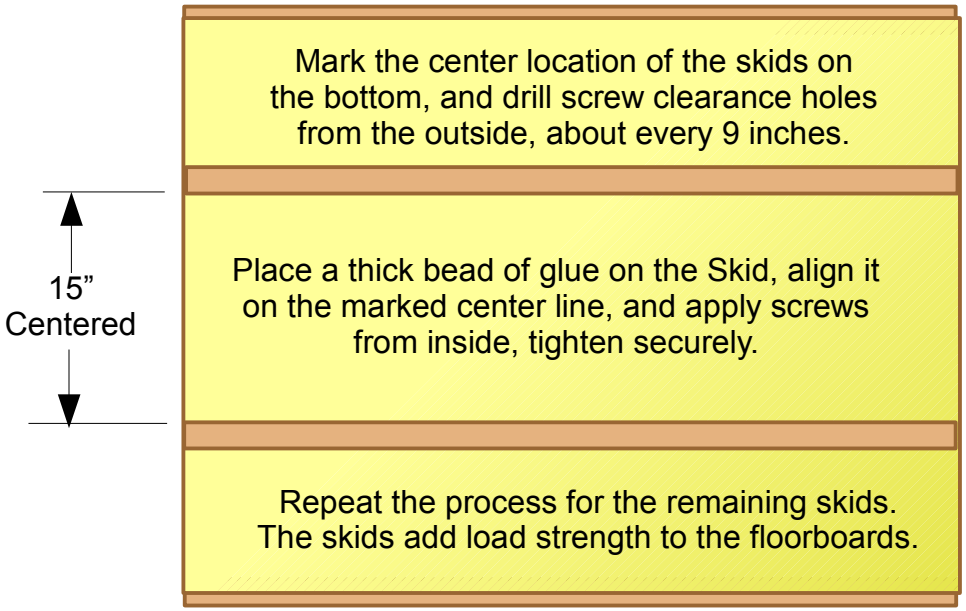


This photo shows 2 straps holding down the forward base panel for gluing and screwing it in place.

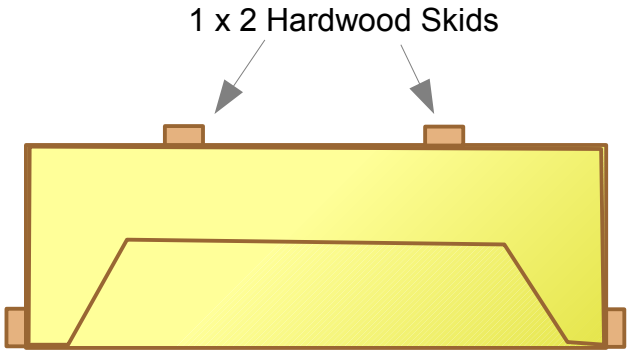
SIMPLE 8' PRAM

STEP 10 SKID ASSEMLY

It is suggested you use a harder grade wood for the Skids, as they can take a lot of abuse. If you want extra protection, place 3 equally spaced skids, one down the center, and one 9 inches to each side. This is also suggested if you carry heavier loads.



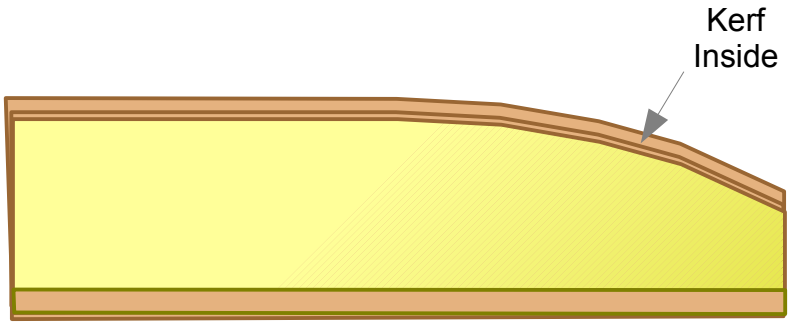
Bottom View



End Vew

3 skids recommended for greater strength.

You will have to Kerf the inside of the forward end of the Skids so that they bend down over the curve of the bow.

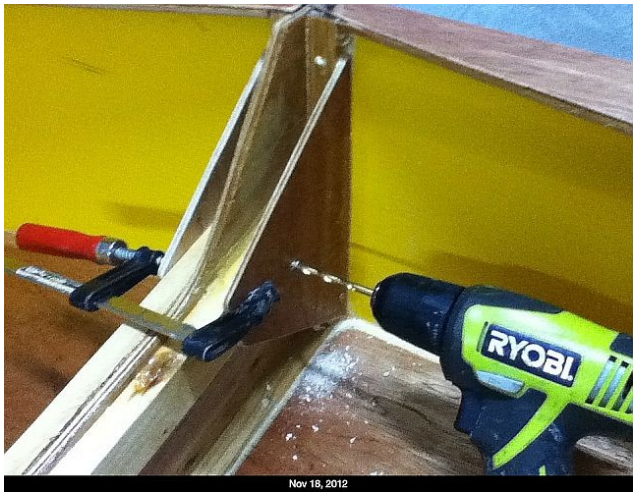


Side View

After skids are complete, the next major step is the "Tape & Glue Process" of all external seams and edges. This is critical to the long term reliability of the hull, and to minimizes maintenance over time.
Refer to pages 18 thru 22 for complete T&G instructions.

SEQUENTIAL ASSEMBLY PHOTOS

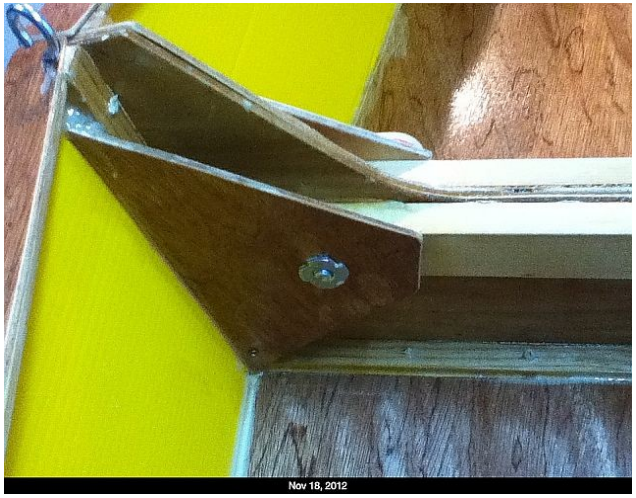
HULL ASSEMBLY BOLTS



Accurately align and clamp the hull modules together. Using a 3/16" dia. bit, drill through both modules, as shown. The hole should be straight & centered vertically on the 1 x 2 crossbar, and 3" from the side panel.

Unclamp the modules. Using a 1/2" dia. spade wood drill bit, drill from one side, halfway through, then drill from the other side through. This prevents breakthrough chipping or splinters. Repeat for all four holes.

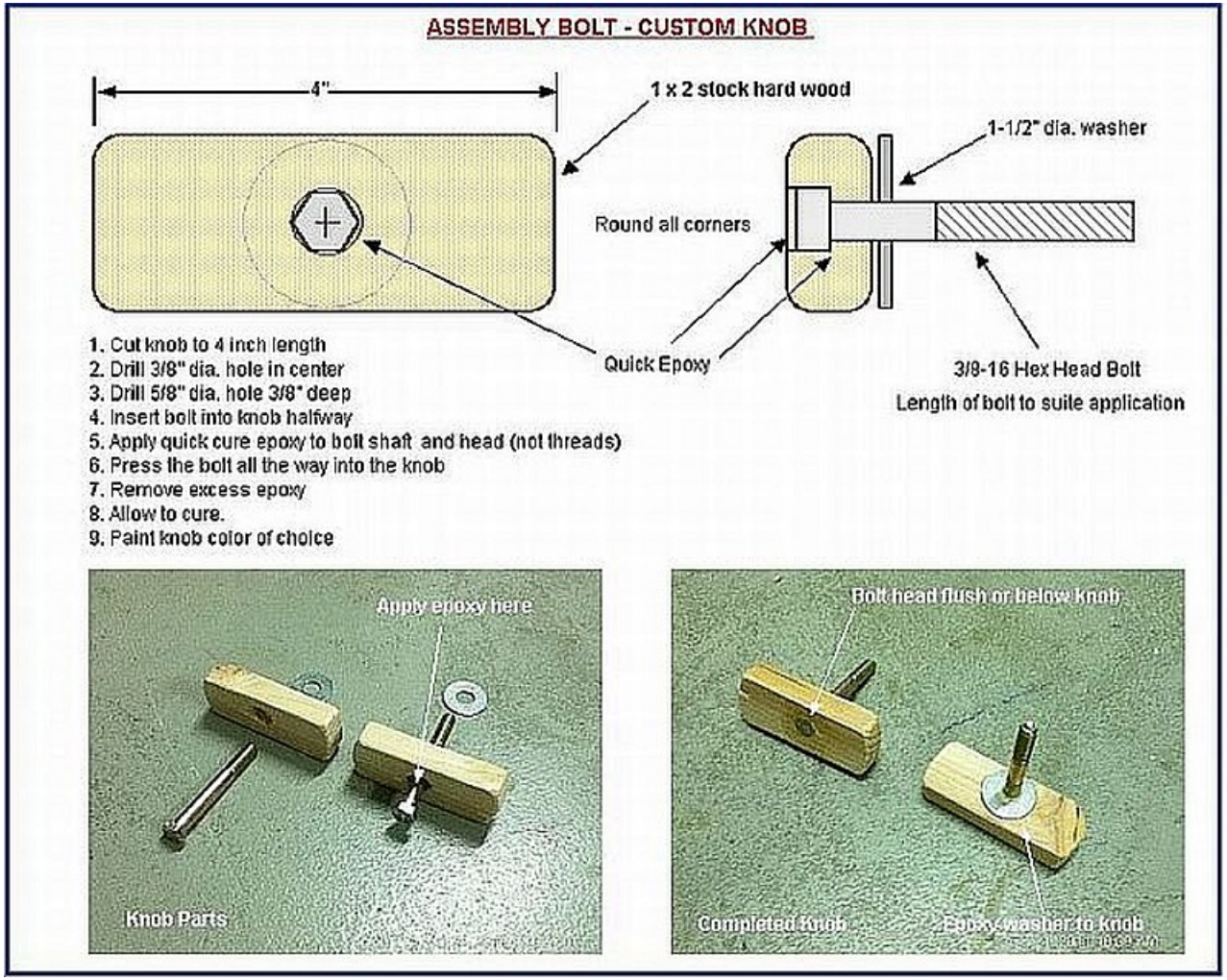
This is a 3/8"-16 T-Nut. It will be placed in the hole, glue applied (TB3) to the flange inside face & corner, and pounded flush to the support plate. Apply glue to exterior face and around the support surface.



After the two T-Nuts are applied, align the hull modules and secure with the Assembly Bolt Knobs. Hand tighten as best you can. Allow the glue to cure.

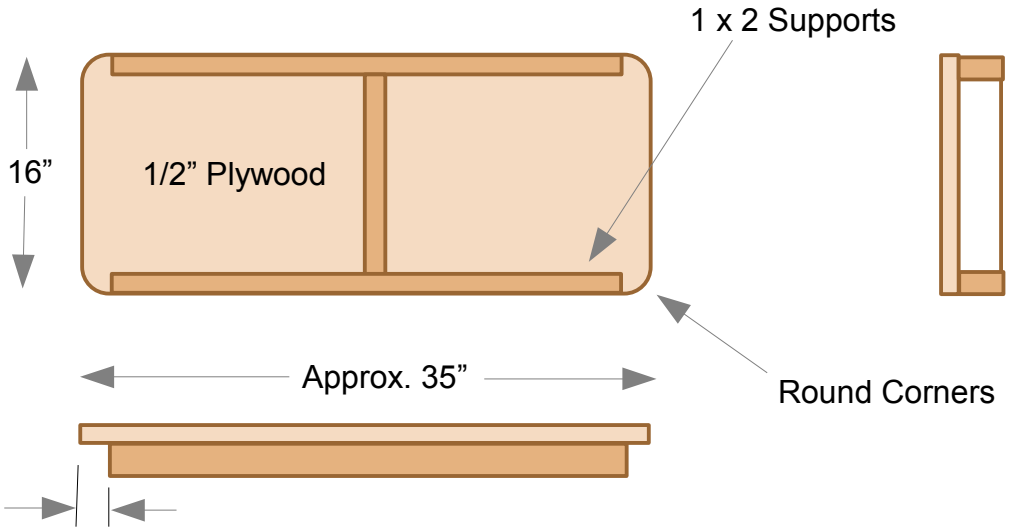
Assembly Bolt Knob.
See drawing on last page of this plan.
Bolt length to be 3 inches.

Detail view of Assembly Knob.
Not necessary to overtighten.
Hand tight is sufficient.
I put a little petroleum jelly on the threads to ease installation.

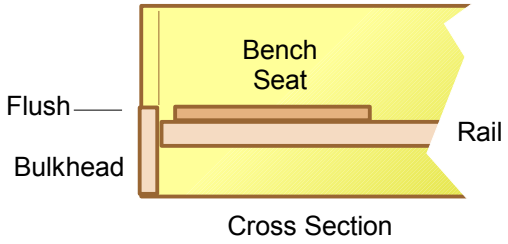

ASSEMBLY BOLT - CUSTOM KNOB
4"
1 x 2 stock hard wood
1-1/2" dia. washer
Round all corners
Quick Epoxy
3/8-16 Hex Head Bolt
Length of bolt to suite application
1. Cut knob to 4 inch length
2. Drill 3/8" dia. hole in center
3. Drill 5/8" dia. hole 3/8" deep
4. Insert bolt into knob halfway
5. Apply quick cure epoxy to bolt shaft and head (not threads)
6. Press the bolt all the way into the knob
7. Remove excess epoxy
8. Allow to cure.
9. Paint knob color of choice
Apply epoxy here
Knob Parts
Bolt head flush or below knob
Completed knob
Epoxy washer to knob

SEATING

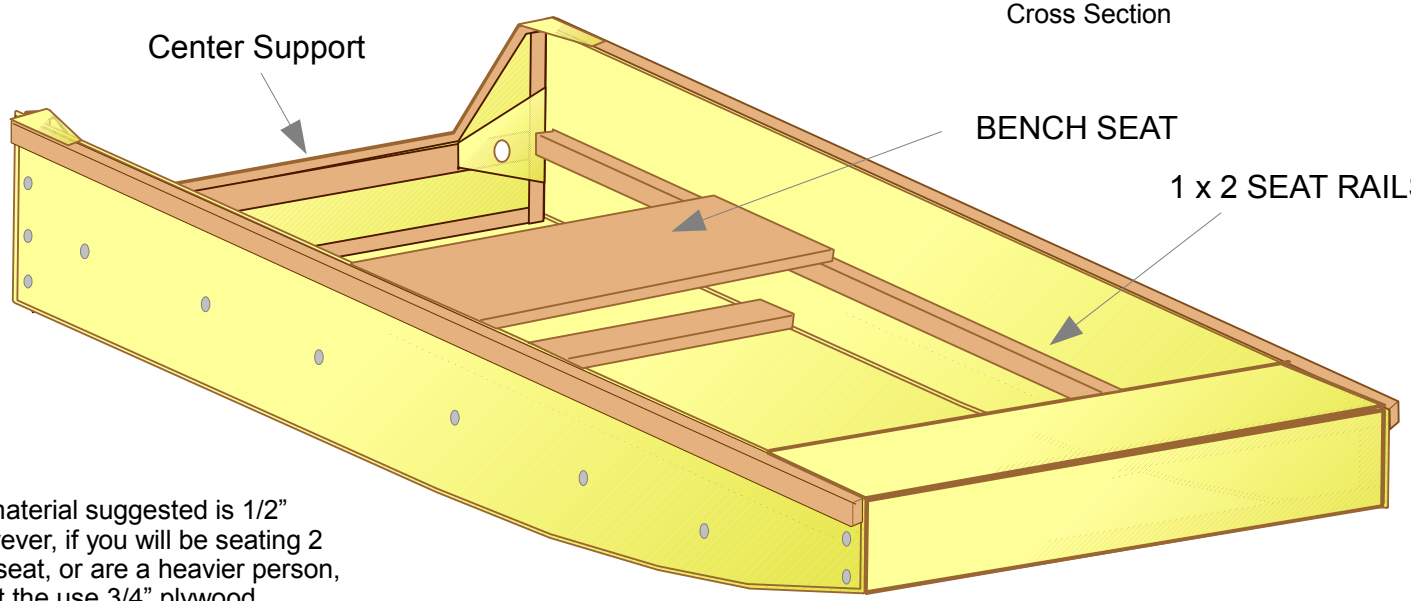
The suggested seating method is movable bench seats, as defined on this page. However, the builder can choose other types of seating, including fold up beach chairs, or a folding plywood seat. In the end, the seat type should be determined by the how the boat is to be used, and the comfort level required. I like a seat with a back, and will probably employ the bench seat for paddling or rowing, and a full seat for motoring.



Glue and screw the 1 x2 supports, on edge, to the underside of the seat, located as shown. It is important that the seat move easily in the boat, but not so loose that it can fall from the seat rails. Smooth all edges and round the corners. Finish with a waterproof paint.



The seat rail location should be such that when the seat is installed, it becomes flush to the top of the bulkhead center support. Mark the center of the rail location, and drill clearance screw holes, as shown. Glue and screw the rails in position. Allow to cure.

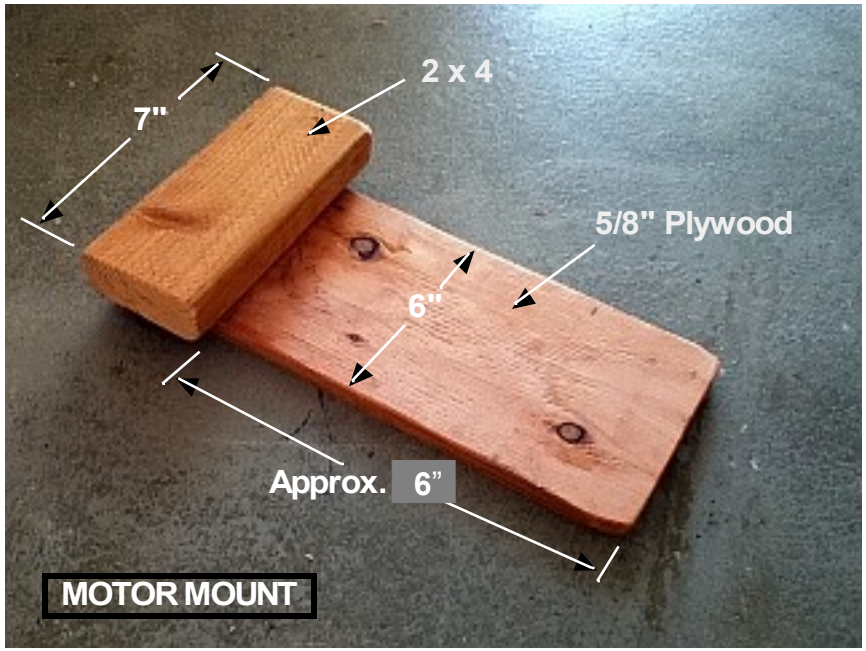


The seat material suggested is 1/2” plywood. However, if you will be seating 2 people on one seat, or are a heavier person, I suggest the use 3/4” plywood.

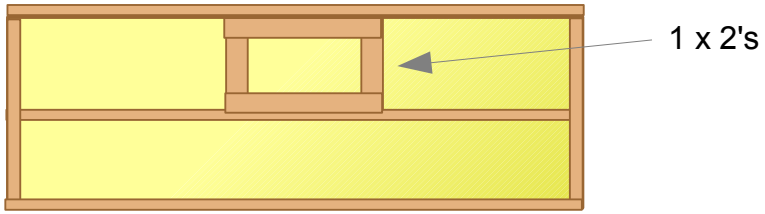
Drawings are not to scale.

OPTIONAL

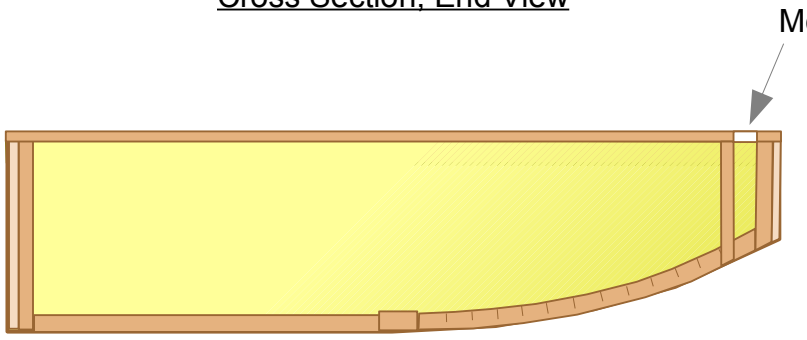
SIMPLE MOTOR MOUNT



Simply fasten the mount securely to the motor, then just slip the mount tab into the hull slot. Easy to mount and remove.



Cross Section, End View



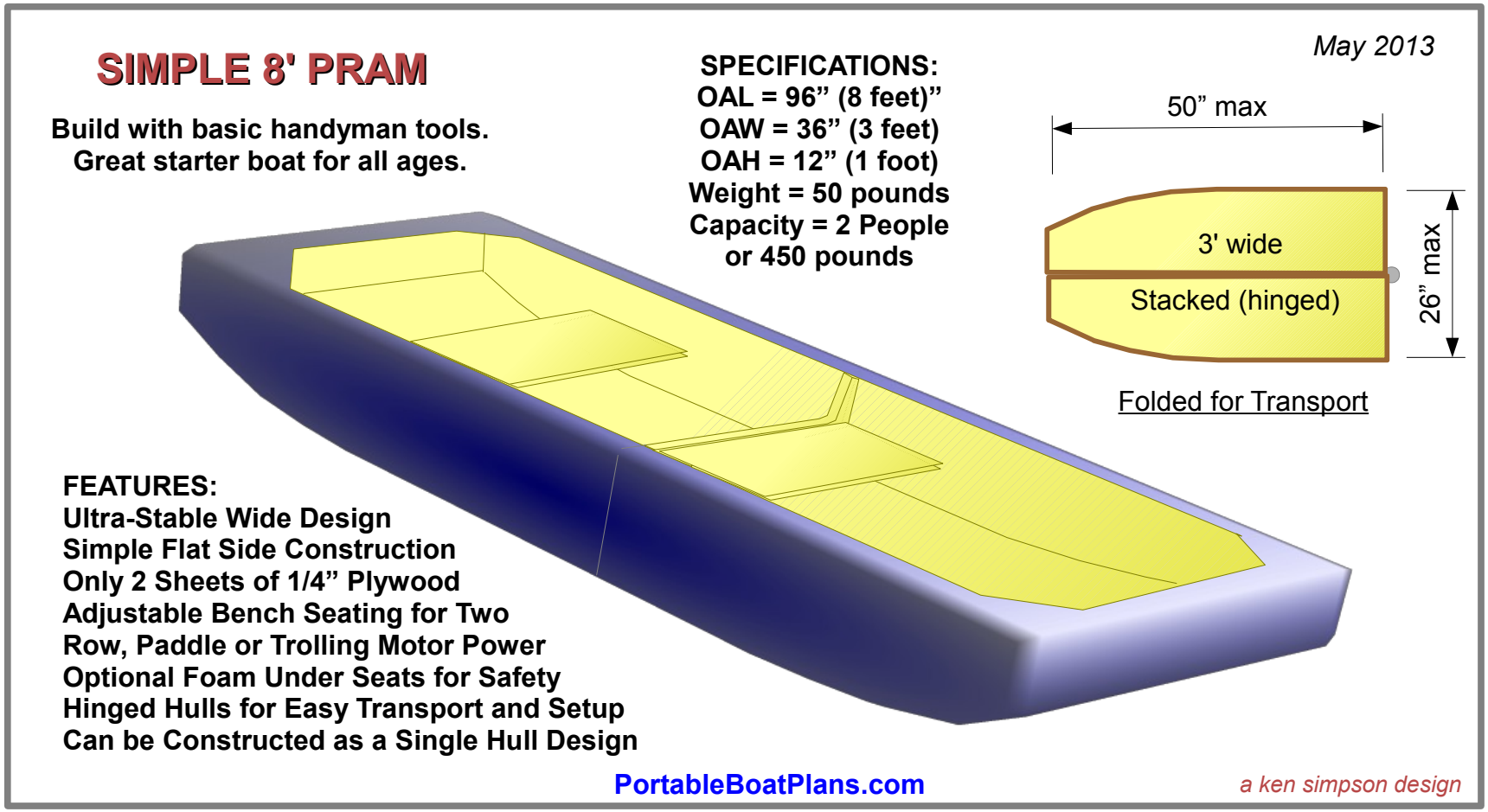
Cross Section, Side View

Typical 1 x 2 Mount Assembly
6” x 3/4” Opening

This is a sample photo from a different build, but it is representative of the assembly.

FINISHING

The finishing of the boat is the most important element of boat building to some people. I believe it is equally important to the quality of construction. The next assembly step, the Tape & Glue Process, is proof of that statement. It is a seam sealing process that does not use epoxy, yet produces a tough waterproof barrier. After all T&G seams are complete, it is necessary to apply a waterproof sealer to the entire hull, inside and out. The choice of material is yours. I use Thompsons Water Seal on all my boats, but I also use only oil based finishes, like marine spar varnish or enamel paint. Thompsons and water based finishes (acrylic latex paint) do not work well together, as it does not allow the paint to dry properly. I even recommend coating the hull with a 25% watered-down mixture of TB3, mixed well, and brushed on in a thin penetrating waterproof coating. As I said, the choice is yours. Good luck with your project, and happy & safe boating !



FREE to print

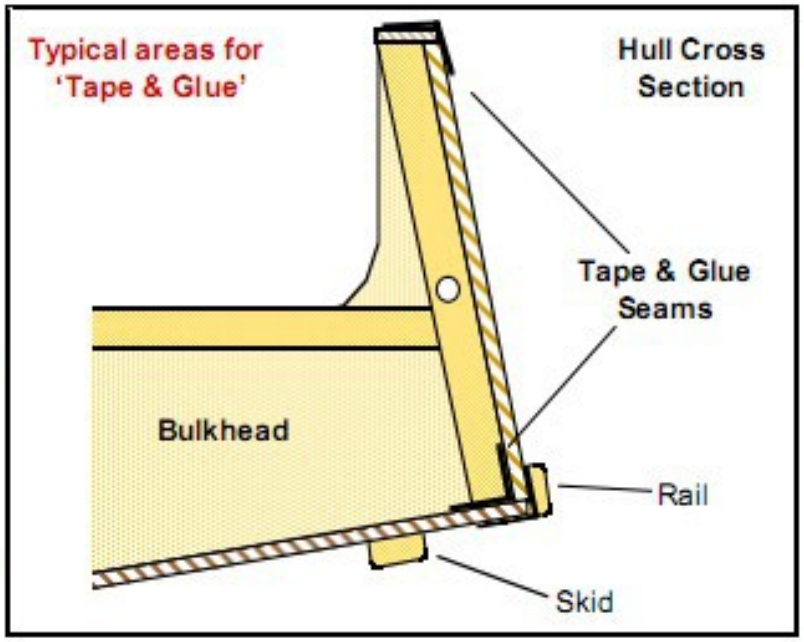
TAPE & GLUE PROCESS

Version: *Jun. 2011*

The following small boat assembly process was developed out of the need for an easy, lightweight, cost effective and health friendly method of providing a structurally sound and sealed small hull assembly. Let it be said up front that it is n the solution to everyones needs. In fact, to do it right, the boat should be designed with this process in mind.

Basically, 'Tape & Glue' is a method for sealing and strengthening all seams of a small boat to the elements. It is not unlike Stitch & Glue, except it is not used to actually construct the boat. 'T&G' (as it will be referred to) is applied after the boat is fully assembled, minus a few appendages, such as skids and rubrails. For this reason alone, it is best if the boat i designed to utilize the 'T&G' process. It should also be stated that the outer seams are naturally subject to damage from rocks and beaching the boat, so protective skids or rails at or near the joint are strongly recommended. The 'Tape & Glue process has been used on boats such as an eleven foot Canoe, a nine foot pram, an eight foot rowboat and a 10 foot sailboat. Each of these applications used the same materials and process, and all have performed safely.

To best take advantage of 'T & G', the hull design should be capable of being constructed by gluing and screwing the various parts together, to make a self-supporting structure. Additionally, the base panels, and any decking, should always overlap the side panels and end bulkheads. This means the various hull elements should fit together in such a way that heavy structural elements (stringers, gussets and forms) will be minimized, reducing hull weight while maintaining hull strength and integrity.



Then, Taping and Gluing the various inside and outside hull seams with *glue impregnated fiberglass cloth tape* will add the necessary structural bond and joint sealing that will complete the build cycle. This is a relatively easy process. It does not use toxic materials, and cleans up with water prior to curing.

If you have question regarding this process, email me and I will respond promptly to your input :

kensimpsonaz@yahoo.com

T & G CONSTRUCTION SUPPLIES:

* Fiberglass Cloth, 3.25 oz., 50 inch wide, cut into 2-1/2" to 3" x 50 inch strips for seam sealing. Available at: Duckworks Boat Builders Supply

* TiteBond III Waterproof Wood Glue - 16 oz ($8) (available in larger 1 Gal. container ($30)

Options:
Epoxy Resin : Duckworks BBS
Glass Cloth Tape, 4" , Roll : Duckworks BBS

Note: About 200 ft. of 2-1/2 inch cloth tape is required for average small boat assembly.

* Not recommended for bonding:
Polyester Resin (poor bond to wood), OK for molding fiberglass boats and other things.

FINISHING:
The choice of finishing is that of the builder. However, it is not just a matter of sanding and sealing all the wood surfaces, and applying a coat of durable paint, it is also about personalizing the boat. Color or natural finish? Fancy trim or camouflage? The important elements are the needs of the builder; you built it, you enjoy it, you earned it !

Insure that all surfaces are protected, that skids are applied as needed, and that hull weight is always kept in check.

Recommend a minimum of 2 Layers of Tape per joint.

Optional Glue Mixing & "Tape & Glue" Instructions

TiteBond-III, which is easy to work with, does not require any thickening agent, unless used in a very hot environment, like here in Arizona. You should mix only enough woodflour to prevent excessive vertical running.
If necessary, Wood Flour can be purchase from *Duckworks Boat Builders Supply* in pound containers . It acts as a thickening agent that produces a more viscous glue that will not run easily. Mix only enough by volume (container of choice) of glue to wood flour to minimize running.
Mix thoroughly.

Tape & Glue Process:
Apply Glue in thick beads, first in the corner of a joint, and then about 3/4 inch away from each side of the corner. Smooth glue evenly over the panel surface in the area the Glass Tape is to be applied, and let dry for a few (2 to 3) minutes. Cut strips of Glass Tape (2-1/2" - 3" wide) the length of the joint, and centrally place in the corner of the joint. Smooth out over the length of the Tape. Apply Glue over the Tape, wetting Tape completely. Again smooth evenly over the entire Tape surface. Remove any bubbles. Insure edges are wet and that the Tape is completely saturated with TB3 Glue. You should still see the weave. Repeat the process for ALL exposed outside & inside corners and joints. Lightly sand between layers.
Allow to cure 4 hours minimum at room temp. Repeat the process for any additional layers that may be required.

Note: Temperature and humidity may affect mixing ratios and glue cure time. Do not rush the process.

Always wear Latex Gloves during the gluing process.

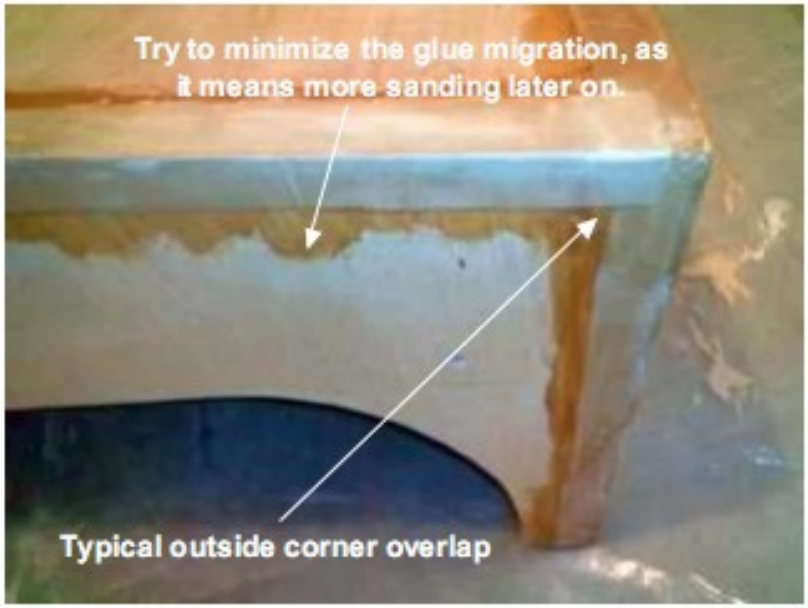
START

TAPE and GLUE Process Pictures

Cutting of strips is easy, 2-1/2 to 3 inches wide.

Typical bead of glue. Smooth with finger to wet surface.
Apply to Bottom (as shown), Edge and Side Panel.

Close-up of first layer. Bubbles need to to be smoothed out. 2 layers minimum per seam.



Application Notes

Finishing of the surfaces can be a time consuming process, but the end result it well worth it. Sanding the taped areas requires some technique. If you sand too aggressively the TB3 glue may heat up, soften and clog the sandpaper. In this regard it is not like epoxy, which hardens and never softens. Nevertheless, with some practice, and the right sandpaper (good quality), smooth surfaces can be developed and the taped edges flared.

I usually start with 100 grit black (silicon carbide) drywall sandpaper, and work my way up to 180 grit. Be very careful not to sand through the fiberglass corners, but if you do, repair the area with TB3, and possibly a fiberglass patch, immediately.

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FINISH

WATERPROOFING the HULL

Over the years I have tried quite a few waterproofing methods, as I am sure you have also. It is important to note the objective: To seal out water and water vapor from penetrating the plywood surface and edges of the hull. Period. The problem is that it is most difficult to accomplish. Because I recommend non-marine plywood for my boats, the problem is accentuated. As a result, even more precaution must be taken. Up until a few months ago (2013), I was recommending Thompsons Water Seal as the best waterproofing method for the ACX Plywood recommended. It penetrates the wood surface and provides a good water barrier. The downside of this method is time; after application, the manufacturer suggests at least 72 hours minimum drying time. I recommend 24 hours, but only if you use oil based paints for the finish, and sand all surfaces prior to painting. Non-oil based paints will not adhere well to a surface treated with Thompsons. This has proven a problem to some builders.

Well, that was then, and this is now. After a couple of builders suggested I try a different process, I can now recommend an alternate method. We already use Titebond II Waterproof Wood Glue for construction, so why not use it as a water barrier ? That is exactly what I recommend now, and here is how to apply it.

WATERPROOFING METHOD Follow the directions and photos below, for best results.

NOTE: It is important to water seal the inside surfaces of the bow & stern openings prior to assembly of the deck panel, and also the underside of the deck panel, and then all other inside surfaces of the hull modules. So, mix a container with 1/3 **water** and 2/3 **Titebond III**, by volume. Shake very well. I use an empty glue container, with 1/3 markings on the bottle, as shown above. Pour some into a plastic dish, and use a 2" disposable brush to apply. Brush evenly and completely over all interior surfaces of the module assembly. Allow to dry for at least 4 hours, at room temperature. This same process will be used for all waterproof sealing of all the hull assemblies, all surfaces, inside and out. The brush and dish can be water cleaned and reused for the next assembly, a big advantage using TB3. After the mixture has dried on the plywood, lightly sand all surfaces in preparation for a finish. The plywood surfaces will now be smooth, water sealed, and also strengthened by the application of the TB3 mixture.

Note: If the mixture is too runny on vertical, or horizontal surfaces, change the mix ratio to 25% water and 75% TB3.

Use this method for both the Inside & Outside surfaces.

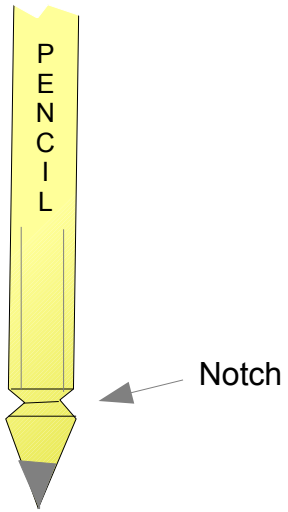
ADDENDUM

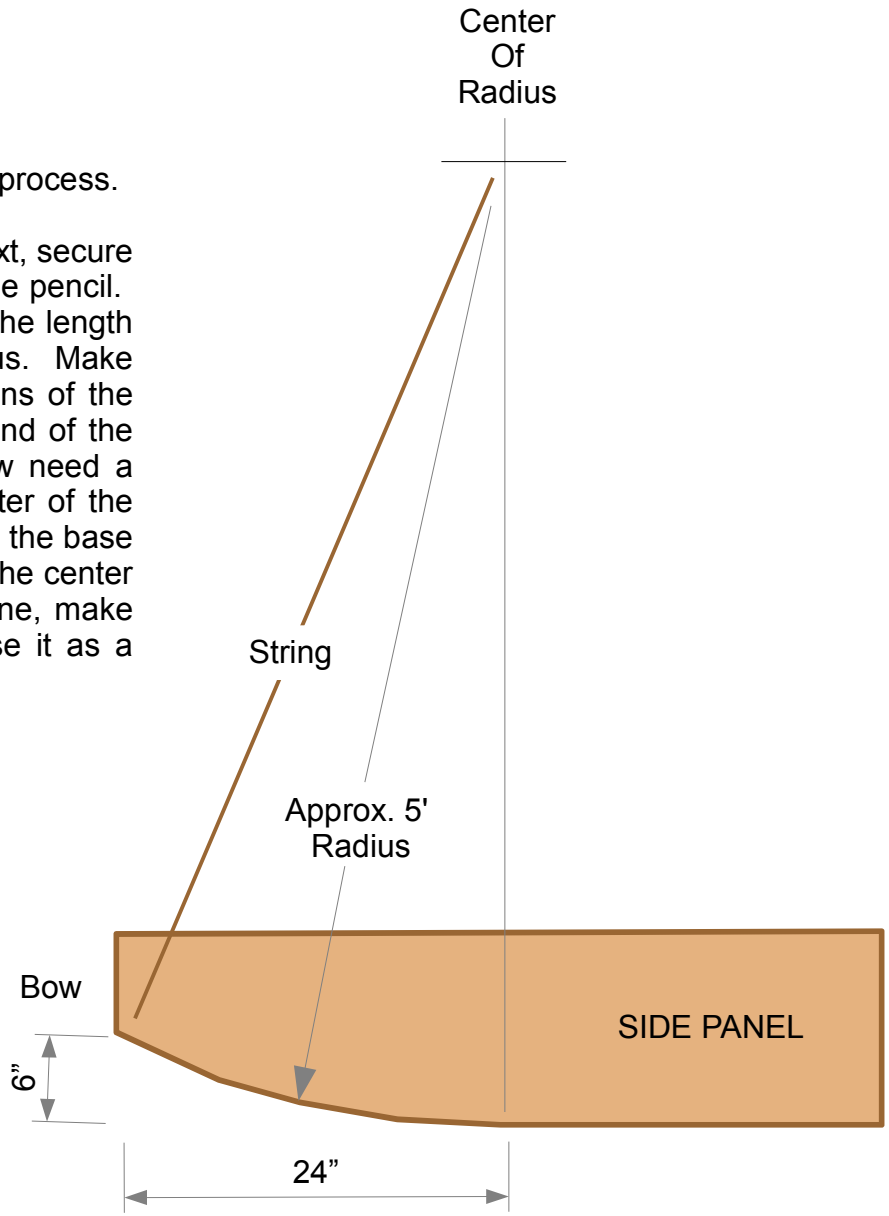
METHOD FOR LAYING OUT A LARGE RADIUS

To layout a large radius on a sheet of plywood, follow this simple process.

First, notch a wood lead pencil as shown in the sketch below. Next, secure a length of non-stretch string, and knot it around the notch on the pencil. Place a mark on the floor (the flat surface you are working on) the length of the radius, in this case 5 feet. That is the center of the radius. Make sure it is perpendicular to the Panel. And mark the end locations of the Radius on the plywood. Now position the pencil at the lower end of the radius, in this case the bow bottom of the panel. You will now need a second person to place the other end of the string on the center of the radius, pull it taught, not tight. Now swing the pencil down toward the base of the panel. If the radius does not match, adjust the location of the center point slightly and try again. Once you have found the correct line, make the radius line on the panel dark. This will be the cut line. Use it as a template for the other panels.

This is one method of developing a smooth radius. Another is to take a flexible length of wood, plastic or metal, and bend it between the start and finish points of the curve, Then trace the outline on the plywood. The important thing is that a smooth radius be developed, the actual dimensions of which are not important to the function of the boat.





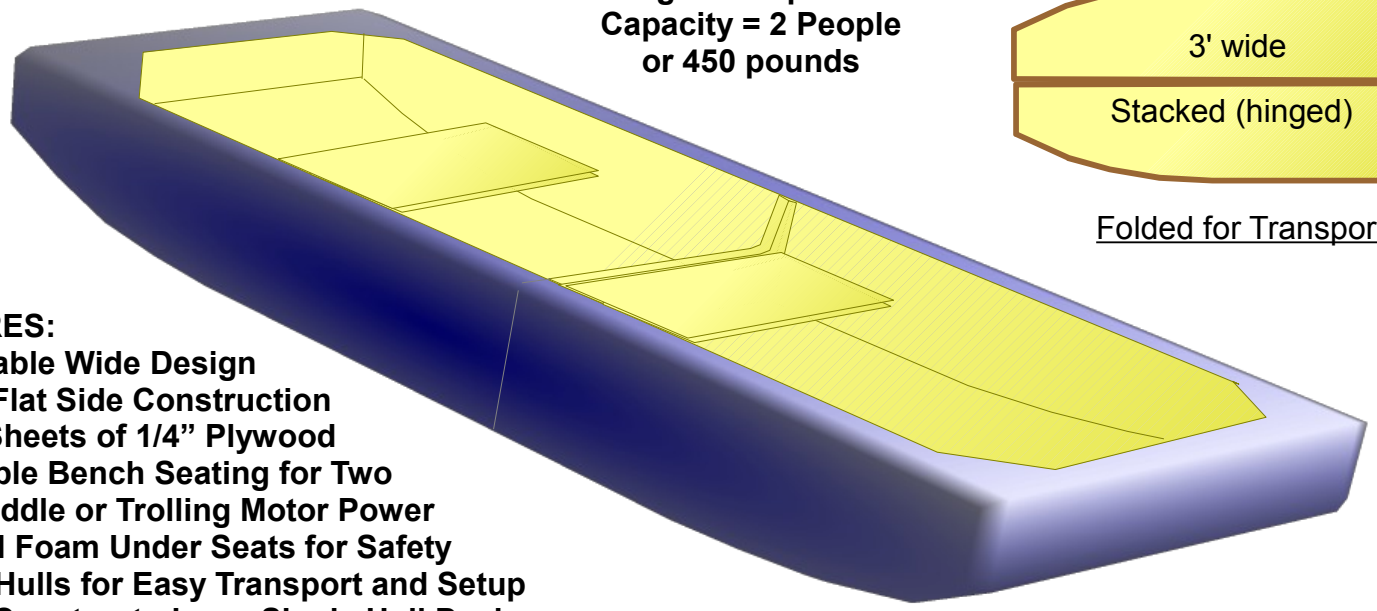
Drawings are not to scale.

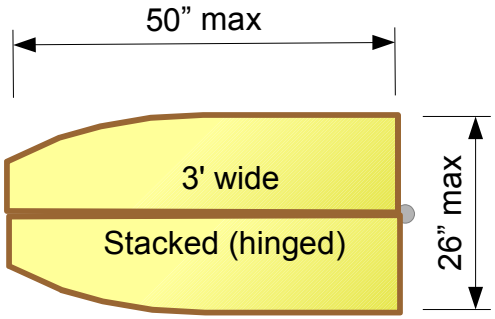
SIMPLE 8' PRAM

May 2013

Build with basic handyman tools.
Great starter boat for all ages.

SPECIFICATIONS:
OAL = 96" (8 feet)"
OAW = 36" (3 feet)
OAH = 12" (1 foot)
Weight = 50 pounds
Capacity = 2 People
or 450 pounds





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FEATURES:
Ultra-Stable Wide Design
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Only 2 Sheets of 1/4" Plywood
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a ken simpson design

UNIVERSAL SMALL BOAT LOW PROFILE, LOW CG PLYWOOD SEAT

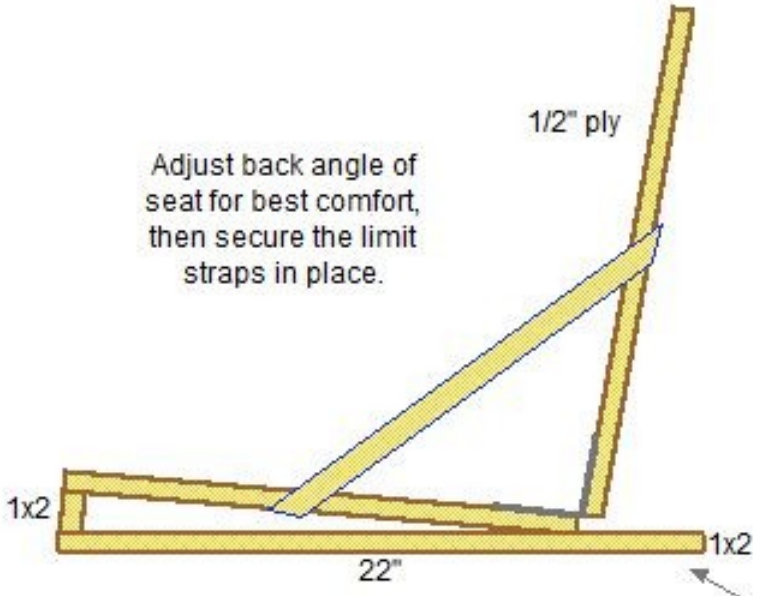
Can be used on all my designs that do not specify fixed seating.

Easy to make, inexpensive, and only requires a 2' x 4' piece of 1/2" plywood, 2 strap hinges, limit straps, and a 8 foot length of 1 x 2 lumber. About $20 total, plus paint.

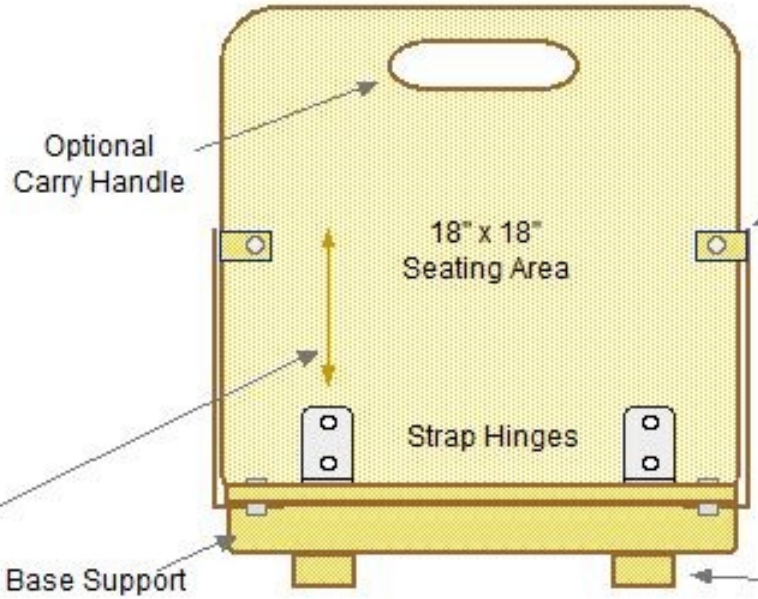
Place cushions on seat base and back for additional comfort.

Seat Supports are 1 x2 lumber. Glue and screw to plywood seat & the 1x2 base support.

NOTE: Grain of plywood is important for strength.



This extension is necessary to prevent you from flipping backward.



Place the Straps about in the center of the seat panels, wrap to back, and bolt through the seat panels, as shown.

The Limit Straps can be small chain, nylon rope, or anything that will withstand your force against the back of the seat.

The back of the seat folds down for storage.

Modify the seat any way you like to suite your specific needs.

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