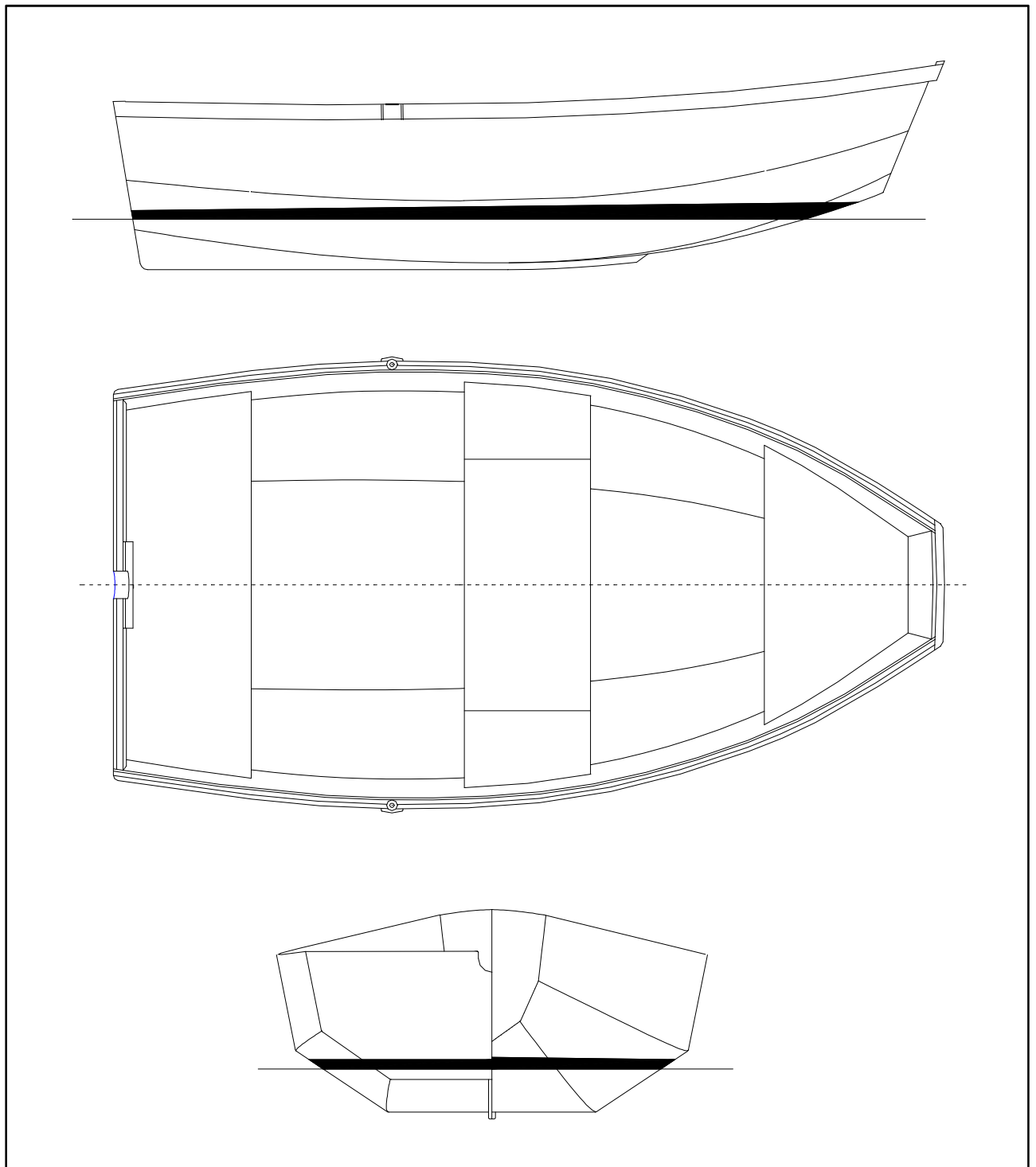


THE PIPPIE TENDER



Mike Waller Yacht Design
PO Box 383 Morayfield
Brisbane, Qld, Australia
www.wallerdesign.com.au

INTRODUCTION

The Pippie Tender is a simple little boat intended for use as a tender for a larger vessel. It is designed for 1 - 2 people, and can be easily constructed by one person without any special skills.

The Pippie Tender is a derivation of our Pippie Trainer, a sailing version designed specifically for young children learning to sail. The Tender can be upgraded to the Trainer at any stage, however if you want to sail, it is easier to obtain the Trainer version of the plans and at least install the centerboard case right from the word go. The center board, rudder and rig can be added at any time later.

The Pippie Tender can be built from three (3) sheets of plywood (2 x 6mm sheets and 1 x 9mm sheet) including the very simple jig that is used to construct it. All ply sheets are 1200mm x 2400mm in size and should be marine plywood.

You will notice that there are plenty of small tenders around which can be built from 1 or 2 sheets of ply. Do not compare the Pippie to these. The Pippie is more strongly constructed and will last much longer if properly built.

The weight of the boat will vary depending on the type of ply used, but with medium weight ply should not exceed 45Kg. Heavier ply, such as Hoop Pine, will be a little heavier.

DISCLAIMER

Note that this plan is a free giveaway. As such, the designer is not able to offer any support to the builder (for obvious reasons), however this plan provides more than enough information to fully construct the boat. It is recommended that a good book be purchased on the subject of wood / epoxy boat construction, with particular reference to stitch / glue and tack / tape construction.

Recommended books are:

The Gougeon Brothers on Boat Construction (Gougeon Brothers)

Build the New Instant Boats (Harold 'Dynamite' Payson)

Devlin's Boat Building (Sam Devlin)

These plans have been carefully prepared, however the designer can take no responsibility for any amateur built boat built to these plans.

VIEWING AND PRINTING THIS E- PLAN

This document is in PDF format and can be viewed directly on your computer. This may be adequate for reading the text portions of the document, however for viewing the drawings and obtaining quotes etc you will want to print the document. This can be done on any good quality laser or ink jet printer.

If you do not have a good quality printer (smaller, cheaper, home laser printers may not do the best job with the fine lines of the drawings), you can take the file to many printing shops (on a USB memory stick) and they will print it for you at a reasonable cost. Most Printers now print from PDF files.

If printing at home, make sure you have your printer set at best quality print, to ensure that the fine lines of the drawings are as clear as possible. They are drawn fine deliberately to provide quality of detail. Drawings are also set with narrow page margins, and on some printers you may receive a message advising that the documents content is outside the default margin settings for the printer. If asked to proceed, you should answer yes.

Always ensure that your printer is set to A4 paper size

This document may be viewed and printed, but may not be edited or altered in any way.

BUILDING NOTES.

This boat is built in a series of fairly easy and straightforward steps.

STEP 1 - MARK OUT AND CUT THE PANEL COMPONENTS
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You will find a general guide for laying out the panels on the sheets of plywood on sheet #3 of the drawings. The actual dimensions for each panel are given on sheets #4, #5, #6, #7, #8, and #9. The easiest way is to cut out all your panels first and then assemble the boat. The following points are worth noting

1. On sheet 4 of the plans you will notice that the shapes for the bilge panels are indicated but no dimensions for these panels are actually given. One of the main problems with the tack and tape method of construction is that human error can creep in fairly easily if you are not careful, so it is unlikely that a precut bilge panel (which is the last to be fitted) will be a precise fit. This is easily overcome. Just cut ply strips 310mm in width, and later on during construction, you can simply lay the ply over the gap between bottom and topside panels, tape / weight it down so that it holds the shape, and then mark the inside with a pencil. This will give you the exact required panel shape, which you can then cut out.
2. On sheet 5 the bottom panel is cut as a single unit. Once you have the general shape, the slot which extends about halfway along the panel centerline from the front can be cut. This is easily marked with a flexible batten and then cut with a fine saw blade (a jig saw or a hacksaw blade in a holder). The slot is 7mm wide at the forward end, but reduces to a single cut from a point 1850mm from the aft end.
3. Transom panels should be cut first then beveled before assembly. Because the ply is very thin (9mm) and the bevels are very small, the join of hull panels to transoms are unlikely to be perfect, but thanks to the gap filling qualities of epoxy they will be fine if close enough.
4. The seat top panels on sheet # 8 are as per the plan drawings. Again, because of the possibility of small variations creeping in during construction, you may wish to cut these a little over sized at the ends, and fit them more precisely whilst installing.
5. When the front seat back panel is fitted, you will see that the front top corner of the jig projects above the edge of the panel. The top corners must be trimmed off otherwise they will interfere with fitting the bilge panels

STEP # 02 - CONSTRUCT THE BUILDING JIG

This boat is built on a simple jig. This is necessary because the tack and tape method requires the hull to be built over its own bulkheads (in this case the seat panels), unlike stitch and glue which does not require a jig at all for small boats. Tack and tape is however much easier than stitch and glue, and the method allows for much better control over the hull shape.

The jig is 4 simple panels of 9mm ply (Sheet #9). Cut them out and assemble them as shown on the plan drawing. Note:

1. The long side panels are stiffened with a 31mm x 31mm timber brace along the bottom edge on the outer side. This stiffens the panel and allows you to clamp the jig to a couple of saw horses. Make sure you do this on a dead flat surface to ensure the side panels are straight. Join the panels with 19mm x 19mm cleats in the corners.
2. Fit a couple of diagonal braces across the top to make sure the jig stays square. Make sure the assembly is done on an absolutely flat surface and that the box is absolutely square to start with.
3. The slots in the top edges of the panel sides are to hold the seat panels over which the hull is assembled. These panels are 6mm thick, so the slots should also be 6mm wide. The slots should be a reasonably tight push fit, but if they are a bit wide the seat panels can be secured with dry fitted timber blocks etc. (It is critical that the panels be fitted accurately and securely so they do not move during construction.)
4. Note that the aft end of the jig is sloping. The aft transom panel will be fitted to this later. The forward seat panel sits in a little lip at the forward end of the jig.

STEP #03 - FIT SEAT PANELS AND AFT TRANSOM

The seat panels are fitted into their respective slots on the jig. You should have centerlines drawn on each of your seat panels and transoms (always mark your main reference lines on all panels) so these can be used as a guide.

Stretch a string down the exact centerline of the jig, from the mid positions on each jig end panel (run it under the diagonal braces) and use this as a guide. A secondary back up is to draw lines parallel to the centerline on each seat panel and 300mm out on either side. If your

jig is square then these lines should align with the outside of the jig side panels once the panel is installed. Don't permanently secure the panels at this stage (use small clamps etc if they are not tight fits in the slots)

The aft transom panel should be installed by simply clamping it to the back side of the jig aft panel. Fit the transom panel so that its lowest edge (the actual transom top) is 11 - 12mm above the bottom corner of the side panels, but again, just clamp it. You may need to adjust it later.

The forward seat panel sits in a slight notch at the front end of the jig, and is simply clamped or screwed to the front panel of the jig. Not that the top front corners of the jig must be trimmed away so as not to interfere with fitting the bilge panels.

NOTE# All those edges of the seat panels (but not the transoms) which will come in contact with hull panels must at this stage be taped with plastic tape. This is to prevent them being accidentally glued into the hull, as they must be removed later to allow the inside seams of the hull shell to be glass taped.

STEPS #4 and #5 - FIT TOPSIDE AND BOTTOM PANELS, AND BOW TRANSOM

These steps are treated together here because you can do them in any order, and you may wish to do the bottom panel first if your transverse seat panels are not all that secure. It is easier however, to do the topsides first, so make sure your seat panels are correctly aligned transversely, and secured.

TOPSIDE PANELS

It will be easier if you have a couple of willing hands to help here. With someone holding the front end up and in, secure the aft edge to the topside edge of the aft transom. Because the transom is 9mm thick, you can do this with small thin screws and packaging tape. Don't glue it at this stage.

Next, bend the bilge panels around the seat panels and secure them to the seat panels. Secure the bilge panels to the topside edges of the seat panels so that the topside / bilge edge of each panel (the uppermost edge on set up) is aligned with the topside chine angle on the panels. Because the play is thinner here, screws are difficult, but small thin brad nails can be used to tack them on (don't drive them right in) and once fitted, the panels can be secure to the seat panels with dry timber cleats and screws inside if necessary.

It is best to do both panels together, but as long as you don't use glue on anything you can easily make adjustments if something gets out of wack.

BOW TRANSOM

The bow transom is free floating. Fix it with dry screws and tape to the leading edge of one of the topside panels, then draw the two sides together and secure the other topside to the bow transom. Because the side panels are predefined in shape, the whole thing should come together within acceptable limits. This will be confirmed when the bottom panel is fitted.

To make sure that everything stays together at this stage, thoroughly tape up the joins between the topside panels and the transoms.

BOTTOM PANEL

Start the bottom panel at the aft transom, and just secure it with some tape. Bend it forward over the seat panels to the point where the forward panel slot begins.

If your seat panels are correctly set up then the edges of the bottom panel should line up exactly with the lower chine angles on each seat panel. If they don't then either your panels are out of transverse alignment or you have not cut your panels accurately. Adjust as necessary until it is right.

Holding both pieces of the bottom panel front end (either side of the slot) bend the front end of the panel down until it fits to the forward transom. The panel will warp slightly as you pull it in to the bottom panel edges of the forward transom. If the fit to the forward transom is not precise, just move the transom a little until it fits.

Once you are sure everything fits and is square, remove the bottom panel and re-fit it using epoxy glue to secure it to the transoms only. The seat panels must remain unglued. At this stage you must secure the slot along the front of the bottom panel. The join should be reasonably close, with only a narrow slot all the way along. Place as much packaging tape as necessary along the slot to hold the slot sides in tightly. As long as the slot is no more than a few millimeters wide it is OK. If you find the slot will not stay closed with tape, insert the odd wire stitch wherever needed (to be removed later of course.)

Once the bottom panel is secured, remove the topside panels and re-fit them with glue at the transoms only.

The main body of your structure is now complete and should be fairly stable. Don't panic if it isn't accurate to the millimeter in all dimensions - no hand built boat ever is!

STEP #06 - MARK OUT AND CUT THE BILGE PANELS

As mentioned earlier, it is unlikely that precut panels would fit accurately here due to the method of construction. The way around this is to just cut strips from the ply sheet and lay them down over the hull shell so that they cover the gap between topside and bottom panels. Secure the panel with tape and weights to hold it down onto the hull.

Mark the ends on the outside of the transoms and along the inside of the topside and bottom panels. You can then remove the panel and cut to shape. Make sure you do each bilge panel separately as they are unlikely to be the exact same shape (even though the boat is identical on both sides).

STEP #07 - FIT AND SECURE THE BILGE PANELS

The bilge panels should now fit pretty neatly into place, since they were specifically cut to fit. Fit them just as for the other panels, with glue to the transoms and taping across the chine seams wherever necessary to hold the panels in place and shape.

If there is a hard spot along a seam (which there should not be, since you marked to shape) just run a hack saw blade along it to clean it up.

SECURING THE HULL PANELS

This is where it gets interesting. The panels are secured with thickened epoxy glue (pre made or home made with epoxy resin and fillers) and this begins with what is called 'dollop' securing. At intervals along each chine seam, on the outside of the hull shell, squeeze a dollop of glue into the slight 'V' of the seam. Once you have done this along all 4 seams and allowed the dollops to dry and cure a little, the hull shell is now secure and your packaging tape can be removed from the hull.

STEP #08 - FILL THE CHINE SEAMS

The first step here is to carefully tape the insides of the hull seams to prevent glue running through the gaps and away. If you have help you can carefully lift the shell of the jig and turn it over for this, but be very careful as the shell is still relatively unstable. If you choose to do this, leave the outer securing tape on until you are finished with the inside taping.

Otherwise, the inside can be taped by carefully taping over the seams between the seat panels. The tape needs to be fitted right into the angle (see sheet #13) to be effective.

Once the taping is done, turn the shell back over and trowel glue into the full length of each chine seam. Once the glue has gone off a little, sand it back so that the chine is smooth and slightly rounded.

NOTE# Before you fit the 'dollops' or fill the seams it is essential to coat the full length of each seam with epoxy resin. You don't need to do the whole hull shell at this stage, but it is essential to seal the ply edges inside the chine seams. If you do not do this, the dry timber will suck resin out of your epoxy glue, making the glue, and hence the chine, weaker.

Once the seams are completed, you are ready to sheath the outside of the hull

STEP #09 - SHEATH THE HULL EXTERIOR

There are many of these little ply dingys that omit this step, but lets face it, if you don't want your tender to be torn to shreds every time you beach it you will need this.

The hull sheathing is simply 200 gsm woven glass cloth. Other than securing the outside of the chines the sheathing is not strictly structural. For this reason it can be laid transversely, and it is not critical that the joins between cloth panels be overlapped. Make sure however that they are tightly butted, as the cloth also acts as the external tape for the chine seams.

If you intend your tender for some hard knocks it is recommended you be a bit more secure about it, albeit at the expense of greater work required. In this case you might like to run 50mm wide glass cloth along each seam before you sheath the hull.

Another alternative, and a preferable one for a boat intended for hard knocks, is to lay the glass panels lengthways, with a join along the centerline. Trim the glass at the gunwales later.

This creates unbroken sheathing along the chines and with less fairing, but will use up a bit more glass. You can use the remnant to cut tapes for the interior work later.

Laying the glass cloth is straight forward. Coat the entire outside of the hull with epoxy resin and allow it to go a little tacky. This will hold your glass in place while you work on it. Lay the cloth onto the hull and thoroughly wet out. Once the resin has started to go off, trim the gunwale edges etc .

At the transoms, the glass should be run over the edges and about 50 mm onto the transoms. Sheath each transom first, and run the bottom sheathing over the joins. The transoms will require a bit of fairing later. Add a bit more resin anywhere you think it needed to fill weave or where the cloth appears resin starved.

Lastly, use epoxy filler to fair anywhere it is necessary (tape joins and overlaps).

STEP #10 - FIT AND SHEATH THE SKEG.

The skeg is in two parts, the skeg itself and the hardwood keel plate along its bottom edge.

The skeg is simply cut to shape by sitting the timber over the inverted hull shell and marking the bottom panel curve onto the timber. Then cut to shape and glue it to the bottom panel.

The keel plate is simply glued to the top of the skeg timber. Not that at the forward end there is a slight curve and you might need to cut a few kerfs into the strip to make it curve neatly. Also the hull bottom starts to 'V' here so make sure the plate strip is well bedded. Secure the plate with a few screws.

Run good and large fillets of high density epoxy filler along both sides of the skeg to round out the corner and then clean it up.

Lastly, the skeg must be sheathed with two layers of 200 gsm glass cloth, extending at least 50mm onto the hull bottom on each side. Finish as for the sheathing of the hull.

You can now turn your shell over to work on the interior.

STEP # 11 - FILLET AND TAPE THE CHINE SEAM INTERIORS

Remove the shell from the jig, turn it over and remove the seat panels. Before you do this carefully mark with a pencil the exact location of each seat panel as you will be re-installing them later. Coat the entire inside surface of the boat with epoxy resin.

Remove the tape from the interior of each chine seam. If you did your taping correctly and well there should be a minimum of clean up from epoxy seeping through from outside.

Run a nice wide fillet of epoxy filler along each seam inside the boat (chines and transoms), to fill any gaps and round out the angles. Lay 75mm wide tape along ALL interior joins and seams. You can make this tape easily by carefully cutting strips from your cloth. If you want a really need job you might want to use pre-cut tapes, but it is not strictly necessary.

NOTE# Many small dingys use 50mm wide tape here, but the general rule of thumb is 9 times the ply thickness for each leg of the join, so for 6mm ply that equals 108mm for the tape width. This is clearly excessive in a little boat like this, but 75mm is better than 50mm.

STEP #12 - RE-FIT THE SEAT PANELS.

The tape covering the edges of the seat panels should now be removed, and the edges trimmed. Each panel will require just a little sanding and trimming especially at the chines, where you will have to make allowance for the thickness of the chine fillets and tapes. Just do it with a sanding block via. trial and error.

Once each seat panel is fitted, secure it back in place with a few dollops of epoxy glue. Once the dollops are cured you can run high density epoxy fillets all the way around the hull / panel joins, on both sides of the seat panel.

Note that on the inside (of the seat) of each seat panel, the epoxy fillets should end about 20mm from the top edge of the panel, otherwise they will get in the way when you fit the framing for the seat tops.

Glass tape is not necessary for the seat panel joins. High density fillets should be more than enough as long as they are done carefully.

STEP #13 - FIT GUNWALES AND BOW BUMPER

GUNWALES

The Gunwales are the stiffening timber for the top edges of the hull shell sides. Each gunwale is two strip of 12mm x 42mm timber glued to the outside of the topside along the top edge, and secured with clamps until the glue cures. It is easier to do each of the two layers separately. Note that the gunwales fit over the hull sheathing.

At the position of the oar rowlocks, glue a third short layer to form a block for the row lock plates.

If you want to clear finish the gunwales you need to be very careful to get everything even and straight, as imperfections will be obvious. Personally I recommend fill, sand and paint. This is intended to be a work horse, and many sailors will want to fit rubber bumpers etc over these anyway.

BOW BUMPER

This is simply a curved 19mm x 42mm timber strip fitted across the top of the bow transom. Cut it to the transom top curve from a piece of 68mm wide timber and glue it in position. Fill / sand / paint.

STEPS #14 and 15 - COMPLETING THE SEATS.

The framing in the top of the seats is shown on sheet 16 of the drawings, and is fairly self explanatory. Note the 68mm wide centerline members in the forward seat (to support the mast if you add one later) and the center seat (to support the rower.)

Framing cross pieces should be housed slightly into the seat panel top framing, and secured with glue and screws.

The ply seat top panels are simply glued / screwed down onto the framing. Note that it is easier to fit each panel in two halves, with a join on the centerline, if you need to adjust the fit at all.

The center seat panel can be fitted in three pieces, and the center piece hinged and latched to form a locker in the center seat. If you do this, the center 68mm timber support can be omitted.

The fore and aft seats must be finished water tight (no exceptions) and each should be fitted with a small inspection port in the seat vertical panel, to allow ventilation when the boat is out of the water.

Note# fit the 'U' bolt in the bow transom before you fit the forward seat top.

FINISHING THE BOAT

To finish the boat, you need to finish the transom. Fit the transom brace (19mm x 42mm) across the top, and fit the motor bracket. To do this, pack the transom out behind the bracket with two layers of 9mm ply, then fit a 6mm layer of ply over all, as shown on sheet 17.

Now all that is left is to fill, sand and paint the boat. How well you wish to do this is entirely up to you.

MATERIALS LIST

This list will provide sufficient materials to build the Pippie 8 tender if built to plan.

PLYWOOD

6mm ply	2 sheets 2400mm x 1200mm
9mm ply	1 sheet 2400mm x 1200mm

TIMBER

Softwood (Oregon or Hoop Pine)

12mm x 42mm	10 meters
19mm x 19mm	5 meters
19mm x 31mm	1.5 meters
19mm x 42mm	3.2 meters
19mm x 68mm	1 meter
19mm x 93mm	1.1 meter
31mm x 31mm	4 metres

Hardwood

19mm x 19mm	1.5 meters
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WOVEN GLASS CLOTH

200 gsm wgc	8 Meters ²
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EPOXY MATERIALS

Resin	8 liters
Fillers etc	These differ depending on the type of resin - discuss with your supplier.

Various glassing tools and volatiles – discuss your needs with your supplier.

FITTINGS

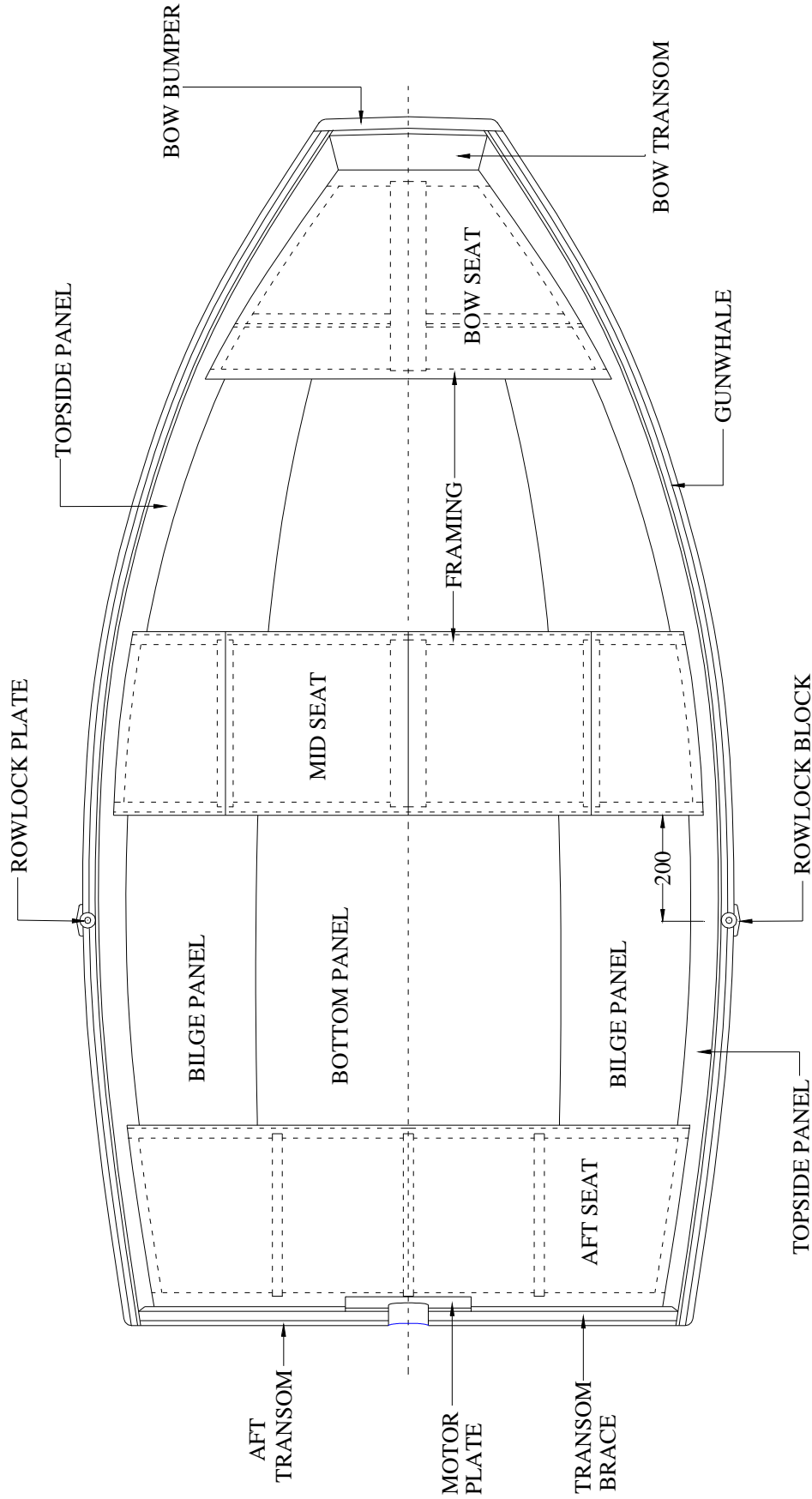
The fittings required for the Pippie are minimal.

Rowlock / rowlock plate sets (2)	Ronstan PNP77 or similar
'U' bolt	Ronstan RF541 or similar
Oars (2)	
Plastic inspection port (2)	Ronstan RF530 or similar




MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54993620
PO BOX 383, MORAYFIELD 4506, QLD AUSTRALIA

THE PIPPIE 8 TENDER IS A SIMPLE NUTSHELL STYLE DINGY BUILT FROM PLY USING THE TACK / TAPE / STITCH /
GLUE TECHNIQUE. TO BUILD THE BOAT JUST FOLLOW THE BUILDING STEPS.



PLAN VIEW

 MICHAEL D. WALLER, AUSTRALIA, 2010. THESE DRAWINGS
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DESIGN: PIPPIE 8 TENDER

CLIENT: STOCK PLAN

SHEET NO: 1 OF 17 SCALE: 1:15

SUBJECT: GENERAL PLAN DRAWING

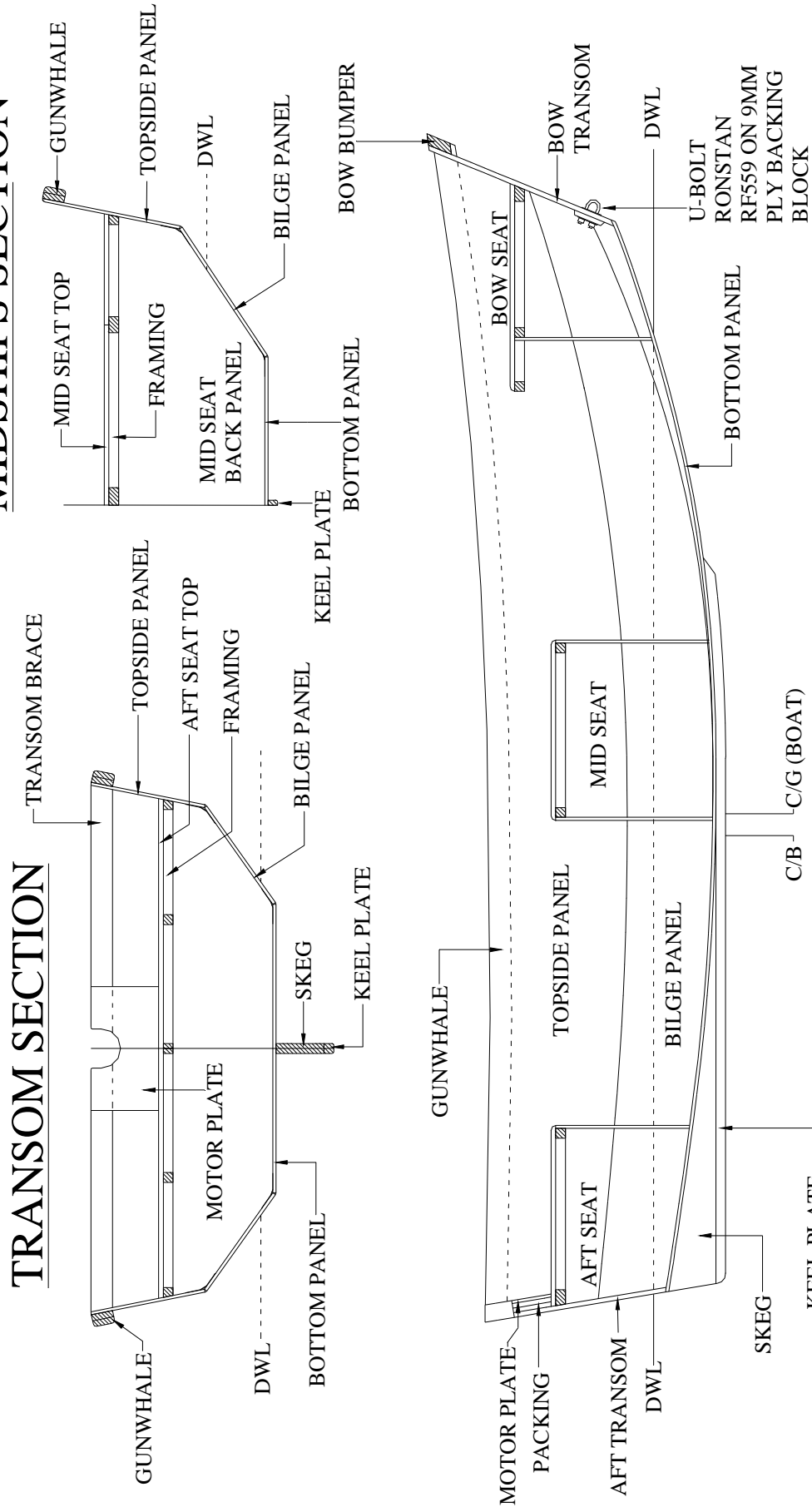
ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

MIKE WALLER YACHT DESIGN
 EMAIL: mike.waller@wallerdesign.com.au
 PHONE / FAX: +61 7 54995620
 PO BOX 351, MORAYFIELD 4660, QLD AUSTRALIA



NOTE# THE TRANSOM SECTION IS VIEWED SQUARE TO THE TRANSOM PANEL, AND NOT SQUARE TO THE WATERLINE

MIDSHIPS SECTION



CENTERLINE PROFILE

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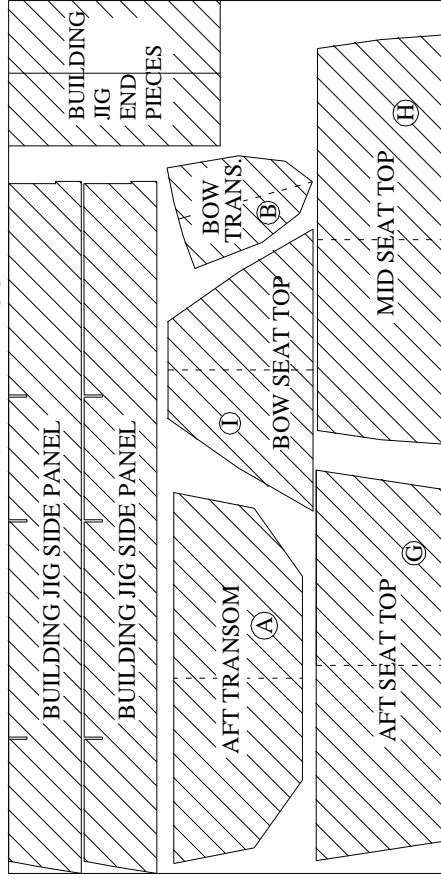
DESIGN: PIPPE'S TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 2 OF 17 SCALE: 1:15
 SUBJECT: GENERAL PROFILE / SECTIONS

MIKE WALLER YACHT DESIGN
 EMAIL: mike.waller@wallerdesign.com.au
 PHONE / FAX: +61 7 54995620
 PO BOX 383, MORAYFIELD 4060, QLD AUSTRALIA

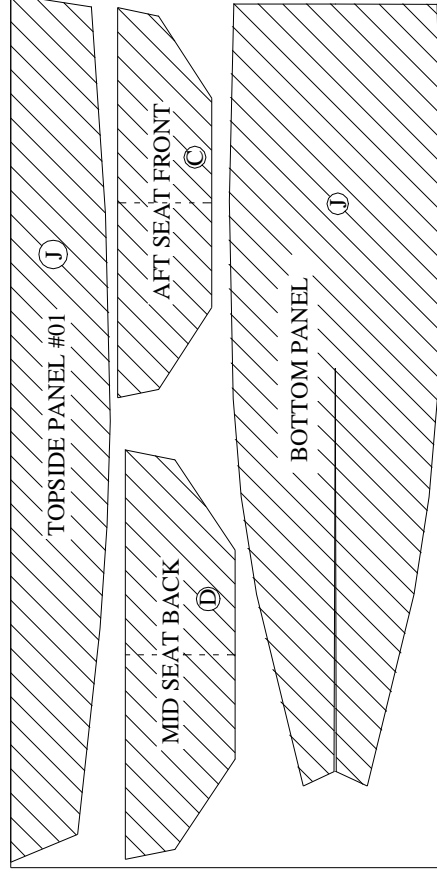


THIS DINGY CAN BE BUILT FROM 3 SHEETS OF PLY (2 X 6MM AND 1 X 9MM) THIS PLAN SHEET SHOWS THE RECOMMENDED LAYOUT FOR CUTTING THE COMPONENTS FROM THE PLY SHEETS. NOTE THAT TO AVOID CLUTTER, THE DIMENSIONS OF EACH COMPONENT ARE NOT SHOWN HERE. DIMENSIONS FOR EACH PIECE, PLUS NOTES FOR MARKING OUT, ARE SHOWN ON SEPERATE SHEETS.

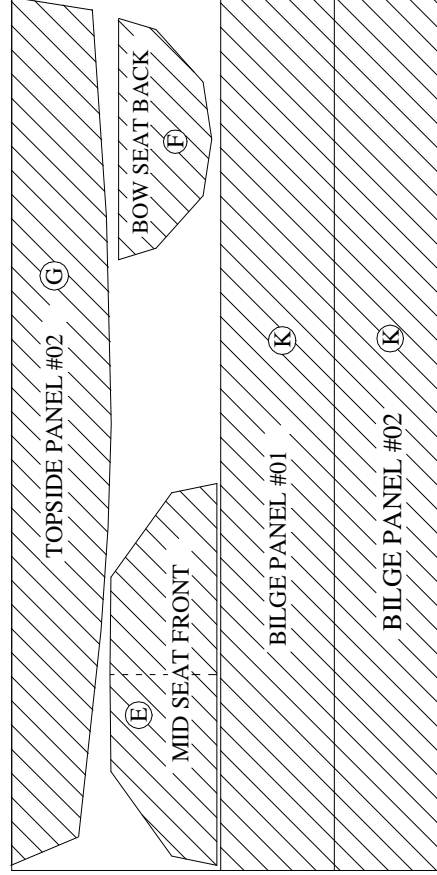
SHEET #03 - 9MM PLYWOOD



SHEET #01 - 6MM PLYWOOD



SHEET #02 - 6MM PLYWOOD



1 CONSTRUCTION STEP #01 - MARK OUT AND CUT ALL PLY COMPONENTS.

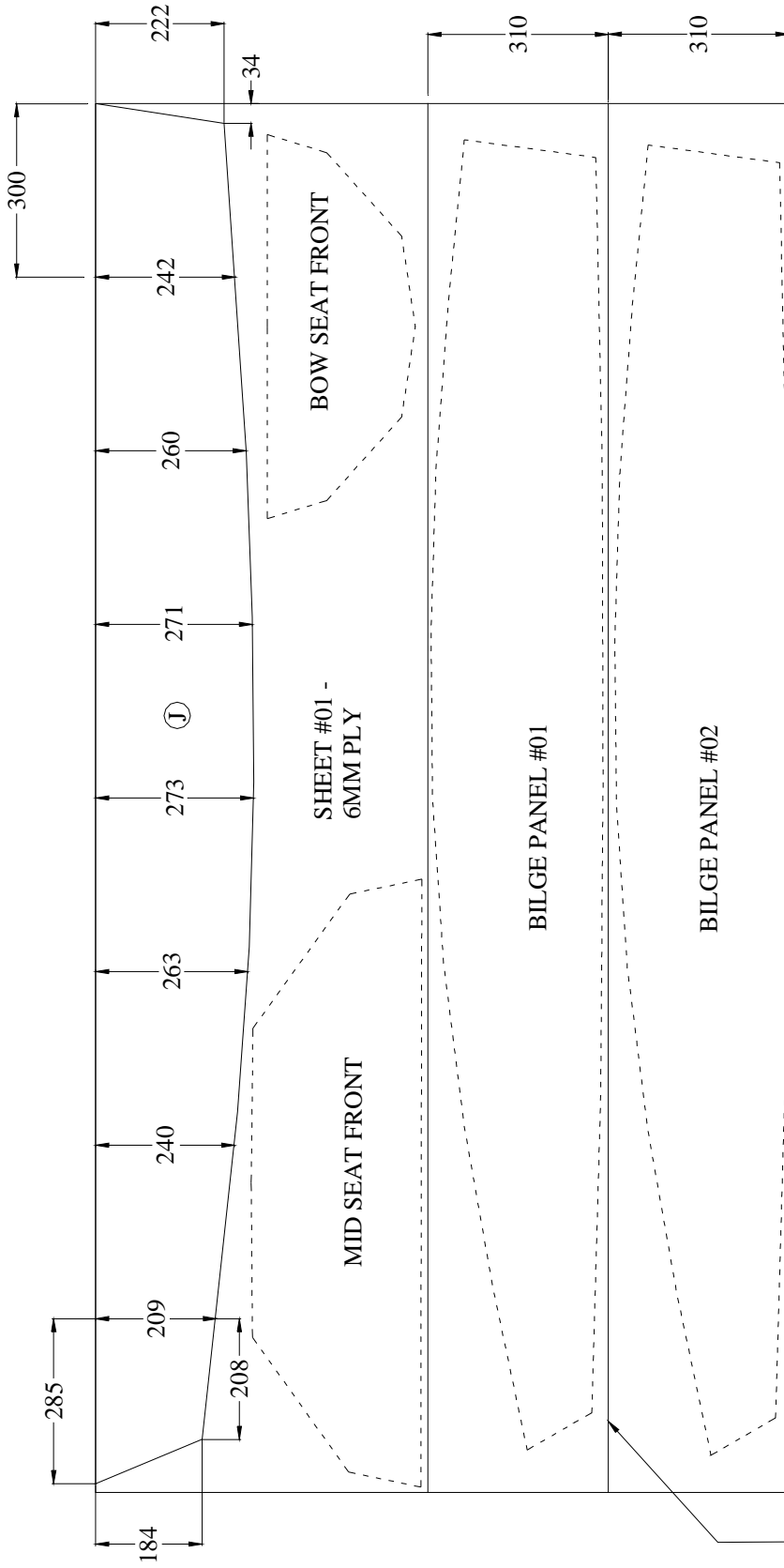
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DESIGN: PIPPIE 8 TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 3 OF 17 SCALE: 1:25
 SUBJECT: PLY COMPONENTS LAYOUT

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

MIKE WALLER YACHT DESIGN
 EMAIL: mike.waller@wallerdesign.com.au
 PHONE / FAX: +61 7 54956620
 PO BOX 383, MORAYFIELD-4506, QLD AUSTRALIA

TO MEASURE TOPSIDE PANEL #01, ALL DIMENSIONS ARE FROM THE EDGE OF THE PLY PANEL. DRAW THE ENTIRE SHAPE AND THEN CUT USING A FINE BLADED SAW. USE THE PANEL AS THE TEMPLATE FOR THE SECOND TOPSIDE PANEL (OF SHEET #02)



BECAUSE OF THE HUMAN ERROR AND VAGARIES OF THE CONSTRUCTION METHOD, THE BILGE PANELS ARE MARKED DIRECTLY FROM THE JOB, TO ENSURE AN EXACT FIT. ONCE THE TOPSIDE AND BOTTOM PANELS ARE ON, CUT A PLY STRIP AS SHOWN HERE AND TAPE IT OVER THE HULL GAP, THEN DRAW THE EXACT SHAPE FROM THE INSIDE, AND CUT TO FIT

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DESIGN: PIPPE'S TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 4 OF 17 SCALE: 1:15
 SUBJECT: PANEL DIMENSIONS #1

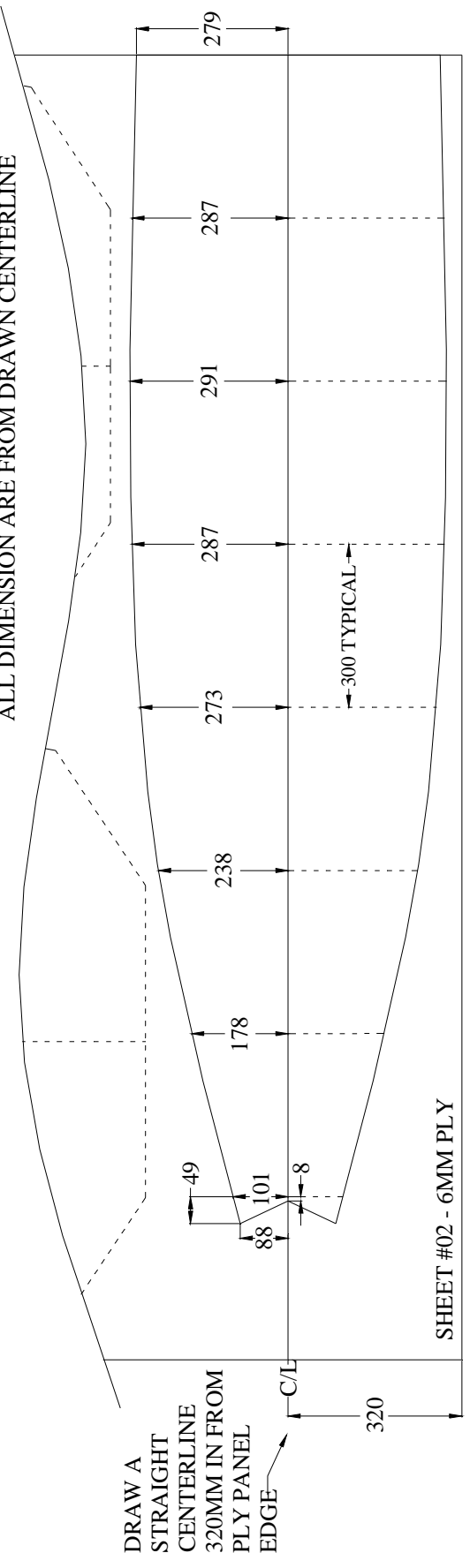
ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS



MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54995620
PO BOX 381, MORAYFIELD 4506, QLD AUSTRALIA

CUT THE BOTTOM PANEL AS A SINGLE PANEL WITH THE CENTERLINE DRAWN DOWN THE MIDDLE. AFTER CUTTING, CAREFULLY MARK AND CUT THE SLOT IN THE FORWARD PART OF THE PANEL.

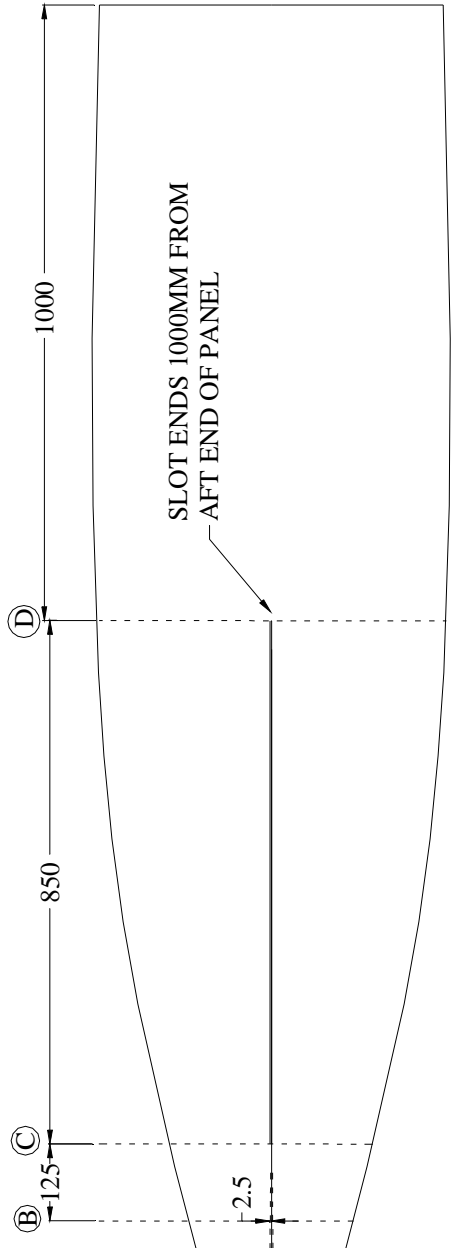
ALL DIMENSION ARE FROM DRAWN CENTERLINE



DRAW A STRAIGHT CENTERLINE 320MM IN FROM PLY PANEL EDGE

SHEET #02 - 6MM PLY

- Ⓐ AT THIS POINT SLOT IS 3.5MM OUT FROM CENTER LINE (7MM TOTAL)
- Ⓑ AT THIS POINT SLOT IS 2.5MM OUT FROM CENTERLINE (5MM TOTAL)
- Ⓒ FROM THIS POINT ON SLOT WILL HAVE REDUCED TO THE WIDTH OF THE SAW BLADE CUT (2-3MM) SO FROM HERE BACK TO 'D' JUST CUT A SINGLE STRAIGHT SLOT
- Ⓓ SLOT ENDS AT 'D'. AFT OF THIS POINT THE BOTTOM PANEL IS A SINGLE FULL WIDTH SHEET



NOTE# USE A FINE SAW BLADE TO CUT THE SLOT (EG - HACKSAW)

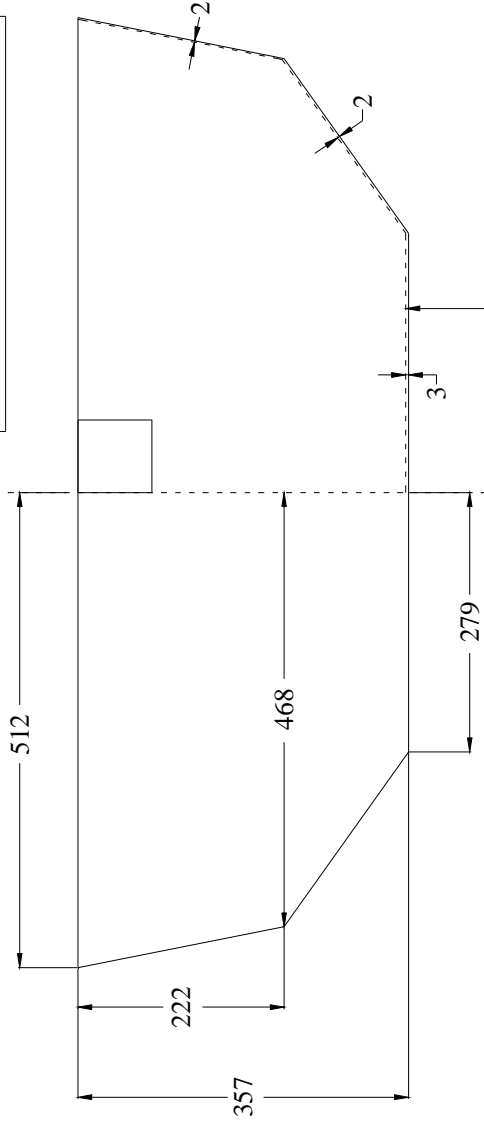
Ⓒ	MICHAEL D. WALLER, AUSTRALIA, 2010. THESE DRAWINGS MAY NOT BE LENT, SOLD OR COPIED WITHOUT EXPRESS WRITTEN PERMISSION OF THE COPYRIGHT HOLDER.
DESIGN:	PIPIE 8 TENDER
CLIENT:	STOCK PLAN
SHEET NO:	5 OF 17
SCALE:	1:15
SUBJECT:	PANEL DIMENSIONS #2



MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54995620
PO BOX 363, MORAYFIELD 4506, QLD AUSTRALIA

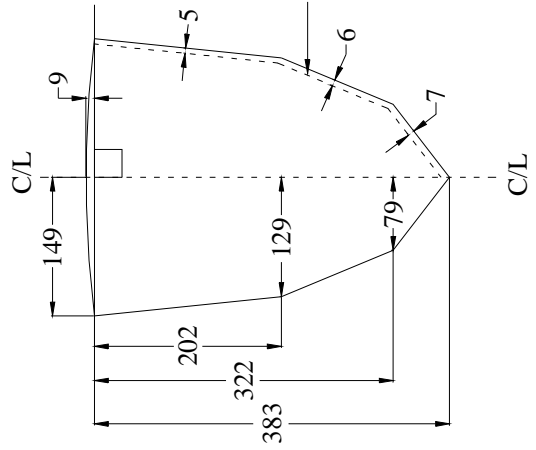
**BOTH TRANSOM PANELS ARE
CUT FULL SIZE AND THEN
CAREFULLY BEVELLED.**

AFT TRANSOM (A)



BEVELS ON AFT TRANSOM ARE ON AFT SIDE

BOW TRANSOM (B)



BEVELS ON BOW TRANSOM ARE ON FORWARD SIDE

**BOTH PANELS ARE CUT FROM 9MM PLY
(PLYWOOD SHEET #03)**

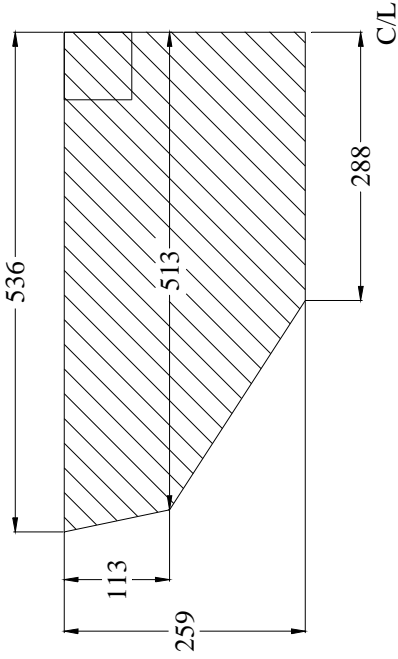
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DESIGN: PIPPIE 8 TENDER
CLIENT: STOCK PLAN
SHEET NO. 6 OF 17 SCALE: 1:10
SUBJECT: PANEL DIMENSIONS #3

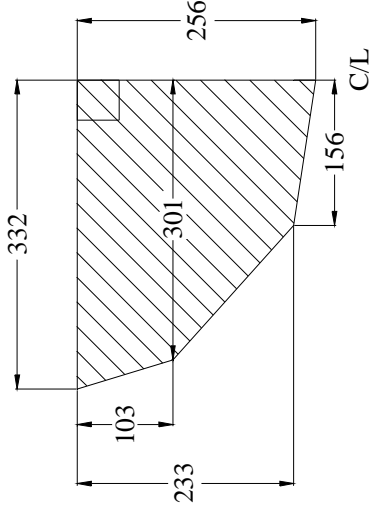


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EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54993620
PO BOX 388, MORAYFIELD 4506, QLD AUSTRALIA

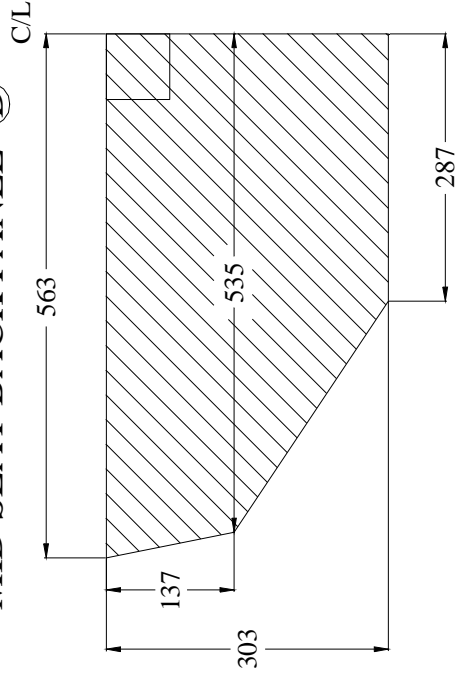
AFT SEAT FRONT PANEL ©



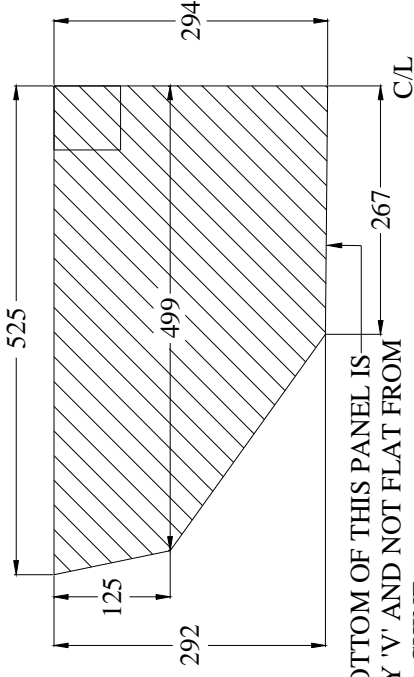
BOW SEAT BACK PANEL ©



MID SEAT BACK PANEL ©



MID SEAT FRONT PANEL ©



NOTE# BOTTOM OF THIS PANEL IS
SLIGHTLY 'V' AND NOT FLAT FROM
CHINE TO CHINE

THESE PANELS ARE ALSO USED AS PART OF THE MOLD FOR THE HULL SHELL

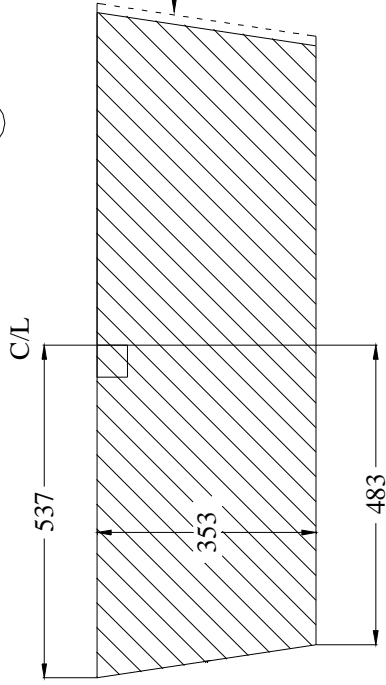
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DESIGN: PIPPIE & TENDER
CLIENT: STOCK PLAN
SHEET NO: 7 OF 17 SCALE: 1:10
SUBJECT: PANEL DIMENSIONS #4



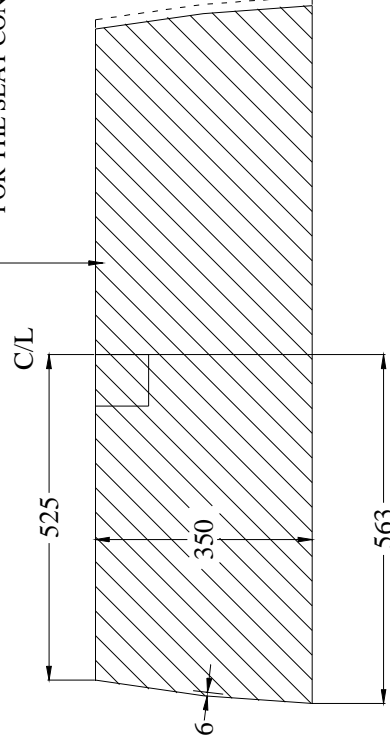
MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54993620
PO BOX 388, MORAYFIELD 4506, QLD AUSTRALIA

AFT SEAT TOP PANEL (G)

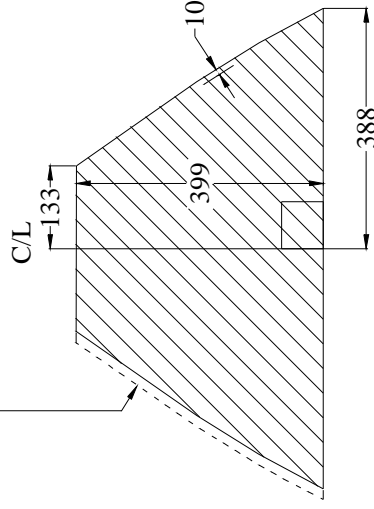


NOTE# BECAUSE BUILDING BOATS BY STITCH / TAPE AND GLUE CAN LEAD TO SMALL VARIATIONS IN DIMENSIONS, THERE IS A GOOD CHANCE THESE PANELS MAY NOT BE EXACT FITS IN YOUR HULL SHELL. THIS IS NOT A PROBLEM, AS THE GAPS CAN BE FILLED AND FILLETED, BUT IF YOU HAVE ANY DOUBTS, YOU CAN FIT EACH PANEL IN 2 PIECES. CUT EACH OUTER EDGE 15MM OUTSIDE THE MARKED BOUNDARY LINE, AND THEN CUT THE PANEL DOWN THE CENTERLINE. FIT EACH PIECE AGAINST THE HULL AND MARK AND TRIM AS NECESSARY, THEN FIT EACH PIECE IN PLACE JOINING ON A CENTER LINE FRAMING TIMBER.

THE MID SEAT TOP MAY BE FITTED AS SEVERAL SEPERATE PIECES TO ALLOW THE FITTING OF A LIFTING LID FOR INTERNAL ACCESS. SEE THE DRAWINGS FOR THE SEAT CONSTRUCTION.



MID SEAT TOP PANEL (H)



BOW SEAT TOP PANEL (I)

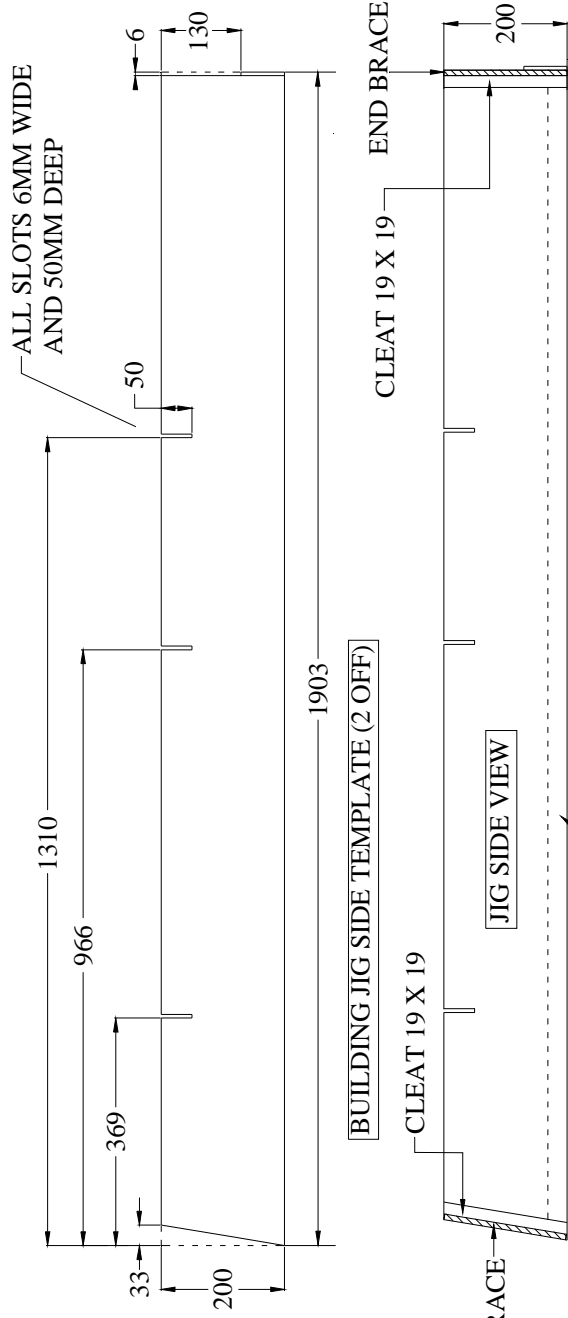
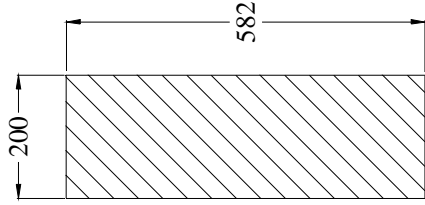
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DESIGN: PIPPIE & TENDER
CLIENT: STOCK PLAN
SHEET NO: 8 OF 17 SCALE: 1:15
SUBJECT: PANEL DIMENSIONS #5

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS



MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdsgn.com.au
PHONE / FAX: +617 54955620
PO BOX 383, MORAYFIELD 4506, QLD AUSTRALIA

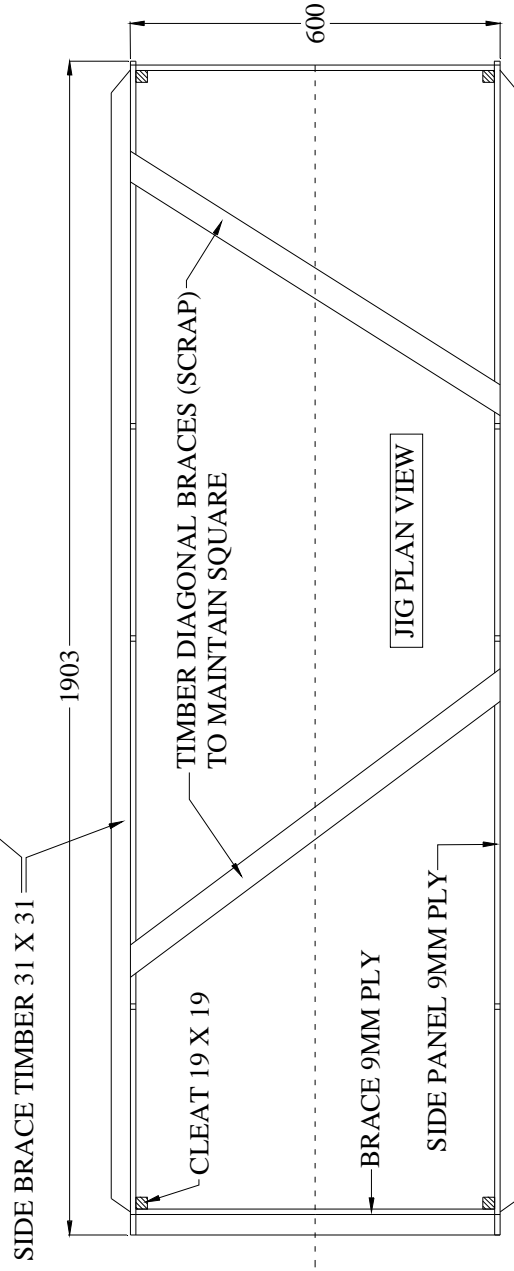


BUILDING JIG SIDE TEMPLATE (2 OFF)

JIG SIDE VIEW

END BRACE TEMPLATE (2 OFF)

THE BUILDING JIG IS 4 PIECES (2 SIDES AND TWO BRACES) GLUED AND SCREWED IN A BOX SHAPE WITH TIMBER CORNER CLEATS. - MAKE SURE IT IS EXACTLY SQUARE - CLAMP WHILE GLUING TO ENSURE THIS. - FIT TIMBER BRACES ON OUTSIDE OF EACH SIDE AT BASE TO PROVIDE STIFFNESS AND ALLOW CLAMPING TO WORK HORSES. DOUBLE CHECK ALL MEASUREMENTS AND MAKE SURE SLOTS ARE EXACT IN DEPTH AND SPACING.



2

CONSTRUCTION STEP #02 - CONSTRUCT BUILDING JIG.

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DESIGN: PIPPIE 8 TENDER
CLIENT: STOCK PLAN
SHEET NO: 9 OF 17 SCALE: 1:15
SUBJECT: BUILDING JIG



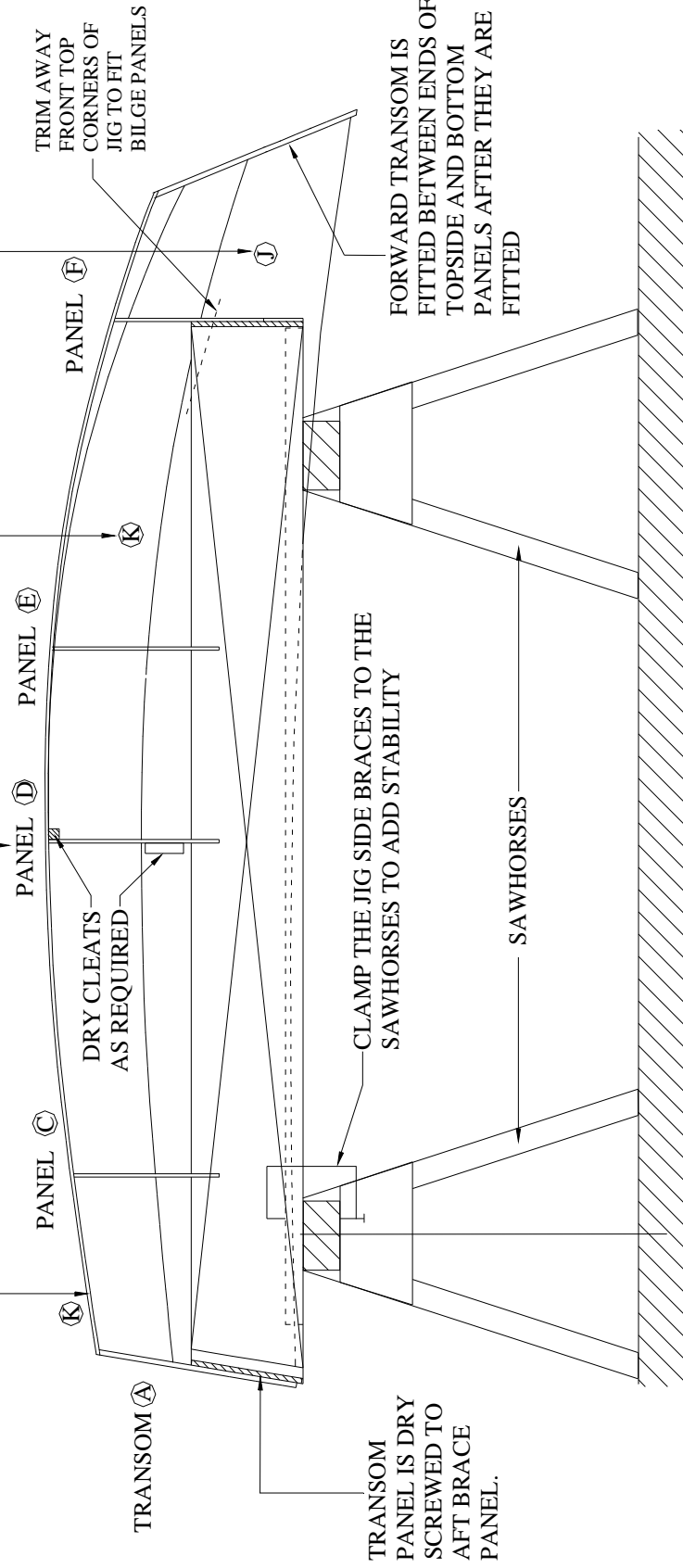
MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54993620
PO BOX 383, MORAYFIELD, 4666, QLD, AUSTRALIA

SEAT PANELS ARE FITTED IN TIGHT SLOTS
IN JIG, WITH DRY CLEATS AS REQUIRED
FOR STABILITY

BOTTOM PANEL IS SECURED TO
TRANSOMS (GLUED ETC.) AND SEAT
PANELS. (DRY FITTED)

BILGE PANELS ARE FITTED LAST
BETWEEN TOPSIDE AND BOTTOM
PANELS

TOPSIDE PANELS ARE SECURED
TO SEAT PANELS AND TRANSOMS,
ALIGNING THE TOPSIDE EDGE WITH
THE CHINE ANGLES ON THE
PANELS. TRANSOMS ARE GLUED
ETC., SEAT PANELS MUST BE DRY
FITTED.



TO WORK AT AN EASY HEIGHT, THE BUILDING JIG CAN BE SET UP ON SAW HORSES
OR ANY SUITABLE SUPPORT.

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DESIGN: PIPPIE 8 TENDER
CLIENT: STOCK PLAN
SHEET NO: 10 OF 17 SCALE: 1:15
SUBJECT: GENERAL CONSTRUCTION

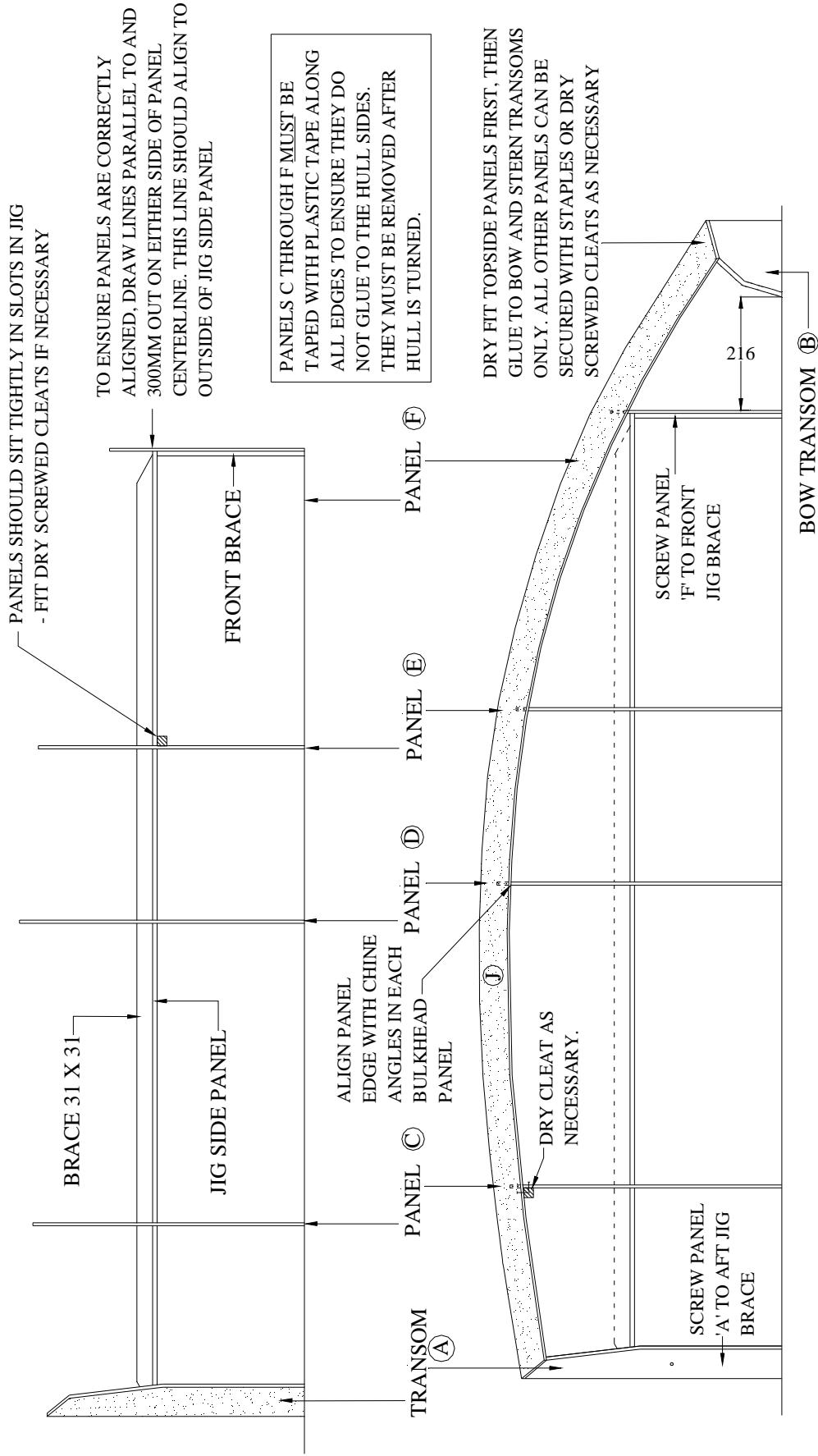
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MIKE WALLER YACHT DESIGN
 EMAIL: mike.waller@wallerdesign.com.au
 PHONE / FAX: +61 7 54995620
 PO BOX 383, MORAYFIELD QLD AUSTRALIA

3

CONSTRUCTION STEP #03 - SET UP AFT TRANSOM AND SEAT PANELS.



PANELS SHOULD SIT TIGHTLY IN SLOTS IN JIG
 - FIT DRY, SCREWED CLEATS IF NECESSARY

TO ENSURE PANELS ARE CORRECTLY
 ALIGNED, DRAW LINES PARALLEL TO AND
 300MM OUT ON EITHER SIDE OF PANEL
 CENTERLINE. THIS LINE SHOULD ALIGN TO
 OUTSIDE OF JIG SIDE PANEL

PANELS C THROUGH F MUST BE
 TAPED WITH PLASTIC TAPE ALONG
 ALL EDGES TO ENSURE THEY DO
 NOT GLUE TO THE HULL SIDES.
 THEY MUST BE REMOVED AFTER
 HULL IS TURNED.

DRY FIT TOPSIDE PANELS FIRST, THEN
 GLUE TO BOW AND STERN TRANSOMS
 ONLY. ALL OTHER PANELS CAN BE
 SECURED WITH STAPLES OR DRY
 SCREWED CLEATS AS NECESSARY

DRY CLEAT AS
 NECESSARY.

ALIGN PANEL
 EDGE WITH CHINE
 ANGLES IN EACH
 BULKHEAD
 PANEL

SCREW PANEL
 'F' TO FRONT
 JIG BRACE

SCREW PANEL
 'A' TO AFT JIG
 BRACE

BOW TRANSOM **B**

4

CONSTRUCTION STEP #04 - FIT TOPSIDE PANELS AND BOW TRANSOM.

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DESIGN: PIPPIE 8 TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 11 OF 17 SCALE: 1:15

SUBJECT: CONSTRUCTION STEPS 3 - 4

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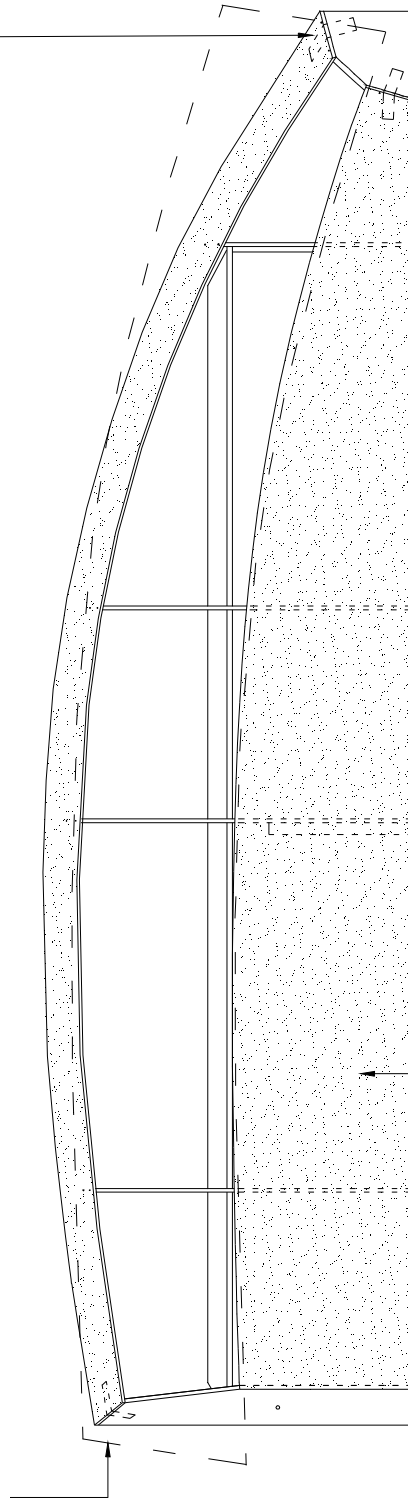


MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54995620
PO BOX 383, MORAYFIELD 4506, QLD AUSTRALIA

6 CONSTRUCTION STEP #06 - MARK OUT BILGE PANEL SHAPE

PLY FOR BILGE PANELS IS LAID OVER THE GAP BETWEEN BOTTOM AND TOPSIDE PANEL, HELD DOWN TIGHTLY WITH TAPE AND WEIGHTS, MARKED ACCURATELY FROM THE INSIDE, THEN CUT TO SHAPE.

TO GLUE PANELS AT TRANSOMS, YOU CAN USE GOOD QUALITY PLASTIC MARKING TAPE TO HOLD THE PANEL IN PLACE WHILE THE GLUE DRIES. IF THE TAPE WILL NOT HOLD (SOME PLY TYPES FLEX EASIER THAN OTHERS) YOU CAN INSERT A COPPER WIRE STITCH WHERE NECESSARY, OR INSERT A SMALL AND THIN SCREW INTO THE PLY EDGE CAREFULLY. HOLES CAN BE FILLED LATER. TRANSOMS ARE 9MM PLY AND SMALL THIN SCREWS CAN BE USED WITH CARE.



THE BOTTOM PANEL IS FITTED ONTO THE TRANSOM (GLUED ETC.) AND THE SEAT PANELS (DRY FITTED) TO SUIT, ALIGNING IT BETWEEN THE LOWER CHINE ANGLES ON EACH PANEL. IF IT DOES NOT FIT PRECISELY (TO WITHIN A MILL OR 2) THEN EITHER YOUR PANELS ARE NOT ALIGNED CORRECTLY ACROSS THE JIG, THE JIG IS NOT SQUARE, OR YOU HAVE CUT THE BOTTOM PANEL INACCURATELY. IF BUILT TO PLAN THE FIT SHOULD BE SUFFICIENTLY GOOD TO CONTINUE.

5 CONSTRUCTION STEP #05 - FIT BOTTOM PANEL

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DESIGN: PIPPIE 8 TENDER
CLIENT: STOCK PLAN
SHEET NO: 12 OF 17 SCALE: 1:15

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SUBJECT: CONSTRUCTION STEPS 5-6



MIKE WALLER YACHT DESIGN
 EMAIL: mike.waller@wallerdesign.com.au
 PHONE/ FAX: +61 7 54993620
 PO BOX 383, MORANTFIELD 4506, QLD AUSTRALIA

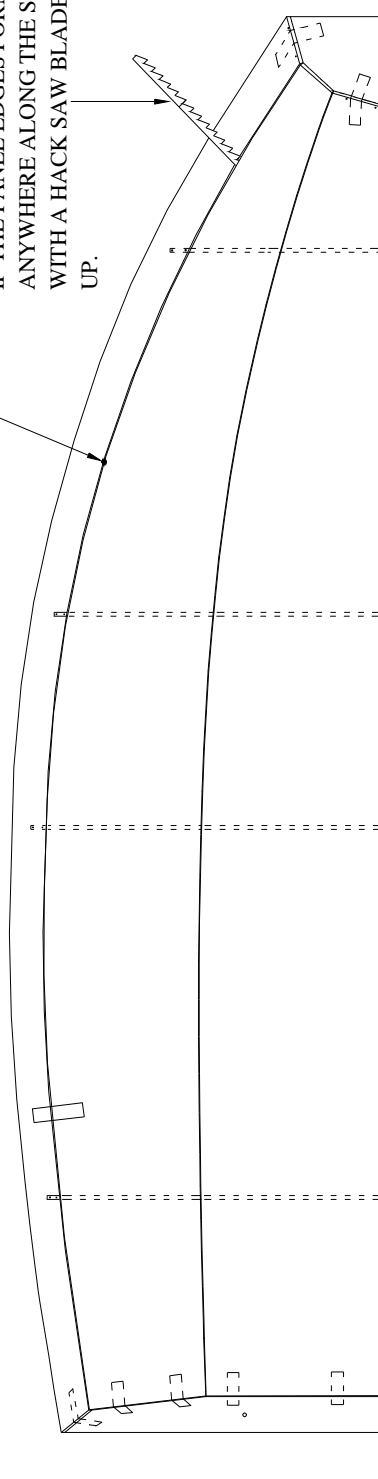
7

CONSTRUCTION STEP #07 - FIT AND SECURE BILGE PANELS

ONCE THEY ARE CUT TO SHAPE THE BILGE PANELS ARE FITTED AS FOR THE OTHER SKIN PANELS. TO MASKING TAPE TO DRAW THE CHINE SEAMS TOGETHER, ADDING A WIRE STITCH WHEREVER NECESSARY

AT INTERVALS ALONG EACH CHINE SEAM, INSERT A SMALL DOLLOP OF EPOXY GLUE TO SECURE THE SEAM. ONCE THESE ARE CURED THE TAPE AND STITCHES CAN BE REMOVED.

IF THE PANEL EDGES FORM A 'HARD' SPOT ANYWHERE ALONG THE SEAM, RUN THROUGH WITH A HACK SAW BLADE TO FREE THE SEAM UP.



FILL THE SMALL ANGLE GROOVE ALONG EACH CHINE SEAM WITH THICKENED EPOXY GLUE. WHEN THIS HAS CURED, THE SEAM IS SANDED SMOOTH ON THE OUTSIDE, READY FOR THE HULL SHEATHING GLASS.

ON THE INSIDE OF THE HULL SHELL, CAREFULLY COVER THE CHINE SEAMS (AND THE CENTERLINE SEAM FORWARD) WITH TAPE, TO PREVENT GLUE FROM RUNNING THROUGH

8 CONSTRUCTION STEP #08 - FILL CHINE SEAMS

SCALE 1:2

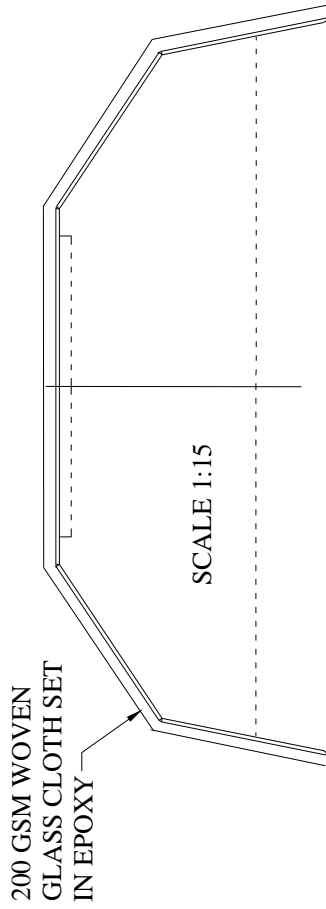
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DESIGN: PIPPIE 8 TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 13 OF 17 SCALE: 1:15
 SUBJECT: CONSTRUCTION STEPS 7 - 8

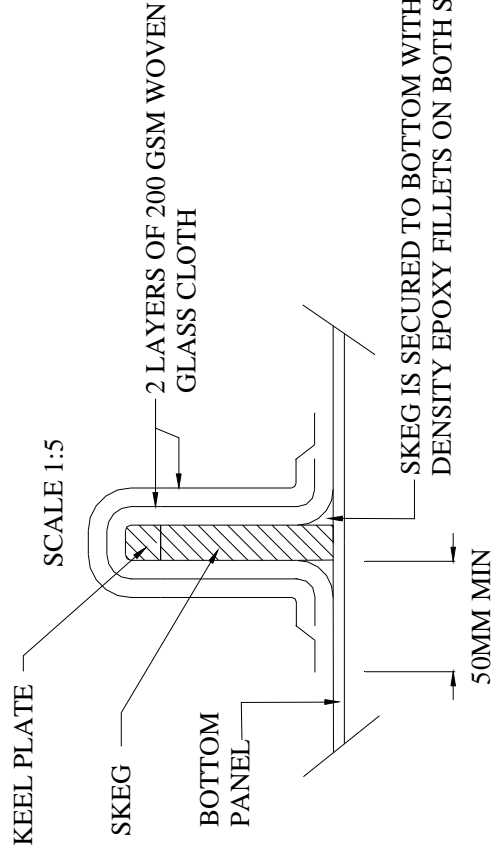


MIKE WALLER YACHT DESIGN
 EMAIL: mike.waller@wallerdesign.com.au
 PHONE / FAX: +61 7 54995620
 PO BOX 383, MORAYFIELD 466, QLD AUSTRALIA

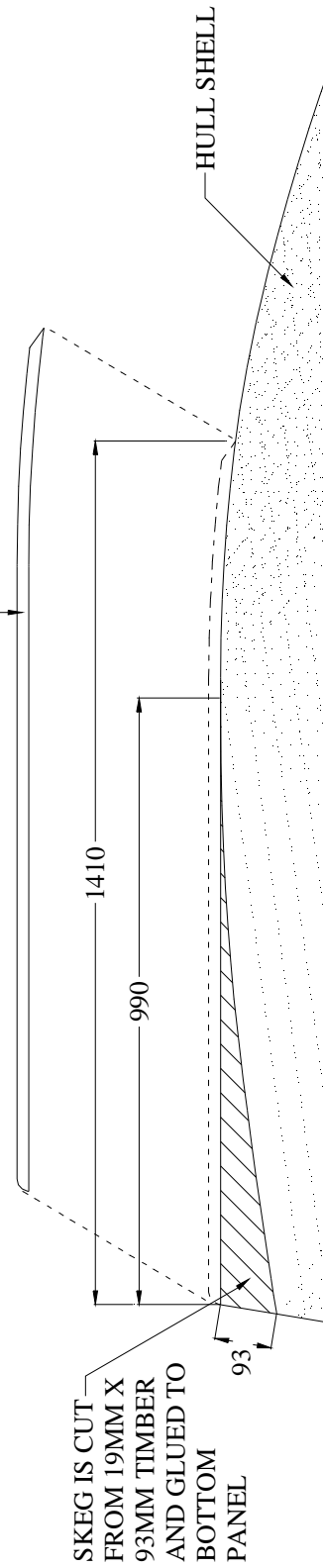
9 CONSTRUCTION STEP #09 - SHEATH HULL EXTERIOR



NOTE, GLASS SHEATHING IS PROTECTIVE BUT NOT STRUCTURAL. THE EASIEST WAY TO SHEATH IS THEREFORE TO RUN THE GLASS TRANSVERSELY WITH BUTT SEAMS. THIS WILL SAVE FAIRING AND SANDING LATER ON.



KEEL PLATE IS 19MM X 19MM HARDWOOD AND IS GLUED TO SKEG / BOTTOM PANEL. KURFING MAY BE NECESSARY AT THE FRONT END



10 CONSTRUCTION STEP #10 - FIT AND SHEATH SKEG

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DESIGN: PIPPIE 8 TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 14 OF 17 SCALE: AS SHOWN
 SUBJECT: CONSTRUCTION STEPS 9 - 10



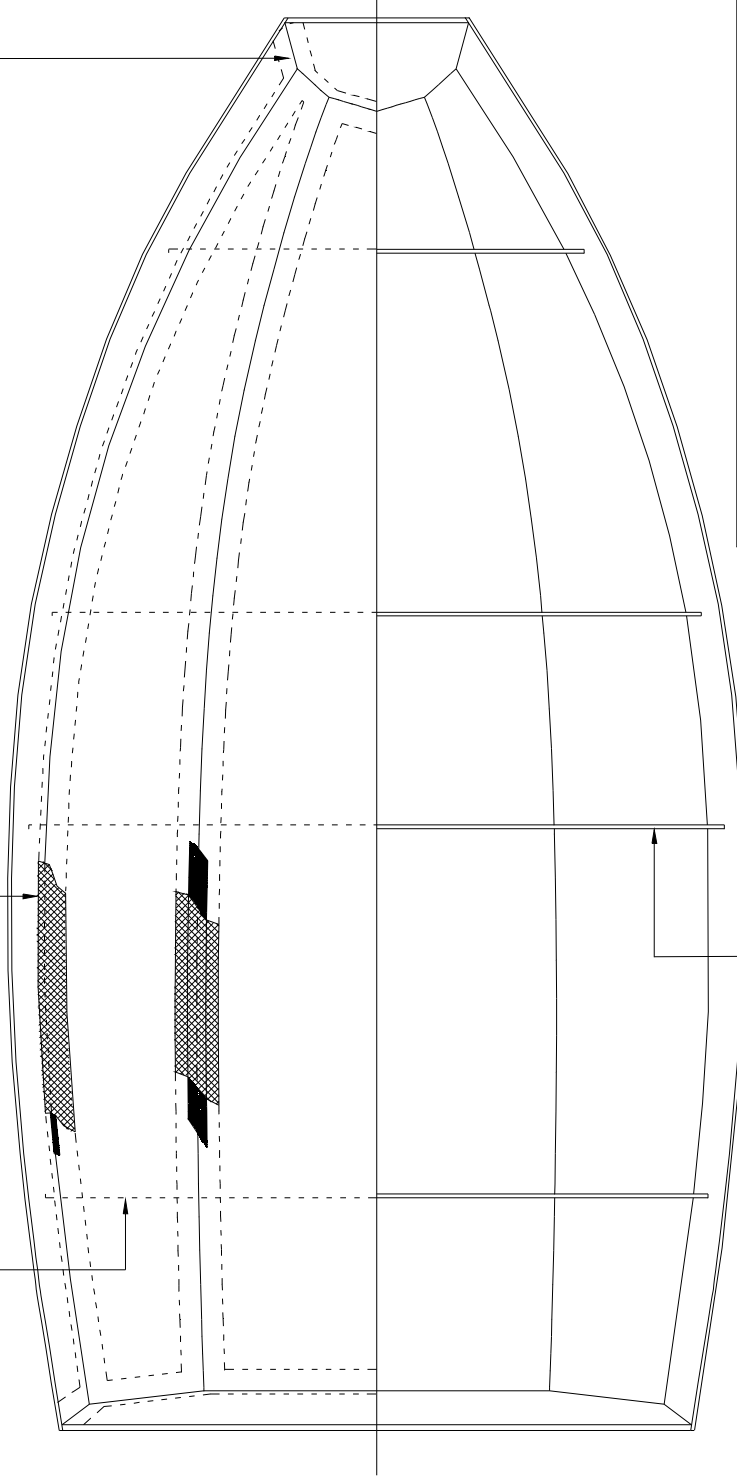
MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54995620
PO BOX 383, MORAYFIELD 4506, QLD AUSTRALIA

11

CONSTRUCTION STEP #11 - FILLET AND TAPE INTERIOR JOINS

NOTE# WHEN YOU TURN THE HULL SHELL OFF THE JIG MARK THE LOCATION OF EACH SEAT PANEL BEFORE REMOVING THEM TO CARRY OUT STEP #11

ALL INTERIOR SEAMS OF HULL PANELS AT CHINES AND FORWARD CENTERLINE, AND AT FORE AND AFT TRANSOMS, ARE FILLETED WITH HIGH DENSITY EPOXY, AND TAPED WITH 75MM WIDE TAPE - 200GSM WOVEN GLASS CLOTH SET IN EPOXY.



TAPE IS REMOVED FROM SEAT PANELS AND EDGES SANDED ETC. TO FIT OVER INTERNAL FILLETS AND TAPES. PANELS ARE THEN GLUED BACK IN PLACE AND SECURED WITH HIGH DENSITY EPOXY FILLETS ON EITHER SIDE.

NOTE# SAVE MONEY AND CUT THE INTERIOR TAPES FROM GLASS CLOTH LEFT OVER FROM EXTERNAL SHEATHING.

12

CONSTRUCTION STEP #12 - FIT SEAT PANELS

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DESIGN: PIPPIE 8 TENDER
CLIENT: STOCK PLAN
SHEET NO: 15 OF 17 SCALE: 1:15
SUBJECT: CONSTRUCTION STEPS 11 - 12

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS



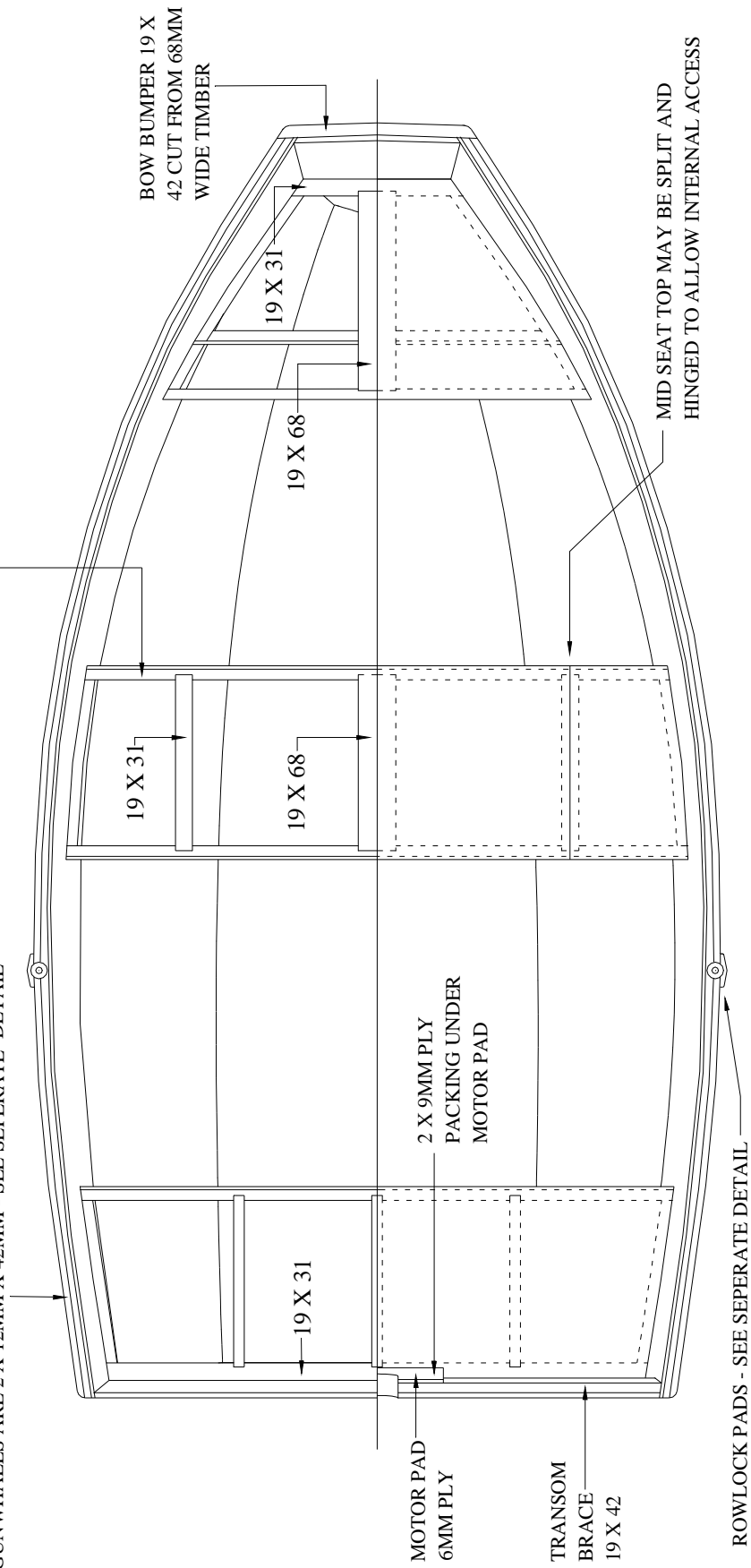
MIKE WALLER YACHT DESIGN
EMAIL: mike.waller@wallerdesign.com.au
PHONE / FAX: +61 7 54993620
PO BOX 383, MORAYFIELD, 4506, QLD, AUSTRALIA

14 CONSTRUCTION STEP #14 - FIT SEAT FRAMING

ALL SEATS ARE FRAMED AROUND THE TOP EDGE. ALL FRAMING 19MM X 19MM EXCEPT AS MARKED. GLUE AND SCREW.

13 CONSTRUCTION STEP #13 - FIT GUNWHALES AND BOW BUMPER

GUNWHALES ARE 2 X 12MM X 42MM - SEE SEPERATE DETAIL



15 CONSTRUCTION STEP #14 - FIT SEAT TOPS, TRANSOM FRAMING AND ROWLOCK PADS

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DESIGN: PIPPIE 8 TENDER
CLIENT: STOCK PLAN
SHEET NO. 16 OF 17 SCALE: 1:15

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

SUBJECT: CONSTRUCTION STEPS 14 - 15

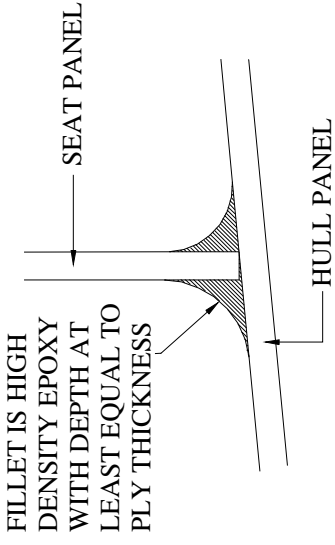
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 EMAIL: mike.waller@wallerdesign.com.au
 PHONE / FAX: +61 7 54993620
 PO BOX 383, MORAYFIELD 4506, QLD AUSTRALIA



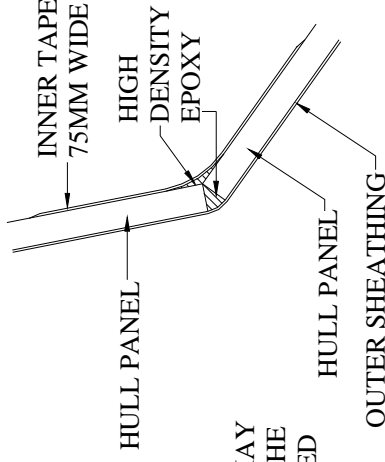
FILLET JOINS

SCALE 1:2

SEAT PANELS JOINS



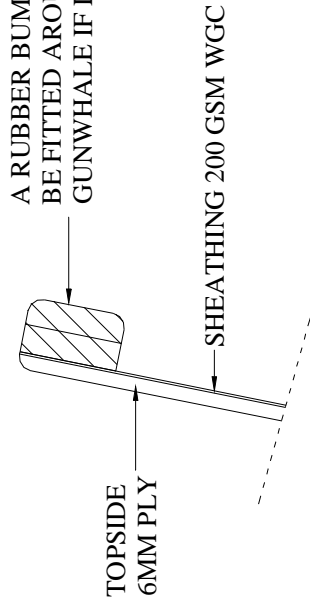
CHINE / CENTERLINE / TRANSOM JOINS



GUNWHALE

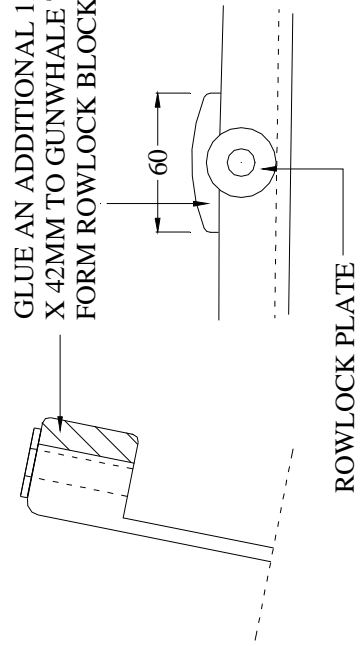
SCALE 1:4

THE GUNWHALE IS SIMPLY 2 LAYERS OF 12M X 42MM GLUED, SCREWED IN POSITION ON EACH TOPSIDE PANEL TOP EDGE, AND THEN SMOOTHED OVER AND FILLED.

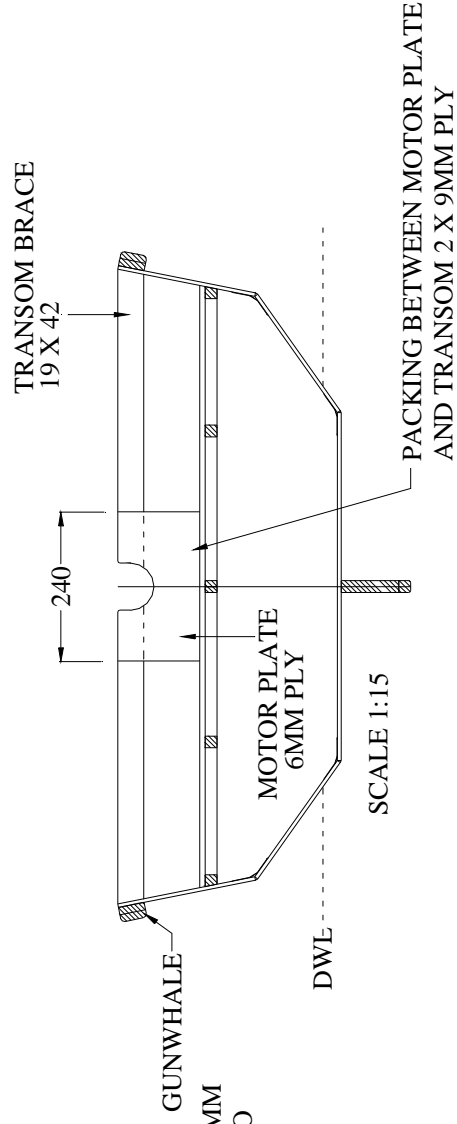


OAR ROWLOCK BLOCK

SCALE 1:4



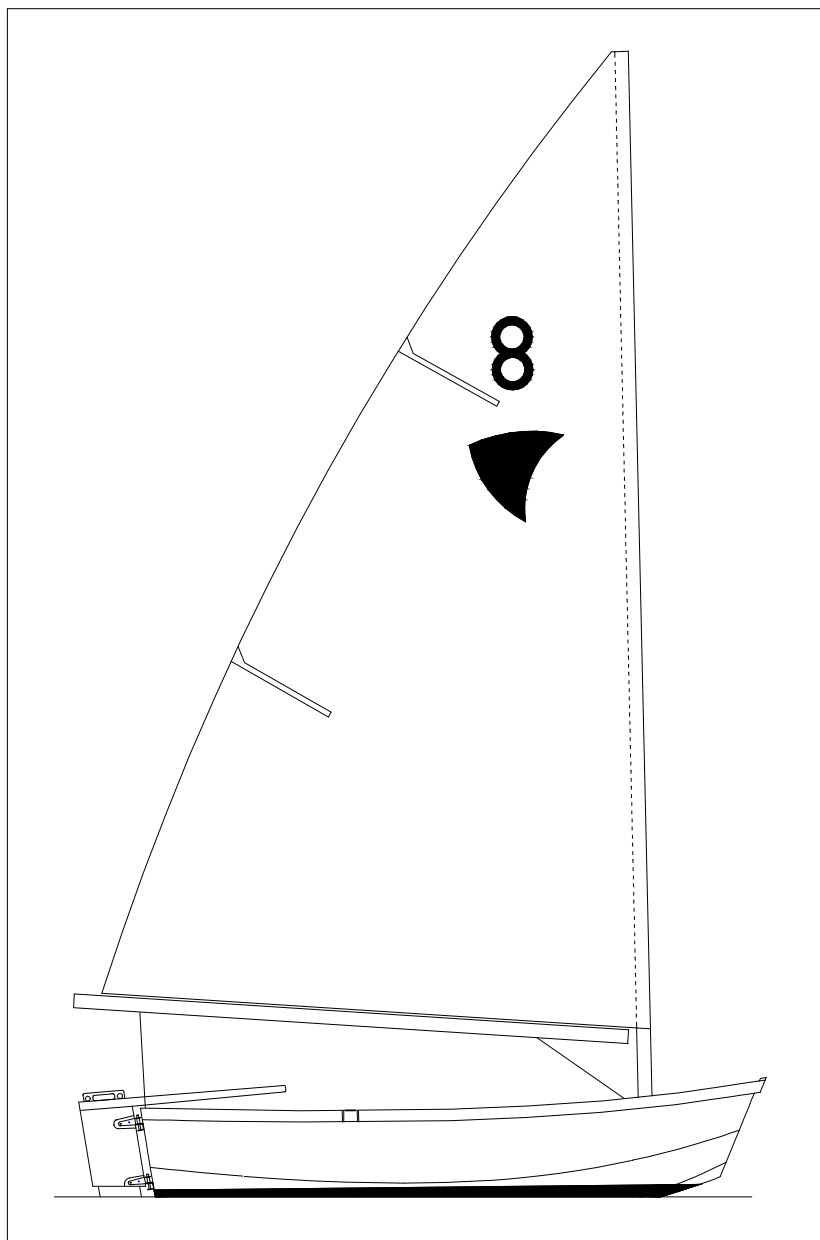
TRANSOM SECTION



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DESIGN: PIPPIE 8 TENDER
 CLIENT: STOCK PLAN
 SHEET NO: 17 OF 17 SCALE: AS SHOWN
 SUBJECT: MISC. DETAILS

These ePlans will allow you to build the Pippie 8 Tender / Dingy, which can be rowed, sculled or driven with the smallest outboard motors. If however, you would like to add sailing capability, you may wish to consider the Pippie 8 Sailing Trainer. This little yacht is identical to the tender, but with the addition of mast and sail, a rudder and center board. The Tender can be upgraded to the Trainer at a later time, however it is better to do so from the start, as installing the centerboard case is much easier at the initial stages.



Plans for the Pippie 8 Sailing Trainer are not free, however they are available from our web site for a nominal fee as downloadable ePlans

<http://www.wallerdesign.com.au>