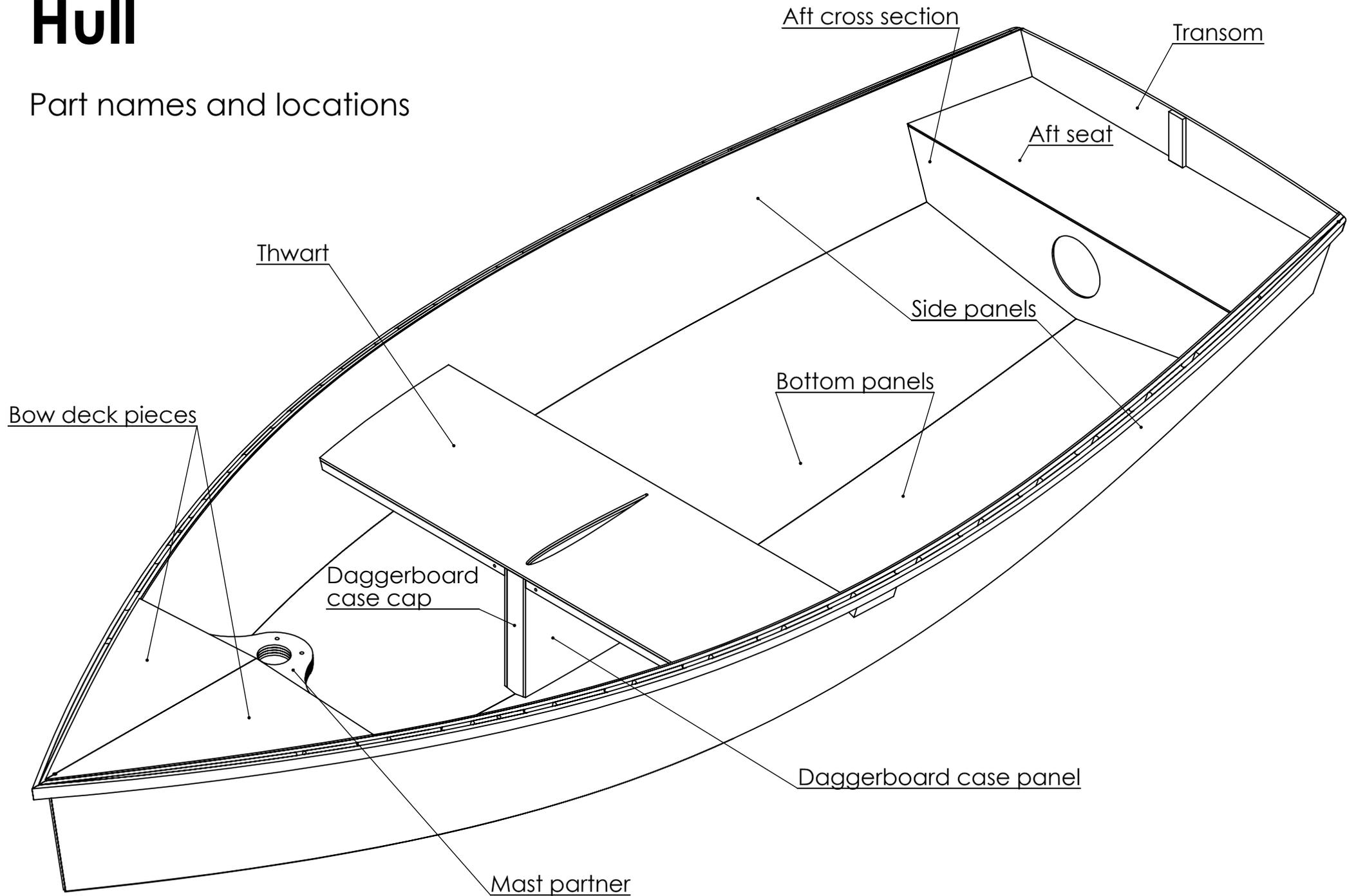
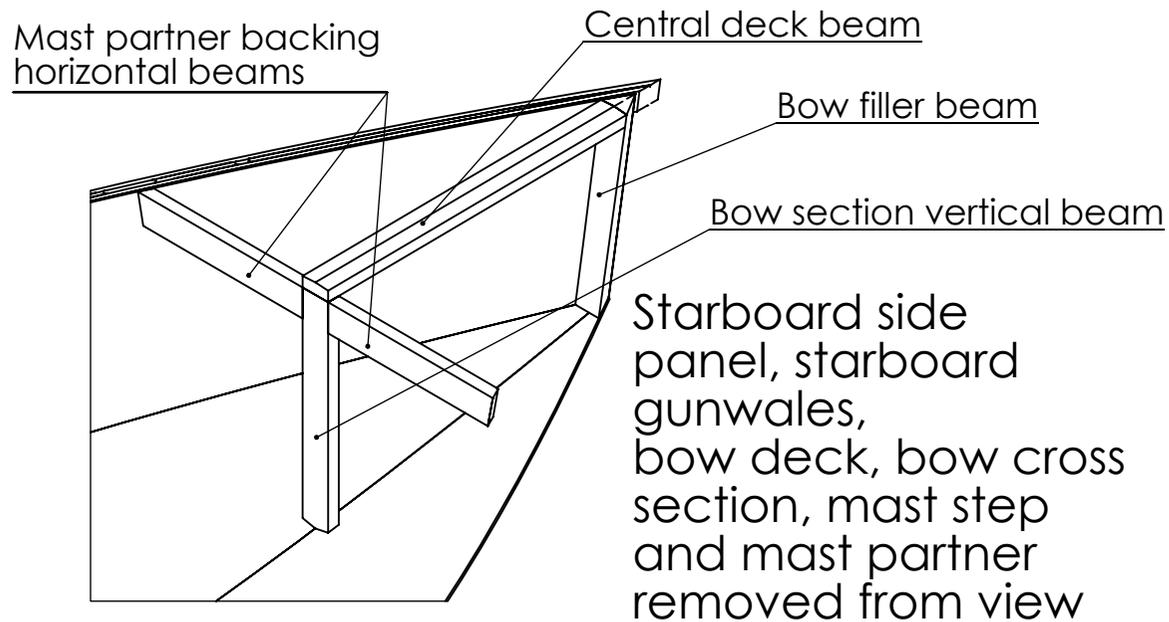
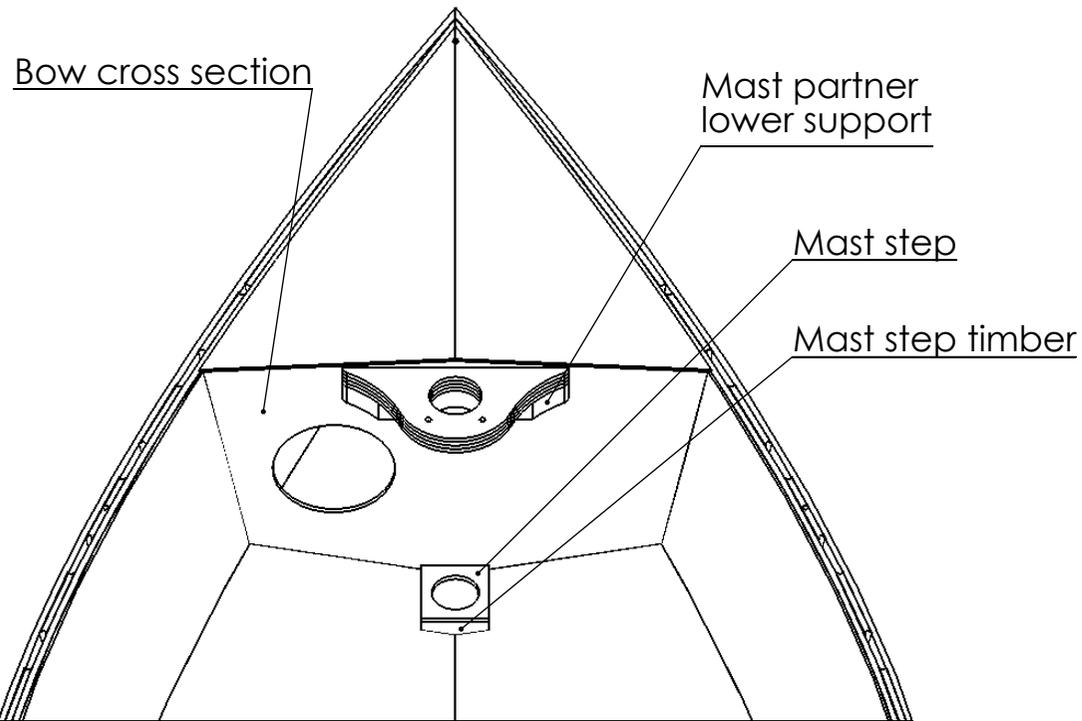


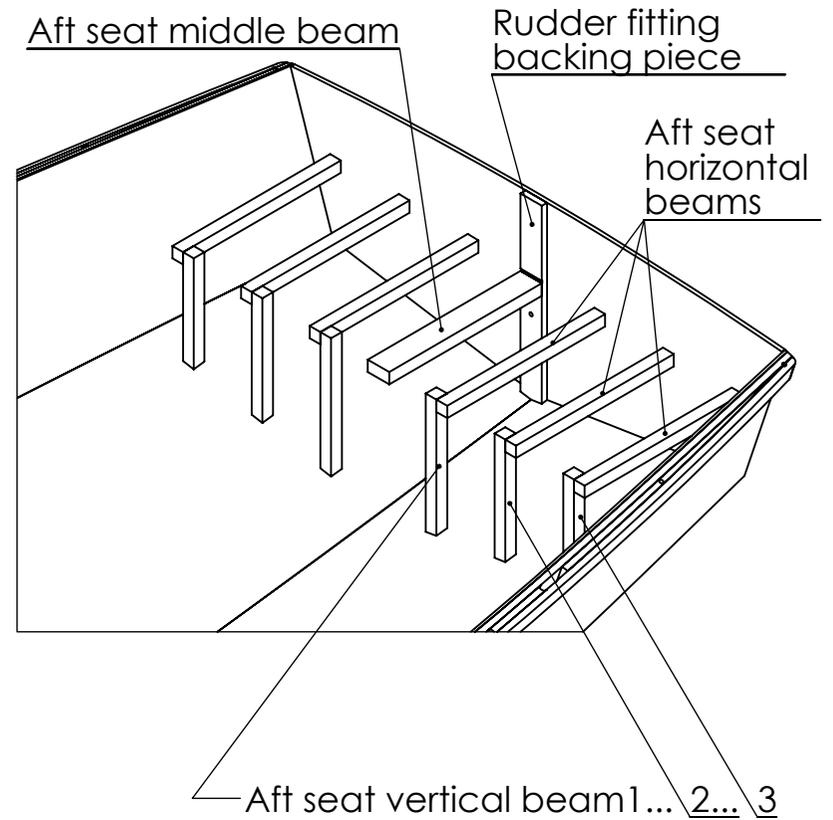
# Hull

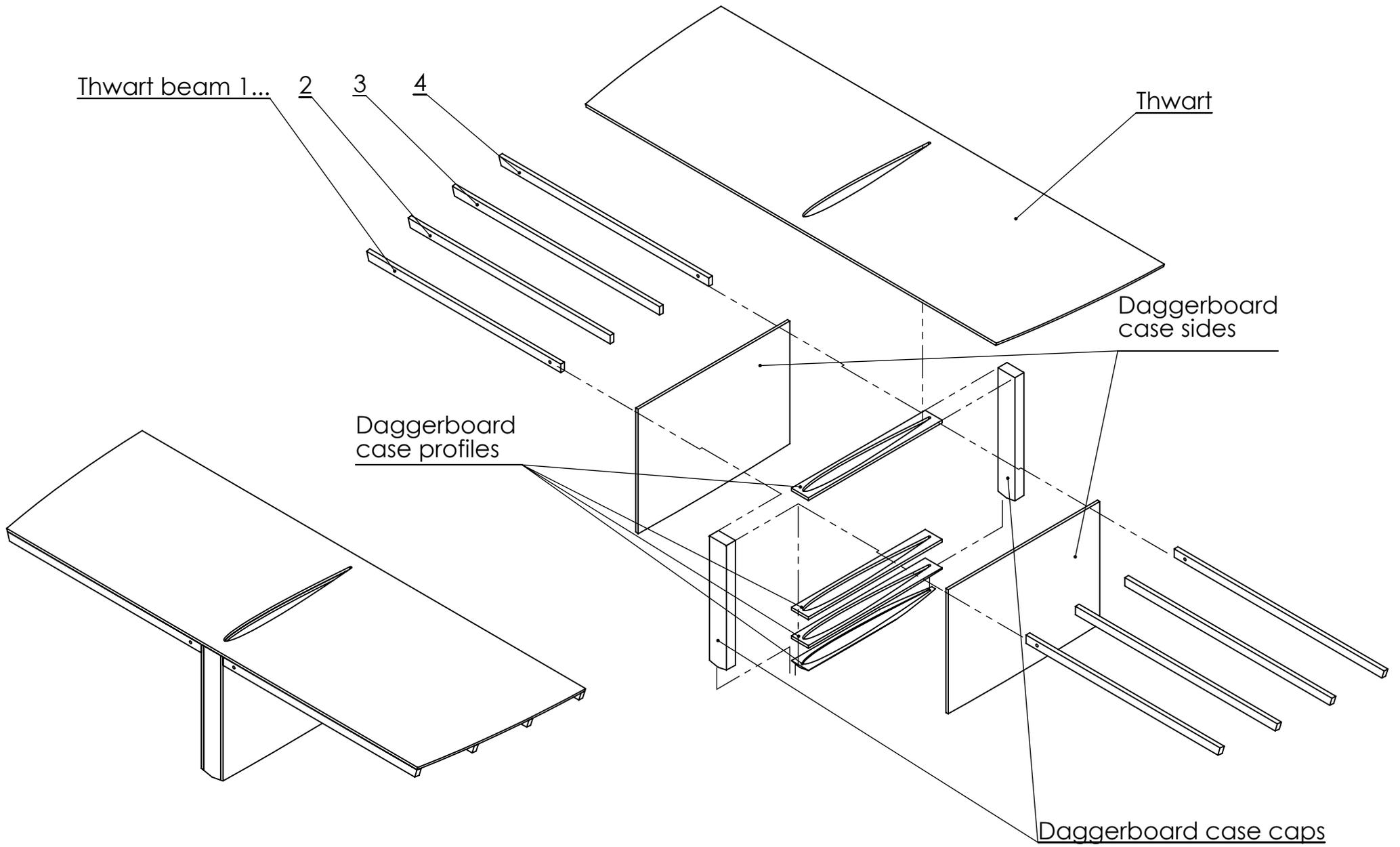
Part names and locations





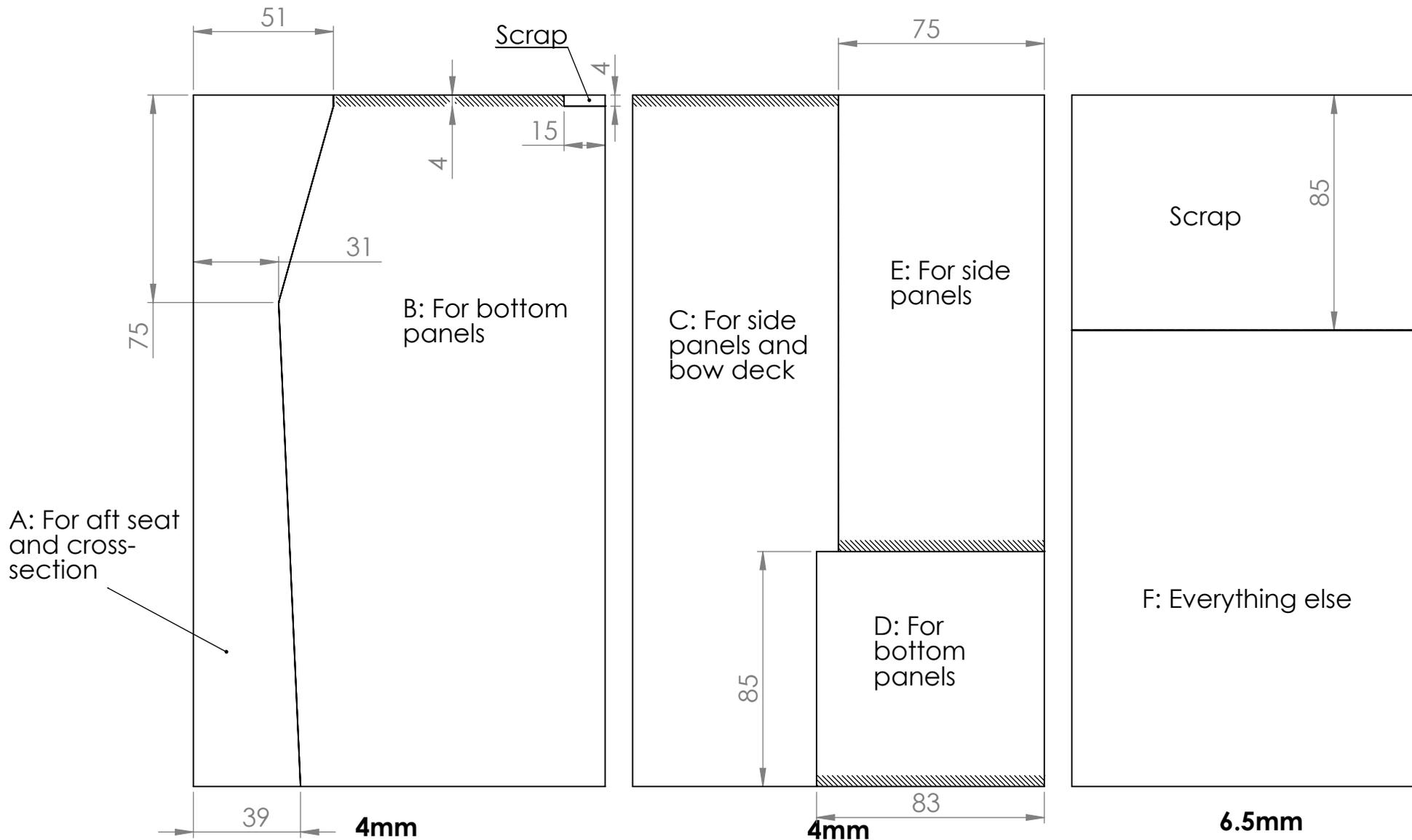
## Aft seat and cross section removed removed from view





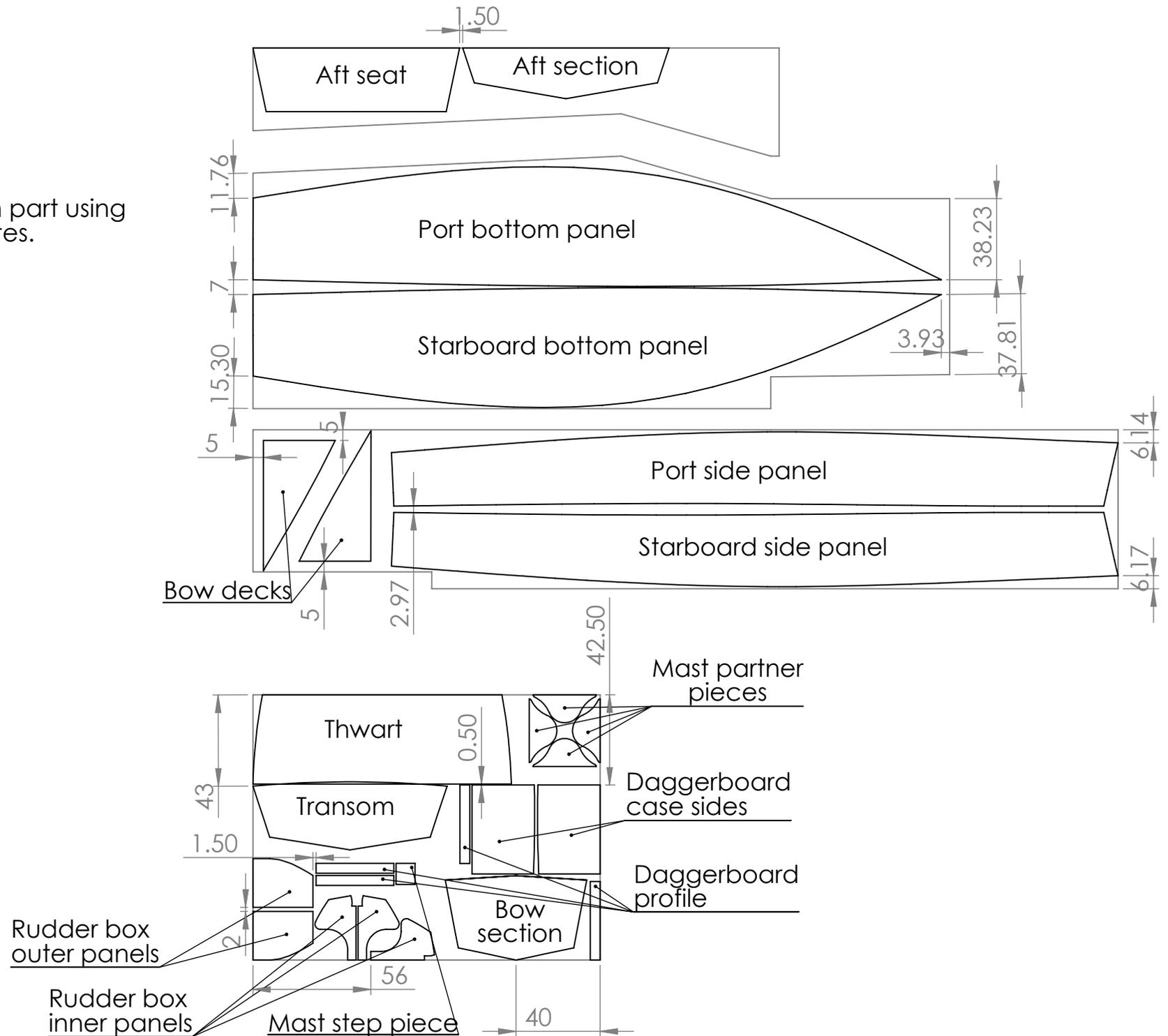
# Primary cuts

Cut along solid lines. Scarf B with D and C with E along hatched areas (1:10 ratio).



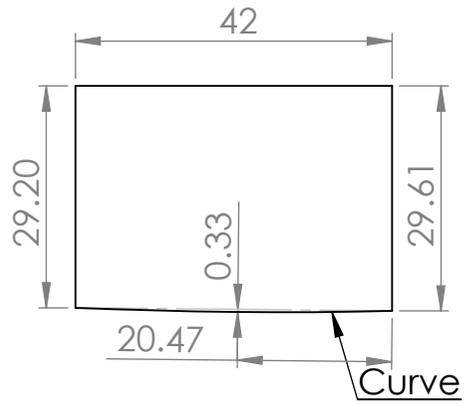
# Nesting

Plot and cut out each part using dimensions or templates.

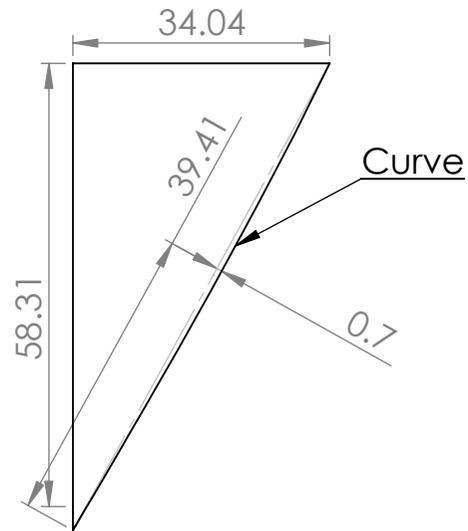


# Dimensions

Daggerboard case side



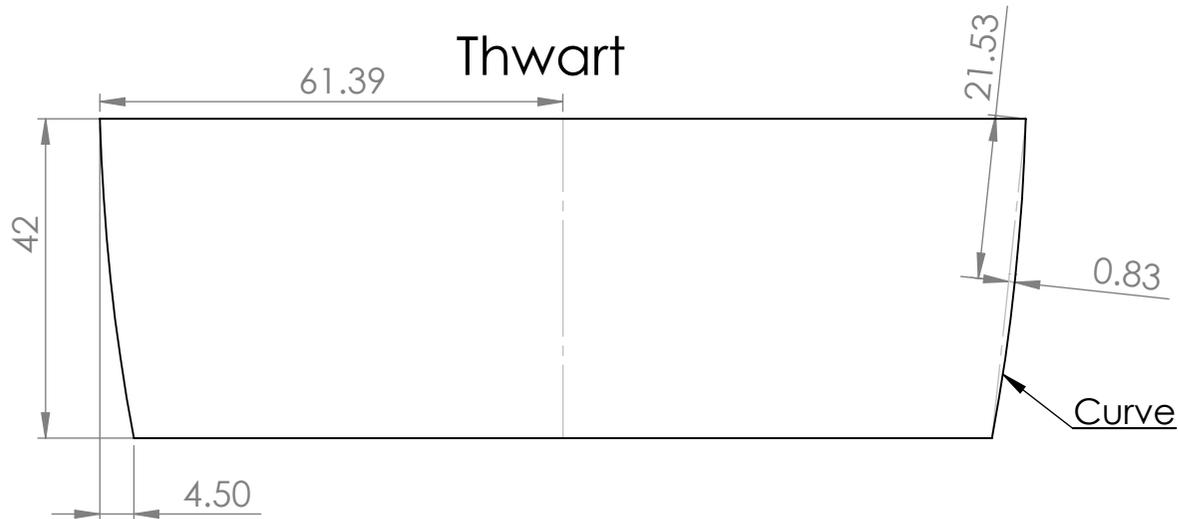
Bow deck



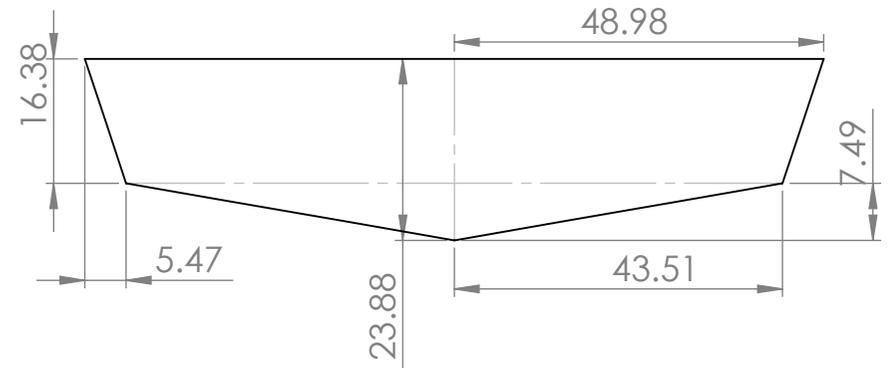
Back seat

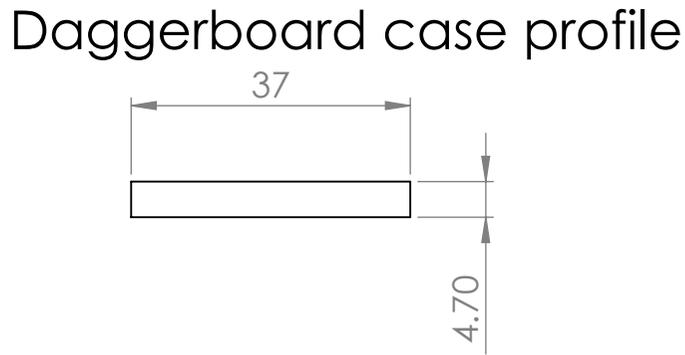
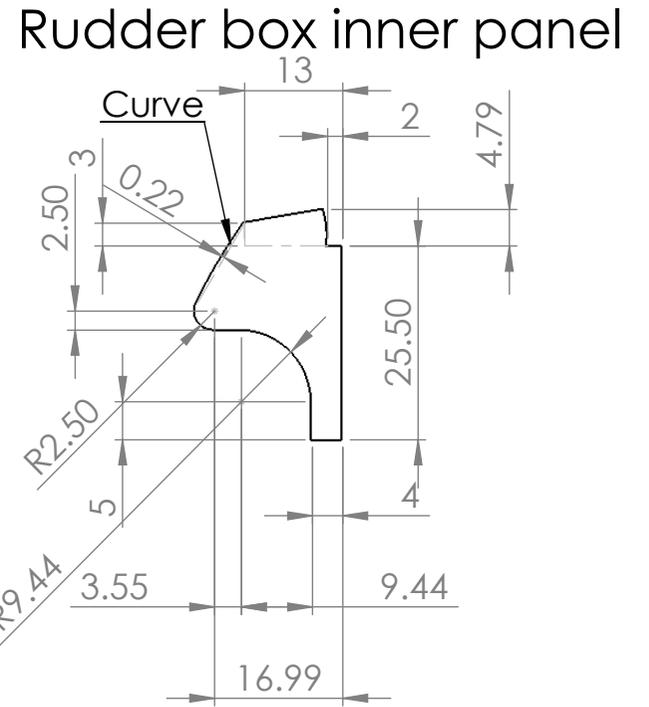
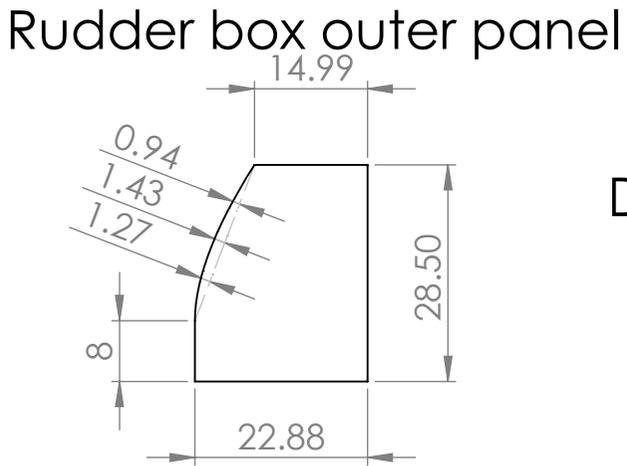
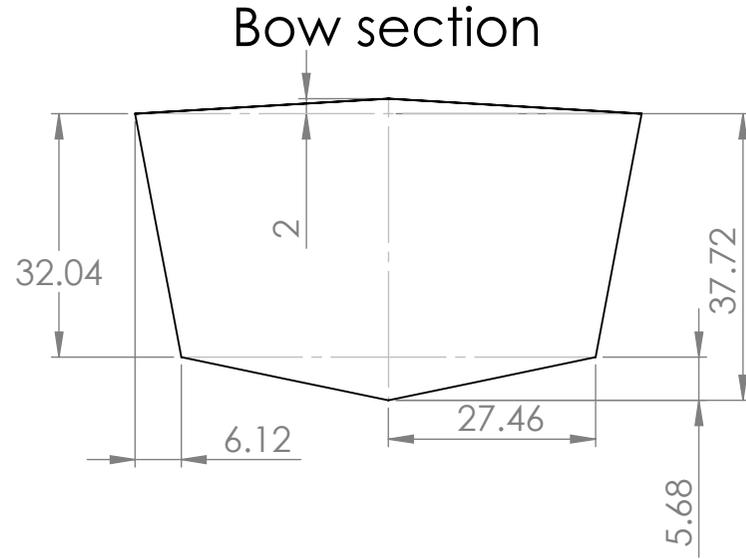
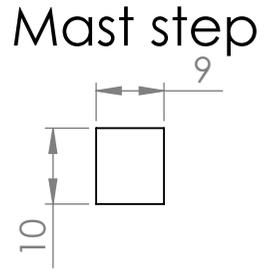
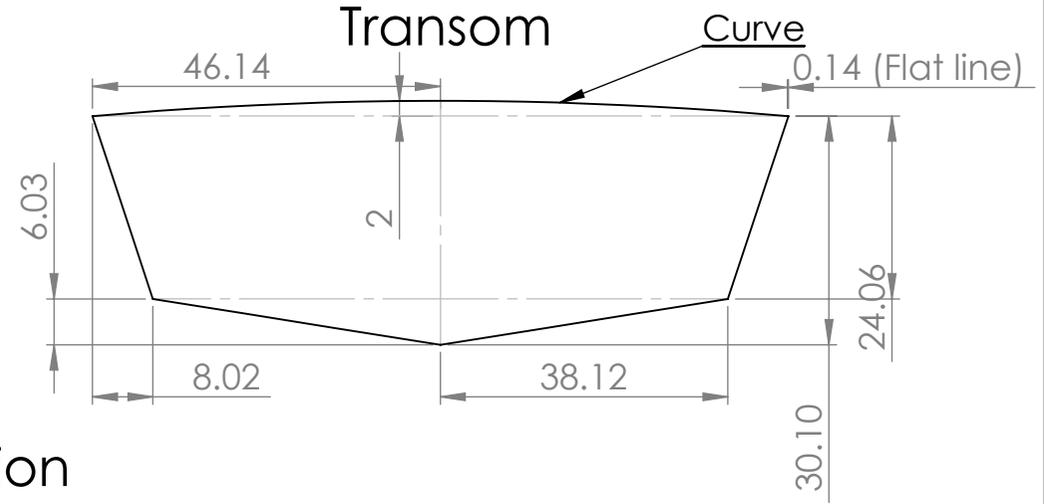
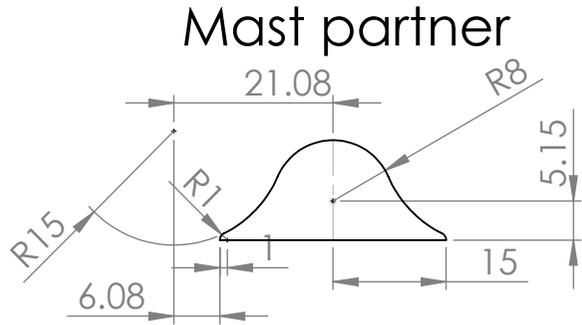


Thwart

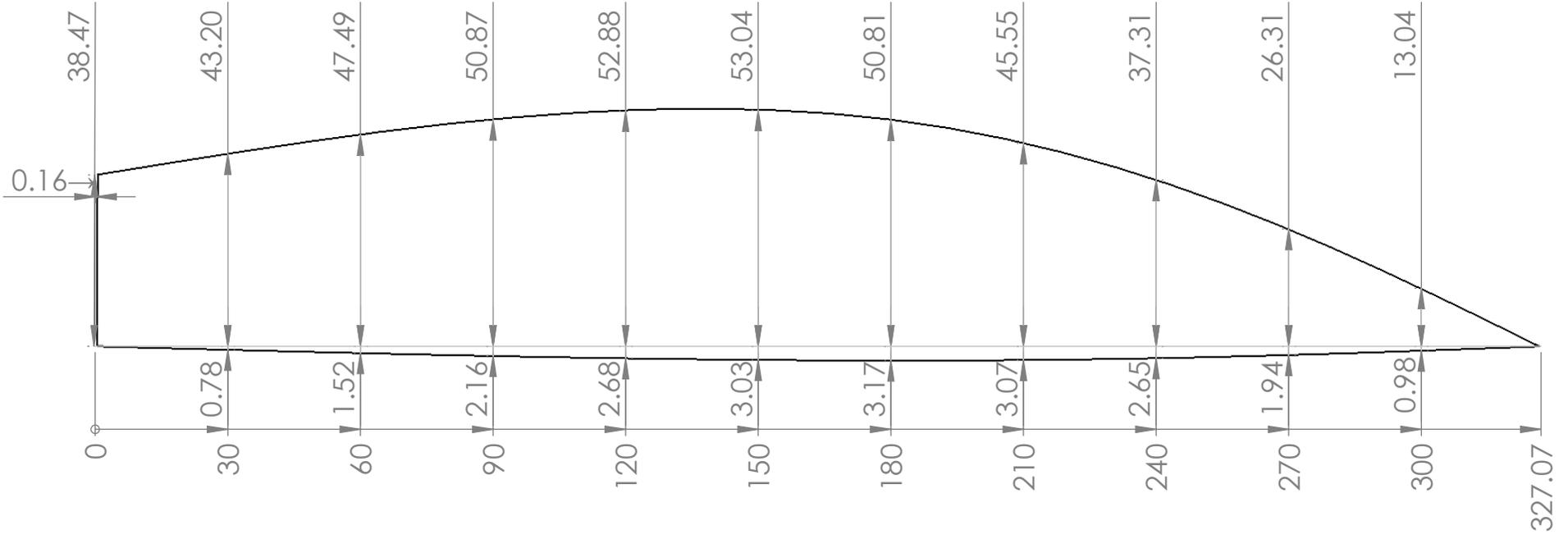


Aft section

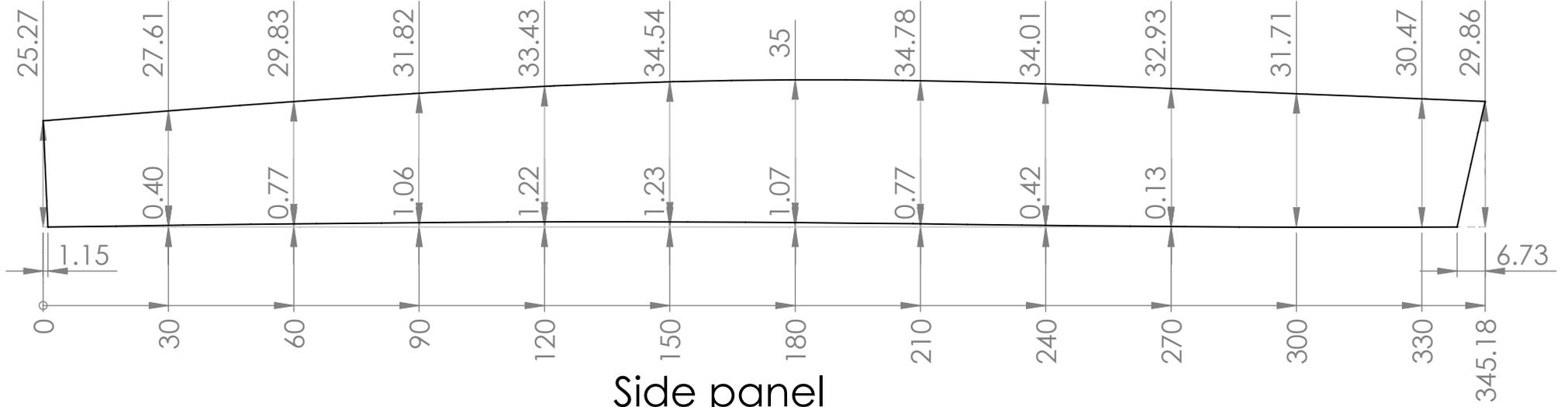




Bottom panel



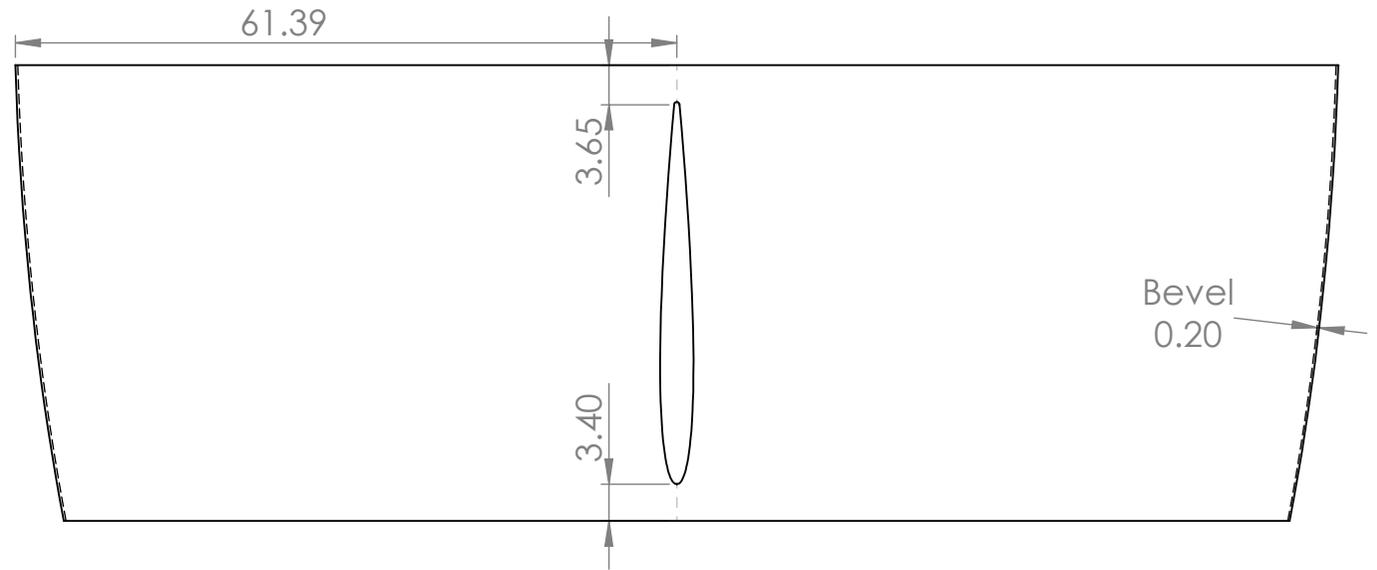
Side panel



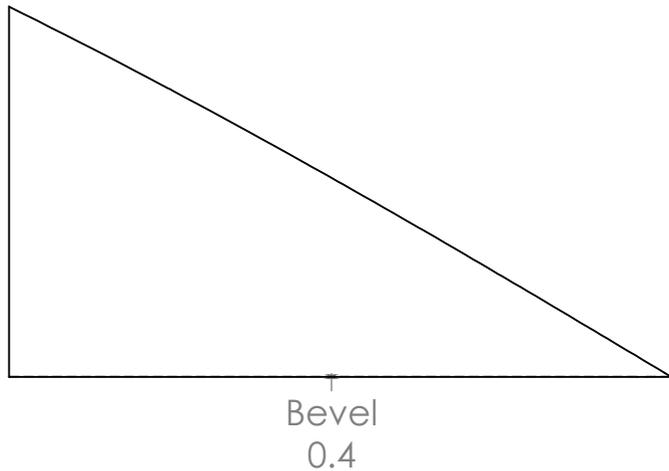
# Plywood parts' additional features

Thwart

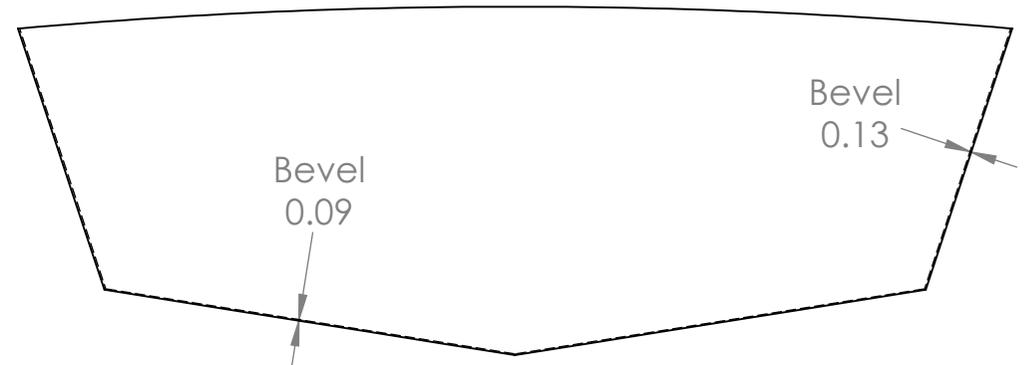
Cut out daggerboard slot using "Daggerboard slot" template or dimensions.



Bow deck

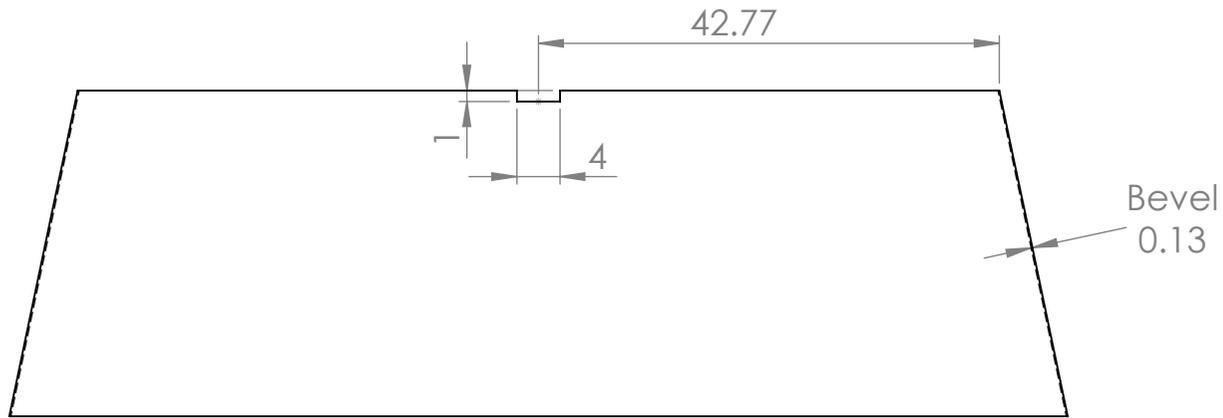


Transom

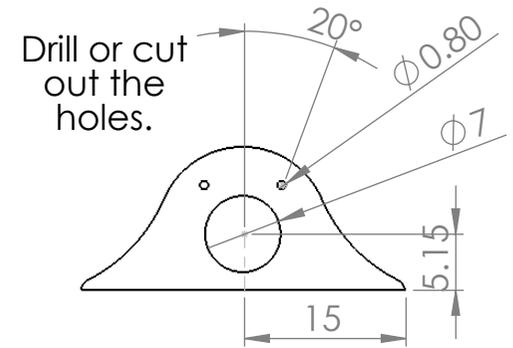


### Back seat

Cut out the slot.

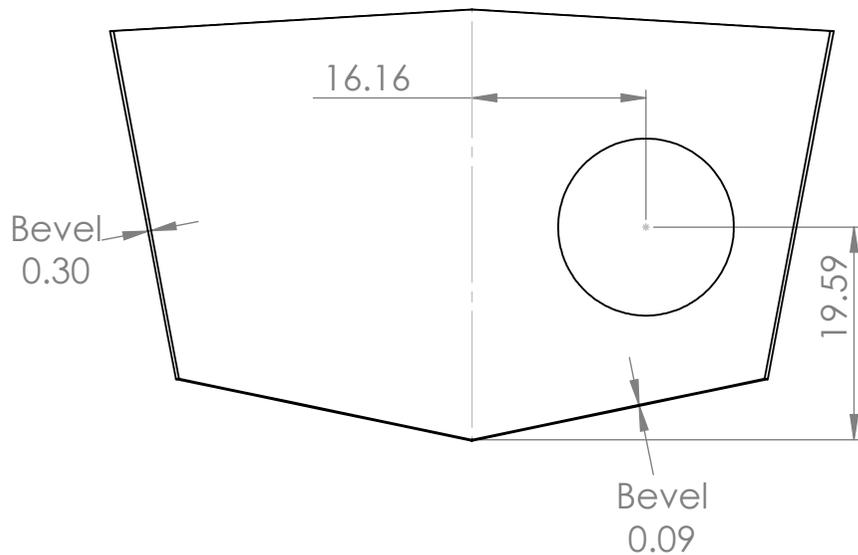


### Mast partner

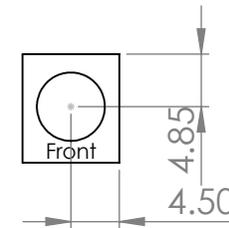


### Bow section

Cut out the hole.



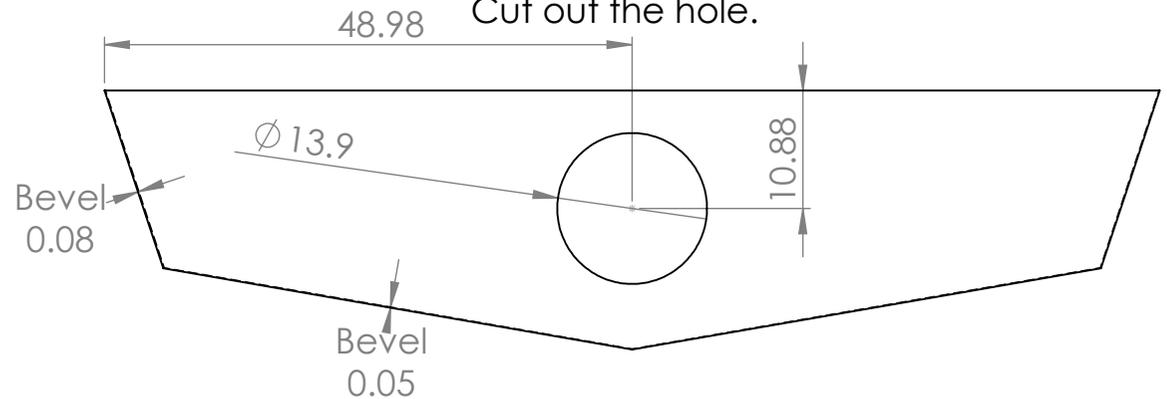
### Mast step



Drill or cut out the hole.  
Mark the front side.

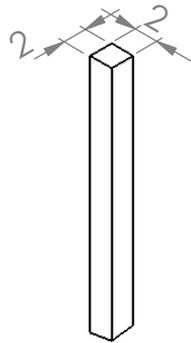
### Aft section

Cut out the hole.



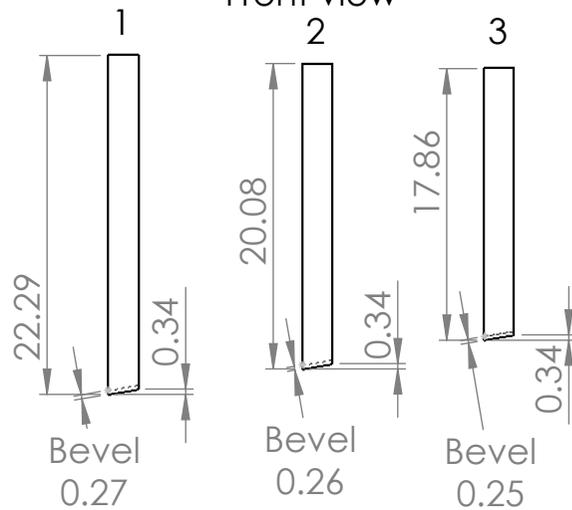
# Timber parts

Aft seat vertical beam 1, 2, 3 (port)

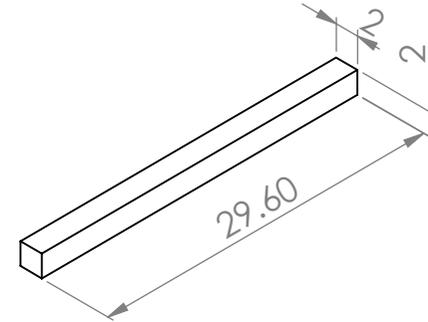


Mirror for starboard

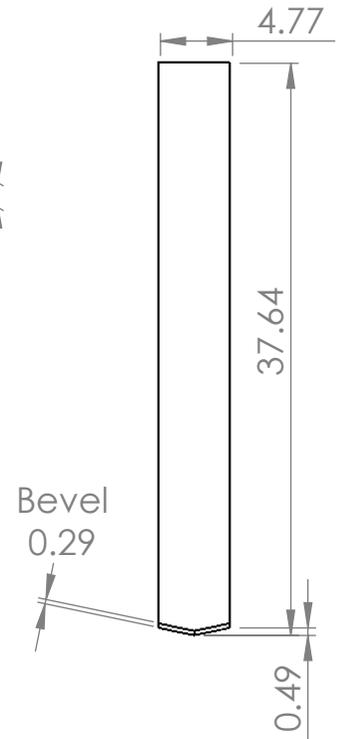
Front view



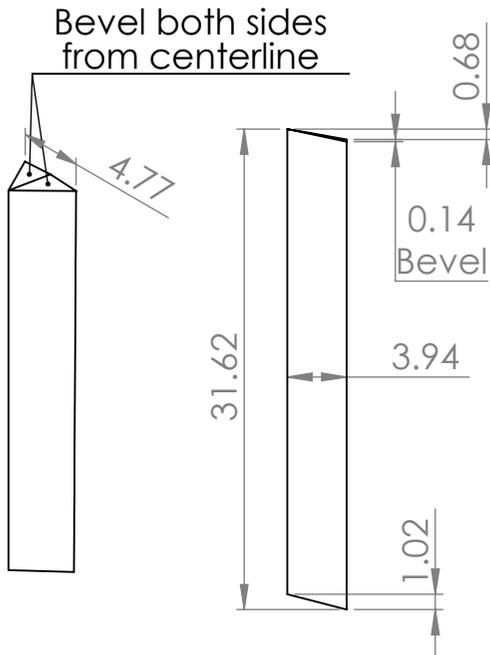
Aft seat horizontal beams (6)



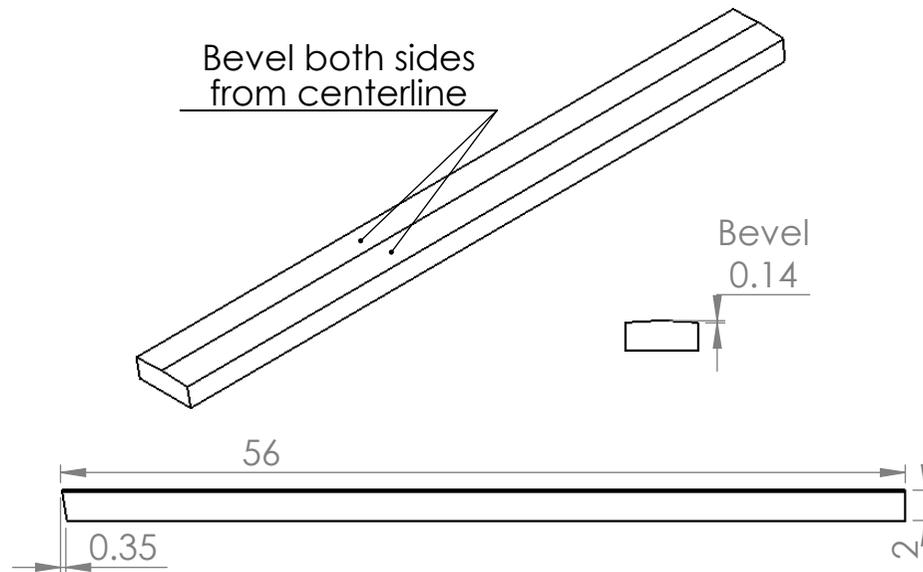
Bow section vertical beam



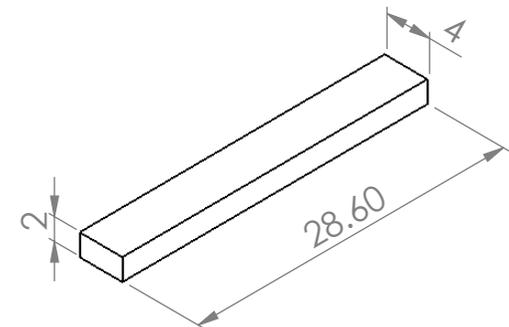
Bow filler beam



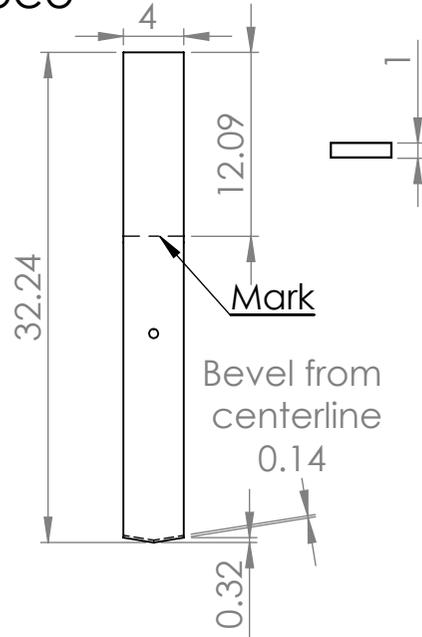
Central deck beam



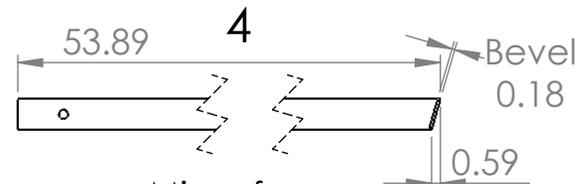
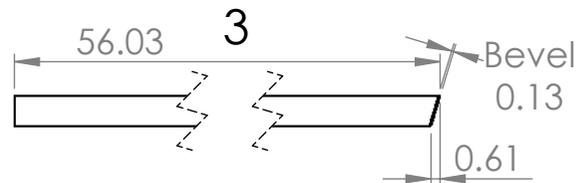
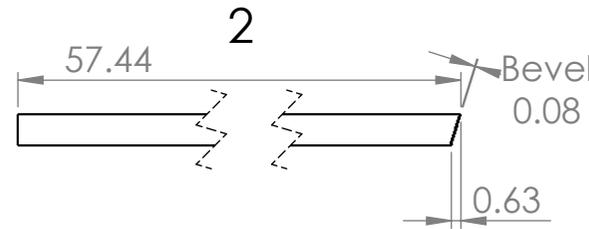
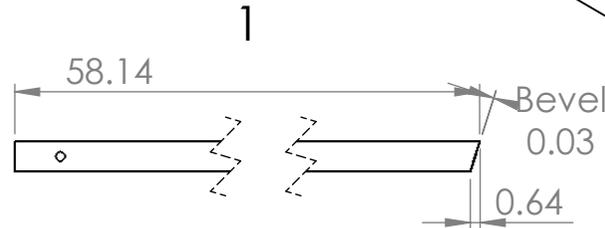
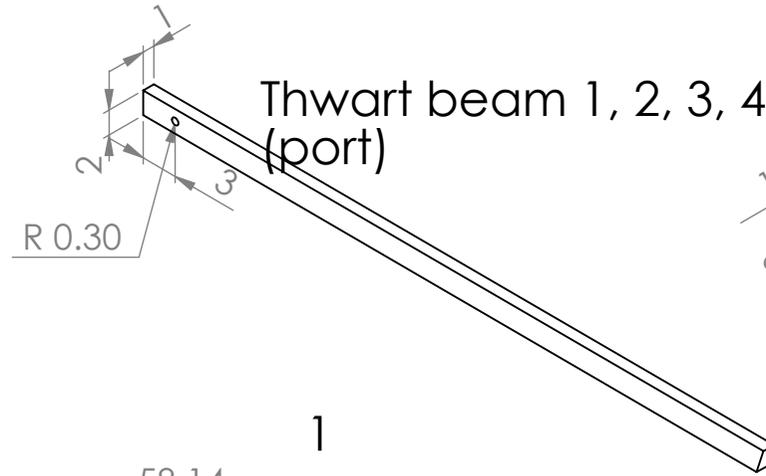
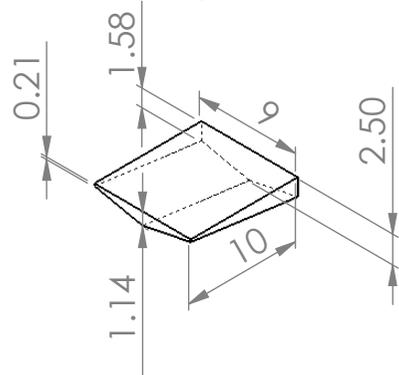
Aft seat middle beam



### Rudder fitting backing piece

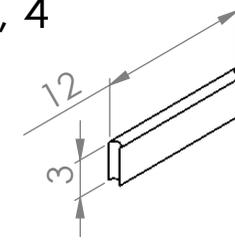


### Mast step timber



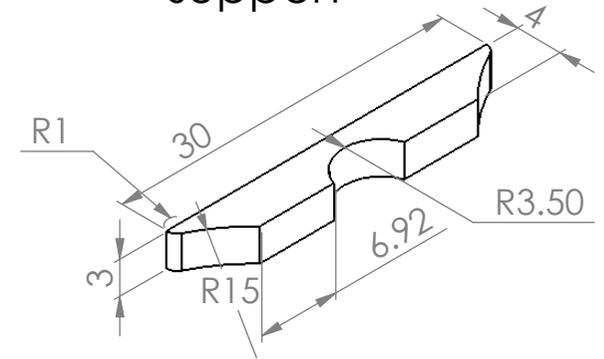
Mirror for starboard

### Gunwale spacer (26)

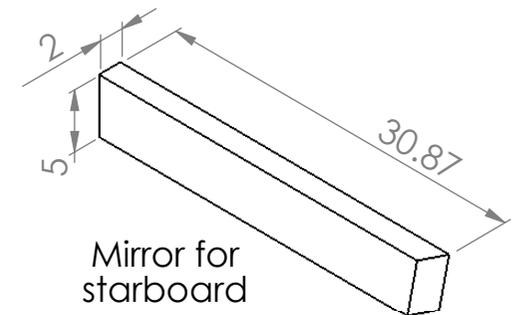


Plot on a 3x>2x>312cm piece, drill 1cm holes every 5cm, and mill 0.5cm on each side to a total width of 1cm.

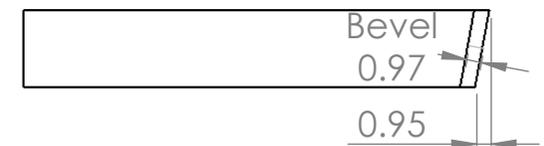
### Mast partner lower support



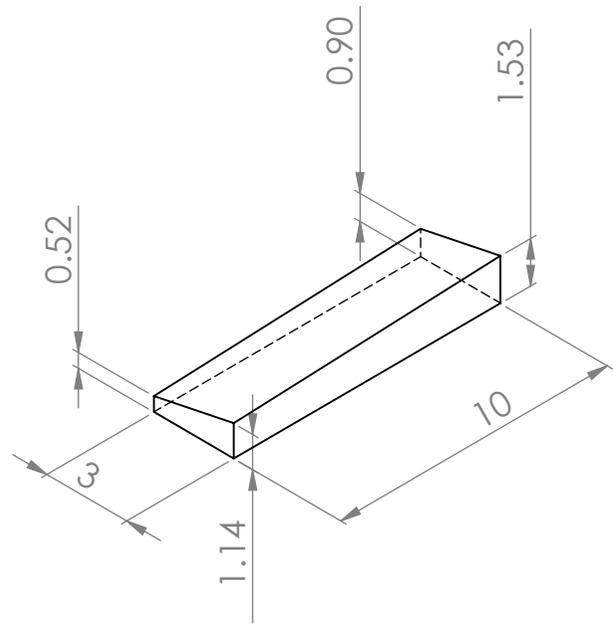
### Mast partner backing horizontal beam (port)



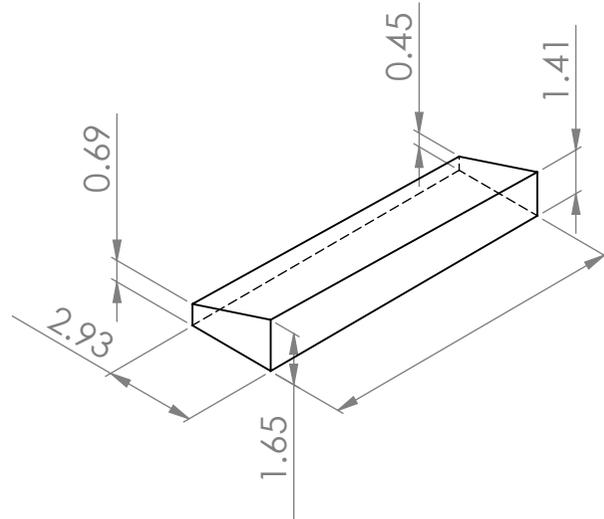
Mirror for starboard



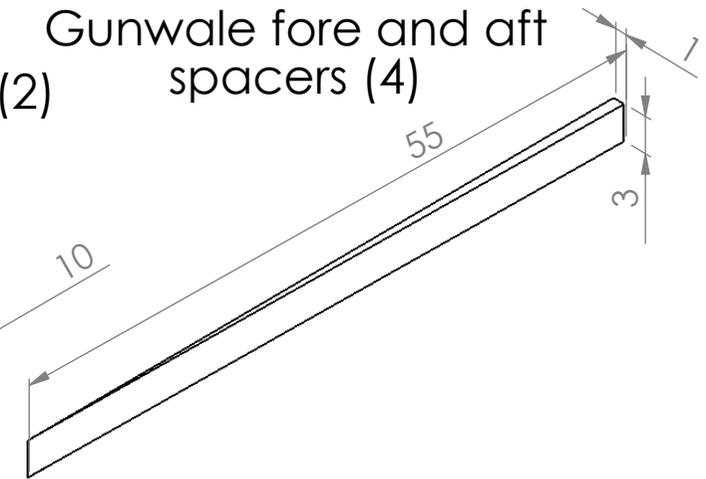
# Transporting beam angler fore (2)



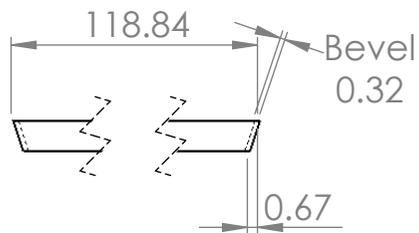
# Transporting beam angler aft (2)



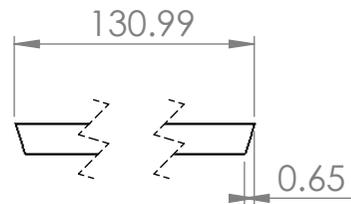
# Gunwale fore and aft spacers (4)



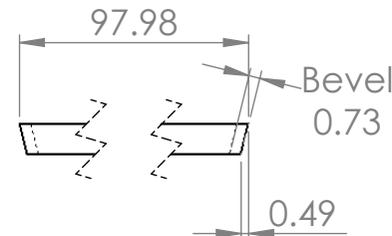
## Spreaders



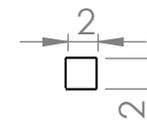
Aft spreader



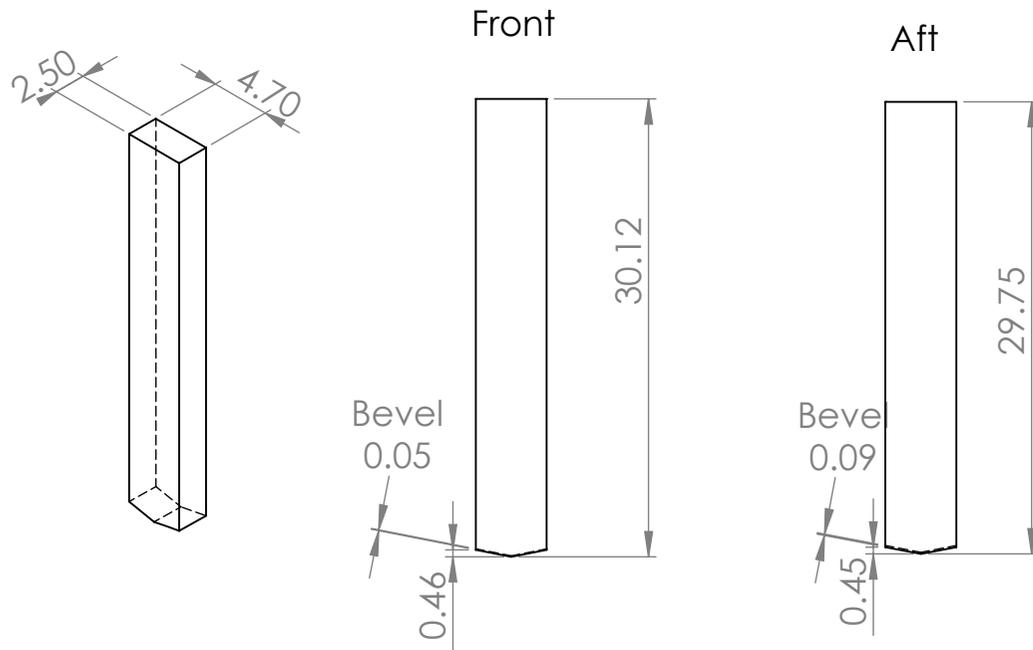
Middle spreader



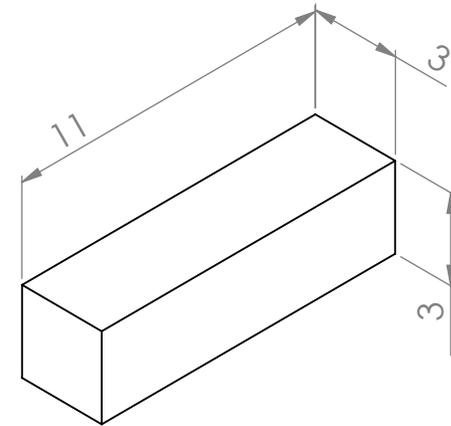
Fore spreader



## Daggerboard case spacers

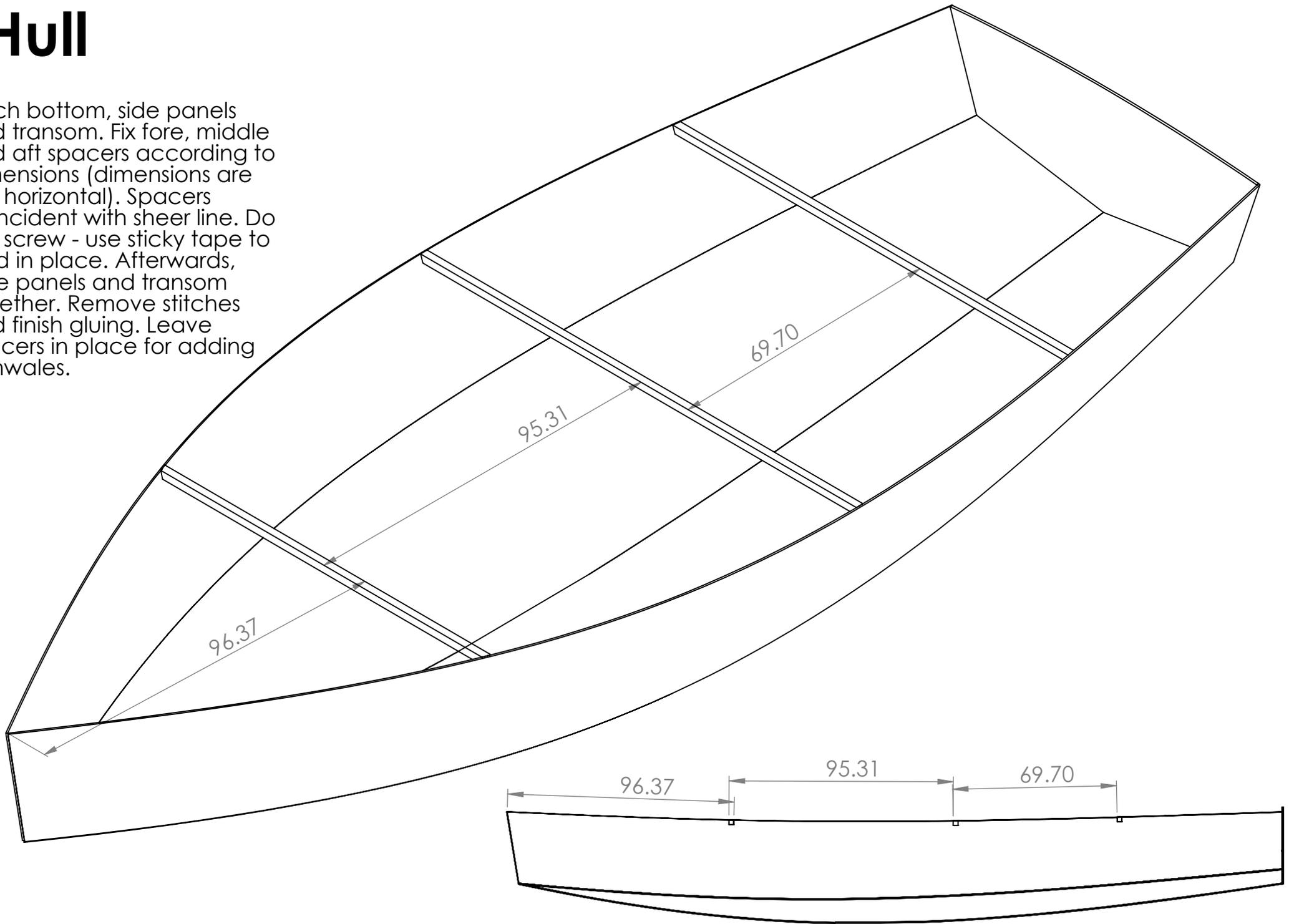


## Rowlock supports (2)

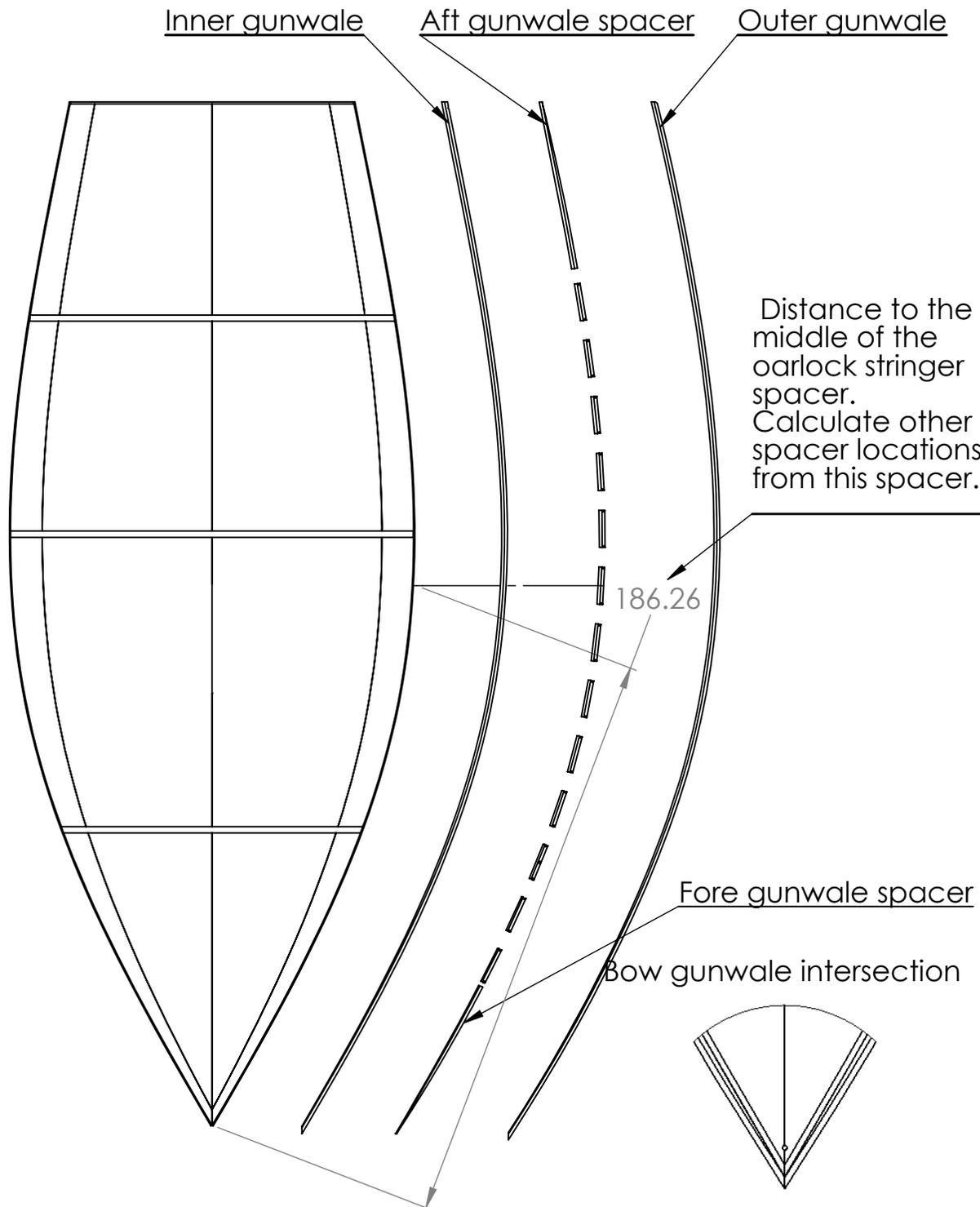


# Hull

Stitch bottom, side panels and transom. Fix fore, middle and aft spacers according to dimensions (dimensions are not horizontal). Spacers coincident with sheer line. Do not screw - use sticky tape to hold in place. Afterwards, glue panels and transom together. Remove stitches and finish gluing. Leave spacers in place for adding gunwales.



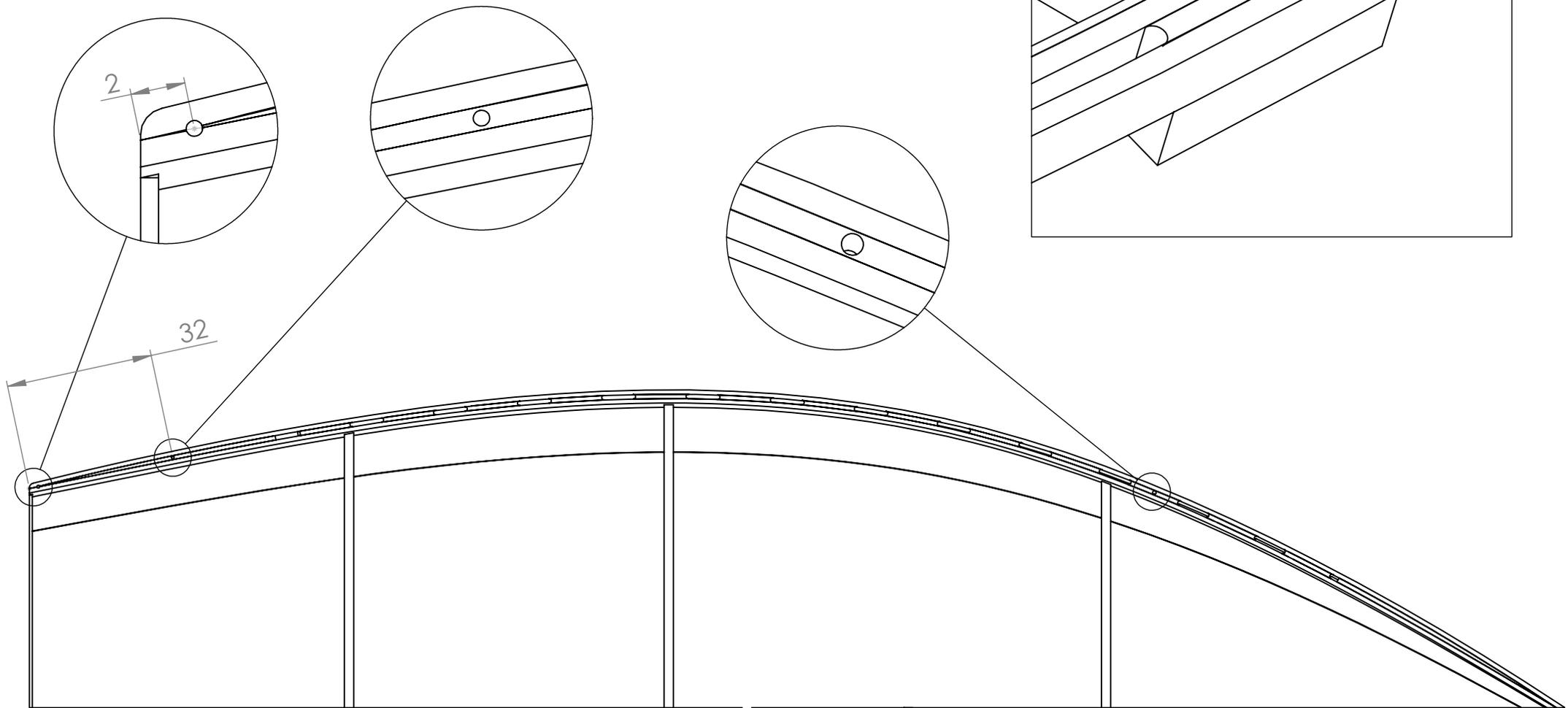
# Gunwales



1. Install port or starboard inner gunwale to the sheer line and clamp in place (do not screw yet). Measure and mark gunwale spacer locations (starting with oarlock spacer and working towards the ends, space about 5cm apart).
2. Mark a line on the gunwale where it goes past the centerline on bow, and trim.
3. Remove the inner gunwale, straighten, transfer measurements to other side gunwale.
4. Trim the other gunwale at the bow as in step 2.
5. Place each inner gunwale sideways on a flat, non-sticky surface, and glue each spacer on designated locations. Clamp and allow to cure.
5. Glue and clamp both gunwales back on sheer line. Allow to cure.
6. Clamp outer gunwale and trim on centerline at bow like with inner gunwale. Repeat with other side outer gunwale.
7. Remove, apply glue to spacers, and clamp on the outer gunwales. Allow to cure.
8. Trim both side gunwales at transom. Fillet at bow.
9. Drill pilot holes and run wood screws from inner side of sheer line through completed gunwale, aiming for 2 screws per spacer, with at least 1cm gap in between (to allow space for a hole, should it be drilled through the spacer). Use screws lengths of 20mm for 60cm distance away from bow and stern (12 screws in total), with as much as 30mm everywhere else (52 in total). All with flat heads.

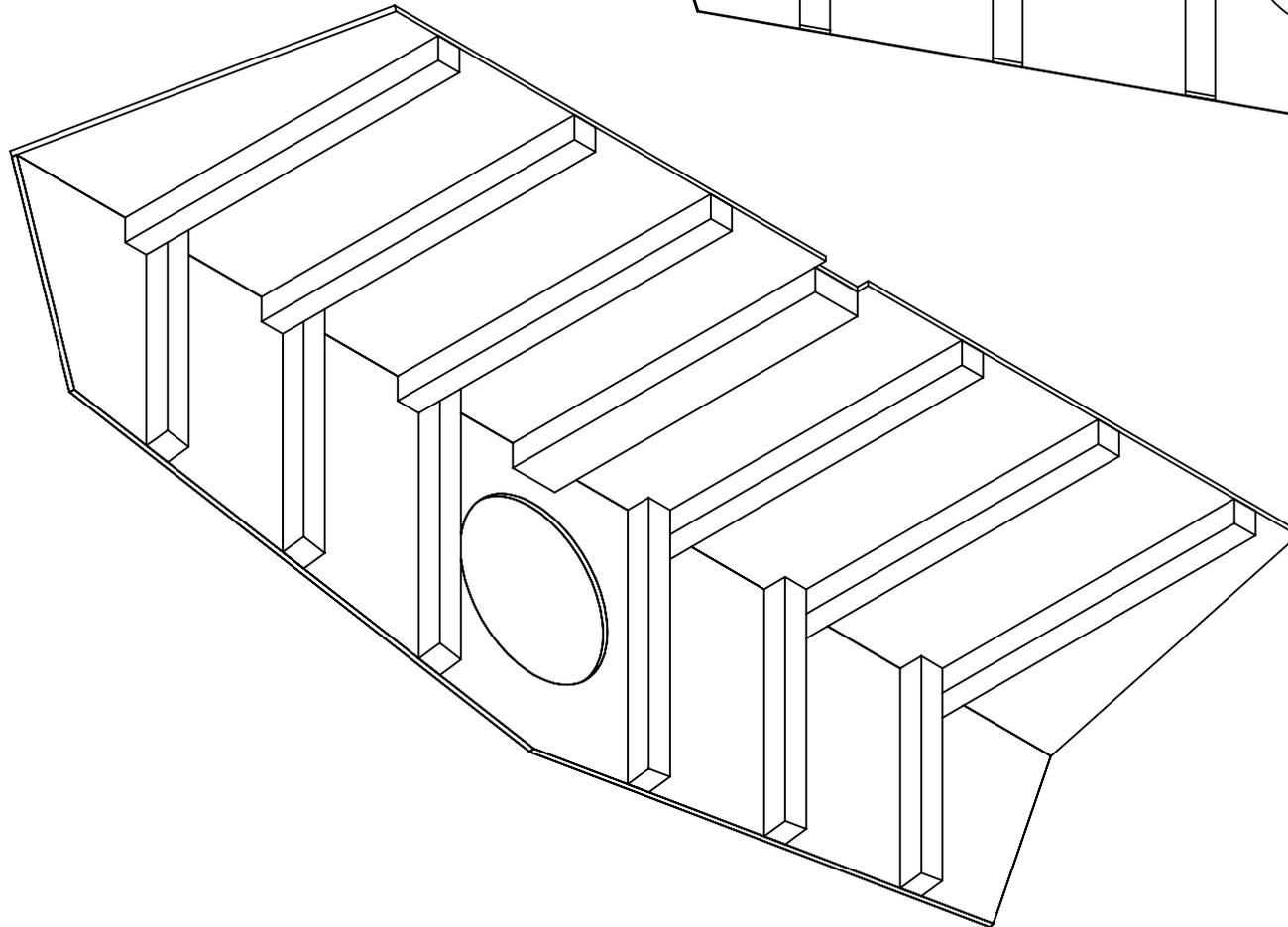
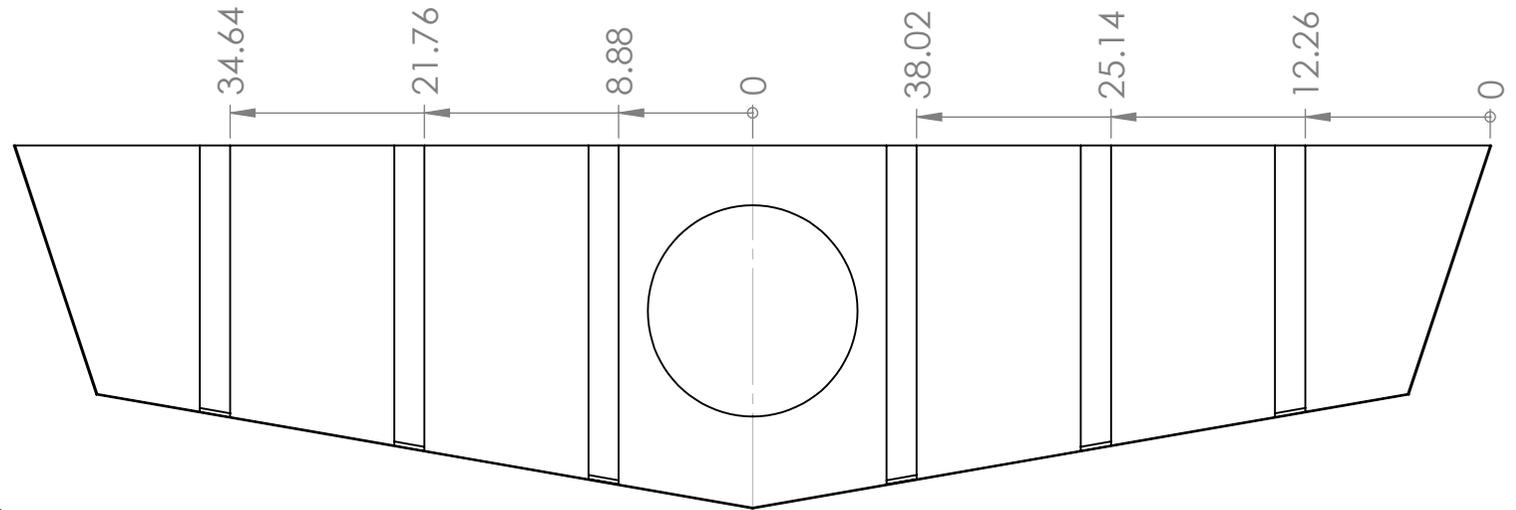
11. Drill 8mm holes at 2 and 32cm on gunwale aft spacer, as well as on 11th spacers. Repeat for other side.

12. Glue in rowlock support timbers under 6th gunwale spacer from aft. Do not screw.



# Aft seat

1. Measure, glue and screw aft seat vertical beams on aft cross section. Make sure bevels line up. Keep screws away from ends for at least 3cm. Use 2 per beam, 20mm long, flat heads (12 in total)



2. Line up ends of aft seat and aft cross section, mark locations of aft seat horizontal beams as well as middle beam as indicated in illustration. Glue and screw horizontal and middle beams to the aft seat (20mm flat head screws, 12 in total). Do not join aft cross section with aft seat just yet.

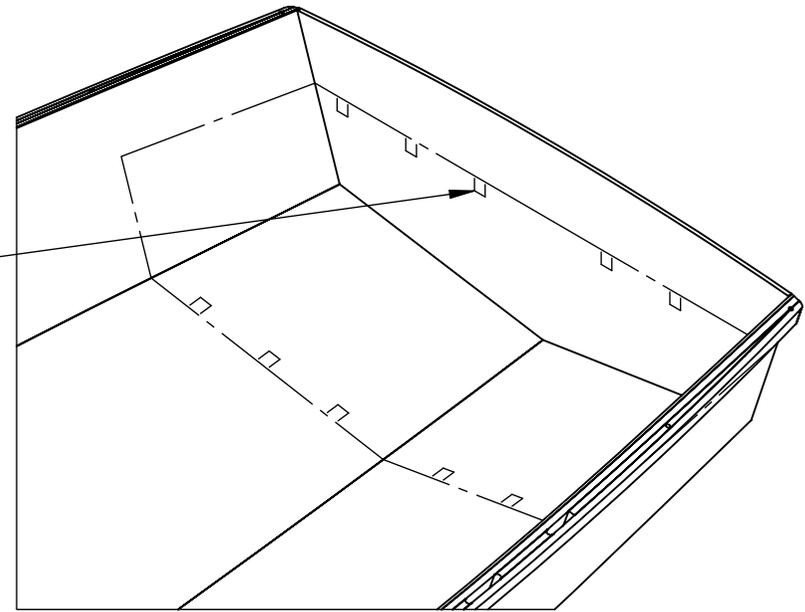
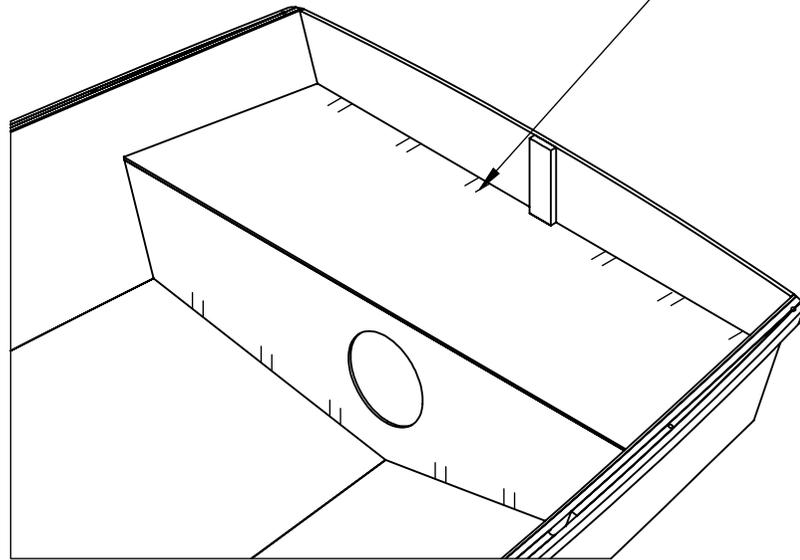
2. Trace ends of vertical beams on aft seat and ends of horizontal and middle beams on aft cross section while parts are lined up like illustrated.

3. Drill pilot holes in each part separately in traced areas for screws to connect beams of one part with plywood panel of another. Join parts together at a perfect 90° angle, as illustrated, and drill pilot holes into beams through existing pilot holes. Finally, glue and screw (2 per beam, 30mm, flat head, 26 in total) aft cross section and aft seat together.

4. Trace ends of vertical beams on outer surface of aft seat and aft cross section for indication of drill holes on transom and bottom panels.

5. Try-fit the aft seat assembly on the hull. Insert rudder fitting backing piece through the slot on aft seat. Adjust aft seat angle so that upper surface of the seat lines up with marked line on the rudder fitting backing piece to ensure correct assembly angle with the hull.

6. Trace outline of aft seat assembly on transom and hull panels. Remove it and transfer markings of vertical and horizontal beams you drew in step 4 onto.



9. Drill pilot holes on transom and bottom panels in beam markings areas from inside (2 per beam), then fit the assembly back again, and drill pilot holes again, from the outside.

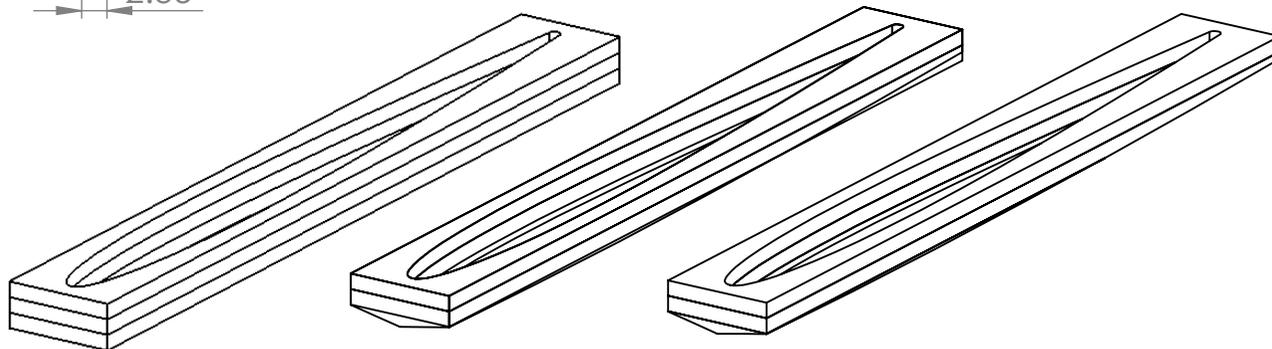
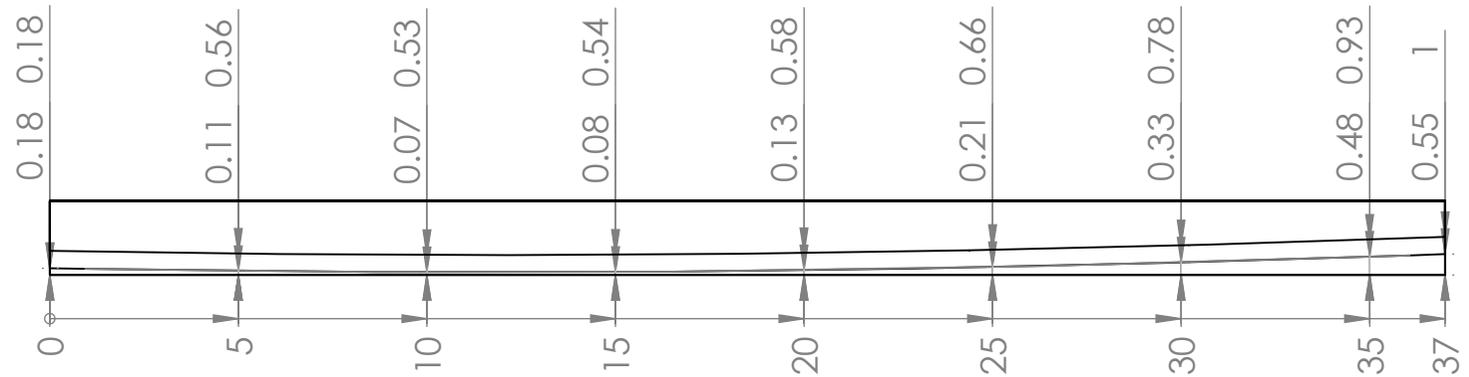
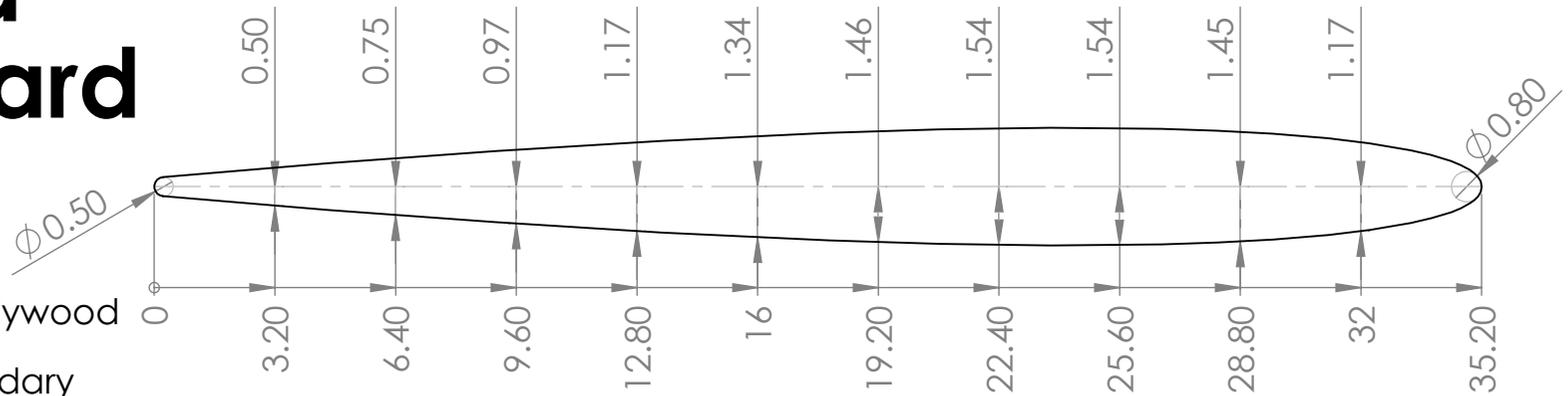
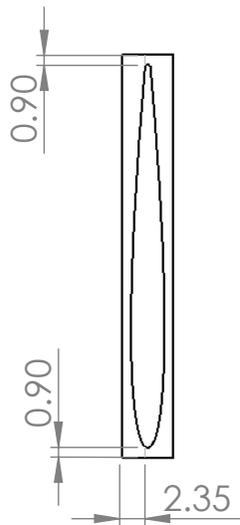
11. Paint the inside of the seat, as well as part of the transom and the hull that won't be accessible later. Do not paint gluing surfaces.

12. Glue and screw (2 per beam, 30mm), the seat to the hull using previously drilled pilot holes. Before screwing the rudder fitting backing piece, check rudder fitting locations in this manual for interference (10mm, 4 in total)

13. Apply filler epoxy fillet to the seat-hull connection on the outside. Wait to cure.

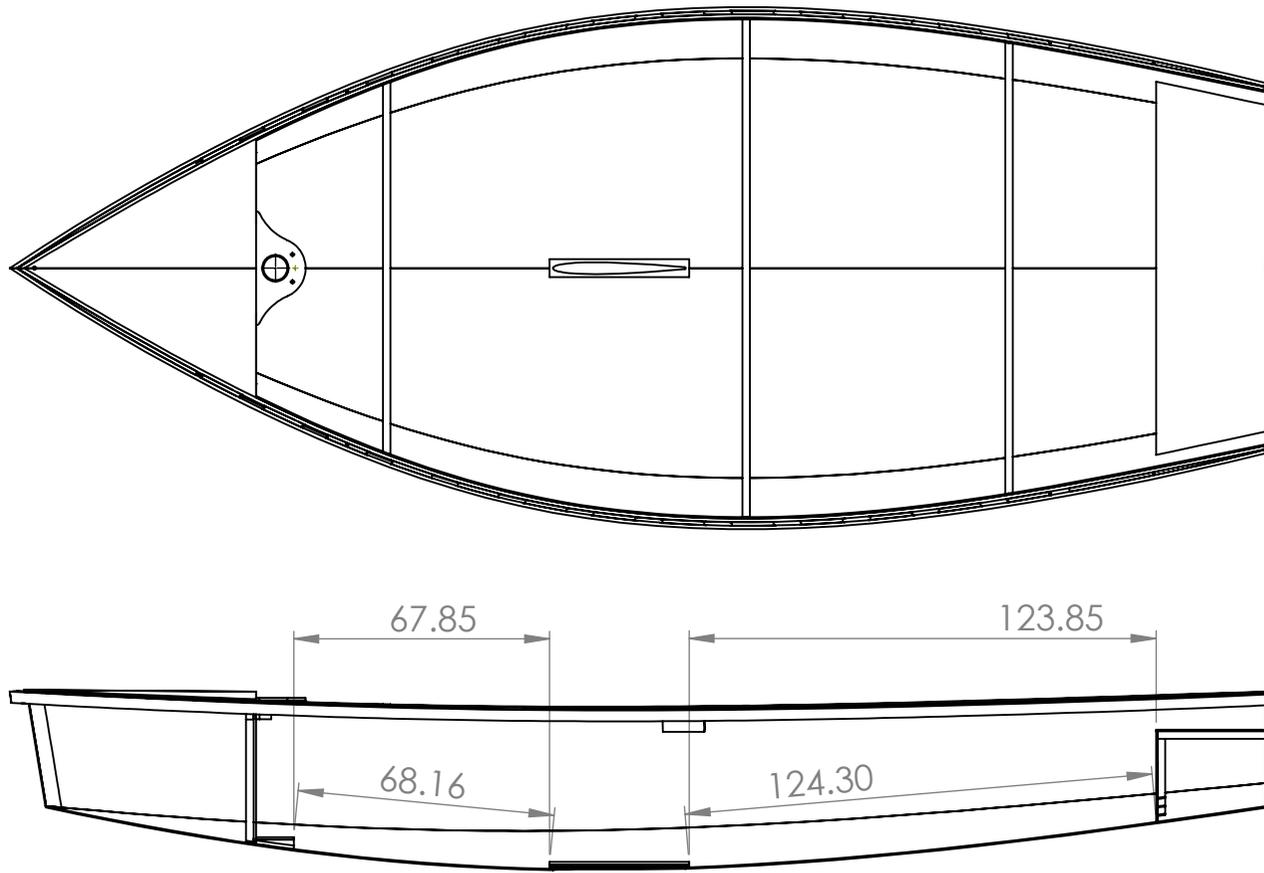
# Thwart and daggerboard case

1. Sandwich and glue 3 daggerboard box profile plywood pieces. Do not screw.
2. Draw primary and secondary bevel lines on the sides of sandwiched part using offsets or "Daggerboard slot profile bevels" template.



3. Cut out the slot using provided "Daggerboard slot profile" template or offsets. Draw bevel lines using "Daggerboard box bevel lines" template or offsets.
4. Bevel surface up to the first bevel curve.
5. Draw centerline on resulting curved surface.
6. Bevel from centerline to the secondary bevel line.

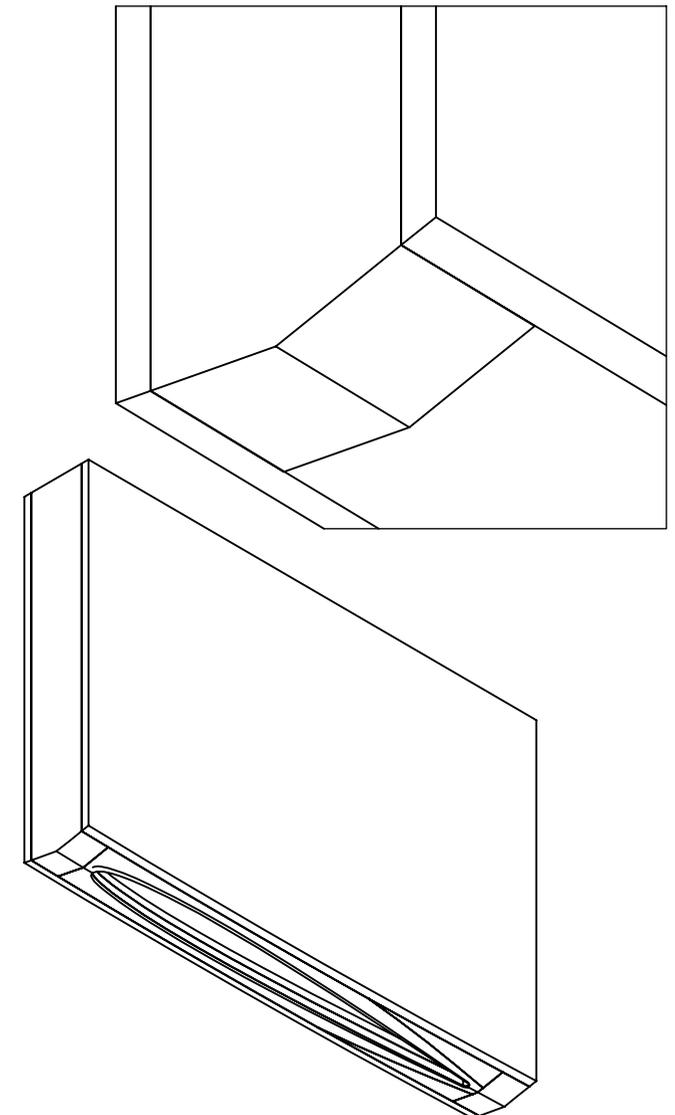
7. Try-fit beveled assembly on the hull at indicated location.



8. Bevel the piece if needed until it fits snugly onto the hull. Mark the outline of the slot on the bottom panels, remove the piece, and cut out the slot.

9. Assemble both daggerboard case sides with caps. Drill pilot holes and screw together (30mm, 6 per joint, 24 in total) . Make sure bevels are in line.

10. Insert the beveled piece into the daggerboard case. Make sure bevels line up.

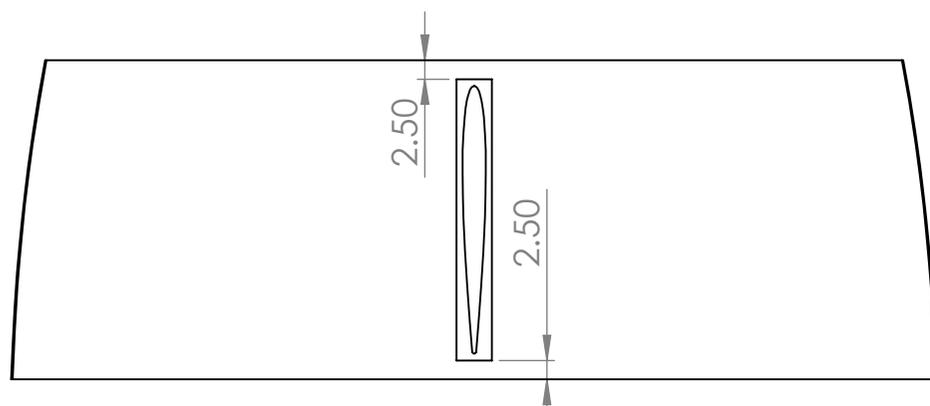


11. When ensured that parts line up correctly, remove each piece, and paint the inner surfaces of daggerboard box. Do not paint gluing areas, and leave some for epoxy fillets. Make at least 3 coats, as the daggerboard case will be submerged most of the time.

12. After the paint is dry, glue parts together. If possible, do not screw beveled piece to the daggerboard case. Add generous epoxy fillet on the inside whenever possible. Leave no gaps for water to accumulate.

13. Cut out the slot on the remaining daggerboard case profile plywood piece, using same offsets or template as before.

14. Line up the slot on the piece with thwart slot. There should be a .65cm clearance on each end. Glue and screw together (10mm, 4 in total).



15. Fit thwart over daggerboard case so that profile piece on thwart inserts into the daggerboard case. Check the orientation!

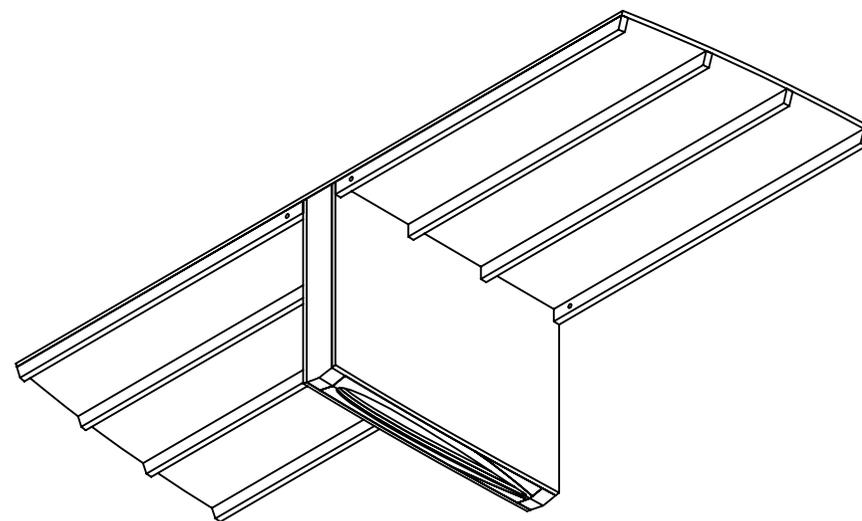
16. Paint the small surface area of thwart profile piece.

17. Glue the case and thwart together. Do not use epoxy fillets on the outside. Screw into the daggerboard case timber (30mm, 4 in total).

18. Pour paint inside the daggerboard box at various angles to cover glued surfaces that weren't painted before. Use collector to gather the paint below. Use at least 3 coats.

19. Fit thwart beams in their respective locations. Glue and screw from above (20mm, 4 per beam, 32 in total).

20. If desired, paint the underside of the thwart, as it will be hard to access later.



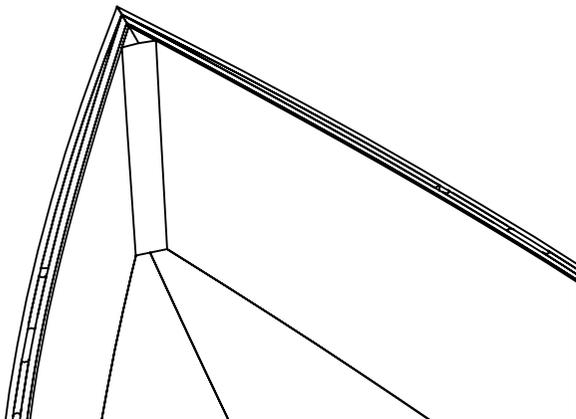
20. Fit the whole assembly onto the boat, matching the slot in the hull. Trace outlines onto the bottom and side panels, not forgetting to mark the beam locations.

21. Drill pilot holes from the inside and outside as before. Glue and screw the assembly into the hull from outside (30mm into daggerboard case cap timber, 4 in total, 20mm into profile plywood, 4 in total)

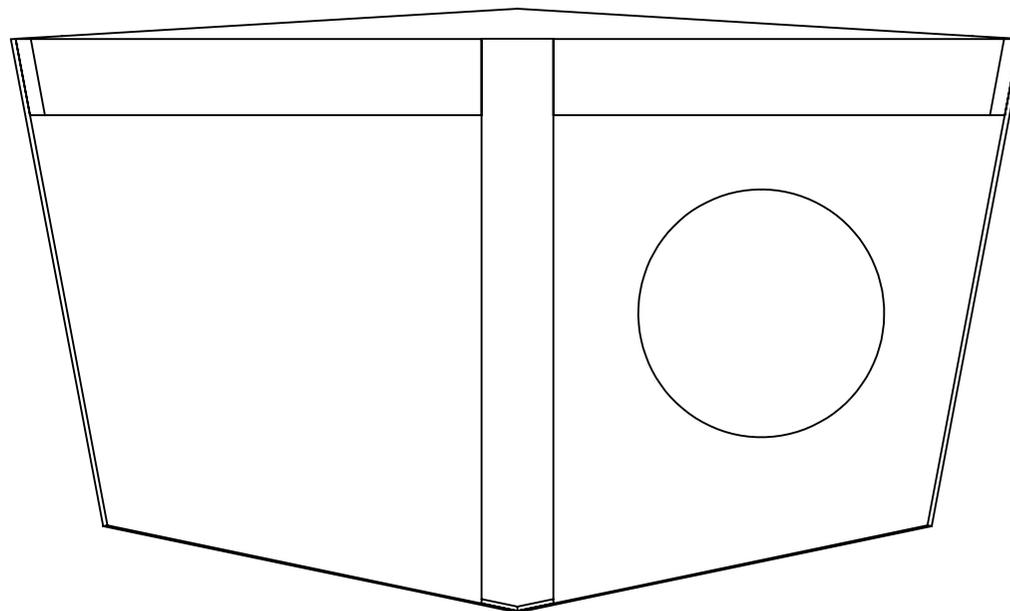
22. Using files and sandpaper, smooth the slots. Epoxy-fill any visible holes or gaps.

# Bow compartment and mast step

1. Try fit, trim if necessary and glue the bow filler beam in the bow slot where all panels meet. Use screws (20mm, 8 in total) from outside and below, but keep them at least 10cm below the top of bow filler beam.

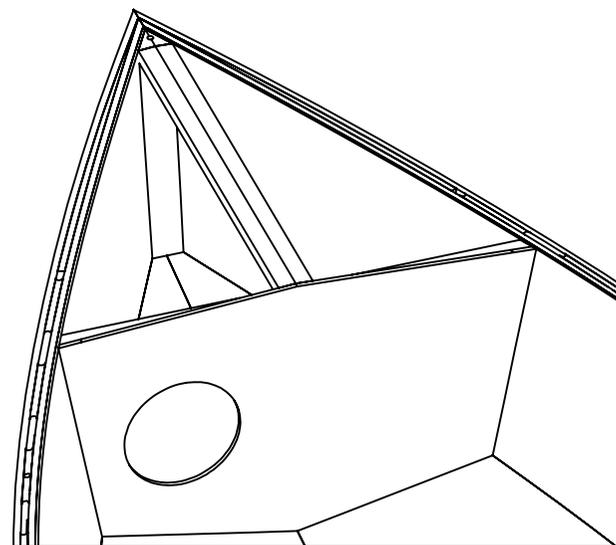


2. Glue bow section vertical beam and two mast partner backing horizontal beams to the bow cross-section as indicated, making sure of continuous bevels. Trim if necessary. Do not use screws. Trace beam outlines on the other surface of bow cross section.

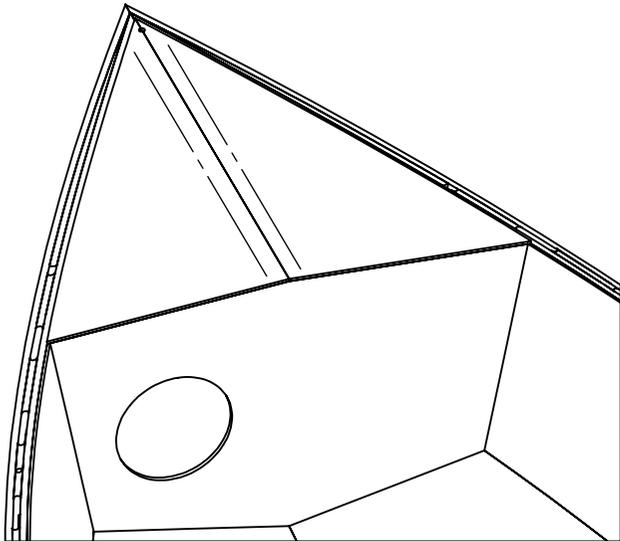


3. Try-fit bow cross-section, using central deck beam as a distance reference. If central deck beam is too long, trim it. Make sure bow cross section is vertical and in correct position, then trace outline of it on the side and bottom panels, marking beam intersections as was done with aft seat.

4. Glue and screw bow cross section (30mm, 6 in total), as well as central deck beam (50mm, 1 in total) into place. Do not screw central deck beam with bow filler beam. Apply epoxy fillet on the inside of bow compartment. Wait to cure.

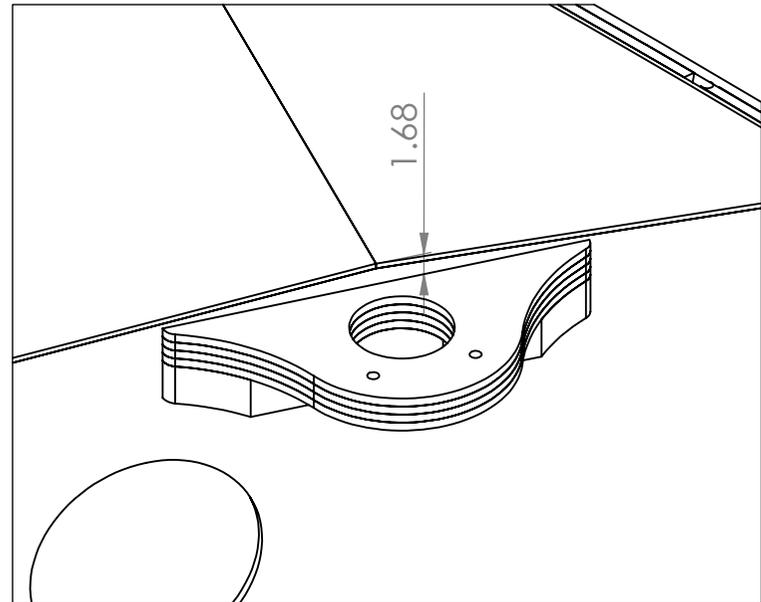


6. Paint the inside of the bow compartment, as it won't be accessible later. Do not paint top surface of central deck beam and bow filler beam.
7. Try-fit both bow deck pieces, making sure they are in correct position. If they protrude onto gunwales, mark for trimming and trim. Roughly mark the width of central deck beam on the outside and inner surface of the bow deck pieces for indication of pilot holes.
8. Paint the inside surface of the bow deck pieces, as they won't be accessible later. Do not paint contact areas.
9. Drill pilot holes, glue and screw (20mm, 8 in total) bow deck pieces in place. Do not screw into bow filler piece.

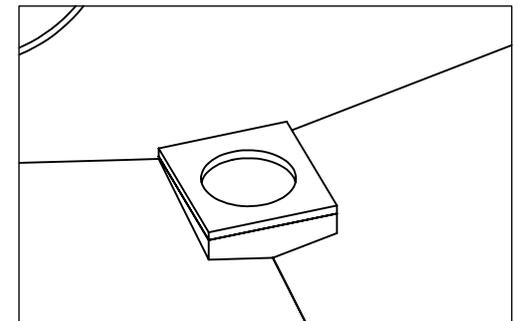


10. Sandwich 4 mast partner plywood pieces with glue and screws (25mm, 4 in total). Check for interference with hardware.
11. Drill pilot holes, glue and screw (50mm, 6 in total) the mast partner lower support to the sandwiched mast partner piece.

12. Try-fit mast partner to the bow compartment as indicated, making sure it's level and on the centerline. Drill pilot holes, glue and screw in place (65mm, 10 in total). Screw only through mast partner lower support, as the plywood may splinter. Make sure horizontal screws do not interfere with vertical screws.
13. Apply generous epoxy fillet.

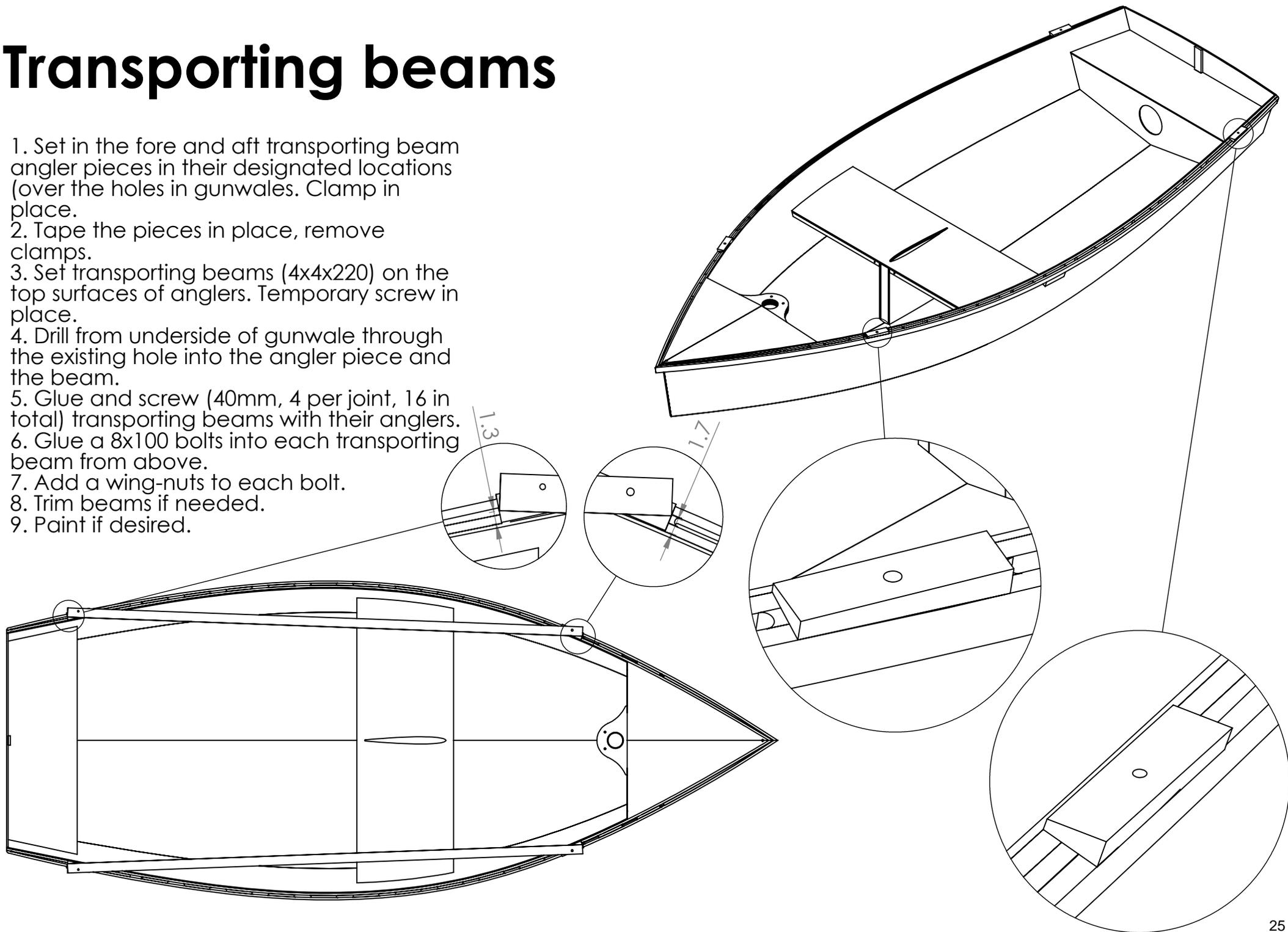


14. Glue and screw mast step plywood piece to the mast step timber piece, using "front" marking as indication. Screw between corners (20mm in front and sides, 3 in total, 30mm in aft, 1 in total).
15. Try fit on the hull, trace outline, drill pilot holes from inside and then from outside, glue and screw in place (15mm in front corners, 2 in total, 25mm in aft corners, 2 in total)
15. Apply generous epoxy fillet.



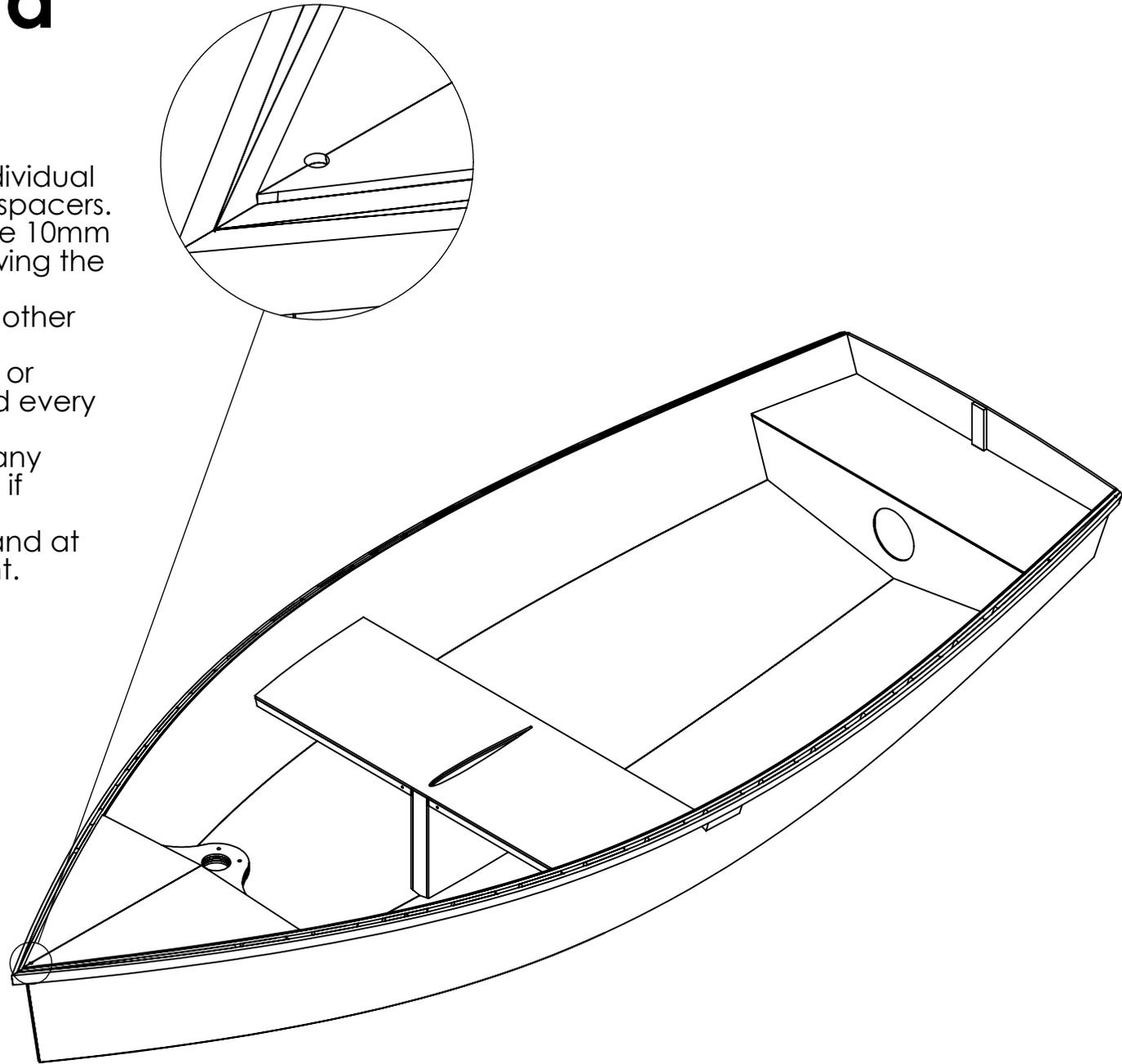
# Transporting beams

1. Set in the fore and aft transporting beam angler pieces in their designated locations (over the holes in gunwales). Clamp in place.
2. Tape the pieces in place, remove clamps.
3. Set transporting beams (4x4x220) on the top surfaces of anglers. Temporary screw in place.
4. Drill from underside of gunwale through the existing hole into the angler piece and the beam.
5. Glue and screw (40mm, 4 per joint, 16 in total) transporting beams with their anglers.
6. Glue a 8x100 bolts into each transporting beam from above.
7. Add a wing-nuts to each bolt.
8. Trim beams if needed.
9. Paint if desired.

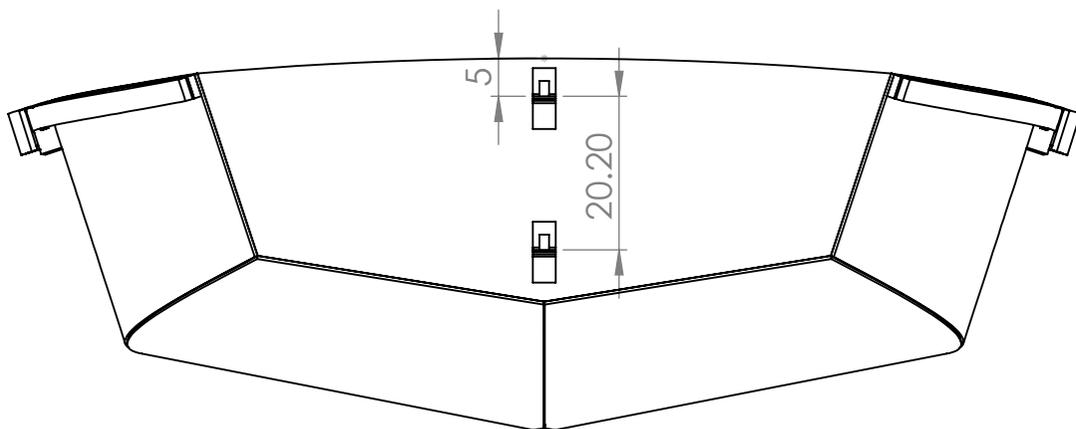


# Finishing and hardware

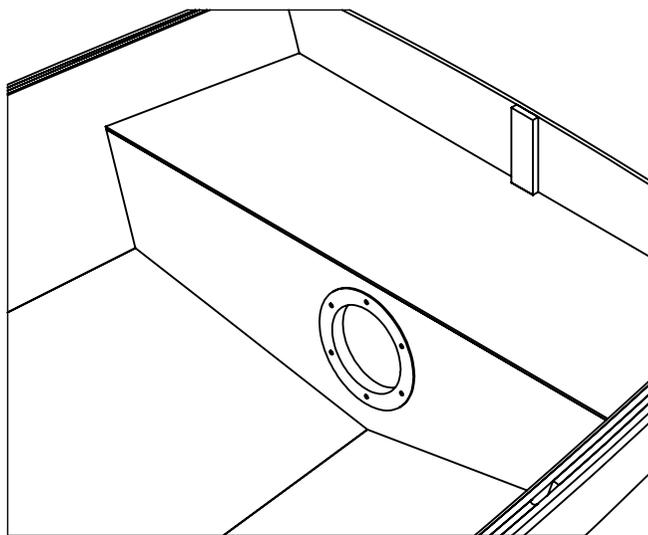
1. After glue and paint of individual parts is dried, remove hull spacers.
2. Drill 8mm, 64mm deep hole 10mm away from the bow, following the angle of the bow.
3. Inspect and epoxy-fill any other holes or gaps.
4. Using files, planes, sanders or sandpaper, filet and round every sharp edge or corner.
5. Inspect the hull again for any imperfections and correct if present.
6. Coat the hull with primer and at least 3 good coats of paint.
7. Add paintjob if desired.
8. Leave to dry completely.



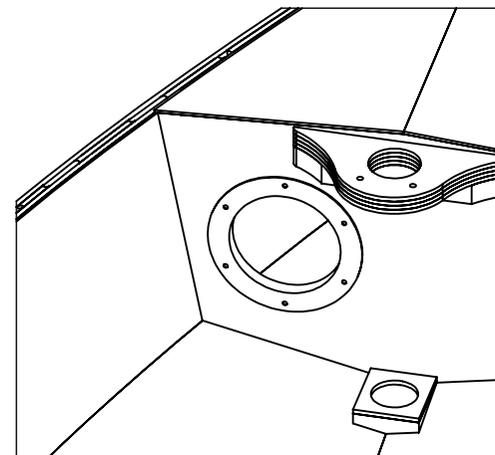
9. Mark locations for rudder hinges, drill pilot holes and screw (15mm, round head, 16 in total) both in place.



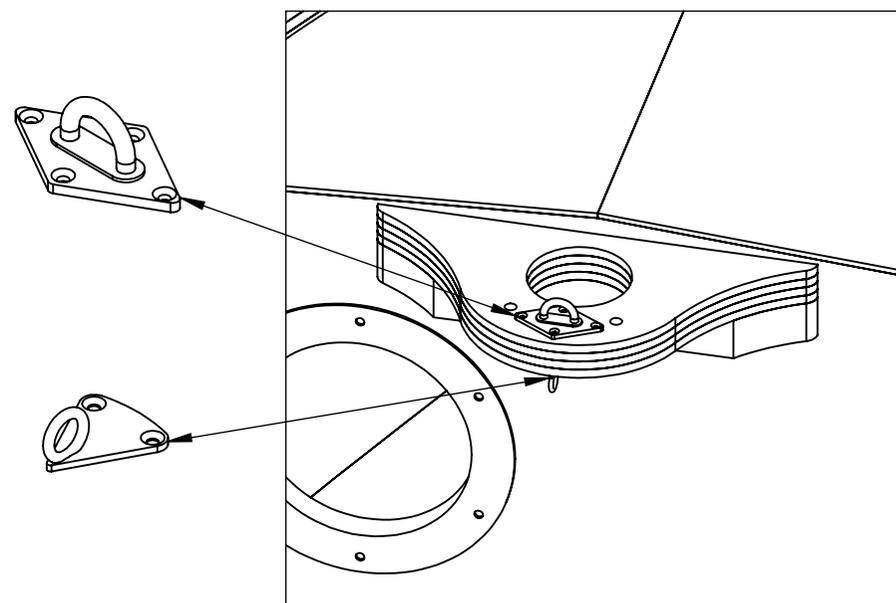
10. Install 176mm hatch with screws (6mm, round head, 6 in total) and sealant if available.



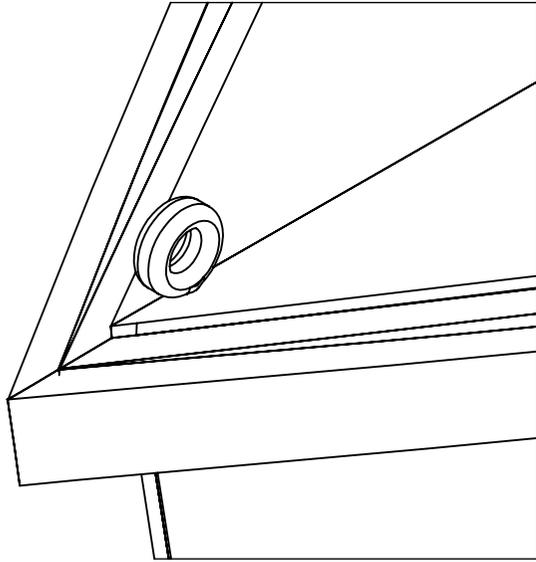
11. Install 210.6mm hatch using screws (6mm, round head, 6 in total) and sealant if available.



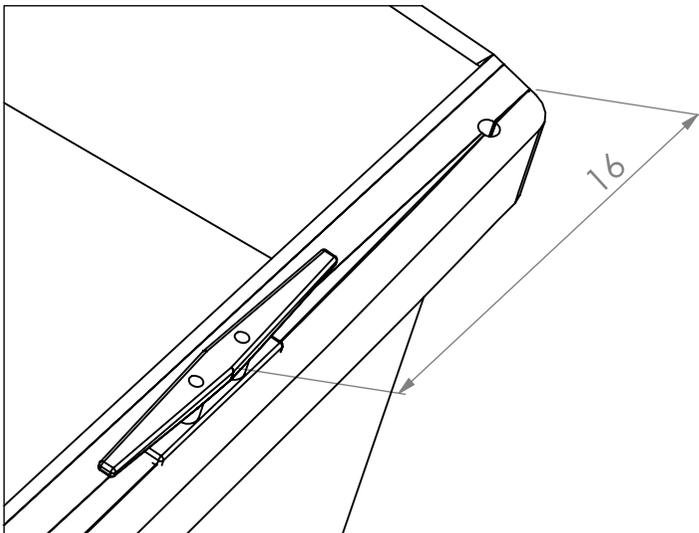
12. Install eye straps above and below the mast partner using screws (25mm, round head, 6 in total).



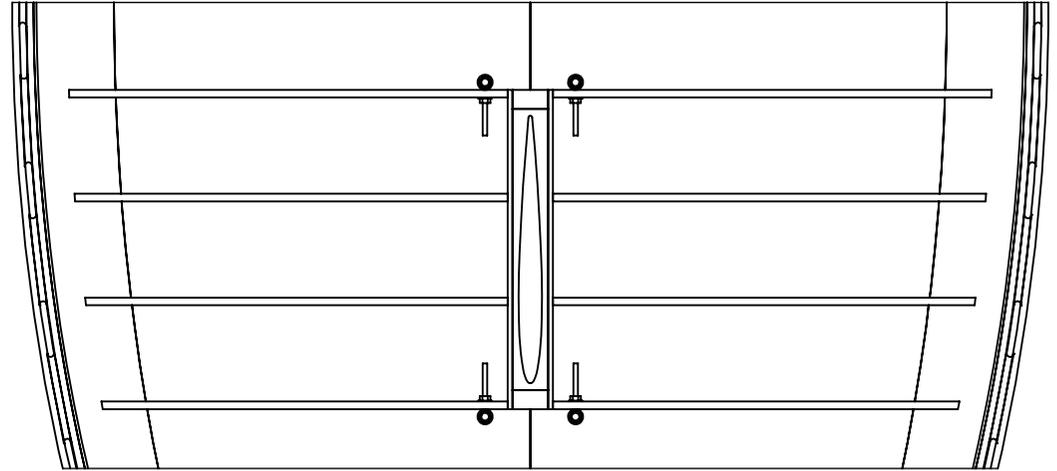
13. Cover another 8mm bolt with eye loop with epoxy, pour some inside bow hole, and glue the bolt in.



14. Install two cleats for mainsheet on the gunwales.

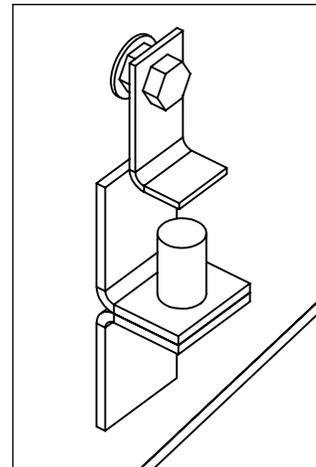


15. Insert 4 6mm eye bolts into the thwart beam holes and nut from the other side (thwart removed in the picture).



**(After rudder is completed)**

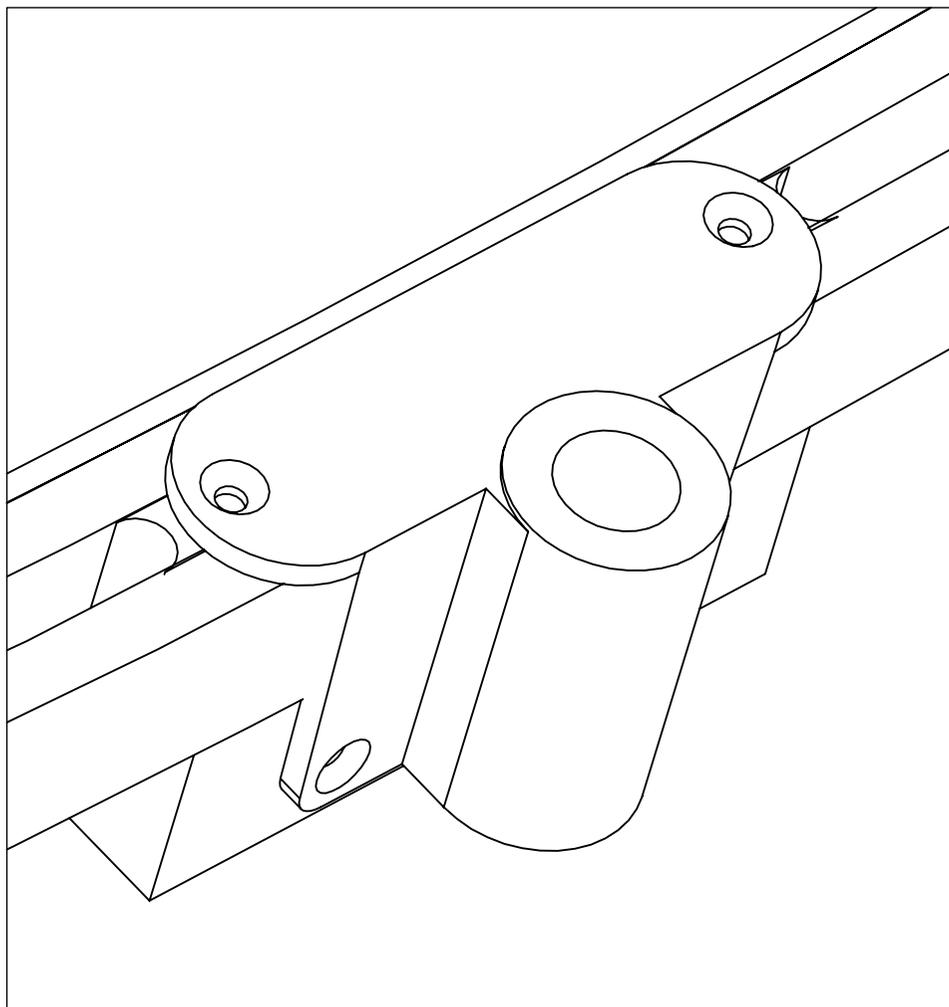
16. Install rudder onto the hinges. Take the L-pin, drill a 6mm hole in the end of the longer surface, try fit so that the other surface lies several millimeters above rudder hinge cylinder.



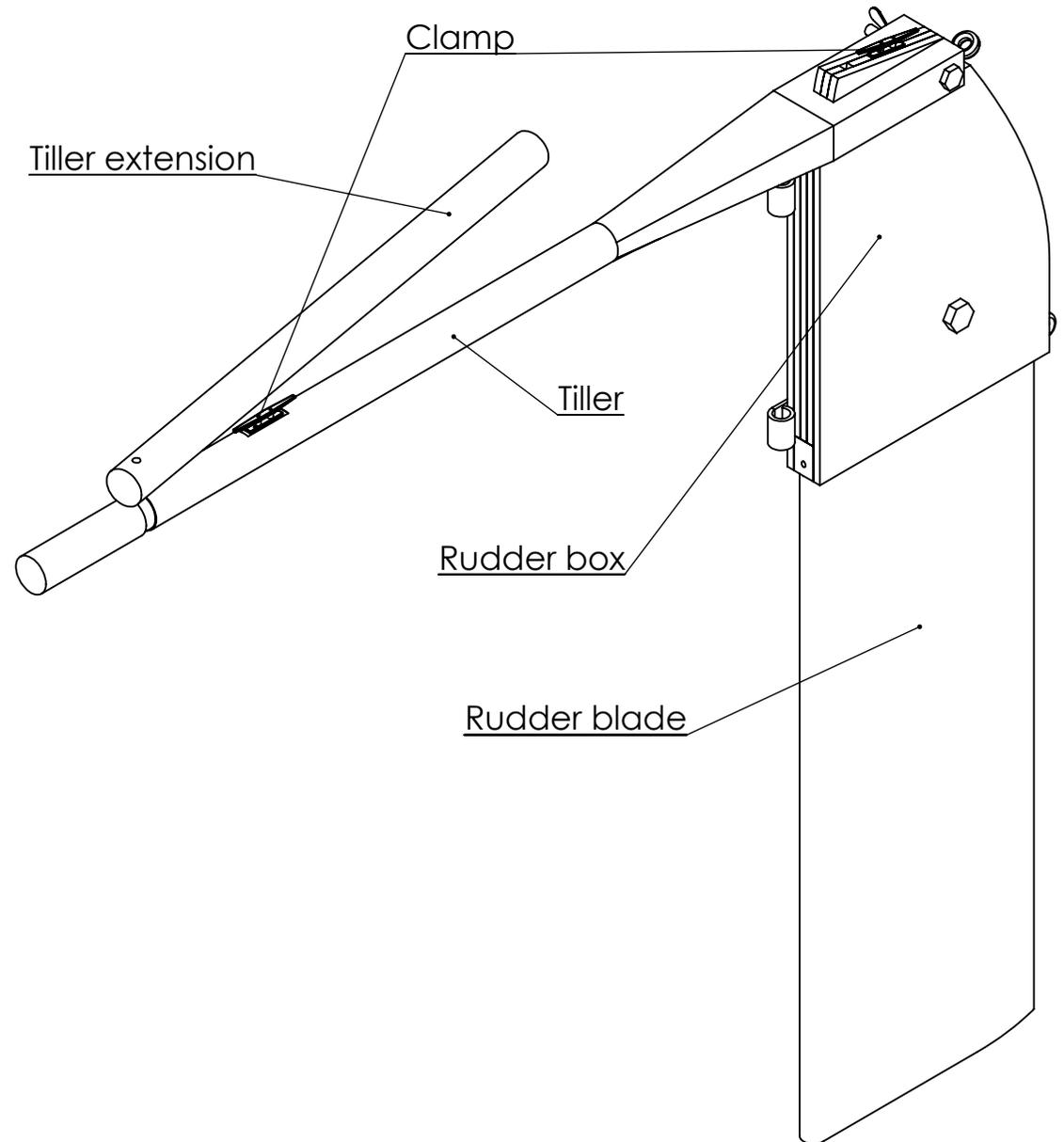
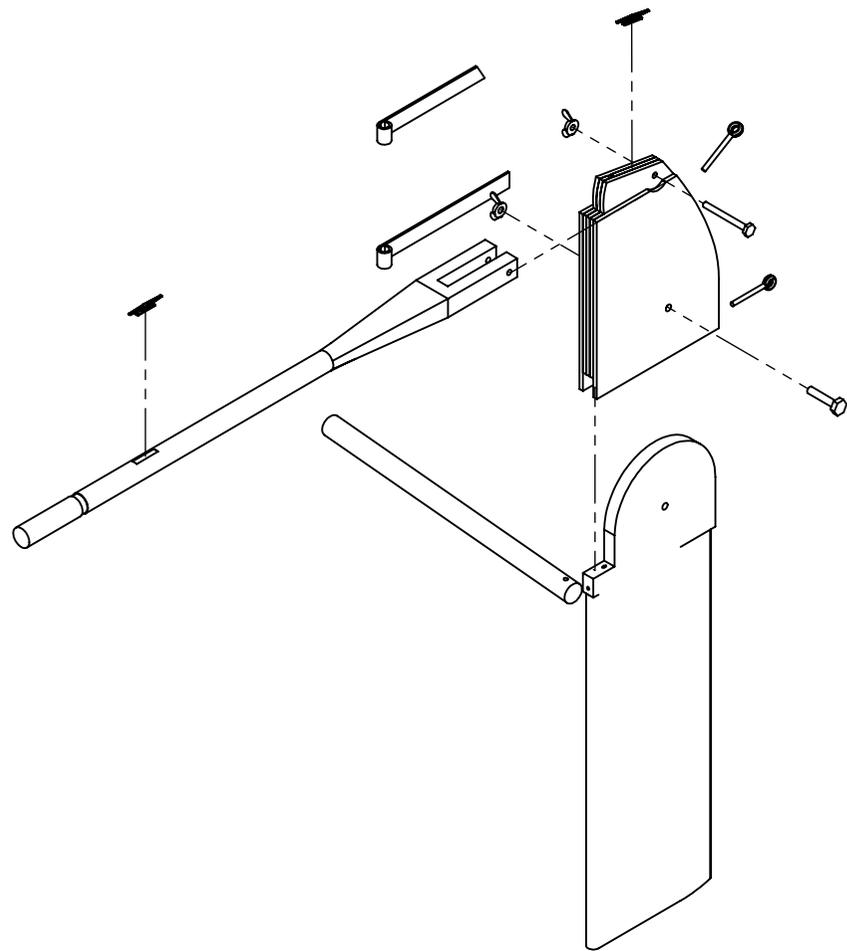
17. Mark and drill a hole at desired location. Use a 6x50 bolt, nuts and washers to distance L-pin appropriately so it can lock rudder in place without interfering. Use locking nut on the inside of the aft compartment. Tighten until L-pin can rotate only with considerable force applied.

## (After oars are completed)

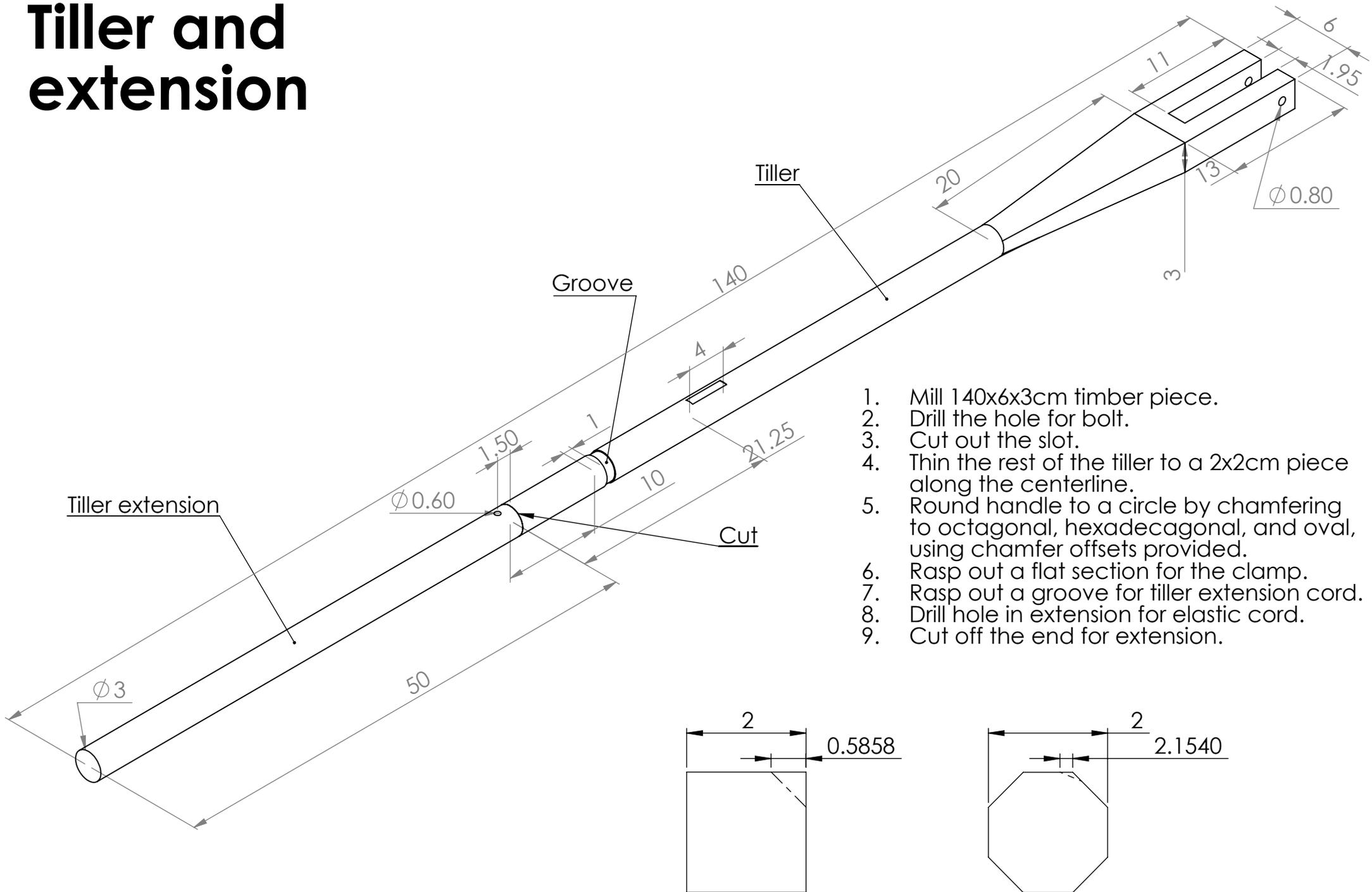
18. Attach rowlocks with screws in their appropriate places at 6th spacer.



# Rudder

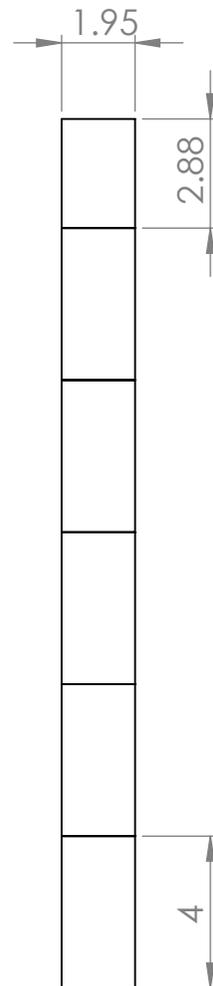
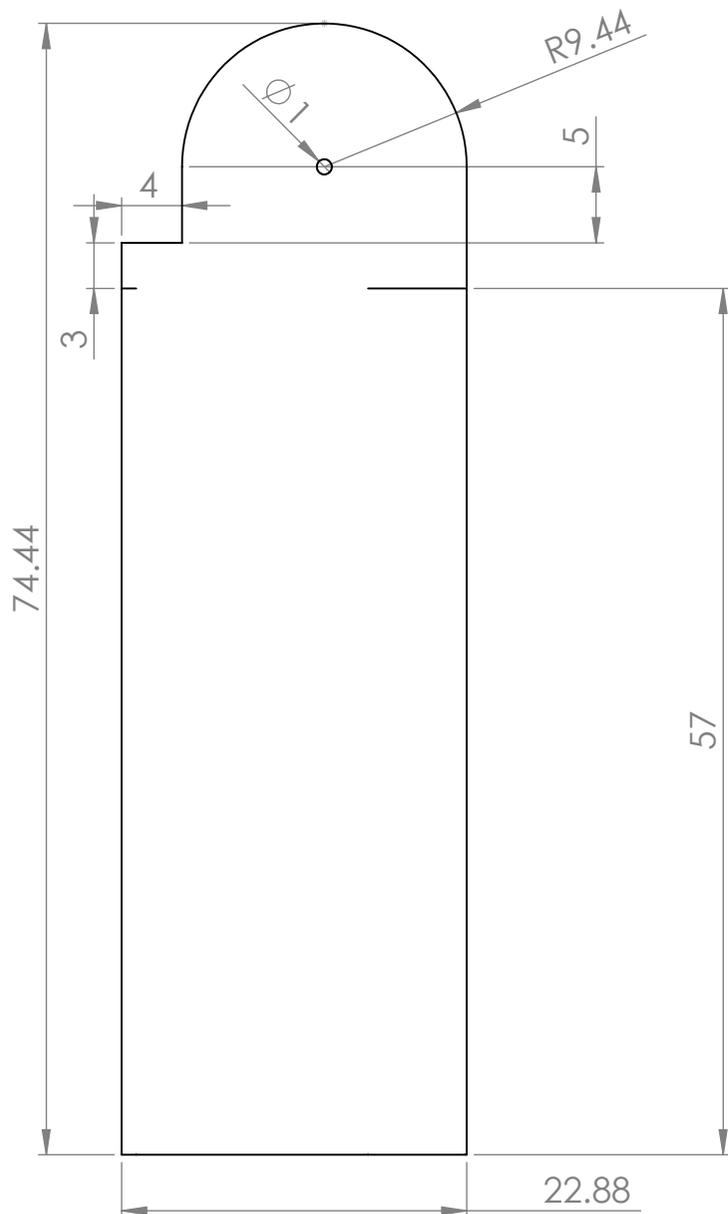


# Tiller and extension

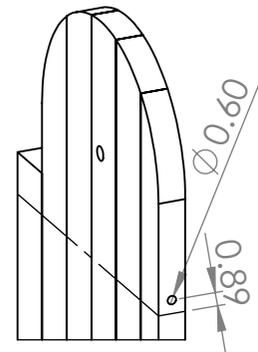
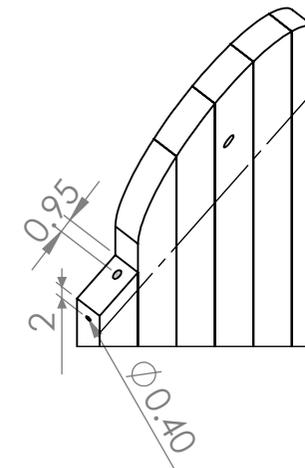
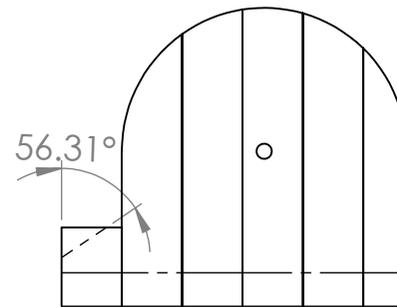


1. Mill 140x6x3cm timber piece.
2. Drill the hole for bolt.
3. Cut out the slot.
4. Thin the rest of the tiller to a 2x2cm piece along the centerline.
5. Round handle to a circle by chamfering to octagonal, hexadecagonal, and oval, using chamfer offsets provided.
6. Rasp out a flat section for the clamp.
7. Rasp out a groove for tiller extension cord.
8. Drill hole in extension for elastic cord.
9. Cut off the end for extension.

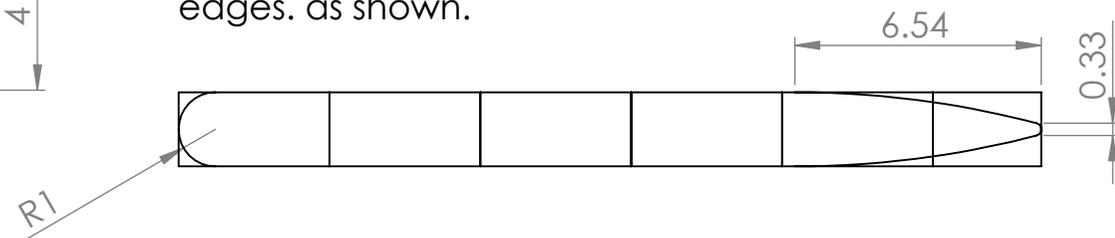
# Rudder blade



1. Mill five 4x1.95x75cm and one 2.88x1.95x75cm timber pieces.
2. Glue them together as indicated.
3. Cut out the upper part shape. Drill the hole.
4. Mark the indicated line where foil shaping starts.
5. Drill out the angled hole for downhaul and straight 6cm hole for uphaul.

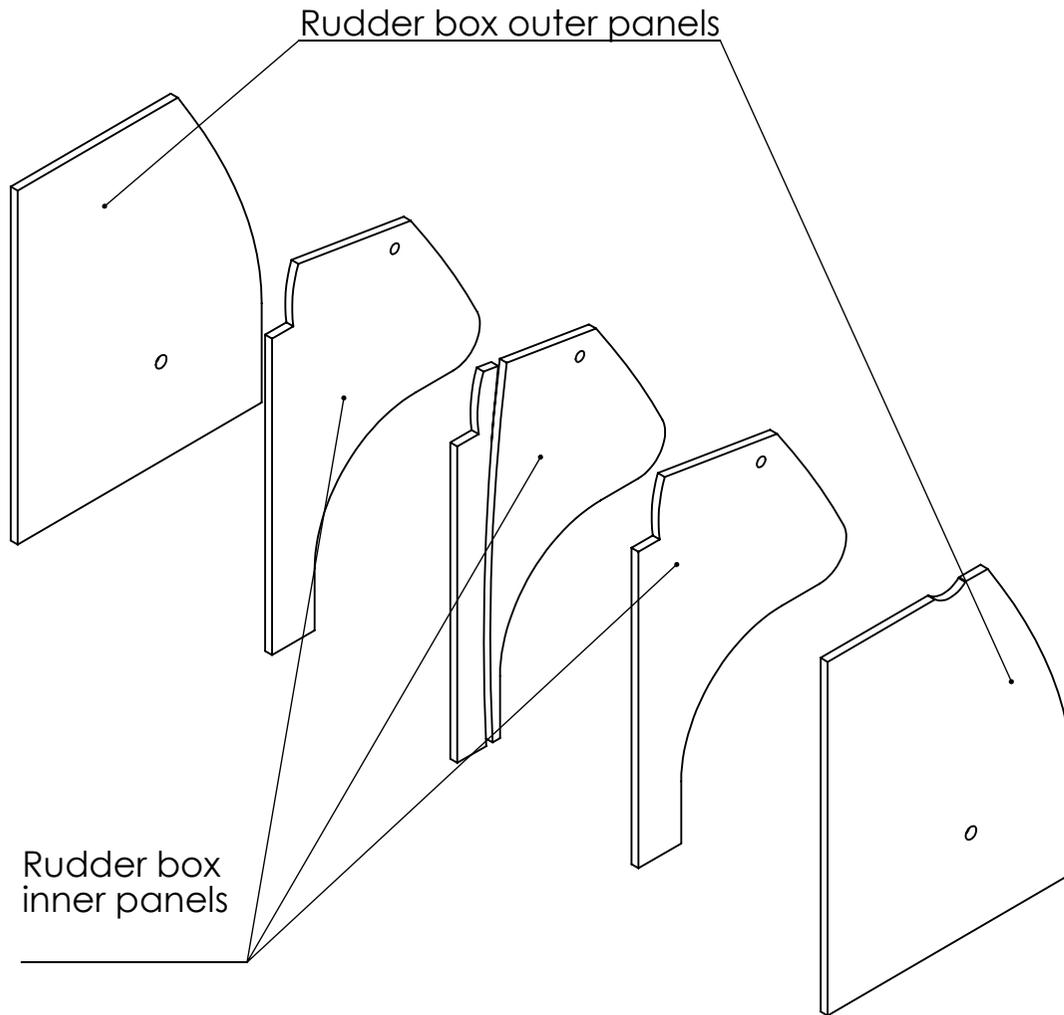


7. Round the leading and taper the trailing edges. as shown.

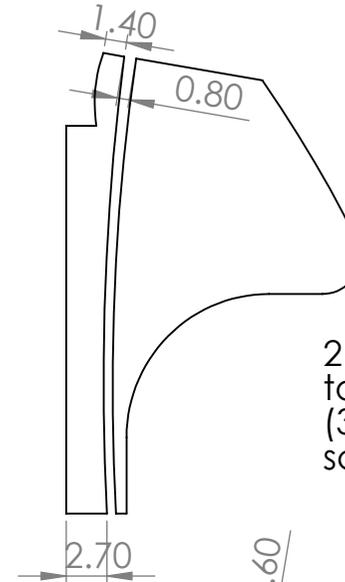


8. Fillet and smooth the whole part as desired.
9. Glue in 6mm eye-bolt into the 6cm hole, with hole facing sideways.
10. Paint with 3 coats of paint.

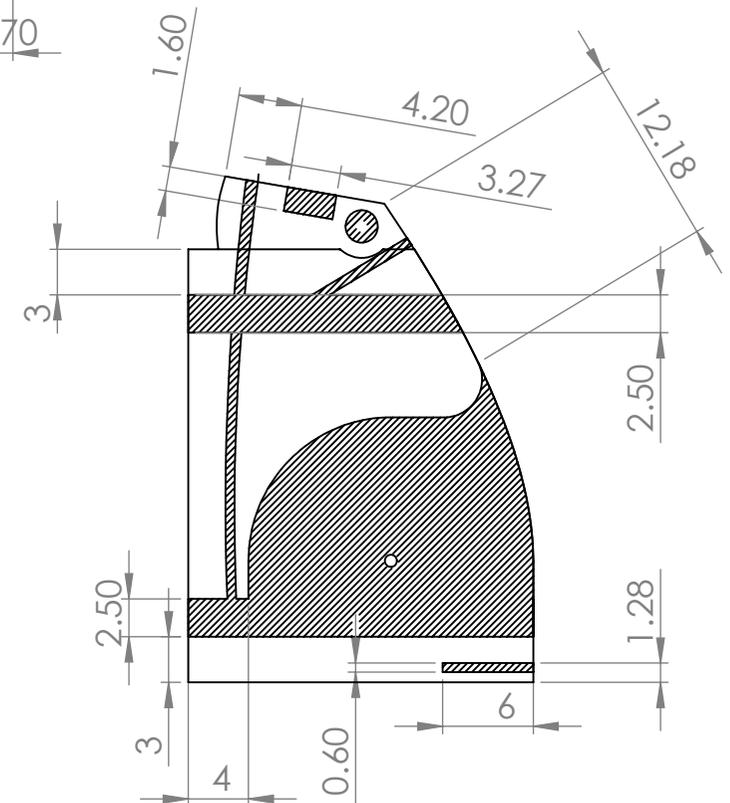
# Rudder box



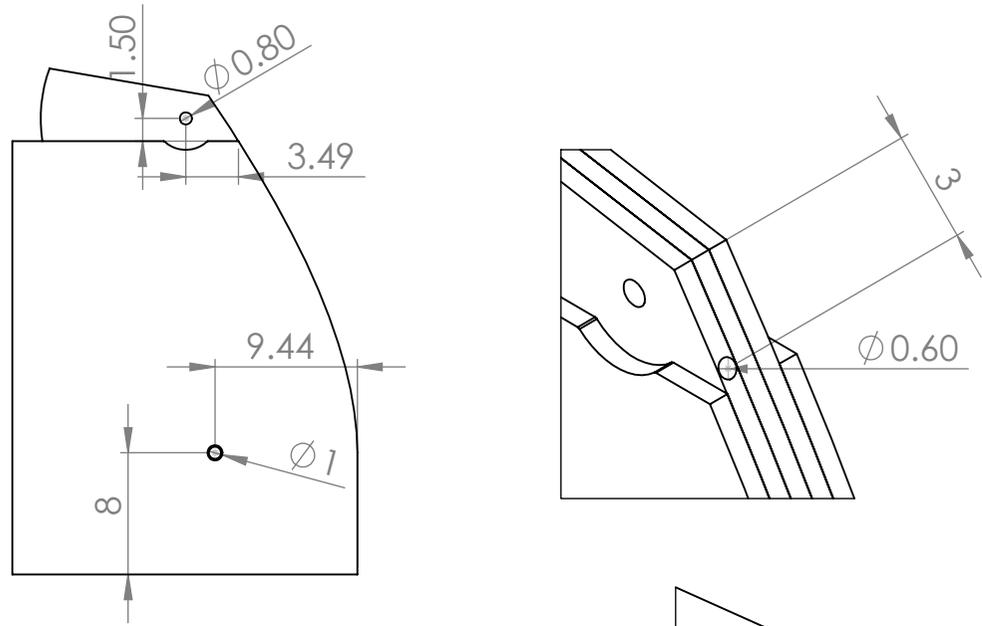
1. Take one of the rudder box inner panels, and cut out the channel. Exact shape of the channel is not important.



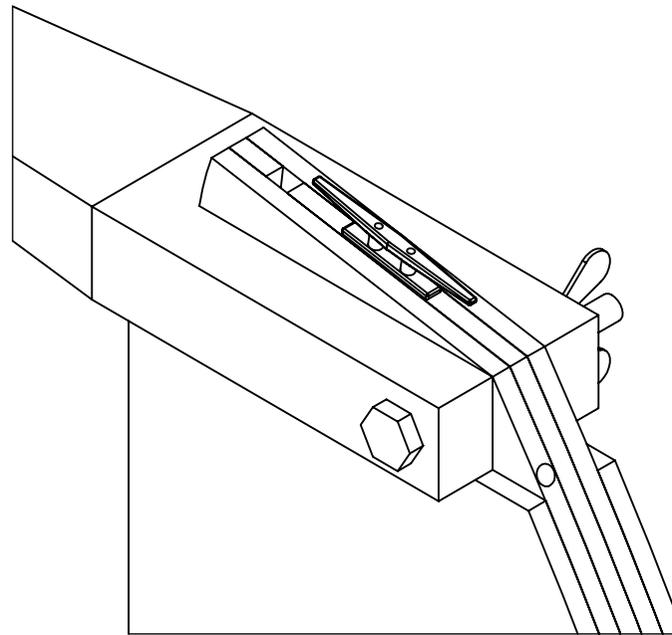
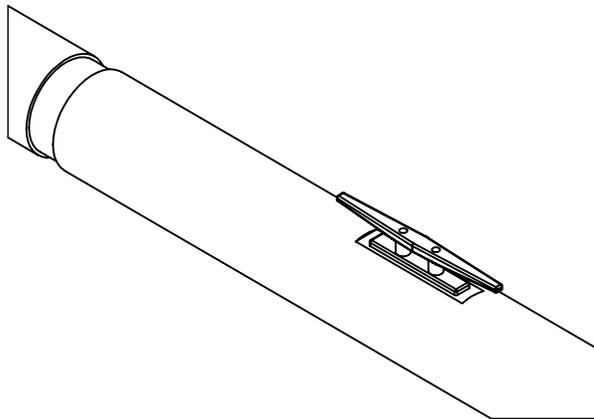
2. Sandwich all panels together with glue and screws (30mm, 15 in total) Do not screw in hatched areas.



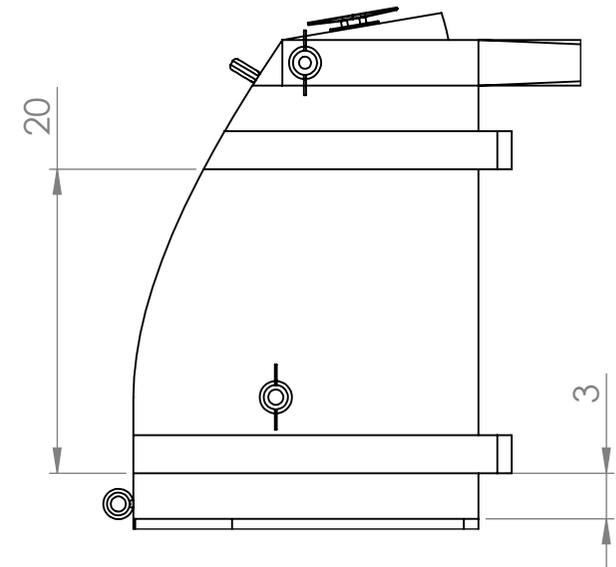
1. Drill out designated holes.



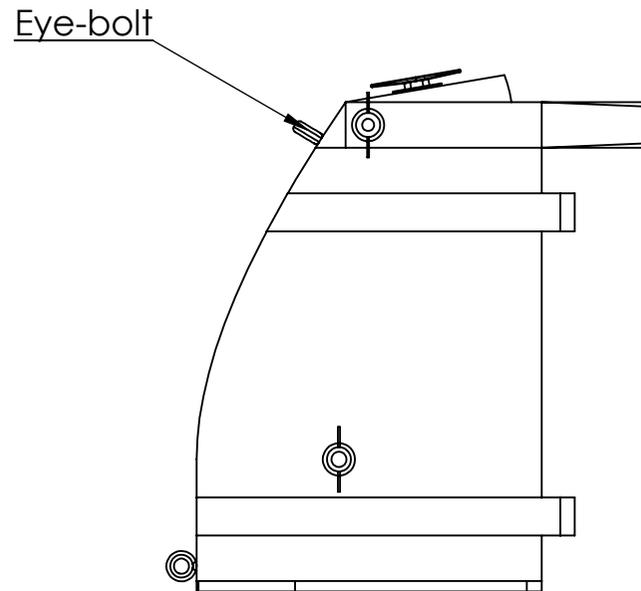
2. Attach clamps with screws, glue in 6mm eye-bolt.
3. Assemble rudder box with tiller using 8x80 bolt and wing nut. Tighten until tiller rotates with fixation.



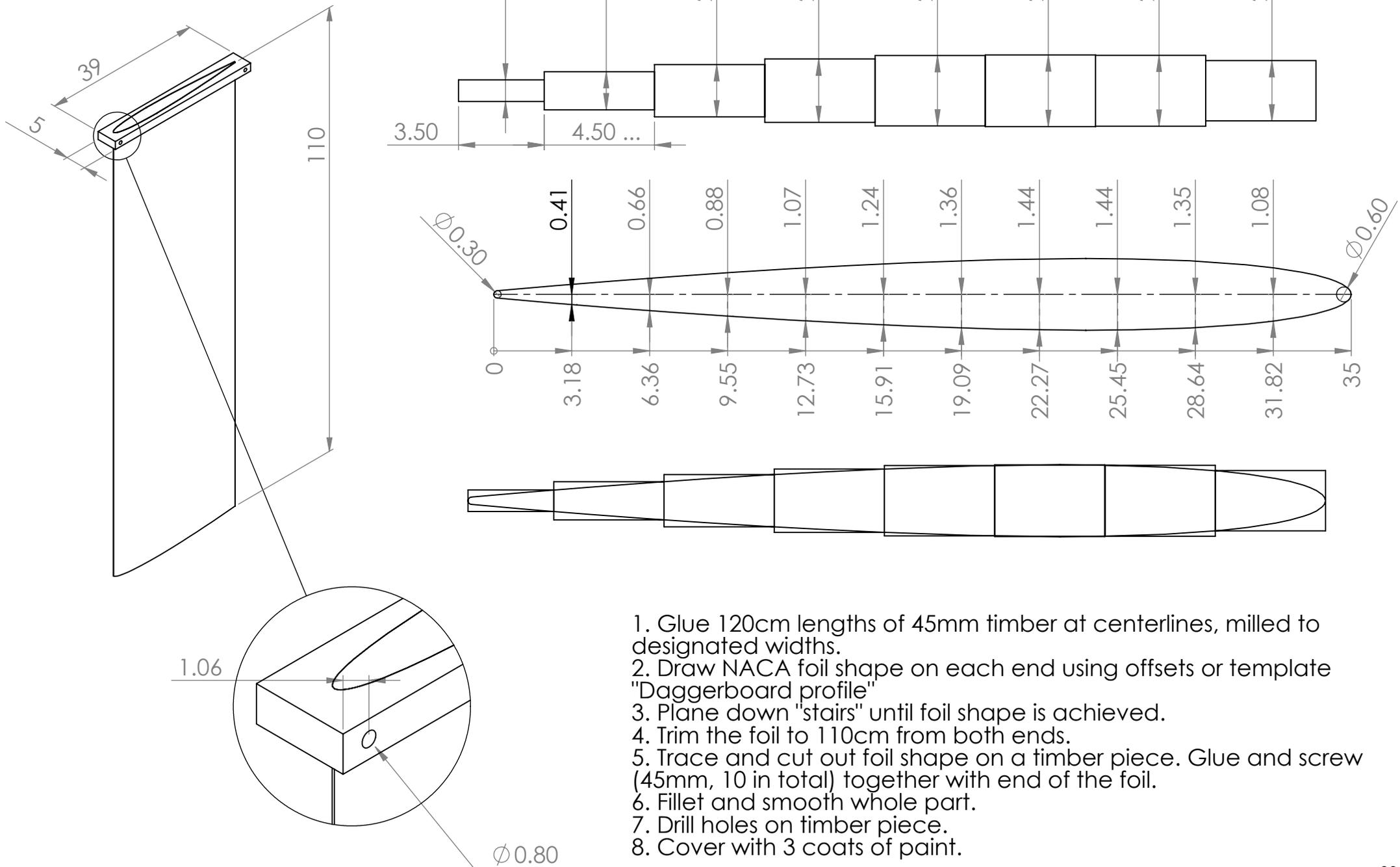
4. Insert rudder blade, drill through existing hole in the rudder box.
5. Lock parts together with 10x50 bolt and locking nut. Tighten until snug, let rotate freely.
6. Check for interference while rotating, trim rudder blade oval if necessary.
7. Try fit female rudder hinges in designated locations. Clamp in place, try-fit on the hull. Mark protruding ends and cut them off.
8. Drill pilot holes and screw hinges (35mm, round head for top hinge and front of bottom hinge, 5 in total, 8mm, round head for bottom hinge, 3 in total).



9. Remove all the hardware, fillet and sand wood parts.
10. Paint with 2-3 coats, wait to dry.
11. Glue in 6mm eye-bolts in holes on rudder box and blade.
12. Re-assemble parts with hardware.



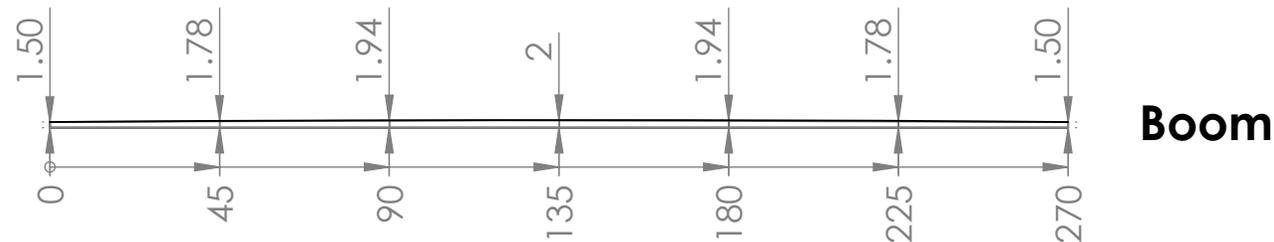
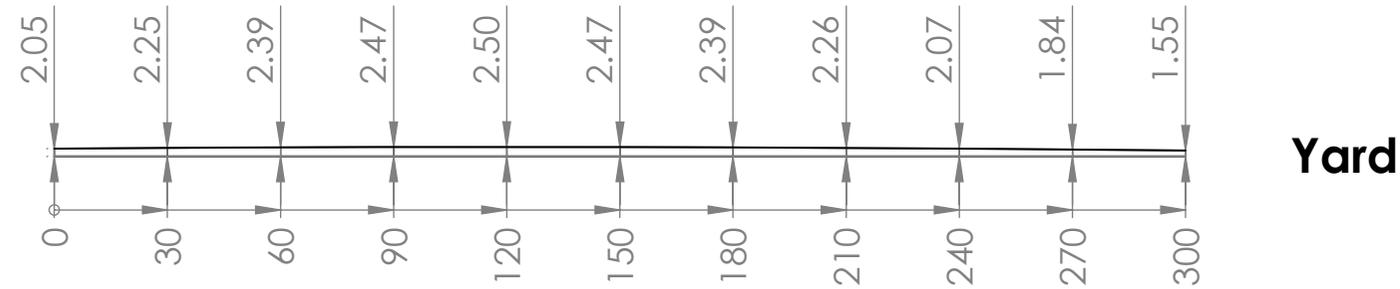
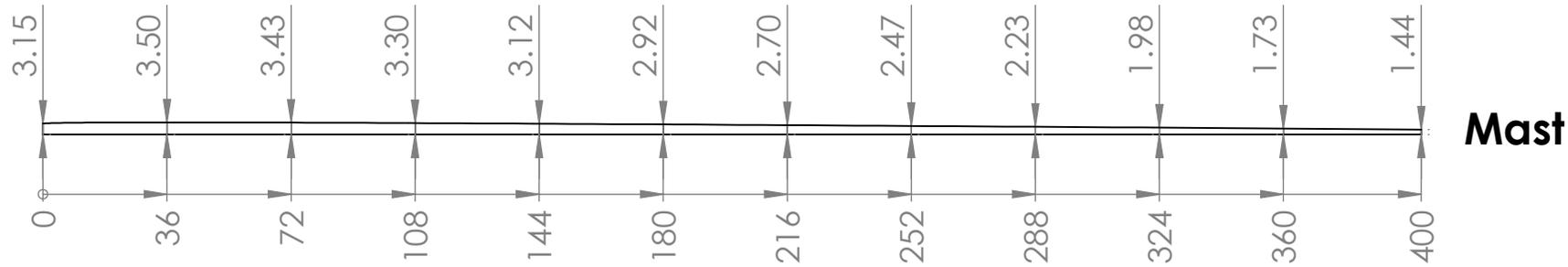
# Daggerboard



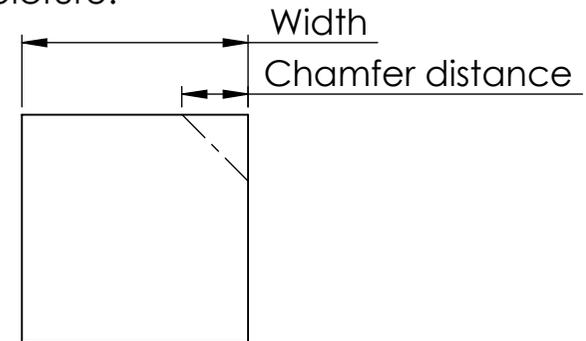
1. Glue 120cm lengths of 45mm timber at centerlines, milled to designated widths.
2. Draw NACA foil shape on each end using offsets or template "Daggerboard profile"
3. Plane down "stairs" until foil shape is achieved.
4. Trim the foil to 110cm from both ends.
5. Trace and cut out foil shape on a timber piece. Glue and screw (45mm, 10 in total) together with end of the foil.
6. Fillet and smooth whole part.
7. Drill holes on timber piece.
8. Cover with 3 coats of paint.

# Spars

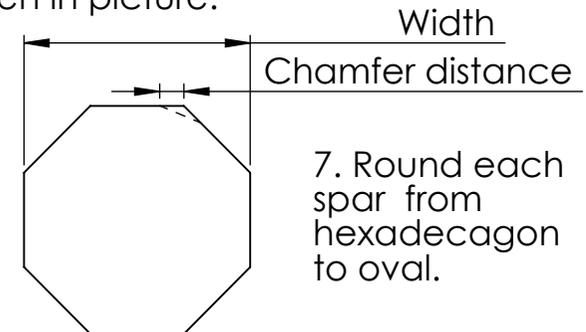
1. Mill 7x7x400 piece for mast, 5x5x300 for yard, 4x4x270 for boom. Scarf and sandwich as necessary.
2. Strike a centerline on two adjacent sides, draw designated offsets on each side of the centerline, draw curves with batten.
3. Plane down the other 2 sides to these curves.



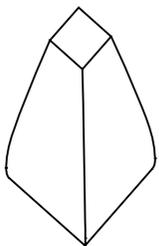
5. Chamfer to octagonal shape. Chamfer offset from edge is equal to 0.2929 times mast width, as seen in picture.



6. Chamfer to hexadecagon shape. Chamfer offset from edge is equal to 0.1077 times mast width, as seen in picture.



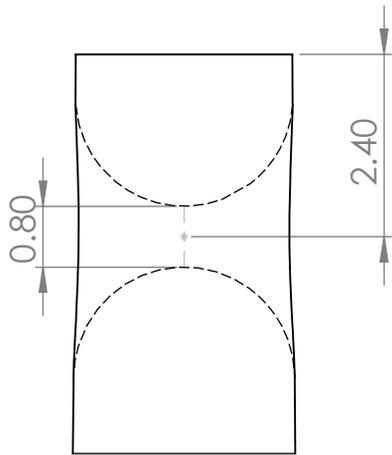
7. Round each spar from hexadecagon to oval.



4. Draw same curves on planed sides.
5. Plane down the remaining two sides until spar has a shape like in picture.

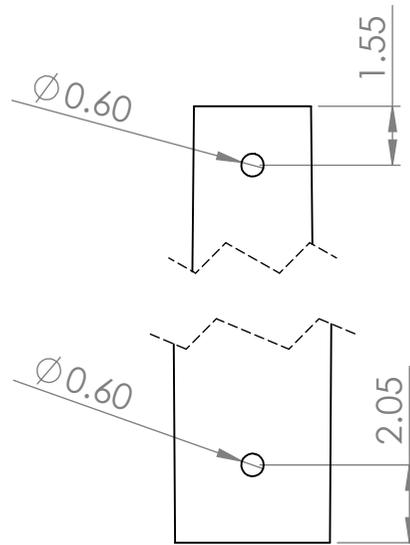
# Mast

1. Drill out dumb sheave by pivoting the drill. Finish with rasps and sandpaper.



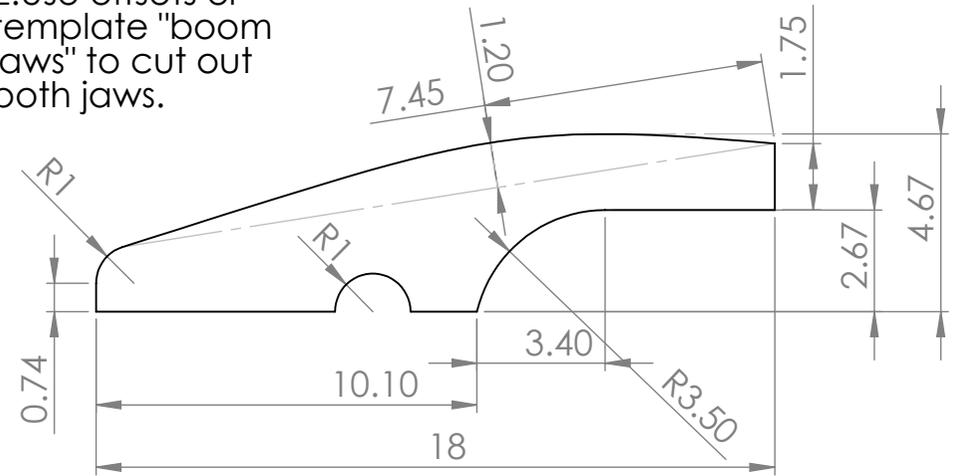
# Yard

1. Drill out holes on each end.



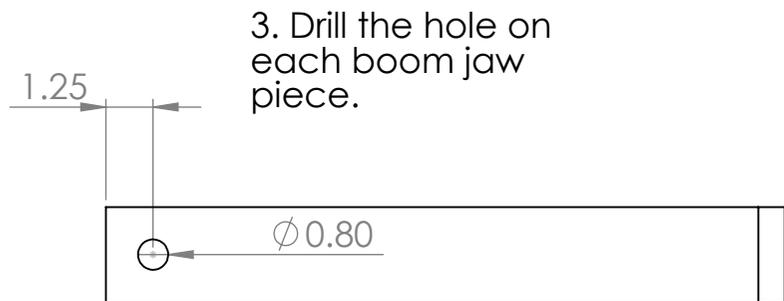
# Boom jaws

1. Mill two 2.5x5x18 timber pieces.  
2. Use offsets or template "boom jaws" to cut out both jaws.

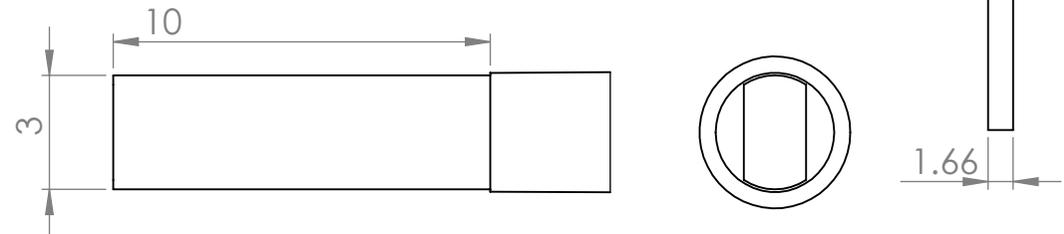


# Boom

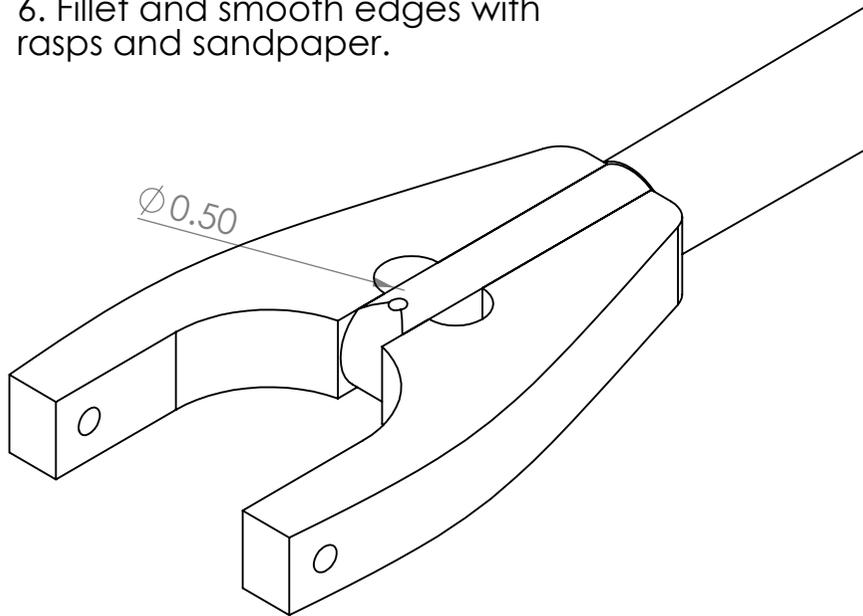
1. Using rasps and sandpaper, thin front end of the boom into an oval.  
2. Cut out sides of the oval throughout it's length.



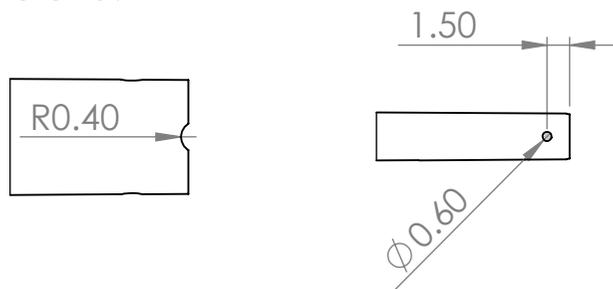
3. Drill the hole on each boom jaw piece.



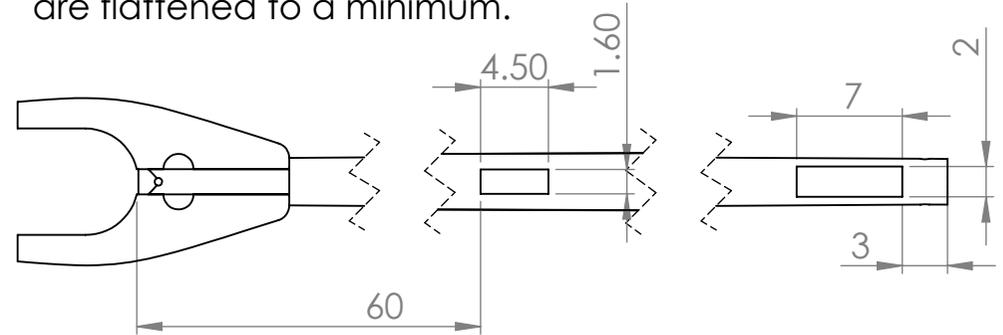
3. Glue and screw (35mm, 45mm, 50mm, 2 of each) jaws to the boom.
4. Using rasp, add fillets to the front end of the boom.
5. Drill the hole in the end of the boom.
6. Fillet and smooth edges with rasps and sandpaper.



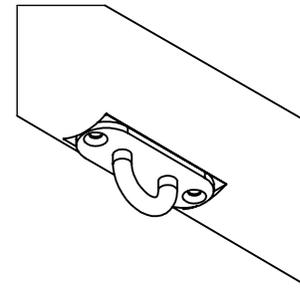
8. Using rasp, make a vertical groove on the end of the boom for outhaul.
9. Drill a horizontal hole at the same end.



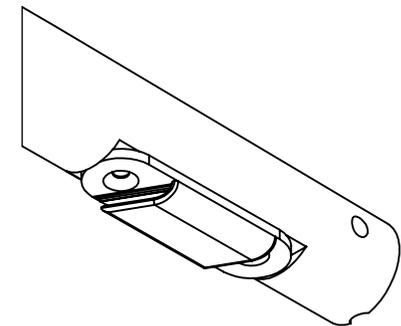
10. Using rasp, file two flat surfaces on the lower part of the boom. Check with hardware parts to ensure surfaces are flattened to a minimum.



11. Install eye strap in the filed flat surface near the jaws with screws (15mm, 2 in total).



12. Install stopper in the flat surface at the end of the boom with screws (15mm, 2 in total).

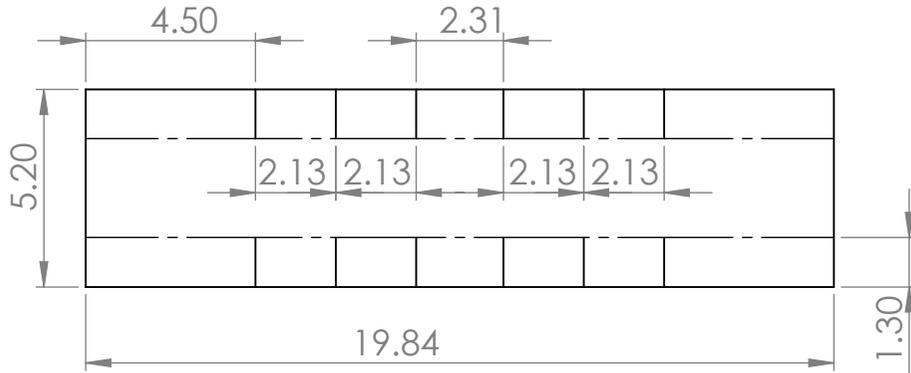


## Spars (finishing)

1. Remove all hardware.
2. Fillet and smooth spars if required.
3. Varnish with 2-3 coats.
4. Re-attach hardware.

# Boom leather

13. Cut out specified leather piece. Cut at solid lines, fold at dashed.

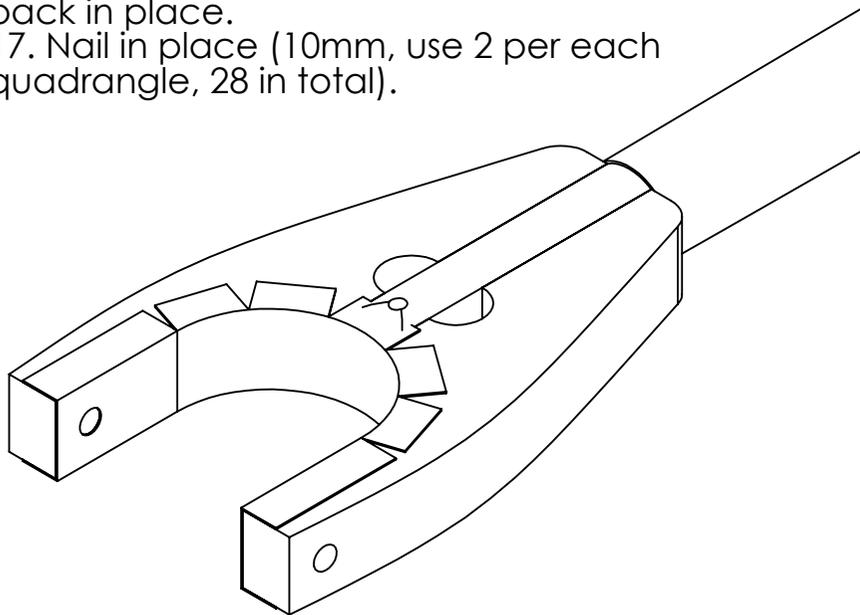


14. Soak the leather piece in water, then set up like indicated. Lash with threads to hold in place, and leave for 24 hours to dry.

15. Mark jaw hole locations on the leather.

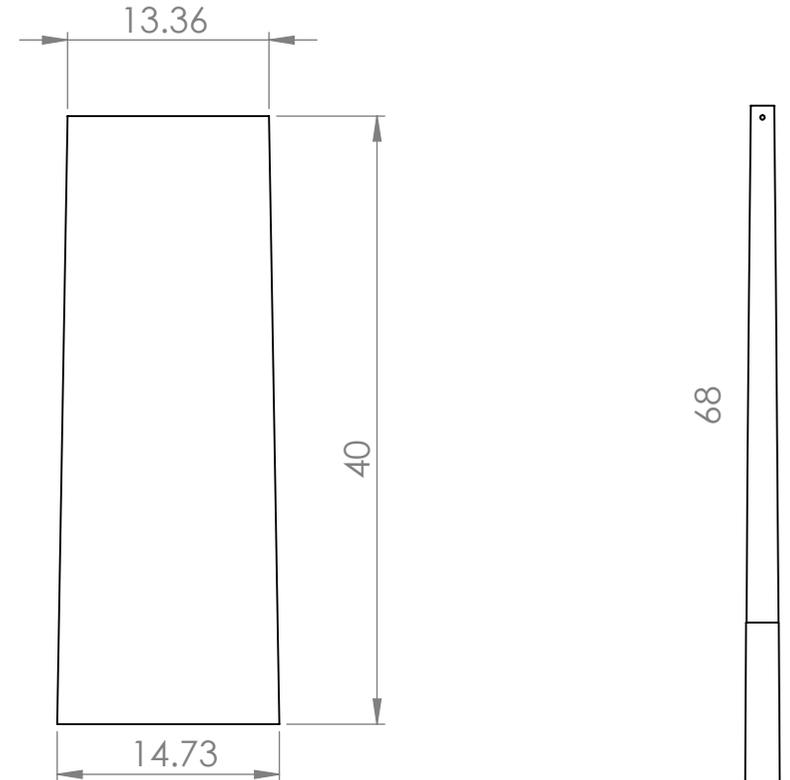
16. After dried, remove, punch the holes, set back in place.

17. Nail in place (10mm, use 2 per each quadrangle, 28 in total).



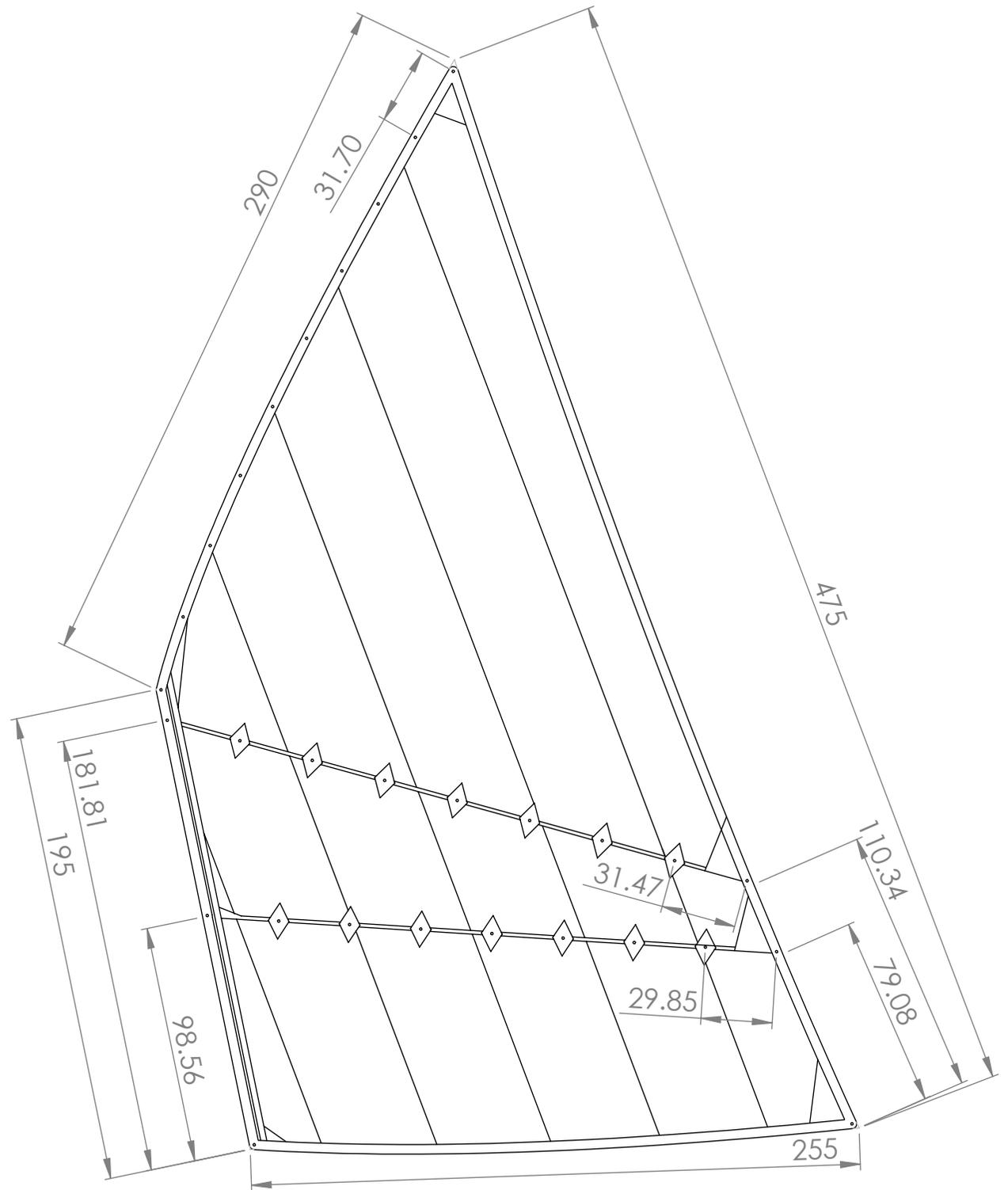
# Yard leather

1. Cut a leather piece of specified dimensions.



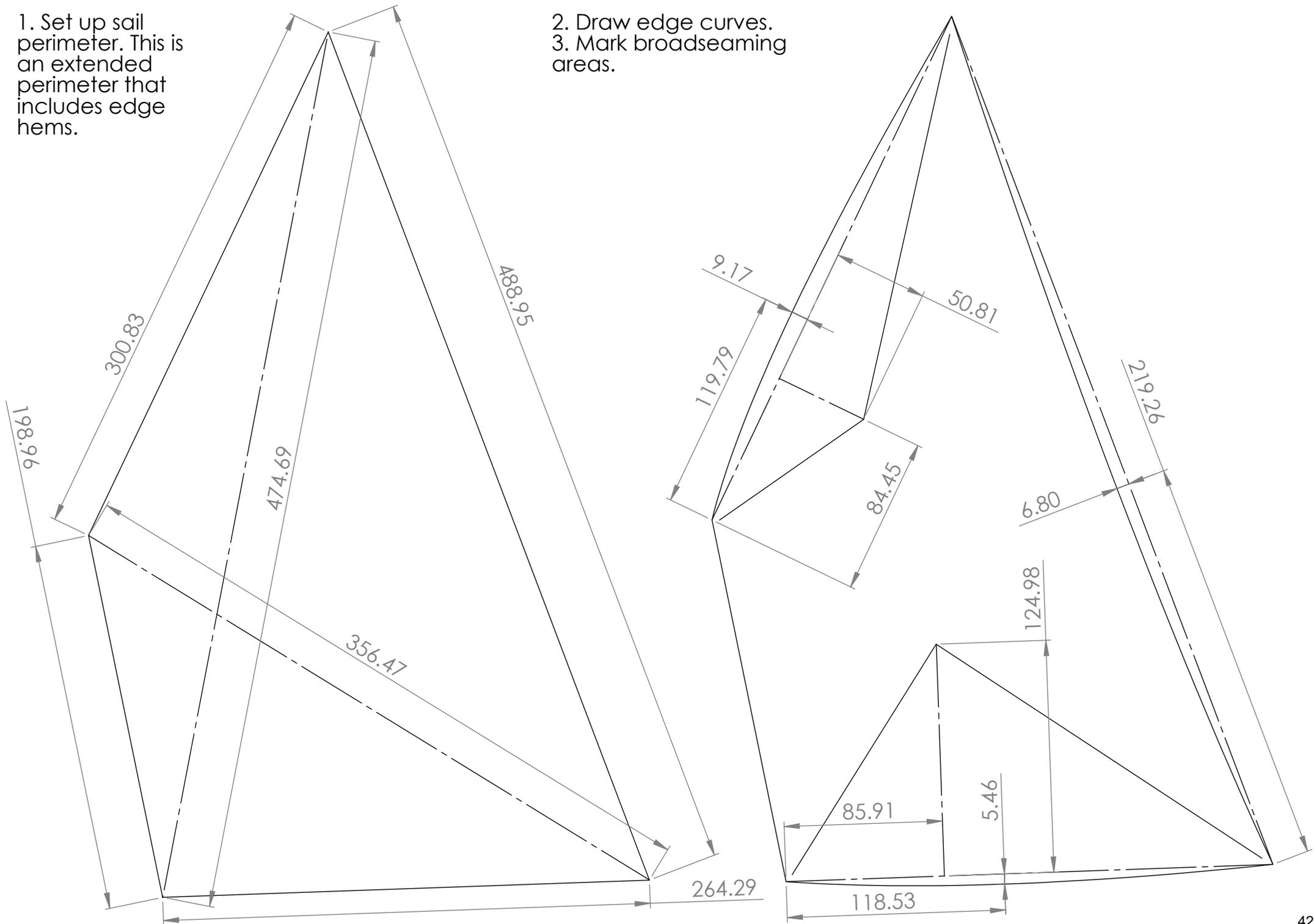
2. Wrap the leather around the yard at specified location, sew edges together tightly. If loose, trim and sew again. Nail to hold in place (10mm, 6 in total).

# Sail

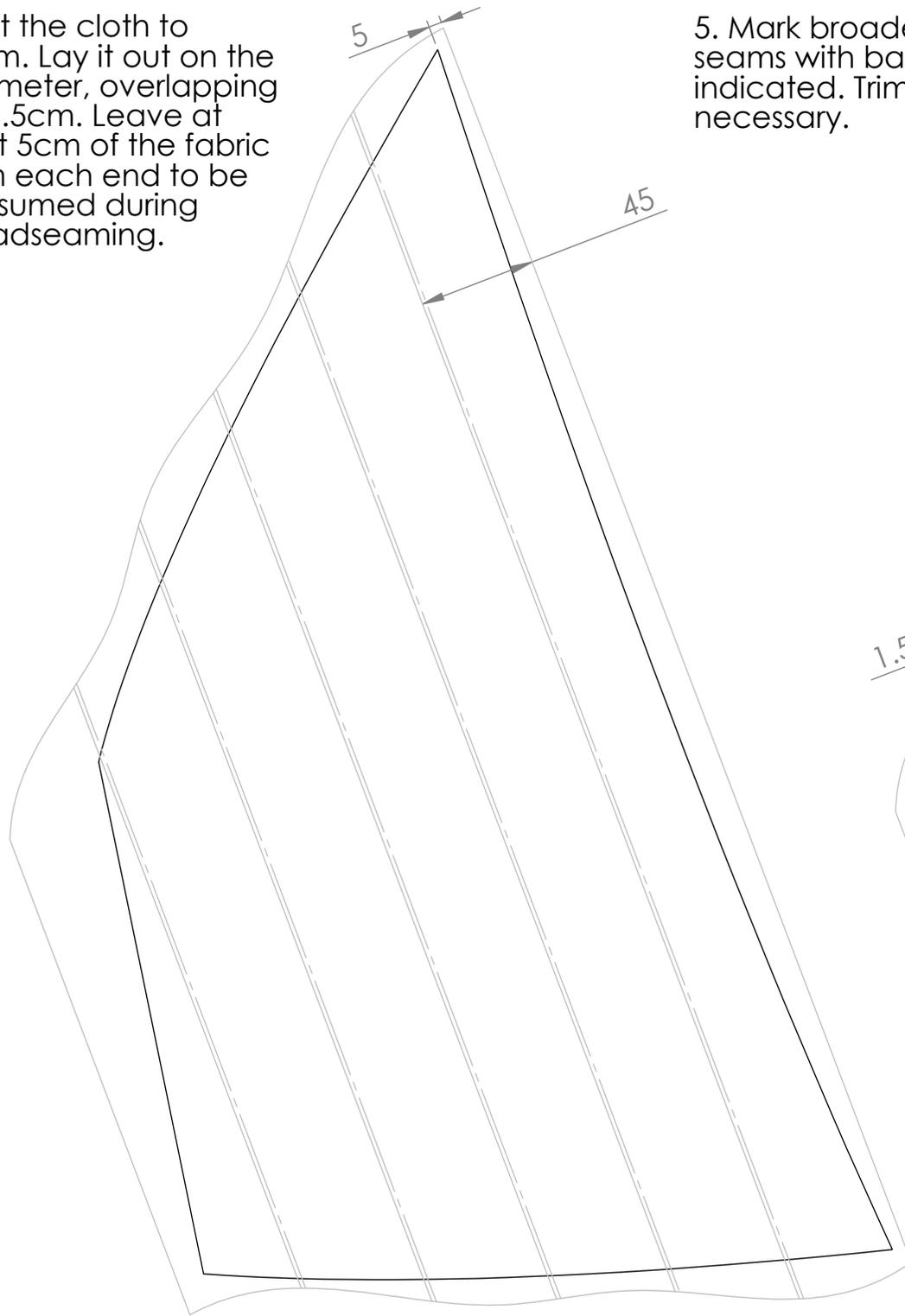


1. Set up sail perimeter. This is an extended perimeter that includes edge hems.

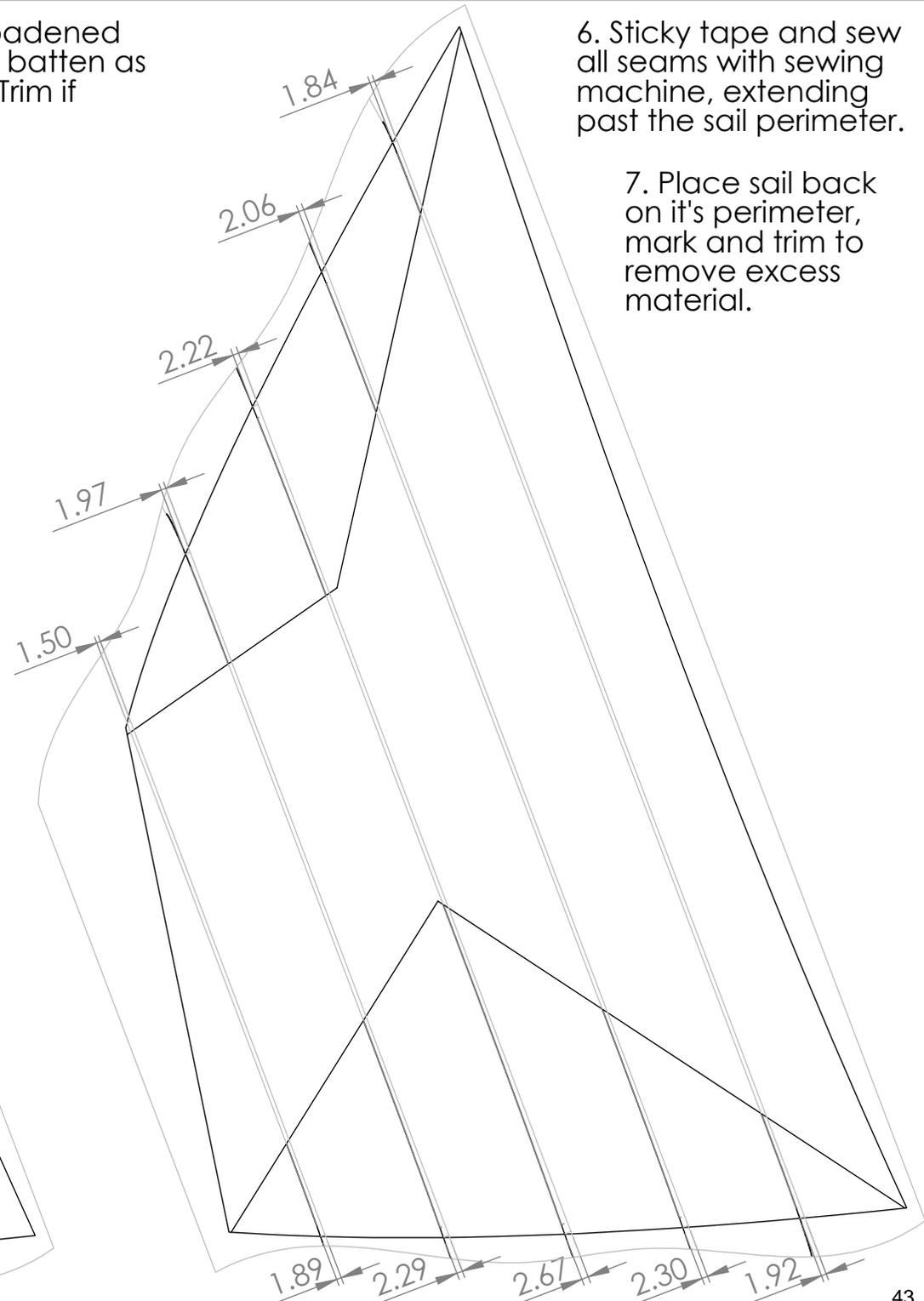
2. Draw edge curves.  
3. Mark broadseaming areas.



4. Slit the cloth to 45cm. Lay it out on the perimeter, overlapping by 1.5cm. Leave at least 5cm of the fabric from each end to be consumed during broadseaming.



5. Mark broadened seams with batten as indicated. Trim if necessary.

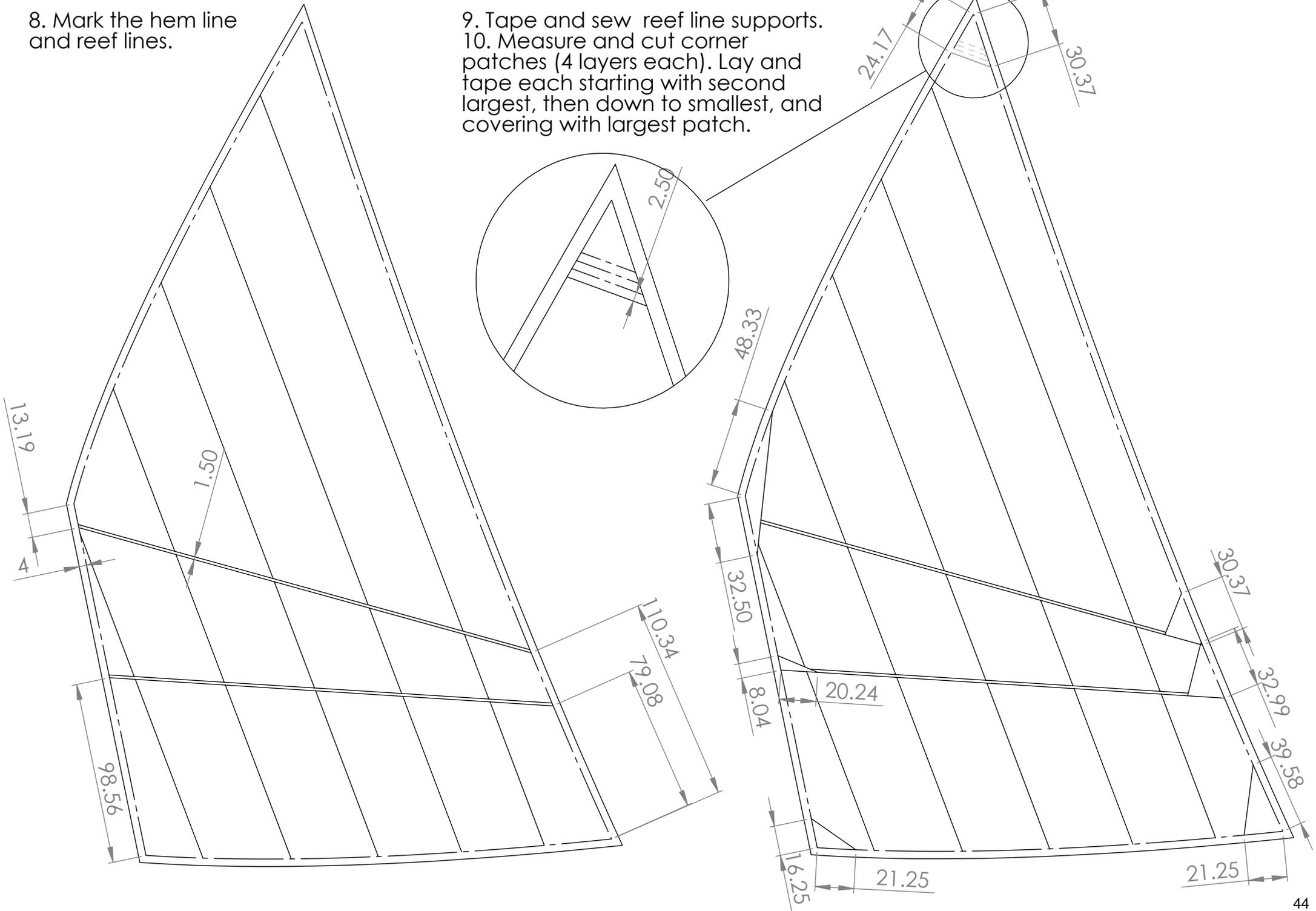


6. Sticky tape and sew all seams with sewing machine, extending past the sail perimeter.

7. Place sail back on it's perimeter, mark and trim to remove excess material.

8. Mark the hem line and reef lines.

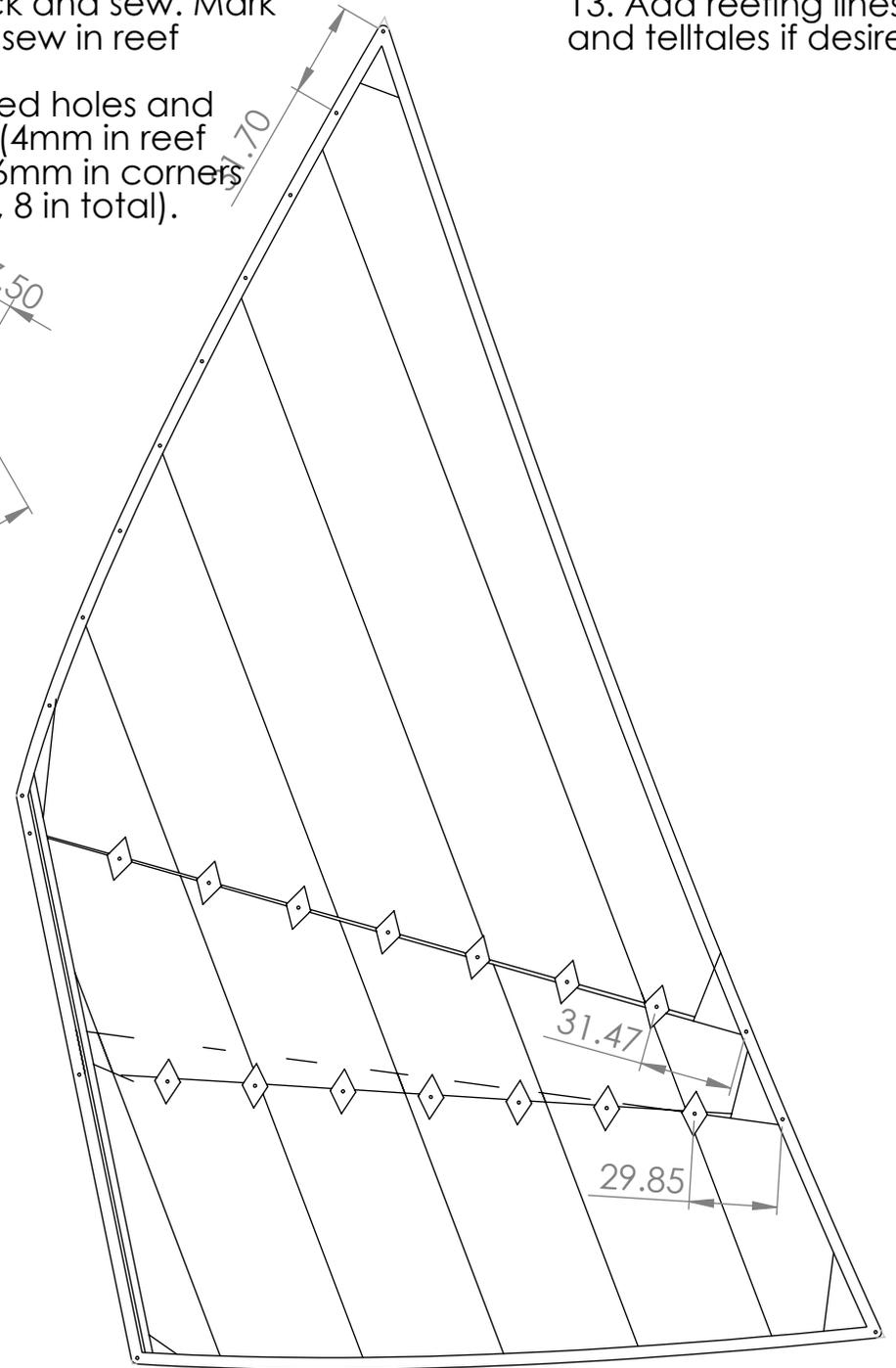
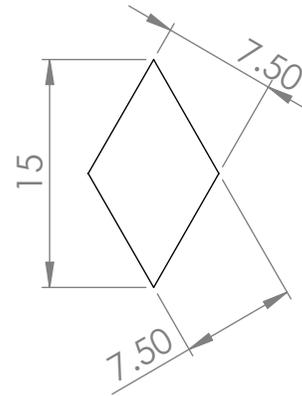
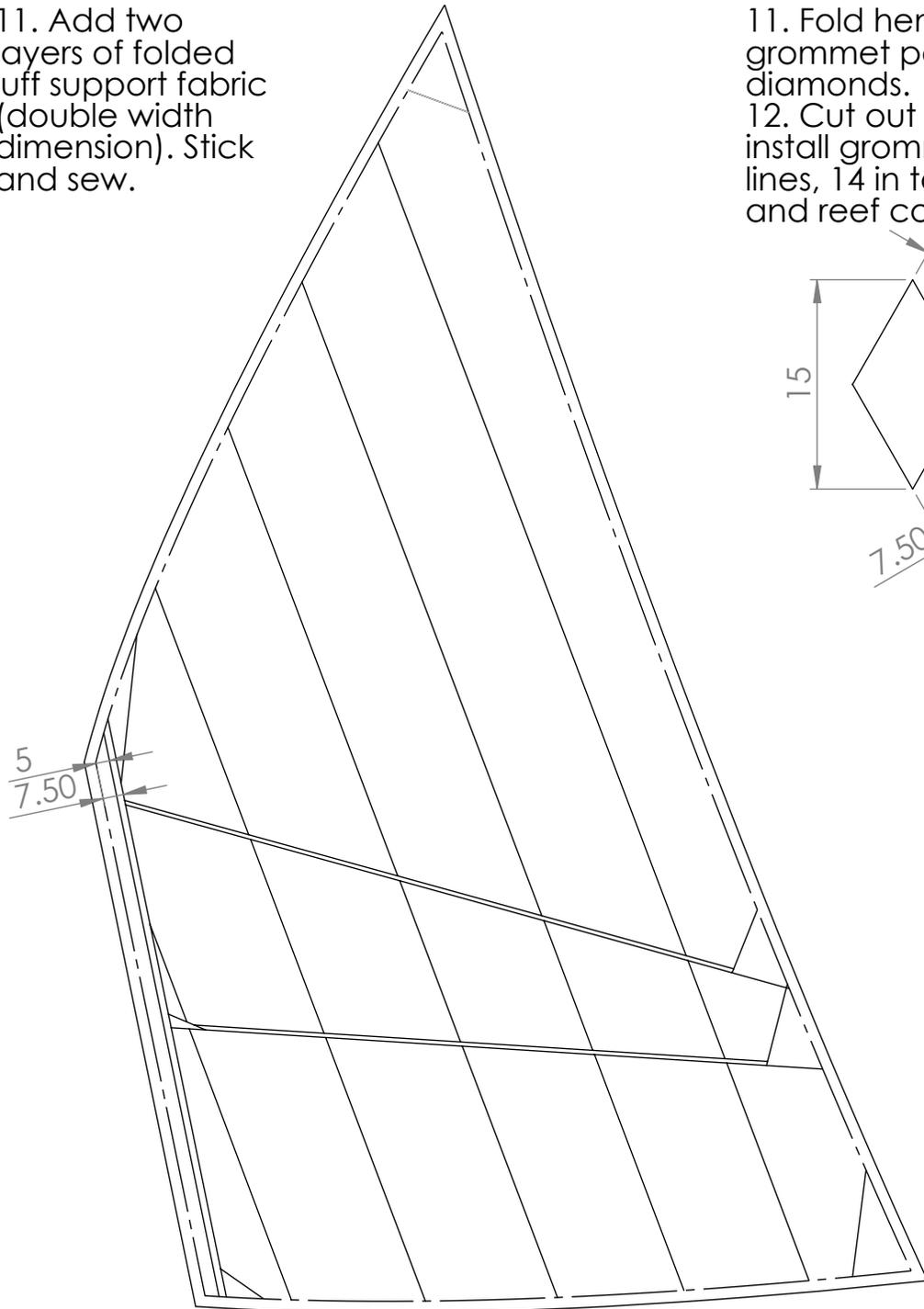
9. Tape and sew reef line supports.  
10. Measure and cut corner patches (4 layers each). Lay and tape each starting with second largest, then down to smallest, and covering with largest patch.



11. Add two layers of folded luff support fabric (double width dimension). Stick and sew.

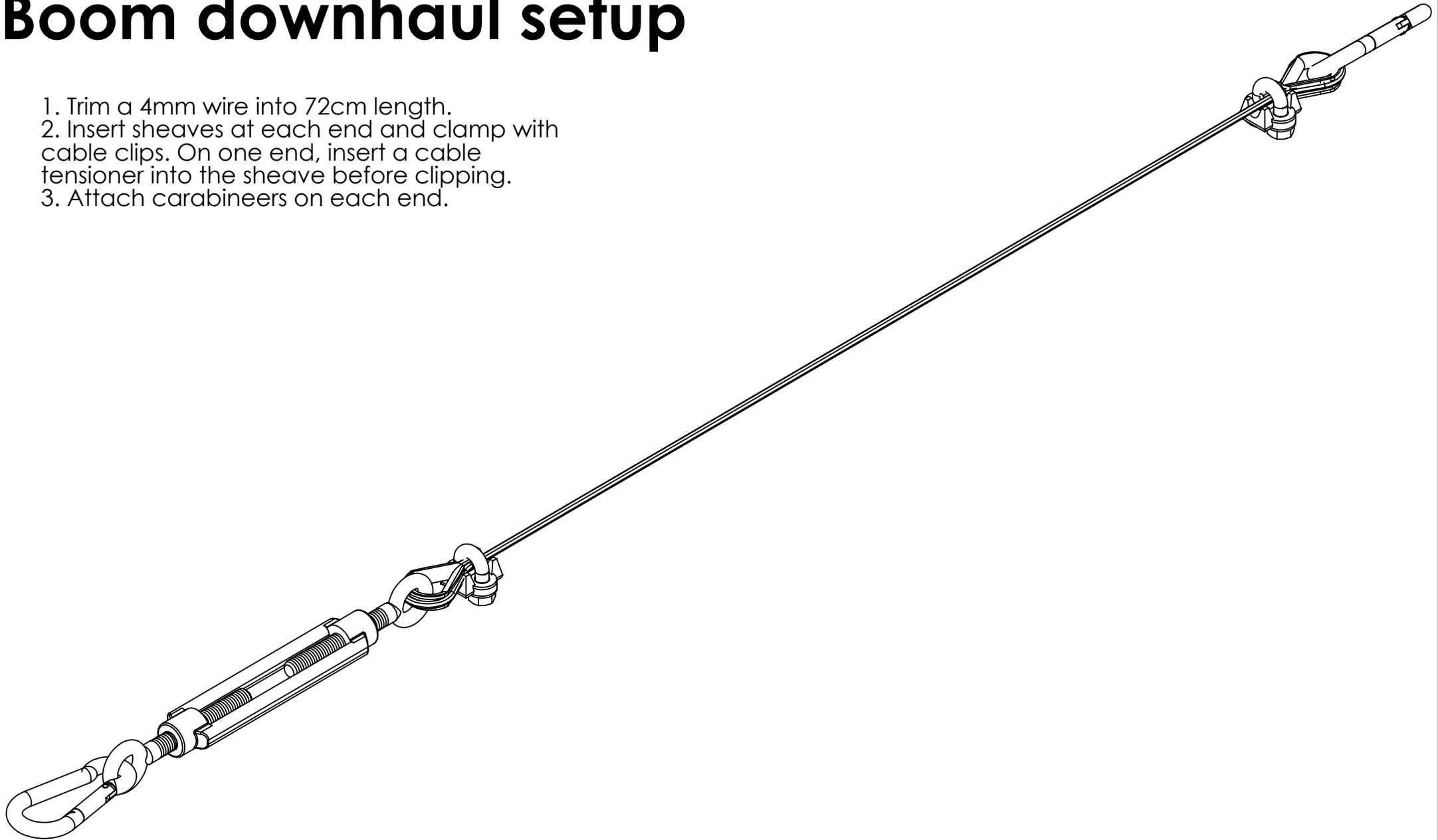
11. Fold hem, stick and sew. Mark grommet points, sew in reef diamonds.  
 12. Cut out marked holes and install grommets (4mm in reef lines, 14 in total, 6mm in corners and reef corners, 8 in total).

13. Add reefing lines and telltales if desired.



# Boom downhaul setup

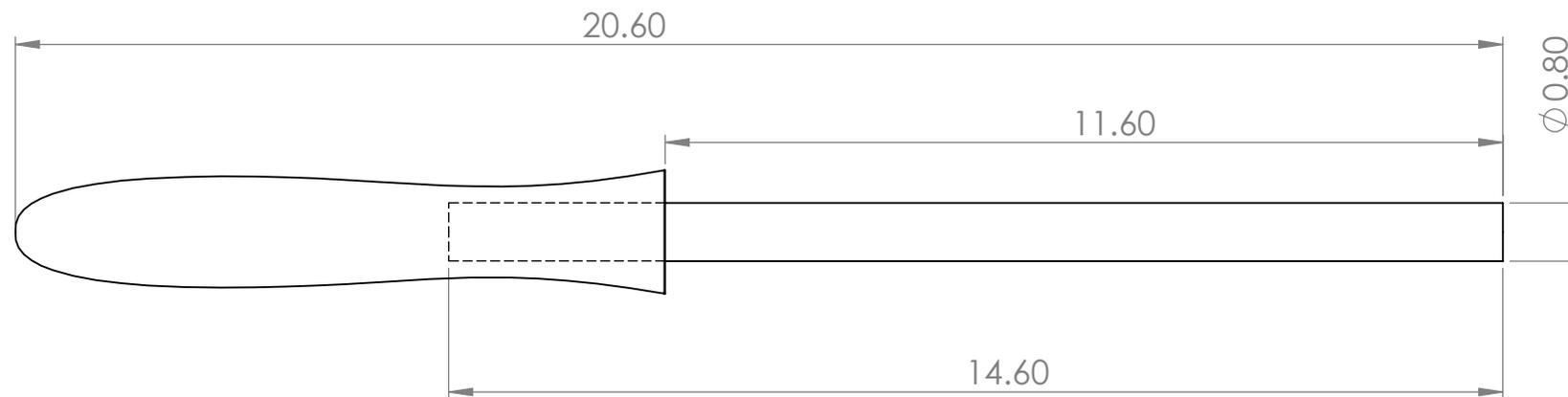
1. Trim a 4mm wire into 72cm length.
2. Insert sheaves at each end and clamp with cable clips. On one end, insert a cable tensioner into the sheave before clipping.
3. Attach carabineers on each end.



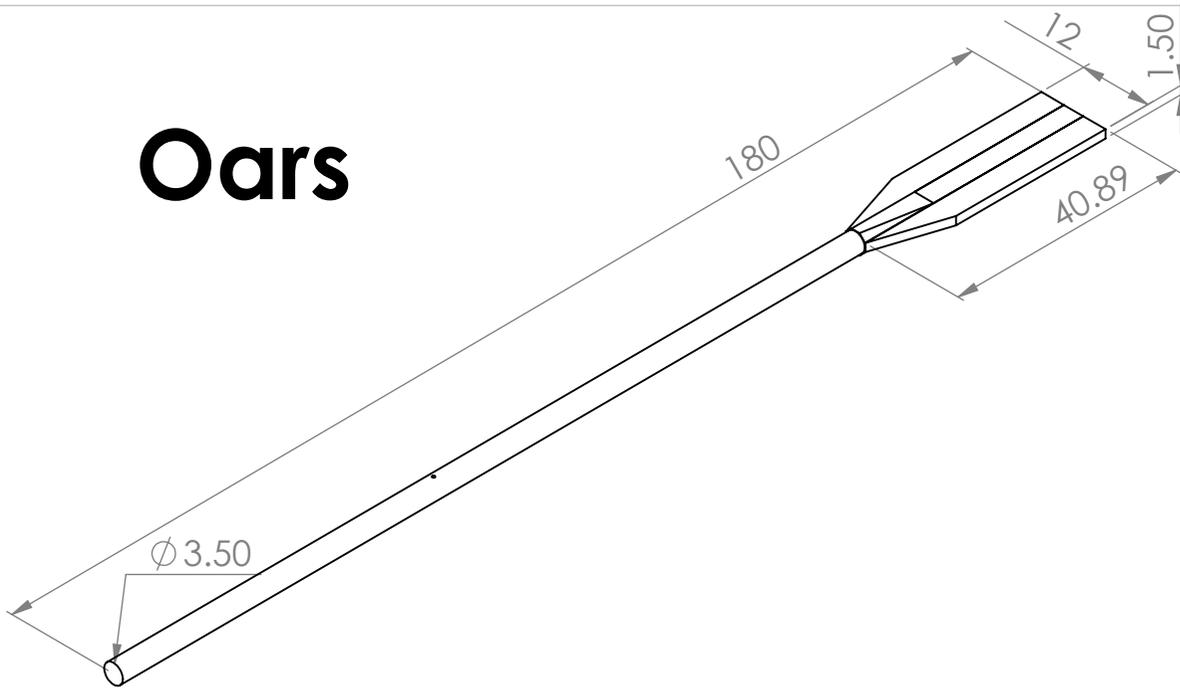
# Belaying pins

1. Cut a length of of steel rod.
2. Drill a hole in wood rasp handle.
3. Glue the rod in.

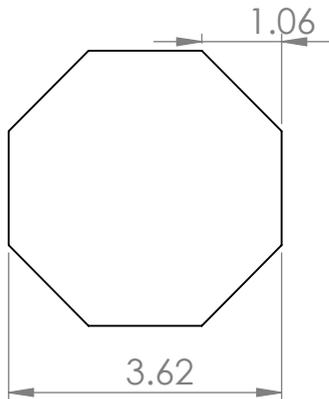
Make 2 primary and 4 spare pins.



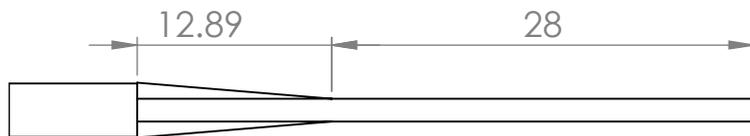
# Oars



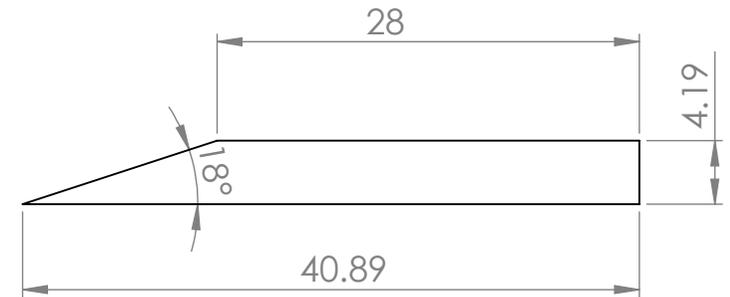
1. Mill a 3.62x3.62x180 timber piece.
2. Chamfer to octagonal as indicated.



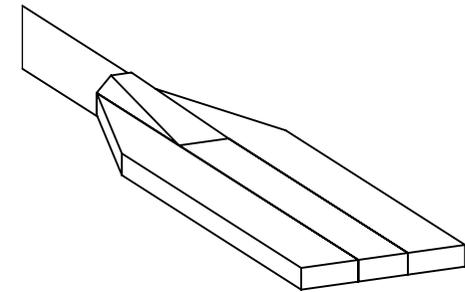
3. Thin one side to the width of octagonal sides with a slope as indicated.



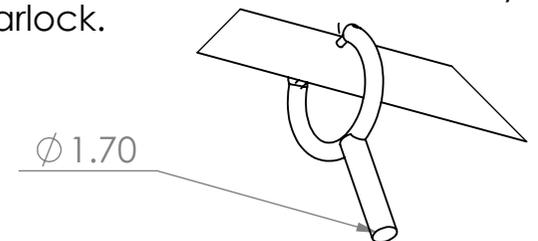
4. Cut out paddle shape from a 1.5x4.2x41 cm board. Mirror for other side.



5. Glue and screw (100mm, 4 per half-paddle, 8 per oar in total) all three parts together.



6. Round the handle.
7. Drill out the hole for the oarlock bar. Check oarlock bar diameter to determine hole diameter.
8. Chamfer oar into hexadecagonal, using 0.3898cm as chamfer distance. Afterwards, round to an oval.
9. Paint or varnish with 3 coats. Wait to dry.
10. Install oarlock.



# Rigging the boat

1. Cut these lengths of rope:

## Running rigging

Halyard:	8m of	6mm, low stretch;
Downhaul:	2m of	4mm, ultra low stretch;
Mainsheet:	12m of	8mm, normal stretch;
Mainsheet traveler:	1.5m of	4mm, low stretch;
Outhaul:	0.7m of	4mm, low stretch;

Rudder uphaul:	1.5m of	4mm, any stretch;
Rudder downhaul:	0.5m of	4mm, elastic cord;
Tiller lashing:	1.5m of	4mm, elastic cord;

## Standing rigging

Daggerboard pull-up line:	0.7m of	8mm, any stretch;
Boom downhaul:	0.7m of	4mm, wire;
Oar holders:	1m of	4mm, elastic cord x2;
Daggerboard lashing:	2.5m of	4mm, elastic cord;
Boom jaws lashing:	0.5m of	6mm, any stretch;
Yard lashing:	4.5m of	4mm, normal stretch;
Yard beads:	0.7m of	4mm, low stretch;
Tack lashing:	0.5m of	4mm, low stretch;
Clew lashing:	0.5m of	4mm, any stretch;
Tiller extension lashing:	0.5m of	4mm, elastic cord;

2. Tie rudder uphaul line to the eye-bolt on the rudder blade, feed through the eye-bolt on the rudder box, and lead to the clamp on the tiller.

3. Feed rudder downhaul through the hole on the rudder blade, tie a stopper knot. Feed the other end through the tunnel in rudder box, and clamp. Adjust and re-clamp so that blade stays down firmly, yet is easy enough to raise with uphaul line from the cockpit. Mark the line at correct length.

4. Wrap an elastic cord around tiller groove tightly, tie a stopper knot. Insert the ends through the tiller extension hole, and tie another stopper knot.

5. Feed the mainsheet traveler through the aft-most hole on gunwales, tie a stopper knot. Lead the traveler above tiller, feed through the opposite hole on the gunwales, and, leaving a slack, tie off.

6. Using a carabineer, attach double pulley to the mainsheet traveler.

7. Set in the belaying pins.

8. Lash the yard to the sail.

9. Feed the halyard through the dumb sheave on the mast and tie to the thickest part of the yard.

10. Tie yard beads line to the yard and around the mast. Make sure line creates a closed loop.

10. Lash the boom jaws to the mast.

12. Lash the tack corner to the boom, threading the line through a single pulley under the boom;

13. Lash the clew, attach a double pulley to the underside of clew line loop.

14. Raise the sail with halyard;

15. Attach double block to the eye nut on the mast partner using carabineer.

16. Thread in the downhaul around the boom through holes in jaws, tie a bowline with double pulley inside. Thread downhaul forth and back, check for jamming, tie off on belaying pin.

17. Set in the oars, and lash the oar holder lines in a loop to the gunwales so that oars hold firmly, yet can be taken in and out while underway.

18. Tie the daggerboard lashing line through the 4 eye-bolts on the thwart in an X shape. Try-fit the daggerboard to check if these lines can hold it down against it's own buoyancy.

19. Attach boom downhaul setup and check if length is correct. Adjust wire length if needed.

20. Check line lengths and trim if any are too long.

21. Mark lines with different colors for easier distinguishing.

22. Whip ends of trimmed lines.