

The Gunwales are shaped from a 16-foot and an 8-foot length of 1x6. If you can't find 16-foot boards to work with, you can

make the forward gunwale from two pieces and use another scarf joint.

ocations. Construction details came from Arima's work and my own studies of examples in the collection of the Museum of Civilization.

Gunwales

A traditional kayak is built from the gunwales down. They provide the structural strength, and must be sturdy enough to withstand a lot of tension without cracking, even after being drilled full of holes for deck beams and ribs.

You should choose the best wood available at lumberyards in your area. Look for unwarped, knot-free pine.

Inuit used an adze and a curved knife to shape the wood. You can use a circular saw or a drawknife to cut out the shape. Smooth with a plane, and use a rounded spokeshave for the concave shapes.

The East Arctic kayak is too long to even dream of finding decent lumber of adequate length for one-piece gunwales. You'll be scarfing two shorter lengths together to achieve a strong joint.

Draw the forward gunwale shape on a 16' x 1" x 6" board as shown above. Clamp both forward gunwales together and cut them out. Do the same for the stern gunwales. To make the stern handhold, first saw a cut at the deepest point. Use a drawknife to remove the excess wood on both sides of the cut and a rounded spokeshave for the concave portion.

A scarf joint creates a strong connection between wood sections. A width to

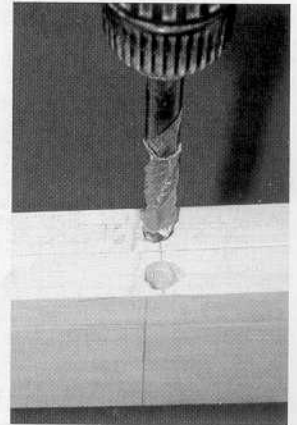
length ratio of 1:8 is best.

Inuit lashed, glued and/or pegged joints together. They used blood for glue, and sometimes, antler or bone for pegs. I use waterproof glue (epoxy or outdoor carpenter's glue), dowels and lots of clamps. Glue and clamp the fore and aft gunwale halves. Drill a 1/4" hole at an angle through the dry scarf joint (see drawing). Drill a second hole at the opposite angle and a third at a straight angle. Drive home 1/4" wooden dowels, first dipped in glue, and cut the pegs off flush with the gunwale. Turn the gunwale over and drill and peg the other side of the joint.

Mark the rib and deck stations. Deck mortises will be chiseled out at these stations; rib mortises will be drilled. Note that the deck mortise placement at station 12 is in front of the marking and behind it at station 13. Clamp both gunwales together. Starting at the bow and using a square, mark and number all deck beam stations on the top of the gunwale. Circle numbers 12 and 13 to remind yourself of different mortise placement. Continue the line down the sides of both gunwales for clarity.

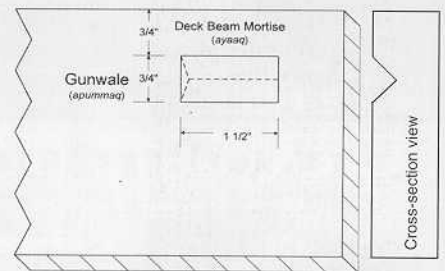
Mark all rib stations across the bottom of the gunwales. Use a marking gauge to mark the centers (3/8") and tap a small nail set at the center intersections. Put tape around a 1/2" drill bit, 1" from the point, and drill all rib mortises 1" deep.

A piece of tape wrapped around a 1/2" drill bit serves as a depth gauge for drilling the 1" holes for the ribs to sit in.

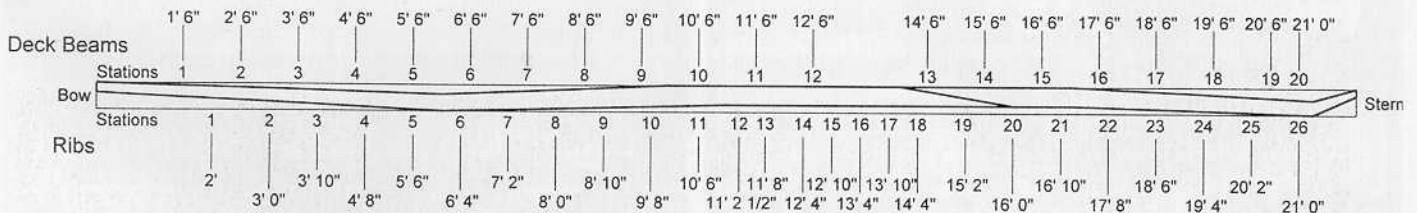


Deck Beam Mortises

Deck beams will slot into V-shaped mortises cut into the inside of the gunwales. The work is simply done with a chisel but the positioning and depth (3/8") are crucial. Separate the gunwales and



Deck beam mortises are cut to a V-shaped trough with the long sides chiseled at 45°.



Gunwales: Deck Beam and Rib Stations