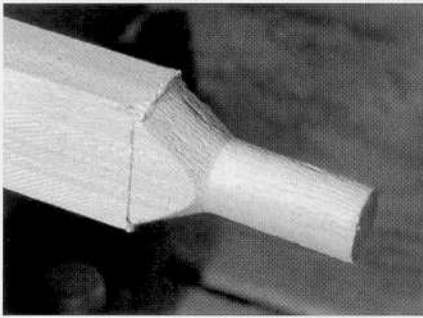


fair the deck stringer in place. You have now completed your kayak deck.

## Ribs

Ribs can be fashioned by several meth-

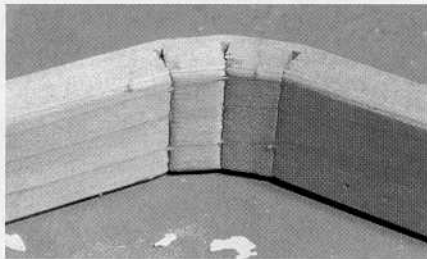


*This round tenon on the end of a rib was made with a tenon cutter turned by an electric drill.*

ods. I prefer kerfing, steaming and bending, but three-piece ribs lashed together are an option. Inuit also bent ribs. They thinned the area to be bent with a knife, softened the wood by soaking it, and then clamped it in their teeth while slowly bending it.

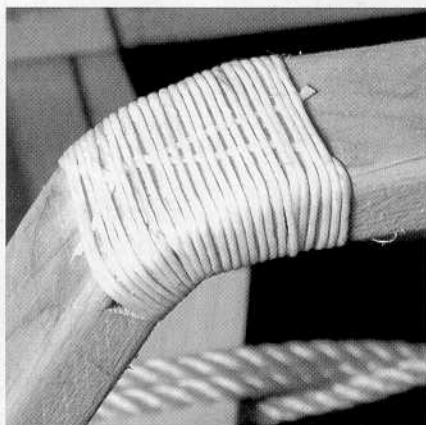
With my method,  $1/2$ " by 1" ribs will be kerfed and bent for stations 4-25. Stations 1-3 and 26 will have pairs of struts. Struts at stations 1-3 are lashed together. Those at 26 are not lashed.

The Inuit used a curved carving knife to cut the tenons. A simple way is to use a  $1/2$ " tenon cutter attached to an



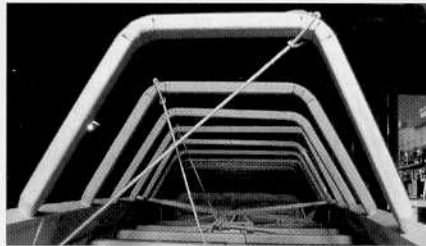
*Above: Three saw kerfs help make the tight bends in the ribs.*

*Below: If the outside of the rib starts to split, wrap it with twine.*



electric drill. The finished tenon is 1" long and  $1/2$ " in diameter. Beginning 1" from the end, reduce the rib ends (and one end of the struts) by sanding the narrow sides.

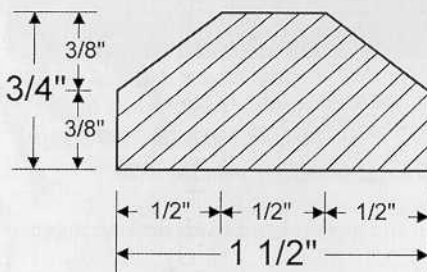
Mark kerf locations on each rib using chart measurements (on page 11). Note that measurements are from middle kerf



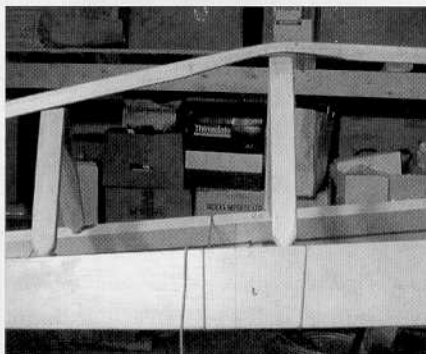
*As the ribs are set into the gunwales they must be tuned to keep them flat across the middle and parallel with each other.*

to the beginning of tenon. Make 3 saw cuts (kerfs),  $5/8$ " apart and  $3/8$ " deep.

Attach twine with a bowline to one rib tenon. Soften wood, allowing about 15 minutes if boiling, about  $1/2$  hour if steaming. Wrap the twine around the other tenon to maintain tension, and bend rib slowly. While rib is still warm, insert at its gunwale location and make adjustments as needed. If rib starts to crack at the



*A cross-section of the keelson showing the bevels planed on the outside corners.*



*The keelson is thinned where it must bend over rib #4.*

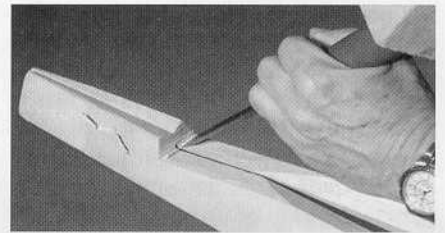
bend, wrap with waxed sail twine (see photo below).

Insert rib at each station, seating tenons firmly. Ribs should be symmetrical and level across the middle. Adjust as needed, by tying a temporary length of twine from the high bend to the opposite gunwale.

Use struts in place of bent ribs at stations #1-3 and #26. Drill two holes about 1" from the top of each strut. Insert struts into gunwales and lash together. Struts at station #26 do not meet at the top. They can float free or be lashed to the keelson.

## Keelson

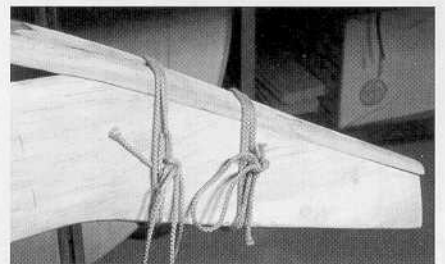
Cut 2 keelson pieces,  $16' \times 1 1/2" \times 3/4"$ , and  $8' \times 1 1/2" \times 3/4"$ . Scarf the 2 pieces



*The forward end of the gunwales is notched to receive the keelson.*

together, making a 12" scarf joint. The keelson length will be adjusted later. Trim the keelson as shown in the cross-section. The keelson needs to be thinned and then steamed for about 4" on either side of rib #4. A simple way to steam the area is to wrap it with a wet rag and place an electric tea kettle under it.

Use a rounded spokeshave to plane the



*The aft end of the gunwales are planed flat and the keelson tapered before they are pinned together. Temporary lashings hold them together for drilling.*

underside of the keelson on either side of rib #4. The keelson at the rib crossing should be about  $1/2$ " thick. Steam the thinned area for about 20 minutes. Slowly bend the heated section to shape. You may need to fair some of the rib/keelson intersections or even replace some ribs if they get too high or low and prevent the