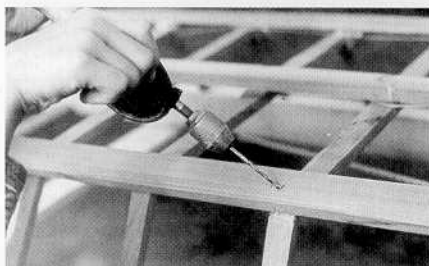


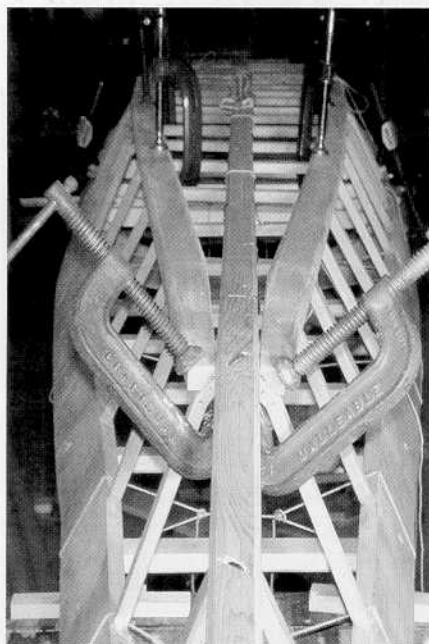
low grooves for the twine to prevent wear on the cover.

Bilge Stringers

The bilge stringers meet the keelson at rib #4. Bending and fairing them requires a gentle touch to avoid cracking the ribs or stringers. If you are lucky enough to have a pond or creek nearby, as I do, immerse the stringers for a few days to soften the wood. Work on stringers as a pair to avoid distorting the kayak shape. Clamp the stringers in the midsection



Holes for the bilge stringers are drilled at an angle, from centered over the rib on the outside to alongside the rib in the inside.



The ends of the bilge stringers are tapered at the forward end and clamped to the ribs.

and use twine to slowly draw the stringers in toward the bow and stern.

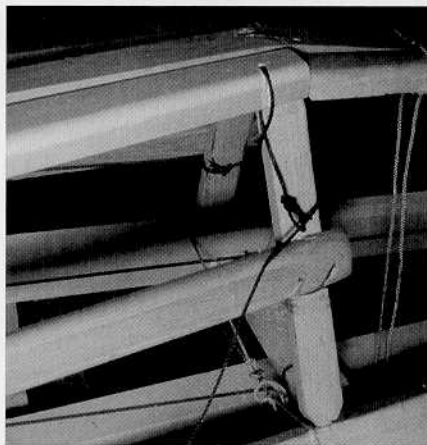
Cut the bilge stringers out of pine or cedar. Shape as illustrated. The groove fits around the bend in the rib.

Clamp both bilge stringers to the midsection and slowly draw them in to rib #4.



At the ends of the bilge stringers, the cutoffs are tapered to fair the stringers into the keelson. Note the rib struts at station 26 at the bottom of the photo.

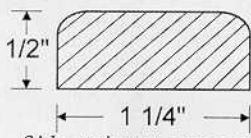
Fair the bilge stringers into the keelson at rib #4 and the stern. Use a hand saw to cut off the excess, using the off-cuts as needed for fairing. Don't force the stringer. If it's in danger of cracking, fair with the off-cuts. It will be planed to



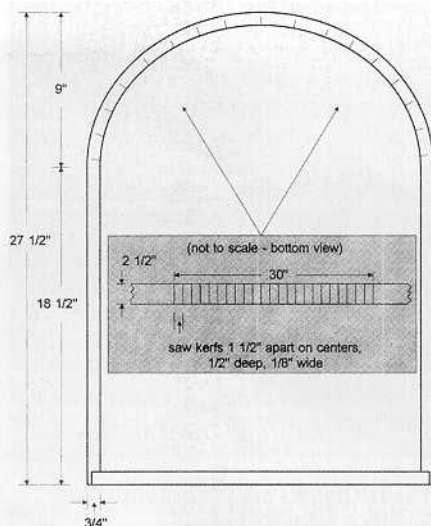
The side stringers are lashed midway between the bilge stringers and gunwales.

shape later. Clamp and tie temporarily but firmly.

You'll use the same type of lashing between the keelson and bilge stringer as you did for the deck stringer and deck beams. Drill $\frac{3}{16}$ " holes about $\frac{3}{8}$ "



Side stringer cross section



After bending, the sides of the coaming should be parallel and $18\frac{1}{2}$ " apart (inside measurement). The back piece is set into rabbets and pinned with $\frac{1}{4}$ " dowels.

to $\frac{1}{2}$ " from the edge of the stringer, alternating sides. Start at rib #4 and make a continuous lashing to the stern, using a length of twine $1\frac{2}{3}$ the length of the bilge stringer.

Remove clamps and temporary lashings at bow and stern. Fair with off-cuts as needed, glue in place and plane or sand smooth. At the bow, the stringers end abruptly. Glue fairing blocks along the keelson to fill in the area toward the keelson.

Side Stringers

Side stringers run between the gunwales and the bilge stringers from just before rib #4 to just beyond rib #21.

Cut and shape side stringers as illustrated. Beginning just before rib #4, fit to ribs equidistant between gunwale and bilge stringer and attach with clamps. Round both ends to prevent chafe against the covering. Lash as with bilge stringers.

Cockpit Coaming

The cockpit coaming is kerfed and bent in the same manner as the mask. You will install it later, when covering the kayak. The coaming will rest on the cockpit deck beams.

Cut kerfs, steam and bend the cockpit coaming as illustrated. Ensure sides are parallel. Trim to measure $27\frac{1}{2}$ ". Cut notches to fit end piece and glue into place.

The frame is now complete. Before covering, you may want to install a foot brace (see page 18) between the gunwales at a location that your feet will be comfortable resting upon.