Tip #28 Table Saw Special Operations

In the table saw mode, the Mark V can perform a variety of operations. Kerfing, or thinning out, allows you to bend wood without steaming. Kerfing can also be used for a decorative effect. You can also cut coves, inlays, and raised or pierced panels. ***Warning: Many of the special operations require the removal of the upper saw guard. Whenever the upper saw guard is removed, keep the lower saw guard in place and work with extreme caution.***

BENDING WOOD

Whether in a home workshop or a commercial establishment, most woodworkers often find it necessary to bend wood to a particular shape. It may be needed on a furniture project—the apron on a drum table or round stool—or on other projects like a garden arbor with an arched top or a doorway with a semi-circular upper structure. Commercial establishments, of course, can bend wood to almost any shape by steaming it or using chemicals to make it flexible. In the home workshop, you don't usually have the special bending equipment, but you can still do an impressive amount of wood bending just by working on the table saw and using either the kerfing technique or a thinning out process. You must use straight grain lumber for any bending.

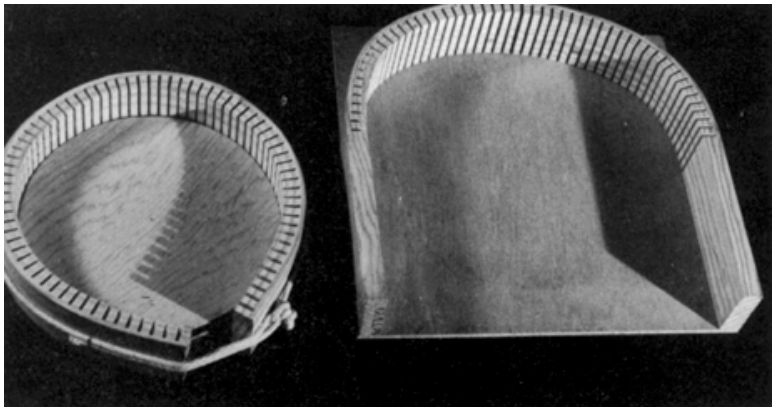

Figure 4-1. A good amount of wood bending can be done by using the kerfing technique. Kerfs can extend the full length of the workpiece or be confined to an area.

Kerfing

The most popular method of bending wood without steaming is by kerfing (Figure 4-1). What this method accomplishes is a reduction in stock thickness, while allowing room (between the cuts) so the wood can bend back on itself. The depth of the kerfs and their spacing are the important factors and are variable. Deep kerfs, closely spaced, allow the sharpest bends (Figure 4-2). To bend wood with minimum loss of strength, proper kerf depth and spacing should be determined using a simple test.

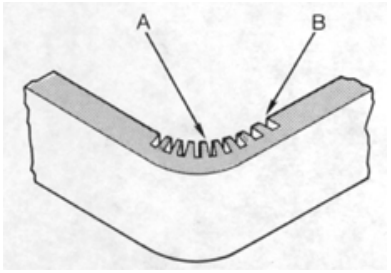

Figure 4-2. The kerf spacing can be varied, depending on the sharpness of the bend. (A) The kerfs should be more closely spaced in the sharpest bend area. (B) Greater spacing is sufficient wher bend begins to straighten.

Make a sample kert in a test piece of stock that you wish to bend (Figure 4-3). In 3/4" stock try a kerf that is 5/8" to 11/16" deep. Position the test piece, kerf side up, on a flat surface and hold it in place with a clamp on the right side of the kerf. The distance from the kerf to the edge of the surface on which you have placed the work should equal the radius of the bend you need. Lift the stock at its free end until the kerf closes and then measure the amount of lift at the edge of the table. This tells you the distance required between kerfs.

Since work like this calls for a considerable number of kerfs correctly spaced, you should work with a kerf spacing guide like the one shown in Figure 4-4. After you have secured the guide to the miter gauge,

cut a saw slot through it and then drill a hole for a nail to serve as the guide pin, spacing it away from the slot a distance equal to the required kerf spacing. Make the first kerf with the workpiece butted against the guide pin. The distance between the remaining cuts is automatically gauged by placing the last kert over the guide pin (Figure 4-5). When the kerfs must be cut in a central area of the stock, make the first cut without using the guide.

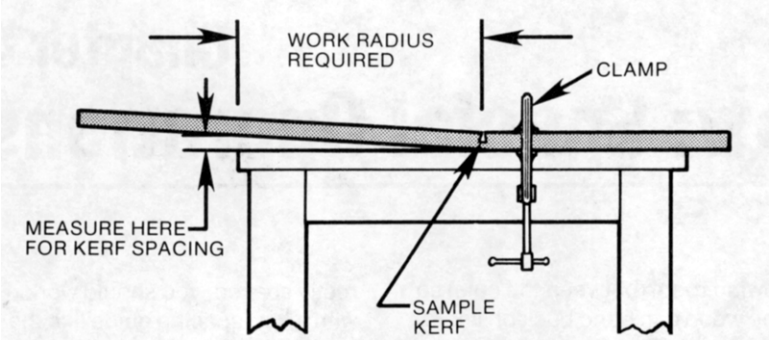

Figure 4-3. Make this test to determine, at least as a start, the kerf depth and the spacing you need to make a particular bend.

To calculate the number of cuts, first find the circumference of the circle that will form the corner of the project. Divide this number by the total number of corners on the project. This will be the length of one corner. Divide the length of the corner by the total width of the saw kert plus the spacing between the kerfs. This will give you the number of cuts you'll need to make. The formula for this is:

Circumference = ird
Circumference ÷ Number of Corners = Corner Length
Corner Length ÷ (Kerf Width + Kerf Spacing) = Number of Cuts

Example: Calculating the number of cuts for a 12" dia. circle, used on a four corner project, with a saw kert of 1/8", and kerf spacing of 3/4".
Circumference = 3.14 x 12" = 37.68"
37.68" ÷ 4 = 9.42"
9.42" ÷ (1/8" + 3/4") = 9.42" ÷ 7/8"(.875) = 1O.77 or 11 cuts

When kerfing is complete, bend the wood slowly until the curve you need is achieved. Wetting the wood with hot water (even if you must soak it awhile) will help the bending process. Also, use a tie strip, tack-nailed in place, to hold the part's shape until it is permanently attached on an assembly.

You can form irregular curves if you do the kerfing on both sides of the stock and/or vary the kerf spacing. When the kerfing is exposed, ve-

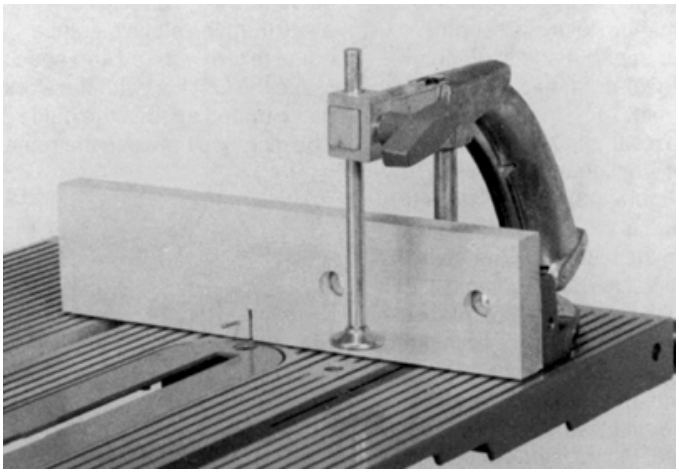

Figure 4-4. Use a miter gauge extensiion to make a kerf spacing guide. The distance from the pin (8d nail) to the slot automatically spaces the kerfs.

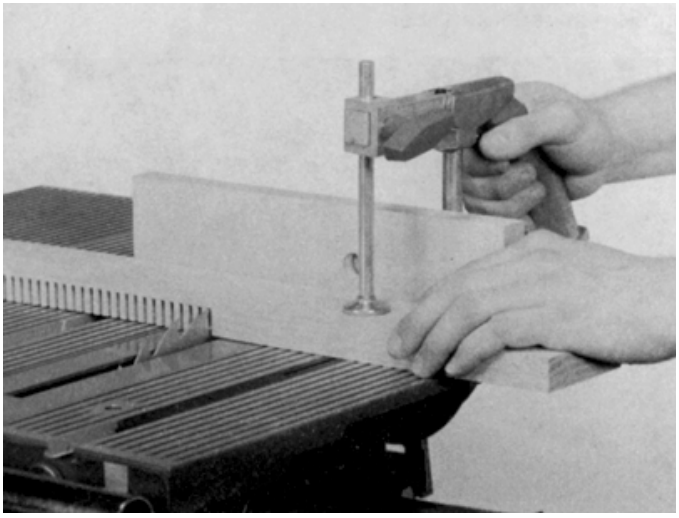

Figure 4-5. By placing the last kerf over the guide pin, the work is accurately positioned for the next cut.