

- Stock less than 1" wide, use the feather board guard, one feather board on the infeed side and an additional feather board on the outfeed side, secured in the table slot (Figure 9-12A). Use a push stick or when it's necessary to push stock underneath the feather board, use a long piece of scrap wood.
- Stock 1" to 2-3/4" wide, use the feather board guard and a feather board secured in the table slot (Figure 9-12B).
- Stock 2-3/4" to 6" wide, use the feather board guard and a feather board secured in the table slot with C-clamps (Figure 9-12C).
- Stock over 6" wide, use the feather board guard and a push block (Figure 9-12D).

You can remove the entire edge of the stock or only part of it (Figure 9-13). It depends on the cutter you are using and the shape you wish to produce. When only part of the edge is cut away, the surfaces of the fence boards must be on the same plane (Figure 9-14). The workpiece moves across the cutter and receives the same support from the outfeed board as it did from the infeed board.

When the entire edge of the workpiece is removed, fence alignment must be adjusted to suit the depth of cut. You can do this by offsetting the outfeed board (Figure 9-15). Once the work has passed the cutter, the position of the outfeed board must compensate for the change in the stock's width.

Figure 9-12. The width of the stock determines the setup.

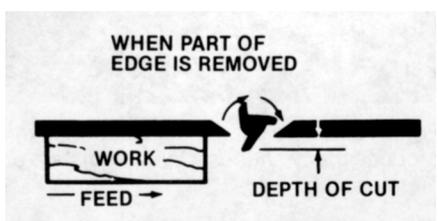


Figure 9-14. When removing part of an edge, align the two fence boards.

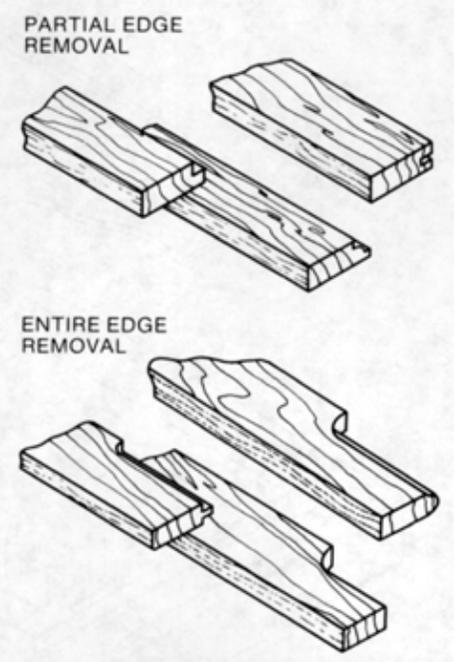


Figure 9-13. Shaper cuts can remove part of or the entire edge of the workpiece. Note: Depth of cut exaggerated for clarity.

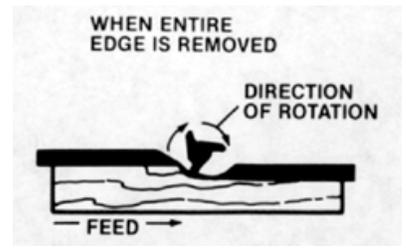


Figure 9-15. When removing an entire edge, offset the outfeed board.

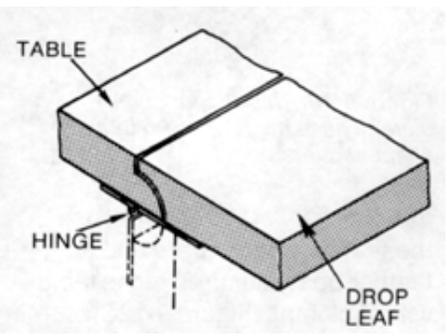


Figure 9-16. The drop leaf joint is used to extend the size of a table by means of hinged outer leaves.

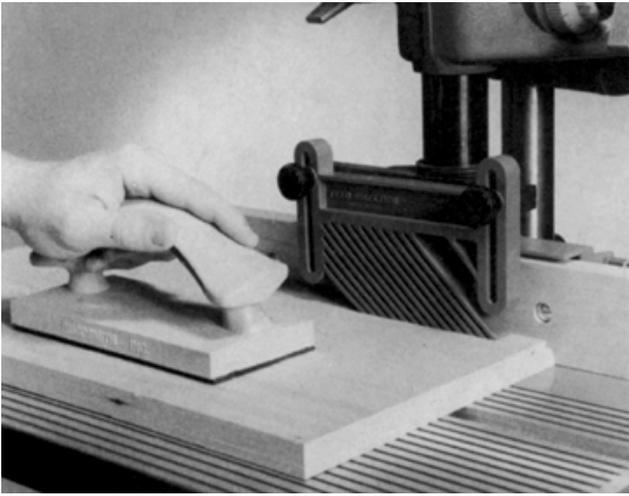


Figure 9-17. One cutter of the drop leaf set is used to form the table's edge. It isn't necessary to form the shoulder to the cutter's full depth.

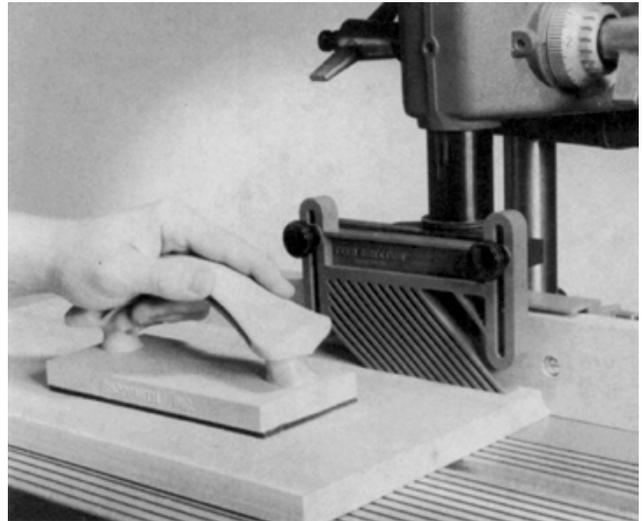


Figure 9-18. The second cutter is used to form the edge on the drop leaf.

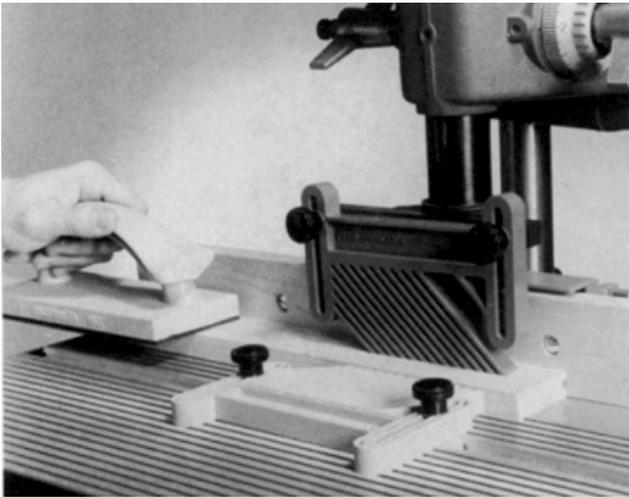


Figure 9-19. Using a 1/4" blank cutter to form a groove exactly centered in the edge of the stock.

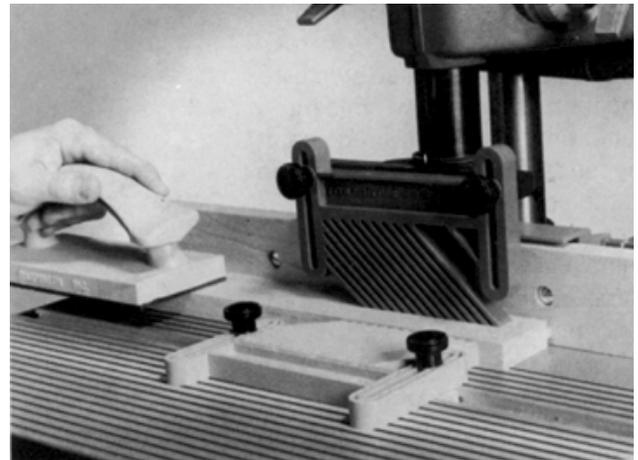


Figure 9-20. The same cutter is used to form the tongue. The shape is the result of opposing rabbet cuts made on the same edge.

Use a feed that is slow and steady. A slow feed allows the blades of the cutter to work longer over a given area of the wood and this produces smoother cuts, while allowing the cutter to work without choking. Of course, this can be overdone. Judge feed speed so the cut progresses smoothly without straining you or the cutter. Try to work so you are cutting with the grain of the wood. When you must cut against the grain, use an even more conservative feed speed.

Some shapes are attained by making two or three passes. Reposition the workpiece and the cutter after the first pass to provide the additional cut that completes the form. Operations like this are best handled by first sketching the shape required on the edge of the stock, then selecting cutters that will fit the contours of the form.

Drop Leaf Joint

This popular joint (Figure 9-16), is used to extend the size of a table by means of leaves that are hinged to a fixed center section. The drop leaf joint, or "rule joint" as it is sometimes called, is preferred over a simple butt joint because of its neater, more professional appearance.

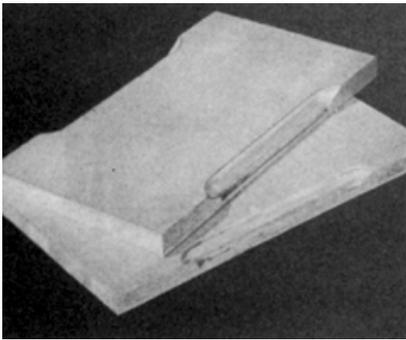


Figure 9-21. Examples of stopped shaper cuts.

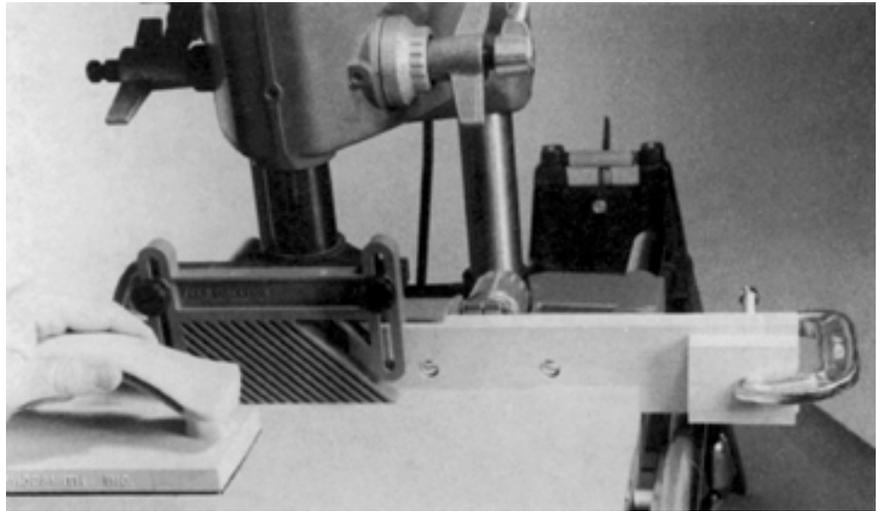


Figure 9-22. The length of the cut is controlled by stop blocks clamped to the shaper fence.

With the special set of cutters, you can shape the edges of both the table and the leaf so they will match perfectly. The table edge is formed as shown in Figure 9-17. The shoulder doesn't have to be as wide as it is on the cutter; this will be dictated by the thickness of the tabletop and controlled by the height of the cutter in relation to the workpiece when making the pass. The full radius, however, should be formed since it will have an impact on the appearance of the joint when the leaf is raised. Figure 9-18 shows a leaf edge being shaped.

Tongue-and-Groove Joint

This joint is frequently used when joining boards edge-to-edge. The mating forms can be shaped by working with the set of cutters, one to form the tongue, the other the groove, but it's also possible to do both parts of the joint by working with a single blank cutter; it depends on the thickness of the stock. For example, if the stock is $\frac{3}{4}$ " thick and you have a $\frac{1}{4}$ " blank cutter, the work can be done as follows:

Set the height of the cutter to form a groove exactly centered in the edge of the stock. Organize the shaper fence so the groove will be as deep as the cutter is wide; then make two passes, the second one after the workpiece has been turned end-for-end (Figure 9-19).

The tongue is formed as shown in Figure 9-20. Once the cutter height has been adjusted, it's just a matter of forming opposing rabbets on each edge of the work-piece. Make the first cut. Do not make a change in depth of cut. Then turn the workpiece over and make the second cut. Be sure the tongue that results will be a nice sliding fit in the groove.

Stopped Cuts

Figure 9-21 shows examples of stopped cuts made by using stop blocks. Stop blocks, spaced to suit the cut length, are clamped to the shaper fence as shown in Figure 9-22. Brace the end of the workpiece against the infeed stop block and then swing it slowly into the cutter until its edge is snug against the fence. Make the pass until the workpiece butts against the out-feed stop block. Turn off the machine and let it come to a complete stop. Carefully pull the trailing end away from the fence.