

Tip #6 Drum Sanding

The drum sander is a handy sanding device that's used to smooth regular or irregular concave or convex edges, cabriole legs and other odd shapes, and internal cutouts—it can even be used for edge sanding and surfacing. The drum sander mounts on the Mark V main spindle or the belt sander. On the Mark V it may be used in the vertical or horizontal position, whichever mode is more convenient for the job at hand.

TYPES OF DRUM SANDERS

The drum sander is 2-1/4" in diameter and 3" long (Figure 18-1). Abrasive sleeves are easily mounted or removed by loosening the hex bolt that is in the base of the drum. This action relaxes or expands the drum's rubber cylinder to either grip or release the sleeve. The grits are available in coarse (60#), medium (80#), and fine (100#)

The drum sander mounts on the Mark V main spindle or the belt sander auxiliary spindle. The special shaper/drum sander insert (Figure 18-2) is used for most operations. The shaper or rip fence, when used with the drum sander, can accurately control the drum's depth of cut when it is used to do edge sanding on straight edges.

Smaller drum sanders are available in sets that include drum diameters of 1-1/2", 1", 3/4", and 1/2". They are mounted in a threejawchuck or 1/4" routerchuck. **Warning: Smaller drum sanders should be used with the special insert shown in Figure 18-3. The special insert provides support for the workpiece.**

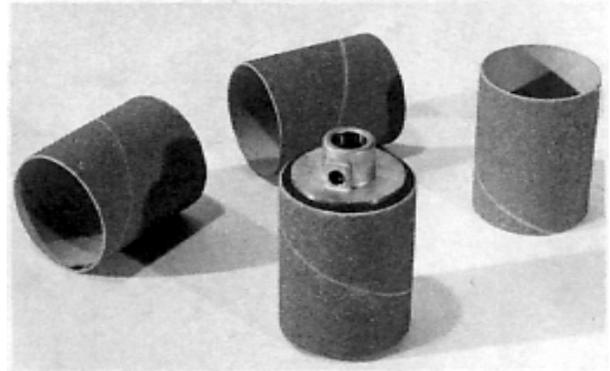


Figure 18-1. The drum sander is 2-1/4" in diameter and 3" long. It mounts on the Mark V main spindle or the belt sander auxiliary spindle.

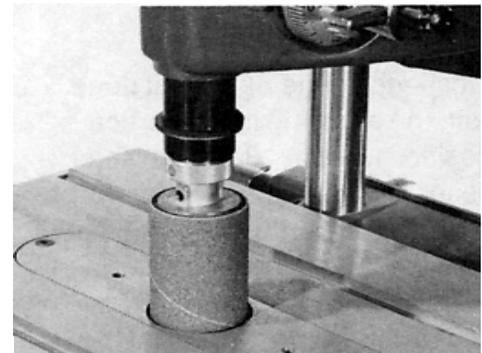


Figure 18-2. The drum sander is used with the drum sander/shaper insert. Model 500 is shown.

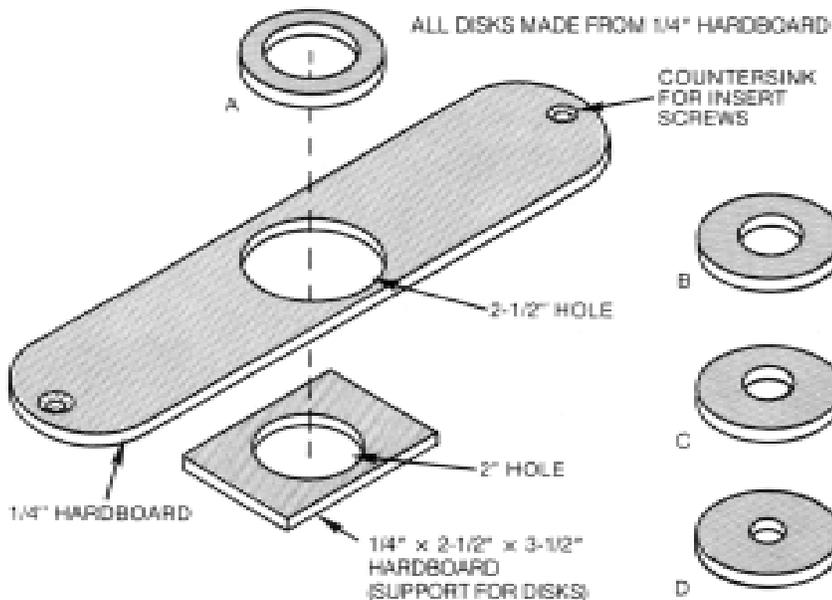


Figure 18-3. Make the special insert and drill the mounting holes by using a drum sander insert as a pattern. All disks have a 2-1/2" outside diameter and: (A) a 1-5/8" inside diameter; (B) a 1-1/8" inside diameter; (C) a 7/8" inside diameter; or (D) a 5/8" inside diameter.

DRUM SANDER SAFETY

Warning: Before using the drum sander, read and understand these important safety instructions:

Danger Zone - The danger zone on the drum sander is the area 3" around the drum.

- Wear proper eye and ear protection, and a dust mask.
- Do not stand directly in line with the workpiece.
- When using the rip fence, avoid sanding workpieces with inconsistent widths.
- Do not sand more than 1/32" off the workpiece in a single pass.
- Feed the workpiece against the rotation of the drum.

DRUM SANDER SPEEDS

Operate the drum sander at the speed recommended in Table 18-1. Start at a low speed and gradually increase to where you are getting the smoothness you need. The problem with excessive speed is that enough friction can occur to burn the wood unless the feed pressure is feather-light. Also, since friction heat can draw pitch or resin from the wood, excessive speeds cause more rapid filling and clogging of the abrasive. So work wisely at a reasonable speed and use only the amount of feed pressure required for the abrasive material to do its job.

Table 18-1: Drum Sanding Speed Chart

Abrasive	Hardwood	Softwood
Coarse	H(1600 RPM)	I(1750 RPM)
Medium	I (1750 RPM)	J(1900 RPM)
Fine	J (1900 RPM)	K (2050 RPM)

Note: These speeds are for 60 hz. operations.

EDGE SANDING

Most edge sanding is best done with the machine in the vertical position (Figure 18-4). The setup assures that sanded edges will be square to adjacent surfaces. Move the workpiece slowly, but keep it in constant motion. The drum will continue to sand if you hold the workpiece still and this will cause indentations that will spoil the edge. Move the workpiece from left to right, against the drum's direction of rotation.

Sanding operations will be most efficient and abrasive materials will last longer if you do initial cutting so there is the least amount of material for the sander to remove. When you are doing a lot of sanding, occasionally adjust the drum's vertical position so you will be using all of the abrasive surface.

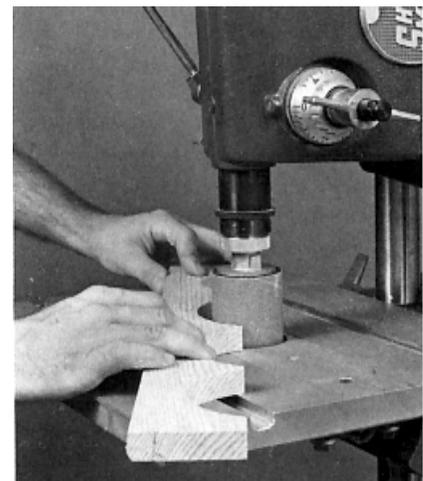


Figure 18-4. Work this way when sanding edges. The setup assures that sanded edges will be square to adjacent surfaces.

Internal edges are sanded in a similar fashion, the only difference being that you position the work piece before extending the quill (Figure 18-5). The drum sander's position is maintained by locking the quill.

You can smooth straight edges freehand by passing them across the drum; but a more efficient technique, when stock width permits, is to work with the rip fence as shown in Figure 18-6. The drum's depth of cut must be very light, only enough to smooth the edge. When the fence is situated between the drum and the way tubes, the pass is made from right to left. This setup is also used to edge sand any number of pieces to exactly the same width.

The same setup can be used if you work with the shaper fence. The amount of material to be sanded off is controlled by adjusting the infeed fence as you would when doing a shaping cut that removes the entire edge of the stock. There is no limit to how wide the stock can be when you are using the drum sander/shaper fence arrangement.

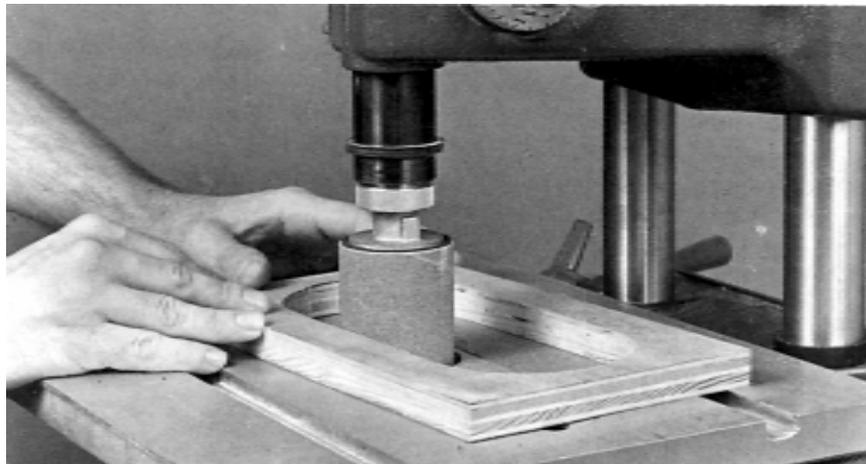


Figure 18-5. To sand internal edges, position the stock before extending the quill.

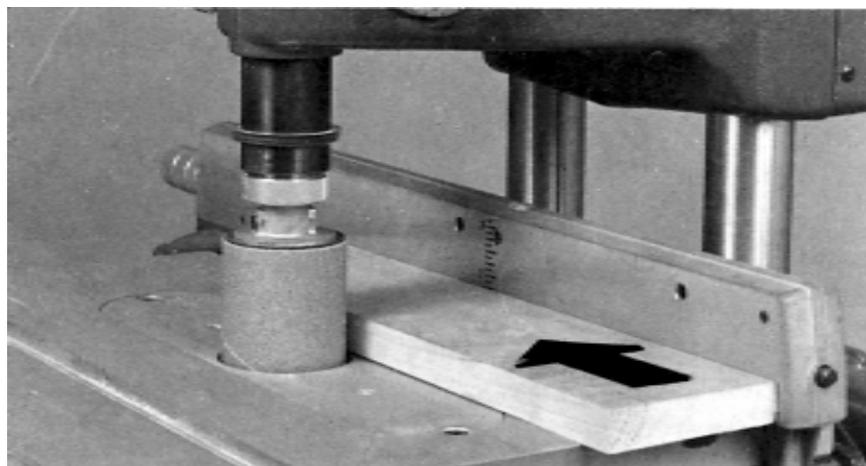


Figure 18-6. Sand straight edges as shown when you wish to sand workpieces to an exact width.

SURFACE SANDING

Surface sanding is done with the Mark V set in the horizontal position. Place the stock at the edge of the table; then position and raise the table so the stock just touches the abrasive sleeve. Remove the stock and turn on the motor; then feed the stock, between the drum and table, against the drum's direction of rotation. This means standing behind the Mark V and moving the stock toward the speed dial side of the power plant (Figure 18-7). **Warning: Do not stand directly in line with the stock.**

Stock that is wider than the drum can handle in a single pass can be sanded by making additional passes. An example procedure, with the fence used as a guide, is shown in Figure 18-8. Assuming that the width of the stock is less than twice the length of the drum, set the fence to accommodate the width of the stock and make one pass with the stock riding against the fence. Then, after turning the stock end-for-end, make a second pass.

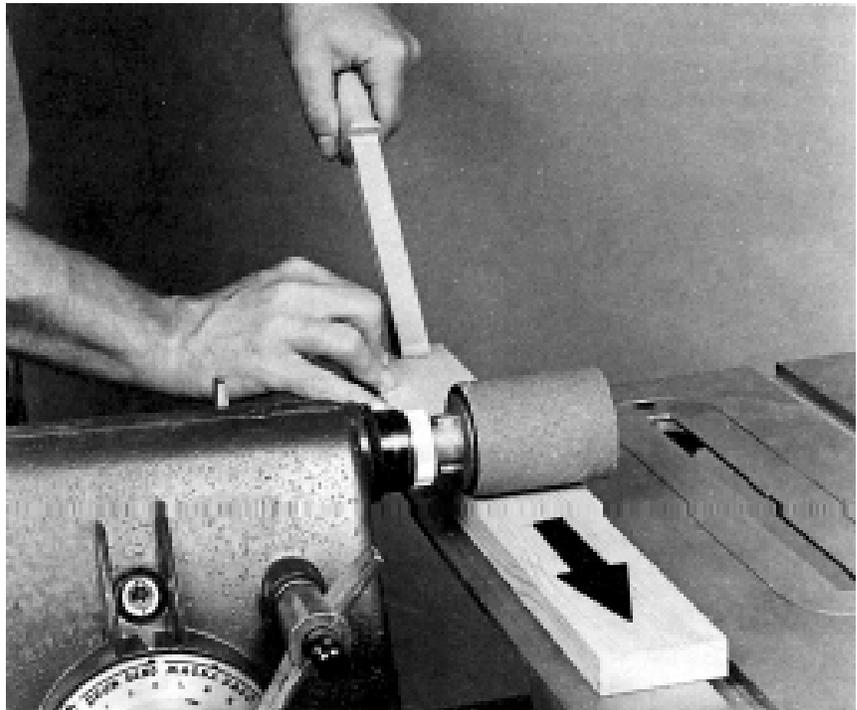


Figure 18-7. You can do surface sanding by passing the stock between the drum and the table. Keep the stock moving and don't try to remove too much material in a single pass.

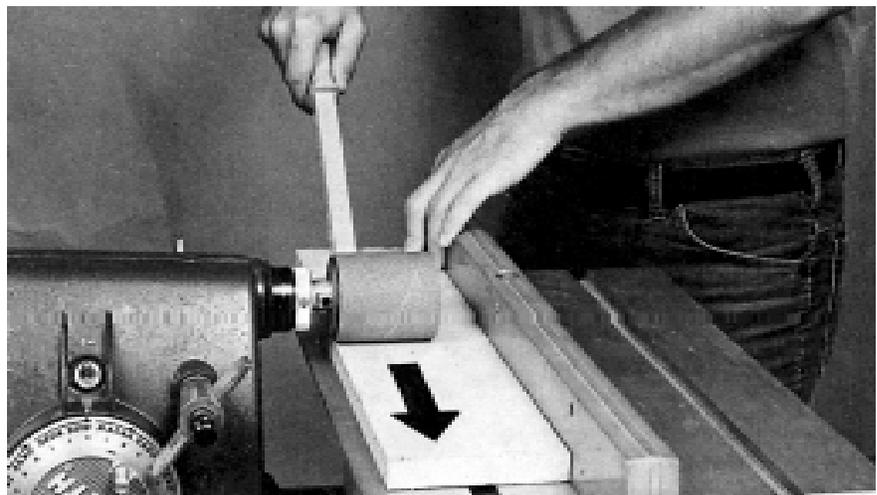


Figure 18-8. One way to surface sand wide stock. After making the first pass, turn the stock end-for-end and make a second pass.