

Tip #50 Using A Jointer

The jointer is designed to quickly and accurately accomplish many operations that would require many hours of tedious labor if done by hand. It's a rotary cutter that will plane edges smooth and square, ready for gluing or assembling. It will do a fine job on light surfacing cuts also, but should not be confused with the planer, as jointers often are. The planer is designed to dress stock to exact thicknesses and perfectly parallel surfaces. The jointer is used to square edges to surfaces and straighten surfaces.

JOINTER - SETUP AND FEATURES

To set up your jointer, follow the instructions in the Owners Manual that came with your jointer.

As you work with the jointer, you'll find that it has several special features:

- The jointer mounts on the Mark V or a Shopsmith Power Stand (Figure 6-1).
- The dust chute will allow you to connect the hose from your dust collection system to the jointer. Since most heavy-duty dust collection systems have fairly strong motors, you should not plug a dust collection system into the same circuit as the Mark V.
- The width of cut is a full 4".
- The depth of cut is adjustable from "0" to 3/8". The maximum depth of cut for most operations is 1/8". When surfacing, the maximum depth of cut is 1/16". You can make full use of the 3/8" depth of cut in stages when performing special operations.
- The infeed table is 5-5/8" wide by 13-1/4" long. The outfeed table is 4-1/2" wide by 13-5/16" long. Together, the overall table length is 28".
- The fence is 3" high and 21-3/4" long. It tilts 45° to either the left or right and has adjustable positive auto-stops at 45° right, 90°, and 45° left. It may be positioned anywhere over the cutterhead. Also, the fence has predrilled 1/4" holes, making it easy to add fence extensions to help support wide stock.
- The cutterhead is 2-1/2" in diameter, with three precision-ground steel knives. It's equipped with individual knife leveling screws so that you don't have to match-grind each knife.
- The jointer can make the cuts and joints shown in Figure 6-2.

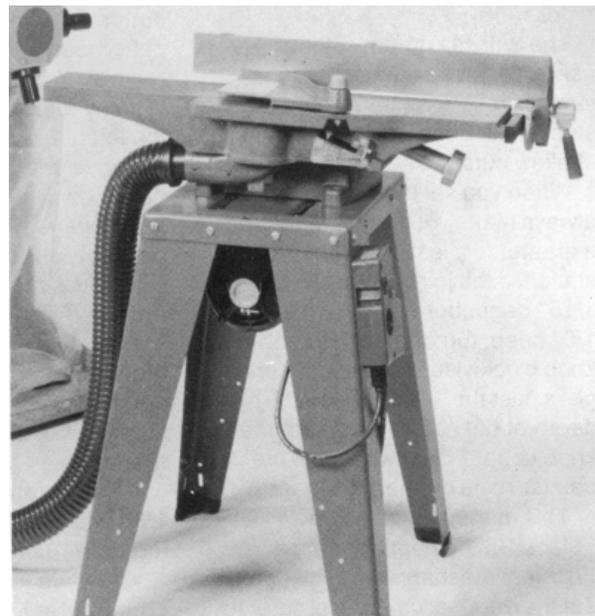
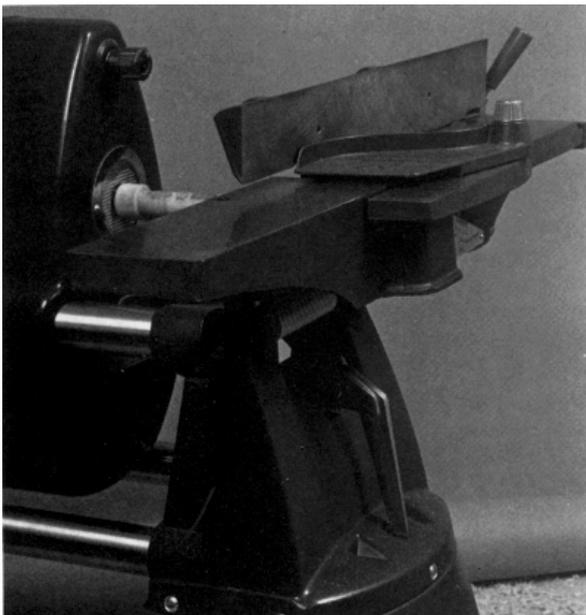


Figure 6-1. The Jointer can be mounted on (A) the Mark V or on (B) a Shopsmith Power Stand.

SETTING DEPTH OF CUT

Never try to remove more than 1/8" at a time when edge jointing or 1/16" when surfacing. If you follow this rule, you'll get a much smoother cut and waste less wood. Most finishing cuts on the jointer are made with settings of 1/32" or less.

The 3/8" maximum setting is used only for special operations such as rabbeting (even then the stock must be removed in several shallow cuts).

When you set the depth of cut, always make your adjustment from a greater to a lesser depth. For instance, if the jointer is set to cut 1/16" deep, but you want it to cut 1/8" deep, turn the adjustment knob clockwise until the pointer goes past the 1/8" mark on the depth-of-cut scale. Then turn the knob counterclockwise until the pointer rests on the 1/8" mark.

This maneuver takes up any "slack" in the depth-of-cut adjustment mechanism. If you don't set the depth of cut from greater to lesser, there's a good chance the infeed table will move slightly during the pass and you'll get an uneven cut.

JOINTER SAFETY

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

Danger Zone-The jointer danger zone is 3" out from the cutterhead and knives and 8' directly in front of the cutterhead. When you use the jointer, stand to the left of the machine (opposite the drive shaft) and keep your hands away from the knives.

- Always wear proper eye and ear protection.
- Never remove the guards to increase the capacity.
- Use a push stick or push block to move stock past the cutterhead especially when the stock is lower than the top of the fence.
- Never remove more than 1/8" at a time when edge jointing or 1/16" when surfacing.
- Always lock the fence. If your jointer is mounted on the Mark V, secure the accessory mount lock, power plant lock and the eccentric mounting tubes.
- Never joint or surface stock less than 10" long or more than 4" wide, edge rabbet stock wider than 1", surface stock less than 1/4" thick or joint the end grain of stock less than 10" wide.
- Never joint 'secondhand' lumber. You could be hit by pieces of nails, screws, etc. Also, never joint or surface painted or dirty wood, plywood, particle board or other hard materials.

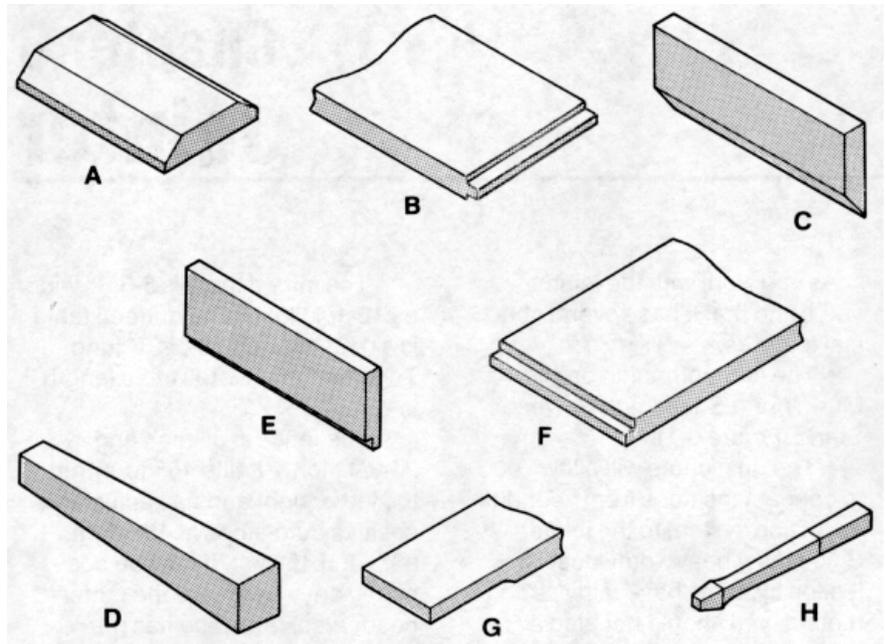


Figure 6-2. The cuts and shapes listed here can be formed on the jointer: (A) chamfer; (B) tenon; (C) bevel; (D) taper; (E) edge rabbet; (F) end rabbet; (G) surfacing (cut depth exaggerated for clarity); and (H) furniture leg (example).

Table 6-1: Jointer Speed Chart

Operation	Hardwood	Softwood
Heavy Cuts	M (3900 RPM)	O(4550 RPM)
Finishing Cuts	0(5300 RPM)	S (6200 RPM)

NOTE: These speeds are for 60 hz. operations. For 50 hz. operations. Because the jointer mounts on the lower auxiliary spindle, the rpm is 1.6 times faster than for the upper auxiliary and main spindles.

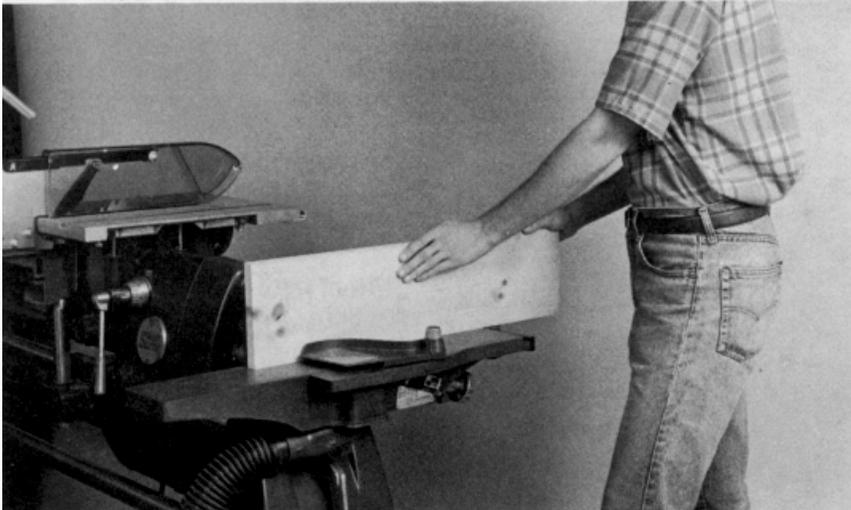


Figure 6-3. The jointer can be used in combination with the MARK V table saw. Warning: Be sure the upper and lower saw guards are in place.

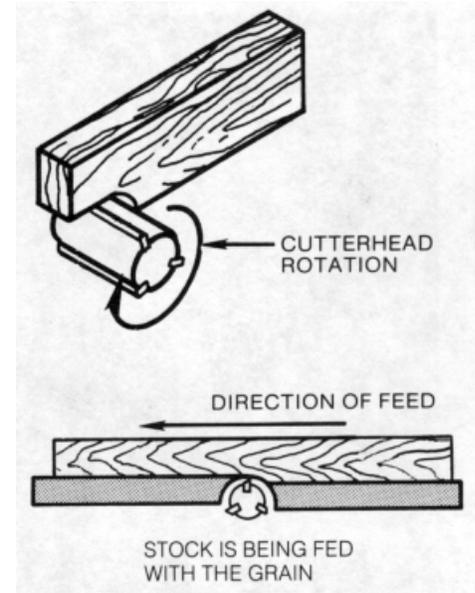


Figure 6-4. Always try to work so you are cutting with the grain of wood; when this isn't possible, make very light cuts, very slowly. Note: The depth of cut is exaggerated for clarity.

- Support long stock with roller stand(s).
- Turn off the power before making any adjustment, tightening the accessory mount lock or clearing wood chips.
- If an unusual noise, vibration or uneven cut occurs, turn off the jointer and check the wedge locking screws immediately.
- When using the saw-jointer combination, make sure the upper and lower saw guards are mounted on the Mark V.
- Knives that have been reground to less than 11/16" (.6875") wide should not be used.
- Use only Shopsmith Jointer knives in the Shopsmith Jointer. Other brands of knives are not wedge-shaped and will not seat properly in the cutterhead. Using other brands of knives is very dangerous.
- If you're using a Shopsmith Power Stand, be sure you're using the proper pulley and belt combination and that the pulley and belt are properly guarded.

JOINTER SPEEDS

Before you begin any jointer operation turn on the Mark V, set the speed dial according to Table 6-1, and let the jointer come up to speed