



## WOOD 2: JOINTER, TABLE SAW, PLANER, ROUTER TABLE.

This guide briefly highlights equipment and protocol covered in Wood 2 and Wood Foundations. For a more thorough review of each machine, refer to the Wood Shop Safety Manual located on the door to the dust collection room.

When bringing rough lumber into the shop for milling, or making it flat and squared to specific dimensions, the order of operations is the Jointer to get a flat face and square edge, Table Saw to rip a parallel edge and bring to final width, and Planer to mill a parallel face and bring the material to its final thickness. Any joinery or further milling of profiles will be cut at the router table or other tools.

With all of these machines, follow the “3 points of contact” rule throughout a cut:

1. Hands - Keep at least one hand on the material at all times.
2. Table - Keep the material flat against the table.
3. Fence - Keep the material flush against the fence (where applicable).

### OPERATING THE JOINTER

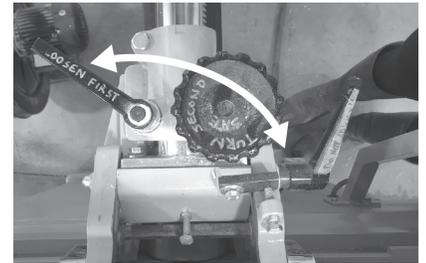
The Jointer is used for making flat, squared sides in a piece of stock. It's the first step in milling lumber of any thickness up to 12" wide and at minimum 8" long. Only solid wood can be milled on the jointer, and reclaimed lumber MUST be thoroughly checked for screws and nails using a metal detector. Members will be charged for inflicting damage to the machine or blades. Have a tech double check your boards before milling.

1. Check the board for any rocking. You will begin by milling the face that with the least amount of rock.
2. The fence can be moved forwards and back to accommodate different widths. Always have as little of the table exposed as possible. See first image to adjust: loosen the lever first, then turn the knob to move the fence to just fit the width of your material.
3. Turn on dust collector, open blast gate, turn on blower motor, then turn on the jointer.
4. Use push blocks to help feed material for any operation where your hands will be lower than the height of the fence.
5. Start by milling the widest side (the face) until it's at least 80% flat.
6. Turn the freshly milled face against the fence and mill one narrow side, or edge, flat. This will create an edge that is square to a face and you will be ready to move on to the Table Saw.

### OPERATING THE TABLE SAW

The Table Saw is often the next step in the process. It will be used to rip your board (cut it lengthwise) to width & create parallel edges in the process. The fence is used in this operation to guide the board at your desired width. Always have it set to the right side of the blade and make sure it is locked in place.

1. Turn on dust collector, and turn on saw by pulling red paddle. Have a push stick handy.
2. Cut board with milled flat side facing down & milled edge facing fence.
3. Use left hand to steady board & push it against the fence while feeding the board with right hand.
4. Once end of board is fully on table, hold board still with left hand, take push stick with right hand & continue to feed board through only with push stick. Remove left hand once push stick is fully engaged.
5. Push material all the way past the blade and riving knife. Turn off the saw, and wait for the blade to stop spinning before removing your material



### OPERATING THE PLANER

The Planer is used to create a mirrored, flat, and parallel set of surfaces on a piece of solid wood. Unlike the jointer, the planer has an automated feeding system and the blades are on top. You control the amount of material you want removed each time by turning the table height wheel.

The planer can process lumber up to 20 inches wide, at least 8" long and between 1/4" and 8" thick. There is a sled available to mill material thinner than 1/4" thick. Like the jointer, only solid wood can be milled, and reclaimed lumber **MUST** be thoroughly checked for screws and nails using a metal detector.

1. Turn on dust collection and open the blast gate above the planer.
2. Measure both ends of your stock. Set table height according to the height indexer (pictured by the height wheel (pictured), to be 1/16-1/32" less than the thickest part of your board. Clockwise brings the table higher as you remove material, counter-clockwise brings table lower, allowing thicker stock through.
3. Place the stock on infeed table with milled side facing down.
4. Release E-Stop and turn machine on. This engages the feed rollers. Feed stock through.

If your stock catches and stalls, the table should be lowered. If no material is taken off, turn wheel 1/4 clockwise and send through until it removes material. Continue sending material through planer, turning wheel 1/4 at a time maximum until you achieve the desired thickness.

**Remember: 1/4 turn of the height wheel = 1/32"**

### OPERATING THE ROUTER TABLE

This all-in-one machine accepts a variety of router bits to create decorative edges, dovetails, rabbets, and a variety of other channels and profiles.

Bits come with either 1/4" or 1/2" shanks, and the collet must match the shank size.

Both composites and solid wood can be processed on this machine.

#### To install a router bit:

1. Unplug router. Push fence back. Use 2-pin key to loosen & remove throat plate.
2. Use the hex key to loosen spindle lock (2) with a gentle turn counter clockwise. Use same key for the spindle height adjustment (1) to raise the spindle so the collet is as high as possible. Use both chuck wrenches to loosen/tighten collet and bit. Collet will need to be fully loosened if changing bit shank sizes.
3. Install bit so there is 1/4" gap between base of bit and collet to prevent jamming. If using very large bit, ask tech for help changing spindle speed.
4. Adjust height of bit by using the spindle height adjustment (1).

#### To start cutting:

5. If the bit has a bearing, and the depth of cut from the edge of blade to bearing is more than 1/4", OR if your bit does not have a bearing, the fence must be used as a guide.
6. Adjust fence so that it accommodates an appropriate depth of cut (1/4" at a time). Connect shop vac hose to dust port on fence and fire it up!
7. Feed material from right to left - feeding the other way will cause kickback. The bit rotates clockwise, so you want to be working with the rotation, not against.
8. Use a push block to feed material where hands will come too close to the bit.
9. Step up bit gradually to remove small amounts of material at a time (about 1/4" per pass).

**Clean up by sweeping and vacuuming the top and lower shelf of table and the floor. Remove bit and put away all tools in their rightful homes.**

