

General Safety

- Always wear safety glasses.
- Report all injuries to the instructor.
- No baggy clothing or open toed shoes.
- Give your undivided attention to the machine in which you are using.
- Keep long hair tied back.
- Only use machines when instructor is present in the room.
- Check to make sure machine is in safe working condition. For example: check to make sure all guards are in place, make sure the cord is not worn, etc.
- Only use tools for which they are intended for.
- Only use machine in which you have been instructed to use.
- Make sure machine has come to a complete stop before leaving the safety zone.
- Only one student allowed in the safety zone at all times.
- Clean-up your scraps and other debris.
- Keep fingers out of the blades cutting path.
- Only use clean lumber. Free of nails, paint, and other obstructions.
- If you need help for an operation, ask for it.
- Make all adjustments when the machine is off and stopped. If you are replacing parts remember to unplug first. Example: changing bits, changing spindle, etc.
- Wait for machines to get to full speed before beginning your operation.

Band Saw

- The band saw is useful for making straight and curved cuts. When you are cutting on the band saw, you want to cut on the outside of the line. This allows you to be able to sand to the line.
- Adjust the upper guard and guide about 1/8" to 1/4" above the material to be cut.
- Select the proper blade width. No cutting radius should be too small for the blade. In general, the larger the blade width the larger the radius in which you must cut.
- Keep blade sharp and properly set. If blade breaks or gets dull, notify the teacher.
- The teeth on the blade should point down.
- The blade should run on the center of the wheels.
- Mark material clearly so it can be seen at a reasonable distance.
- Plan cuts and layout. Avoid backing out of curves by making release/relief cuts.
- Operate band saw at 3000 ft/minute for wood.
- Feed material slowly. Do not overload the motor.
- If freehand sawing, use one hand to guide the work and the other to push the work into the saw. For straight cuts, use a miter gage or a fence.
Miter Gage=crosscut=length Fence=ripping=width
- Use a 2 inch safety zone.
- Do not twist the blade. This causes stress on the blade.
- Tilt the table to make bevel cuts.
- While waiting in line, always stand behind the operator.
- Remove all scraps from the table with a brush when the power is off and the blade has stopped.

Drill Press

- The drill press is used for drilling holes. It is used instead of a portable drill because you are able to drill holes more accurately and with more control.
- Determine the drill size. 1)Read the bit 2)Use a drill gauge
- Make sure drill is sharp.
- Clamp material securely before drilling.
- Drill at a constant rate.
- Place scrap block under your work to prevent damage to the table.
- Mark the center of the hole to be drilled with a “X”.
- Use proper drill speed. Use 1250 RPM for most wood drilling up to 3/4” diameter. Run larger bits slower. Run expansive bit at 600 RPM or less.
- Place the long end of the material to the left of the operator so it will hit the post and not the operator should the material slip and start to rotate.
- Make sure the chuck and drill match.
- Tighten the chuck in all 3 locations. Remember to remove the key from the chuck.
- Never wear gloves while operating the drill press. They could get caught.
- Remove chips from the machine with a brush.
- Never reach around the machine.
- Do not drill into a container that may have contained flammable materials.
- Slow drill feed when the drill is breaking through the material to finish hole.
- Use extra caution when drilling thin stock.
- If your material gets caught on the twist drill, shut off drill press and allow it to stop before removing material.

Disc/Belt Sander

- The disc/belt sander is useful for sanding or shaping edges and end grain of stock.
- The disc sander is sized by the diameter of the disc with 12 inches being a common size.
- The belt sander is sized by the width of the belt with 6 inches being a common size.
- Select the correct grit sandpaper for the most common job.
- The sanding pad is attached to the disc with a special adhesive.
- Adjust the table so the edge is 1/8" or less away from the disc.
- Use moderate pressure. Not enough pressure and you will lose control of the material and too much pressure will cause the material to burn.
- Sand on the downward side of the disc. Which is the left side on our machines.
- Move material slightly to keep from burning.
- Make sure belt/disc is in good condition and mounted correctly. Make sure it is not torn, loose or filled with sanding dust.
- Do not allow your hand to get near or touch the belt or disc.
- Use a square to check angle between the table and the sanding pad.

Spindle Sander

- The spindle sander is useful for sanding inside curves. The size of the curve you can sand is determined by the spindle sleeve you are using.
- Use moderate pressure. Not enough pressure and you will lose control of the material and too much pressure will cause the material to burn.
- Make sure spindle is in good condition. Make sure it is not torn, loose or filled with sanding dust.
- Always use the correct size table insert and washer for the sleeve you are using.
- Use extra caution when sanding small pieces. If the piece is too small to be held by hand you should not sand it on the spindle sander.
- Hold material with 2 hands.
- Keep material against table at all times.
- Feed your material against the rotation of the spindle. Go from right to left.
- Select the appropriate grit and spindle sleeve for the sanding job being performed.

Power Miter Saw

- A power miter saw is used for cutting miters, bevels, and compound angles. These are all examples of crosscuts.
- A crosscut is when you cut across the grain. With a crosscut you are cutting the board to the correct length.
- Read the Instruction manual. All miter saws complete the same task, but may operate differently.
- Check to make sure guard is working properly.
- Firmly support stock. Keep it against the fence and table at all times.
- Keep fingers 3 inches away from blade at all times. 3 inch safety zone.
- Make sure machine is off and stopped before making any adjustments.
- Make sure blade is at full speed before you make your cut.
- Changing the blade
 - Unplug the machine
 - Select a crosscut or combination blade.
 - Remove the saw guard, the arbor nut, and arbor collar. Remember the arbor nut has left-hand threads.
 - Remove blade.
 - Place a new crosscut or combination blade on the arbor so the teeth towards the operator point down.
 - Place the outside face of the collar on the arbor. Be sure the recessed face of the collars are against the saw blade.
 - Tighten the arbor nut using the wrench provided with the saw.
 - Replace the guard. It is a retractable type guard, so make sure it moves freely before plugging back in.
- Miter Cut
 - Select the proper angle of cut by moving the miter arm. Then lock in place.
 - Place the material on the saw with the square edges against the table and fence.
 - Hold the material against the fence with one hand and control the saw with the other.
 - After completing the cut, return the saw to the raised position. Wait for blade to stop before removing material.

Portable Drill

- A portable drill is used for drilling holes.
- The advantage to a portable drill is that it is portable. It can be used in many places in which you would not be able to use a drill press.
- Select proper twist drill for material to be drilled and make sure it is properly sharpened.
- Tighten chuck in all 3 tightening locations.
- Secure material to be drilled. Keep your hands on the drill.
- Smaller twist drills should be ran faster and larger slower.
- Drill with even, steady pressure and let the drill do the work.
- When drilling deep holes, withdraw the drill several times to clear the cuttings or chips.
- Hold drill at the correct angle.
- When the twist drill starts to break through the material, ease off the pressure to prevent splintering. You can also use a scrap block on the backside to prevent splintering.
- Twist drills are made and sharpened to operate in a right hand direction.
- Drill a pilot hole first when drilling large holes.
- Never carry a drill by its cord.
- Disconnect drill from power before changing twist drills. Remember to tighten in 3 locations and remove chuck key when done.
- Make sure switch is off before connecting to power source.
- Note position of cord to avoid drilling into it or getting it wrapped around the twist drill.