Scroll Saw

- Used to cut intricate shapes in thin wood and plastics
- Must go slowly or blade may come off
- Use both hands for steady guiding, but keep fingers and thumbs clear.
- Adjust the foot to hold down material

- Blade Tensioning
- [b1] Before you do much else with a scroll saw, it's necessary to get the correct tension on the blade. With nearly all scroll saws, 5" plain end blades are the type most often used. Some holders will take pin end blades, which are available in fewer types and sizes--the pin end blades do not come in extremely small sizes--than are plain end blades.
- Most scroll saws require only that you move the table to adapt to 90° or any other angle
- The harder the material, the slower the stroke you want to use. Metals, using the correct blade, use the slowest possible speeds. Hardwoods need a slower speed than softwoods, and soft maple can take a faster speed than can hickory
- Holding The Work[b1] Even though you have a hold-down in place, your hand placement is important to correct feed and the ease with which you can follow your line
- **Turn the scroll saw on, and rough cut around the pattern**. Depending upon the type of wood you're using, you may want to use a blade with few teeth for this part or a different saw.
- **Adjust the speed of the blade if you are using a variable-speed model**. For hard wood, use a slower speed. Soft woods, such as maple or popular, can take faster speeds.
- **Aim the scroll saw blade toward the first line to be cut**.
- **Use both hands to gently guide the wood into the blade**.
- **Use your forefingers of both hands and the thumb of 1 hand to move the work through the blade**. Hold down the piece, and push it forward along the cut line.
- As you push the piece forward, lift 1 finger at a time out of the way. Do not lift 1 hand or both fingers, or the piece may jump and create a jagged cut.

- **Adjust the feed rate into the scroll saw to what feels right to you**. Watch the blade, and listen to the saw to determine if you need to slow down.
- **Go back through the cut line and remove the wood from the saw once you reach a turning point**.
- **Turn the wood so that the next line is in front of the scroll saw blade**. Guide the blade onto the line of cut, and meet with the first cut. Gently back the blade out of the cut, and turn the piece again for the next line.
- **Make gradual turns with the scroll saw by slowing turning the wood as needed**.
- **Continue cutting all of the edges, and work your way around the piece until all outside lines have been cut**.

Sabre Saw/Jig Saw

- Changing the blade depends upon the model
- Select the right blade for the material and type of cut
- Select the right saw speed for the material and type of cut
- Generally when cutting metal want a blade with many small teeth and want a slow cutting speed.
- Rough cutting wood can be done at higher speed with a blade that has a few big teeth.
- Fingers can be used to help guide the saw, but as usual keep them clear.
- Most common safety mistake is when finished cutting, to lift the saw up from the material when the saw blade is still in motion. Make sure blade is completely stopped.
- Saw can make the material being cut vibrate a lot, make sure it is securely clamped down.
- Make sure to check underneath the material being cut for clearance, the blades are quite long.
- When starting to cut make sure the base plate of the saw is fully resting on the material, with the blade at a right angle to the marked guide line. And the saw blade IS NOT making contact with the material.
- Turn on the saw and slowly move the active blade into the material
- When cutting curves, the saw must be turned slowly, turning to fast will case the blade to bind in the material.

- If cutting out a piece from the middle of the material, drill a started hole (3/8" or bigger) into the scrap material, insert the saw blade into the hole and start cutting from there.

Cold Saw/Cut Off saw
For cutting metals
Requires: Two people to operate
Firmly clamp the metal to be cut in the machine vice. This is located underneath the blade. Check to see that the work piece is not against the blade before you run the machine.
Make sure the piece is in squarely

Turn on the machine and allow it to attain full speed. To move the blade, you must steadily depress the handle on the machine. Do not force the blade to cut the work piece as the blade may break. When firmly secured in place and set properly, the blade should be able to cut through the metal with ease. Vibrations or unusual noises while the machine is operational indicate it is not being handled properly. Use a stick to remove off cuts to prevent serious cuts to your hands.
Do not attempt to remove off cuts while the blade is in motion.
Sometime lubrication is needed.

 Wear safety glasses to protect your eyes from flying chips of metal. You also need some form of protection for the ears due to the extremely high noise levels.
 Avoid loose clothing and jewelry when at work as this can easily get caught in the machine. It is best to contain your hair if it is long.
 A cold saw can produce extremely high noise levels.
 Keep your hands away from the saw blade at all times to prevent serious cuts or amputation.

Vertical Band Saw

- Requires: Two people to operate

- Cuts metal and wood – ours is setup to cut metal but can be used to cut wood, very slowly
- Similar to scroll saw can be used to cut odd shapes and curves, but due to width of blade is more restricted than a scroll saw.
- Blade Tension at top
- Material flat on saw table
- Lower foot about ¼" above material
- Must cut slowly.
- Use two hand on piece, again keep fingers, thumbs clear.
- Sometime may use a push stick.
- Should never need lubrication