

PYROGRAPHY BASICS

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TOOLS AND EQUIPMENT: (Wood burners)

- Variable Temperature Wood Burner
 - Temperature can be controlled; tips are either fixed or interchangeable.
 - Can be used for artistic burning and branding.
- Solid Tip Wood Burner
 - Temperature cannot be controlled,
 - Writing tip is usually heavier in size, slower to heat up and cool down.
 - Shading is controlled by how quickly or slowly the line is burned.
 - Useful for some types of branding.
- Home Made Wood Burners—Burners can be made from battery chargers and dimmer switches.

OTHER EQUIPMENT:

- Burning Tips—A variety of tips can be purchased. Tips can also be made from nichrome wire, available online, or brass rod for the soldering iron types of burners
- Graphite pencils—4B
- Graphite Paper—gray, white, or blue
- 200-250 grit sandpaper, brass brush, or steel wool scouring pad—to clean the tips
- Needle Nose pliers—for one-temperature tools
- Metal ruler or straightedge
- Drafter's triangle
- To add color, you can use:
 - Artist quality colored pencils, markers
 - Artist's acrylic paint and brushes, dyes
- Spray Fixative, Polyurethane spray sealer, tung oil, Danish oil finish and Paste wax, water-based urethane

ARTISTIC VS. BRANDING BURNING:

- Artistic burning simply means to move the burning tip around on the wood.
- Branding is to press the tip against the wood and hold it until a burned impression results.

WOODS TO SELECT:

- Soft woods (basswood, white pine, holly, cherry, poplar) can be burned to a very dark chocolate brown or black.
- Hard woods allow for more variety in shading and are good for complex shading projects (maple, mahogany, pear, walnut, mesquite)
- Fine grain woods show very little color change in lines and are generally preferred.
- Light colored woods allow for more variety in color range of burning
- Dark colored woods result in a richness and depth of tone
- Avoid burning treated wood because of the preservatives
- Endgrain does not generally color as well as crossgrain with the burner or with paints

SAFETY TIPS AND HELPFUL HINTS:

- The burn is controlled by three things—temperature, pressure, and speed.
- Hold the burner pen the way you hold a pencil.
- Hold the pen so the heat goes up, not back into the pen.
- **Do not breathe the smoke.** Use a fan to pull the smoke away. If you point the fan toward the work, it tends to cool the tip.
- The work should not smoke excessively when burning. Do not burn too hot. Rather, go over the area several times to darken it. Burning red hot shortens the life of the burning tip.
- When making curved lines, use your little finger as a support and rotate your hand around your little finger.
- Turn the work instead of your hand when possible.
- Rapid drawing with the pen will leave a lighter line than slow drawing.
- Shade away from hard lines.
- Do not bear down on the pen. If the pen is not getting the result you want, turn up the heat ½ notch or slow down the movement. Retrace the line if necessary.
- Apply **pen pressure that mimics an airplane landing and taking off.** Don't stab the tip into the wood, then draw it across the wood. This results in a dark area at the beginning of the line.
- Keep pen tips clean. Carbon builds on the tips. Clean with a stainless-steel scouring pad or a soft brass brush.
- Do not change tips when the pen is hot. You will risk damaging the pen's heat element. (This is especially true of solid tip burners)
- Use pliers or other appropriate tool to change the tips. (Translation: Do not use your fingers!)
- Store tips so that they are protected.
- Turn off the burner when you leave the work area.
- Use a heavy-duty extension cord, if an extension cord is required.

SELECTING AND APPLYING PATTERNS:

- Patterns can be applied using drawings and graphite paper.
 - Tape the graphite paper and pattern to the wood with low-tack masking tape and draw through the two thicknesses to leave the pattern on the wood.

- To apply a flat pattern to a curved surface, cut slits in the pattern to get it to fit the wood.
- Crumple the pattern then place over curved surface.

Note: Do not transfer all the lines in the pattern to the wood or you'll have too much graphite on the surface. It may be necessary to partially erase some of the darker graphite lines before burning the wood.

- If using a leaf motif, real leaves can be outlined on paper. The leaf patterns can then be cut out and taped to the wood and drawn around with pencil. Double sided tape works well.
- Use a laser printer to copy a pattern. Then tape the pattern to the wood and use a Xylene pen to saturate the paper. The ink will be transferred to the wood. (The ink cannot be erased after burning the pattern. The draw-back of using this method is that sometimes too much ink is transferred to the wood.)
- Tape the pattern directly to the wood and burn through the paper. (I don't use this method as I like to see exactly what I'm burning, not a piece of paper.)
- The pattern can be sketched directly onto the wood with a pencil, preferably 4B.

AFTER BURNING THE DESIGN:

- If using graphite paper or pencil, a good art eraser or kneaded eraser works best to remove the lines from the wood after burning. The Tombow MONO plastic eraser and the abrasive and rubber erasers work well.
- After burning, use a fine grit of sandpaper (600) to remove the rough texture left by burning.
- Remove over-burn with fine grit sandpaper or 90-100% rubbing alcohol and soft cloth.

BURNING EXERCISES:

- Exercise #1 – Beginning & Ending a Stroke
 - a. To avoid dark spots at the beginning or end of a stroke, use the “touch and go airplane landing” technique.
 - b. Straight lines—the skew works well for straight lines. Coaxing a curved line is possible.
 - c. Curved lines—the bent wire or ball tips are good for curved lines. Not as good for straight lines.
- Exercise #2 – Shading—can use a dedicated shader, but the ball tip and skew can also be used.
 - a. Hatch lines
 - b. Double/Triple hatch lines
 - c. Scrubbing circles
 - d. Dots/stippling
 - e. Dark to light solid shading
- Exercise #3 – Burn the double-leafed maple pattern.
 - a. Burn in lines on one leaf and add interior shading.

- b. On the second leaf, do not burn in the lines but use a shading technique to simply surround the leaf.
- Exercise #4 - Select a pattern to burn
 - a. Transfer the pattern to wood (only draw in the outlines and major lines with graphite)
 - b. Select the most appropriate tip and burn the pattern.

SELECTING BURNING TIPS AND HANDLES/PENS:

Tips/Nibs: Most work can be done with the following tips:

- a) Writing tip—bent wire or ball (the ball creates a smoother line)
- b) Short skew (looks like a woodturner’s skew, but name varies with different companies)
- c) Shading Tips—Several styles available (spoon, flat nose, round nose, pointed)
- d) Colwood “J” tip—good for thin lines and shading (excellent for feathers, fins)



Writing Tips



Skews



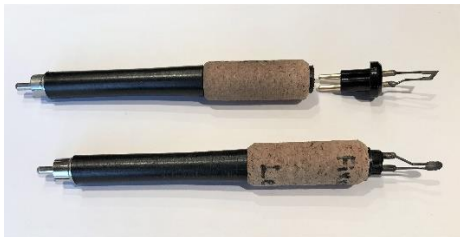
Shaders



“J” Tip

Handles/Pens:

- a) Fixed (May want this for the tip you use most often)
- b) Replacement (Less expensive. All pens do have a shelf life)



Replacement tip and handle, Fixed tip with handle

RESOURCES: (Equipment)

- Graphite Paper: Craft stores (comes in single sheet or two sheet packages, 18”X24”)
- Charco graphite paper by Mona Lisa: Craft stores (remove blue lines with damp cloth)
- Tombow MONO plastic and latex eraser with abrasive—Amazon
- Craft Supply
 - woodturnerscatalogue.com
 - 1-800-551-8876

- 90-100% rubbing alcohol
 - Local pharmacies
- Priddle Style Wood Vaporizing System
(Build-it-yourself branding wood burner using car battery charger at www.woodturnersresource.com for Graeme Priddle's system. A high-quality rheostat is recommended for this project.)
- Colwood Electronics
44 main St.
Farmingdale, New Jersey 07727
Phone No. 732-938-5556
Web address: woodburning.com
- MDI Woodcarvers Supply
For carving and woodburning equipment, including Colwood brand woodburner
mdi@mdiwoodcarvers.com

RESOURCES: (Books)

- ***Great Book of Woodburning*, Lora Irish**
- ***Woodburning with Style*, Simon Easton**
- ***Pen and Ink Techniques*, Frank Lohan**
- ***Pyrography Designs*, Janice Levi** (contact directly)