

# The Art of Leather Burning

Step-by-Step Pyrography Techniques



Lora Susan Irish

The Art of  
**Leather Burning**  
Step-by-Step Pyrography Techniques

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# Measurement Conversion Chart

$\frac{1}{16}$ " (2mm)	2" (51mm)	7" (178mm)	13" (330mm)
$\frac{1}{8}$ " (3mm)	$2\frac{1}{16}$ " (52mm)	$7\frac{1}{4}$ " (184mm)	$13\frac{3}{4}$ " (349mm)
$\frac{3}{16}$ " (5mm)	$2\frac{1}{8}$ " (54mm)	$7\frac{1}{2}$ " (191mm)	14" (356mm)
$\frac{1}{4}$ " (6mm)	$2\frac{3}{16}$ " (55.5mm)	$7\frac{3}{4}$ " (197mm)	$14\frac{1}{2}$ " (369mm)
$\frac{5}{16}$ " (8mm)	$2\frac{1}{4}$ " (57mm)	8" (203mm)	$14\frac{3}{4}$ " (375mm)
$\frac{25}{64}$ " (10mm)	$2\frac{23}{64}$ " (60mm)	$8\frac{1}{4}$ " (209mm)	15" (381mm)
$\frac{1}{2}$ " (13mm)	$2\frac{1}{2}$ " (63.5mm)	$8\frac{1}{2}$ " (216mm)	16" (406mm)
$\frac{5}{8}$ " (16mm)	$2\frac{41}{64}$ " (67mm)	$8\frac{3}{4}$ " (222mm)	17" (432mm)
$\frac{3}{4}$ " (19mm)	$2\frac{3}{4}$ " (70mm)	9" (229mm)	18" (457mm)
$\frac{7}{8}$ " (21mm)	$2\frac{7}{8}$ " (73mm)	10" (254mm)	19" (483mm)
1" (25mm)	3" (77mm)	$10\frac{1}{4}$ " (260mm)	20" (508mm)
$1\frac{1}{16}$ " (27mm)	$3\frac{1}{4}$ " (83mm)	$10\frac{1}{2}$ " (267mm)	21" (533mm)
$1\frac{1}{8}$ " (28.5mm)	$3\frac{1}{2}$ " (90mm)	11" (279mm)	$21\frac{1}{2}$ " (546mm)
$1\frac{3}{16}$ " (30mm)	$3\frac{3}{4}$ " (96mm)	$11\frac{1}{4}$ " (285mm)	22" (559mm)
$1\frac{1}{4}$ " (32mm)	4" (102mm)	12" (305mm)	$22\frac{1}{2}$ " (572mm)
$1\frac{3}{8}$ " (35mm)	$4\frac{1}{4}$ " (108mm)	$12\frac{1}{4}$ " (311mm)	23" (584mm)
$1\frac{1}{2}$ " (38mm)	$4\frac{1}{2}$ " (115mm)		24" (610mm)
$1\frac{39}{64}$ " (41mm)	$4\frac{3}{4}$ " (121mm)		34" (864mm)
$1\frac{3}{4}$ " (44.5mm)	5" (127mm)		36" (915mm)
$1\frac{7}{8}$ " (48mm)	$5\frac{3}{4}$ " (146mm)		
	6" (152mm)		
	$6\frac{1}{4}$ " (165mm)		
	$6\frac{3}{4}$ " (171mm)		

## Basic Leathercrafting Supply List

**Adjustable stitching groover**—hand tool used to cut a shallow line at a pre-set measurement from the edge of the leather

**Artificial sine** , **waxed thread**, **linen thread**—stitching threads

**Craft knife**, **rotary cutter**, **bench knife**—tools used to cut out the construction pieces

**Edge beveler**—tool used to “round-over” the sharp outer corners of the leather

**Edge slicker**—burnishing tool used with Gum Tragacanth

**Gum Tragacanth**—medium used to seal, slick, and burnish the edges of the leather

**Harness needles**, **tapestry needles**—dull-pointed needles used in leather stitching

**Maul**, **mallet**, **ball peen hammer**—tools used with round drive punches; used to set rivets and snaps

**Overstitcher**, **stitching wheel**—toothed wheel with pre-set spacing used to make stitching holes

**Poly board or thick cork board**—pounding and cutting boards

**Rotary hole punch or round drive punch**—tools used to cut holes for rivets, screw posts, and snaps

**Self-healing cutting mat**—used for work table protection and grid-work cutting

**Sewing awl**—tool used to cut holes for stitching

**Skiver**—tool used to thin the edge of the leather where two pieces are stitched together

**Soft #6–#8 pencil**—used for marking and transferring guidelines

**Synthetic all-purpose eraser**—used to clean the leather of dirt and pencil marks

**Transparent ruler**, **metal ruler**—used for measuring stitching and hole placement

## Basic Leather Kit

Belt buckles, belt keeper staple

Cotton daubers, cotton swabs

Dee rings, split rings, and trigger snaps

Leather bracelet crimp end caps—jewelry findings

Rivets—double capped, single capped

Rivet setters—rivet setter, rivet anvil, domed rivet setter

Screw-post conchos

Suede lacings  $\frac{1}{8}$ " (3mm) and  $\frac{3}{16}$ " (5mm)]

Synthetic eraser (all-purpose)

## Basic Pyrography Supply List

Assorted grit foam-core nail file for pen-tip cleaning

Document cleaning pad, synthetic eraser, white artists eraser—used to remove tracing lines

Emery cloth—400- and 1600-grit for pen-tip cleaning

Graphite paper—used for tracing

High-range one-temperature pyrography pen

Leather strop and honing compound for pen-tip cleaning

Low-range one-temperature pyrography pen

Pen tips—medium writing tip, wide-ball tip, micro-ball tip, shader tip, micro-writing tip, large round shading tip

Rheostat-controlled pyrography pen

Scissors, rulers, and low-tack masking tape

Variable-temperature pyrography pen

## About the Author

I was so thrilled when Vanessa Putt, the Acquisitions Editor at Dover Publications, Inc., called in the early spring of 2015 to propose that I write a book for Dover. I grew up in a household where the pursuit of arts and crafts flourished, and you never bought what you yourself could create. The dining-room table was always full of someone's current project, from piles of fabric for Mom's quilting to pans of oil and bluing for Dad's antique rifle restoration or jewelry work. Our bookshelves were packed to the brim with Dover books that offered ideas, instructions, and patterns, ready to use for that next craft project. Over the years of loving use, many of those books have become dog-eared, have dirty, hard-used pages, broken spines, or loose pages stuffed in the back. But they are still treasured and now reside on my craft bookshelf, with new titles being added all the time.

Having the opportunity to become a Dover author is an achievement that I never expected as a young woman beginning my career in craft book publishing. The thought that this title, *The Art of Leather Burning*, with my name as the author, will soon join the decades of Dover craft books on my art shelf is beyond imagination.

**Lora S. Irish** is a nationally and internationally known artist and author who currently has twenty-five woodcarving, pyrography, and craft pattern books in publication, including *Chip Carving 1 and 2*, *Classic Carving Patterns*, *Landscapes in Relief*, *Wildlife Carving in Relief*, *Great Book of Fairy Patterns*, *Great Book of Dragon Patterns*, *Great Book of Floral Patterns*, *Great Book of Tattoo Patterns*, *Easy and Elegant Copper Jewelry*, and *Wood Spirits and Green Men*. Twelve of the author's purebred dog-breed oil on canvas paintings have been published as limited-edition fine art prints.

Working from their home studio, Lora and her husband and webmaster, Michael, are the owners of two websites: [www.ArtDesignsStudio.com](http://www.ArtDesignsStudio.com), which features Lora's digital arts and crafts patterns, and [www.LSIrish.com](http://www.LSIrish.com), where the artist offers free online tutorials and projects.

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## CHAPTER 1

# Pyrography Tools and Supplies

*In this chapter we explore the basic pyrography tools and supplies that you will use for your projects. The Owl Barrette (page 19), is worked using a one-temperature pyrography burner and a simple outline and solid-fill technique. The Henna Flower Key Fob adds a softly shaded texture-fill background to the outline technique. Detailed shading, texture fill, and outlining are used to create the Wild Rose and Practice Board Journal on page 46. Each burned line or shaded area of a project's pattern drops into the surface of the leather, creating an instant sculptured effect in the burned image.*

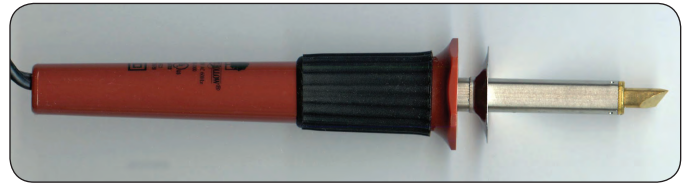
# Styles of Pyrography Units

There are three basic types of pyrography units—the one-temperature pen, the rheostat-controlled pen, and the variable-temperature unit. The style of pyrography unit that you choose depends on your budget, your skill level, and how often you will be burning. One-temperature and rheostat-controlled-style pens are excellent for new pyrographers, as they allow you to experience the full range of the craft without a heavy financial investment. Variable-temperature units give you total control over the exact temperature you need to create values. They also have a wider selection of pen-tip profiles.

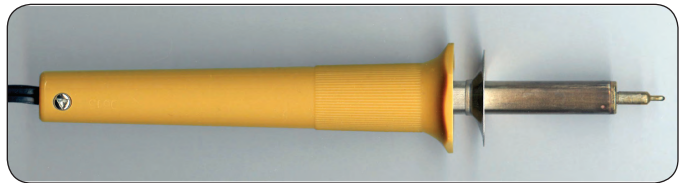
## One-Temperature Pens

One-temperature pens are readily available at most large craft or hobby stores and are inexpensive tools with which to begin your craft of pyrography. This style is one piece, with the pen and cord permanently attached. The pen is pre-set to reach a specific temperature, and thus is similar to a basic soldering-iron pen. The tips for this style are interchangeable, with threads on the tip that screw into the top shaft of the pen. There may be an on/off line switch on your particular model of one-temperature tool.

**TIP** A one-temperature pen can become hot to the touch in the handle area—it may be uncomfortable to hold for an extended period of work. If the pen is becoming hot, simply unplug it and allow it to cool for about a half hour.



**Figure 1.1.** The one-temperature pyrography pen is a multi-task tool. It has a high-temperature range of around 950 degrees to allow for the heat needed for soldering. Its high range can cause both scorching and excessively deep burn lines; therefore, it is not suggested for leather work.



**Figure 1.2.** The one-temperature tool is specifically made for pyrography work that has a high range of only 750 degrees. This lower heat range is perfect for any leathercrafting project. This is the primary tool that I used for the projects in this book, and it is capable of handling any pyrography technique or skill.



**Figure 1.3.** One-temperature tools use interchangeable brass tips that screw into the shaft of the pen. Note that the tip of the pen has been left slightly open to show the threading. Five pen styles are available, and these can be used for the projects. The pen is shown with the universal tip, which creates fine lines and wide shading strokes. From top to bottom on the left are the wide ball tip, the medium ball tip, the micro-ball tip, and the square lettering tip.



**Figure 1.4.** Rheostat-Controlled Pyrography Tool

## Rheostat-Controlled Soldering-Style Pens

One-temperature-type pyrography pens are now available with rheostat temperature controls built into the cord. These pens use the same brass interchangeable pen tips and have the same one-piece body styles of the one-temperature pens. The rheostat gives you some control over the heat range, using a dial set for low, medium, high, and hot burns. This type of burning pen gives you both temperature control and interchangeable tips for a modest financial investment.

The simple addition of a rheostat temperature control on the cord of this unit gives you the financial investment advantages of a one-temperature tool with the temperature control of the higher-priced variable-temperature units (see Fig 1.4).



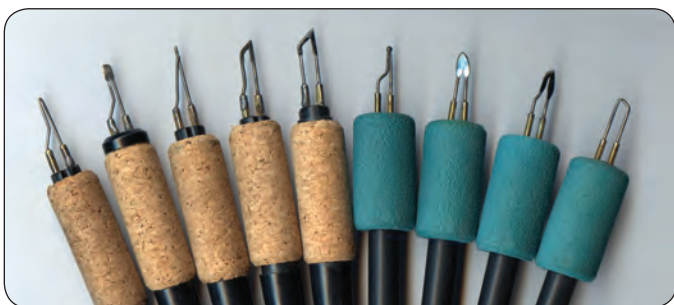
**Figure 1.5.** This variable-temperature unit is set up to run two burning pens at the same time. The on/off switch allows you to move easily from one pen profile to another with little effort. The temperature range for this unit is far greater than the temperatures needed for burning wood, gourds, paper, and leather. This particular manufacturer also offers several options, including high-voltage cords, and extra-thick wire pen tips for added strength.

## Variable-Temperature Pyrography Units

Variable-temperature units give you full control over your pen tip, from extremely cool temperatures for very pale tonal values to very hot black-toned burns. Beyond the temperature range the greatest advantage to a variable unit is that the pen styles allow you to burn comfortably for extremely long periods of time.

Most variable units are multi-task tools that can also be used for acetate template cutting, soldering, and stamping. This style comes with corded pens that plug into the temperature control unit. Pens are available as either fixed-tip or interchangeable-tip pens, with a wide variety of pen-tip profiles.

Which manufacturer's brand of variable-temperature units you choose determines the range of temperature for each unit, the style and grip of the burning pen, and the pen profiles you are most likely to use. Variable-temperature units can be ordered either through mail-order woodworking catalogs or online.



**Figure 1.6.** These pen-tip profiles show a few of the basic writing, detailing, and shading pens that are available with variable-temperature units. Pyrography pens are made to fit the manufacturer's specific brand and of burning unit—therefore, it is not recommended that you use one manufacturer's pen with another manufacturer's burning unit. Check the product information for compatibility on the manufacturer's website before purchasing pens that were not made for your unit.

# Pen-Tip Cleaning Supplies

As you work your pyrography strokes on any natural surface, the tips will develop a layer of black carbon residue. Carbon build-up lowers the temperature of your pen where it touches the leather, creating uneven tonal values in your lines and texture. If the carbon become excessively thick, it can leave black pencil-like lines on the leather that are difficult to erase.

Extremely fine grit—1500 to 6000—emery cloth, available at most hardware stores, is used for polishing metal. It comes in 9" (229mm) x 12" (305mm) sheets that can be cut into small pieces to fit the pen tip you are using. Rub the pen tip gently across the surface of your emery cloth, returning the tip to a bright, polished look.

Your local drugstore may carry foam-core nail files that have six to seven grit strengths. I keep several in my pyro kit to use when my pens need just a small touch-up for better heat transfer. The heavier grits of these nail files are strong enough to remove the heaviest of carbon build-up without damaging the polished surface of your tips.

As a wood carver I also have a leather or synthetic strop and rouging compound in my pyrography kit. The strop has two sides—one is the raw-leather side up and the other is the finished tanned leather side. Stropping rouge is rubbed over the raw leather; then the pen tip is pulled across the strop to remove the rough carbon particles. To brighten or polish the tip, turn the strop over and work the tip of the tanned leather side.



**Figure 1.7.** Synthetic and Leather Stropps and Honing Compound

**TIP** As shown above, using yellow wood glue, a wooden paint stir stick, and two pieces of 6/7-ounce vegetable-tanned leather, you can quickly make your own leather strop. Cut two leather strips the size of your paint stir stick. Then spread an even layer of wood glue on one side of your stir stick. Lay one leather strip on the stir stick, with the rawhide side up, and press well. Allow to rest for several minutes to set the glue. Turn the stir stick over and adhere the second leather strip to the stir stick with the tanned side up. Place several heavy books on top of your strop to act as pressure clamps, and allow to dry overnight.

## Additional Pyrography Supplies

Along with a pyrography pen or variable-temperature pyrography unit, you will need some common craft supplies for the projects in this book. Many of these supplies you will already have in your crafting kit. These include scissors, low-tack painter's or masking tape, graphite tracing paper, and tracing or vellum paper. A surge protector is recommended for use with both the one-temperature-styled burning units and variable-temperature units.



## CHAPTER 2

# Basic Pyrography Techniques

*Basic pyrography strokes include simple outlining, solid-fill areas, and shading using the tonal value sepia colors. Any pattern in this book can be worked in a number of different techniques, giving you a full palette of potential finished projects. In this chapter we will explore which pen tips to use, how each pen tip creates its own unique stroke pattern, and how those strokes can be used to create outlining, shading, and detailing in your burned images.*