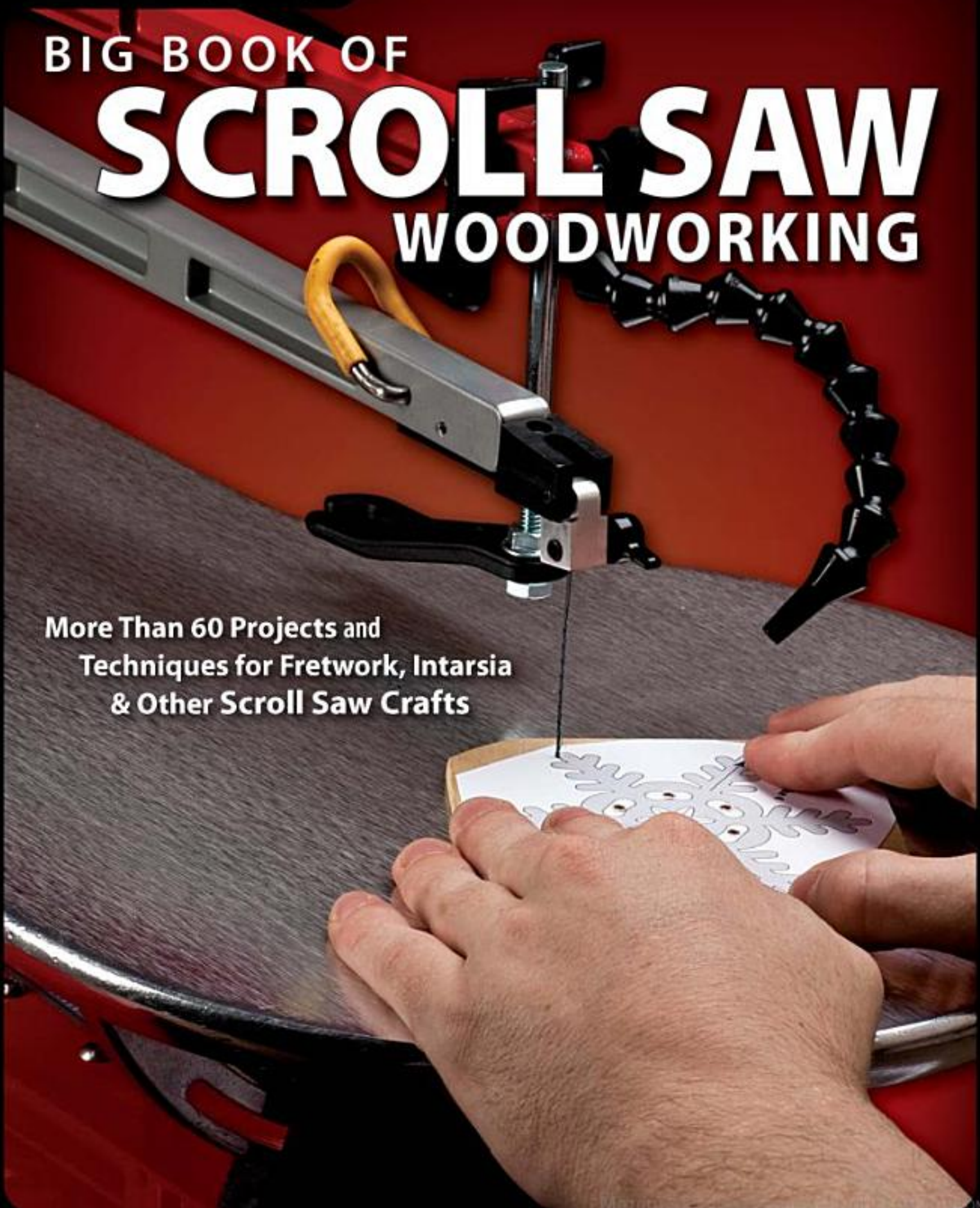


The Best of **SCROLLSAW**
Woodworking & Crafts Magazine

BIG BOOK OF

SCROLLSAW WOODWORKING

More Than 60 Projects and
Techniques for Fretwork, Intarsia
& Other Scroll Saw Crafts



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What You Can Make



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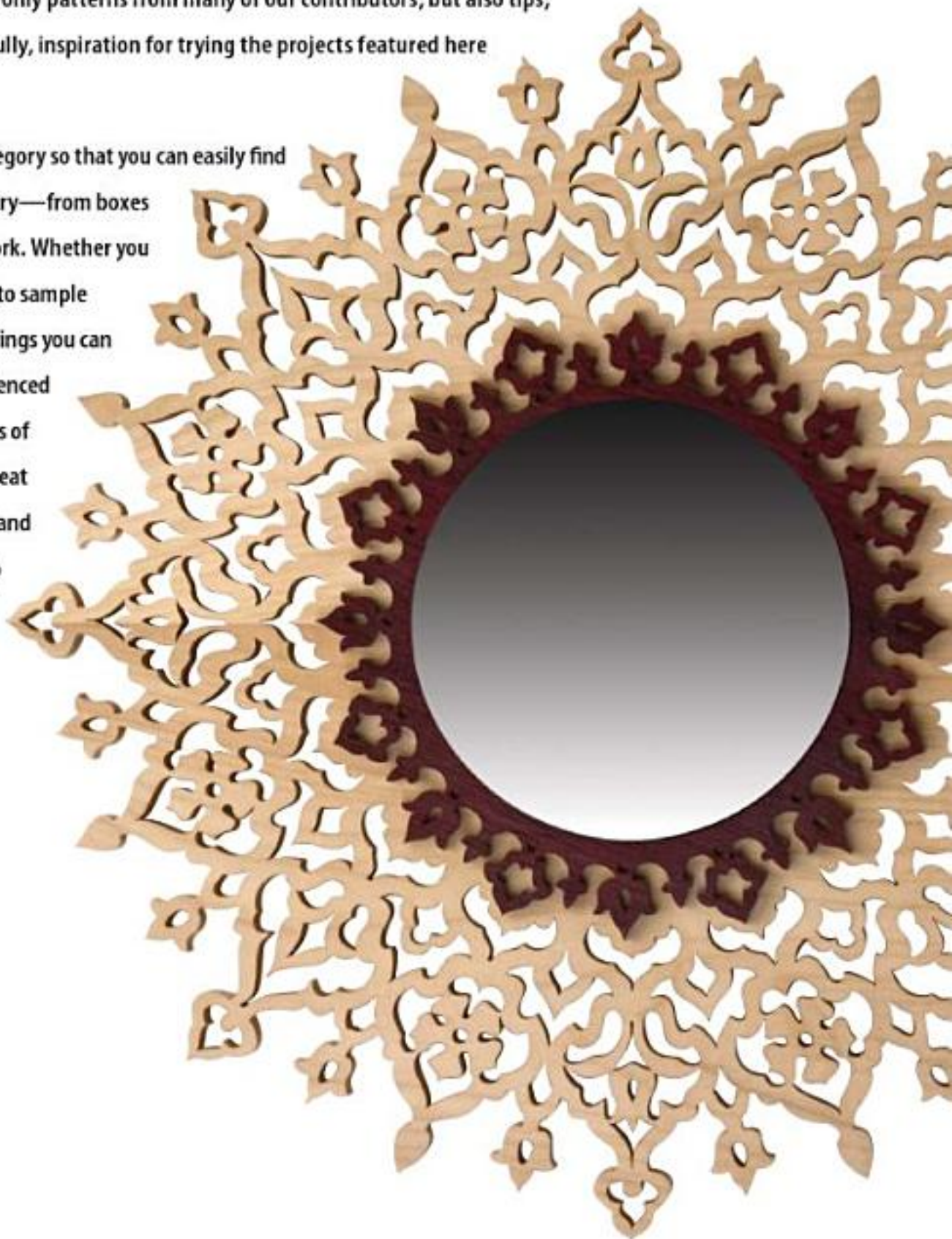


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Introduction

Your scroll saw can do so many things, we needed a big book to hold them all! *Scroll Saw Woodworking & Crafts* magazine is proud to present this collection of some of our best projects for scrollers just starting out and for those who have experience. On the following pages, you'll find not only patterns from many of our contributors, but also tips, techniques, stories, and, hopefully, inspiration for trying the projects featured here and your own creations.

This book is broken down by category so that you can easily find the type of project you'd like to try—from boxes and docks to intarsia and fretwork. Whether you are a beginning scroller looking to sample some of the different types of things you can do with a scroll saw or an experienced scroller looking to try other areas of scrolling, this book provides a great reference for your next projects and many projects to come. So jump on in. What will your favorite scroll saw technique be?



Getting Started

If you're just starting out, the following tips and techniques can help you on your way to scroll saw success. Read through the information here before you actually begin at your saw.

Safety

Though the scroll saw is a relatively safe tool, take the time to make sure you're working safely. Check that your work area is clean, well-lit, well-ventilated, and uncluttered. A dust collector, mask, air cleaner, or a combination of these items can help protect your lungs from fine dust.

Check that you are dressed appropriately. Wear some type of safety goggles just in case a piece of wood should break free and fly toward your face and eyes. Remove any loose clothing or jewelry before you operate the saw.

Of course, don't work while you are tired, and always keep your hands and fingers a safe distance away from the blade.

It's a good idea to read through the instructions before you begin to make sure that you understand everything involved. Also, gather your tools at the beginning so everything is close at hand. The projects here list the general tools you'll need and often give other suggestions and options. Remember, however, the lists are simply guidelines, and you should always work with tools you feel comfortable using.

Selecting the Materials

Invest some time in selecting the appropriate material for your project, whether it's hardwood, plywood, or some other nonwood material. The material you choose will affect not only how the finished piece looks, but also how easy it is to cut, sand, and finish.

No matter what material you choose, be sure it is flat—not cupped or warped—and relatively free of defects, such as knots. Buy quartersawn wood when available because it is the most stable.

Hardwoods often create very beautiful finished projects although they can be a little harder to work with than plywood. Mixing different colors of hardwoods also can produce a striking effect. If you are relatively new to scrolling, high-quality Baltic birch plywood can be easier to use than hardwoods and takes stain well if you want to simulate color contrasts.

Also consider what the right thickness is for your particular project. Especially if you are a new scroller, do not



Hardwoods offer a variety of colors and grain patterns that can enhance your projects. Shown here from left to right are catalpa, red oak, cherry, birch, black walnut, white oak, mahogany, and American aromatic cedar.

cut material that is too thick or too thin. If the wood is too thick, you can be frustrated with blade breakage, burning of the material, and difficulty getting through the project. If the wood is too thin, it presents another set of problems, including not enough resistance to the blade, which makes it hard to turn and stay on the lines.

If you will be stack cutting your project, decide that as you select your material. $\frac{1}{8}$ " and $\frac{1}{4}$ " plywood are ideal for stacking.

Keep in mind that using a different thickness of wood than the one called for in the project can change the look of the finished piece. For example, using $\frac{3}{4}$ " wood for a delicate ornament may not look as nice as the same pattern cut from $\frac{1}{4}$ " wood.

Attaching Patterns

There are several different methods to attach or transfer patterns to a blank. It's really a matter of personal preference. Experiment with the various methods until you find the one that works best for you.



Smooth your pattern onto the stock from the inside out, removing any bubbles.

Temporary-bond spray adhesive: The most common method to attach a pattern to a blank is with temporary-bond spray adhesive. Rubber cement or glue sticks also work similarly. Start by photocopying the pattern. Place the pattern to be sprayed inside a cardboard box to contain any overspray. Then spray the adhesive on the back of the pattern (spray the paper pattern—not the wood), wait a few seconds, and press the pattern down onto the blank.



Applying the pattern over painter's tape will aid in removal.

Clear packaging tape: This method is similar to the last method. Apply the spray adhesive as explained above. Then cover the pattern and work piece with strips of clear packaging tape. The tape holds the pattern down tightly. When you are finished, pull off the tape and the pattern usually comes off with it. Chemicals added to keep the tape from sticking to itself while on the roll will also help to lubricate your blade. Most scrollers recommend using clear packaging tape over the pattern when cutting thick or hard woods.

Large label: Copy the pattern onto a self-adhesive 8½" x 11" label. Then just peel the backing off, and attach it to the blank.

Painter's masking tape: Cover the blank with blue painter's tape. Then attach the pattern to the tape using the spray adhesive method. The blue painter's tape is formulated to be easy to remove and should not leave much of a residue on your blank. This tape is also coated with chemicals similar to those used in clear packaging tape that keep the tape from sticking to itself, so some scrollers coat their thick or hard woods with painter's tape as well.

Graphite or carbon transfer paper: Position the transfer paper on the blank with your pattern on top and use a few pieces of painter's tape to hold the pattern and transfer paper in place. Trace around the pattern with a red pen (so you know where you have traced). Use a white or light-colored transfer paper for darker woods. Carbon paper costs less, but is hard to remove and paint over. Graphite paper is more expensive, but is easier to remove after scrolling and is available in more colors. If you use carbon paper, a quick sanding with 220-grit sandpaper will remove most of the pattern lines.

Removing Patterns

If you attach a paper pattern to your work, you will need to remove it and any adhesive residue after cutting. Just like with pattern application, people prefer different methods. Try experimenting until you find the one you are most comfortable with.

Mineral spirits: Most of the time, the pattern will come off easily. A quick wipe of mineral spirits will remove any adhesive residue. You can also dampen the pattern with mineral spirits to aid in removal.

Adhesive remover: There are several adhesive removers on the market, with Goo Gone® being the most well known. Follow the manufacturer's instructions to remove the pattern.

Sanding: A light sanding with fine sandpaper (220-grit) will also remove the pattern and adhesive residue.

Blade-entry Holes

Blade-entry holes are the holes drilled for inside cuts. These are cuts that cannot be accessed from the scrap portion of your project. They allow you to insert the blade in an area that will be surrounded by the finished project—such as the inside of the letter “O.” There are several things to take into account when making blade-entry holes.



A drill press is recommended for perpendicular entry holes.

Location: Some patterns have blade-entry holes marked. If the pattern doesn't, use your best judgment. Place the holes near a line to be cut to prolong your blade life, but don't place the hole on a curving line (if possible). Also avoid putting the hole in a corner—inside corner cuts need to be sharp to look right.

Method: Drill the blade-entry hole perpendicular to the blank. Use a drill press if you have one. Drill through your blank into scrap wood to prevent tear out on the back side. Using a scrap wood backer will save you time sanding or scraping the back of your project.

Drill Bit Size: The diameter of your drill bit depends on the size of the area you are cutting and the size of your blade. If you have the space, use a larger bit—it will make it easier to thread your blade. For thin veining cuts, use the smallest-diameter bit your blade will fit through. Many scrollers sharpen the ends of their blades a little to allow them to pass through smaller entry holes.

Blade Tension

Most saws have a control mechanism to adjust the tension on the blade.

The tension should be completely removed before installing a blade. Clamp both ends of the blade into the blade holders and adjust the tension. A well-tensioned blade will produce a “C” pitch sound. For those who have trouble adjusting tension according to sound, try pushing the blade with your finger. It should flex no more than $\frac{1}{8}$ ” forward, backward, or side to side.

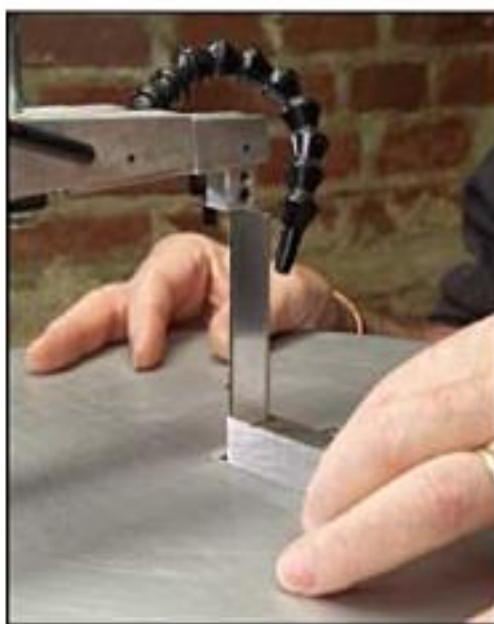
A blade that does not have enough tension will wander as you are cutting, and you will have difficulty staying on the pattern line. It will also flex from side to side, making for irregular or angled cuts. If you press too hard on a loose blade, it will usually snap.

A blade that has too much tension is much more susceptible to breaking. It also tends to pull out of the blade holders.

In general, it is better to make the blade too tight rather than too loose. As you become more practiced, you will learn how to adjust the tension of your blade correctly.

Squaring Your Table

Most scroll saws have an adjustable table that allows you to make cuts at different angles. There are times when you want your saw set at an angle, but most cutting is done with the blade perpendicular to the table. This means the table and the blade meet and create an exact 90°-angle. If the table is even slightly off-square, your cuts will be angled. This interferes with puzzle pieces, intarsia, segmentation, and many other scrolling projects. There are several ways to make sure your table is square.

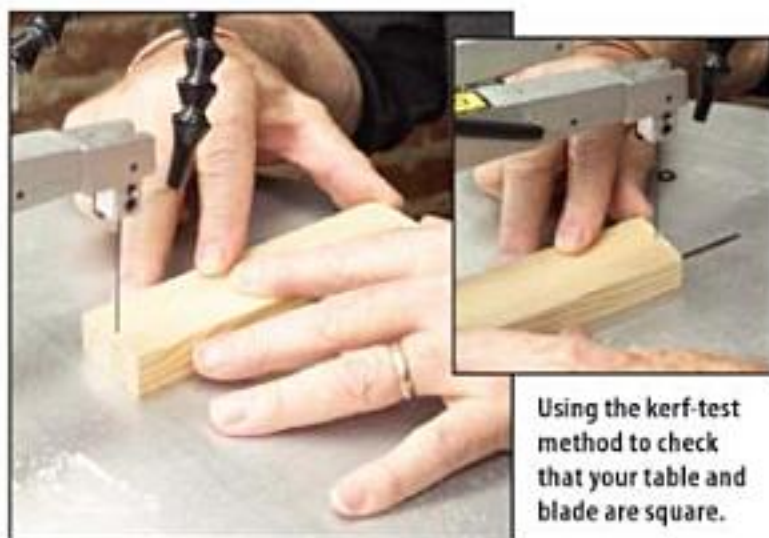


Ensure your blade and table create a 90°-angle using a square.

Small Square Method: There are many different types of squares available—ranging from expensive bronze machinist's squares to inexpensive plastic drafting squares. As long as it is accurate, it doesn't matter what material it is made from. Set the square flat on the saw table against a blade that has been inserted and tensioned. Adjust the table to form a 90°-angle to the blade.

Cutting-through Method: Simply saw through a piece of scrap wood at least 3/4"-thick and check the angle of the cut using a square. Adjust the table until you get a perfectly square cut.

Kerf-test Method: Take a 1 3/4"-thick piece of scrap and cut about 1/16" into it. Stop the saw, and spin the wood around to the back of the blade. If the blade slips easily into the kerf, the table is square. If not, adjust the table until it does.



Using the kerf-test method to check that your table and blade are square.

General Scrolling Tips

For the most part, cut the delicate sections first. There are two main reasons for this. First, if you make an error that can't be easily fixed, you haven't invested a lot of time in the piece. Second, these areas tend to be fragile—the more wood you have supporting the project while cutting these areas, the better. It is a good idea to replace the scrap you cut out and tape it back in place with blue painters' tape while you continue cutting other areas.

Let the saw and blade do the work. Don't force the blade to cut—it is harder to control and tends to bend the blade, giving you beveled cuts. Run the saw at a comfortable speed. Slow down the saw in delicate areas, but increase the speed when cutting thick wood, long straight lines, or long sweeping curves.

Keep an eye on your blade and replace it when it starts to burn the wood or it doesn't seem to cut as well. Blades are inexpensive and changing a blade is quicker and easier than sanding off scorch marks. An exception is black cherry, which is known for burning even with new blades. Using tape will help to lubricate the blade and minimize burning when cutting thick or hard woods.



Sanding the surface before scrolling makes finishing easier in the long run.

Sanding Tips

It is better to sand before you cut—it is easy to damage fragile sections if you try to sand after cutting.

Start with coarse sandpaper (80-grit) and use progressively finer grits until you achieve the surface you want. After cutting, you may want to hand-sand the project lightly with 220-grit sandpaper to remove any burrs created by the cutting.

Stack Cutting

Stack cutting lets you cut several pieces of a project—or even several projects—at one time. You attach several blanks together, and cut them as one unit. There are many methods to attach the pieces together.



Use double stick tape in the corners to attach pieces for stack cutting.

Double-sided Tape: Use small pieces of double-sided tape in the corners between layers. This method is not recommended when cutting inlay projects as the layers can't have any space between them in order for the inlay to fit correctly.

Hot-melt Glue: Attach two or more blanks together with a dot of hot-melt glue on each side.

Spray Adhesive: Use spray adhesive (the kind used to attach the pattern to the blank) to each layer, following the manufacturer's instructions. We recommend spraying both sides of a sheet of paper with the adhesive and inserting the paper between the layers to be stack cut. You will be able to separate the pieces more easily than if you spray the adhesive directly on the wood.