

INTARSIA WORKBOOK

REVISED & EXPANDED 2ND EDITION

“This charter member of the
Woodworking Hall of Fame . . . creates amazing
work . . . she paints in wood!”

—*Better Homes and Gardens Wood Magazine*

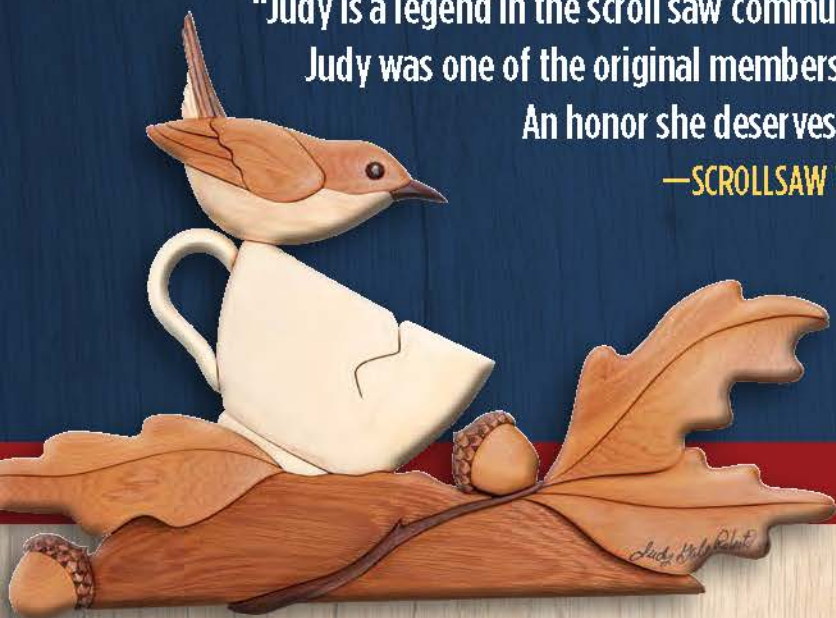
Learn Woodworking and
Make Beautiful Projects with
15 Easy Patterns

**JUDY GALE ROBERTS
& JERRY BOOHER**

SCROLLSAW
woodworking
& Crafts Books

“Judy is a legend in the scroll saw community. **Known as the QUEEN OF INTARSIA,** Judy was one of the original members of the Woodworking Hall of Fame. An honor she deserves without question.”

—SCROLLSAW WORKSHOP



LEARN INTARSIA WOODWORKING

INTARSIA—the art of making stunning picture mosaics in wood—may look intimidating, but it’s easier than you think! Build your skills as you create impressive intarsia projects with guidance from legendary intarsia artist Judy Gale Roberts.

Renowned for her patient teaching skills as well as her project designs, Judy offers 15 attractive yet simple skill-building projects, ordered from simple to more complex. With step-by-step instructions and all-new color project photography, Judy reveals the secrets of sanding, shaping, and finishing your own intarsia masterpieces. By the time you complete the projects in this workbook, you will master the skills necessary to tackle any intarsia project with confidence.

“Judy is not simply a woodworker; she is first and foremost, an artist.”

—SAW

“You can’t really mention intarsia without thinking of Judy Gale Roberts.”

—SCROLL SAW GOODIES

“Most people will agree, Judy is the driving force that brought intarsia to the level it is today.”

—WORKSHOP SUPPLY



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ABOUT THE AUTHORS



The artist largely responsible for the rebirth of intarsia, Judy Gale Roberts began creating intarsia with her father, Pat Dudley Roberts, around 1974. The two designed custom wood murals, among other artwork, for some of their clients.

In 1984, Jerry Booher came on board, and Judy began to design and create one-of-a-kind pieces on a smaller scale for private collections. Jerry, a tool and die maker before switching careers, studied and refined the process that Judy and her father used and became an expert on the scroll saw. It was also in 1984 that Jerry sent pictures to the National Woodcarvers Association asking if they knew of a name for this technique of woodworking. The Association wrote back with the name “intarsia,” stating that the only place they had seen it was in Italy.

Throughout the 1980s, Judy and Jerry attended juried shows and won a number of ribbons for their intarsia work. In the process of competing in shows, the two began to educate and

expose the world to the art form called intarsia. Judy has continued promoting intarsia even after Jerry’s death in 2016.

In 1997, Judy was the first woman and one of the first 10 people to be inducted into *Wood* magazine’s Woodworking Hall of Fame. Her work has been featured in *Wood* magazine, *Scroll Saw Woodworking & Crafts* magazine, and Patrick Spielman’s *The Art of the Scroll Saw*.

At present, Judy teaches beginner, intermediate, and advanced intarsia classes from her studio located 30 minutes from Dollywood near Gatlinburg, Tennessee. The pattern business continues to grow, and now more than 500 intarsia patterns are available, including 20 different “classrooms in a tube” (patterns with in-depth instructions) for people who cannot make it to the foothills of the Smoky Mountain in person to take a class. Visit Judy’s website www.intarsia.com and check out her newsletter *The Intarsia Times*.



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Judy Loh

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CHAPTER I

GETTING STARTED



This book is a cumulative representation of over three decades of creating intarsia works of art. It combines both Jerry Booher's scroll sawing/precision skills and my, Judy Gale Roberts, designs, wood selection, and shaping skills, and distills the many lessons I have learned from years of teaching intarsia classes, as well.

Our first class was a real eye-opener for me. I had been working with wood in this manner for so many years that I had forgotten most of the struggles I went through. However, after working closely with students for many years, I have a clearer understanding of what being a beginner to intarsia feels like. We wrote this book to share lessons that give you a solid foundation to build on. This updated edition includes new patterns and refinements to our techniques to make the lessons even easier and the end results better. I hope you enjoy the projects in this book and believe they will give you a well-rounded understanding that will help you with your future projects.

If you have never done intarsia before, I suggest you start at the beginning of the book and work your way through the projects to the end. The projects are ordered from easiest to more complex, with



the instructions building on each other to develop your skills. The first project, a bow, is easier to cut than the other projects and uses the same material throughout, so you can get started right away. From there, the projects gradually get more complex, adding more colors, parts, and dimension. The final few patterns include notes and tips but not complete instructions; please refer to the earlier projects if you need specific help.

Each of the projects in this book was designed with a scroll saw in mind; however, the patterns can be modified to use a band saw. On each pattern, you will notice a legend showing grain direction, tones of wood colors, and areas to be raised with $\frac{1}{4}$ " (6mm)-thick shims. We cut all of these projects from $\frac{3}{4}$ " (1.9cm)-thick wood.

Choosing the Wood

Use whatever wood you have on hand for these projects, especially if you are just starting out. It will take some time to build up an inventory of various shades of wood. Going through the motions will give you more experience, so do not let “I don’t have the right kind of wood” stop you from gaining more knowledge through practice. Whatever wood you do choose, make sure that the lumber is dry. A moisture meter is a good investment.

COLOR AND GRAIN

The color and grain patterns are more important than the type of wood (see Photo 1.1). We use western red cedar for 98% of our projects because we like its array of colors and grain patterns; however, you can use any type of wood. If you go to a lumberyard for western red cedar, be sure to ask for it by its entire name. It is often confused with eastern cedar or aromatic red cedar, which are used in closets and similar applications. Aromatic red cedar can be used for intarsia, but it does not have



PHOTO 1.1 Look for a variety of grain patterns. Boards with varied colors within them work well for intarsia.



PHOTO 1.3 Spalted wood gives intarsia projects a unique look.

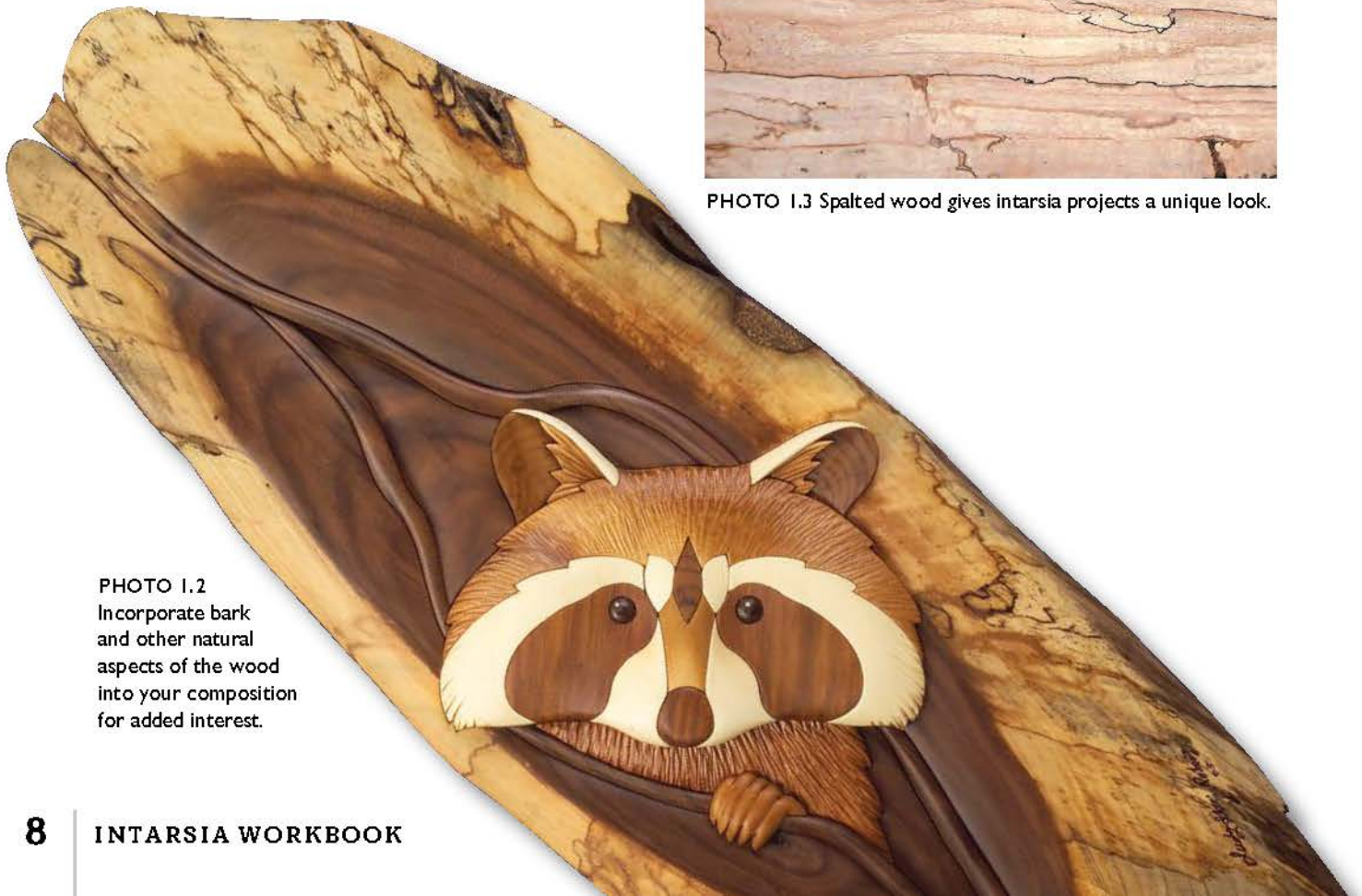


PHOTO 1.2 Incorporate bark and other natural aspects of the wood into your composition for added interest.

the color variety that western red cedar has. Red cedar can work for areas that would look great in red, like a cardinal, but we noticed that red cedar tends to darken quickly to brown.

If you choose to use hardwoods or exotic woods, keep in mind it's the shades or tones to look for rather than the color. Dark walnut can be used for areas marked "D," or a dark shade of wood; mahogany, cherry, and pecan can be used for "MD" (medium-dark) shades; maple and birch can be used for "M" (medium) shades; white oak, some birch, and some basswood can be used for "LT" (light) shades; and poplar, holly, aspen, and white pine can be used for "W" (white) shades. For white wood, we particularly like aspen, which keeps its nice warm-white color even after the finish has been applied.

If you have access to unusual wood, it can also work well with intarsia projects. Try incorporating natural parts of a log (see Photo 1.2) or using spalted wood (see Photos 1.3 and 1.4). Spalting is created when the wood is rotting.

You may also want to look for boards that have knots. Many times wood grain is very unusual



PHOTO 1.5 Duck #1 incorporates too much grain activity. Duck #2 is more pleasing to the eye, and the heavy grain on the wing stands out beautifully.

around knots and can be used to accentuate certain parts of an intarsia project. However, if every piece of wood on the project has a strong, unusual grain pattern, it can take away from the overall effect of the finished piece (see Photo 1.5).

WOOD CHOICE FOR PATTERN LAYOUT

Decide what the main focus of the pattern will be and look for an unusual grain pattern in a piece of wood to make these areas more interesting and stand out more. My theory for laying the pattern parts on the wood is to put what would be the main pattern parts on the wood first, giving them top priority; then, place the other parts around them. For example, if we were laying out a horse head, we would put the major parts of the horse's head in the best grain placement possible; then, we would fill in with the secondary parts of the same color, like the ears.

Always check both sides of the board when you lay out the pieces. Sometimes a knot may angle into one of the project's parts. Also, if you are using a board's natural highlight, be sure to check both sides of the wood and the edge grain, if possible, to see how deep the lighter color goes.



PHOTO 1.4 We made the American Indian on the left using spalted wood. He looks much older than the American Indian on the right, which has walnut for the hair. (We have not yet applied finish to either of these.)

WOOD SIZE AND THICKNESS

Most lumber comes somewhat smooth on three sides: the face side and both edges. We run the rough side through a planer, taking off just enough so the board lies flat. Clean up both sides if needed; however, try to keep the wood as thick as possible.

The larger the project, the more flat it will look—unless you use thicker wood. For a small project that would fit on an 8½" by 11" (21.6cm by 27.9cm) pattern, ½" (1.3cm)-thick wood will make the project look dimensional. The same ½" (1.3cm)-thick material on a 17" by 23" (43.2cm by 58.4cm) project will make it look flat, regardless of how much sanding you do. We use ¾" (1.9cm)-thick wood on projects within the 17" by 23" (43.2cm by 58.4cm) range. On projects 20" by 30" (50.8cm by 76.2cm) or larger, use 1" to 1½" (2.5cm to 3.8cm)-thick material.

Transferring the Pattern

There are two ways to transfer the pattern to the wood: one is to use carbon, or graphite, paper to transfer the pattern, and the other is to use adhesive to attach copies to the wood.

USING CARBON PAPER

The first method is using carbon paper or graphite paper. Using this method you will need one copy of the pattern. Start by placing the pattern over the wood, following the grain direction. When you are happy with the placement, hold the patterns in place with a couple of pushpins on one edge. Then, slide the carbon paper under the pattern and place a couple more pins to keep the pattern from shifting. We put the pushpins on the edges of the wood so you don't end up with holes on the surfaces' good parts. Sometimes the pinhole doesn't show up until you put the finish on. If we are transferring the parts on white wood, we transfer all of the *W* parts, move to the *M* (medium shade) wood, and so on, until

we have transferred all of the parts to the different shades of wood.

USING ADHESIVE

The most accurate method requires making multiple copies of the pattern, cutting the sections out, and gluing them to the wood. Cutting the paper pattern into sections makes the layout process much easier. You can move the pattern pieces around to get the best grain for each part. Almost all projects will need at least six copies, based on the shades used and the grain direction.

Labeling the master copy. If each of the pieces on the pattern is not numbered, take the time to number them before you copy the patterns. The number makes assembling the project easier, especially when there are more than 100 parts. Then, cut the different sections out of the copies, leaving about a ¼" (6mm) border around the line work. By leaving the border, you end up cutting into the adjoining parts. You will need to cut those parts from another copy of the pattern. Transfer the numbers from the master onto the pattern parts (see Photo 1.6).



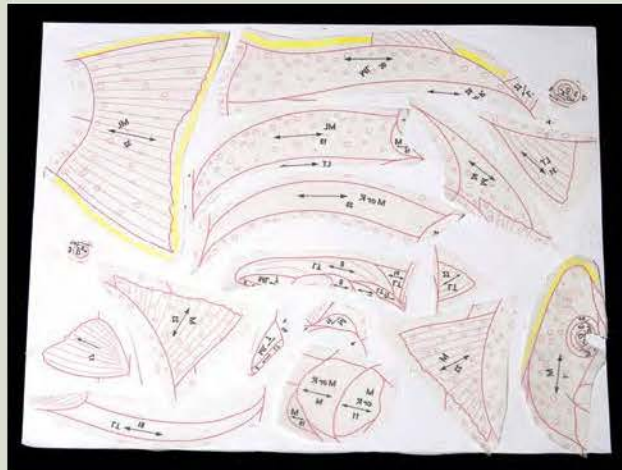
PHOTO 1.6 Cut the different sections, leaving a ¼" (6mm) border around the line work. Transfer the numbers from the master copy to the parts and mark the outside edges, as we have done with arrows.

Using a Glue Machine

SINCE WE PUBLISHED the first edition of this book, I found a new way to attach the patterns to the wood. One of our students told us about the Xyron Creative Station glue machine. You place a pattern in the slot and crank the handle, and the pattern comes out the other end with clear acetate on top and

adhesive on the back. You peel the clear acetate off first, and then peel the pattern off the nonstick paper and place it on the wood.

I really like the machine, but the adhesive can get expensive. I came up with a way to use every square inch of the adhesive roll.



A. Lightly spray repositionable adhesive on an 8½" by 11" (21.6cm by 27.9cm) sheet of paper. Place the cut pattern pieces upside-down on the paper, filling the entire sheet.



B. Run the sheet through the machine upside down. This applies the glue to the back of the pattern pieces lightly attached to the sheet of paper. Before you run it through the machine, check the patterns to make sure the back of the pattern is facing down.



C. Peel the acetate off.



D. Peel the sheet of paper off the patterns. Remove as much dust as possible from the wood. Now you can peel and stick each pattern piece to the wood.



PHOTO 1.7 The pin of a pin-end blade allows the blade to be fastened to the scroll saw. Pin-end blades are typically much larger than plain-end blades.

Plain-end blades come in a variety of tooth configurations and sizes. These blades are more popular and come in smaller sizes than pin-end blades, making detailed work easier (see Photo 1.7). Because these blades clamp in without the pin as a guide, it is especially important to check that the blade is square to the table.

TOOTH CONFIGURATION

Because we work with plain-end blades, we'll use them as examples for tooth configuration. There are a number of different types. Some of the most common are regular tooth blades, skip-tooth blades (where every other tooth is eliminated, giving more chip clearance), and reverse skip-tooth blades (where five to seven teeth at the bottom of the blade

reverse direction). There is even a spiral blade that will cut in all different directions.

Because there are so many choices, it is fairly difficult to pick a blade that will work on all materials. Experimentation may be the best way to decide what blades work best for you. In most cases, we use reverse skip-tooth blades. Reverse-tooth blades usually give a cleaner finish on the bottom side of the part.

When a reverse skip-tooth blade is mounted in the saw, the teeth cut on the upstroke as well as on the down stroke. The five to seven reverse teeth should be on the lower bottom end. You'll want to be sure that the blade is mounted properly because it will saw even if it is upside down. A taletell sign that the blade is upside down is that it tears the edge of the pattern as you are sawing. Reverse-tooth blades may also have a tendency to "lift" the workpiece up on the upstroke.

BLADE SIZES

The blade size you choose is based on the thickness of the material that you're using and on the size of kerf (the slit made by cutting) that you want. Normally, we use a #5 blade to saw wood that is $\frac{3}{4}$ " (1.9cm) thick or less. For thicker material, we use a #7 blade (see Photo 1.8). To slice up a larger section, like the beak, into smaller pieces, we cut around the

Material	Thickness	Blade Size	Tooth Configuration
Aspen	under $\frac{3}{4}$ " (1.9cm)	#5 Platinum	Reverse skip tooth
Aspen	over $\frac{3}{4}$ " (1.9cm)	#7 Platinum	Reverse skip tooth
Western Red Cedar	under $\frac{3}{4}$ " (1.9cm)	#5 Gold	Reverse skip tooth
Western Red Cedar	over $\frac{3}{4}$ " (1.9cm)	#5 or #7 Platinum	Reverse skip tooth
Walnut	under $\frac{3}{4}$ " (1.9cm)	#5 Gold or Platinum	Reverse skip tooth
Walnut	over $\frac{3}{4}$ " (1.9cm)	#7 Gold or Platinum	Reverse skip tooth



PHOTO 1.8 Plain-end blades are available in a variety of sizes. Reverse-tooth plain-end blades, shown here, usually give a cleaner finish on the bottom side of the part.

perimeter of the part with a #5 blade. Then, we use a smaller blade, such as a #2/0 or #1, depending on the wood we are cutting, to cut the individual pieces. You lose less wood because the smaller blades have a smaller kerf, which makes the parts fit better.

You'll also want to take into account the type of wood that you're cutting. Because we use aspen for our white wood, we will use a different saw blade

than we use for the western red cedar. For example, we use an On-Line #7 Platinum blade for aspen and an On-Line #5 Gold blade for western red cedar. The Platinum blade is a more aggressive saw blade that works best for aspen because aspen wears out blades faster than western red cedar. Both the Gold and Platinum blades are reverse skip-tooth blades.

As you can see from this section, choosing a blade can be a complex and time-consuming task. The best advice we can give you is to get a big fistful of blades and a stack of lumber, and start cutting. Experience will help you decide.

SAW SPEED

Another difficult thing to explain is how fast to run your saw. What is comfortable for me may not be comfortable for you. Most saws today are variable speed with a maximum of 1,600 to 1,800 strokes per minute. As a rule, I run between 70 and 80 percent of the full speed range. That's not to say that I never



PHOTO 1.9 A foot switch and a magnifier with a light are great assets for scroll sawing.

CHAPTER 2

STEP-BY-STEP INSTRUCTIONS

We'll begin the step-by-step instructions with a simple bow. We cover each step in detail, from working with the pattern to gluing the finished project. As you progress through the projects, we'll provide fewer detailed instructions. This will help you to rely on the techniques you are learning.

The techniques are a culmination of my “trial and lots of errors” since the late 1970s. With these instructions you will be able to enjoy the art of intarsia without experiencing all of the pitfalls. It's great to learn from more than 35 years of experience!

Before you start shaping each project, search online for photos of the object or animal. It's very useful to have photos of the real thing close by to refer to. I print as many as I can find, including views from different angles. The Internet has made it easy to print resource material without having a huge library.



