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Woodworking
MAGAZINE
AUGUST 2026 | #290

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- Required power: 120V, single-phase, 1.3A
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- Blade speed: Variable, 550–1550 SPM
- Table size: 22½" x 12"
- Saw tilt: 30° Left / 45° Right
- Dust port size: 1½"
- Footprint: 26½" x 23½"
- Dimensions: 23½" W x 30" D x 47" H
- Approximate shipping weight: 76 lbs.

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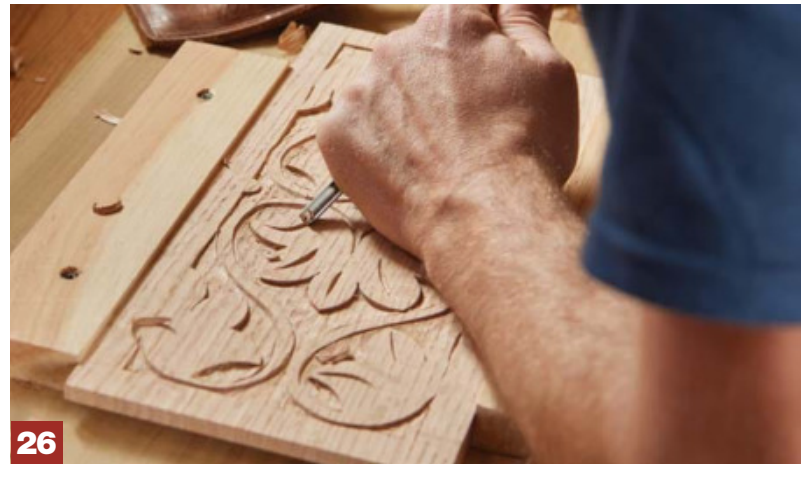

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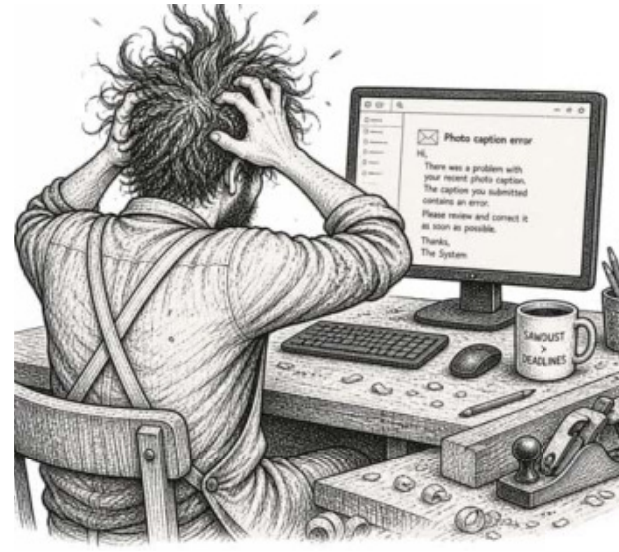
FROM THE EDITOR

Made By Hand — Embrace the Charm

By Logan Wittmer



Over the course of my woodworking career, I've waged an internal struggle—a balance between striving for perfection and getting a project to a point where it's acceptable, where any flaws are visible only to me. I've often said that I try not to let the pursuit of perfection get in the way of a good project. I'm constantly reminded that what we design, build, and craft is remarkable, especially to non-woodworkers. Any flaws, variations, or blemishes become part of that hand-made charm. They show that something was built by hand, and in my mind, that should be allowed to show through.

This magazine is also something crafted by hand. Several sets of hands come together to produce each issue. We're real people, working days, nights, and weekends, doing what we love and sharing it with you. The pages reflect that—each author has a hand in shaping their article, from how it's written to how the photos look and how the project or story presents itself. In fact, you as the reader have also shaped and crafted this magazine. I constantly get feedback (some sincere, some tongue-in-cheek) from readers and often take that feedback in consideration during decisions relating to our magazine and content.

With that in mind, our magazine occasionally carries its own version of "hand-made charm." Take the last issue—the June 2026 edition. You may have noticed a bit of a photo caption fiasco in the "Beyond the Ropes" article by Yoav Liberman (and judging by my inbox, quite a few of you did). Inadvertently, captions from a prior article were attached to those photos. It came down to an incorrect file being pulled during the transfer to our printer. I should have caught it during final review, but—hand-made charm. When you've reviewed the same six to eight articles for two straight months, it's easy to glaze over something like that. It's not an excuse, just a matter of the facts. Our goal remains unchanged: to produce an issue that is engaging, informative, and free of errors. Regardless — you'll find the corrected captions on Page 64.

On another note, I'm excited to share that we've added a new senior graphic designer to the team—John Hughes. John brings a strong background in graphic design, having previously worked for a large welding manufacturer. You may notice the magazine's look beginning to shift, starting with this issue. Just as I shape the content—project planning, photography, and building—John is shaping the look and feel. The subtle changes you see reflect his own hand-crafted approach. I expect that, as John, Collin and I have several issues put together as a (new) team, you'll see a shift in the look to reflect what we want the look, feel, and content to be. Cheers!

ABOUT THE AUTHORS

ANNABELLE JUNE BUCKLAND:

Book Excerpt: "Make things from Wood" *– pg. 22*

Annabelle June is a self-taught woodworker who's been working with wood for almost a decade. She has accumulated a huge online following (@annabellejune) building anything that pops into her head, and has an unrelenting urge to show everyone she meets that they can do it too! Her approach to woodworking focuses less on traditional or complex skills, and more on bringing your vision to life in the simplest way possible. She focuses on the joy of woodworking, the beauty of creating something with your hands, and the rejection of perfectionism.

SHEA ALEXANDER:

Boarded Box *– pg. 34;* ***Relief Carving*** *– pg. 26*

Shea Alexander is a Shenandoah Valley–based furniture maker whose path blends traditional craftsmanship, global experience, and a commitment to community. Raised in a working-class family that valued excellence and neighborly care, he began apprenticing with a cabinetmaker in high school and learning woodturning from seasoned craftsmen. Shea founded Alexander Brothers in 2018 and left his career in 2021 to build furniture full-time alongside his brothers. Today, he creates custom pieces rooted in Appalachian heritage and aims to inspire others to find and pass on beauty through meaningful work.

Popular Woodworking Magazine
APRIL 2026, Vol. 46, No. 2

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SUBSCRIPTIONS:
For subscription questions or address changes, visit www.popularwoodworking.com/customerservice or call (877) 860-9140 (U.S. only). U.S. subscription rate $41.96, single price $9.99. Canadian subscriptions rate $49.99 USD. Canadian Agreement No. 40025316.

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Connect

WORKSHOP TIPS

Corner Molding Vise Pads

I've found that sections of 1" corner molding are ideal for padding the jaws of a machinist's vise. You can buy adhesive-backed magnetic strips at a craft supply store to hold the pads in place. Alternatively, you can just cut up refrigerator magnets and glue them onto the molding. When the pads get chewed up, it takes only a minute and a few cents to replace them.
— *Craig Bentzley*

Paint-stick Files

When you next buy paint, ask for a few extra free stirring sticks. Glue sandpaper to them and soon you'll have a complete set of woodworking "files". They're very handy because you can make the files as coarse or fine as you need.
— *Nelson H. Rittenhouse*

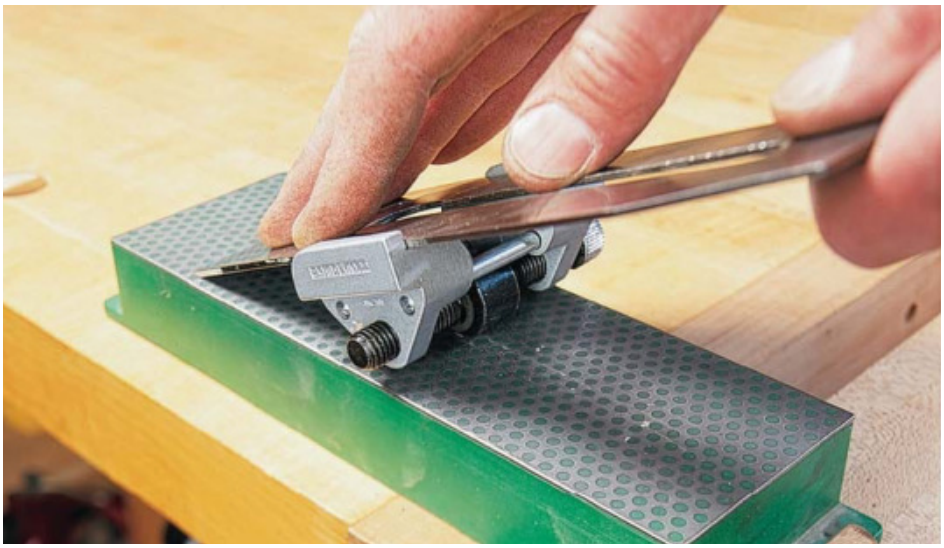
Connect

WORKSHOP TIPS

Spend Less Time Sharpening

Less time sharpening means more time woodworking. Isn't that what we all want? Honing guides get the job done fast, but setting the blade in the guide to get the right bevel angle can be time consuming.

Here's a quick trick: Mark the appropriate blade extension for each bevel angle on your benchtop, or a wood scrap, for convenient reference. Hold the edge of the blade to the desired bevel mark, butt the guide to the edge of the bench and tighten. The side-clamp honing guide, shown above, automatically squares the blade and prevents it from rocking or shifting in the jig.



Notched Pressure Pads

These pads work particularly well if you like using handscrew clamps. Cut notches in two ½-in.-thick strips of softwood, and clamp them tightly on each board end so the notches are near the middle of the joint. Tighten the handscrew gently against the notches while pressing the face of the joint with a fingertip to keep the board edges flush.

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Triton has been making specialist woodworking tools since 1976. For the last 20 years, our routers have been trusted by woodworkers around the world.

The TRA001 2400W Dual Mode Plunge Router has been refined for precision and performance and built to last.

With multiple award-winning features here's why the Triton TRA001 router is a workshop favourite:

BUILT-IN ROUTER LIFT

Triton's TRA001 features a router lift built directly into the plunge base, eliminating the need for expensive aftermarket mechanisms. Simply Attach to the TWX7RT001 or a compatible table, insert the through-table micro-winder, and away you go!

RELIABLE RACK & PINION HEIGHT ADJUSTMENT

A patented rack-and-pinion height adjustment underpins many features on Triton routers. In fixed base mode, it powers the built-in router lift, allows precise cutter height adjustment, engages the automatic spindle lock, and enables above-table bit or collet changes.

DURABLE DUAL MODE - FIXED & PLUNGE BASE

part from the fixed-base mode, Triton routers feature a push-of-a-button plunge mode, and the height can be set using the spring-loaded depth stop in combination with the customisable, rotating turret stop. Reliable, precision routing at every height.

SAFE & SECURE

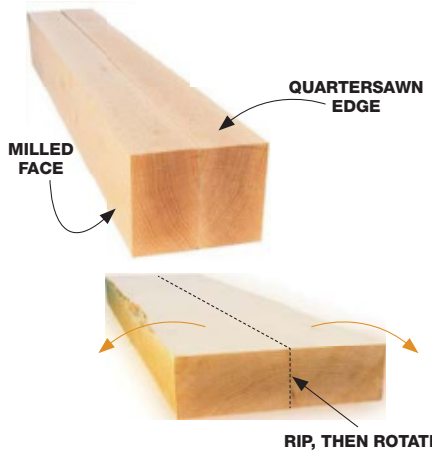
Safety is paramount when working with a power tool that cuts up to 21,000rpm. The TRA features a safety lock-out cover, which not only protects the rocker switch from dust, but also locks the power switch OFF when the automatic spindle lock is engaged for bit changing.

Connect

WORKSHOP TIPS

Do-It Yourself Butcherblock

Butcherblock tops are best made from quartersawn wood, so they don't expand and contract as much. Instead of buying or searching out quartersawn wood, simply buy plainsawn. After milling your boards smooth on top and bottom, rip them in half and rotate both pieces 90 degrees.



See-Through Chisel Holder

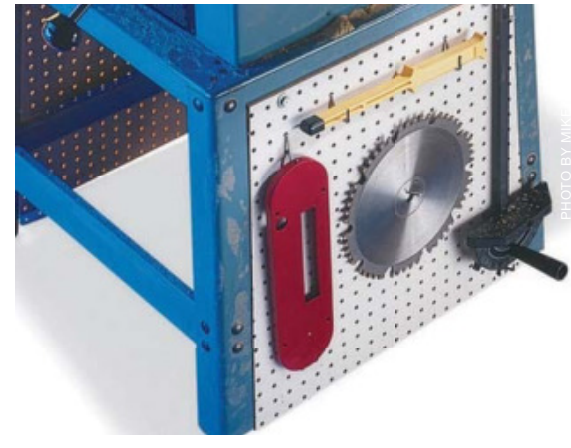
Here's a chisel rack that protects those sharp edges and allows me to see the right chisel for the job at hand.

The rack is easy to customize for any size chisels. Glue a 1-in.-wide strip of ½-in.-thick wood across a plywood backer board. Next, arrange your chisels across the 1-in. strip in whatever order you prefer. Add spacer blocks to fit the width of each chisel blade. A third ½-in. strip creates the chisel holes. A piece of acrylic screwed to the last strip protects the chisel edges and your hands.

— *Louis Giolitto*

Sandpaper Roll Storage

I use pressure-sensitive-adhesive (PSA) sanding discs. For easy access, I like to get them out of their packages and lined up by grit. I hang my rolls of sanding discs on horizontally supported dowels so I can quickly grab the right grit without looking at the back side of a disc.



Pegged Tablesaw Tools

For a nifty way to keep tablesaw accessories in reach, attach perf-board panels to the tablesaw stand. Drill holes in the legs of an open metal stand and bolt the perf-board in place.

Connect

NEW TOOLS

Kreg's New Ionic Drive Cordless Tools

IONIC DRIVE
Kreg Tool
KregTool.com
Price: $ *Varies*

Last year, just ahead of Woodworking in America, *Kreg Tool* introduced its new Ionic Drive line of cordless power tools. I had the chance to see the response firsthand at the *Kreg* booth, and judging by how often employees were restocking, it's fair to say the launch was a success.

Building on that momentum, Kreg has expanded the lineup. The initial release included (amongst others) a cordless trim router, drill, driver, track saw, jigsaw, and the Rebel (a cordless pocket-hole jig). The new additions include a high-speed drill, three sizes of impact wrenches, an angle grinder, a wet/dry vac, a shop blower, and a compact hammer drill (shown in the photo above).

Yes—this is another cordless platform. But the key difference is that Ionic Drive tools are designed specifically for woodworkers, rather than tradespeople or general homeowners. That focus sets the line apart, and it will be worth watching where *Kreg* takes it next. — *Collin Knoff*

Harvey Shark S-10 Dust Guard

SHARK S-10
Harvey
Harveywoodworking.com
Price: $799.99

I have a love–hate relationship with dust collection arms. I've said it before: my dust collection system is one of my favorite tools in the shop. I value a clean workspace—but most saw guards feel like an afterthought, added only to satisfy a requirement. The Shark S-10 from Harvey is a clear exception.

The Shark S-10 is a thoughtfully engineered dust collection boom designed to fit virtually any table saw. It mounts to the rear of the saw and cantilevers over the blade, keeping it out of your way far more effectively than most guards. The design allows you to pivot either the head or the entire arm, so when you need it out of the way, a simple twist of a knob lets you swing it aside quickly.

Dust collection is handled through a 4-inch port integrated into the main tube. The tube is fully sealed along its length, delivering strong suction right at the blade where it matters most. The guard is also well balanced, rising smoothly over your workpiece as you cut without requiring effort or interruption. — *Logan Wittmer*

Connect

NEW TOOLS

Omtech 60W Autofocus MOPA Fiber Laser

Over the past few years, I've developed a growing interest in adding lasers to the shop—especially fiber lasers. I recently brought in a 60W MOPA fiber laser from *Omtech*, and it's quickly become one of the most exciting tools I own.

What sets fiber lasers apart is their ability to mark (engrave) metal, which opens up a range of possibilities as a complement to woodworking. Brass nameplates for awards or plaques are an obvious application, but it goes further than that. I've also used it for decorative work—like adding scrollwork to handplane blades—and even deep relief engraving on brass and steel. I've made several custom coins for my son's friends that have a depth and level of detail comparable to minted currency.

The *Omtech* 60W MOPA is available with autofocus, which automatically sets the correct focal height and eliminates much of the trial and error in setup. Its roughly 6" square engraving area is large enough for most small- to mid-sized projects. As a galvo-style laser, it uses a system of rapidly moving mirrors rather than a gantry, allowing for extremely fast engraving. A 1" × 3" brass badge, for example, takes less than 20 seconds (depending on settings in Lightburn).

One of the standout features is the MOPA design (master oscillator power amplifier). In practical terms, it gives you far more control over laser parameters than a standard fiber laser. That control enables capabilities like color marking on stainless steel and titanium—something I'm just starting to explore and plan to spend more time with in the near future.

— Logan Wittmer

60W MOPA
omtech
omtech.com
Price: $6549.00

Connect

NEW TOOLS

Walrus Oil Logger's Hand Salve and Bug Repellent

LOGGER'S OIL
Walrus Oil
WalrusOil.com
Price: $10.99+

For years, I've relied on Walrus Oil for anything that comes into contact with food—cutting boards, rolling pins, and more. Recently, I came across the Walrus Oil team at the Texas Woodworking Festival and realized their lineup goes well beyond the products I already knew and trusted.

In addition to their well-known food-safe finishes, they offer a broader range of oils, including polymerized tung and linseed oil, pure tung oil, and several coconut oil blends. As someone who spends a fair amount of time in timber and saw work—especially in the summer—I was particularly interested in their "Logger's Bug Repellent" and "Hand Salve."

I don't need bug repellent every day, but it's essential when I'm walking timber before a harvest. This tin has been a standout. It carries a strong citronella and cedar scent—pleasant enough to me, but apparently not to gnats and mosquitoes, which seem to keep their distance. A quick smear around the face and neck does the trick.

The Logger's Hand Salve has also earned a spot in my shop, especially during the winter months. It performs as well as any hand cream I've used, with the added benefit of a much better scent. — *Bob Reynolds*

Wave Reversible Glueline Bit From Microjig

WAVE GLUELINE
Microjig
MicroJig.com
Price: $79.00+

Glue-line router bits aren't new. Look at almost any manufactured butcher-block countertop and you'll find standard finger-joint glue lines holding the boards together. However, an upcoming bit from *MicroJig* (available Fall 2026) offers a fresh take on the concept. Their reversible Wave Glue Line bit adds a decorative element to the joint while simplifying setup.

The Wave Glue Line bits come in two sizes. The smaller 1/4″ shank version features a bearing at the top edge to limit depth of cut, making it especially useful for curved glue joints. The larger ½" shank bit has a taller cutting profile and is better suited for larger panel glue-ups. What sets these bits apart is the inclusion of milled reference areas designed for use with the *MicroJig* FitFinder. This reference surface allows for quick, accurate height setup—something that's often tedious with traditional glue-line bits.

Why use a glue-line router bit like the Wave? For one, it produces a more visually interesting joint than a simple butt joint. The increased surface area improves glue strength, and the interlocking profile helps keep boards aligned during clamping, reducing slippage. — *Collin Knoff*

Book Club

New Book

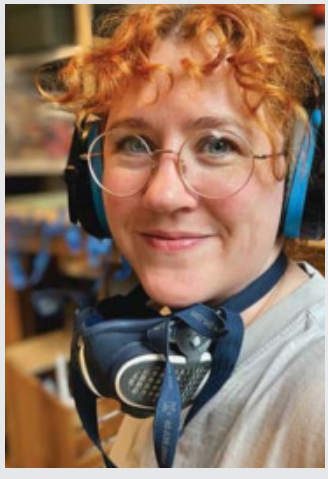
Excerpt from the author

When creating this book, I took my mind back to the younger me and what I wish I'd been told. Not only that, but also *how* I wish I'd been told it, because too much of the information available left me more confused than when I started. I hope you'll find this book to be educational and accessible. We'll focus on a new tool or skill in each chapter, and you'll be able to jump straight in and start making projects immediately.

Make Things. From Wood.

AUTHOR: Annabelle June Buckland
PUBLISHER: *David and Charles Publishing*

PURCHASING INFO:
Release Date: 3-2-2026
Price: $26.99
Websites: shop.davidandcharles.com



Introduction

Hi, I'm Annabelle and I make things. From wood. You can too. I'm a self taught woodworker – I dipped my toes into woodworking several years ago and instantly fell in love. I never actually considered myself to be a creative person. I was always drawn to creative endeavours, but I wasn't naturally talented at anything. It took me a long time to realise you don't have to be any good – you can be terrible and still have fun. So my creative journey began. I learnt instruments (badly), I upcycled clothes (badly) and I woodworked (badly). But woodworking was the one thing that really stuck with me; it suddenly became all I ever wanted to do. But as someone with no prior knowledge or experience – and no one to guide or teach me in real life – I relied solely on books, blogs and YouTube to teach me, along with a lot of trial and error. And who would've thought that the more you do something, the better you get at it? And now, several years later, here I am writing this book and hoping you'll join me.

If you're a beginner interested in woodworking it can feel like an intimidating world to enter. When I first started out, there were two things I struggled to overcome. First was the fear of injury from scary power tools. The second was feeling totally overwhelmed trying to learn the basics from the endless amounts of information out there. My hope with this book is to give you the basic knowledge you need, all in one place, to give you the confidence to get started on your woodworking journey. And if you've already taken your first steps into woodworking, I hope this book can support you as you continue on that journey. Most importantly, I want you to realise that woodworking is an accessible and fun hobby that anyone can get into. Woodworking shouldn't be about perfection. There's nothing more joyful to me than bringing a vision to life with my hands – how finessed you want to become at the art is up to you. You might be someone who wants to create fun designs to fill your home with, or you might be someone who wants to dedicate your time to perfecting complex techniques. I'm here to say both are noble pursuits and neither is better than the other. Wood is beautiful. Creating art is beautiful. And, as we all know, beauty is different to each person. Woodworking is a way to bring your version of beauty into the world.

What to Expect From This Book

The information I share here is based on my years of experience, but it's not the Holy Grail. You'll get more than enough knowledge from this book to get you started, but, as with most pursuits, this isn't a journey that ends. You'll constantly learn new skills throughout your time, and luckily we live in the wonderful age of information, so there's plenty of places to continue your learning. If you need a little more support with any of the tools we cover in the book, you can head over to my YouTube channel to see video demonstrations.

PHOTOS AND ILLUSTRATIONS COURTESY OF THE AUTHOR AND PUBLISHER

Safety

When it comes to safety, I can't possibly provide you with every lesson you need – that's not my expertise. But what I can do is offer you the basics and remind you that safety procedures are well documented and shared via experts, tool manuals and manufacturers websites.

When it comes to safety in woodworking, the four main things you want to protect are:

Ears

Power tools are loud, and while this may not feel like an immediate risk, prolonged use will have an affect on your hearing. Look after your ears by wearing ear protectors when using power tools.

Eyes

Using tools correctly means nothing should be flying up at your face, but there's always a possibility that something can go wrong. If that happens, you want to ensure your eyes are protected. Best practice is to wear safety glasses whenever operating machinery.

Lungs

Doing any type of woodwork will produce dust, particularly fine dust that can linger in the air even if it's not visible to you. To protect your lungs you should wear a mask with filters designed for fine dust. You should also consider the environment you work in. If you're working inside, you'll need to ensure the room is well ventilated, and consider dust extraction. I'll talk a little more about dust management later.

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Body

When I started woodworking, I was particularly concerned about my hands and fingers and I assumed gloves would be the best way to protect them. In reality, gloves are not safe to wear when operating power tools – if the fabric gets caught in the rotating mechanism it can pull your hand further into the tool. You should also avoid wearing baggy clothing and always tie long hair back.

The main way to protect yourself is simply following the manufacturer's instructions. Anecdotal evidence suggests the main cause of injury while woodworking is improper use of the tool. This includes beginners who haven't learnt the correct use, as well as experienced woodworkers who know what they're doing isn't right but are misguided by the confidence they've gained. Most of us have been there. Only ever use a tool for what it's designed for, and if something feels dicey, it probably is.

Other Considerations

While I'll provide an overview of how to use each tool, it's important that you read and follow the user manual before working with any tool.

Another common reason for injury is working when you're tired or distracted. If you're feeling a little under the weather, it's best to leave the tools alone until you're feeling better. Make sure your work area is clear of distractions and that any other people in your vicinity know not to approach you while the power tool is on.

Power tools should be switched off and disconnected from power except for when you're actively using them. Whenever making adjustments to a tool, like installing a bit or adjusting the angle of a blade, it's especially important to ensure that it's switched off and disconnected from power.

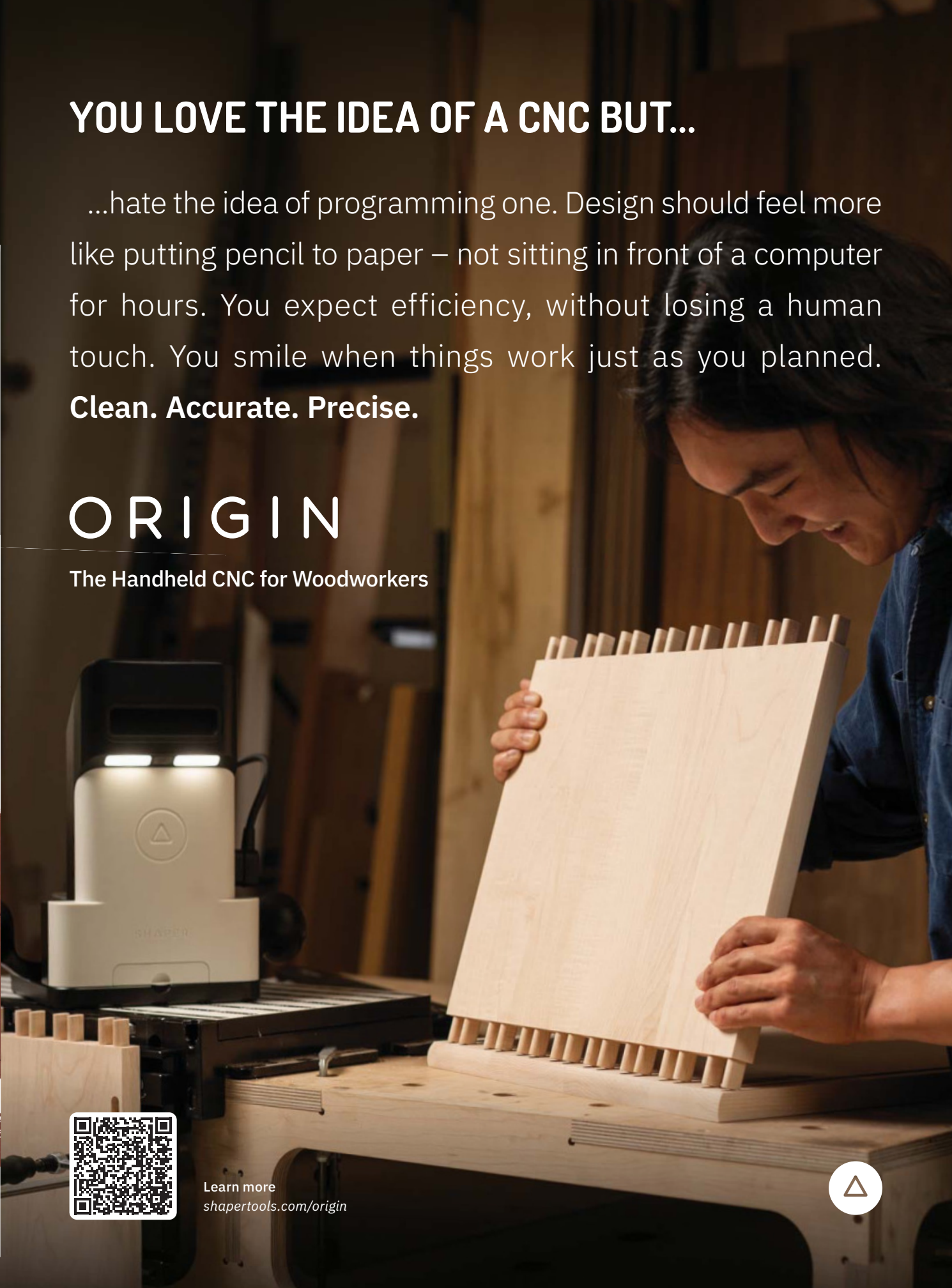
Final Thoughts

Before we jump in, there are a few things I want to share with you.

Firstly, mistakes happen. Projects won't always go to plan – that's normal. It doesn't make you a failure. One of the best parts of woodworking is evolving your design as you build it, revising your ideas and embracing your mistakes. Trust me, I make a lot of mistakes. It can be tempting to throw in the towel and feel like you have to start over again, but most of the time you can simply lean into the mistake and go with it. Even without mistakes, I regularly end up changing my plans halfway through a build. If you truly let your creativity flow, you'll come up with new ideas constantly. Allow yourself to be flexible. Change things up.

Secondly, you don't have to be good at something to enjoy it. I'll say that again: you don't have to be good at something to enjoy it. You may be a natural at woodworking, or you may find that, like me, the first few attempts aren't great. It's normal to be terrible at things when you first start. But if you let that dictate whether or not you continue the journey, you'll rob yourself of all the joy you could be experiencing. Let joy be the motivator, not perfection. Be brave enough to be terrible.

And lastly, you can do this. You. Can. Do. This. Seriously, you can. I don't care who you are, what creative experience you have (or don't have) or even your budget. Anyone can learn woodworking. Anyone can learn creativity. This isn't coming from someone with a natural ability. Quite the opposite. At the beginning, I didn't think I was creative or smart enough to get into woodworking. I'm also an incredibly slow learner, neurodivergent and riddled with anxiety. My woodworking journey has probably been slower than most. But I'm here. I make awesome things. And I have so much fun doing it. You can too. And I'm going to help you. So let's go!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What is Wood?

Before we dive into the world of woodworking, let's take a moment to learn the basics of the very thing that allows us to bring our visions to life: wood. Okay, I know you know what wood is. Seed becomes tree. Tree becomes wood. But let's go over some of the terminology that you might hear.

Terminology

Timber/lumber – Timber and lumber are terms used to refer to wood that has been processed into the usable boards we need for woodworking. There are geographical differences in how these terms are used – in the UK, "timber" is used for both boards and felled trees; in the USA and Canada, "lumber" refers to usable boards, whereas "timber" is more commonly used to refer to standing or felled trees. To keep things simple, in this book (and in my life) I just call it wood.

Grain – the grain of the wood is the arrangement of fibres that make up a wooden board. Basically, it's the lines in the wood that make it pretty. When you hear the term "with the grain" or "along the grain", it means in the same direction as the lines. When you hear the term "across the grain" or "against the grain", it means perpendicular to the lines. The different sides of the wood are known as "end grain", "edge (or side) grain" and "face grain". The face grain is the more visible part of most projects.

Hardwood and softwood – all real wood falls into these two categories. As the name suggests, hardwood is generally much denser – literally harder. Softwood is less dense and therefore softer. Hardwood species – which include oak and walnut – take longer to grow and are more expensive; softwood – including species like pine and spruce – grows more quickly and is cheaper to buy.

Manufactured wood – in addition to natural hardwoods and softwoods, there's actually a third category: manufactured wood, also known as engineered wood. This includes plywood, MDF and chipboard. These are a composite of real wood along with other materials and adhesives. Usually cheaper than solid wood, manufactured wood can be a good option for a small budget. These wood types can be treated much the same as solid wood in terms of cutting, sanding and joining.

Workpiece – This simply refers to the piece of material that we're currently working on.

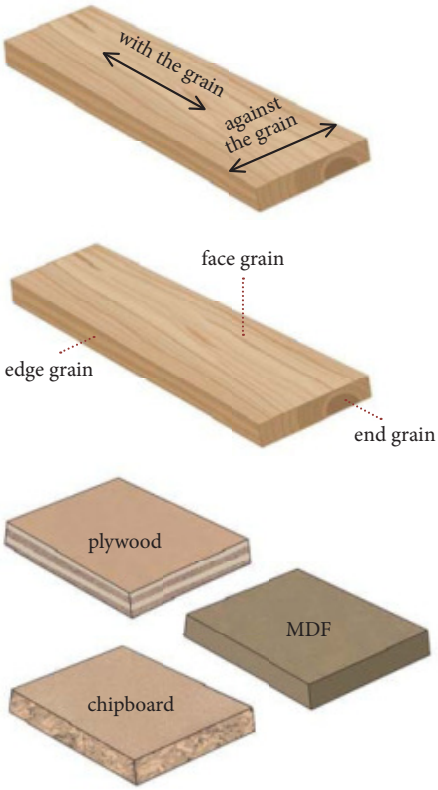
Square – In woodworking, "square" refers to the angle (rather than the shape). When the face of a piece of wood meets the edge at 90 degrees, the wood is square. When two pieces of wood are joined together to make a 90 degree angle, the angle is square. Square simply refers to materials that are straight and aligned at 90 degrees.

Waste – this refers to the unwanted side of a cut. If you have a length of wood at 30cm (12in) and you cut it down to 25cm (10in), the leftover 5cm (2in) piece is the waste piece or waste side.

Guide/fence/straight edge – these are all terms for a straight piece of material for either the wood or the tool to sit against, to help ensure a straight and square cut. On a mitre saw, the wood is held against a fence while the blade is brought down to make the cut. With a circular saw, a straight edge guide can be clamped onto the workpiece, and the saw is run along the edge of it to make the cut.

Planed wood – Planed wood has had thin layers of wood removed on all sides to create a flat, smooth and square finish. While you can plane wood yourself with a hand or electric plane, I prefer to buy pre-planed wood. We won't be covering planing in this book, but if it's something you'd like to try, there's an abundance of educational content out there to walk you through it.

Warping, twisting, cupping and bowing – these are terms used to describe wood that isn't straight and flat. Wood can twist in all sorts of ways.



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Choosing Your Wood

Generally, the choice of wood is down to personal preference. I use softwood for most of my projects. It's cheaper than hardwood, it's widely available and it's very light in tone, so you can stain it to whatever colour you want. Most projects can also be made using manufactured wood – I just prefer the look and feel of solid wood. There is a small handful of projects where the characteristics of the wood should take priority over preference. For Free Mags Check sastatus.com For example, it's best to use hardwood to make a chopping board. Not only would softwood not withstand all the chopping, but it also tends to be more porous, so bacteria from the food can get into the fi bres.

The majority of the wood you'll find in stores – and the types I use for most of my projects – are pine (also called redwood) and spruce (also called whitewood), which are both softwoods.

Wooden boards come in a variety of widths and thicknesses, with the widest being around 10cm (4in). For wider projects, attach a number of boards side by side or use furniture boards (also known as timber boards), where narrower boards have already been joined together for you.

Here in the UK, wood is usually sold in lengths of 180cm (70in) and 240cm (94in) – this may vary depending on where you are in the world. Find wood that meets the width and thickness that you need, then cut it down to the required length. If you're unable to do this yourself, plenty of stores offer a cutting service.

Where to Buy Wood

Buying wood can be daunting. When I started out, I was overwhelmed by all the different types, and I was certain everyone in the aisle was thinking "you don't belong here". But, spoiler alert, I belonged! We all do. Let's look at where and how to buy wood.

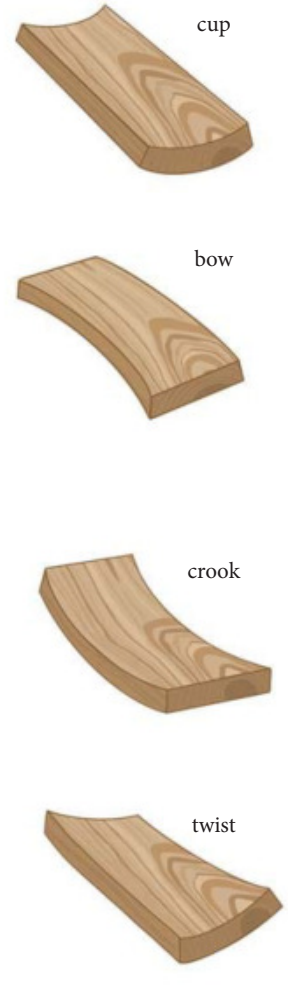
Hardware/DIY stores – wherever you are in the world, you'll have a hardware store that sells home DIY supplies, including wood. Head to the wood section, usually signposted as "timber" or "lumber" and divided into "sawn" and "planed" wood. Sawn wood is rough timber, often used for outdoor projects or where the wood won't be visible – think of it as a construction material. Planed wood (sometimes labelled "PSE" – planed square edge) is basically sawn wood that's been planed smooth and square, and it's the wood I use the most. You'll also find furniture boards in this section of the store, plus stripwood and moulding – thin strips of wood in a variety of shapes, often used for decorative purposes.

Check the wood for faults or defects (see the next section). Once you're happy, stroll up to the till with the casual confidence of someone who knows they belong there.

Buying online – I like buying online because I don't have to worry about fitting everything into my car. The only downside is you don't get to check the wood yourself, so it's likely there will be some boards that aren't in the best condition. If online is your best option, I recommend buying a little extra. That way, if some of the boards aren't usable, it won't leave you short. The wood will be categorised in much the same way as in store: sawn, planed (PSE), furniture boards, stripwood and moulding.

Timber yard/timber merchant – unlike hardware stores, timber yards specialise in wood, which means they'll have a larger variety of species, shapes and sizes. All the same rules apply as at the hardware store: find the wood you want, check for defects and saunter to the till.

Examples of Warped Wood



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Recycling centres – I strongly recommend looking for wood recycling centres in your area. Each centre will be different, but to paint you a picture, let me tell you about my local one. It's in a big old warehouse, and most of the workers are young volunteers looking for woodwork experience or retirees wanting to share their knowledge. Shelving stretches from wall to wall, filled with stacks of salvaged wooden boards from the local area. The rest of the space is filled with an ever-changing stock of old counter tops, chairs, barrels, crates... whatever they can save from landfill. Prices are extremely reasonable – much cheaper than anywhere else. The woodworking enthusiasts who run the place are more than happy to talk through your ideas and offer their advice.

Repurposing – you don't need to start from scratch; you can break down old wooden items to use the material. Check out local thrift stores and get creative! Equally, you'll be surprised how many people have wood they want to get rid of – I've had a neighbour offer me wood from a set of drawers he'd broken down; I've asked people having construction work done if I can take the wood from their skip; I've even used an old chopping board to make a lamp. Wood is everywhere.

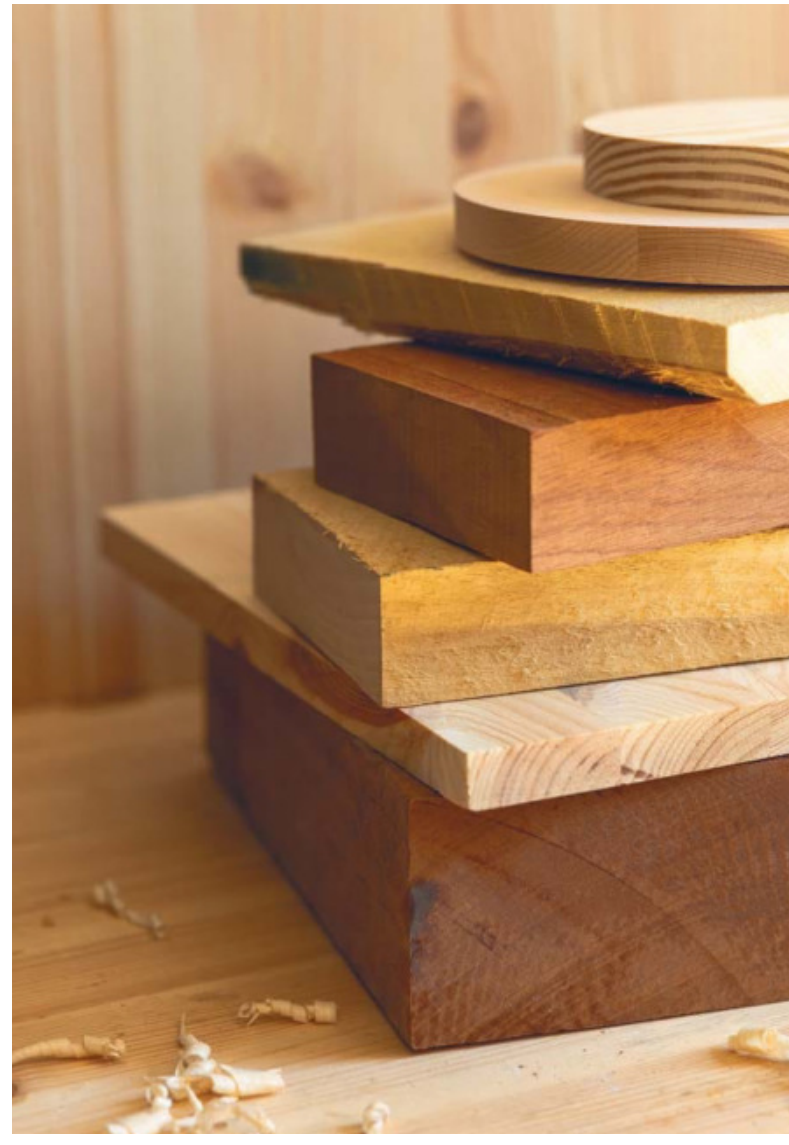
Faults to Look Out For

No wood is perfect, but there are some specific flaws you should try to avoid. Start by checking for obvious defects like splits, cracks, missing chunks, large unsightly knots... things like that.

You also want the board to be as straight and flat as possible. You can check this by eye: with one end on the ground, bring the other end to eye level. Look down the surface to see if there's any noticeable misshaping or twisting.

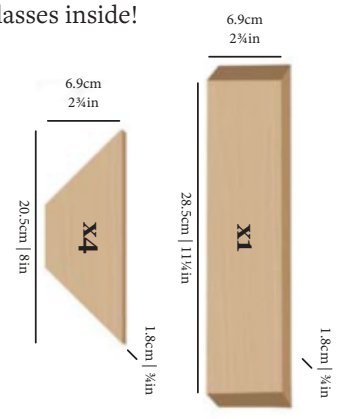
To Sum Up

- The type of wood you use is up to you, unless the item needs to be food safe, in which case use hardwood.
- Buy wood based on the width and thickness you need, then cut the length as desired.
- Use furniture board when you need extra wide wood, or join narrower pieces together.
- Where possible, check wood for defects and warping before purchasing – or buy extra!



The Book Wedge

This is one of my favourite designs. Perfect for a book lover, it's essentially a giant bookmark – when you're done reading for the day, pop the book onto the wedge, leaving it open to the page you're on. And when you're done seeing for the day, you can slip your glasses inside!



Cutlist

No.	Items	Dimensions (in) L	W	T
1	A Base	11¼	2¾	¾
4	B Sides	8	2¾	¾

Tools

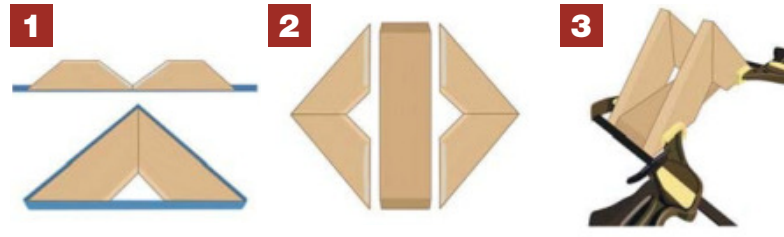
Saw / Sander

Supplies

Wood Glue / Clamps (or tape)
Stain (optional) / Clear Coat (optional)
Paint (optional)

Switch it Up

I'm a big believer that books should look lived in, which is why it doesn't concern me to keep the spine open on the wedge. If you're someone who doesn't want your book doing yoga on the daily, you can use the middle space as a book stand instead. Also, my brother had the genius idea of clipping a mini reading lamp onto the wedge for those who like to read in the dark.



1. Cut the wood to the cutting list. The 28.5cm (11¼ in) base piece should be cut with a 45-degree bevel on both ends. The four 20.5cm (8in) pieces should be cut with a 45-degree miter on both ends. The length measurements are based on the longest sides. Sand all the pieces up to 180 grit.

   Grab two of the mitered pieces and glue one end of the miter to the other. You can use corner clamps for this, or you can use the tape trick as shown. Allow the glue to dry.

   Repeat with the other two mitered pieces so you end up with two triangles.

2. Once the glue is dry, it's time to attach them to the beveled base. Run some glue along the inside bottom edges of the miter triangles

3. Place a triangle on either side of the beveled piece and clamp them all together until the glue dries.

   Now the assembly is complete, finish the piece however you'd like. I stained mine in a light pine and sealed it with clear varnish before adding some green colour blocking using painter's tape.

Basic Relief Carving Techniques

A few simple tools, and basic technique will result in a great looking carving.

By Shea Alexander

PHOTOS BY LOGAN WITTMER

Relief carving as a form of ornamentation is as old as woodworking itself and while at first glance it may seem intimidating almost all relief carving is made up of simple cuts arranged in a pleasing order. In fact many patterns that appear before the mass production of steel tools use less than 6 different carving tools to complete.

Tools

When people talk to me about carving (or woodworking in general for that matter) the conversation is often hijacked with questions about tools. So I will try and clear the air on that with a few general guidelines without getting in the weeds.

Sizing

First there is no universal sizing system for carving tools. Seemingly every brand and country of manufacture uses a different system. More or less they assign profiles or shapes of tools a number and then denote the width. With most manufactures being European this is normally in millimeters so you will see something like 8/12 the number 8 is the number they assigned to that curvature or profile and the number 12 is 12mm wide. For the most part all companies publish charts of their profiles so aside from the width it becomes irrelevant.

I would encourage you to remember that today's availability of hundreds of carving tool profiles is a modern convenience that can paralyze you in getting started. There was a time in history when a woodcarver had to go to the local blacksmith and commission a tool a little more curved or a little smaller. That limitation did not hobble their creativity but actually enhanced it and is why so many traditional patterns that seem so complex actually use a small handful of tools.

Sets

I generally caution people away from sets sold by manufacturers. Typically these sets have 1-2 commonly used tools and they fill in the rest with obscure tools one will rarely use. I recommend buying single tools with a purpose for the patterns you would like to carve.

Brands

I generally ignore brands altogether but if you simply want to buy a few new tools and get started I would recommend *Pfeil* or sometimes labeled "Swiss Made". I will suggest a starter kit of sizes for the patterns in this article later on. But buying brand new expensive tools will not make you a better carver, only carving does that.

In general I recommend buying carving tools second hand. Used tool swaps and flea markets are usually full of them as many people take a stab at carving and lose interest. When looking for carving tools in this environment I suggest ignoring those new unused sets in a box or roll. Most of them are garbage and are unused for a reason. Look for tools that seem well loved with the carvers' initials carved in the handle and sharpened back to half their length. Those are useful tools that a skilled craftsperson cherished and worked with. They can often be purchased for less than a ⅓ of a new tool and with a little sharpening will serve you well and outlast you as they did the craftsperson before you.

Tools to Start With

There is nothing special about the following list but it will get you started with the patterns in this article and you can add to your tool arsenal as your patterns and skills expand. These sizes are using the *Pfeil* numbering system.

6/25 gouge
12/6 V-tool
7/14 gouge
2/10 gouge
9/10 gouge

You will also need a mallet. A mallet is a hunk of wood you beat the end of your tools with, don't overthink it. In general you want a round mallet that is comfortable to hold and not so heavy your arm gets tired quickly. If you have a lathe or a friend that turns, simply turn a quick mallet from a piece of firewood and get carving. Otherwise find something round and inexpensive. The Mallets produced by *Blue Spruce Toolworks* in Ohio I find to be well balanced and comfortable.

I also use texture punches for background texturing. These are easy to make with a piece of mild steel from the hardware store and a triangle file. Filling a simple cross hatch pattern in the end of a ½" square piece of steel will meet most of your needs and you can always make different shapes and sizes with just a file and bench grinder. Just remember these get hit with a metal face hammer not your mallet.

Before we get into a full pattern lets go through a few simple exercises that only require a single tool. The first is a simple accent that can dress just about anything from picture frames to table aprons. Using a router or scratch stock, put a simple bead on a piece of practice material. Select a gouge that is close to the width of the bead. From the list above, the 9/10 gouge would likely work best. Measure the length of the bead and make a pencil tick to mark the center. Now you are going to make 2 gouge stop cuts straight down 90 degrees to the board surface. Space them apart about the same distance as the bead is wide and have the two cuts opposing each other this will leave their cut marks forming a circle type shape.

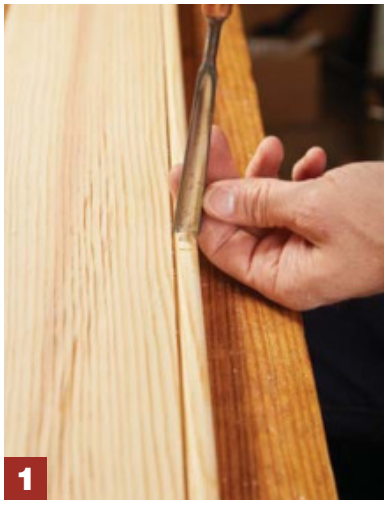
Now you will make a succession of matching cuts all in a row. These are spaced apart as far as the bead is wide, maybe a little more, going in opposite directions from center.

Next you will make a relief cut starting your tool 1/16" -1/8" in front of the mark that follows it down to the bottom of the stop cut before it. You will do this to each cut forming a row of scallops that follow each other flowing away from the center.

This simple series of cuts produces a beautiful carved moulding

Now let's repeat this on the flat surface of the board. Space out rows of stop cuts.

1. After marking the center of your bead, you're going to create two stop cuts, spaced on either side of the mark.
2. Stepping down one direction from the center, make evenly spaced stop cuts. These are 90° to the face of the board.
3. Leaning the gouge over, make a scooping cut, ending in your stop cut. With practice, your stop cut and face cut will meet at the bottom of the profile.
4. A series of stopped cuts and scoops create a fingernail profile. The center bulb provides a focal point of the pattern.
5. The same fingernail profile can be transfered to the face of the board. Make stop cuts with the edges of the gouge touching the previous stop cut.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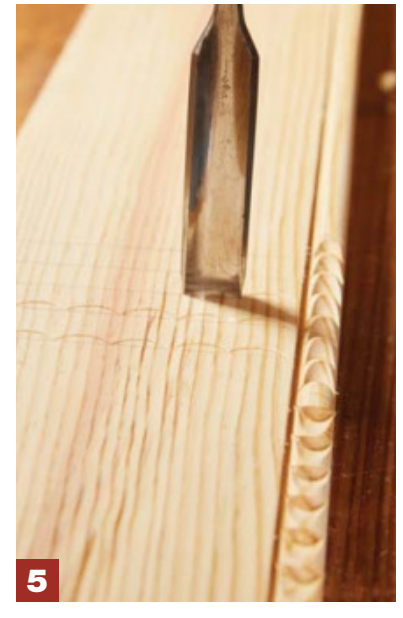
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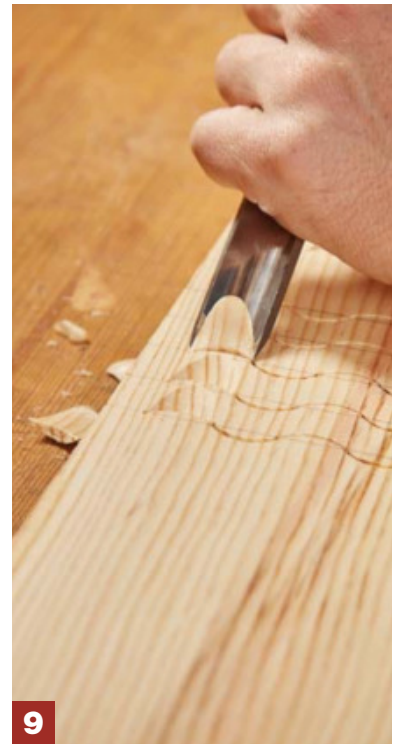

Come back and relief them. And there we have a simple pattern that uses only a single tool.

We can also do this same pattern in alternating rows. Start with rows of stop cuts with each cut alternating direction to form a squiggle. Relief them alternating each cut (from opposite directions).

And there we have a third pattern all with the same cut sequence and tool. Hopefully this is giving you an understanding of how many different patterns can be made with a single tool.

Relief-Carved Panel

Alright lets walk though carving a box front for the box in the article on page 34. First, download the layout illustration to follow along. We start by using a marking gauge to scribe a margin line $1\frac{1}{16}$" in from all edges. This defines the

6. Making the relief cuts along the face of a quartersawn board yields a clean cut and crisp detail.

7. The repeating pattern make a fish scale appearance that works well for decorating panels.

8. The stop cuts on this pattern are in alternating direction, making a wave.

9. Relief cuts are made in one direction on the "up" side of the wave, and on the opposite side on the "down" side.

10. The result is a wavy, ribbon looking carving.


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carving field and leaves a margin of blank space around the carving to help define it. Next divide the field in half vertically and in fourths horizontally.

Now we will set a pencil compass and draw arches. Take note in of the pivot points for your pencil compass for each arch. Now set the distance from one horizontal dividing line to another and strike half circle arches on the ends facing in and the center facing out. Next shrink the compass about ¼" in its setting and strike those same arches again from the same pivot points. Now using a square draw vertical division lines that intersect your pivot points as shown in. So far we have used a single pivot point for our arches. Now using the other two pivot points in we will connect the arches already drawn to form opposing S curves. Next we will erase 8 line segments that are the inside quarter circle segments at the ends of the S curves. This completes our pencil layout and now we get to move on to the carving.

11. The carving starts with some careful layout. These lines will be the guides for which tools we'll use, and where they'll be placed.

12. Using a V-tool, outline the S-curve lines. Use your arm as a fulcrum to pivot the tool in a smooth arc.

13. A view of the S-curved partially done.

14. With the S-curves complete, now it's time to switch over to a flatter sweep gouge. Now, we'll start to outline the leaves. Make stop cuts to define the shapes of the leaves.

Full Layout Illustration is Available Online at PopularWoodworking.com/OnlineExtras

Defining Shapes

The first step for carving will be to define the S curve lines with your 12/6 V-tool. Then we will define the lobes of the leaves with our 6/25 gouge making 90 degree vertical stop cuts.

Now we will use our 9/10 gouge to make stop cuts defining the tab shaped lobes at the ends and top and bottom of the pattern.

15. Referring to our layout lines, select a tool that has a profile that matches the shape you're trying to cut.

16. The goal is to end up with a panel that has all the shapes defined with stop cuts.

17. Start to nibble away the background with relief cuts. A wide, shallow gouge does well at this. You're basically "lowering" the background.

18. Removing the background makes the carving stand out.

19. Experiment with different lighting at your workbench. For relief carving like this, switching to a raking light gives a bit more detail on what the surface looks like.


15


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19

Make it Relief

With the shapes defined, it's time to make the relief cuts to create the background. Using our 5/25 gouge and our 3/10 gouge we will relief out all the waste. Your 90 degree stop cuts to define the leaves and the v-tool cuts to define the S curves act as your stops or limits for your relief cuts.

Once the background is relieved use your 7/14 gouge to make the diamond pattern in the very center. This consists of 4 stop cuts with the relief cuts meeting to form a point in the very center of the pattern. This is a good one to practice on a few scraps before committing on your finished piece as it's easy to make the diamond appear squished. Now take your 12/6 V-tool and add the veins of the leaves. Each vein should follow the contour of the leaf lobe with the deepest part of the vein being

20. A V-tool, is often referred to as a veiner. You can see why, as you add veins to the leaves.

21. The veins and diamond are the final pieces of carving to be done on this particular panel.

in its middle. With that, the chisel carving portion is now done! Now for texture punches. I use a nail set to punch the divot in the lobes we made with the 7/10 chisel and then use the cross hatch punch to punch/texture the entire relief

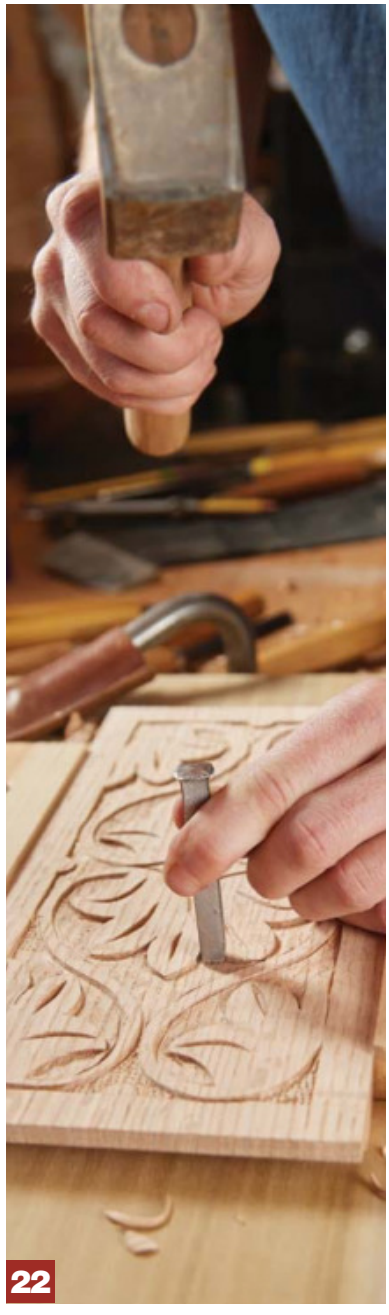

20


21

22. Creating a custom texturing tool is as simple as filing the end of a nail or piece of steel stock. Using different files and different patterns will create different textures on the wood. Standard nail punches can be used as well to create divot textures.

23. The addition of texture makes the carving pop off the panel. An added benefit of the texture is that it will hide minor surface imperfections, such as tear out or not-so-smooth relief carvings.

background. Test out a few different textures to find what you like. The goal here is to add definition to the carving through texturing the background. Try different punch patterns for different styles (see the photo on the 2nd page of the article). Now, you're are done and the panel is ready to be assembled into the box. **PW** - *Shea Alexander*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23

This utilitarian box is made of red oak and is a great exercise in practical woodworking

By Shea Alexander

PHOTOS BY LOGAN WITTMER

Carved Boarded Box

Carved Boarded Box

Some of the best kinds of objects made in wood are the ordinary ones. The everyday, the utilitarian, the vernacular. Simple and timeless forms that often require far less skill than one might imagine.

One such form is a simple boarded box. Extremely common in British and New England work in the 17th century, these boxes were everyday objects used to hold one's valuables. Sometimes appearing with a lock, sometimes not, but often decorated with ornate yet simple relief carvings.

Such a box requires very basic skills and tools to construct, and with only 3–4 carving tools a wide range of patterns are attainable.

Material

Many boxes in this style that have survived from the 17th century, upon being examined, one will find the material is quartered. Or, as we say in today's terminology, quarter sawn, meaning the growth rings are perpendicular to the face of the board, or the surface of the board is the radial plane of the tree. For surviving 17th-century boxes, this has much to do with how the material was processed. Boards were split, or riven, from a log and then hand planed to dimension rather than sawn. By happenstance or design, carving shallow relief into a quartered radial face is much easier than into a plane-sawn or tangential face. The waste chips fall away much easier, with less chance of tear-out or the grain pulling your carving tool off track.

While virtually any species or cut will do, I will be using quarter-sawn red oak, reminiscent of the riven oak used in original boxes. I start with milling the stock to ⅝" thick and cutting the parts to size.

1. A handplane is an easy and efficient way to remove sawmarks.

2. Cut a rabbet on the front and back using a dado blade.

3. Test the fit of the joint. It should fit with neither part overhanging too far.

Once the parts are cut to size, I clean up the edges with a hand plane to remove any saw marks.

While I'm hand planing edges, I take the opportunity to hand plane the chamfered edges on both the lid and the base.

The base chamfer is planed on all four edges. The lid chamfer is only on the ends and front edge. The rear edge of the lid remains square.

Now I set the lid and base aside and focus on the box. The next step is to cut a rabbet joint on the front and back panel to join it to the sides. This rabbet is ⅝" in from the ends of the front and back to cover the end grain of the sides, and 5/16" deep into the front and back, which is half the thickness of the stock. When I join the front and back to the sides in a dry fit, the outside of the box should measure 6" tall (the width of the front and back), 13" long (the length of the front and back), and 7-⅛" wide, which is the length of the end pieces plus both of the 5/16" thick rabbet lips.

Alright, I am now at the point to carve the front and lid. If you plan on carving them, take a pause here and go to page 26 for more info on carving and come back when you are done. If you are going to leave them plain, or have finished your carving, let's move on.

Assemble the box

Time to assemble the box. Good glue joints have lots of long-grain-to-long-grain contact. However, in this rabbet joint, the majority of the joint surface area is end grain. In this situation, I practice what is called sizing a joint. I apply a thin coat of glue to the end grain of the box end pieces, then apply glue to the rabbets of the front and back. Allowing the glue to sit for a few moments will allow it to soak in, and it will start to look dry. At this point, I simply make a second application on the end grain and get clamping. This double application of glue on the end grain allows plenty of glue to wick up the end grain, ensuring the joint is not starved of glue. This is especially important in a species like red oak, where the grain is very hygroscopic or porous.

4. Size the joint by applying two layers of glue and letting the first one soak in for a few minutes.

5. Glue up the box.

Once the glue has dried and the box is out of clamps, I true up the top and bottom edges with a hand plane. Then I pin the rabbet joint with wooden pins, or "trunnels," as both an aesthetic and structural accent.

The first step for this is to mark and drill holes for the pins. I use a ¼" bit and drill to a 1" depth using

a simple wooden block depth stop. I then use a square tapered punch to make the round hole square. I make this punch from the end of any old brace-and-bit-style auger bit. One can also be made by grinding an old screwdriver to a square taper.

Once the pin holes are prepped, I rip square pin stock on the bandsaw a few thousandths larger than ¼" and cut them into 1-¼" long pins. Using the bandsaw to cut the pin stock is safer than alternatives like the table saw, and it also leaves a rougher surface, which helps the pin bite in the hole a bit better. Next, I use a chisel to taper two faces of the pin for about ¾" of its length. This makes the pin easier to insert but leaves the top of the pin full dimension so it fills out the now-square hole. Now that the holes and pins are ready, they can be driven home with a small amount of glue on the ends.

Once driven all the way, I will have ¼" left sticking proud of the box surface, which I carve into a square pyramid shape using a knife.

Now that the pins are in, I have one last thing to do on the main box body. The top outside corner of the box's back gets a simple roundover. I use a block plane, which makes quick work of this small task. At this point, the main box body is complete, and before I fasten the base and lid, now is the time for final sanding inside and out.

On to the base. I sit the box body on top of the base, centering it for an even overhang on all sides. Then I mark where the box sits inside with a pencil. I then mark out the nail locations on the top side of the base using that line I just marked as reference, marking their locations so the nails that fasten the base fall in the center of the box's ⅝" thick edges. There are three nails into the front and back, respectively, and one nail into the center of the ends.


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6. Predrill the peg locations. I use a block on the drill as a depth stop.

7. I have a specially made tool that is a square punch, turning the drilled hole into a square one.

8. Hammer in the square pegs with glue.

9. A knife is a great way to add a little decoration to the peg head.

10. Transfer the position of the box onto the bottom panel.

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Once the nail locations are marked, I predrill a ⅛" hole for each nail from the top of the base through to the bottom. This hole acts as a marker of the nail locations on the bottom of the base.

Then I drill ½" counterbores on the bottom of the base deep enough for the heads of the nails to be recessed so they don't scratch anything the box is set on. I prefer using 35 mm Rivierre nails, as they give a beautiful hand-forged aesthetic, or even better, I buy nails from the local blacksmith. Once the counterbores are complete, I clamp the base in position and predrill ⅛" holes into the box sides to prevent the nails from splitting the sides when I drive them home. The ⅛" predrill size is subjective, as the type of nail you are using may vary, so you may test driving a few nails in some scrap to determine the best size so as not to split the box. I then drive the nails home.

13

11. Predrill the locations for the nails in the bottom.

12. Using a rosehaid nail means that the bottom needs a counterbored for the head. Drill these with a Forstner bit.

13. Drive the rosehead nails home. Clamp the box to the bottom while hammering.

Hinges

On the home stretch now, I only need to make hinges and attach the lid. Hinges for these boxes are simple wooden pintle hinges. I start by making the pintle, which is the pin component of a pintle hinge, and in this case is a ⅜" diameter hardwood pin. I prefer hard maple for these pins, as its smooth, closed grain creates a nice wear surface; however, any hardwood will do, and I often end up using offcuts from the box body.

I begin by making a square blank slightly over ⅜" square and 4–5" long, tapering the end with a knife. Then, using a dowel plate, I drive the blank through each size in the plate, progressively getting smaller until I reach ⅜". Using a drill and progressively working down until I reach my desired size is much easier than using a hammer and gives a smoother, more consistent result.

I then cut this into two pintle pins 2" long and set these aside while I make the gudgeon, or batten, component of the hinge.

For ease of adjustment, I use modern screws to attach the batten to the lid; I prefer brass. After cutting the batten to shape, I predrill countersunk holes for 1-¼" screws and drill the ⅜" hole for the pintle pin in the batten, placed so the pintle pin will be perfectly centered in the ⅝" thickness of the back wall of the box.

14. Creating your own dowels is easily done with a dowel plate. You can hammer them through (as designed), or use an 18v hammer as I do.

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Once the battens are ready, I clamp them in place on the sides of the box and use the pintle pin hole as a drilling guide to drill 1" deep ⅜" holes into the box for the pintle pins.

I then install the pintle pins with glue. Once they are in place, I slide the battens onto the pins and mark the pins to be cut to length. I normally leave the pins ¼" proud of the batten and carve the end of the pin a bit with facets for texture.

Now I install the lid. I find this easiest to do with the lid laying top down on the bench with the square, non-chamfered edge facing away from me. I then slide the battens onto the pintle pins and lay the box on its back with the base facing away, swinging the battens down onto the lid to align and screw into the lid. I can shift the battens on the lid slightly to allow small gaps of 1/16" or so between the battens and the box sides so the battens do not bind when closing the lid. I also find it helpful to put a bit of paste wax on the pintle pins before mounting the lid as lubrication.

And there I have a simple, functional, and beautiful wooden box in a timeless historical form, perfect for recipe cards, letters, or other mementos.

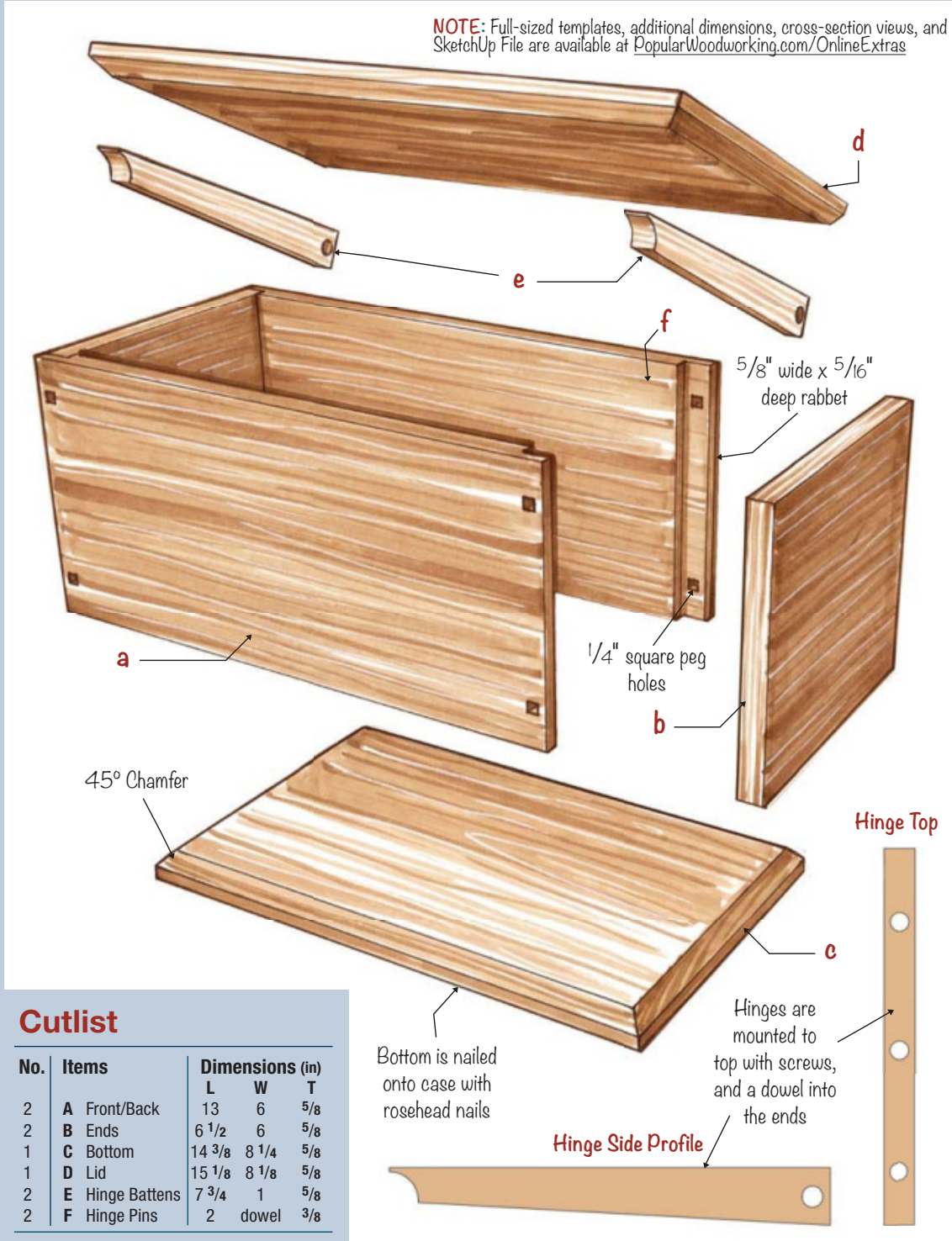
I've made quite a few of these boxes over the years. Customers often have them made as urn-style memory boxes for loved ones. They are a wonderful functional canvas to explore the world of shallow relief carving and a lovely project for a weekend. **PW** – *Shea Alexander*

15. Cut the hinge at the bandsaw. The hinge has a gentle taper from front to back.

16. A Forstener bit is a good way to create the radius on the end of the hinges.

17. The hinge is mounted to the top using screws. Create counterbored holes using a Forstner bit and drill a centered through hole for the screw to pass through.

Carved Boarded Box



Cutlist

No.		Items	Dimensions (in) L	W	T
2	A	Front/Back	13	6	5/8
2	B	Ends	6 1/2	6	5/8
1	C	Bottom	14 3/8	8 1/4	5/8
1	D	Lid	15 1/8	8 1/8	5/8
2	E	Hinge Battens	7 3/4	1	5/8
2	F	Hinge Pins	2	dowel	3/8

PHOTOS BY LOGAN WITTMER & COLLIN KNOFF

Mid-Century Modern Table

This table blends clean lines with clever book storage—proving good design is as functional as it is beautiful.

By Collin Knoff

For many years the furniture in my house was a hodgepodge of hand-me-downs, thrift store finds, IKEA, and a handful of things I had built. Since I started working at this magazine, I've had the time and resources to build the furniture I really want (and hopefully furniture you want as well). Throughout this journey, there have been several design influences that have carried across most of what I've built. Mid-century modern has been a huge influence obviously, and I've used an awful lot of walnut. The pieces have all been complementary without really matching. Until now that is.

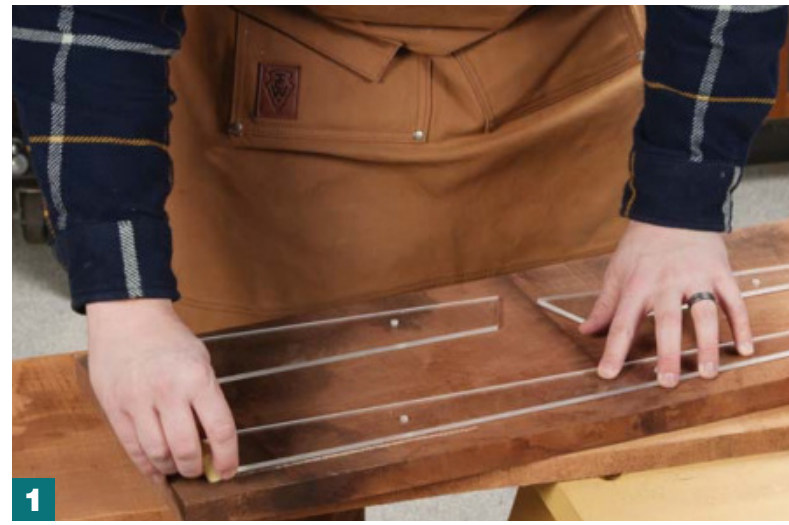
I told myself a few years back when I built nightstands (February 2022 issue) that I wanted to come back to that leg design again. When I started working on my design for some new end tables, the time seemed right. From there, I drew a few more influences from past projects. There's a floating top, some subtle use of brass, and I of course made it out of walnut.

As with any project, I encourage you to adjust things to your liking. I think you could add a small draw below the top and maintain a very similar overall profile. Or, maybe you could do a glass insert and lighten up the visual mass.

At this point, I have more furniture in my house that matches than doesn't. It's taken a lot of sweat equity to get there, but it's been a fulfilling journey. Plus, I'm very happy with how it all looks.

Start with Acrylic

One of the things I did differently with this project was to figure it out almost entirely in SketchUp before picking up a single tool. Normally, I play around with cardboard mockups, or pick general dimensions and hone certain proportions as I go.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Part of the reason I did things differently this time was driven by my desire to get better at working in SketchUp. But it was also influenced by my decision to use acrylic templates for the legs. Getting my leg proportions right in advance allowed me to cut those templates on a CNC machine.

Now, acrylic has some advantages when it comes to template making. It's very durable, and can withstand hundreds of router bearing passes. It's not susceptible to damage from moisture either. Also, by virtue of being clear, you can get your grain pattern lined up exactly to your liking, while easily spotting issues like knots or checking. With my templates in hand, I dug through the lumber rack to pick out my boards.

1. Starting with acrylic templates before anything else meant I had a crystal-clear guide to the exact parts I would be creating from my rough lumber.

2. The parts were roughly broken down on the band saw so I could square everything up.

After roughly laying out all of my parts, I cut the slab down to more workable size on the band saw, then processed the lumber to my desired thickness. I re-traced the shapes onto my work pieces, and headed to the band saw yet again to cut them as close as I reasonably could.

I wasn't done with my templates yet either, as it was now time to adhere them to my leg components and rout them down to final size. A bit of double-sided tape and a flush trim bit was all it took to get things just perfect.

I should note here that I've historically not been a big template person. I like to build the project itself, not build stuff for my project. I think at this point I've been fully converted though — the process of making the legs was so slick and went so much more smoothly with just a bit of work beforehand.

Leg Assembly

The last time I made legs like this, I had used lap joints. While I liked how it looked, it was a fairly time-consuming process. And while I wanted to look back at some of my previous work, I didn't want to retread the same ground exactly. Between that and a limited amount of time, I ended up assembling the legs using a Domino joiner, though the process would be the same if I were using dowels instead.

The first step I took was laying out all of my legs and making sure that everything lined up without any gaps. Also, make sure that the bottoms of the feet are on equal footing. My initial eyeballing was quite a bit off once I grabbed a straightedge to check. Then, I marked the location for each floating tenon. Even though I measured where they go, there is always slight variation. So from this point forward, it was important to keep each leg grouped together by labeling each component.

As usual, the Domino made quick work of boring the mortises, and it was time for assembly. I've played around with a few different


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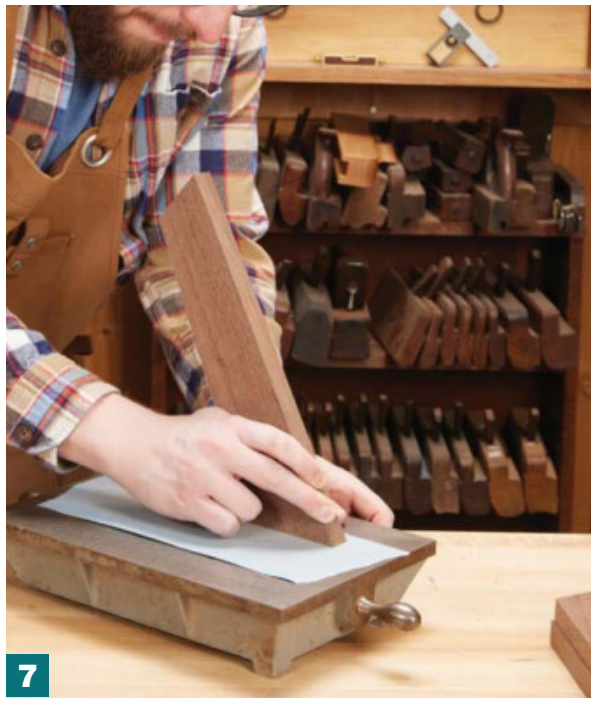
3. With my stock fully processed, I re-traced the leg shape out and cut it to size on the band saw. I made my bandsaw cuts about 1/16-1/8 inch outside of the lines.

4. Aim to use enough tape to prevent your template from shifting, but not so much you risk breaking or damaging it when you have to take it off.

5. Two medium pieces seemed to do the trick.

6. The legs are shaped to final size using a router table and flush-trim bit. There is a risk of chipping out when cutting across the end grain here. I avoided the issue by starting my cut on the wider end, right at the corner, with a bit of a sweeping motion.

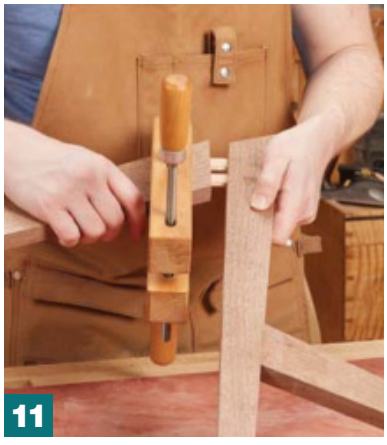


7. I sanded the mating surfaces for the legs using a surface plate, a machinist's tool, to ensure complete flatness.

8. Lay your legs out fully and mark the location of each domino. You can see the piece of scrap I used as a "floor" in this photo.

9. Clamp the leg and place and cut the mortises one by one.

10. To allow for slight variation, I cut the mortises for the upper arm a bit wide, a useful feature of the Domino. A jig would have also worked well to guarantee accurate placement across multiple pieces.



techniques when having to clamp things at odd angles, including hot gluing blocks, or using double-sided tape. The only thing that seems to hold up to the amount of clamping force I like to apply is handscrew clamps. I crank them down real tight, while making sure to keep the jaws as close to parallel as possible. This helps prevent any divots from getting pressed into the wood. If I happen to create a dent, it's easily sanded or steamed out afterwards.

With the handscrew clamp secured, I can use parallel or f-clamps for the actual assembly. Photo 12 demonstrates how I go about that process. For the legs, I used PVA glue, as I wanted a strong, permanent bond.

Build the Top

While there's nothing special about the tabletop, I should at least include the basic overview. The top is basically four 4-in wide boards edge glued together, then planed down to thickness. That's it for now, though a chamfer is added later on.

Slats and Shelf

The slats are a bit more work than the top. There were several ideas I bounced around my head for what I wanted to do. Basically,

the easier the process to make the slats, the more complex it would be to install them later. I first considered making a router template, and cutting square mortises in the legs. I also contemplated shaping them all by hand, a draw-knife and spokeshave, though that was a more tedious process than what I was aiming for with this project, especially since I was building a set of two tables.

11. A handscrew clamp is used to create a parallel surface for the gluing up the legs.

12. With the handscrew clamp firmly affixed, I can use f-clamps to attach the lower brace to the leg. Clamps were applied to both sides to create even pressure.

13-14. The top is simply assembled by edge gluing several pieces together.

Mid-Century Table

NOTE: Full-sized templates, additional dimensions, cross-section views, and SketchUp File are available at PopularWoodworking.com/OnlineExtras

Cutlist

No.	Items		Dimensions (in) T	W	L
1	A	Table Top	3/4	16	24
2	B	Top Arm	3/4	2 7/8	12 1/4
2	C	Leg	3/4	2 1/8	27 1/4
2	D	Leg Brace	3/4	2 1/8	13 3/8
3	E	Slats	11/16	1 3/8	22 1/2
1	F	Shelf	11/16	3	22 1/2

15

15. The tenons were rough cut on the band saw using a fence and stop block.

16. Each tenon was cut the same way. The piece was clamped into place, and the height from the table set using an adjustable square.

17. A second clamp was installed to prevent chatter, which is especially an issue as you get closer to the shoulder.

18. Firm, consistent pressure is applied, though once I got to the full-width section, I backed off a few times to keep the cutter clear.

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What I ended up doing was using a tenon cutter from *Lumberjack Tools* on the drill press. I had tried a few practice tenons with a handheld drill, but they tended to drift a bit as they cut. That's fine for rustic furniture, less fine for what I was aiming for here. I think I probably could have gotten an adequate result if I had cut my parts closer to size beforehand, and only used the cutter for the final fit.

There was a bit of prep to set the drill press up for the operation. First, the table had to be rotated 90 degrees. Next, I had to set up a fence to cut each tenon exactly on center. Thankfully, I had made a few extra slat blanks, and was able to use trial and error to get it dialed in. A level really helped confirm the accuracy of the setup. Photos 16 through 18 show the actual process of cutting the tenons. I set the RPM low and took my time, backing off every so often to keep things from binding or wandering. Things went smoothly, though the cutter got very hot.

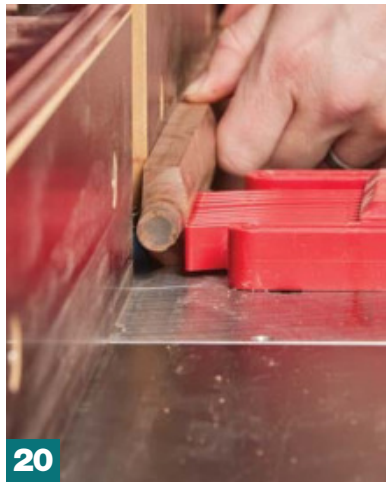
One thing to note here: the tenon cutter compresses the wood fibers quite a bit. I thought I had done a decent job sanding, but when I went to finish the table later, the joints frayed pretty badly. As soon as the wood sucked up the moisture from the finish, it expanded and became quite rough. Since the table was already assembled by then, I had a difficult time sanding it smooth again. I should have gotten the ends nice and damp prior to sanding originally and taken care of the problem up front.

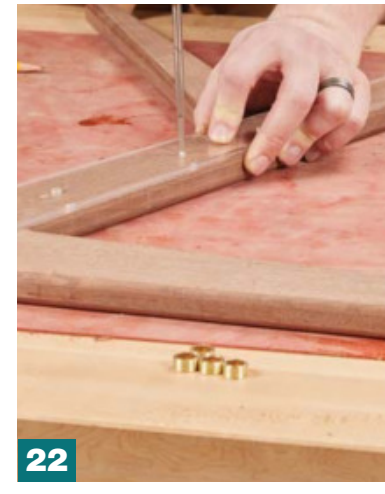
19. A low-angle router bit is used to cut the chamfer on the slats.

20. Note the use of the feather board for safety. Without it, your hands would get awfully close to the bit, not to mention the risk of damaging your parts if they move unintentionally.

21. A roundover is routed around the edges of the legs. A chisel and knife were used to finish of the inside corners where the cutter couldn't reach.

22. The template had holes drilled in it for the slat locations. An awl marks the locations on the legs.





The tenons for the lower shelf were cut in the same way as the legs. I in fact kept the exact same setup as the slats, just that the shelf is obviously wider, and the tenon is shifted all the way to one end.

At this point, the slats and shelf still had a little ways to go before they looked the way I wanted. They were far too squared-off and bulky. So I was off to the router table to finish shaping with a 15° top-bearing chamfer bit.

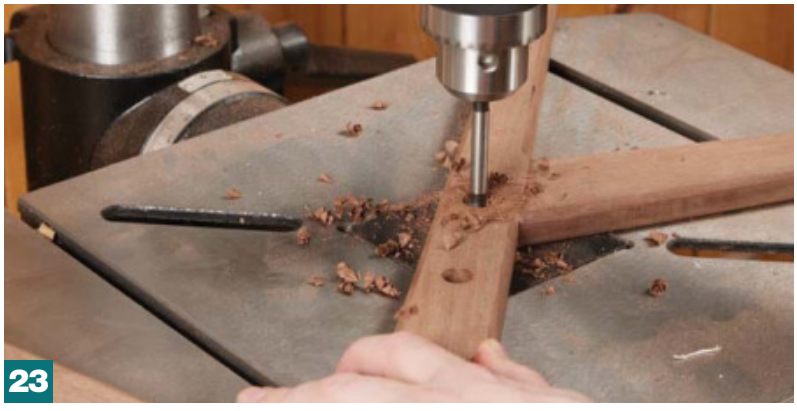
Now, while the slat pieces were nice and long, there was not a lot of width to work with from a safe grip standpoint. As you can see in photos 19 and 20, I utilized a featherboard in the name of safety here. After these shots were taken, I added an additional one to the fence for downward pressure. The shelf received an identical treatment at the router table — the chamfer was small enough to leave a nice flat surface for books or magazines still.

Rounding the Bend

With the glue dry for the legs, I could finish shaping them. A simple roundover was milled using a router, and I went back in with some carving tools to clean up and blend the corners.

It was at this point that my template was placed back into service. I needed my leg holes to be placed identically on the left and right legs. With the tapered shape, simply measuring and marking would leave room for error, especially because I was actually making a set of tables instead of just one. So, I laid out my leg and shelf placement to my liking, and drilled holes in the template at the corresponding locations.

I carefully marked the centerline on my legs, and used an awl to mark the location of each hole. Then it was off to the drill press for some boring.



23. The holes for the slats were bored on the drill press.

24. It's important to make sure the holes are in identical locations on both sides, or the base will be out of square.

25. A doweling jig was used for the floating top. A brass sleeve was used as a spacer, and as a subtle detail someone can discover when looking more closely at the table.

Final Steps

There were just a few more steps to go before I could call it a wrap. The table features a floating top, supported by dowels sleeved in brass. I used a doweling jig to drill the holes in the legs before assembly. Then, once the base was complete, I used transfer pins to mark the corresponding locations on the top. You can use a drill press or portable drill guide to bore those holes.

For the brass, you don't need to go out and get any specialized hardware. Instead, go pick up a brass nipple at any hardware store for under $20 and cut it down instead. You can be fancy and use a mill to cut it to size, if you happen to have one in your shop. A rotary tool will do the trick as well, and you're more likely to have one already. The brass will get very hot when cutting, so it's best to hold it with a clamp, and quench it between cuts. A bit of sandpaper will finish leveling the sleeves off and add a nice brushed finish.

At this point you're going to set the legs aside to finish working on the top. I added a bevel all around the bottom side to reduce the visual mass a bit. A lot of MCM furniture uses tricks like this to appear lighter. I simply threw a 30° bit in the router and made small passes until it looked "correct".

For final assembly, I treated my table bit like a stool or chair. My tenons were sanded until they just barely fit. Then, one by one, I wrapped each tenon with leather and I compressed them down with pliers until I could get them fully set. I decided to follow that same train of thought with the glue choice, and actually used hide glue. Make sure to sand all of your parts before assembly; it's a pain to go back in between things if you don't.

With the various nooks and crannies and slats in mind, a spray finish is going to be your easiest choice here, even though I generally love a rub-on finish for my walnut projects. I used lacquer, and I was very happy with how it turned out. The top and base were finished separately, then glued together.

This project was a fun full-circle moment for me as a woodworker and designer. Revisiting these old ideas from a new perspective showed me how much I've grown, and makes me excited for what I'll do next. PW – ***Collin Knoff***

26. A chamfer is added around the entire underside of the top with a trim router.

27. The base was dry fit prior to final glue up. A wooden mallet is helpful to drive the slats and shelf deep enough.

28. Final assembly was done with hide glue. I used multiple clamps to apply pressure across the legs equally, measuring as I went to make sure things stayed parallel.

Whiskey Cabinet

This finger-joint cabinet is versatile enough to be utilized in any room in the house, and packs in a lot of great woodworking techniques.

By Logan Wittmer

PHOTOS BY COLLIN KNOFF & LOGAN WITTMER

It's not often that I get to build a project in my shop without a camera in my face, but this wall cabinet started as one of those projects. Like many woodworking projects, it began it out of necessity. When I built my office in the shop, I included a few comforts of home: a coffee maker, a couch, a bookcase, as well as my kettle and stash of tea.

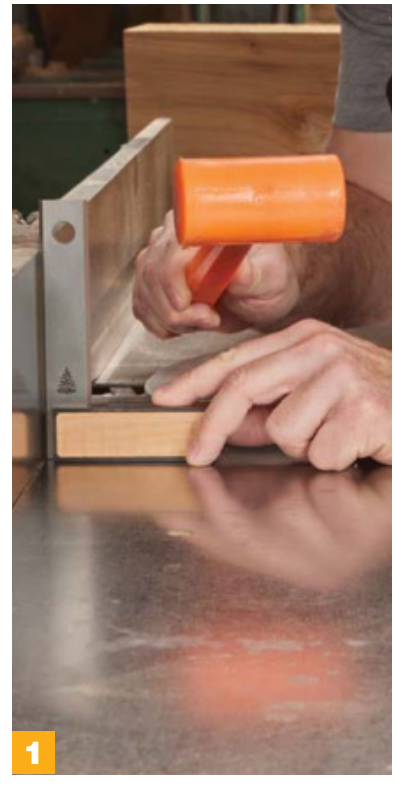
Goose (the shop cat) has a tendency to run off with teabags or knock over jars of loose leaf tea. So, the necessity was to build a cabinet for my teas, coffees, as well as cups for visitors. Over the winter, the idea for a wall-mounted tea cabinet start to form. With the holiday break, the last thing I wanted to do was fire up a camera, lights, and document the process (no offense to you, our readers). After a few days, I ended up with a wall cabinet that I really liked—it was simple, functional, and a great size. While laying out the magazine schedule for the rest of the year, I decided to include it in our project lineup.

Let's set the lay of the land. This wall cabinet features finger-joint construction at the corners. It is, in my opinion, a great-looking joint. It's not as common today as dovetails, but it can be cut using a variety of techniques, which I'll touch on later. The cabinet I built for my office was made from white oak (ideally quartersawn). The finger joints, joinery, and the mildly Asian influence of the door and overall form pair well with the straight grain and medullary rays of white oak.

That said, part of me thinks I should have called this one (which happens to be serving as a whiskey cabinet) the "Ugly Duckling" cabinet. When I started digging through my lumber stash—boards I milled several years ago on the sawmill—I thought I had found a nice piece of white oak. It had some defects, but that's nothing unusual. As soon as I cut into it, I realized it was actually red oak. If you've listened to our podcast, you know I have a bit of a bias against red oak. It was overused in the '90s and early 2000s, and it can feel uninspiring. However, once I started milling it up, it showed some really nice character. It wasn't perfect—there were cracks and knots—but between those were straight grain, beautiful medullary rays, and colors you don't often see in commercial red oak.

The commercial lumber industry tends to homogenize material, so anything outside tight standards gets culled. Locally sawn lumber—whether from small mills, local yards, or urban logs—often shows much more variation. This red oak was a perfect example of that, so I decided to run with it.

Construction starts with building the case. I milled all the stock to size, and because it was air-dried, I did it in stages. If you're unsure about your material or suspect internal tension, it's best to mill in steps—bring it close to final dimensions, sticker it, and let it sit for a couple of days. Any warping or movement is likely to happen then. After that, a final pass will bring everything back to flat and true.



1. Even though it's only me in the shop (most of the time) I always take a moment to verify that the jointer fence is square to the bed. The best tuning tool? A dead-blow mallet.
2. Square up the stock, first jointing a face, then an edge.
3. At the bandsaw, start to break the stock apart. My oak is thick enough that I can get several pieces out by resawing it.

4. No matter what method you're going to use to cut the finger joints, start by squaring up the end of the stock and cutting it to length.
5. My poison of choice is using Shaper Origin with bench pilot. It's accurate, and allows me to do other stuff while it's running.
6. After cutting finger joints, cut a groove in the bottom edge of the top of the cabinet. The shelf will get a matching groove on the top side.
7. Cut a deep rabbet along the back edge of the top and bottom of the cabinet. This will be for the ship-lap back to seat into and needs to be large enough to allow the back to be screwed or nailed in place.

Finger Joint Case

Once the material is sized, it's time to cut the finger joints, which are really the star of the show. I prefer smaller fingers—they look more refined. Recently, I've been using a *Shaper* Origin to cut them. I realize that's not a tool everyone has, but it works well. That said, finger joints can be cut in a number of ways. For more on that, visit popularwoodworking.com/onlineextras.

For this project, I used ¼" spacing, with the fingers themselves also ¼" wide. The proportions worked out so both sides of the joint had an equal number of fingers, creating a clean, uniform look. No matter how you cut them, test the fit. You want them to go together easily, but not loosely. A little space for glue is ideal. During this dry fit, also check that the case is square. If it's out, the sliding door will make that obvious.

Speaking of sliding door, we need to cut the "track" for it. These grooves in the top and shelf. These can be done at the table saw. The ends of the grooves will show, but they're easy to plug later. If you prefer, you can cut stopped grooves at the router table. While at the table saw, cut a rabbet along the back edge of the top and bottom (for the shiplap back).

Shelf Joinery

Next, there are a few additional joinery steps. A pair of twin through-tenons on each end of the shelf attach it to the sides via mortises. These are wedged for a mechanical lock and visual detail.

Start by forming the mortises. Lay out the mortises, then drill out the waste at the drill press with a Forstner bit. I like to tape the sides together to save time. After drilling, clean up the mortises with a chisel, working to your layout lines.

Now, it's time to form the tenons. I do this by laying my shelf over top of the mortises, and transferring the location and size of the tenons. You don't have to be super accurate here — the wedges will take up a lot of slop. Now, cut the tenons. You can do this by hand or at the table saw using a tall fence on the miter gauge. A dado stack speeds things up.

Test the fit—you want the tenons to slip in, leaving just a bit of room for wedges to expand them later. After they're fit, go ahead and cut kerfs for wedges. I use a big rip panel saw for a wide kerf.

8. Use a marking knife to layout the mortise locations.

9. Use a Forstner bit to drill out the mortises.

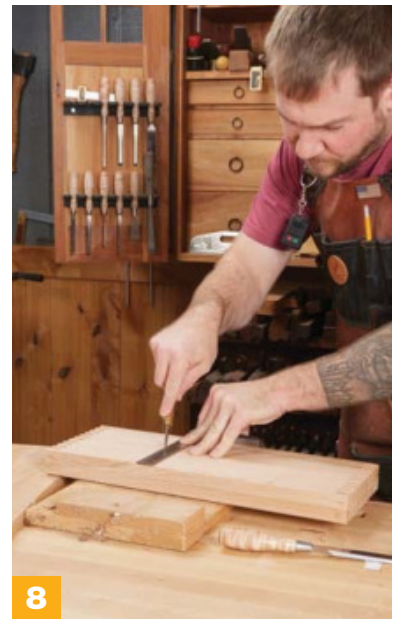
10. Square up the mortises with a chisel.

11. Mark the location of the tenons on the shelf.

12. Stand the shelf up on end and use a dado blade to cut away the waste.

13. Slide the shelf left and right to form the entire tenons.

14. Kerf the tenons for wedges.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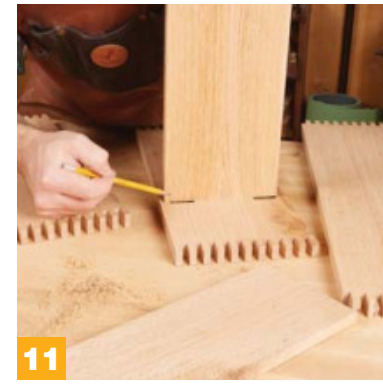
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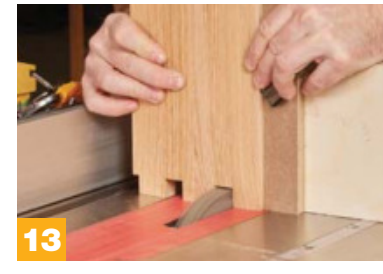
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14

Divide The Space

Next, cut stopped dadoes in the shelf and the underside of the top for the vertical dividers. Clamp the parts together, lay out the locations and stop points. I find routing these are easiest done using a pair of MDF fences. Use double-sided tape to stick the fence to your part, and use your divider as a spacer. Place the second fence in place and route them using a dado cleanout bit (the bearing rides on the MDF fences). The ends will be rounded, which is fine—you can notch the dividers to match.

The dividers themselves get a through-dado for the horizontal divider. After routing, notch the ends so they seat fully. A handsaw and chisel make quick work of this. Test the fit before moving on.

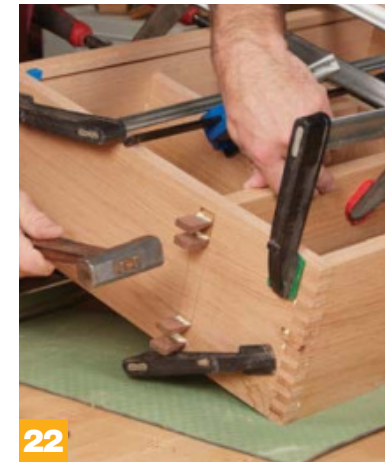
15. Routing the dadoes for the dividers is done using a set of MDF fences. I place these with double-sided tape, using the divider stock as a spacer.

16. A dado cleanout bit uses a bearing to follow the fences and form the dadoes.

17. Dry fit the shelf and take a measurement for the dividers. Cut them to length.

18. Slip the dividers in place and use a marking knife to score around the base. This will be for a notch.

19. Use a back saw to cut the notches. These will slip over the stopped dado and provide a seamless look.



Assemble The Case

For assembly, start by gluing up the divider assembly. It doesn't need to fully cure—just hold together. Then assemble the case. Lay one side flat, install the shelf, and then the bottom. The next step is a bit tricky: the top and divider go in together. Tilt the top like a hinge, slip the divider into place, then close it up. Add glue, install the second side, and clamp everything together.

Apply enough pressure to fully seat the joints, but not so much that you introduce bowing or twist. Once you're satisfied, clean up any glue squeeze-out.

The back on my cabinet is made from shiplap slats, milled to thickness and rabbeted on opposite edges. They're installed after finishing and fastened with brads or screws. Plywood is a perfectly acceptable alternative.

A Simple Door

The door is a simple frame with rails and stiles joined with loose tenons. After assembly, cut a rabbet along the inside edge to hold the panel. I used rice paper from a Japanese screen for contrast against the red oak.

20. Pre assembly of the interior dividers is done before anything else.

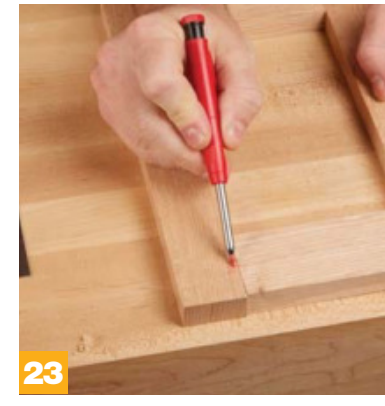
21. Start the assembly by gluing the tenons on the shelf and driving it into the sides. Glue the fingerjoints and install the bottom. The opposite side slips into place. The H-shaped divider can be installed before putting the top in place.

22. Apply plenty of clamps to pull the finger joints tight. Apply glue to some wedges and pound them home. I use walnut, as it provides a nice contrast to the oak.

23. While the case is drying, I start the doors. The parts are cut and laid out, and a tenon location is marked on each.

24. I use a small Domino in the door parts for assembly. A jig that holds the Domino makes mortising the small parts easier.

25. Glue up the door.



26. The door is rabbeted with a rabbeting bit in the router table.

27. Chisel the rabbet corners square.

28. A tongue is cut on the ends of the door using a dado blade.

29. Install the soji screen paper using battens and pin nails.

30. The shiplap back is installed using brad nails. The back slats are random width, and spaced out using craft sticks to allow expansion and contraction.

After the door is assembled, cut the tongues that fit into the grooves in the case. The door installs by sliding into the top track, then dropping into the bottom. The offset grooves hold it in place while allowing it to slide freely.

Interior panels can be secured with simple battens. I use pin nails, but brads work just as well.

For finish, I used a shop-made hardwax oil—a blend of spar varnish, Mineral Spirits, linseed oil, beeswax, and carnauba wax. I brush it on, let it soak, then buff after 15–20 minutes. The buffing generates heat, which helps even out the wax and produce a soft sheen. It's a nice balance of protection while still looking and feeling like wood. I've used it on my Shaker workbench, and it has held up well.

After installing the back, I added a hardwood French cleat for hanging. For a cabinet this size, a ¼" cleat is plenty.

Overall, this is a straightforward project with a strong visual payoff. It's easy to build but has enough detail to make it stand out. Don't be surprised if you end up making more than one.

PW – *Logan Wittmer*

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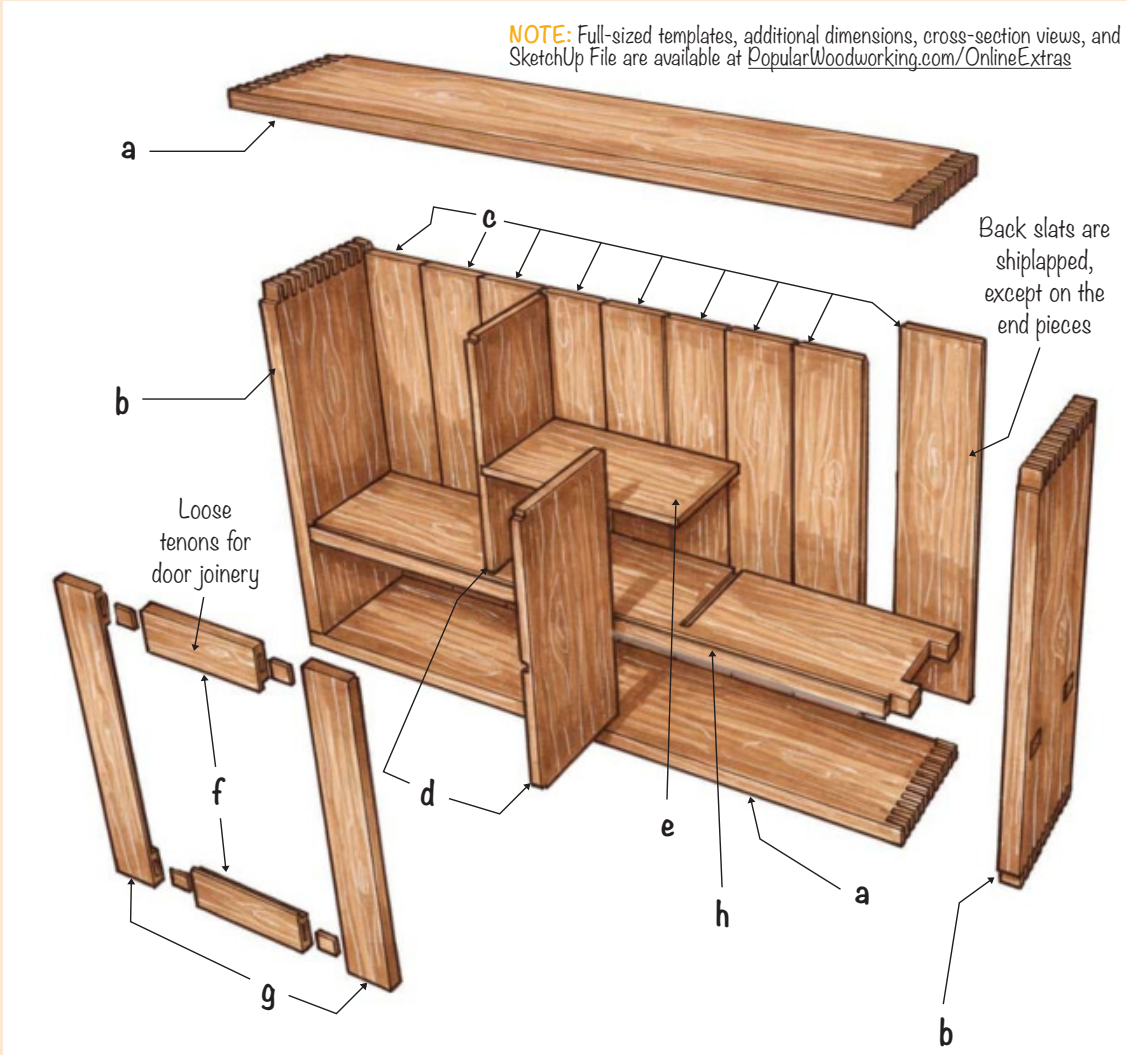
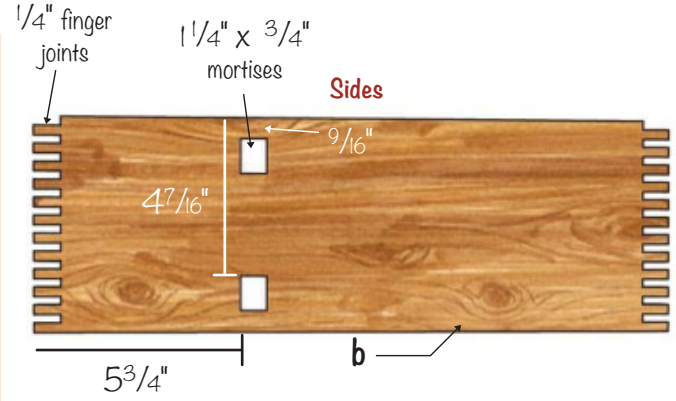
Whiskey Cabinet

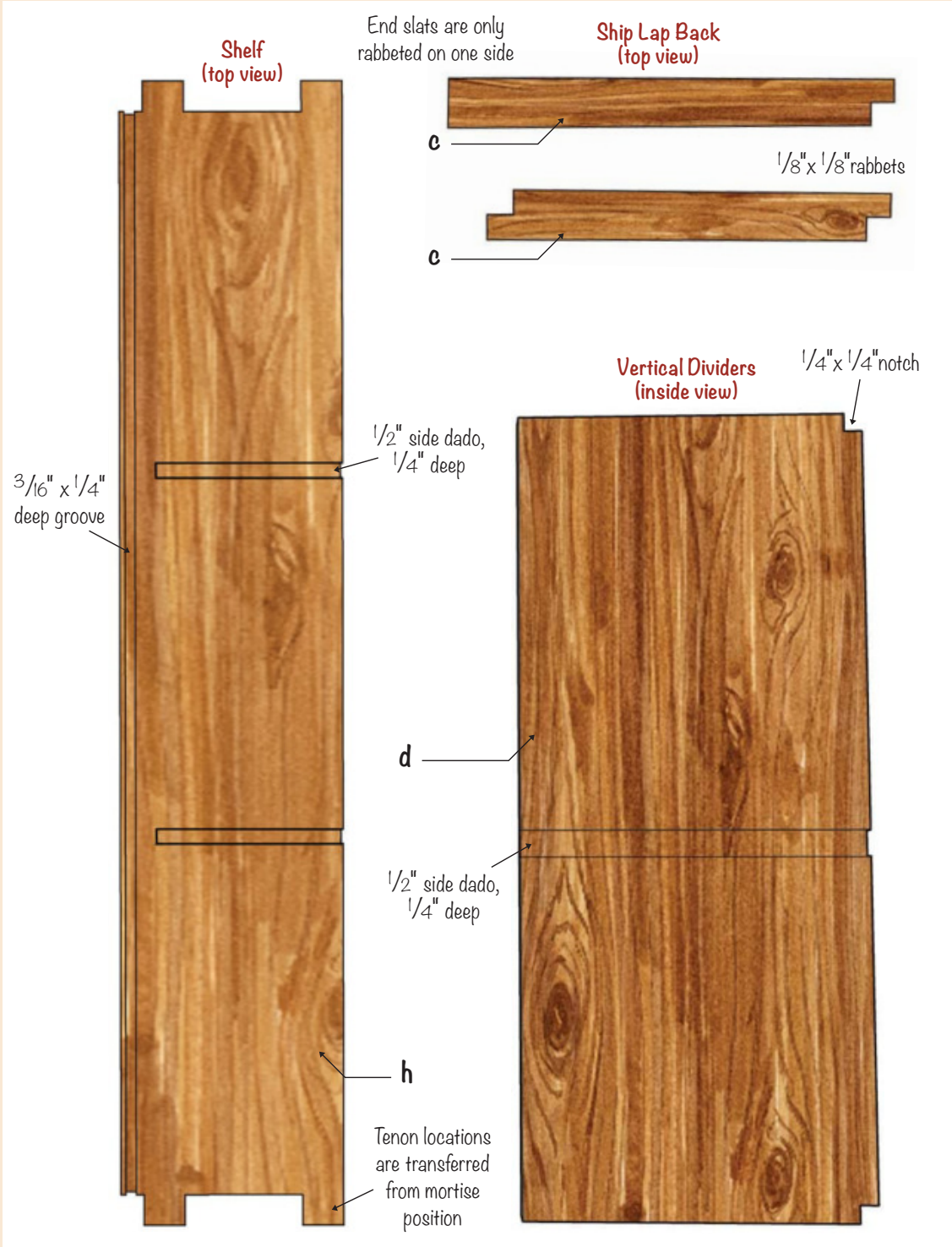


Cutlist

No.		Items	Dimensions (in) T	W	L
2	A	Top/Bottom	3/4	6	28
2	B	Sides	3/4	6	18
9	C	Back	1/4	varies	27 1/4
2	D	Dividers	1/2	5	11 1/4
1	E	Small Shelf	1/2	5	8 15/16
2	F	Door Stiles	3/4	2 1/2	11 1/4
2	G	Door Rails	3/4	2	2
1	H	Shelf	3/4	5	28



Whiskey Cabinet



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Woopsie Daisy

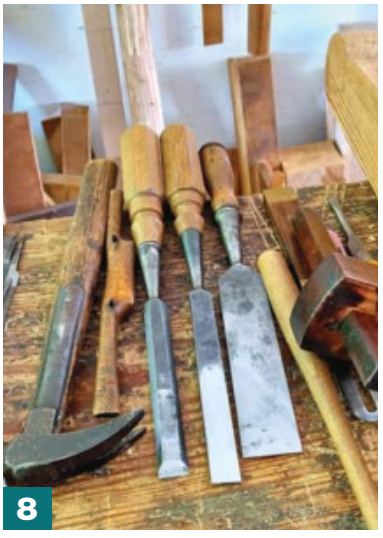
An updated, corrected photo captions for our "Beyond The Ropes" article from June's issue, by Yoav Liberman.

By PW Editors

11-12 The joiners shop, like in days gone by, are full of craftsmen of various levels. Masters work on highly technical projects and demonstrations, while apprentices work on more mundane tasks or projects meant to hone their skills.

4-6 Walking through the joiner shop, you see traditional projects in various stages of completion. These book stands are built from one board, and are a crowd favorite.

7-10 The joiner and cabinet maker's shop are full of period correct tools. Some are of vintage make and are restored to working condition. Others are made by modern craftsman, matching period style.



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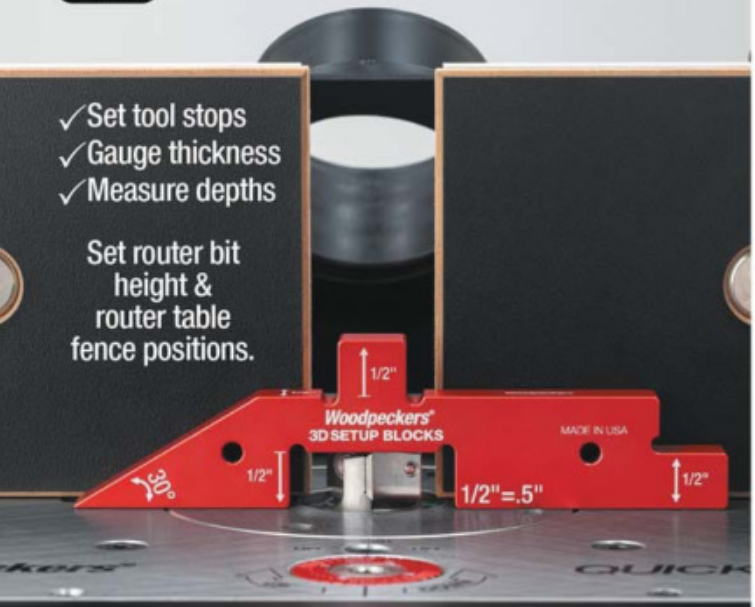

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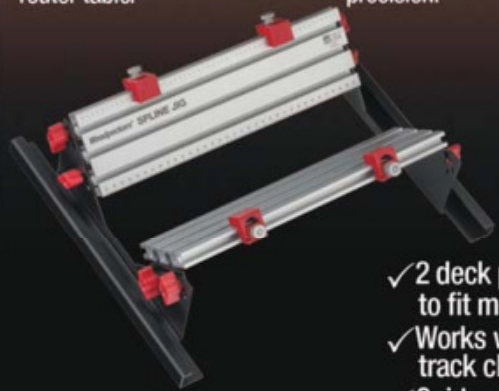

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