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SEE PAGE 82

STUNNING HOME PROJECTS YOU CAN BUILD!

WOODWORKER'S JOURNAL

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**WOODTURNING
HEATS UP!**

WHAT OUR SURVEY
SAYS ABOUT YOU!
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Ultimate Kitchen Island

**The Perfect
Solution to
Counter Clutter!**

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Walnut Game Table
Colonial Dresser
Band Saw Fence

BENCH CHISEL BASICS

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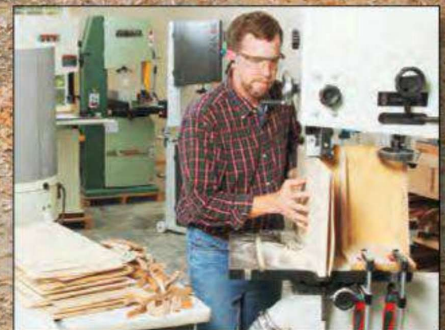
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7 MID-SIZE BAND SAWS

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- Max. cutting height: 6"
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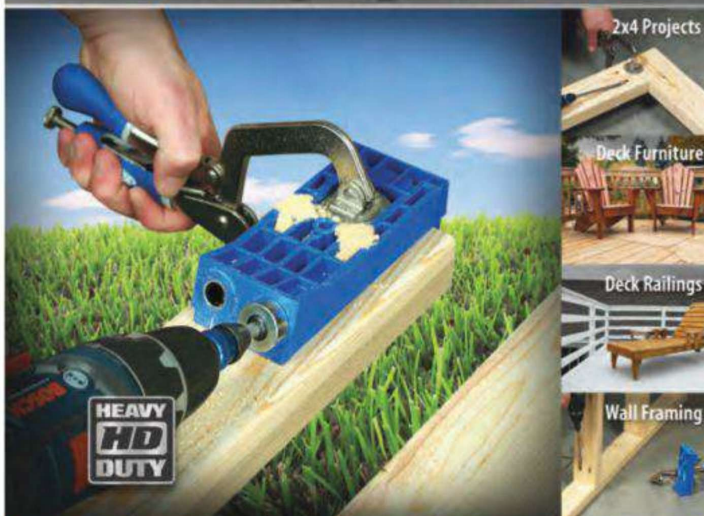


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Woodworker's Journal

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By Staff

Woodturning: part of a larger woodworking hobby or a craft unto itself? We surveyed readers and turned up some new trends.

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By Chris Marshall

An island with contemporary style adds storage and counter space to your kitchen, and rolls away when it's not needed.

40 Walnut Game Table

By Rob Johnstone

Portable, storable and attractive, this beautiful inlaid walnut game table is a real knockdown standout.

46 Early American Dresser

By Stuart Barron

Inspired by an antique, this dresser has its own history in *Today's Woodworker*, our predecessor magazine.

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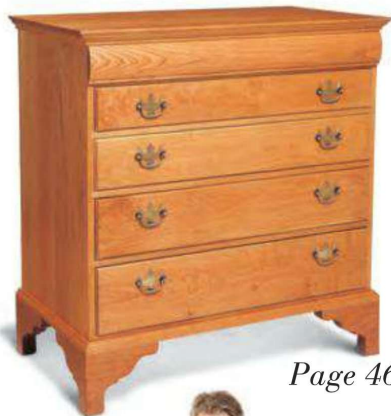
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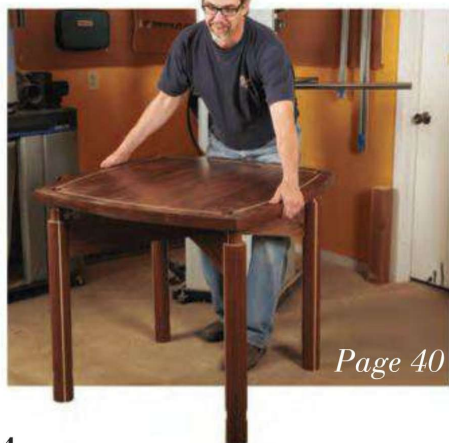
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Choosing a finish that's durable.



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Letters

Skinning (Metaphorical) Cats ... Again

WOODWORKING FIRMLY IN THE PRESENT ...

I started my magazine career with *Today's Woodworker*. Though the name always struck me as odd (woodworking firmly in the here and now?), the quality was simply top-drawer. Welcomed on board by editor in chief Larry Stoiaken, I began learning the world of magazine publishing. Later, in 1998, *Woodworker's Journal* came up for sale, and Larry jumped on the opportunity, merging the readers and moving forward with the *Woodworker's Journal* name. Why do I mention this? Because, in order to keep those great projects from *Today's Woodworker* in the "here and now," we've just collected the entire 9-year output onto a single CD. As a preview of the content on that disk, I decided to feature one of the projects in this issue (the dresser on page 46). I really love these newly revived projects — and I am hoping that you will love them, too!

—Rob Johnstone



There is more than one way to skin a cat when it comes to forming a straightedge on a glued-up panel. Our author (above) shared his approach, using a circular saw. Reader Rob Robinson prefers a router and reader Don Young (below, left) has a clever technique that returns him to the table saw.

Large Panel Debate

As always, I thoroughly enjoy every page of each issue of *Woodworker's Journal*. In the Q&A column of the June 2012 issue, there was a question relating to cutting the ends of a large panel after it's been glued up. Field editor Chris Marshall offered the method of using a fine-tooth blade on a handheld circular saw guided by a straightedge clamped to the panel.

I have found that using a router with a straight bit provides an exceptionally clean cut with no tearout — requiring less sanding than using a circular saw.

Both techniques will achieve the desired end result; the long-term lesson is knowing several techniques using different tools.

Keep up the good work of producing *Woodworker's Journal*, and I'll keep reading and learning! Thanks!

Rob R. Robinson
Seagoville, Texas

I have successfully used another process to trim up large panels. Using the outside edge of a table saw as a guide, clamp a straightedge board parallel to the cutting line and equal to the distance from the side of the table to the outside of the blade. Slide the straightedge along the side of the table to make a perfect cut.

Don Young
Haines City, Florida

While I agree with your answer regarding large glue-ups, I do have a comment. I have found that if I extend my saw blade to its maximum depth when doing this, I have less tearout. My theory is that the blade contacts the wood fibers at a more direct angle, thus causing less tearout. On oak, I always tape both sides.

Max Scott
Easton, Maryland

Shame on Chris Marshall for telling readers to use a straightedge and plywood blade with his handheld circular saw to cut his oversized table top. This method is fine for a carpenter,

but most readers of *Woodworker's Journal* are a step above a carpenter and are interested in cabinetmaker solutions, which do require an investment in jigs to do the job right. Such as the use of Pro-Grip Clamps, which have dovetail grooves their entire length, and for which one can acquire a router plate that will ride in the groove. By mounting a router on the plate and using an up/down spiral bit, and the use of some masking tape on both sides of the cut line, one can get a perfectly straight smooth cut with no tearout. The clamps are available in various lengths up to 8 feet long. I personally have acquired extra bases for my PORTER-CABLE 690 router and keep them attached to the various jigs I use. They are inexpensive enough that this is a good solution. I do all of my large cuts this way since the cuts are much more accurate than anything I can do on my table saw.

Klaus York
via Internet

Letters continues on page 8 ...



Florida reader Don Young uses an approach that's been around for years to ensure that his large panels get squared up properly.

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What Were You Thinking?!

Today I received the latest edition of *Woodworker's Journal* [August 2012]. As I scanned it before reading it in depth, I was stopped instantly on page 36 to see you in what is likely the most unsafe act I've seen in a magazine with the caption, "In a 'not at all dangerous' technique ..."

What in the world were you thinking? Balancing a workpiece that size near a spinning blade is an unsafe act, no matter how little the blade is raised! Kickback can easily occur in an awkward position like that, even with a featherboard. At the least, the top will most likely wind up with a decorative detail that is not as sharp or as straight as it would be by spending the few extra minutes to jig the top. One slight wiggle and the piece has a wavy decorative detail. This is because the tabletop would have a diagonal measurement of at least 40" being stabilized against a typical table saw fence that is at best 4" tall, even with the featherboard. There are few if any woodworkers who are steady enough not to jiggle, wiggle, jog, or otherwise move the bottom of the workpiece away from the fence because of the sheer weight and length of the piece to fence height ratio in an awkward position.

All I can say is, "WOW, WHAT WERE YOU THINKING?!"

Jim Fossler
Middletown, Delaware

WJ Responds: Let me assure you, this is not an unsafe technique. There are a few reasons this is so. First, there is not enough of the saw's cutting area to transfer sufficient energy to move the dresser side, much



Our editor in chief stands firm that the technique shown above, while it is a little tricky is, at the same time, perfectly safe.

less send it back with the force of a kickback, and the fingerboard attached to the saw will not allow the piece to move backwards. As stated, the saw blade set is so low that it does not present much of a cutting threat. The featherboard also helps keep fingers away from the blade because it is set so close to the blade. Your point about the potential wobble of the panel is legitimate — not everyone can hold the piece in alignment during the cut, hence my advice to test the cut and then add a tall fence if needed.

As to what I was thinking, I actually gave some thought to setting up a slot cutter with a jig on the router table, but I decided to show it how I had done it, partly to generate discussion and also to show how to build the dresser with very few tools. If you think about it, while I used a band saw, I could've made all the curved shapes with a handheld jigsaw. So with that in mind, the entire dresser can be made with just a table saw and a couple of handheld tools. Not everyone has a router table (or three of them like I do!), so I thought that would be a benefit.

— Rob Johnstone

Letters continues on page 10 ...

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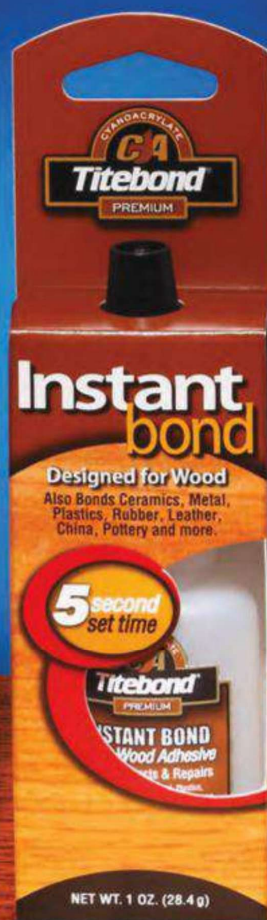
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As Rob mentions in his editorial (page 6), the *Early American Dresser* on page 46 was first published in *Today's Woodworker*. A really terrific collector's CD of every article from every issue of *Today's Woodworker* magazine is now available at TodaysWoodworker.com



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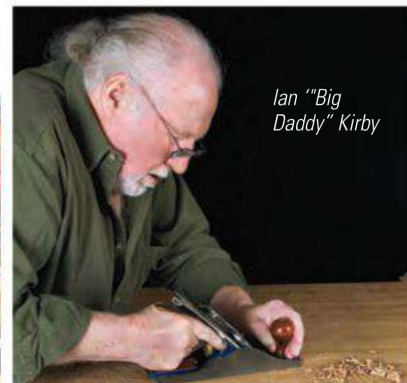
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Sandor "Flower Child"
Nagyszalanczy



Frank "Groove
Merchant" Grant



Ian "Big
Daddy" Kirby

Kicking it old school? "Just finished my February 2012 issue. A thing I noticed over the years is your writers and the ponytail hair and beard deal. You can't be that busy all the time not to get out of the long-haired '60s and '70s for a haircut. Small issue, but it has bugged me at times." — G. Blandford, Waterloo, Illinois

Sheer Poetry

Having spent my entire adult life in construction and keeping woodworking as my #1 hobby, I reflected upon what kept me there. Since my son has chosen to show the same interest, I wrote this piece; I call it "The Perfect Hobby":

*An endeavour which is
spawned from the heart
An undertaking you will
never master
A task in which even failure
offers
Some rewards
An old friend who soothes
one's soul.*

Dave Shoblom
Gig Harbor, Wash

Bets on a Different Tool

As a Festool dealer and user, I take issue with Sandor Nagyszalanczy's selection of the Makita BO4556 sander as a "Best Bet" ["Testing 1/4-sheet Palm Sanders," *April 2012*]. His statement that "... I eliminated the otherwise terrific Festool for simply being too expensive ..." does a disservice to this fine tool. Included in the price of the Festool sander is a Systainer for storage, which protects the

sander, is easily transportable and has room for sandpaper storage. The Makita comes in a cardboard box that will soon be discarded. Also, the Festool has a three-year warranty, while the Makita has a one-year warranty. The Festool sander will be running long after the Makita has been discarded and replaced. In my opinion, the best value over time is the Festool sander.

Curt Viehmeyer
Fort Collins, Colorado



Nailer Cabinet

I loved the article on the "Nail Gun Cabinet" in the June issue. I have built a cabinet for my cordless drills, but never thought about building one for my nail guns. The one change I would make to it when I build it is: flip the whole cabinet upside down. This would eliminate the overhang covering the drawer case for the nails. To get the nails out of the top row is blocked by the overhang. You

have to remove the drawer to get the nails out. Flipping the cabinet over would also give you a handy little shelf to set the nail drawers if you pulled them out.

Larry Ozella
Yorktown, Virginia



Modified Step Stool

My wife insisted that I build the "Kitchen Step Stool" in the October 2011 edition. I used pine and cedar but added a towel rack. The modification is self-explanatory and is made of a single extra piece of scrap.

Marvin N. Drewrey
Glenns Ferry, Idaho

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Tricks of the Trade

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Pushpins in the workshop? The answer is yes!

Pushpin Drying Rack

When I'm applying finish to small objects, it can be inconvenient to use Painter's Pyramids® to support them. My solution is quick and easy. I cut a piece of cardboard a little larger than the object

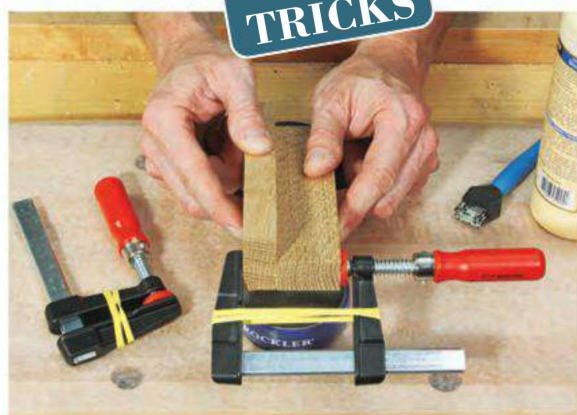


Safety First

Learning how to operate power and hand tools is essential for developing safe woodworking. For purposes of clarity, guards have been removed from equipment shown in our magazine. We in no way recommend using this equipment without safety guards and urge readers to strictly follow manufacturers' instructions and safety precautions.

I'm finishing and stick the points of pushpins through it, with the points all facing the same direction. Just lay your "rack" on a work surface and rest your project on the pin points for support. Use as many pins as you need in order to provide adequate support — I've used as few as three pins but usually more. If the project is very lightweight, just stick the pins through the side of a cardboard box and use the whole box as the base of your rack.

Charles Mak
Calgary, Alberta



Label Your Lumber

When I first bought some exotic lumber, the new species were visually unfamiliar to me. After stacking the boards on my lumber shelves, I realized that it would be tough to identify exactly what species I had in the mix. So, I used a felt-tip marker to label my lumber on the board edges where they'd be easy to see. Now I do the same thing for all of my domestic inventory, too. This way, I'm never in doubt of what's in the stacks.

Bill Wells
Olympia, Washington



Space Balls To Prevent Stuck Bits

In the past I've resorted to a dead blow hammer to tap router bits free when they get stuck in my router's collet. Then a better solution came to me: I inserted one of Rockler's little cabinet door "Space Balls" into the collet to prevent the bit's shank from bottoming out. I first applied a small dab of multipurpose adhesive inside the collet (inset photo) to hold the ball in place. I've been using the original Space Ball for more than a year now. It hasn't fallen out, and I haven't had a stuck router bit since.

Gary Storme
Anacortes, Washington



A dab of glue (inset) and a Space Ball will keep your bits from getting stuck.



No More Slack-jawed Clamps

I often use very small bar clamps, but they don't have the clutch plate assemblies that hold the movable jaws in place. The issue with such clamps is that you need two hands to set them — one to hold the jaws tight against the workpiece while you tighten with the other hand. If you need a third hand to align the parts being clamped, you're

out of luck. Here's a simple fix: install a rubber band or two over the jaws so they cinch up on their own when you slide them into position. Now, one hand is free again to make those important fine adjustments to your workpieces before the glue sets.

Serge Duclos
Delson, Quebec



Most shops suffer from a dearth of work surfaces. Our reader tells you how to turn sawhorses into a work table for just a few dollars.

Thrifty Sawhorse Table

For about a buck fifty, you can use two metal joist hangers to convert a couple of sawhorses into a temporary but sturdy work table. Buy the hangers intended for 2x4s, and attach one to the middle of each of

your sawhorses along the top brace. Fasten the hardware with screws. Now slip a piece of 2x4 into the hangers to form a cross brace between the “legs” of your table, and rest a suitably sized piece of

plywood on top. For a sturdier table, use two sets of joist hangers positioned near the ends of the sawhorse top braces instead of the middle.

David Long
Lexington, Kentucky



Winner!

In addition to our standard payment (below), Serge Duclos of Delson, Quebec, will also receive a Lamello Vario Box 440 Piece Set of Biscuits and Joining Elements from Colonial Saw (www.csaw.com) for being selected as the “Pick of the Tricks” winner. We pay from \$100 to \$200 for all tricks used. To join in the fun, send us your original, unpublished trick. Please include a photo or drawing if necessary.

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Questions & Answers

Science-Based Shop Questions



Making your own lumber is fun and practical, but how dry does it need to be before you use it?

THIS ISSUE'S EXPERTS

Ron Smith is a product applications specialist for Wagner Electronics.

Michael Dresdner is a nationally known finishing expert and the author of *The New Wood Finishing Book*.

Rob Johnstone is editor in chief of *Woodworker's Journal*.

Sandor Nagyszalanczy is a writer/photographer of several woodworking books and a frequent contributor to *Woodworker's Journal*.

Q I need some help! I would like to try cutting some of my own lumber from a downed tree (it's a white oak) in my yard. It would be so cool to make a project from it. But here is my problem: I would need to air dry the lumber, but what is "dry wood" and how dry is dry enough and how do I know when it's ready? I suppose this is what you would need a moisture meter for?

Andy Smithson
Port Hueneme, California

A If the items you are going to make will be inside the house, 6% to 10% moisture is pretty standard, but it will likely be difficult to get to that level only by air drying alone, because your average Equilibrium Moisture Content in your region is probably higher than that. EMC is calculated with a combination of the ambient relative humidity and temperature. For example, with a relative humidity of 50% and average temp of 70%, the calculated EMC is around 9.2%, but RH tends to go up in the evening when it cools off. No doubt, air drying is slower, but you could get close.

If the items you make will be outside, then just letting the lumber acclimate (air dry) will do the job for you. You need to sticker the lumber in layers with an air gap between each layer, and, of course, some airflow will help.

If the lumber gets made into a piece at, let's say, 12%, and

then gets put into a very dry, indoor winter environment, the piece could shrink and crack. And yes, a moisture meter is, of course, a valuable tool in these applications.

— Ron Smith

Q Members of our wood-working group, especially turners, use CA glue to harden wood that is soft or rotten so it can be turned, planed or sawn. Fortunately, being overly cautious, I had on a mask and goggles in an open, ventilated area when I treated an old piece of sweet gum crotchwood that had soft sections. To my surprise, when the CA glue hit the soft wood, a cloud of white gas erupted from the site. Even with the protective gear, the fumes were uncomfortable. I put on a respirator and sealed goggles to finish the job.

Is the type of outgassing fairly normal, or was it something unique to my Rockler CA glue and the old sweet gum? This could be very dangerous if done in an enclosed area.

Ed Amsbury
Gainesville, Florida

A Yes, fumes are quite common with all brands of cyanoacrylate and can be triggered by several things. Fortunately, the fumes, like those from cut onions, are annoying and irritating to mucous membranes but not particularly harmful. In fact, they become inert once reacted with water in tears or saliva.

Cyanoacrylate may appear to cure like water-based glue, which solidifies by evaporation, but it does not. Instead, it cures through a chemical reaction, much like epoxy. Unlike epoxy, where we must mix both resin and activator, cyanoacrylate simply uses moisture or water vapor from its surroundings to initiate cure.

The presence of other compounds, such as cellulose or various amines, or larger concentrations of cyanoacrylate can speed up the reaction to the point where it appears exothermic, releasing heat, and with it, fumes. You'll often see the same phenomenon if you put cyanoacrylate on cotton cloth, or dose it with baking soda. Conversely, acidic surfaces will retard curing.

Continues on page 16 ...



In recent years, moisture meters have made their way into home shops. They can tell you when your shop-made lumber is dry enough to be used.

Continues on page 14 ...

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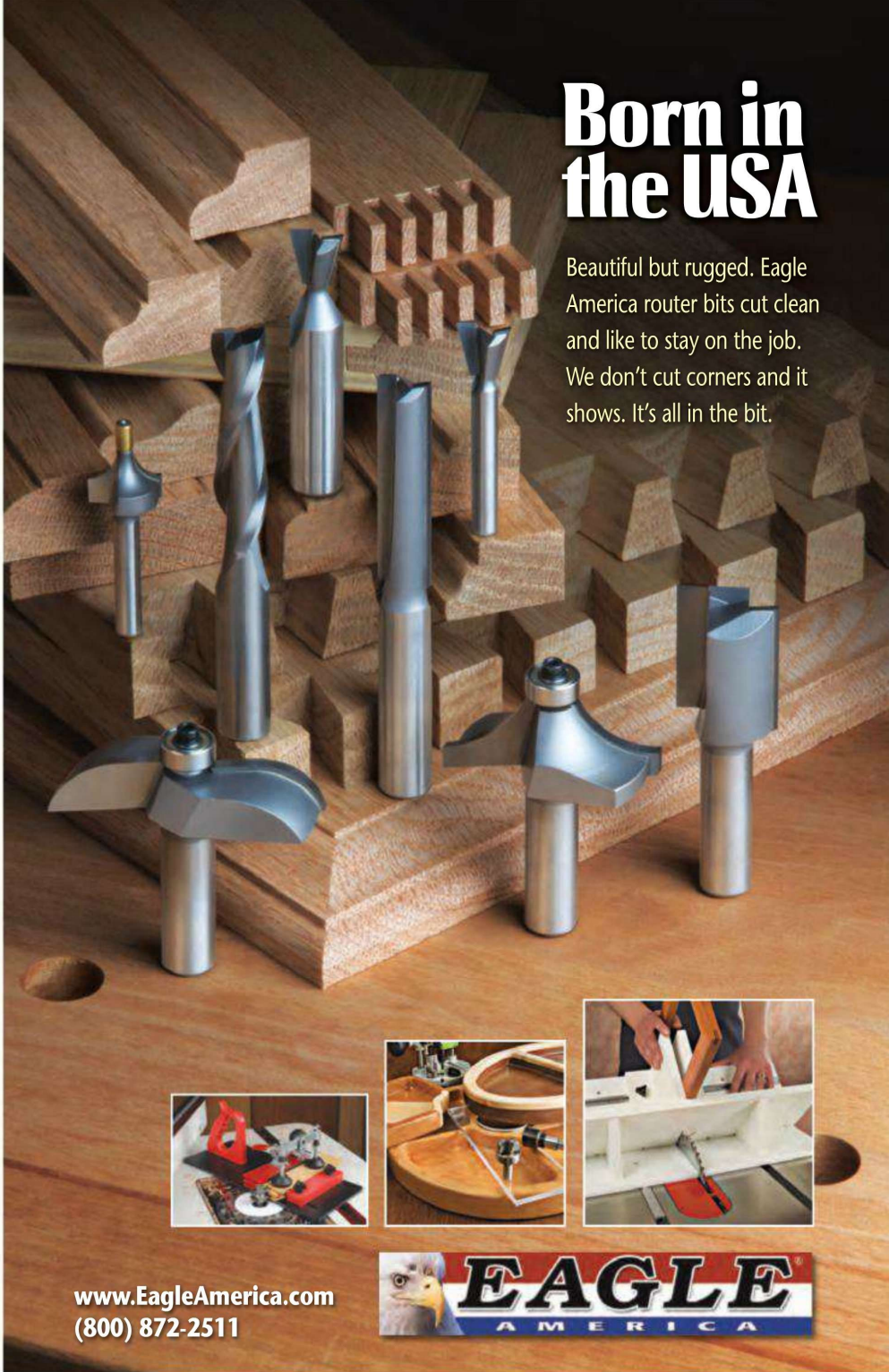
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Questions & Answers continued

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by faxing us at (763) 478-8396

or by emailing us at:

QandA@woodworkersjournal.com

Please include your home address, phone number and email address (if you have one) with your question.



Winner!

For simply sending in his question on rust prevention products, Mike Grawvunder of Waupaca, Wisconsin, wins an Osborne Miter Gage by Excalibur (from General International).

Each issue we toss new questions into a hat and draw a winner.

In your case, the punky wood could have been providing free cellulose fibers, or the bacteria that caused it may have produced alkaline compounds, or both. You added a lot of cyanoacrylate, and the result was an exothermic reaction with fumes generated by the heat.

— Michael Dresdner

Q I am pretty new to wood-working and slowly adding to my tool collection, but I am on a limited income. In every TV show and magazine article I have read, they use a dado blade in a table saw to cut dados. Dado blades are very expensive and look like a big pain to set up. When I read reviews of dado blades, people complain that the bottoms or even sides are not flat, except with high-end blades, I assume. In contrast, router bits are fairly cheap and everyone has a router. Router bit changes are quick and painless, and even a cheap bit makes a perfect flat cut. So I want to know why everyone always uses the table saw to cut dados? What is the advantage of it? Do I need to shell out \$100 for a dado set and then another \$100 because I need to cut dados in plywood? Please explain this for me.

Jason Anderson
Cedar City, Utah

A Jason, the short answer to your question is no — you don't need to invest in a set of dado blades to make dados and rabbets. In the end, it makes no difference how a groove or dado was formed — the only criteria is if it is properly sized and cut in the right place. There are advantages and disadvantages



Dado set or router bit ... which is better for making grooves or dados, and why do you need to own both?

to both systems ... but if you are more comfortable with a router and a straight bit, that's the system for you!

— Rob Johnstone

Q I have been using Bostick's TopCote® and Empire's TopSaver for some time to help prevent my tools from rusting. Recently, I was at a local store in the automotive section and I came across a couple of products that look like they would work as well as the others. They are both from DuPont. One is Teflon™ Penetrant ("lubricates, breaks and stops rust"). The other is DuPont™ Teflon™ Non-Stick Dry-Film Lubricant. They are much cheaper than the other two products I've been using.

I know some products shouldn't be used as they have silicone in them which can

affect the finishes. Neither of these have silicone listed as an ingredient. I did buy the Dry-Film for my jointer. The jointer is much slipperier than it ever was before.

Have you heard of these and what are your thoughts? Are they OK to use or will they cause problems in the long run?

Mike Grawvunder
Waupaca, Wisconsin

A You are correct that neither of the DuPont Teflon spray products you mention contains silicone. That's a good thing in a woodshop, as even a tiny bit of silicone can cause finishing problems, most notably fisheyes (little craters) in a lacquer finish. DuPont's Teflon Non-Stick

Continues on page 18 ...

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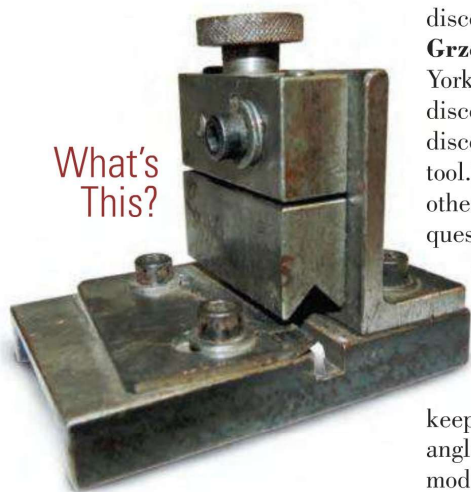
Stumpers

Tuck into a Real Mystery

Woodworkers needed to move out of the shop to answer this mystery tool.



What's This?



After his father's death, Ed Moss of Statesboro, Georgia, kept many of the tools from his garage shop — like this one. Do you know what it is? If you do, email us at stumpers@woodworkersjournal.com or write to "Stumpers," Woodworker's Journal, 4365 Willow Drive, Medina, MN 55340 for a chance to win a prize!

Back in our June issue, we showed you a mystery tool discovered by **Jerry Grzenda** of Livonia, New York, at an auction. (Jerry's discovery did not include discovering the purpose of the tool.) What suggestions did other readers make, in the quest for this answer? We're glad you asked.

Joe Wampler of Cumming, Georgia, thought it was "a rip fence with a power cord keeper (the spring and up-angled arm) for an early model power saw." **Jason Anderson** of Cedar City, Utah, thought it had more of a household use: "Looks like a spring jig to hold open a cabinet door while you install the hinges." **Mark Beall** of Havelock, North Carolina, moved to a different part of the house when he said, "I believe the tool is some type of tension gauge, possibly used for window sashes."

Interestingly, none of these respondents — so far — had moved into the room of the house most appropriate for this tool. That would be ... the sewing room. "When I was a kid, my mother had an old sewing machine full of parts similar to this one," said **Michael Allen** of Del Rio, Texas.

This part, in particular, says **W. Tad Foster** of Terre Haute, Indiana, "is a Goodrich Tuck Marker. It is an example of many devices of its type to automatically crease or mark fabric as it passed under the head." "The spring arm fits over the needle bar, and the stationary adjustable plate guides the blanket or quilt edge," said **Ruth Bloodworth** of Wendell, North Carolina.

Larry Keller of Des Moines, Iowa, further elaborated that "it is an attachment for a sewing machine to make accurately spaced folds or tucks when sewing." This one, said Larry, "was manufactured by the H.C. Goodrich Company of Chicago, Illinois. Harry Clinton Goodrich was a prominent Chicago socialite and inventor during the last half of the 1800s."

Harry Bogosian of Bethlehem, Connecticut, had a great explanation for woodworkers of what this tool does: "This vintage sewing accessory was a tool not unlike the 'stop' we woodworkers use on many of our jigs to provide a repeatable cutting point. In this case, the result is an accurate and repeatable tuck, fold, ruffle or crease."

— Joanna Werch Takes

Questions & Answers continued



Fisheye craters in a finish can be caused if the wood comes in contact with silicone. Our expert explains how to avoid it.

Dry-Film Lubricant works very well as a surface coating as it makes machine tables very slick. The product also inhibits the formation of rust on steel and cast-iron tool surfaces. It's similar to spray products such as Boeshield T-9® and Bull Frog® Rust Blocker: they go on wet, then dry to the touch. This is crucial in a woodshop, where sawdust is the byproduct of just about every machining task. Lubricants and coatings that don't dry aren't a good idea to use in a woodshop, even though they also protect against rust, because fine sawdust sticks to surfaces they've been applied to. The other product you mention, Teflon Penetrant, is this kind of lubricant. Like WD-40®, such penetrating lubricants are a godsend when you need to break rusted bolts and fasteners loose, or free up the trunnions on an old table saw. But if you use a penetrating lube, always remove the wet residue afterwards by washing off parts with mineral spirits and then drying them with a clean rag. Otherwise, over time, you're likely to end up with parts coated in sawdust and grime.

— Sandor Nagyszalanczy

Winner! Joe Wampler of Cumming, Georgia, wins a PORTER-CABLE 3.0 Amp 18V Corded Oscillating Tool (Model PCE605K). We toss all the Stumpers letters into a hat to select a winner.

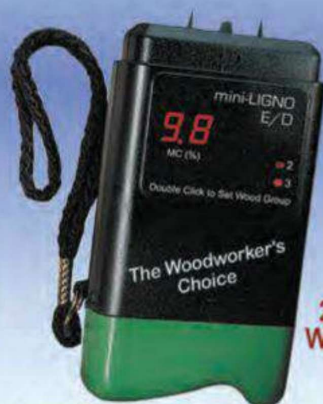


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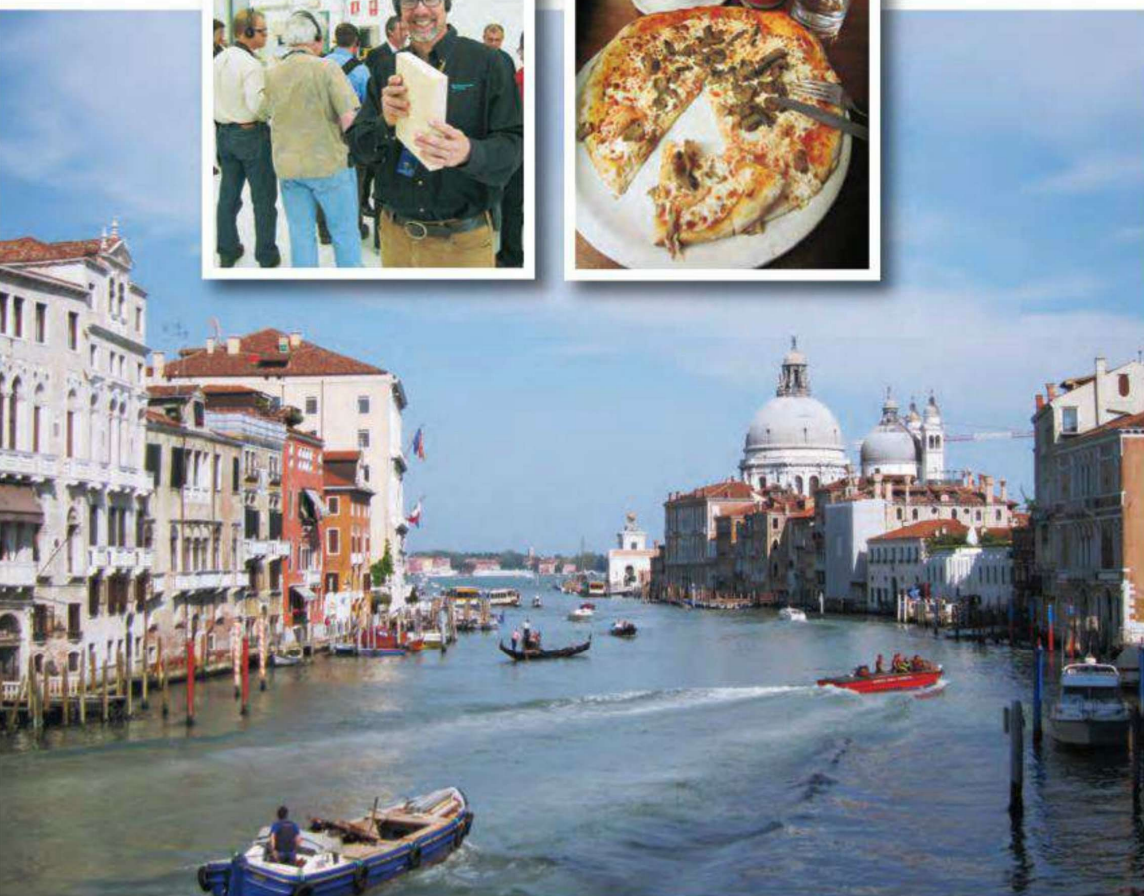
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Shop Talk

New Premium Italian Saw Blades



Our editor in chief (photo above) went to Italy through the auspices of Irwin Tools. In addition to gracious hospitality, they also provided a first look at a new line of saw blades.



New Saw Maker on the Canal ...

Irwin and Marples Jump Into Premium Saw Blade Waters

Woodworking editors get many invitations to attend “see our new tool” events. Clearly, it is one of the fun side benefits of our job. With that said, as editor in chief, it’s common for my schedule to cause me to ask other members of my staff to make a trip for me and then report back on the new tools and products for our readers. But when contacted about going to Italy to see a new set of saw blades, I worked really hard to get things in order so that I could fit the trip in one way or another!

In this case, Irwin, under the auspices of their sub-brand Marples, has entered the premium saw blade market, and has done so with a flourish.

Of course, Irwin has been making saw blades for a long time. Their Marathon® offerings are common on construction sites here in the U.S. and all around the world. What they were missing was a line of saw blades appropriate for high quality woodworking such as furniture or cabinetmaking. With that as the goal, Irwin spent a good deal of time looking for the right situation to begin

making and marketing the upscale line. The search took longer than they had wanted — the right setup was simply not forthcoming, until they met Georgio Pozzo, the owner of a cutting tool factory in Udine, Italy.

I had met Georgio back around 2003 when he was still with Freud. His dad and his uncle had started Freud back in the 1960s. He grew up in the business and then, as a young man, focused his education around metallurgy and manufacturing. He was a significant contributor to the quality of Freud products and the company’s growth over the years. Alas, as with many family-owned enterprises, there came a point in time where it was best for one side of the family to buy out the other side. Georgio was on the side that was bought out.

But he really liked the cutting tool industry and felt

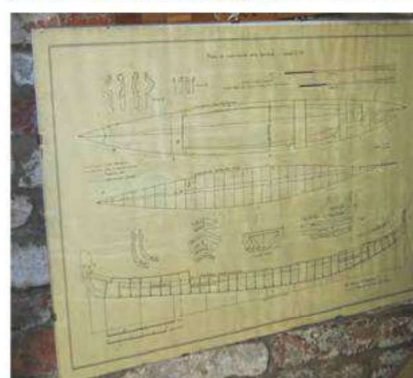


Italians have long been known for their high quality band saws — here’s one that’s over 100 years old.

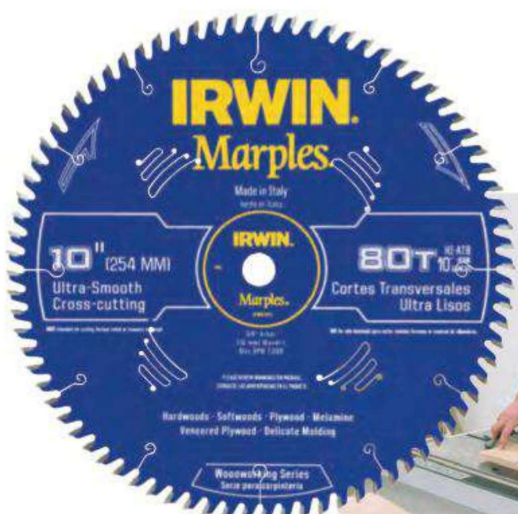
Woodworking Still Afloat in Venice, Italy

It is almost impossible to think about Venice, Italy, without a picture of a gondola coming to mind. Building the traditional watercraft is a skill practiced by fewer people each generation. I got a chance to visit a gondola maker who works in a “Squero” that sits right on a canal.

One curious design feature of a gondola is its shape, which is asymmetrical to accommodate the fact that it is propelled by an oar on one side of the boat. The stylized traditional metal decoration on the prow and stern are shaped with tabs that indicate the “sestiere” or regions of Venice. A stripped-down version of a gondola (no frills) will sell for about 30,000 euros.



At a traditional Squero, editor Rob Johnstone saw details of the gondola-making craft. Law requires all gondolas to be painted black (below).



Georgio Pozzo, below right in the suit, talking to frequent Journal contributor Ralph Bagnall about the new saw blades. Above right, the new blades are demonstrated by a Marples factory worker.

that he was too young to retire — so he bought a small company, Flai, that made custom cutting tools for the industrial market.

It was with Georgio and Flai that the Irwin folks found their perfect setup.

Working together, Irwin and Georgio designed a line of high performance saw blades. Irwin, which had purchased the legacy brand Marples years earlier, decided to use that revered brand to help identify the quality in the new blades. Marples was a cutting toolmaker in Great Britain best known for making some of the finest chisels around.

The saw blades themselves are made from the highest quality German-steel bodies paired with premium quality carbide for the saw teeth from Belgium. Georgio, who had years of experience with carbide formulations at Freud, helped create specific “recipes” for the carbide on these new saw blades.

They are manufactured using state-of-the-art techniques in the Flai facility.

The scope of the blade launch includes six full-kerf 10" configurations, with variations from 24 to 84 teeth in several tooth shapes. There are also six 12" saw offerings. The final SKU is an 8" stacked dado set. The blades are laser cut, conditioned and made to exact specifications. These new offerings are aggressively priced and will be available from Rockler in the fall.

Oh, and what about Italy, specifically Venice? Well, if you are ever invited there, be very sure to make time in your schedule!

—Rob Johnstone



Loaded up for the fair, the elaborate projects of these students came home winners — a week before the destruction.



During the school's tornado recovery period, shop students used their skills building basic, simple shelves for classrooms.



Reconstruction

H.S. Rebuilds Shop Destroyed by Tornado

At the end of Peter Kern's first year of teaching shop in Greensburg, Kansas, his students' 52 entries in the Fort Hays State University Western Kansas Technology Fair won many awards, including "most outstanding program." One week later, on May 4, 2007, a tornado destroyed the shop — and most of the students' projects.

As the next school year began, "classrooms" were mobile trailers, with the shop students working outside until December, building shelves for the school's classrooms and libraries.

In fall 2010, students moved into a newly built high school, now incorporating two additional towns — including one which had shuttered its shop program in 2009 and bussed students to Greensburg's cramped temporary shop. "We did some really nice work, but every hour of every day was a battle for space," Peter said.

It wasn't until 2011 that construction began on a new



Five years after a tornado destroyed their high school shop, Kansas students have a new space with plenty of room for tools donated by JET and Powermatic and those salvaged from the tornado.

shop, which doubled the available space. "Over the summer, I got machines and benches moved over, the floor sealed and dust collection run," Peter said. "I wanted to have time to get outfeeds, tool storage and other things set up, but just ran out of time."

Instead, he and the students spent the first part of the 2011-2012 school year getting the shop ready, and then started on student projects. "We worked on

projects like we always do and made them as nice as they always are, and then I got an email about the Tech Fair. I looked around and thought we would have some stuff finished in time, so we decided to take what we had" — 15 entries.

At the five-year anniversary of the tornado, "We have now come full circle and won the most outstanding program award again," Peter said.

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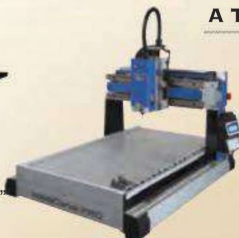


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Woodturning

Four Blanks, Four Turners, Four Bowls

by Joanna Werch Takes

Woodworker's Journal reached out to digital readers for the latest edition of our "4 blanks, 4 turners" contest. Each of our turners received an identical piece of wood — and made something different.



Each turner received an identical blank of myrtle wood (above) to use in turning a bowl. Helpful hint regarding turning blanks: if the wood has been waxed, it's green — and it really should be dried before turning. The participants in this article, however, didn't have that luxury of time.

This summer, in his editorial in the *Woodworker's Journal* eZine email newsletter, editor in chief Rob Johnstone called for woodturning readers to enter a contest to turn a bowl for *Woodworker's Journal*. We supplied the wood, they turned the bowls — and the result is this article.

The wood sent out to the four turners: Tim Aley of Gaithersburg, Maryland; John Bare of Hurricane, West Virginia; Nancy Rourke of Perkasié, Pennsylvania; and Ed Weber of Sacramento, California, was blocks of myrtle. While myrtle offers attractive figure for an attractive price — it's comparable to solid maple or walnut — the blanks *WJ* sent out to our four turners also had another distinguishing characteristic: they were very, very wet. An extra challenge to the woodturners' skills? So you might think. "It wasn't intentional," said editor in chief, Rob Johnstone. "I really, really didn't know they were that green!"

John Bare:

The *WJ* project meant a return to the shop for John Bare, who had experienced back problems after pinching a sciatic nerve. "It got me back in gear, and I enjoyed it," he said. "Woodworking is an activity that helps you reduce stress, and while you're doing it, you're not really in pain."

In his shop, John has four lathes. He started out with a Craftsman acquired from his dad's shop about 20 years ago. After realizing that tool's limitations, "I just started buying 'em willy-nilly," John said.

He's bought wood, too — "One time, my wife got on me about the yard looking like a logging camp" — but, these days, John says, "I try to not go out and cut a tree just for the sake of having wood." Instead, he's acquired it from old buildings that were torn down, walnut logs stored in a

farmer's barn, and a going-out-of-business bowling alley that sold him their hard maple (albeit coated in white plastic) bowling pins. "Underneath my workbench, I've got 100-some bowling pins," John said.

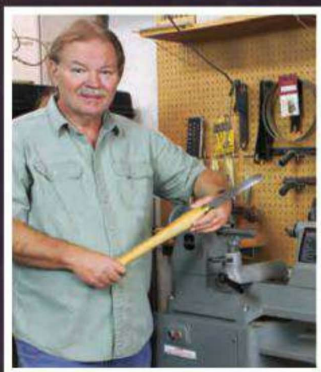
When it comes to woodturning, John said, "I've just kind of gone through the phases." He started out turning pens with kits; when there was a problem with parts supply, he decided to turn something that didn't rely on bushings, etc., and started making one-piece pens. He also makes bowls and turned boxes. John's non-turned woodworking includes picture frames, boxes and tables.

"There's always somebody having a birthday, or getting married, or having an anniversary. There's way more of those happening than I can keep up with" when turning gifts. "That's mostly what I do," John said.

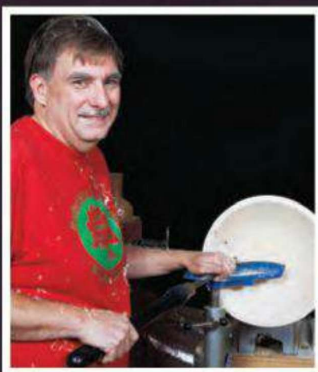
Nancy J. Rourke

John Bare

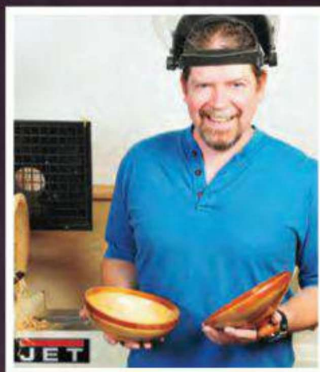




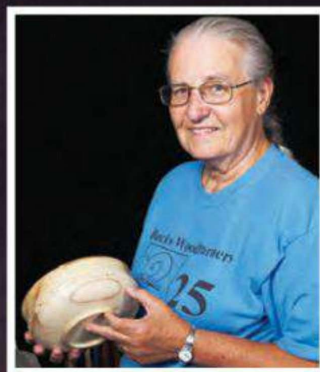
John Bare



Tim Alej



Edward Weber



Nancy J. Rourke

Although John has a NOVA chuck, “I don’t use it all that much,” he said. The bowl for the *Woodworker’s Journal* project, he noted, was “turned the old way: turning with a faceplate instead of a chuck.”

Although he’d intended to add decorations to his *WJ* bowl, “The wood didn’t want that,” John said. “It’s kind of hard to explain, but you have to sit there and look at the wood for a while and let it tell you what it wants to be. You might have an idea, but the wood says, ‘No, I don’t want to do that.’”

Every turning is a learning experience, John said, whether it incorporates getting past a knot or imperfection in the wood or something else. For the *WJ* bowl, “I could’ve done a real ornate bowl, but sometimes wood speaks for itself,” he said. “The grain was pretty by itself.”

Nancy Rourke:

Nancy Rourke, on the other hand, left the background for the inside of her bowl and the outer rim unpainted because “I did not want to entirely hide the natural beauty of the wood,” but added a rosemaling design to the interior. Rosemaling is a Norwegian style of decorative painting, traditionally done on wooden objects.

Nancy chose to shape her bowl in homage to a Norwegian tradition, as well, creating an “ale bowl, a Norwegian kind of bowl used for drinking,” she explained. “You see pictures of old ale bowls, and you know they were made from wet wood because they’ve turned oval.”

Although limited to projects no bigger than 12" due to her Oneway lathe, which she uses with a Oneway Talon chuck, Nancy turns “a little bit of

everything — useful things: bowls and plates and boxes, ornaments. I try to make them with a nice form and shape, and pretty.”

Nancy’s Oneway was an upgrade from a Sears lathe bought for \$10 to \$15 at an auction in the 1970s. “I had turned a couple of bowls back in the ’70s,” she said. “But I realized I didn’t know anything.” After retiring, she took a six-month-long, once-a-week class in Pennsylvania’s Bucks County with woodturner Dave Hardy. By the time she finished the class, she had her new lathe.

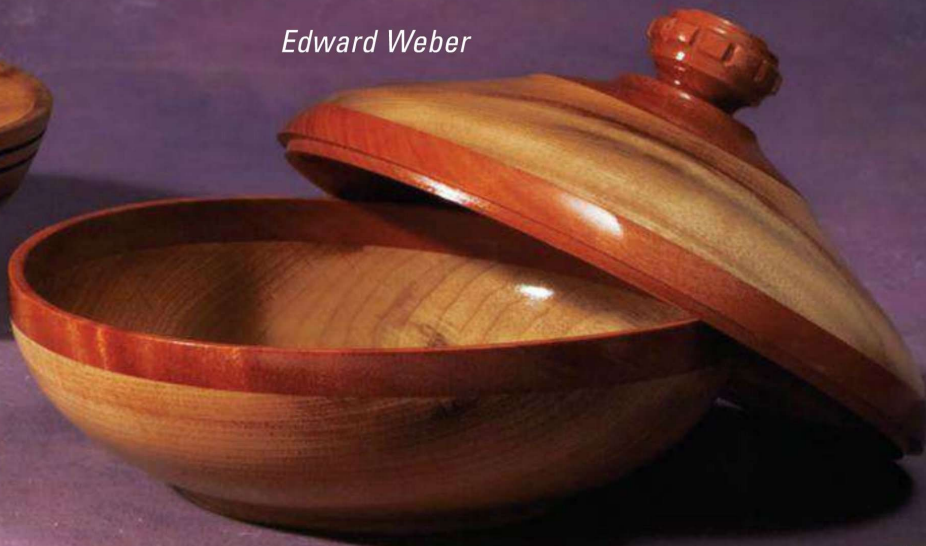
“I’m a person who likes to make things,” Nancy said. “I have other hobbies like making dolls, crocheting and knitting.” Membership in an American Association of Woodturners chapter also “plays a big part in my knowing and loving turning.”

MORE ON THE WEB

To see previous articles featuring the “4 identical blocks of wood, 4 different turners” concept, go to woodworkersjournal.com and click on the “More on the Web” tab shown above.

Tim Alej

Edward Weber



Woodturning continued



John Bare



out a blank and reversed it for a lid for his bowl.

Ed started out turning pencils on a small Grizzly lathe. "I moved up to bowls and stuff like that, then I moved up to segmented turnings," he said. He also moved up to a lathe which offers indexing, more speed control, and the ability to turn larger items. Primarily, he uses a SuperNova II chuck.

Ed's woodturnings were originally meant to be ornamentation to his flatwork, in the forms of finials, knobs, and other accents. "It kind of spiraled off on its own," he said, noting that he hopes to open a business selling his woodturnings in the future.

He's currently applying his flatwork skills to his turnings.

Ed Weber:

Ed Weber had to hurry, too, because, "The blank I received was very wet; in Sacramento, we don't have very much humidity, so it was trying to dry rapidly." Ed used pieces of other wood to glue up and stabilize the myrtle, in order to slow down the drying and cracking, before finishing his piece with General Finishes Salad Bowl Finish. "It's necessity and innovation, I guess," he said.

Ed wanted to "try something different, show a little skill," with his project, so he cored

Nancy gets most of her wood locally, often from downed trees. Walnut is fairly prevalent; while she likes wild black cherry, it's not as available. Also, she noted: "There's a cabinet shop near me. I raid their dumpster for wood for bowls and plates."

For the *Woodworker's Journal* bowl, in addition to the rosemaling, Nancy added

beading to the top of the outside, then painted it a solid color below. The inscription she took from an actual ale bowl, made around the middle of the 19th century, says, "Previously I was standing in the green grove and no one might recognize me. Now I satisfy many a thirsty mouth."

After painting, Nancy put her bowl in her oven, with just the light on, heating it to about 100 degrees to dry things. That might have sped along the drying process, but Nancy found other motivation for the rest of the project. "I work best under deadlines, and Rob's letter said there was no time to dawdle," she said. "I really enjoyed doing it."

Nancy J. Rourke



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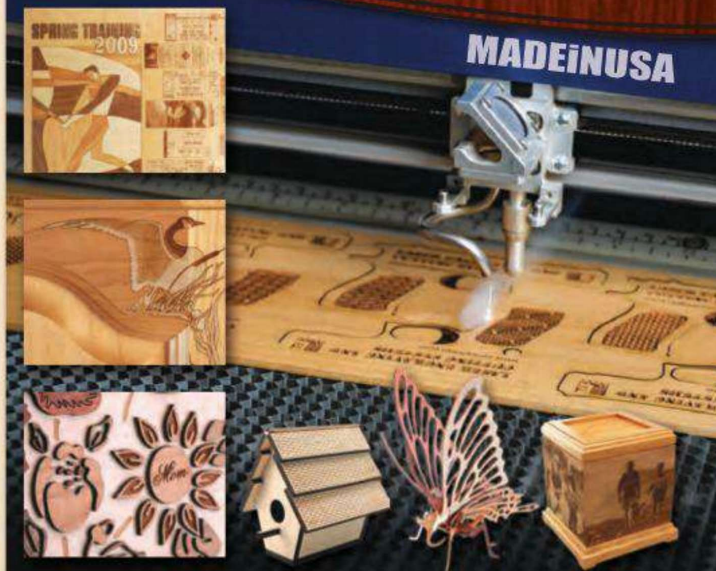


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Woodturning continued



Segmented turnings, for example, are largely “a lot of cutting at precise angles and then, once that’s done, doing turnings,” he said. Also, he has made a fluting jig that slides along the bed of the lathe so he can do more decorative work. “It’s taking a flatwork skill, and using a router to accentuate the lathe turnings,” Ed said.

For woods, Ed likes clear walnut or birch. “I’ve pretty much used everything there is, and I find myself coming back to them,” he said. In woodworking skills, too, “I try to give everything a try,” he said. “Some things, I like better than others.”

As for the *WJ* experience? “It was a nice project,” Ed said. “I wish I’d had a little more time — and I wish the wood was a little more stable.”

Tim Aley:

Tim Aley began turning a few years ago on his father-in-law’s lathe. It provided the then-stay-at-home dad something new to do when his daughter started kindergarten. He eventually took a few classes and, “After several years, I decided it was time to get my own lathe and put it in my basement.”

Used to his father-in-law’s NOVA DR, Tim bought the newer version and uses it with the Teknatool chuck. Most of what he’s done so far is bowls, with a few Christmas ornaments, bottle stoppers and some spindle turning thrown in.

Tim’s a member of his local chapter of the AAW and says this has him “always trying different things.” Whenever the chapter demonstrates something

Tim Aley



Edward Weber

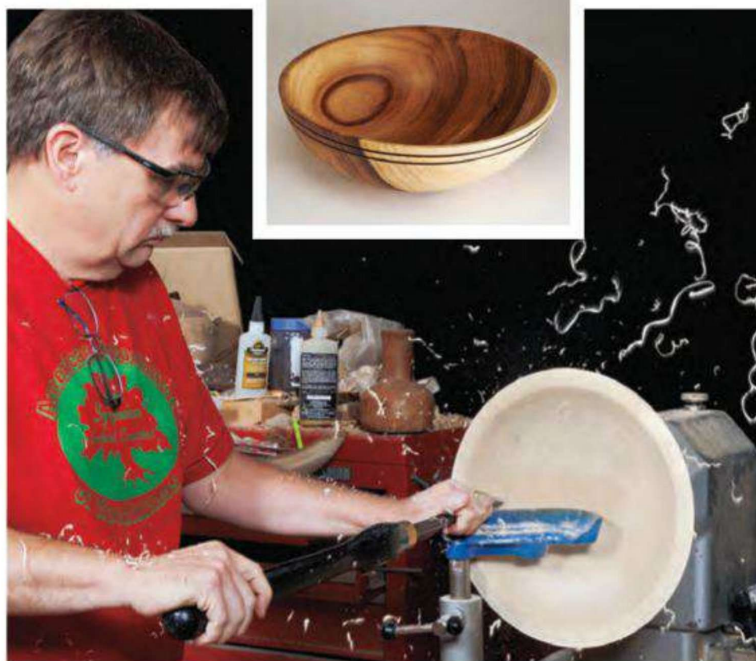
new, “I always try to do it within the next month or so,” Tim said. His “go-to tool,” however — the one he learned to turn bowls on — is an Ellsworth grind on a bowl gouge.

Tim likes to turn the crotchwood of a tree, where a trunk splits and you see some feathering. “It puts some three-dimensionality to the piece and gives it some character,” he said. Mostly, he turns local fallen wood — generally cherry, maple, walnut. He did once get wood from a hurricane-downed apricot tree; the heartwood was a light brownish/orangish color. “If I hear a chainsaw in the neighborhood, I go running,” he said.

Tim likes the character wood movement brings out. *WJ*’s quartersawn myrtle had interesting lines, but he did cut out a corner close to the pith, to reduce movement.

“The first thing I saw was that the wood was relatively moist. I figured I didn’t have enough time to let it dry to near-perfect,” Tim said. Instead, he decided to “turn it, then burn a couple lines in the rim so you’ll know it’s turned circular, even if it does distort a little bit.” He had already seen movement after sanding the bowl smooth to 400-grit and finishing with walnut oil.

“It was fun,” Tim said of the project. “I think it’s going to be pretty good-looking.”





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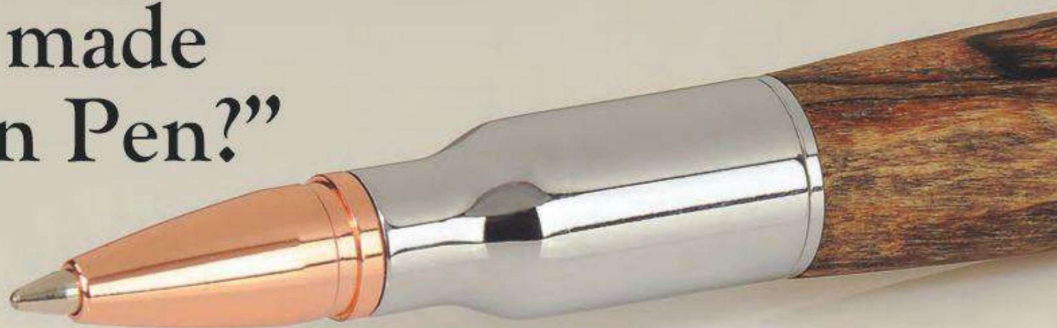
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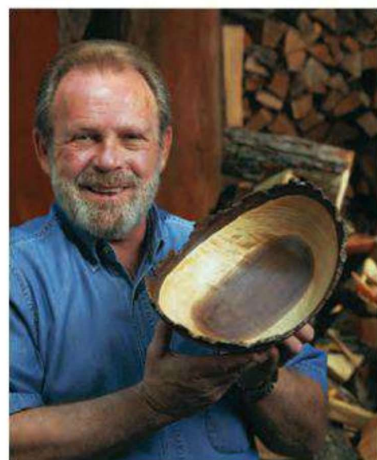
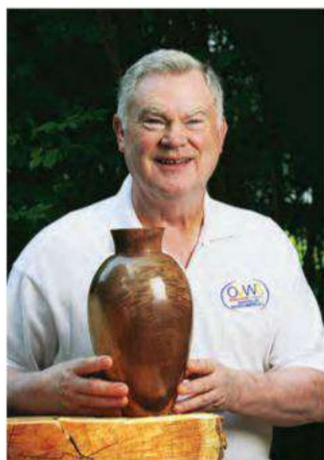
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Reader's Survey:



Are Woodworkers Turning to Woodturning?

Woodturning occupies a curious corner of the woodworking world. For some, it is the entirety of their woodworking experience; for others, a lathe is just another tool in the shop. This issue, our survey asked questions aimed at assessing just how popular woodturning has become, which lathes are in the most shops and where all this is leading. What did we discover? Read on, but rest assured, woodturning is here to stay and its growing legions of fans are finding many converts among woodworkers!

DO YOU TURN?

More than half of woodworkers do some woodturning ...
54% of active woodworkers responded "yes" to this question.

NO? WOULD YOU LIKE TO?

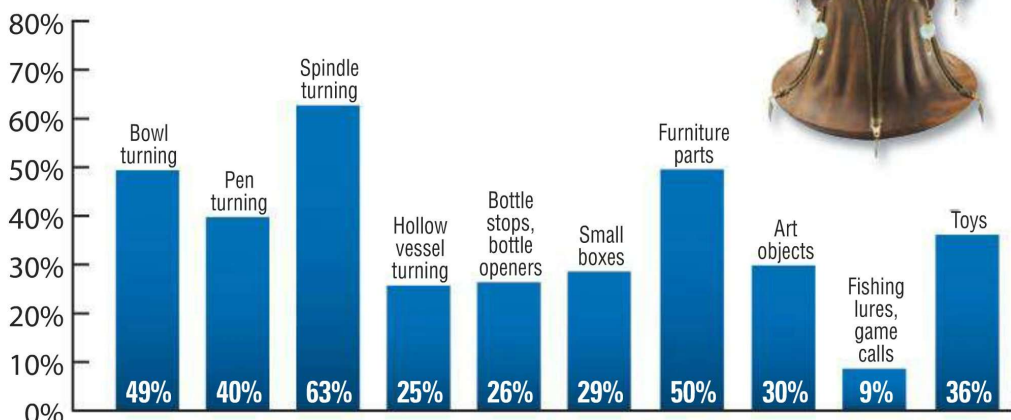
A majority of those who are not currently doing any woodturning (**56%**) said they "would like to get started" in the skill.

SO ... WHAT'S STOPPING YOU?

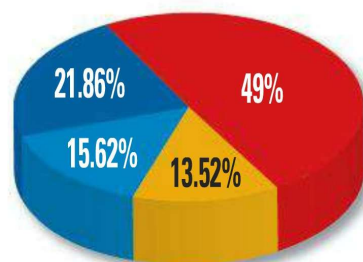
The two most common roadblocks for woodworkers who want to start turning, but are not actively pursuing it, are (surprise) time and money.

30% Too busy right now to take on something new.

28% Equipment is too expensive for me right now.



WHAT TYPE OF TURNING DO YOU MOST OFTEN DO?

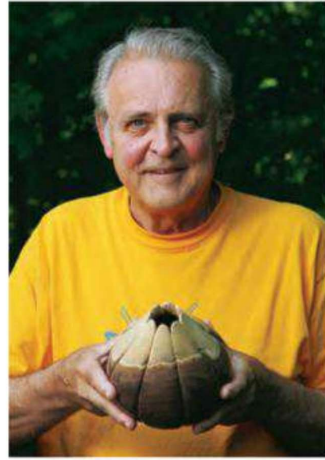


WHAT SIZE LATHE DO YOU OWN?

- Mini lathe (**15.62%**)
- Midi lathe (**21.86%**)
- Full-sized lathe (**49%**)
- More than one or no lathe at all (**13.52%**)

Full-size lathes have a clear numerical advantage — even if you add together the mini and midi lathe categories you only get to **37%** of the pie ... while **49%** of turners own full-sized models. (The rest of the respondents had more than one lathe or did not own a lathe at all.)





HOW OFTEN DO YOU TURN?

20% of woodturners say they are on the lathe every week, while at the other end of the spectrum, **36%** say they only turn “once in a while.”



WOODTURNING IS JUST PART OF THE PICTURE:

When asked “Is woodturning your primary woodworking activity?” survey takers responded ...

YES: **11%** NO: **89%**

DO YOU BUY YOUR WOOD OR . . .

When asked “Where do you most often get the wood for your woodturning projects?” the frugal nature of our respondents came to the forefront ...

56% did indeed purchase the wood for their projects, but the other **44%** admitted that they “find it, cut it or get it from some ‘other’ source.”

Woodturners, it seems, would rather turn than be warm — as one of the most common “other” responses was “from my firewood!”



Reader's Survey continued



WHAT'S YOUR BRAND?

JET: **16%**

Craftsman: **15%**

Delta: **13%**

Not surprisingly, these three took top honors on this question, but **19%** said "other." There are, it seems, plenty of solid alternatives out there!

A LITTLE WET BEHIND THE EARS?

Only **34%** of woodturners indicated that they turn **green** or unseasoned wood.



WHAT ABOUT SHARPENING?

As with all woodworking tasks, sharp cutting tools make a huge difference when turning wood. When asked if they were getting their turning tools as sharp as they would like, almost half (**46%**) said "nope." Survey takers said they found curved gouges difficult to sharpen (**38%**), and one out of five turners confessed that they were "unclear as to what they were trying to accomplish when sharpening."

ARE YOU JUST STARTING OUT?

Not really. Almost **47%** of survey takers said they have owned their lathes for four years or longer. And half of them have been lathe owners for at least 15 years!





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Rolling Kitchen Island

By Chris Marshall

Whether used for baking, food prep tasks or as a mobile serving station, this rolling island project offers versatility for any busy kitchen.

While I'm certainly not as good a baker as I am a woodworker — I'll leave cookie making to my daughter Barrett — I do spend enough time in the kitchen to know the truth of one culinary axiom: you can never have too much counter space. So, when my wife suggested an island that could be rolled into service and then out of the way when not needed — I put it on my "short list."

I pitched the idea to our art director Jeff Jacobson, who came up with a contemporary take on the kitchen workstation you see here. It features a thick maple butcher block top that should be ideal for serving, cooling baked goods or carrying out chopping tasks. Underneath, there's a spacious drawer for kitchen utensils that's mounted on full-extension drawer slides. The island is substantial without being too heavy to roll around on its casters, while adding almost 15 sq. ft. of counter and storage space, if you include the top and both fixed shelves. I used cherry lumber, accented with brushed stainless steel drawer pulls, which adds a touch of sophistication to what will surely become a well-used addition in our kitchen. Here's how to build one for your home's chefs.

Making the Top

Let's get this kitchen island project rolling, starting from the top. Notice in the *Material List* on page 37 that the top's overall width is 20 inches. Since this is a glued-up butcher block, where the stock is face-glued together so the edge grain is oriented vertically, you're going to see all of those individual edge laminations every time you use the island. It's important that they're of equal thickness, or the top won't be visually "balanced" across its width. I had a few planks of 8/4 hard maple on hand, so I knew my laminations could be up to about 1¾" thick, but

again, I wanted them to be of uniform proportion. After some simple division, I determined that if I planed my stock to just shy of 1⅞" thick, I could create that 20" slab with 12 matching laminations.

After jointing and planing my stock to thickness, I ripped a dozen strips to 2⅞" wide and left them about an inch longer than needed. You could proceed to face-gluing the whole works together, but that would introduce 11 slippery glue joints all at once — an awfully squirrely animal to clamp flat. Here's an easier approach: I glued up two subgroups of six laminations instead. They're much simpler to manage and still narrow enough so I could run them through my planer to flatten the top and bottom faces.

In this regard, here's a word of caution: my planer has a helical cutterhead with inserts that cut at a skewed angle. If yours has conventional straight knives, I'd advise taking your top to a cabinet shop or high school woodshop and have it flattened and thicknessed on a wide drum sander. Or use a belt sander or hand plane instead. There's a chance that a few of those laminations might have reversing or interlocked edge grain, which could tear out if power-planed.

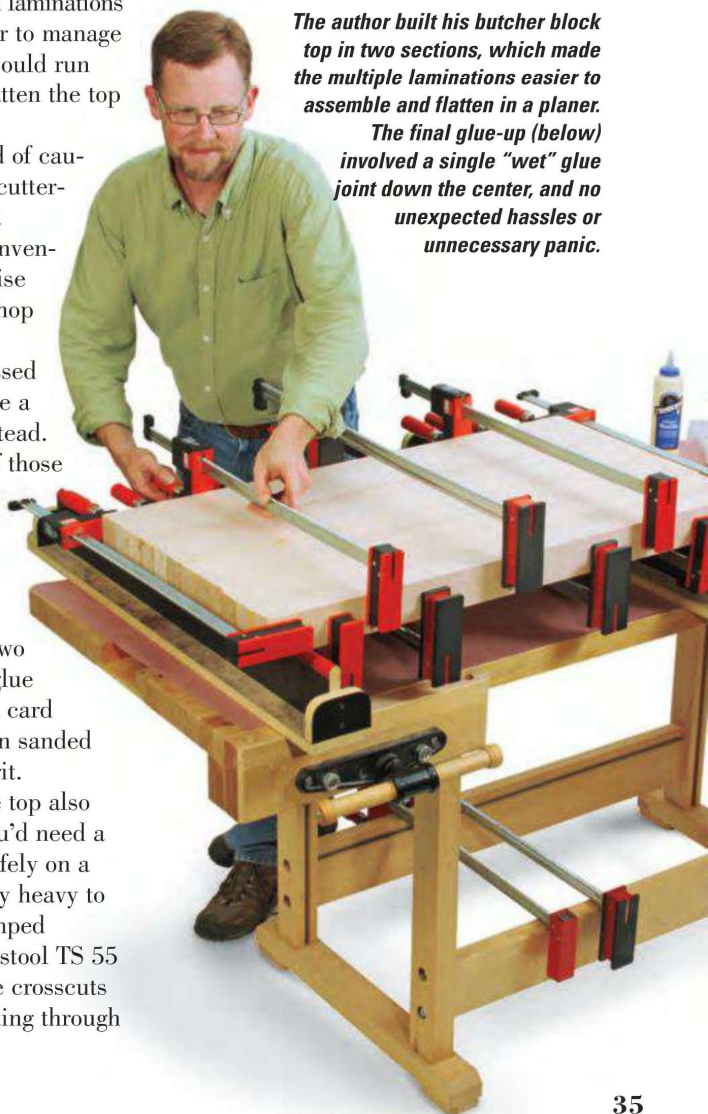
Once my glued-up blanks were fully dry, I brought the two together easily with a single glue joint. That done, I turned to a card scraper to level the seam, then sanded the blank's faces up to 150-grit.

Squaring up the ends of the top also posed a bit of a challenge: you'd need a big crosscut sled to do this safely on a table saw, and the top is pretty heavy to boot. So, I opted to use a clamped straightedge guide and my Festool TS 55 track saw. Two carefully made crosscuts per end — each partially cutting through



The author built his butcher block top in two sections, which made the multiple laminations easier to assemble and flatten in a planer.

The final glue-up (below) involved a single "wet" glue joint down the center, and no unexpected hassles or unnecessary panic.





Mortises for the stretchers and aprons all were milled on the router table with spiral bits (above). Squaring their ends is simple chisel work (right). The three aprons received shallow grooves (bottom) to fit wooden tabletop fasteners.



the blank's thickness — did the job I needed. More scraping and sanding erased the remaining saw blade marks.

Our design calls for 1/4" chamfers all around the top, so I routed them in this order: corners first, then top and bottom ends, and finally the long edges. Once this is done, do your final sanding up to 180-grit and set the top aside.

Building the Lower Framework

The legs for my project started out like the top — as two face-glued laminations that form the 3"-thick blanks. Once those were jointed and planed square, I chamfered their three outside edges and then cut the legs to final length. Study



the *Drawings* and you'll see that both the aprons and shelf stretchers attach to the legs with mortise-and-tenon joints. I laid out and cut the 1"-deep, 1 1/4"-long stretcher mortises with a 1/2" upcut spiral bit at the router table in a series of deepening passes. Mark your workpiece and either the table surface or the router fence to help you start and stop these

"drop cuts" accurately. Then switch to a 1/4"-diameter bit to mill the 3/4"-deep apron mortises — these pass straight through the tops of the legs; you can make them with one setup of the router fence, but you'll need to change the orientation of the legs on the table so the mortises either start as a drop cut from the stopped end or as a run-in cut through the top end of the leg.

When the mortises were all machined, I chopped their ends square with a chisel. I think it's easier than rounding all the ends of the tenons. Now go ahead and make up blanks for the side and back aprons and four stretchers. Then head to the table saw and mill tenons to fit the leg mortises, using the method and blade

you prefer best. The stretchers have 1/8" shoulders all around the tenons, but the aprons have a single 1/2" shoulder at the bottom end and two 1/4" side shoulders.

We'll use conventional wood tabletop fasteners later for attaching the top to the aprons, so plow a 1/4"-wide, 1/4"-deep groove along the inside top edges of the aprons while you're still at the table saw. Position these button grooves 1/2" down from the aprons' top edges.

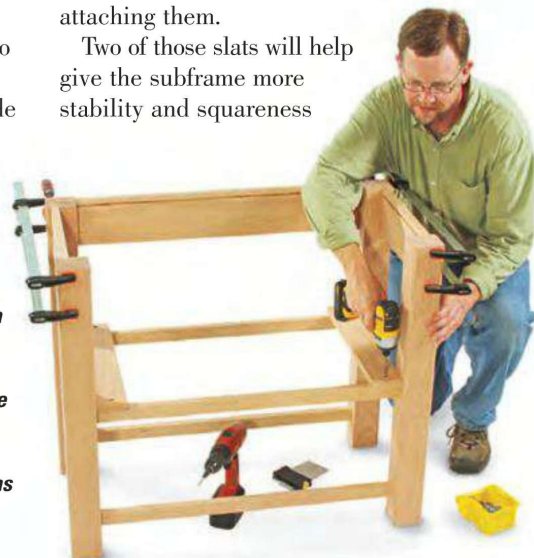
Give the legs, stretchers and aprons a thorough sanding to 180-grit. When that dust clears, it's time for some assembly. For convenience, I "stepped out" the subframe assembly this way: first, I joined the long back apron and two stretchers to the back legs with glue and clamps, then repeated that process with the two front legs and their corresponding stretchers. For both of these assemblies, I cross-pinned the apron tenons to the legs with angled 1" brads and used longer 1 1/2" brads for locking the stretcher tenons. The brads create a mechanical connection if the glue should ever fail, but they also allowed me to free up my long clamps as soon as the glue was set.

While those cure, prepare the 18 shelf slats. Here, I crosscut some wide cherry blanks so I could chamfer their ends more efficiently at the router table before ripping the slats to width, two per workpiece. I also drilled a single counterbored screw hole 1" in from their ends at the drill press to keep the holes neat and uniform. Final-sand the slats now before attaching them.

Two of those slats will help give the subframe more stability and squareness



The back legs, apron and two stretchers became one framework (left), followed by a second glue-up of front legs and stretchers. Then the two frames were brought together with the side aprons and a pair of shelf slats (right).



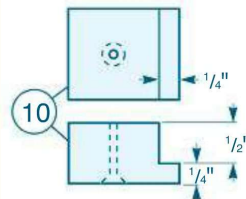
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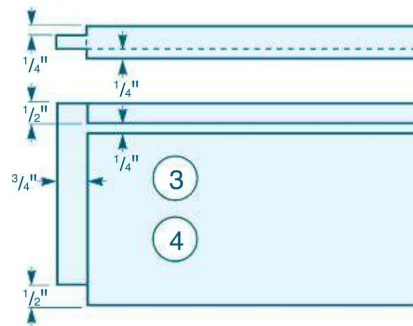
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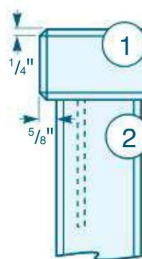
Tabletop Fasteners
(Top and Side Views)



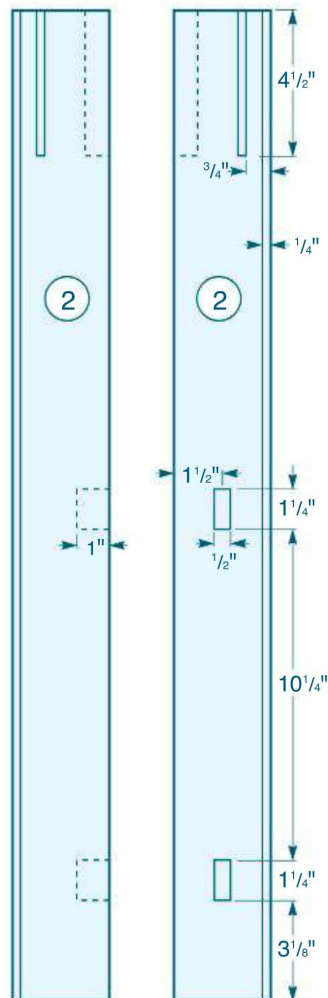
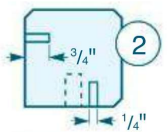
Side and Back Aprons
(Top and Inside Views)



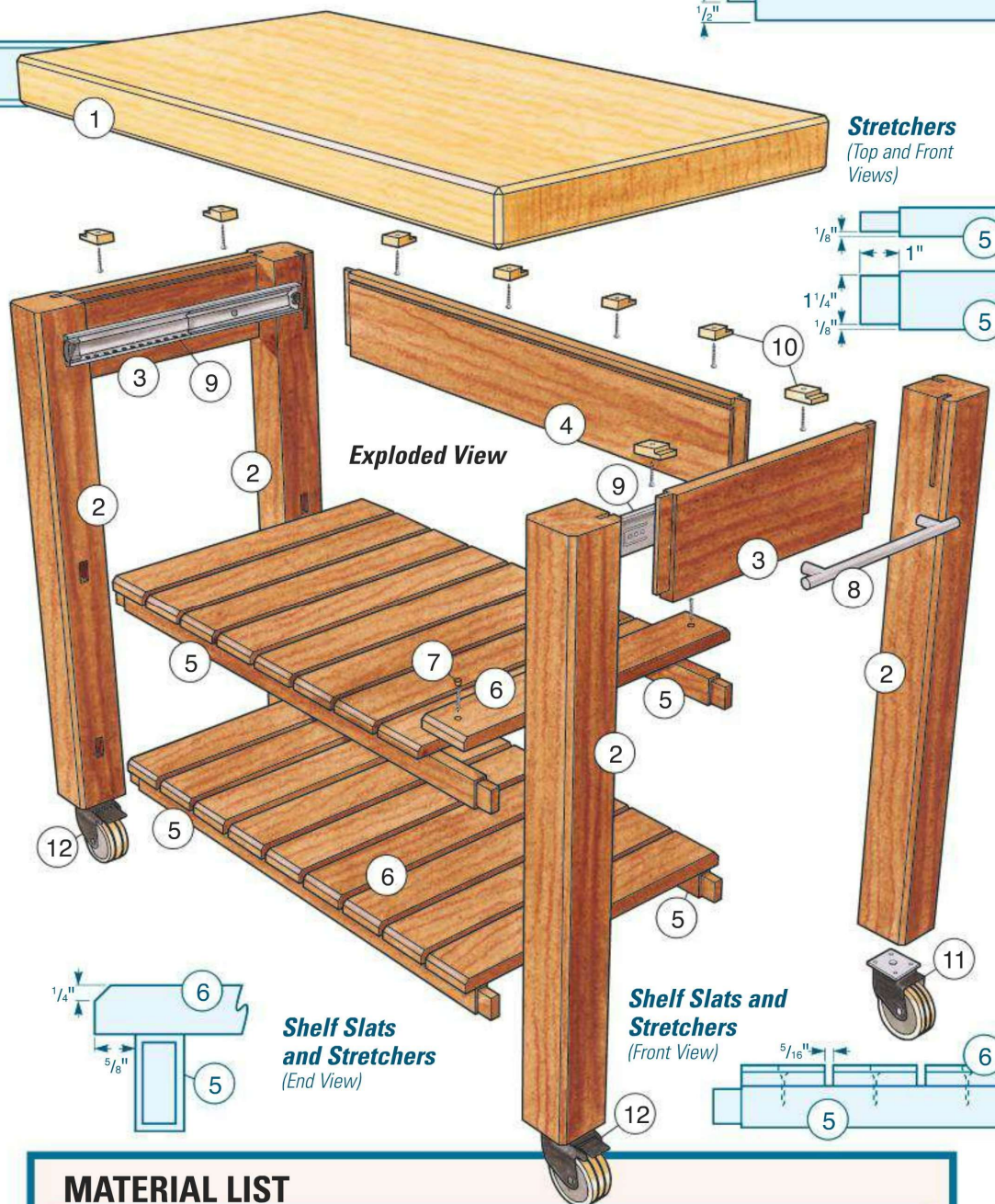
Top and Leg
(Front View)



Rear Legs
(Top, Front and Inside Views)



Exploded View



Shelf Slats and Stretchers
(End View)

Shelf Slats and Stretchers
(Front View)

MATERIAL LIST

	T x W x L		T x W x L
1 Top (1)	2 1/2" x 20" x 36 3/4"	7 Wood Plugs (36)	3/8" Dia. tapered
2 Legs (4)	3" x 3" x 30 3/4"	8 Side Handles (2)	250mm
3 Side Aprons (2)	3/4" x 5" x 14 1/4"	9 Drawer Slides (2)	16" Full-extension
4 Back Apron (1)	3/4" x 5" x 31"	10 Tabletop Fasteners (8)	3/4" x 1 1/8" x 1 1/8"
5 Stretchers (4)	3/4" x 1 1/2" x 31 1/2"	11 Casters (2)	Non-locking
6 Shelf Slats (18)	3/4" x 3" x 17 3/4"	12 Casters (2)	Locking

Note: The front legs do not have a mortise on their inside faces for an apron, but are otherwise identical to the back legs.



Shelf slats — spaced 5/16" apart and secured with screws — form the lower shelves (left). A scrap of matching cherry stock provided the raw material for shop-made tapered wood plugs (above). They are secured with glue to cover the screw heads and then trimmed flush.

when you bring the front and back leg assemblies together with the side aprons. I first glued and clamped the aprons into their mortises in the legs, then screwed two shelf slats flush against the ends of the upper stretchers where they meet the legs. Give them 5/8" of overhang, and secure them with 1/2" wood screws. Pin the apron tenons with more angled brads.

I'm a believer in finishing a project as you go along and when it makes the most sense. In this case, I'd advise finishing the island framework now before all of those other slats are in place. It's much easier to finish while the part surfaces are mostly accessible. I actually started the finishing process by setting the framework and slats outside on a sunny day for an afternoon. The UV light "jumpstarted" that warm, cherry patina. I topcoated the framework and bottom faces of the slats with clear

dewaxed shellac to add some grain depth, then followed that with water-based poly for durability (see *Finishing Thoughts*, page 82). Keep the top faces of the slats bare for the moment.

When the finish cures, install the remaining shelf slats. You should be able to use 5/16"-thick spacers between each of the slats to spread them evenly across the lower shelves. Once they're screwed down, install 3/8" tapered wood plugs with glue to hide the screw heads. Trim and sand the plugs flush, then finish the top slat faces. I mounted the short side handles next, centering them on the side aprons to wrap up the island framework.

Assembling the Drawer

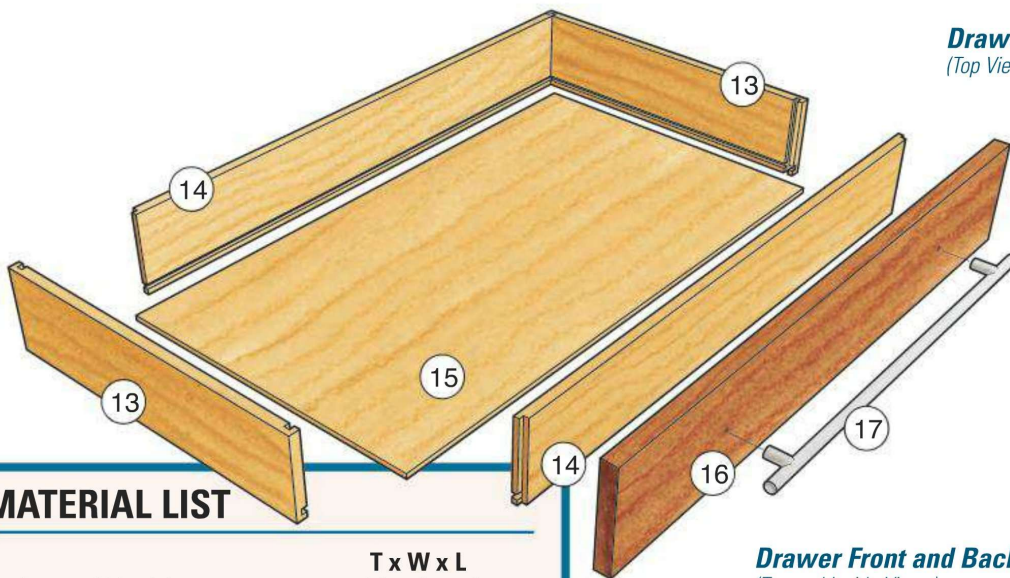
Jeff and I decided to keep the corner joinery of the drawer box simple but sturdy. It's just rabbets on the ends of the drawer front and back that fit into

corresponding dadoes in the drawer sides. Actually, the larger issue for me was sizing this drawer box accurately to fit between the drawer slides — their outer housings are a tad shy of 3/4" thick. To size the drawer parts accurately, I started by fastening the slides to the legs to get a true calculation of the span between them. Position the slides so the bottom edge of the hardware is 4" down from the tops of the legs and the front ends are 1/4" in from the leg faces. I held the slides in position with scraps and clamps to help align them accurately.

You can cut the drawer sides to size straight off the *Material List* dimensions, but measure carefully between the drawer slides before cutting your drawer's front and back pieces to final length. Subtract 1/2" from the span between the slides (this accounts for the drawer side thickness that remains beside the corner joint dado



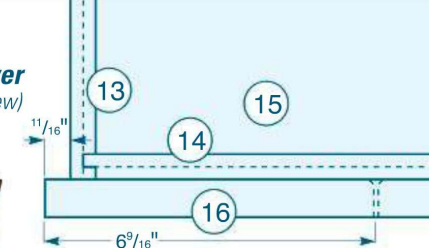
Before the author cut the drawer parts to final size and created the corner joinery (left), he mounted the drawer slides to the legs to determine the actual span between the hardware (center). That distance impacts the length of the drawer front and back workpieces. For a perfect fit, the drawer box was built slightly wider than necessary, then the sides were "shaved" incrementally at the jointer (right) until the box slid easily into position.



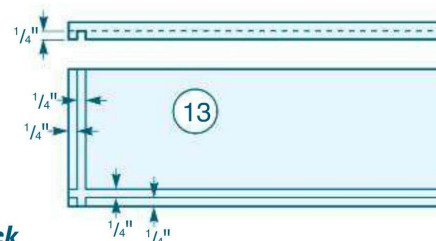
MATERIAL LIST

	T x W x L
13 Drawer Sides (2)	1/2" x 4" x 16"
14 Drawer Front and Back (2)	1/2" x 4" x 27 1/2"
15 Drawer Bottom (1)	1/4" x 15 1/2" x 27 1/2"
16 Drawer Face (1)	3/4" x 5" x 29 7/16"
17 Drawer Handle (1)	496mm

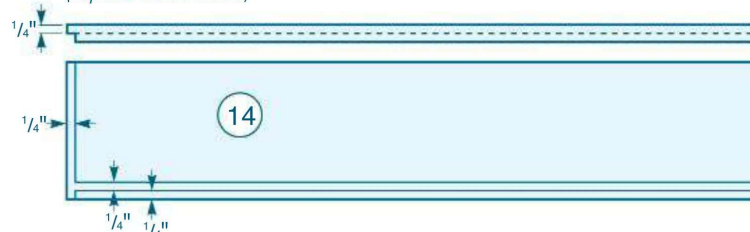
Drawer
(Top View)



Drawer Side
(Top and Inside Views)



Drawer Front and Back
(Top and Inside Views)



Use clamps to position and fine-tune the drawer face location on the box. Attach it with short countersunk screws driven from inside.

cuts) and add 1/16". That last tidbit of length will make the drawer box fit slightly tight between the slides. Go ahead and make your drawer front and back pieces, cut the rabbet-and-dado corner joinery and mill the drawer bottom grooves. Cut the drawer bottom to size. Sand all of the parts, and assemble it carefully to be sure the drawer is square.

After the glue dries, set your jointer for a whisper-thin cut. Take an equal number of passes off the outside faces of both drawer sides until the box slips easily into place between the slides; doing this gives you precise control and prevents the drawer from binding the slides during operation — either because it's slightly too wide or too narrow.

Screw the slides to the box to check the slide action, and leave it in place. Make your drawer face from a nice piece of cherry stock,

apply finish and mount the drawer handle to it, countersinking the screw heads. Clamp your drawer face to the drawer box; position it evenly between the legs and just shy of their top ends to form even reveals all around. Attach the drawer box to the drawer face with screws.

Wrapping Things Up

Use a wide dado blade buried partially in a sacrificial fence to make the 1/4" x 1/4" tongues on the ends of some 3/4" scrap for your tabletop fasteners (see the *Drawings*). Bore a single and centered countersunk screw hole in the "thick" portion of each one before cutting them to width and length.

Now carefully turn the island frame over and screw the swivel casters in

place — the front pair lock; the back set doesn't. Then invert the butcher block top on your worksurface and center the frame on it. Fasten the aprons to the top with eight fasteners. Place two on each side apron butted inside and against the legs; spread the other four out evenly along the back apron. Secure them all with screws.

Since our family will make this island a functional part of meal prep, I'll be treating the top with butcher block oil often for a food-safe and replenishable finish.

Chris Marshall is Woodworker's Journal's field editor.



Tabletop fasteners are a sturdy way to join tabletops to aprons. Make them from scrap (top). A thin tongue on each fastener engages a slot in the apron, and a screw secures the connection (left).

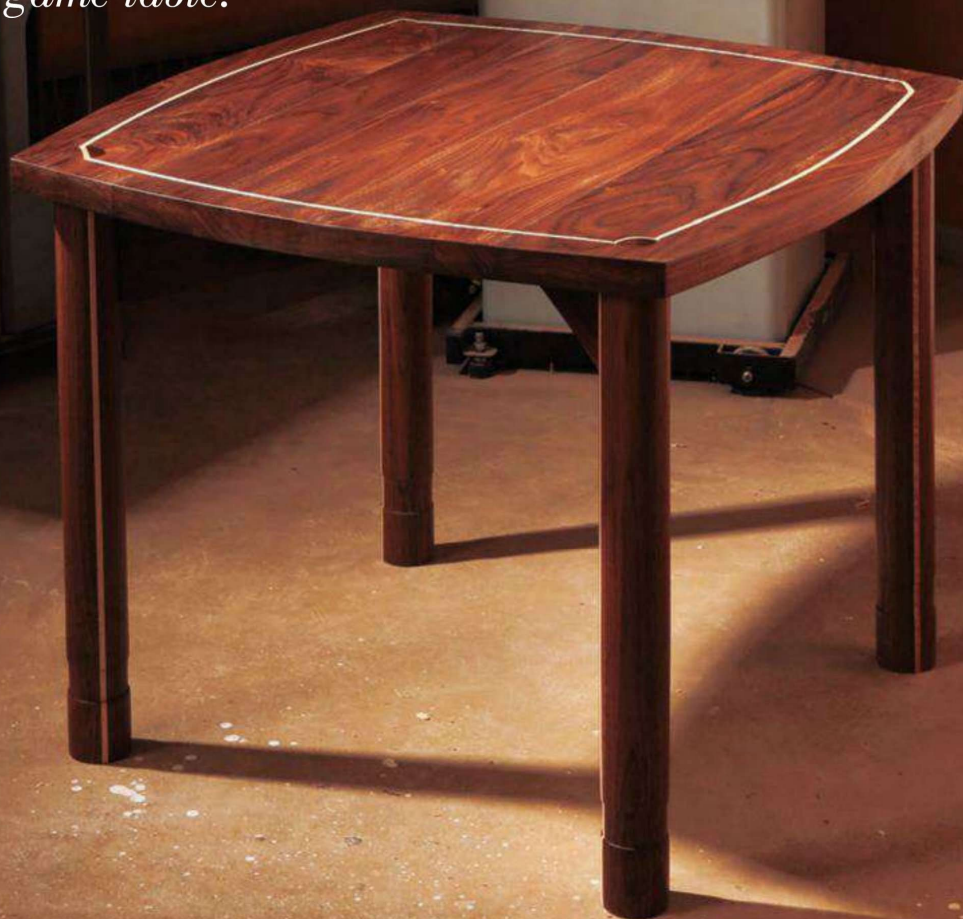


Walnut Game Table

By Rob Johnstone



Walnut and maple combine to make a beautiful and practical game table.



Of late, portable game tables that you can find at a retail store are predominantly plastic and metal versions with folding legs. They are lightweight, which also means that if you bump them while you are playing a game, they jump and slide around. Drinks and other stuff tip and spill, you can't put your elbows on the table safely; they are real lightweights in every sense of the word. They are also, well, let's say it — ugly.

But it was not always that way. Recently, my good friend Mary picked up a vintage bridge table at an estate sale. It had folding legs and a solid top ... all made of curly maple (it was not a lightweight at all, but

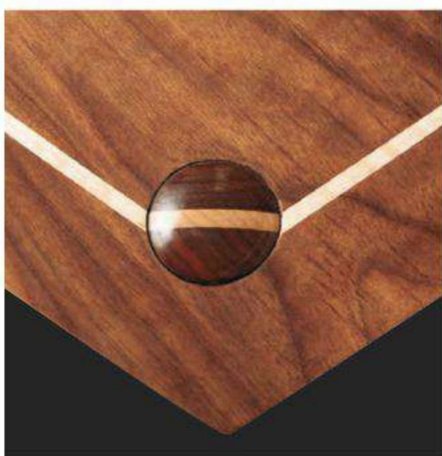
it was portable). Which got us to thinking about what we at the *Journal* could do to update the game table concept: a portable, storable table of the right height and size, that's easy to set up — but is not so hard on the eyes. So publisher Larry Stoiaken, art director Jeff Jacobson and yours truly put on our thinking caps and got busy.

The challenges before us included that, while the table had to be easy to store, it also had to be sturdy enough that regular game playing wouldn't cause it to wiggle and wobble. The solution? A pull-apart X-stretcher and leg design. The top, which is thick to add mass (to help fight wobble and bounce), sits on top of the legset and

is secured by tenons that go through the top and are exposed for decorative reasons. To fight “the ugly,” we made the table out of walnut and added maple accents. The top has gently curving edges that harmonize with the curved stretchers, inlay and the turned legs — it's a nice look for a modern game table.

Preparation is the Key

While this table only has a few parts to make, there is a surprising amount of preparation that is needed to avoid annoying challenges later on. Start out by getting all your lumber into your shop and letting it adjust to your shop's climate. The



Tenons on the legs come all the way through the tabletop (above left). The legs are joined to the stretchers by large mortise-and-tenon joints that provide a solid connection (center). The ends of the legs present wide, flat feet that help to keep the table from wobbling when in use (above right). Plainsawn walnut with a clear finish applied gives this modern-looking game table a classic feel.

top of this table will not have any support to keep it from warping (like attached aprons, for example), so letting it stabilize is important. Also, this table has 1/4" maple inlay strips set into the top and matching maple sections in the legs. Before I started, I selected a 1/4" router bit I would use to plow the inlay grooves, and I cut a groove into a piece of scrap lumber. I used that groove as a gauge to be sure my leg laminations were the same dimension as the inlay. That's important, because the tenons on the legs pierce the tabletop, standing proud just a bit. The maple inlay will meet the leg laminations, and they should be the same size.

The next point to make is that the diameter of the tenons on the ends of the legs should match a drill bit that you have in your shop. So either find a bit in the 2" diameter range in your collection, or get one before you start turning the legs — so you can match the tenon to an actual hole. Once again, I made a gauge of sorts by boring a hole with my bit into some scrap lumber, then I bisected the hole by cutting the scrap with a miter saw. That became my test piece as I was raising the tenons on the ends of the legs.

With those steps behind me, it was time to start preparing the lumber. I wanted to glue up an oversized blank for the tabletop and let it sit for a while, so that's where I started. Using 1 1/4" walnut lumber, I started harvesting the parts by selecting the most attractive sections of the lumber and cutting them roughly to length and width from the larger boards. I face-jointed the pieces to make certain that they were perfectly flat and then ran the whole

lot through the planer to ensure that they were of uniform thickness as well. From there it was back to the jointer to edge-joint perfectly square edges onto each piece before hauling the pieces over to the table saw and ripping the non-jointed edges exactly parallel to the jointed edges. One more trip back to the jointer to prepare the ripped edge for glue-up, and I was ready to compose the top.

What I mean by "composing" the top is that, by aligning the various pieces of prepared lumber next to each other in different combinations, the look that the figure of the wood grain will present changes dramatically. While there is no hard-and-fast, right or wrong, way to put the top together, by taking time to try out various arrangements of the boards, I was able to greatly improve the look of the top. This is one of the subtle but important ways

that a home shop woodworker can improve the look of any project.

When I was satisfied, I marked the top with a triangle and glued it together. Then I set the top aside until later.

Making the Laminated Legs

Each leg is built up of three laminations, two pieces of walnut and one of maple, as you can see in the *Drawings* on page 43. I made the maple pieces by resawing 3/8"-thick slices from a thicker board and surfaced them in my planer. (I also



Four substantial turned legs support the tabletop. Chop the mortises into the legs before turning them; they are easier to cut on a squared-up blank than on a round leg.



The author prepared the stock for the tabletop through face-planing the walnut. By examining how the various boards look in relationship to one another, he formed an attractive top.

saved the extra to make the inlay strips later.) The walnut pieces started out at 1 3/4" stock (the same as the top), but as the legs would end up at 2 3/8" in diameter coming off the lathe, I did not need to use them at full thickness. After face-planing the walnut, my plan was to make leg turning blanks that were exactly 3 3/8" square, so I ripped the walnut to 3 3/4" wide and then resawed the pieces to 1 7/8" thick instead of just turning the extra thickness to wood chips in my planer. (I kept the falling stock to use another time.) I then glued up the three-piece hardwood sandwich with the 1/4" maple in the middle. When the glue had cured, I took the leg blanks to the jointer and created two dead-flat and perfectly 90° adjacent surfaces on each blank. Then I grabbed the blanks and took them to the table saw to square them up to 3 3/8".

With the blanks straight and square, I cut them an inch or so overlong on a miter saw, with the ends true and square. Next, I set up my mortising machine to chop the 1/2"-wide mortises in the legs. I find it easier to do this accurately with the



legs stuck-up before they're turned round. You can find the location and dimension of the mortises in the *Drawings*. With the mortises completed, it was time to get going on the lathe. I located the center of the leg blank ends and used an awl to make a dimple to help mount the legs accurately between centers on the lathe.

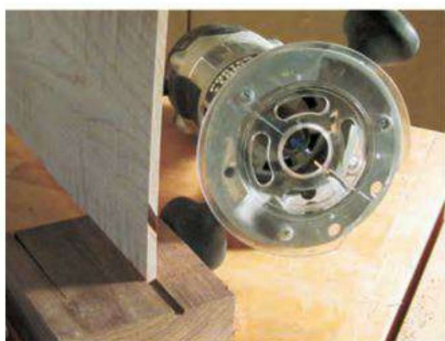
The legs roughed out very easily and, because I made the blanks so exact, as soon as they were round, they were basically ready to be smoothed out. Although I confess that I am not a great hand with a skew, I used one to smooth out the barrel of the legs. Following that step, I stopped the lathe and marked out a few details on the leg. I marked the tenon shoulder at 2 1/4" down from the end. This leaves it overly long, but I would need to get rid of the marks from the drive center, so I chose to cut off the extra bit later. I also marked the exact length of leg, measuring from the shoulder of the tenon, and where the recessed accent segment would be. Then I spun up the lathe and formed the tenon, using the sizing gauge I mentioned earlier to get the right diameter. When that was done, I used a parting tool to establish the bottom of the leg, and then switched to a square-end scraper to form the decorative accent. Sanding was the next task, and the leg was nearly done. I decided to apply a coat of shellac-based

friction finish on each leg, so I stopped the lathe and put masking tape inside the mortise to keep it free of finish. The friction coat went on smoothly, and I was ready to take the leg off of the lathe. (Later, I trimmed the bottom of the leg on the miter saw, using the groove I had made to locate the cut.)

Creating the Stretchers

The stretcher stock is the only 3/4" material used in this project. I cut my blanks to length and width and then reached for my table saw's tenoning jig. I used some cutoff pieces from the stretcher to prepare the jig, adjusting the cut to fit the mortises in the legs. After setting the depth of the cut, I raised the tenons. Then I used the table saw to cut the short shoulders at the top and bottom of the tenons. The tenons fit the mortises nicely, but I still undercut the long shoulders of the tenons with a chisel so they better fit the rounded legs.

It was time to mark a gentle curve on the bottom of one of the stretchers and cut it using my band saw. Using the first stretcher as a guide, I transferred the curve to the second stretcher and cut it to match. Clamping the two pieces together, I used a random orbit sander to fair the curved edges, then sanded the faces of the stretchers smooth. To complete the stretchers, I stepped to the table saw to form the half-lap joint into the middle of the flat edge of one stretcher (see the *Drawings*), but used a Japanese handsaw to cut the half-lap on the curved edge of the other. I completed that cutout with a chisel. After final test fitting, I clamped and glued the legs to the stretchers, using shop-made V-block clamping cauls. While the glue cured, I turned my attention back to the tabletop.



Plow a groove with the router bit you will use to recess the tabletop inlay. Use it to test the maple pieces' thickness.



The author resawed the 1 3/4" walnut leg blanks down to size and saved the drop pieces for another time and another project.



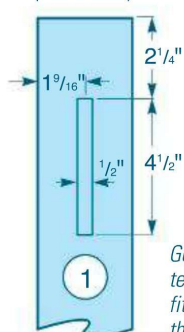
Using a mortising machine, the author chopped out the mortises when the legs were glued up but still in rectilinear form.



After roughing out the leg blank and then smoothing it with a skew, raise the tenon at the end of the leg where you've chopped the mortise (left). At the other end of the leg, the exact length of the leg is established, and then you form the recessed detail using a square-end scraper (right).

Tenon Detail

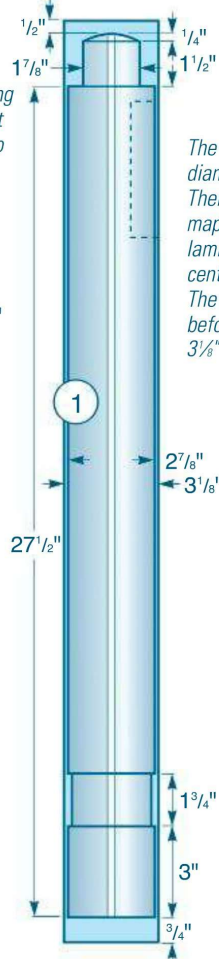
(Front View)



Note: The 9/16" deep mortises are formed prior to turning.

Leg Blank

(Front View)

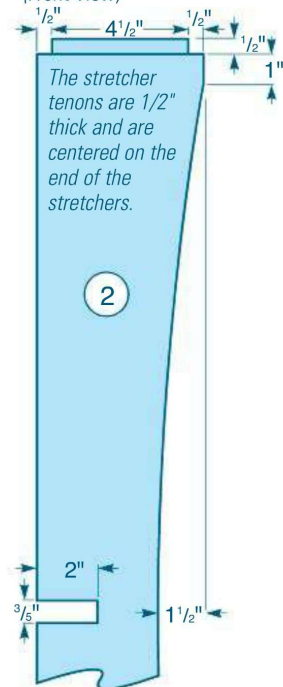


Get tight-fitting tenons by test fitting them to the mortises, which were formed first.

The finished leg diameter is 2 7/8". There is a 1/4"-thick maple segment laminated into the center of the legs. The glued-up blank, before turning, is 3 1/8" in diameter.

Stretcher

(Front View)

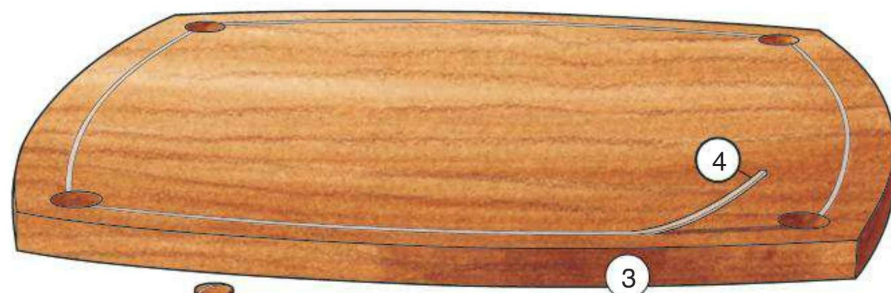


The stretcher tenons are 1/2" thick and are centered on the end of the stretchers.

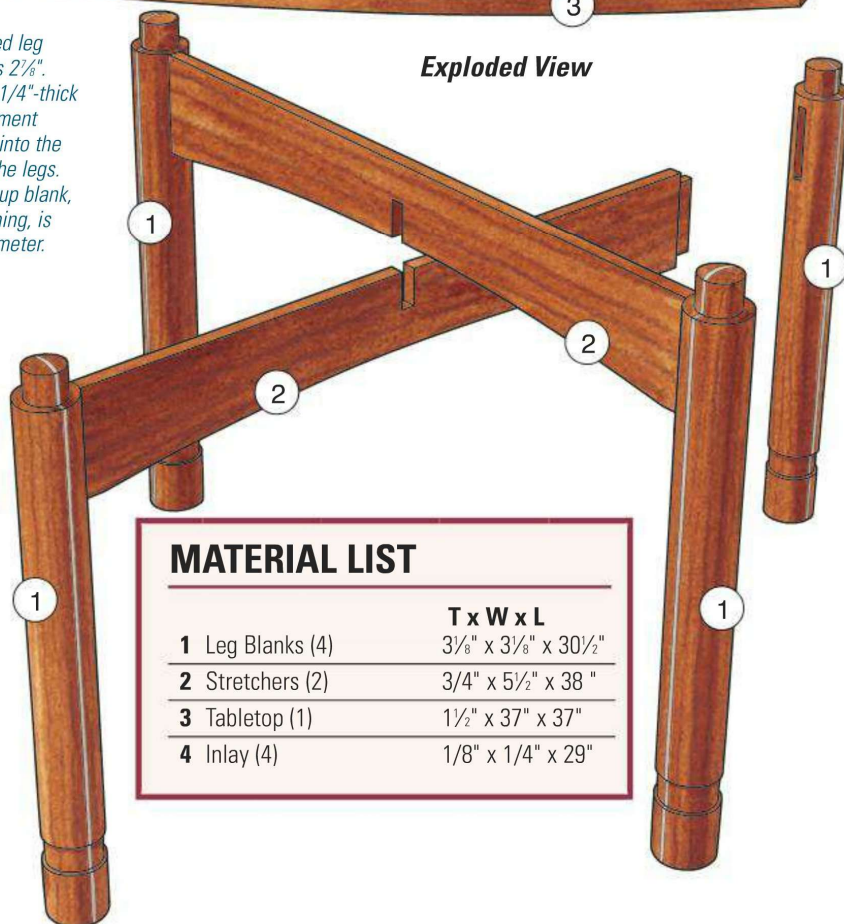
Note: The other stretcher has a notch cut on the opposing edge to form a half-lap joint as shown in the exploded view.

Tabletop

(Top View)



Exploded View



MATERIAL LIST

	T x W x L
1 Leg Blanks (4)	3 1/8" x 3 1/8" x 30 1/2"
2 Stretchers (2)	3/4" x 5 1/2" x 38"
3 Tabletop (1)	1 1/2" x 37" x 37"
4 Inlay (4)	1/8" x 1/4" x 29"

3

1 7/8" Dia.

The location of the leg holes on the tabletop is best determined by marking an X from corner to corner on the bottom of the squared up tabletop blank. Place the clamped-together leg subassembly (with the clipped nails) onto the blank (tenons down), locate the tenon ends on the marked X and transfer the leg positions by gently tapping the bottom of the legs with a mallet.



The author used a tenoning jig on the table saw to raise the tenons on the ends of the stretchers.



After clamping the legs to the stretcher with V-blocks as cauls (above), the author placed clipped nails in the recess made by the turning center (right) to mark the legs' locations on the top.



Detailing the Top

After taking the top out of its clamps, I scraped all the glue squeeze-out from both faces of the workpiece. Despite taking considerable care to align the pieces during glue-up, I needed to flatten both faces of the tabletop. You can do this a few different ways, but I find using a large hand plane (I used an 07) and planing across the grain to be the fastest and most effective technique. You could also use a belt sander as well (also sanding across rather than with the grain) and get good results. After both faces of the tabletop were flat and smooth, I followed with a random orbit sander up to 150-grit and then cut the tabletop blank to 37" square.

Now it was time to locate the holes for the tenons.

I suppose it would be possible to mark out the exact locations to drill the tenon holes using geometry and careful marks, but I am a bit lazy by nature. So I clipped off finishing nails and tapped them into the hole left by the drive cen-

ter. Putting the tabletop on my bench (top side down), I drew an X from corner to corner. Then I clamped the leg subassembly together and placed it, tenons down, on the top. With the tenons on the X, I simply tapped the bottom of each leg, driving the clipped nails down to mark the center of the tenon into the tabletop. Drilling the holes was easy using the Forstner bit that I had sourced earlier.

Now it was time to test the fit of the top on the legs. It fit well over the tenons, but due to inconsistency in the way I turned each tenon, the ends did not stick up past the top exactly the same amount. I solved this challenge by using a knife to mark the level of the tabletop on each tenon, and then I attached a 1/4"-thick spacer taped to the face of my Japanese handsaw and used it to scribe a line around the exposed tenons. This gave me the marks I needed to trim the legs to their final length. That done, I rounded over the ends of the tenons with a random orbit sander. The curve of the dome-shaped ends stops at the knife line. (See the photo sequence below.) I sanded the ends of the tenons up through the grits, and then applied shellac to seal them up.

Inlays and Shaping the Tabletop

The end of this table's construction was fast approaching, but some tricky details remained. Once again, I put the top onto the leg assembly. What I needed to do now was mark where the inlays needed to terminate on the tabletop. Using an 1/8" bench chisel, I clearly inscribed two marks that plotted the width and the orientation of the maple leg section on both sides of the exposed tenon.



Once holes for the tenons were bored in the tabletop (far left), the author marked them first with a knife to indicate the level of the tabletop on the tenon, then with a saw — with a 1/4" spacer taped to one face — to establish the top of the leg (left). He cut the legs to length (center) and then gently rounded them using a sander (right).

Next, I used an old trick to form a gentle but consistent arc. I ripped a piece of clear pine to 1/4" thick, flexed it in a clamp and found the right shape on the tabletop (see the photo at right). I transferred that shape onto a piece of 1/2" plywood that was about 43" long and 12" wide and made the arc consistent across the length of the plywood. Cutting the shape on the band saw, I used a benchtop disc sander to fair it to the marked line. Chucking my 1/4" straight bit into a router, I set up for the inlay cuts. Using a rub collar, I could set the router down on the plywood with the bit in the leg hole, and then peek to see if the bit was aligned to the marks in the tabletop. I clamped the plywood jig in place and then routed a groove 1/8" deep. Alignment here is critical, because if the inlay and the maple segment of the legs don't touch, it would look pretty wonky. I carefully plowed the remaining grooves.

The reason that I made the plywood jig 43" long was so that I could use it to shape the edges of the table by template routing. This way, the curve of the table edge matches the curve of the inlay perfectly. Once again, I drew an X corner to corner on the top to help align the jig. Centering the plywood jig on the tabletop, I clamped it in place with the forward-most aspect of the jig flush to the edge of the top and scribed the shape making sure the measurement on each cornerline was the same. Grabbing a handheld jig-saw, I rough-cut the curve, taking care to stay outside the line. With that done, I mounted a 3/4"-diameter pattern-routing bit in my router and, with the plywood jig clamped back in place, I cut the edge of the top to shape. My pattern-routing bit was about 1/2" too short to cut completely through the tabletop in one pass, so I took the jig off, and completed the operation with the bit's bearing riding against the cut I just made.

Using the extra 1/4" maple that I had surfaced earlier, I ripped strips to 3/16" wide. Taking them to the tabletop, I flexed them to shape and then cut them to approximate length. Then I did a bit of final fitting on both the grooves and the strips with 100-grit sandpaper. When they fit properly, I put a small bead of glue into the groove and spread it around with a small paintbrush dipped in water. Pushing the inlay in place with my fingers, I fol-



The author figured the perfect arc between inlay marks, then transferred it to a piece of 1/2" plywood for a template. With the inlay's arc machined onto the forward edge of the template, he used a router with a rub collar to plow a groove for the inlay pieces. Switching to a pattern-routing bit, he used the same template to cut the curved edges of the tabletop.



lowed up with a mallet and a small chunk of wood to drive the inlay home in the groove. No clamps were needed as the glue cured.

I reached for a hand plane to take off the excess inlay and then sanded the top through the grits to 220-grit on the upper surface and 150-grit on the underside. I applied three coats of shellac to all faces of the tabletop using a good quality brush, denibbing between coats, and then sprayed two coats of lacquer to complete the film coat. I also sprayed the legs with lacquer. When that

cured, I applied paste wax to the inside of the leg holes and to the shoulders and around the tenons, to keep the finish from welding together in use.

With that, the project was completed, and that meant game time was just around the corner!

Rob Johnstone is the editor in chief of the Woodworker's Journal.

Applying spray lacquer as the final finish over a shellac base coat added durability to the finish. A game table will get a bit of abuse in the natural order of things.



Early American Dresser

By Stuart Barron

This revival of a Today's Woodworker project is a lovely piece of early American design — complete with a secret compartment!



Planning Ahead:

- 40 board feet of 3/4" cherry
- 6 board feet of 1 3/4" cherry
- 38 board feet of 3/4" poplar
- 1 1/4 sheets of 3/8" birch plywood
- Eight pulls: #36731 ... \$10.49 each
www.woodworkersjournal.com/store
or call 800-610-0883 (code WJ1252).

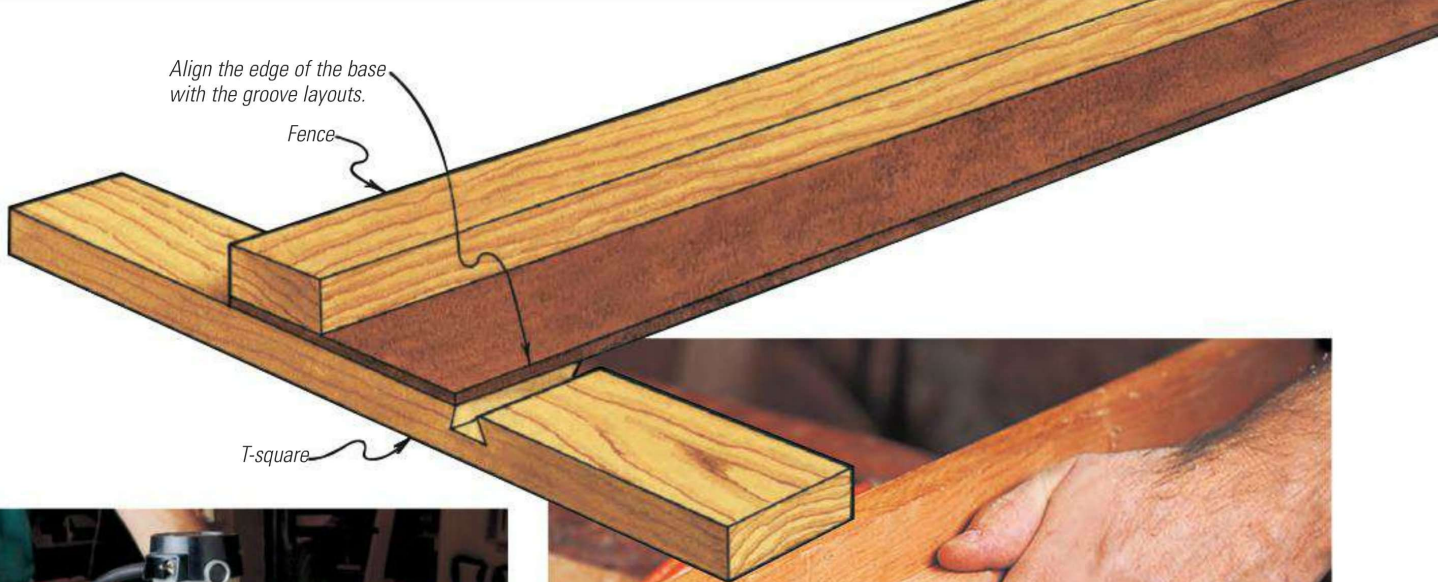


Figure 1: Make your T-square jig using an extra-wide piece of 1/4" plywood for the base. Trim it to size with your router and a 1/4" straight bit. Now you can align the edge of the base with your layouts and rout grooves using a dovetail bit.



Figure 2: Test the setup for the sliding dovetail construction carefully. Here the author is cutting a test piece to size — it should develop a friction "push fit."

Building this dresser may mark a number of firsts for you. It may be the first time you'll build early American furniture. It may be your first large, solid-wood casework project. And it may be your first shot at cutting dovetails by hand, if you so choose. But jumping these hurdles will surely open up creative possibilities while helping you build a truly classic dresser.

Inspiration for this project came when we visited a small antique shop. Just inside the front door sat an unusual old dresser made of clear pine with an orange shellac finish. It had all the telltale signs of age — fine joinery, nicked feet, a beautiful patina and a crazed finish — although we could tell by all the plugged pilot holes in the drawer fronts that the hardware wasn't original. What really caught our eye was the curved top molding, which turned out to be the front of a drawer. After doing a little research we found that hidden drawers like this one were used for storing documents, although it's hard to imagine how the drawer remained secret for very long. Working from some basic measurements and a photo of the dresser, we made some detailed drawings and set out to construct this dresser just like the original antique.

Selecting Wood and Gluing Panels

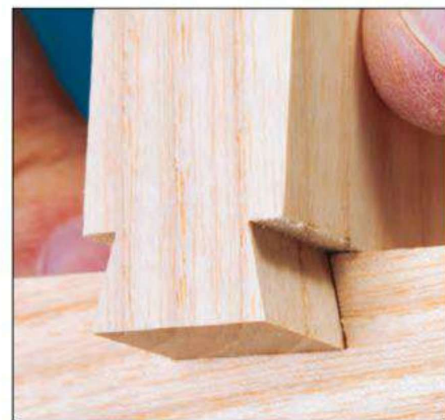
Country craftsmen traditionally chose local woods for their projects, like cherry and pine, and they left the imported woods to urban cabinetmakers who had rich customers with an appetite for fancier furniture. We chose cherry because it's both a handsome species and also because it's a bit more durable than clear pine — another good choice for furniture like this. For the hidden parts of the dresser, like the drawer sides and backs and the internal frames, we chose poplar. The drawer bottoms and the dresser's back panel are made of birch plywood.

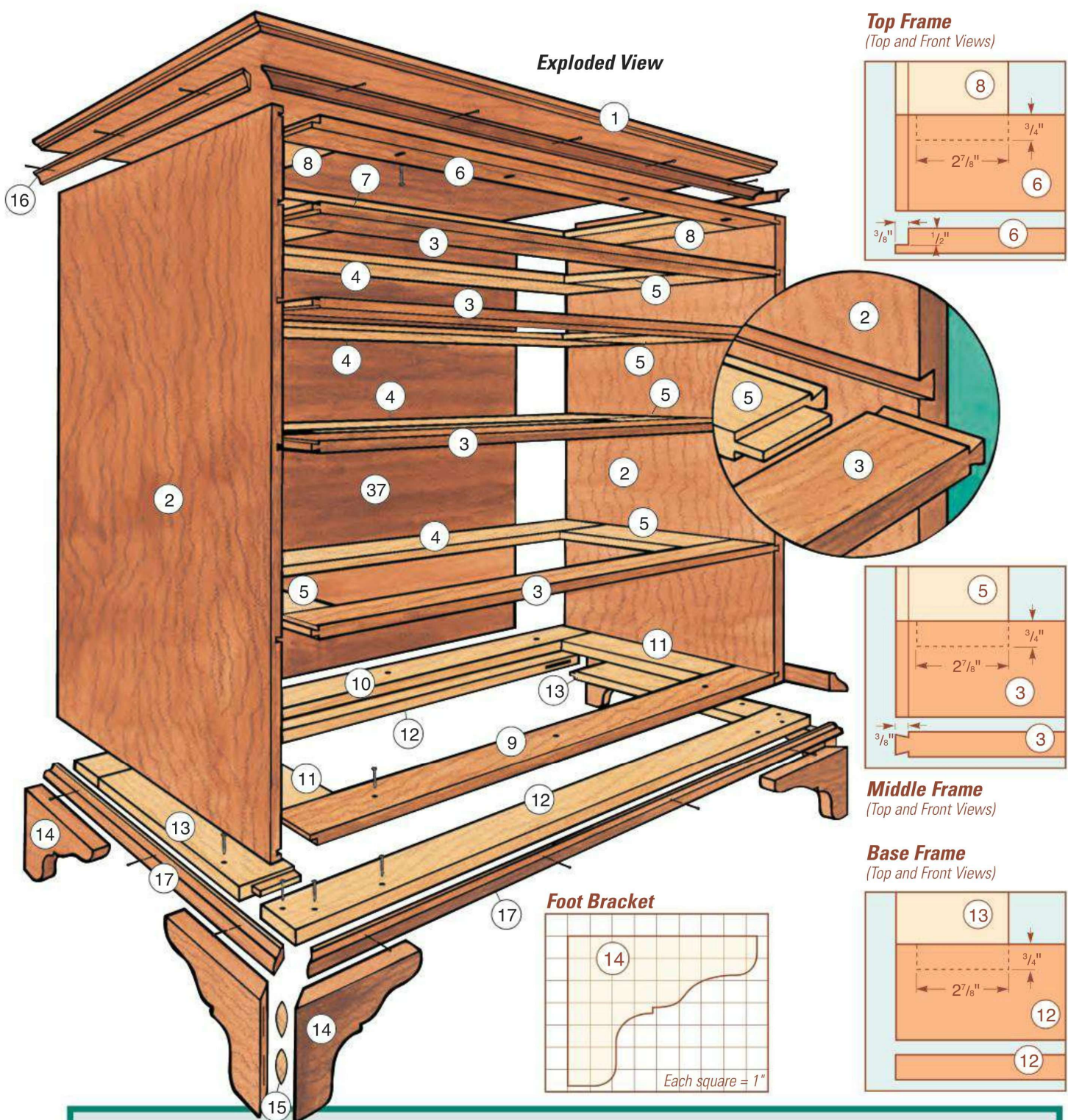
Set aside your best cherry boards for the drawer fronts (pieces 18, 21, 24, 27 and 30), and use your next best stock for the top and sides (pieces 1 and 2). Joint and glue your lumber for the top and side panels and, after the glue sets up, remove the squeeze-out with a scraper or chisel. Later, plane the panels flat and sand them to 120-grit.

Cut the side panels to size and lay out the sliding dovetail grooves, the top and bottom dadoes and the back panel rabbets, as shown in the Side elevation found in the *Drawings* on page 49. Cut the dadoes and rabbets with your table

The Sliding Dovetail

In Colonial times, wood movement was a big issue with cabinetmakers, as it remains today. For centuries, sliding dovetail joints have been used to hold solid-wood structures together while allowing wood panels to shrink or swell with the seasons. The key is to leave the rails unglued and let the tails on the ends of the stiles hold the carcass together.



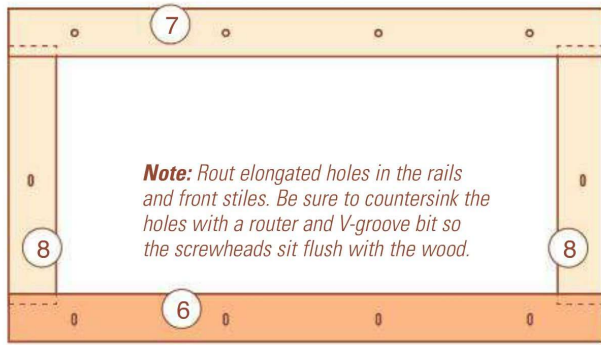


MATERIAL LIST CARCASS

	T x W x L		T x W x L
1 Top (1)	3/4" x 22" x 39" (cherry)	10 Bottom Frame Rear Stile (1)	3/4" x 2 7/8" x 35 7/8" (poplar)
2 Sides (2)	3/4" x 20 1/2" x 32" (cherry)	11 Bottom Frame Rails (2)	3/4" x 3 3/8" x 15 5/8" (poplar)
3 Middle Frame Front Stiles (4)	3/4" x 2 7/8" x 35 7/8" (cherry)	12 Base Frame Stiles (2)	3/4" x 2 7/8" x 36 5/8" (poplar)
4 Middle Frame Rear Stiles (4)	3/4" x 2 7/8" x 35 7/8" (poplar)	13 Base Frame Rails (2)	3/4" x 2 7/8" x 15 5/8" (poplar)
5 Middle Frame Rails (8)	3/4" x 3 3/8" x 15 5/8" (poplar)	14 Feet (6)	1 3/4" x 6 3/4" x 8 1/2" (cherry)
6 Top Frame Front Stile (1)	3/4" x 2 7/8" x 35 7/8" (cherry)	15 Splines/Biscuits (2/4)	1/4" splines or #20 biscuits
7 Top Frame Rear Stile (1)	3/4" x 2 7/8" x 35 7/8" (poplar)	16 Cornice Molding (2)	3/4" x 1" x 48" (cherry)
8 Top Frame Rails (2)	3/4" x 3 3/8" x 15 5/8" (poplar)	17 Base Molding (2)	3/4" x 1" x 48" (cherry)
9 Bottom Frame Front Stile (1)	3/4" x 2 7/8" x 35 7/8" (cherry)		

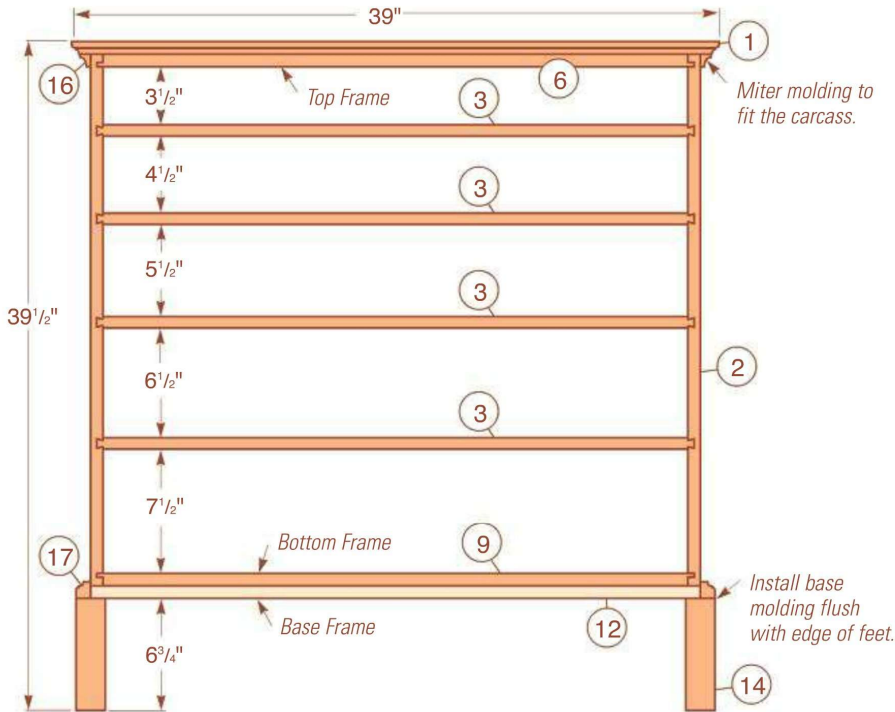
Top Frame (Top View)

Note: Drill fixed countersunk pilot holes in the back stile.



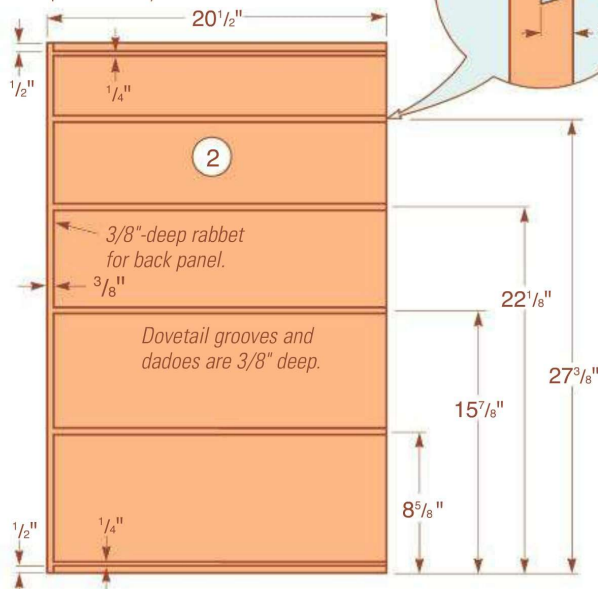
Note: Rout elongated holes in the rails and front stiles. Be sure to countersink the holes with a router and V-groove bit so the screwheads sit flush with the wood.

Cabinet (Front View)



Dovetail Detail

Side (Inside View)



Note: All dovetail locations shown on the side panel elevation indicate the center of the grooves. Lay out the center lines, then use the detail at right to lay out the full width of each groove. Use your router and the jig shown on page 47 to make two passes for each groove with a 1/2" diameter, 14°, 1/4" shank dovetail bit.



Figure 3: Clamp a setup block to your fence to align the shoulder of your tenon layout with the 1/2" dado blade. Make two passes to cut each cheek.

saw and the appropriately sized dado blades, then build a jig like the one shown in Figure 1 (see page 47) for routing the sliding dovetail grooves. Chuck a dovetail bit in your router and clamp the jig next to a joint layout on a panel. Set the depth of cut to 3/8" and rout the groove. Repeat this procedure for each of the sliding dovetail grooves.

Building the Carcass

Rip cherry and poplar stock for the middle frames, the bottom frame, the base frame and the top frame (pieces 3 through 13). After cutting the pieces to length, lay out mortises on all the frame stiles for the rail to stile joints, as shown in the *Drawings* opposite page. Use a 3/16" drill bit and your drill press to rough out the mortises, then clean them up with a chisel. Next, form tenons on the ends of the rails to fit the mortises, using a table saw and a 1/2" dado blade (see Figure 3).

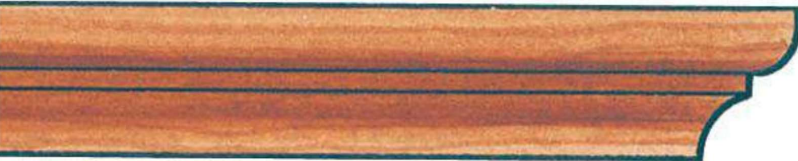
Test-fit the tenons in their mortises, then bring the top, middle and bottom web frames together with glue and clamps. Check the frames for square by measuring their diagonals, and make any necessary adjustments to the clamps to bring them into square.

While the glue dries, set up your router table with the same dovetail bit you used for cutting the grooves in the dresser's side panels. Clamp a fence near the bit and cut a dovetail on the edge of some scrap wood to fit in the side panel grooves (see Figure 2, page 47). You want a snug fit, just tight enough to require a few taps

Making the Moldings

Top Edging Detail

Step 1: Use a core box bit to form a cove at the edges of the board.
Step 2: Install a roundover bit in your router table to complete the molding.



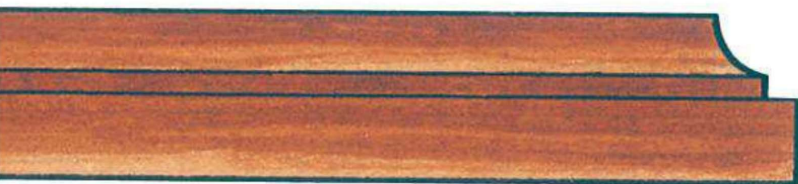
Cornice Molding Detail

Rout the edges of the board with a piloted cove bit, leaving a 1/8"-wide fillet along the top of each edge.



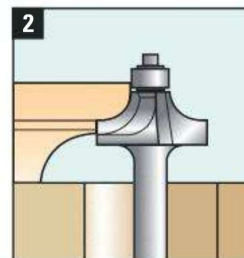
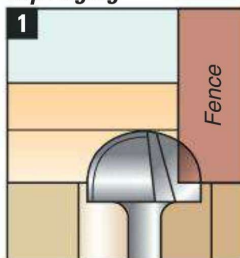
Base Molding Detail

Step 1: Use a core box bit to rout a cove along the edges.
Step 2: Cut rabbets with your table saw.

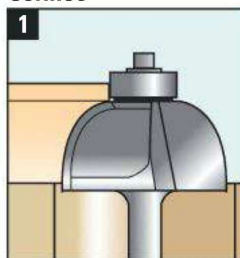


Machining Steps

Top Edging

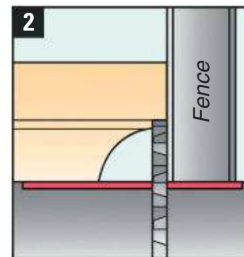
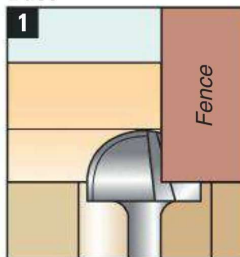


Cornice



The top edging and the base molding are created through a sequence of steps illustrated at here. This allows for construction of a totally custom shape.

Base



with a mallet before it slides into place. Adjust your fence setup until you get the fit of the parts just right, then rout tails on both ends of the four middle frames (match the Dovetail Detail on page 49). You'll need to stand the web frames on end against the router table fence to

make these cuts, so a tall featherboard could be helpful for pressing the frames firmly against the fence as you work.

Since there isn't room for well-supported sliding dovetail joints at the top and bottom ends of the side panels, you'll join the top and bottom frames to the sides

with tongues and dadoes. Install a 3/8" dado blade in your table saw and raise the blade 1/2" to form the 1/4" tongues on the ends of these two frames.

Now rout 1/8"-wide elongated holes in the front stile and rails of the top frame, and drill fixed holes in the back stile as



Figure 4: After mitering the front feet, cut slots with a biscuit joiner and join the pieces with biscuits. If you don't have a biscuit joiner, use splines.



Figure 5: Use a 1/4" or narrower hand saw blade for making the tight cuts along the outline of each foot. Set the saw guides just above the wood to keep the blade from wandering.

“There’s a wealth of woodworking knowledge hidden in this dresser. By building it, you’ve now stepped into the shoes of the craftsman who built the original some 200 years ago.”

shown in the Top Frame elevation (see the *Drawings*, page 49). Countersink all the holes with a V-bit and router to recess the heads of your screws. These holes will allow the top to move after it’s screwed to the carcass.

You’re finally ready to begin assembling the carcass, but it’s crucial to remember that the side panels will expand and contract across the grain to some degree from season to season. You don’t want to glue the web frames all along the dados and dovetail grooves, or they’ll restrict this panel movement. So, tap the web frames into both side panels to bring the carcass together, but stop them about 3" from the front edges of the panels. Now spread glue into just these remaining areas of the dados and dovetail grooves before driving the web frames the rest of the way home. This way, the dresser’s side panels can expand toward the rear — and, of course, the dovetails will lock the parts together even without the benefit of additional glue.

Constructing the Base

Glue the base frame together, then select thick cherry stock for the feet (pieces 14). Cut the stock for the feet to size and miter one end of four pieces for the front foot assemblies. Make sure the miters are square to the edges of the stock. Next rout a spline slot or cut biscuit slots in the miters (see Figure 4). Adding splines or biscuits (pieces 15) to the miter joints will greatly reinforce the foot assemblies. This done, make a full-size pattern of the foot using the *Drawings* as a guide, and trace it onto your stock. Band saw the feet to shape (see Figure 5) and smooth the edges with a drum sander. Make plywood splines (if you need them) and glue the mitered feet together.

After blending the corners of the two front foot assemblies with a palm sander, draw a line on the top of each foot 3/4" back from the front edge. Glue and screw

the base frame to the feet, aligning the outside edges of the frame with the lines you just drew on the feet — make sure the back edge of the frame is flush with the back edge of the rear feet. The 3/4"-wide ledge now formed on the top of each foot will support the base molding that conceals the joint between the carcass and the base.

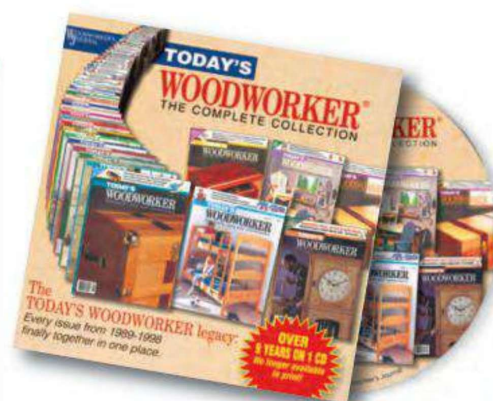
Adding the Moldings

To make the cornice molding (pieces 16), rout the edges of a 3" or wider board with a cove bit and roundover bit following the Cornice Molding Detail illustrations on the previous page. Miter the molding to length, then glue and pin the front piece to the cabinet with wire brads. For the side pieces, glue the first 3" only, then pin the remaining length to the side panels with brads to allow for wood movement. Use a nail set to drive the brad heads below the wood surface, and fill the holes with a matching wood putty.

Rout a 3" or wider piece of stock for the base molding (piece 17) with a cove bit, then trim the leftover waste on your table saw, as shown in the Base Molding Detail illustrations, previous page. Use a rabbet plane and sandpaper to round over the file on the front edge of the molding, and rip the molding off the board. Miter the molding to length, then glue and nail the pieces to the base assembly.

Cut the top to size and rout its front and side edges with the bits shown in the Top Edging Detail illustrations, previous page. Sand the top to at least 120-grit, then position the panel on the carcass. Mark all the pilot hole locations, drill them with a 3/32" bit and secure the panel to the cabinet with #8 screws.

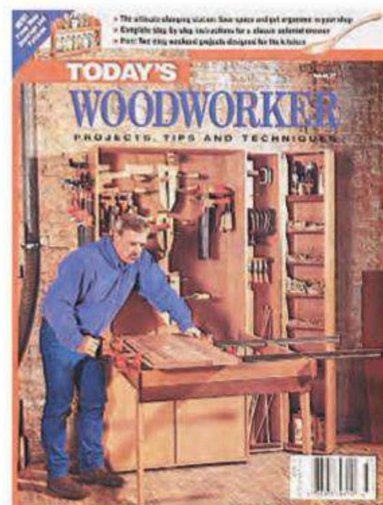
Complete the cabinet assembly by placing the carcass on the base and drilling countersunk pilot holes through the bottom frame and into the base frame. Now drive screws to hold the two subassemblies together.

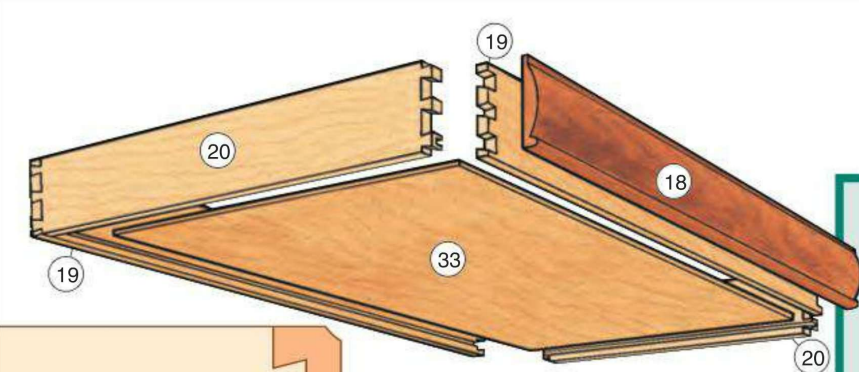


Treasures from Our Past

If you like this project, you may be interested in our newly created CD that contains every issue of *Today's Woodworker* magazine. That's because the *Early American Dresser* made its debut in *Today's Woodworker*, a magazine we started in 1989. In the nine years that it was around, it presented some of the best woodworking projects ever put in print. In 1998, *Today's Woodworker* bought the *Woodworker's Journal* and merged the two titles under the Journal name. But we are very proud of our first magazine and, to keep the legacy of *Today's Woodworker* alive, we collected every plan, article and drawing on one CD. Along with tips and techniques, there are over 200 projects included in those issues, many of them reminiscent of this one. Learn more at todayswoodworker.com

This dresser project was first published in January 1995 in Today's Woodworker issue #37, shown below.



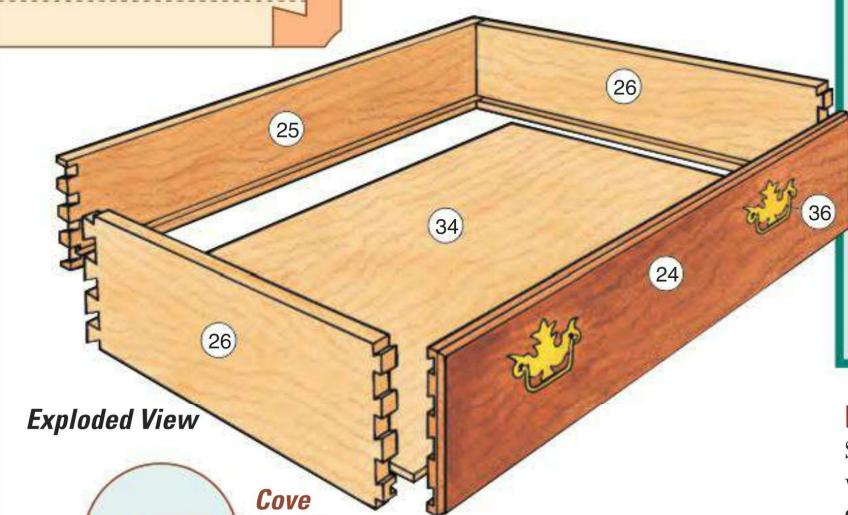


Dovetail Joint Detail

Use this layout as a guide, varying the number, spacing and size of the dovetails to your liking. Begin and end each joint with a half-pin.

Exploded View

Cut 3/8" x 3/8" grooves for the bottoms, making sure they're positioned to pass through a tail.



Exploded View

Cove Detail

2 1/2"

4 3/4"

Drawer Pull Location (Front View)

Install all drawer pulls at the same locations.

MATERIAL LIST

		T x W x L
18	Top Drawer Face (1)	3/4" x 4" x 36 5/8" (cherry)
19	Top Drawer Front/Back (2)	3/4" x 3 1/2" x 35 1/8" (poplar)
20	Top Drawer Sides (2)	3/4" x 3 1/2" x 18 1/2" (poplar)
21	#2 Drawer Front (1)	3/4" x 4 1/2" x 35 1/8" (cherry)
22	#2 Drawer Back (1)	3/4" x 4 1/2" x 35 1/8" (poplar)
23	#2 Drawer Sides (2)	3/4" x 4 1/2" x 18 1/2" (poplar)
24	#3 Drawer Front (1)	3/4" x 5 1/2" x 35 1/8" (cherry)
25	#3 Drawer Back (1)	3/4" x 5 1/2" x 35 1/8" (poplar)
26	#3 Drawer Sides (2)	3/4" x 5 1/2" x 18 1/2" (poplar)
27	#4 Drawer Front (1)	3/4" x 6 1/2" x 35 1/8" (cherry)
28	#4 Drawer Back (1)	3/4" x 6 1/2" x 35 1/8" (poplar)
29	#4 Drawer Sides (2)	3/4" x 6 1/2" x 18 1/2" (poplar)
30	#5 Drawer Front (1)	3/4" x 7 1/2" x 35 1/8" (cherry)
31	#5 Drawer Back (1)	3/4" x 7 1/2" x 35 1/8" (poplar)
32	#5 Drawer Sides (2)	3/4" x 7 1/2" x 18 1/2" (poplar)
33	Top Drawer Bottom (1)	3/8" x 34 1/4" x 17 5/8" (plywood)
34	Drawer Bottoms (4)	3/8" x 34 1/4" x 18" (plywood)
35	Drawer Stops (10)	3/4" x 3/4" x 2" (poplar)
36	Drawer Pulls (8)	Antique brass
37	Back (1)	3/8" x 36" x 33" (plywood)

Making the Drawers

Select a board for the top drawer face (piece 18) and rip it to width. Cut it a little longer than needed and trace the shape of the top drawer face profile (see *Drawings*) onto the ends of the board. Begin the shaping process by ripping a kerf to define the inside edge of the bottom bead, as described in the Top Drawer Face sidebar on the opposite page. Next, remove some of the waste at the top of the drawer face by tilting the table saw blade 15° and running the stock on-edge

Cutting Dovetails

Cutting dovetail joints isn't hard; it just takes practice and patience — although using quality tools definitely helps. A marking gauge with a knife point, for instance, will lay out crisp joint shoulders that give your chisels a positive starting point, and a well-tuned bevel gauge will keep your pin and tail angles consistent. Stiff-bladed saws make it easier to keep your pins and tails square, and sharp chisels are essential.



Use a fine-toothed tenon saw with a back stiffener to cut the pins and tails, always stopping just shy of the shoulder lines.



Sharp chisels make fine-tuning your dovetails possible. Without them, you'll get more tearout and sloppier fitting joints.



A coping saw will speed up the repetitive work of removing the waste after the pins and tails are defined with the back saw.

through the blade. Set the blade square again to cut the small rabbet along the top edge, then form the hump and bead of the molding by hand with a rabbeting plane and smoothing plane (see Figure 6). Wrap up the shaping with a palm sander.

Rip and crosscut the rest of your drawer fronts to size, as well as all the sides and backs (pieces 19 through 32), then lay out the dovetails — half-blind dovetails on the fronts and through dovetails on the backs and top drawer box (see Exploded View *Drawings* at left). Use a marking gauge with a knife point to define the back shoulder of each joint and a utility knife for laying out the side shoulders of the pins and tails. Be sure to begin and end each joint with a half pin, as shown in the Dovetail Joint Detail on the opposite page. Cut the pins first, then use them to trace the tail locations. A fine-toothed back saw works well for cutting the joints, and paring them to final fit is only possible with a very sharp chisel (see the Cutting Dovetails sidebar, previous page). Or, rout the dovetails with a router and dovetail jig.

After completing the dovetail joints, rout the 3/8"-wide by 3/8"-deep grooves for holding the drawer bottoms (pieces 33 and 34), as shown in the *Drawings*. Notice that these grooves will run through a pair of tails in the drawer sides, but the resulting holes won't show on the back of the drawers.

Assemble the drawers, making sure to check for square as you go. Allow the glue to dry, then trim the joint ends flush with the drawer sides and backs. Use a hand plane to carefully shave the top edges of the drawers until they fit the cabinet openings — if it's winter, leave a 3/32" gap; in summer, a 1/32" gap. Next, screw the top drawer box to the drawer face. Be sure to align its ends with the sides of the dresser and leave a 1/16" gap between the top of the drawer face and the cornice molding.

Secret drawers were common in eighteenth century furniture and often contained a family's most important documents. Today, they serve better as sock drawers than as document hideaways.

Use a cove bit to rout the edges around all the drawer faces except the top one, then slide the drawers into the cabinet and install the stops (pieces 35). Screw the stops to the rear stiles on each frame. Now drill pilot holes in the drawer fronts for the pulls (pieces 36).

Cut plywood for the back (piece 37) and set it into the cabinet, then drill countersunk pilot holes and screw the back to the rabbets in the side panels.

Now that you've spent all this effort putting your dresser together, you get to take it apart again. Remove the back, base and top, and pull out all the drawers so you can sand everything to 220-grit before applying an oil finish. With the first coat of finish, you'll see the cherry begin to mellow, which will continue for years until the piece looks like an antique. Apply three more coats of oil finish and, after it cures, polish off the project with a coat of paste wax.

There's a wealth of woodworking knowledge hidden in this dresser. By building it, you've now stepped into the shoes of the craftsman who built the original some 200 years ago. Perhaps no one else will fully recognize your achievements — except, of course, fellow woodworkers.

Stuart Barron is a woodworker in Minneapolis, Minnesota, specializing in music stands.

Top Drawer Face Machining Sequence

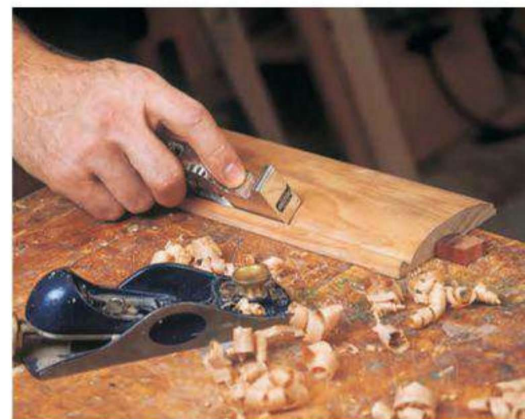


Figure 6: Trace the pattern of the top drawer face on the end of your stock and remove some of the waste with your table saw. Shape the face with a rabbet plane and block plane.

Drawer Face (End and Front Views)

1. Cut on your table saw.
2. Shape with a block plane.
3. Make a saw kerf, then shape with a rabbet plane.
4. Shape with a rabbet plane.



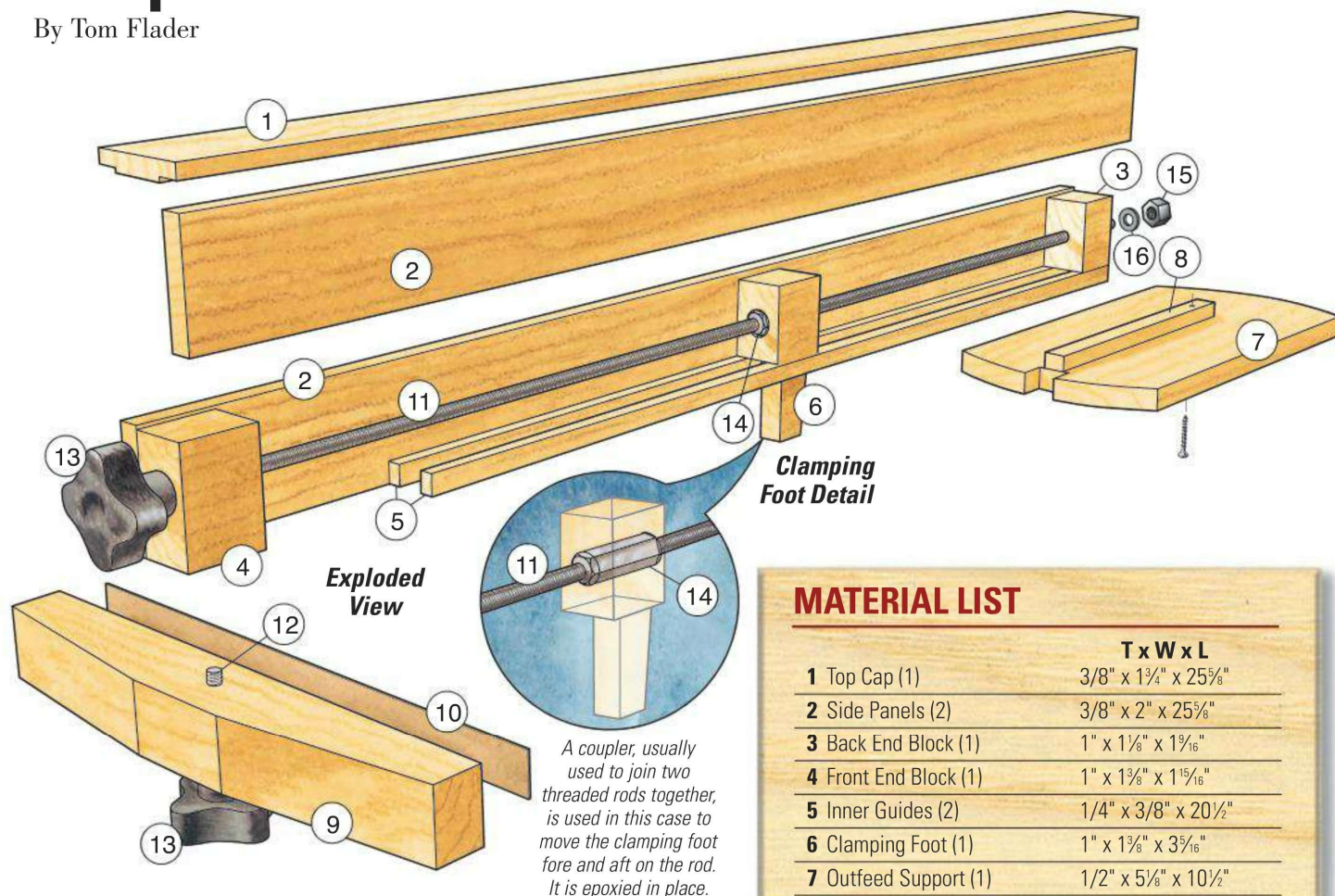
The top drawer face is created from a single piece of stock using the sequence described above. See photo for details.



Jigs & Fixtures

Shop-Made Band Saw Fence

By Tom Flader



MATERIAL LIST

	T x W x L
1 Top Cap (1)	3/8" x 1 3/4" x 25 5/8"
2 Side Panels (2)	3/8" x 2" x 25 5/8"
3 Back End Block (1)	1" x 1 1/8" x 1 1/16"
4 Front End Block (1)	1" x 1 3/8" x 1 15/16"
5 Inner Guides (2)	1/4" x 3/8" x 20 1/2"
6 Clamping Foot (1)	1" x 1 3/8" x 3 5/16"
7 Outfeed Support (1)	1/2" x 5 1/8" x 10 1/2"
8 Support Cleat (1)	1/2" x 3/8" x 7"
9 Front Stop (1)	1 1/4" x 1 3/8" x 10"
10 Sandpaper (1)	1/64" x 3/4" x 10"
11 Threaded Rod (1)	1/4" x 20 x 27 1/8"
12 Pivot Stud (1)	1/4" x 20 x 2 1/4"
13 Star Knobs (2)	1/4 x 20
14 Threaded Rod Coupler (1)	1/4 x 20 x 1 1/2"
15 Aviation Nut (1)	1/4 x 20
16 Washer (1)	1/4 x 20

A good fence can make your band saw one of the most useful machines in your shop. This fence can be made in a weekend for around \$20, and it will do a great job on your band saw. It easily adjusts for drift (the front stop pivots) and it has a handy extension for ripping longer stock. It is easily removed, and it can be used on either side of the blade (necessary when making beveled cuts).

You can adapt this fence to any band saw, but the dimensions given here are for my 14" Delta. You may have to vary them to fit your machine.

I used hard maple for my fence, but any straight, stable hardwood will do. But before you start, the first thing you will need to do is create a flat surface on the front and rear of your saw's table. If your band saw table has flat surfaces, you can skip this step. If not, make two 3/4" battens

and bolt them to the front and rear of your saw.

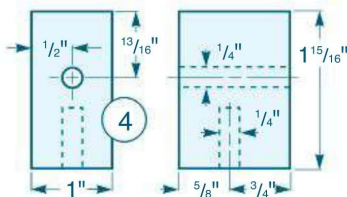
Again, this may change the length of pieces 1, 2 and 11 in the *Material List*, because it might require your fence to be a little longer than the dimensions shown. Recess the bolt heads so the fence will ride over them. Once these are attached, you can get the measurements needed to make your fence.

As you can see from the *Drawings*, construction is simple and straightforward. The important thing is to keep everything straight and square. For that reason, when building the "channel" for the fence, I found it made the glue-up easier if I ran a shallow rabbet down both sides of the top cap to receive the sides (pieces 1 and 2). This greatly facilitated keeping things in

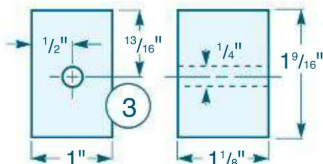
alignment. The end blocks (pieces 3 and 4) will need a hole through them to accommodate the threaded rod (piece 11). It is essential that these holes be exactly in the same place, front and rear. I cut these pieces to a snug fit and glued them in place after the "channel" was finished.

The front end block will need a hole for the pivot stud (piece 12, made from 1/4 x 20 threaded rod). The stud will need to be securely glued in place. I used epoxy and it worked well. I attached narrow inner guides (pieces 5) to the inside of the side

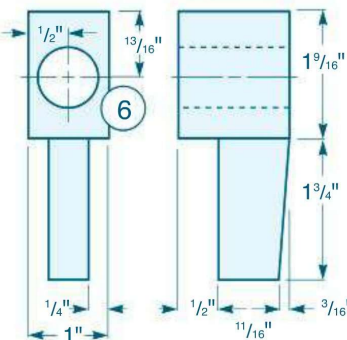
Front End Block (Front and Side Views)



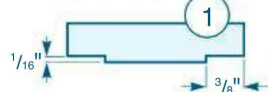
Back End Block (Front and Side Views)



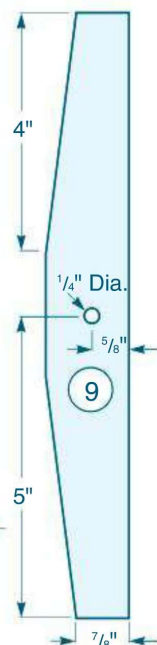
Sliding Stop Block (Front and Side Views)



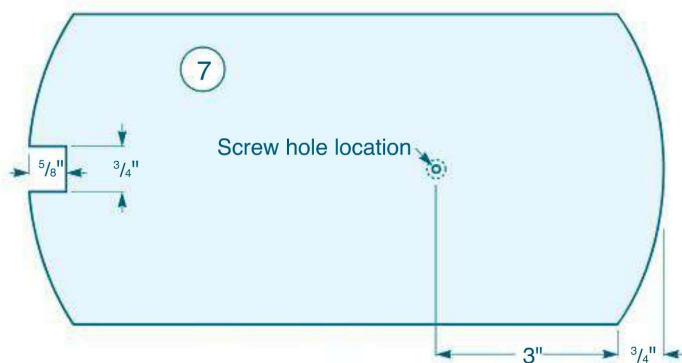
Top Cap (End View)



Front Stop (Top View)



Outfeed Support (Top View)



Hardware Supplies:

The threaded rod, threaded rod coupler, aviation nut and washer are easily found at local hardware stores. The star knobs can be found at rockler.com.

pieces for the clamping foot (piece 6) to ride within. This probably wasn't really necessary, but I thought it would keep the clamping foot contained in the channel when the foot was tightened. If you do install them, remember to leave room at the front of the fence for inserting the clamping foot (see the *Drawings*).

The clamping foot should be a close fit, but not so tight that it is hard to move easily in the channel. So that the foot would move smoothly back and forth on the threaded rod, I epoxied a threaded coupler (piece 14) to receive the threaded rod into the foot (see the Clamping Foot Detail). The pivoting front stop should have a piece of sandpaper glued to it (pieces 9 and 10) to ensure a secure lockdown after the fence is adjusted for drift.

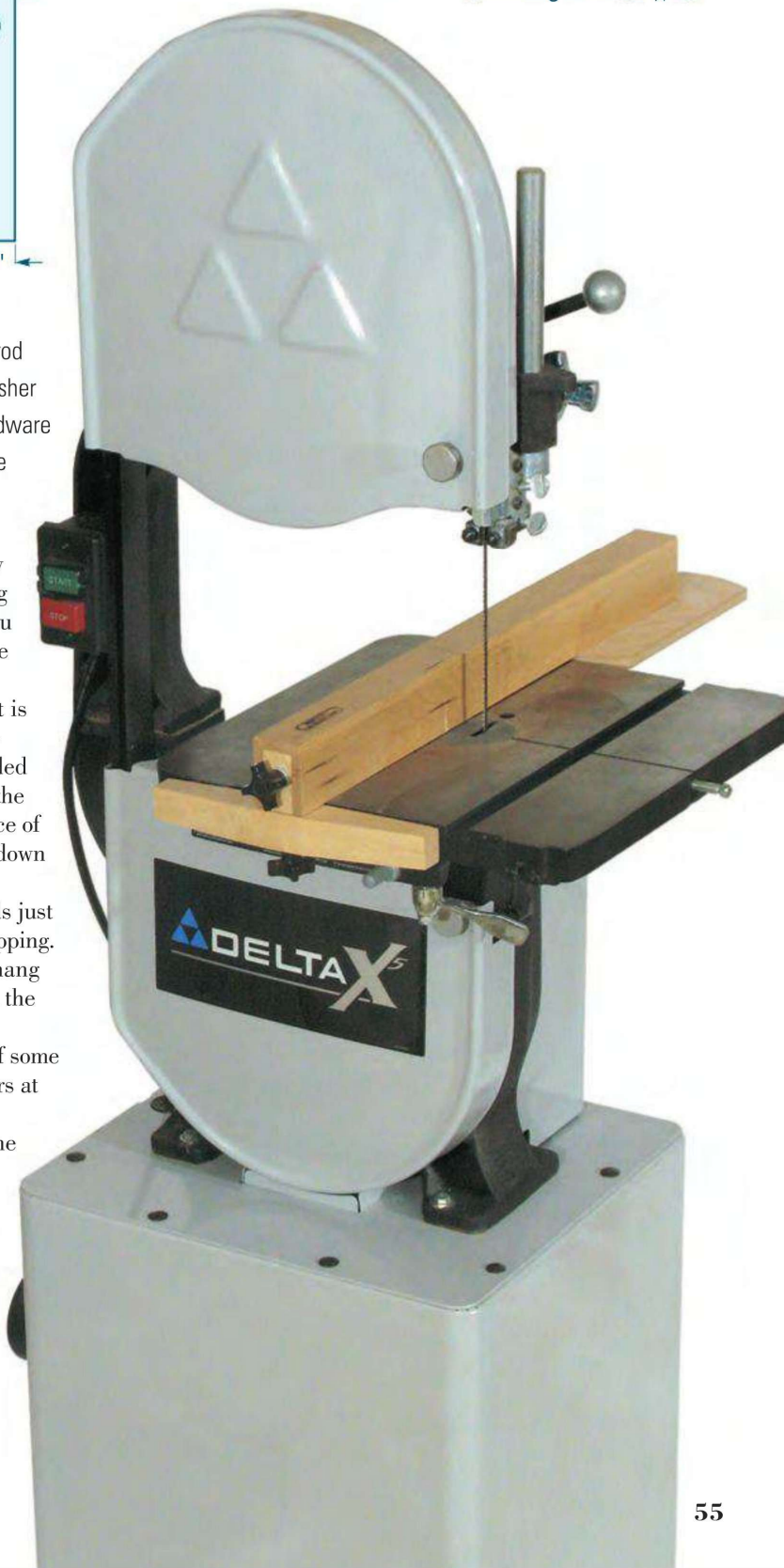
I found the outfeed support (piece 7) to be a nice touch. It adds just a little extra support for longer stock that I may be resawing or ripping. When you size your fence, make sure you leave enough overhang to accommodate this attachment. It is secured to the fence with the support cleat (piece 8).

Once that piece is attached, go ahead and put a spray finish of some sort on the fence. A spray can of clear finish is only a few dollars at the hardware store and it makes short work of this task.

With the finish cured, you can assemble the components of the fence and secure the long threaded rod with the aviation nut and washer (pieces 15 and 16). Attach the star knobs (pieces 13), and you are ready to put it to use. You will need to square the fence up to your table and then tighten the pivoting stop. If your blade drifts as you are ripping, the pivoting fence stop can be adjusted to accommodate the drift.

I have found this fence to be very handy. I hope it works just as well for you.

Tom Flader is a Journal reader from Fond du Lac, Wisconsin.



Tool Review

A Close Look at Four 18-Inch Band Saws

By Chris Marshall





If you're looking for a flagship band saw for your shop, one of these new mid-size, steel-framed models might be the ideal choice.

A decade or so ago, steel-framed band saws were just beginning to catch on here in the States, and at the time, we still called them “European style.” Nowadays, these welded-frame saws have not only become commonplace in manufacturers’ product lines, but it’s hard to even find a new mid-size band saw that still has that familiar rounded cast-iron frame. This evolution in styling is more than just good looks: a steel frame offers tremendous rigidity for tensioning wide blades, and that’s just what you need for carrying out heavy-duty tasks like resawing monster boards or slicing logs into turning rounds. New saw models are also sporting premium blade guides, better fences and big motors to deliver top performance for the dollar.

In the ever-widening ocean of band saw options, I think

18-in. machines represent a good balance of capacity versus cost. Smaller 14-in. steel-framed models may offer similar resawing capabilities for less money, but in my experience they often aren’t outfitted with the same rugged components to form a complete heavy-duty package.

In contrast, these larger machines are designed from the ground up to cut wood all day long, every day. Of course, you can buy even larger 20-in.-plus band saws, but the cost skyrockets. For a home woodworker, these 18-in. saws should be sufficient to check “band saw” off your wish list for good.

Recently, I asked several top manufacturers to provide their latest 18-in. saws for testing. I wanted to look at machines in the 2- to 4hp range, because that seems to be the “sweet spot” for this saw size. A few weeks later,

four saws arrived on skids. Grizzly Industrial was also asked to participate, but their preference was to have me look at a 5hp machine you can see on page 65. It’s one of several 18-in. saws with larger motors, but that was more muscle than I felt many woodworkers might need. Shop Fox was also invited to the test but chose to decline the offer this time. Here’s how this group of four sized up for me after testing.

Turning Poplar into Veneer

There’s no question that saws of this caliber are going to make ordinary rip cuts, crosscuts and curves with ease, and they all did. Finesse is a valuable attribute of a band saw, no matter its size. You won’t have any trouble steering your delicate or run-of-the-mill cuts through these machines. But most will invest in a big saw for the tougher jobs. So, I asked the manufacturers to send a wide resaw blade, then put each saw to work on some 12-in.-wide, clear 8/4 poplar. After cutting 10 sheets of veneer, I had a good idea of each machine’s power, dust collection efficiency and resawing capabilities. Then I looked carefully at essential and extra features that fill in the important details.



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General International 90-290M1

Massive. That's the first word that came to mind when this saw arrived. Compared to the other three models in this test, it is much larger in stature and heftier. After spending time with this burly saw, it is clear that General designed the 90-290M1 with heavy-duty purpose in mind.

For starters, its upper and lower flywheels are made of thicker cast-iron than the other saws. And that added mass helps the motor spin the blade more efficiently through

Heavy, cast-iron flywheels help the saw's motor drive big blades through thick or wide material.



General International 90-290M1

Street Price: \$3,089.99

Motor Size: 3hp

Table Size: 24"W x 20"D

Weight: 605 lbs.

Resaw Capacity / Throat Width: 12" / 17 $\frac{7}{8}$ "

Blade Length, Width Range: 145 $\frac{1}{2}$ ", 1/4" to 1 $\frac{1}{4}$ "

Web/Phone: www.general.ca / 514-326-1161

thick, difficult cuts. A foot brake stops the action in seconds. General provides a big, industrial-grade 3hp powerplant; there was no bogging down through the 10 resaw cuts I made in testing. It drove a 3/4" resaw blade right through poplar with ease. Two 4" dust ports kept the flywheel cases very clean.

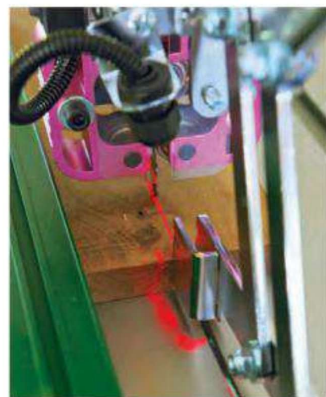
This saw comes with an oversized table for managing big workpieces, plus large hand wheels for tensioning the blade and raising the upper blade guides. Access windows above for blade tracking and below for reaching the lower bearing guide assembly are good, practical features.

Speaking of blade guides, they're crucial for keeping blades from twisting and to ensure consistent tracking on the wheels. Here, General provides four sets of double bearings beside the blade, on both the upper and lower guide assemblies, plus face-mounted rear thrust bearings, for a total of 10 points of contact on wide blades. While the side guides are easy to unlock and very accessible, their aluminum mounting blocks both adjust and secure with single Allen screws. I find guides that separate fine adjustment from the locking mechanism are a little less fussy to tune up than these.

"Big Green" comes with an Excalibur rip fence that adjusts left and right for blade drift — a tendency that, without adjustment, can lead



The 90-290M1 has a unique feed arm to help push the tail end of rip cuts through the blade.



An adjustable laser was an unlikely feature, but it can help you zero in on a cutting line.



Roller bearings in the fence clamp enable it to roll almost effortlessly on the front rail for positioning.

to inaccurate rip cutting. Magnified index cursors and bright yellow scales make setups easy. The fence pops quickly off the rails and stows on the saw. One little gripe: I wish the front rail didn't have to be loosened and slid clear of the table slit for blade changes, then reset again.

You also get a full-size miter gauge, a tall laminated fence facing and a resawing accessory. There's a laser for lining up cuts and a unique pushing arm for feeding the tail ends of boards more safely during ripping. But the arm

Continues on page 60 ...

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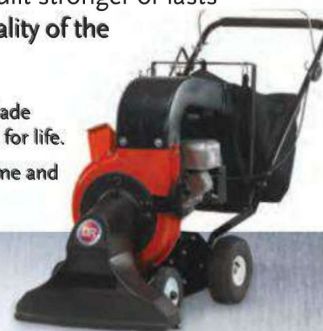
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JET JWBS-18QT-3

Street Price: \$1,899.99

Motor Size: 3hp

Table Size: 19"W x 19"D

Weight: 381 lbs.

Resaw Capacity / Throat Width: 12" / 18 $\frac{3}{8}$ "

Blade Length, Width Range: 137", 1/8" to 1 $\frac{1}{2}$ "

Web/Phone: www.jettools.com; 800-274-6848

has enough side-to-side play that I would fear cutting into its foot at some point. The laser/feed arm combo also crowds line of sight to the blade. I'd rather have an LED task light than these extras.

My verdict here: the 90-290M1 is a strong choice for ambitious sawing, and I

doubt it would disappoint a demanding user. But its price tag of just over \$3,000 will challenge a modest budget.

The author appreciated the precision and ease of JET's eccentric blade guide adjusters.



JET JWBS-18QT-3

Without question, my favorite feature of JET's 3hp machine is one that doesn't catch your eye at first glance: the blade guides. But if you change blades frequently, I bet you'll appreciate them quickly, too. The doubled-up side bearings have eccentric adjusters. Just twist their knurled knobs to move the bearings away or up close to the blade for final tuning. A wingnut locks their settings without a wrench. The rear thrust bearings are oriented so the blade spine runs against the curved edge — a better design for durability than those where the blade rubs the bearing's face.

Lower blade guides can be hard to reach under the tables of some saws if you have large hands, but JET's are uncluttered, and a hinged guard improves access further. Even the machine's white paint helps to brighten this often shadowy tool area.

The top blade guide post rolls smoothly up and down on a rack-and-pinion gear, and a three-position quick release lever behind the upper housing allows you to engage full or partial tension or release it entirely. It's slick for faster blade setups. Dialing in the recommended blade tension for a range of sizes is also easy with the help of a large hand wheel and two scales: one inside and one outside the flywheel case.



An included resaw bar (above) and blade quick release (below) are two of JET's useful features.



JET should switch the tracking control from a small star knob to a larger hand wheel, because you'll reach for it with some frequency. But it does the job. A helpful window on the side of the upper case lets you peek in to check blade position, and the white rubber tire really improves visibility here.

JET has engineered the saw frame with a triangular spine, for purportedly more rigidity. A large "bump" style kill button is mounted to it so that you can activate it without looking. A foot brake, similar to other saws, would add even more safety, but it's absent.

You get a sturdy T-square style rip fence that locks securely to its rail, plus a steel resawing bar and a miter gauge. Sensible table features.

In testing, this saw's single 4" dust port was sufficient to keep the lower flywheel

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Laguna LT18 3000 Series

Street Price: \$2,195

Motor Size: 4hp

Table Size: 20"W x 20"D

Weight: 525 lbs.

Resaw Capacity / Throat Width: 15¼" / 17½"

Blade Length, Width Range: 146", 1/16" to 1¼"

Web/Phone: www.lagunatools.com; 800-234-1976

compartment almost free of sawdust, and I'll admit I was surprised, given that the rest of the saws have a second 4" dust port, too. When resawing, the motor and power train were up to task, although there was some rhythmic vibration that developed. It didn't impact cutting performance or seem annoying. Line-of-sight to the blade was OK, but there's a tab on the bottom of the saw's upper blade guard that makes a tall guy like me have to bend forward to see exactly where I'm cutting.

All in all, I'm pleased with this JET's test drive, and at just shy of \$1,900, I think it's a good bargain for the price.

Laguna LT18 3000 Series

Laguna's line of 3000 Series saws were introduced a couple of years ago as a more affordable alternative to the company's other European-made saws, which they still offer. These new 3000 saws originate from the Pacific Rim, just as the rest of the test group models do.

This newcomer delivered admirable performance in my cutting trials. That, in part, is due to its 4hp Leeson motor, thick cast-iron flywheels for substantial rotational mass and an impressive carbide-tooth 1¼" Resaw King blade the company provided. Notice that this saw bests the others for potential resaw capacity at a whopping 15¼". The veneer I sliced was consistently thick and smooth, and the blade cut it like butter. I only recovered a handful of dust from the lower housing after resawing was done — a bit more than others, but still very tidy.

Laguna equips this saw with its signature ceramic blade guides that help to keep the blade running cool during sawing and wear slowly over time. Two ceramic strips support the blade on each side, and a round puck serves as rear support. The guides are mounted in aluminum blocks that adjust laterally and tighten with a single thumb screw. The design doesn't provide the same fine-



The LT18 came with a wheel kit for mobility (above). A foot brake (below) increases the saw's safety.



setting control as eccentric adjusters, and the bottom inside left guide's screw was hard to reach. But once they're set, these ceramic guides work really well.

A quick-release lever takes tension off the blade between uses — a helpful and increasingly common feature these days. There's a "tension" scale of sorts inside the flywheel housing, but it's just a swoosh shape with no blade size references on it. A red pointer provides some feedback, but you'll have to experiment on your own to find optimal tension. To change the blade's position on the upper wheel, you twist a small star knob. As with the JET, I wish this control was a bigger hand wheel.

I'm happy the machine has a foot brake to stop cuts quickly when you need to.

Continues on page 64 ...

Laguna's ceramic guides provide low-friction, long-wearing contact surfaces for the blade.



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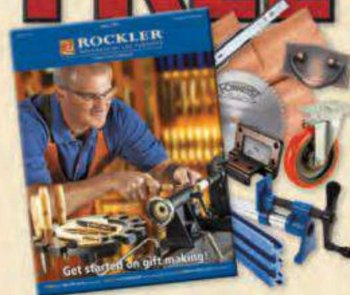
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RIKON 10-370 Wood/Metal Band Saw

Street Price: \$2,499.99

Motor Size: 2½hp

Table Size: 21"W x 19"D

Weight: 400 lbs.

Resaw Capacity / Throat Width: 12" / 18⅝"

Blade Length, Width Range: 142", 1/4" to 1/4"

Web/Phone: www.rikontools.com / 877-884-5167

The trunnions that support the LT18's cast-iron table are beefy, and a geared knob tips the table for making bevel cuts. It's assisted by a gas-charged shock. Blades load fairly easily from a side table slit.

Laguna sent me a mobility kit, which includes an axle, plastic wheels and a "rolling" handle that engages a hitch on the saw base. Of course, you can put an aftermarket rolling base under any band saw, but I like Laguna's integrated approach. I've used this system on my own Laguna band saw for many years.

The LT18 comes with an aluminum rip fence that adjusts for drift and a tubular front rail. You can switch the fence

body between an upright orientation for taller support or a "low" position for cutting thin stock. One fussy point about it: you have to loosen the fence body on the clamp with an Allen wrench and slide it back in order to take the fence off the front rail. Lift-off fences are more convenient; you'll want that fence to come off sooner or later to free up more room when cutting large parts.

At the end of the day, this Laguna is a powerful wood cutter with some nice details. There are no extra frills, but it should prove to be a workhorse and a good reflection of Laguna's band saw heritage.

RIKON 10-370

In our August issue, RIKON reported that they've been selling a lot of band saws lately. So, when I requested an 18" machine, they were temporarily out of stock on their 10-345 model (\$1,499.99), which is intended for woodworking. Instead, they sent me the 10-370. It has a sophisticated variable-frequency drive that activates a motor brake for safety and gives you infinite control over two speed ranges: either 82 to 1,312 or 328 to 3,280 feet per minute (FPM). Variable-speed control allows you to cut metal, plastics and composites as well as wood for maximum versatility.

The saw is well-appointed with good features: double ball-



Variable-speed (above) enables the 10-370 to cut metal and wood. Hand wheels (below) ease setup tasks.



bearing side guides and edge-mounted thrust bearings, large hand wheels for setting blade tension and adjusting tracking, a quick-release blade tension lever in back, and a legible tensioning scale with a viewing window to assist the process. Two dust ports keep the lower compartment free of all but a dusting of debris, and the table has a geared control for tipping it off of 90°.

The hinged upper blade guard and front-mounted table slit gave this saw a leg up for me in terms of easy blade changes. Thanks to bright yellow flywheel tires and a viewing window, you won't have trouble seeing how your blades are tracking, either.

For resawing, the machine comes with a 4/4"-tall rip fence and a resawing bar. Even though this fence doesn't lift free of its tubular front rail, just slide it left and off it comes. Simple enough. If you need to pivot the fence to compensate for blade drift, there are long, threaded posts on the front rail. Readjusting the nuts on those posts will skew the fence to some degree by changing the rail's parallelism to the table.



Band saws produce copious fine dust. Double 4" dust ports effectively manage it.

Unfortunately, when I mounted a 3/4" blade and started resawing, it was quickly clear that something was amiss. The motor labored with even light feed pressure. I called RIKON's tech support, who assisted in evaluating and diagnosing the problem. As it turns out, the motor had a wiring issue that prevented it from developing full power, but that presented no danger. I corrected the situation with RIKON's help, and then the motor performed normally. Resawing, even against firm feed pressure, was steady and sure, with no significant drop in FPM. In fact, I watched the digital readout from time to time to confirm it. RIKON assures me that all of its inventory of 10-370 saws are being re-inspected so that this wiring problem won't happen for you, too.

If you need a saw that's designed for cutting a variety of materials, take a closer look at this offering. Or, try out the 10-345 model for wood; its competitive price could make it a good buy.

Who Wins?

These late-model saws are distinctive but offered fairly consistent cutting performance. So what separates them qualitatively for me are their individual features and price. For my vote, JET's JWBS-18QT-3 has a winning combination: it's moderately priced and yet well-conceived for routine blade setups, user convenience and hard work.

Chris Marshall is Woodworker's Journal's Field Editor.

Need More Horsepower?

Two-and-a-half to 4hp saws in this tool test were up to snuff for a normal range of cutting tasks and up to 15 1/4" resawing. That's about as wide as you'll find most hardwood stock these days. But if you want maximum power from a mid-size machine — and maybe you're lucky enough to have even wider stock in your lumber rack! — here are three more saw options to consider. Laguna's LT18 Italian-made saw (\$3,350) comes with a 4.5hp Baldor motor and will resaw material up to 18 1/2" wide. Powermatic's PM1800 (\$4,699.99), launched several years ago, packs a 5hp motor and 18" of resawing capacity in its classic — and these days almost "retro" — 806 lb. cast-iron frame. Or, take a closer look at Grizzly's G0636X Ultimate Band Saw (\$2,395). It's a 17" machine with a 5hp powerplant that will resaw 16" stock. The saw accepts blades up to an impressive 1 3/8" wide. Visit lagunatools.com, powermatic.com or grizzly.com for more details.



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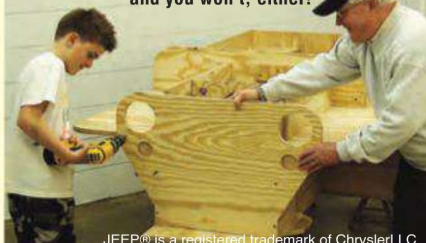
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Bench Chisel Basics

These must-have woodworking tools are a common feature in woodworking shops — those of professional and home shop woodworkers alike. Here's some background on these shop stalwarts, and advice for a starter set.



For most of the history of woodworking, if you were going to make two of the three main woodworking joints (mortise-and-tenon and dovetail), it would have been impossible to do so without a chisel. Even today, with the advent of power tools and specialty jigs, it is likely that most mortise-and-tenons and dovetail joints will have some chisel work involved.

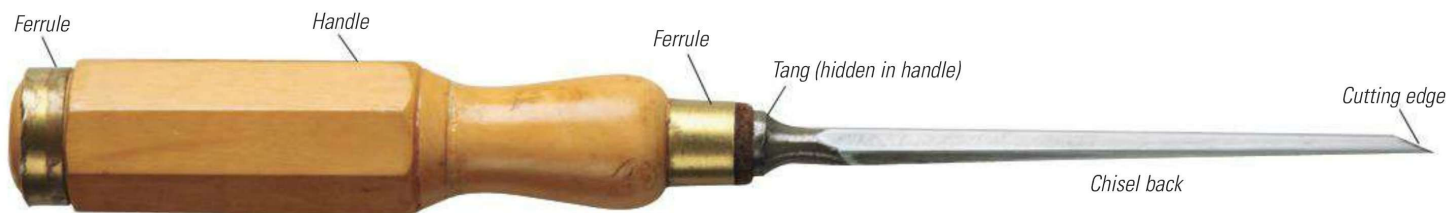
(The hand plane, which facilitates making the third main woodworking joint — butt joints — is a modified chisel held in a “fixture”.)

As we learn in Econ. 101, where there is great demand, supply will follow. For that reason, if you were to go on to the Internet and search for bench chisel sets, you would find literally hundreds of options. And with that many options comes the challenge of selecting a specific set. So, what makes one bench chisel different from another?

Steel is the Deal

While it may seem obvious, a chisel's performance will depend to a significant degree on how the steel is formulated and then manufactured.

Iron, the basic metal from which steel is made, is for practical purposes all the same. It is an element, after all. Steel, on the other hand, is a compound of elements that are then melted together at extreme temperatures to form an alloy. It might be



Tang Chisel



Socket Chisel



Sparks tell a story: While it is awful technique to grind a chisel as shown above — with copious quantities of sparks flying from the grinding wheel — to those in the steel business, sparks are informative. By putting a grinder to a bar of steel, a metallurgist can tell general characteristics of that stock by the color of the sparks.

helpful to think of it like baking a cake. (Take a cup of iron ore, a tablespoon of chromium and a touch of vanadium and bake at 2,000° for several hours.) As the result of hundreds of years of experience and the application of advanced chemical and metallurgical studies, the steel we have in

today's best chisels is better than it has ever been.

Once the steel has been formulated, the journey to becoming a cutting edge has only begun. When the molten metal has been poured into a form, it becomes an ingot as it cools. The ingot is

then rolled out into a more usable sheet of steel. Some details of the steel's structure are set at this point; if there are small holes or voids in the grain of the steel, for example, they will not go away. But other characteristics of the steel must be changed and modified to make a chisel or any other tool intended to have a cutting edge.

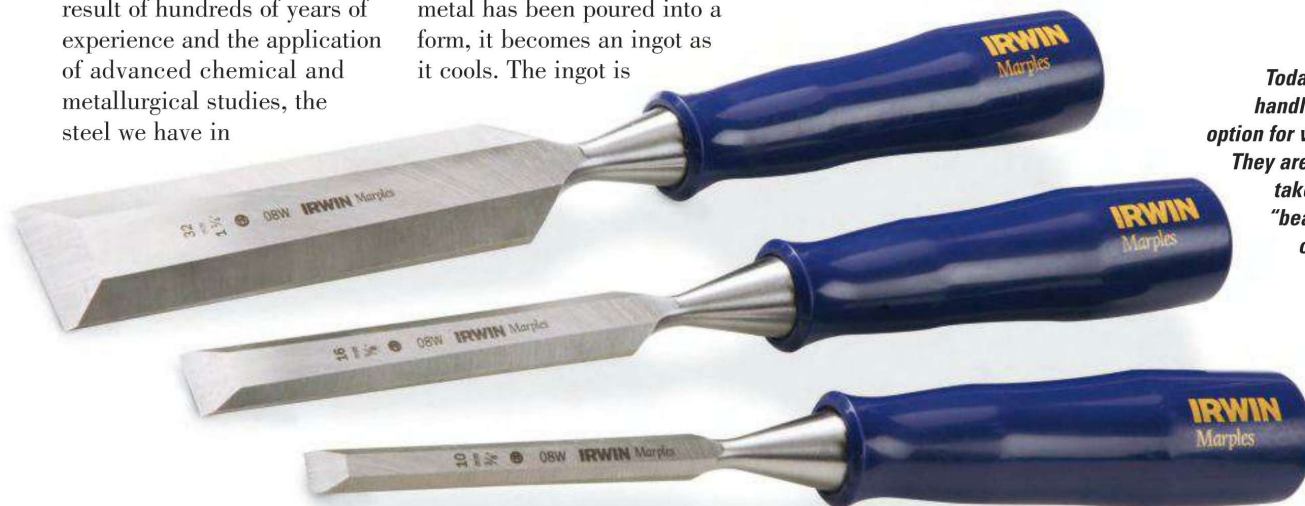
Forging Ahead

In the old days, a blacksmith would heat and hammer the steel into a shape, with rounds of heating and hammering until the smith was happy with the shape — and the same thing is done today, with a twist or two. The blank that will become the chisel is cut off of the rolled steel and fixed between two electrodes, and a strong electric current is run through the blank until it is glowing red. Then a machine hammers it into a rough shape and it is plunged into oil or water to



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All bench chisels are made from steel, but the composition of steel (an alloy of iron and carbon) can vary depending on the way it is formulated in its two-stage production process. After iron ore is smelted with coke and limestone in a blast furnace, the resulting molten iron enters the steelmaking stage, where impurities are removed and alloying elements such as manganese, nickel, chromium and vanadium are added to produce the exact steel required.



Today's composite handles are a great option for woodworkers. They are durable, will take a little extra "beating" and are comfortable in your hand.

Whether cleaning out a lap joint, as shown here, or paring the edges of a mortise whose waste was primarily removed with a drill bit, bench chisels are must-have tools in every woodshop.



“temper” it. The hammering and tempering process actually changes the molecular structure of the steel, affecting its hardness. That hardness is one of the main factors in whether a chisel can achieve a durable sharp edge. It is, of course, a compromise: hard enough to hold a sharp edge, but not so hard as to be easily broken. The perfect chisel cutting edge would be infinitely strong, infinitely smooth and infinitely thin. In reality, each of these characteristics must be a compromise.

It's a Real Grind

After the blank is forged into its final shape, it is ground into the familiar look that we all recognize. (Before it was even forged, some choices had

been made: whether the chisel would have a tang that travels through the handle or stops partway, or it could be a socket chisel, etc.) The back of the blade is flattened, its edges are beveled, and the cutting edge is ground to a cutting angle and finally sharpened. This last step, grinding the cutting edge, can be a one- or several-step process. The handle is then attached and the tool is complete.

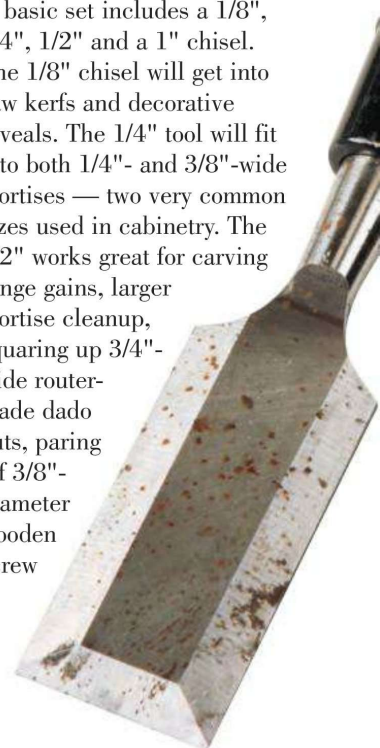
The Basic Set

How do you determine how many and what sized chisels you should have in your shop? With the huge variety of chisels around, it may seem daunting, but it really just comes down to what you want to do with them.

Chisels cut across wood grain accurately; they clean up wood fibers, such as in drilled-out mortises. Carving out hinge gains and cutting handmade dovetails are other tasks which require chisel

work. The list goes on and on. With that said, if you are an average woodworker, or one who is just getting started, a set of four chisels, plus one, will perform 90% of the chiseling tasks in front of you. A basic set includes a 1/8", 1/4", 1/2" and a 1" chisel. The 1/8" chisel will get into saw kerfs and decorative reveals. The 1/4" tool will fit into both 1/4"- and 3/8"-wide mortises — two very common sizes used in cabinetry. The 1/2" works great for carving hinge gains, larger mortise cleanup, squaring up 3/4"-wide router-made dado cuts, paring off 3/8"-diameter wooden screw

The perfectly sharpened chisel's edge would be super strong, super thin and super smooth. Chisels in the real world are a compromise of those three ideals.



A Basic Bench Chisel Set



A chisel set that includes a range of 1/8", 1/4", 1/2" and 1" widths will serve most woodworkers very well. There are, of course, many other sizes, both metric and Imperial.

To save the edges of your "good chisels," get yourself a "big banger." It's simply a big, tough chisel that you use to do the tasks that you really should not use a chisel for — but still do.



plugs — it's a real workhorse. The 1" chisel will do everything that the 1/2" does, but on a larger scale. But keep it for cutting wood fibers ... don't be tempted to do more "creative" tasks with it; that's for the "plus one." Every shop needs a "big banger," a chisel that is used for all the things that chisels should not really be used for. Removing really hard glue globs from glue lines. Scraping paint off the floor. Opening a can of finish. Cutting through a stubborn nail, removing the burr on a piece of aluminum or opening a can of soda whose pop-top has failed. The big banger is there to save the edges of your other tools by being the one that is sacrificed to overcome your frustration or impatience. A 1 1/4" or 1 1/2" size is a good

starting point. It should have a plastic resin handle with the tang running all the way through it and a striking cap on its end. (So you can really bang on it!)

With those four chisels, plus the big banger, your basic woodworking tasks are covered. If you are going to be doing handmade dovetails or chopping mortises by hand, you will need additional chisels to do those tasks correctly.

And finally, a word to the wise. With all the chisels out there on the market, you may find some that are sold as 3/8", for example, but are actually 10mm. Is that a big thing? Likely not, but if you are buying the tools for a specific use where the 3/8" is critical, then yes. So there you have it: chop on!

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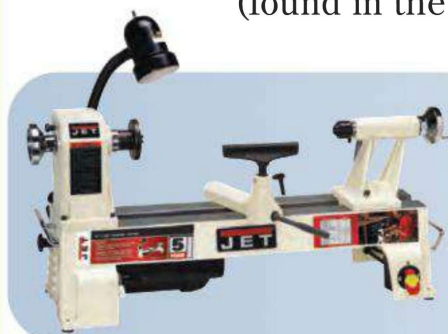
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Tools To Make it Easier in the Shop



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Continues on page 76 ...

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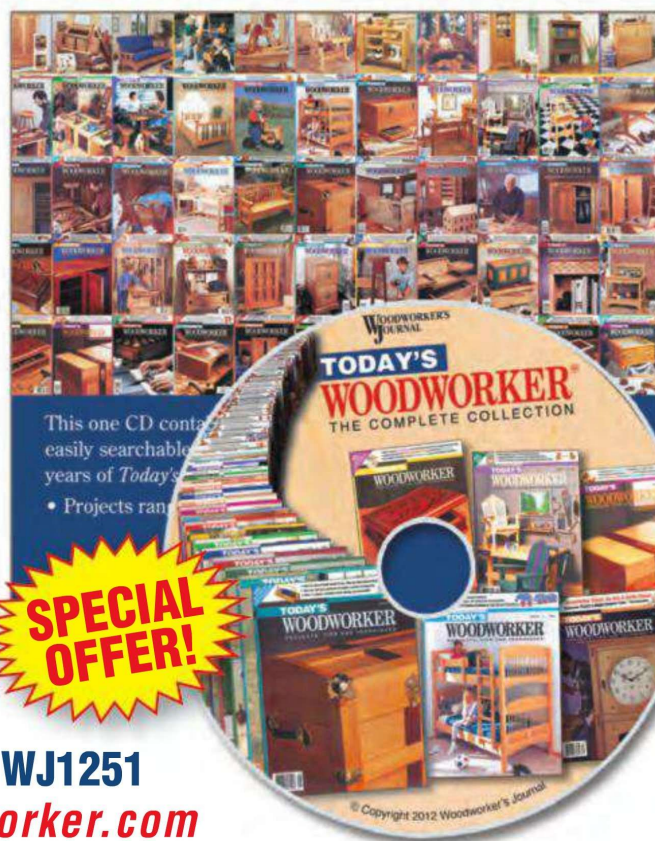
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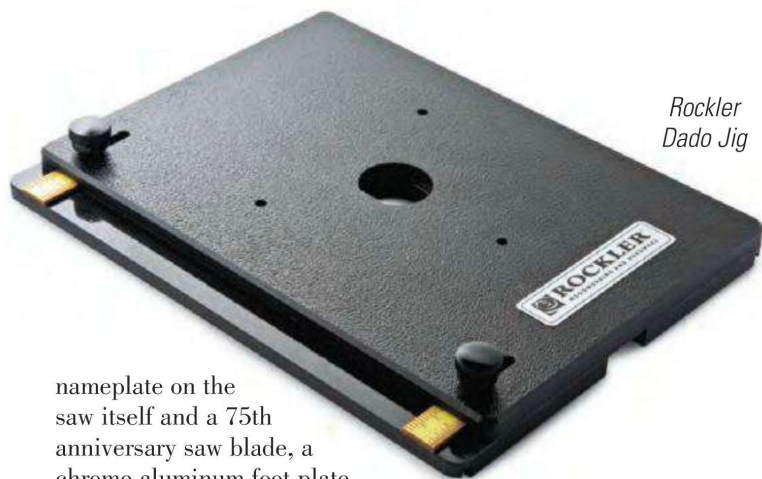
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The new **Rockler Dado Jig** is a sliding sled with a groove that can be fine-tuned to fit a

variety of lumber thicknesses, including thin plywood and lumber with odd thicknesses. Working in conjunction with the Rockler Straight Edge Clamp System (sold separately), the Dado Jig cuts the first shoulder with a



1/2" router bit, then the user flips the jig around for the second shoulder; the offset is adjustable to achieve a variable final width of 1/2" to 1" wide. The Dado Jig adjustments are tool-free, and the jig is pre-drilled to accept routers with a standard PC 690 3-hole pattern, or can be drilled to accommodate other routers. The Rockler Dado Jig (item number 43476) is priced at \$44.99.

the bottom to allow it to swing when you're kneeling. For increased durability, there are raised stitching on the pockets and triple-stitched seams throughout the pants. The Blåkläder Bantam utility workpants sell for around \$60.

Kreg Tool Company is looking to build big with their newest pocket-hole jig, the *Kreg Jig® HD*. "HD" stands for "heavy-duty," and the holes drilled with the Kreg Jig HD are 25 percent larger and 50 percent stronger than traditional Kreg Joints™. They did keep the same design and hardened steel drill guides as those found on the original Kreg Jig, but the Kreg Jig HD is designed to work with 2x4s and larger stock. It utilizes #14 industrial-quality, heavy-duty, hardened steel screws for sheer resistance and three anti-corrosion layers for long-term moisture resistance. The Kreg Jig HD works either as a stand-alone jig, or it can connect to a Model K3 or K4

Blåkläder®, a company that has been making workwear in Sweden since 1959, now has U.S. offerings, including the *Bantam utility workpants*. They include exterior utility pockets and built-in pockets for the insertion of kneepads (without the use of straps). The pockets and knees of the pants are reinforced with Cordura®, an abrasion-resistant synthetic textile usually used on backpack straps. An extra-long tool pocket is sized to fit a hammer, and it is disconnected from the pants on



Blåkläder
Bantam utility
workpants



Kreg Jig HD

Trend Routing
Technology
6" x 2" Double-Sided
Bench Stone,
Fine/Coarse



Kreg Jig benchtop base for upright drilling. The stop block of the Kreg Jig HD provides repeatable registration to a workpiece — such as deck railings, backyard furniture, or any other large project — and the hex-shank HD drill bit is quick-change compatible. The Kreg Jig HD is priced at \$59.99.

Parlaying on the success of its 8" x 3" Classic Professional Diamond Whetstone, especially within the woodturning market, **Trend Routing Technology** now is offering a smaller 6" x 2" version that it hopes will appeal to woodcarvers, cabinetmakers and other woodworkers that do not need the larger size. The new whetstone (model DWS/W6/FC) has a 5/16"-thick carbon steel baseplate pre-ground to +/- .0005 flatness. Two grits of monocrys-talline diamond are electro plated to it: 300-grit (50 micron) on the "coarse" side and 1,000-grit (15 micron) for fine honing. The company suggests the combination will be useful for sharpening CPM4 tips for coring tools, M2 and M4 tips for hollowing, carbide-tipped tools and carbide and high-speed steel inserts. The new 6" x 2" whetstone comes with a cleaning block and non-slip mat and is available through authorized Trend distributors. It sells for \$79.

The company **Unearthed Paints** has released a new finish, *Hard Wax Oil*, for interior applications on wood, cork and stone. It's made, without water or solvents, by melting carnauba wax and colophonium resin (from pine tree sap) into a mixture of linseed oil and tung oil. The small molecule size and long processing time of the linseed oil help the finish penetrate deeply into even small wood



Unearthed Paints Hard Wax Oil

pores; most applications require only one coat. The no-VOC Hard Wax Oil produces a breathable, silky-matte finish that also nicely lends itself well to spot repairs. The Hard Wax Oil, available from husband-and-wife company Unearthed Paints, founded in 2011 in Colorado, is priced at \$98 for a 2.5 liter can.

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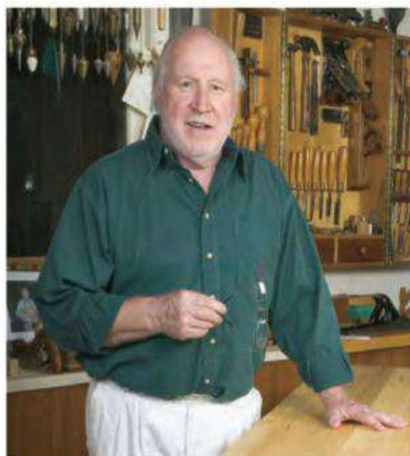
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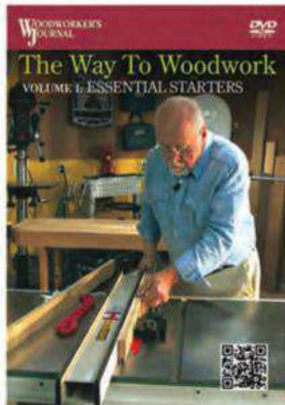
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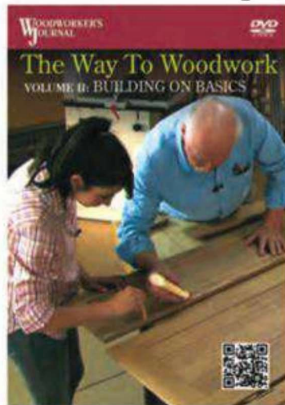


The keys to woodworking, with master woodworker Ian Kirby.

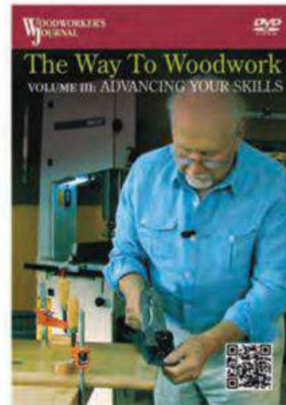
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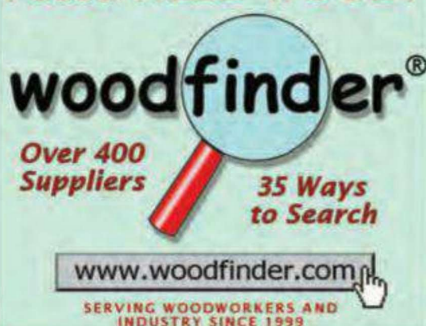


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Router Joinery Basics: Rabbets

By Bill Hylton

Rabbets are among the simplest and most versatile of the joinery options, and our expert assures you'll never "outgrow" the need for them in your woodworking projects.

MORE ON THE WEB

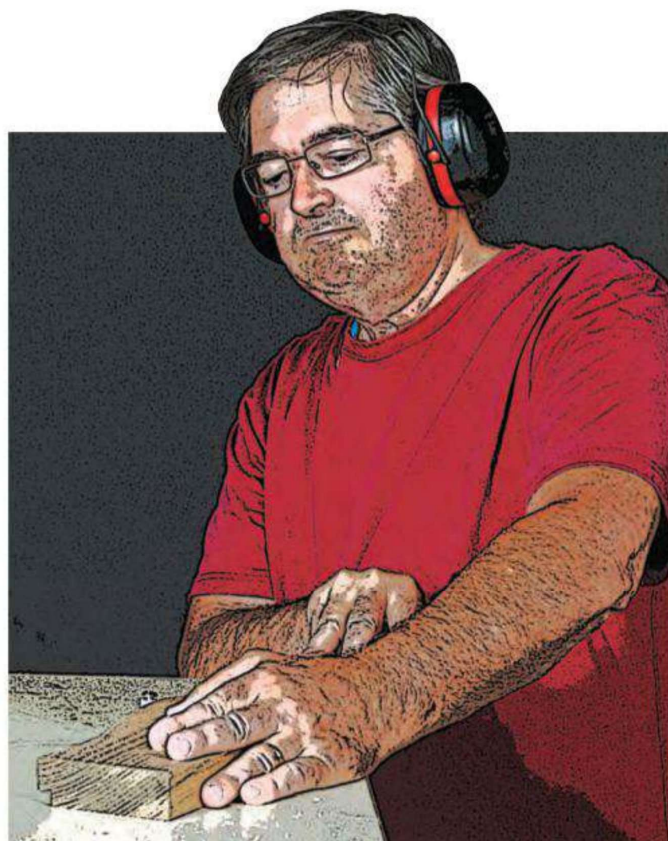
For further discussion on how to make various rabbets and to use different bits in doing so, visit woodworkersjournal.com and click on the "More on the Web" tab shown above.

Or send a large SASE to Woodworker's Journal, Skill Builder 29, 4365 Willow Drive, Medina, MN 55340.

One of the first joinery cuts new woodworkers try is the rabbet. A rabbet is simply an open-sided channel or recess along the edge or across the end of a board or panel. Easy to cut, it helps locate parts during assembly, and it provides more of a mechanical connection than does a butt joint.

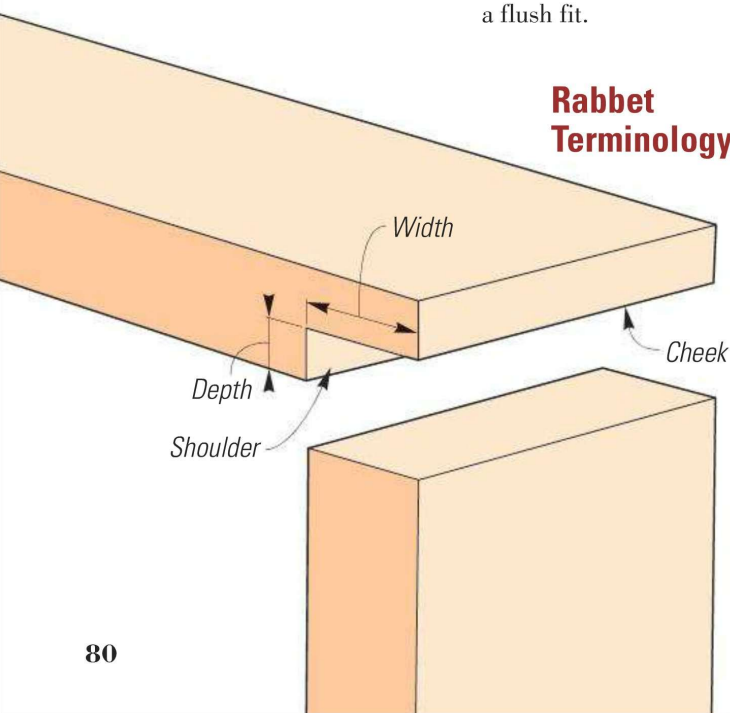
I vaguely remember thinking, back when I was tackling my first home improvement projects, that with practice I'd "outgrow" rabbet joints. Well, of course, I'm still cutting rabbets, because woodworkers never "outgrow" them.

The most common form of rabbet joint is what I call the single rabbet joint. Only one of the mating parts is rabbeted. The cut is proportioned so its width matches the thickness of the mating board, yielding a flush fit.



Merely an open-sided channel, a rabbet can hide end grain, strengthen casework, lock drawer corners together and be custom-sized to fit any size material.

Rabbet Terminology



The depth of the rabbet for this joint should be one-half to two-thirds its width. When assembled, the rabbet conceals the end grain of the mating board. The deeper the rabbet, the less its end grain will be exposed in the assembled joint.

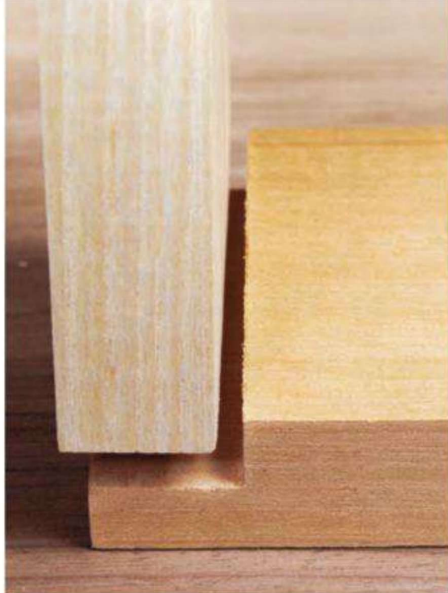
In the double-rabbet joint, both the mating pieces are rabbeted. The rabbets don't have to be the same, but typically they are.

Either form works as a case joint. In casework, you often see rabbets used where the top and/or bottom join the sides (end grain to end grain),

and where the back joins the assembled case (both end-to-end and end-to-long). In drawers, it's often used to join the front and sides.

Because end grain glues poorly, rabbet joints that involve it usually are fastened, either with brads or finish nails or with screws concealed under plugs. (OK, in utilitarian constructions, we don't sweat the concealment.)

Either style also forms a great right-angle edge joint. We see this in the case-side-and-back combination, but also in practical box-section



Single rabbet joint



Double rabbet joint



Rabbet-and-dado joint

constructions like hollow legs and pedestals. Long grain joins long grain in these structures; that glues together well, and you have a terrific, strong joint.

A rabbet joinery variation very useful in casework — especially casework being built of sheet goods — is the rabbet-and-dado joint. This is a good rack-resistant joint

that assembles easily because both boards are positively located. The dado or groove doesn't have to be big; often it's a single saw kerf, no deeper than one-third the board's thickness. Into it fits an offset tongue created on the mating board by the rabbet.

It is a good choice for plywood casework, because

it's often difficult to scale a dado or groove to the inexact thickness of plywood. It's far easier to customize the width of a rabbet. So you cut a stock width dado, then cut the mating rabbet to a custom dimension. An extra cutting operation is required, but the benefit — a big one — is a tight joint.

Aside from their variety of applications, rabbet joints are also popular because they're so easily created: you can use a table saw and standard blade or dado set — or a table-mounted or handheld router and various bit options.



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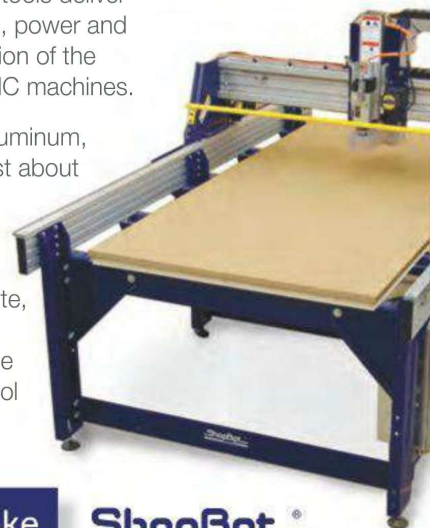


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Finishing Thoughts

When The Going Gets Tough

What finish do you choose when you know that the surface of your project will get no respect? Food and drink spills, elbows on the table, domino or slapjack action?



Walnut Game Table,
page 40

Durability, appearance, repairability and ease of application all play in to choosing a finish.



Rolling Kitchen Island,
page 34

For projects like the Game Table on page 40 or the Rolling Kitchen Island on page 34, applying the proper finish can have a great deal to do with the furniture's success — especially over time. The ability of the film coat to resist damage from common substances such as alcohol, grease or acid from fruits and vegetables is one kind of durability.

Another type is resistance to scratching and abrasion. On a tabletop where a ceramic pitcher might slide across the finish, or brass buttons and key chains may be unkind, the finish must protect the wood as well.

Thin or All-in

When faced with a tough usage situation, your first instinct may be to slap on the thickest, toughest coat of “plasticized” stuff that you can find. Which, of course, is a legitimate strategy. But, while a robust coating of high quality polyurethane or a finish of catalyzed lacquer are solid choices on more

than one level, they bring with them their own set of challenges. While extremely durable, even those hard finishes will eventually get scratches and dings in them. Repairing those finishes requires a lot of work, either sanding through to below the depth of the scratches and dings, or stripping the finish down to bare wood. That is going all-in.

Another option is to go thin. Polymerized oil finishes, like the very popular Watco® products, typically build up a very thin finish and, of course, they do not have nearly the brawny protective quality of a good polyurethane or a nitrocellulose lacquer, but they are much easier to touch up and fix. So you might choose to go thin, knowing that you will need to touch up the finish regularly to keep it looking great.

You can also choose to go naked — no finish at all. This is not as practical for indoor furniture objects as it is for, say, a cedar picnic table ... but the option remains.

Two Projects, Two Choices

In this issue, field editor Chris Marshall chose a new water-based poly from Rust-Oleum®, both to try it out and to ensure a tough, moisture- and stain-resistant coating for his project's framework. It was a low-odor solution with quick dry time and a low-luster sheen. The top will serve as a cutting surface, so it received a food-safe oil finish that will need occasional re-coating.

In the second project, editor Rob Johnstone took a different approach for the game table, using a shellac undercoat and a lacquer topcoat. Shellac builds up quickly, has a nice ambering effect on the wood and does not have a strong offensive odor. But it breaks down with alcohol ... a problem in this use. So the final spray coat of lacquer was a simple and effective way to improve the overall durability of the finish.

It's important to choose finishes carefully, but with forethought and a little research, it isn't difficult.



Characteristics of Clear Finishes

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Wax	easy	poor	clear to amber	no	mineral spirits
Oils (polymerized)	easy	fair	amber	yes	mineral spirits
Shellac	moderate	good	light amber	yes	denatured alcohol
Lacquer	moderate	very good	light amber	somewhat	lacquer thinner
Catalyzed lacquer	difficult	excellent	light amber	somewhat	specialty thinners
Varnish	moderate	very good	amber	yes	mineral spirits
Oil-based poly	moderate	excellent	amber	somewhat	mineral spirits
Water-based poly	moderate to difficult	very good	clear	no	none/ammonia in water



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Freud's Fusion Tooth Design vs. Others

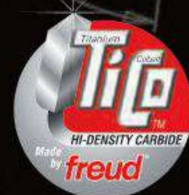


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