JOBSITE RADIOS: THE BEST SOUNDS FOR YOUR SHOP (page 48)

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Our experts' must-have tools: just in time for Father's Day! (page 26)

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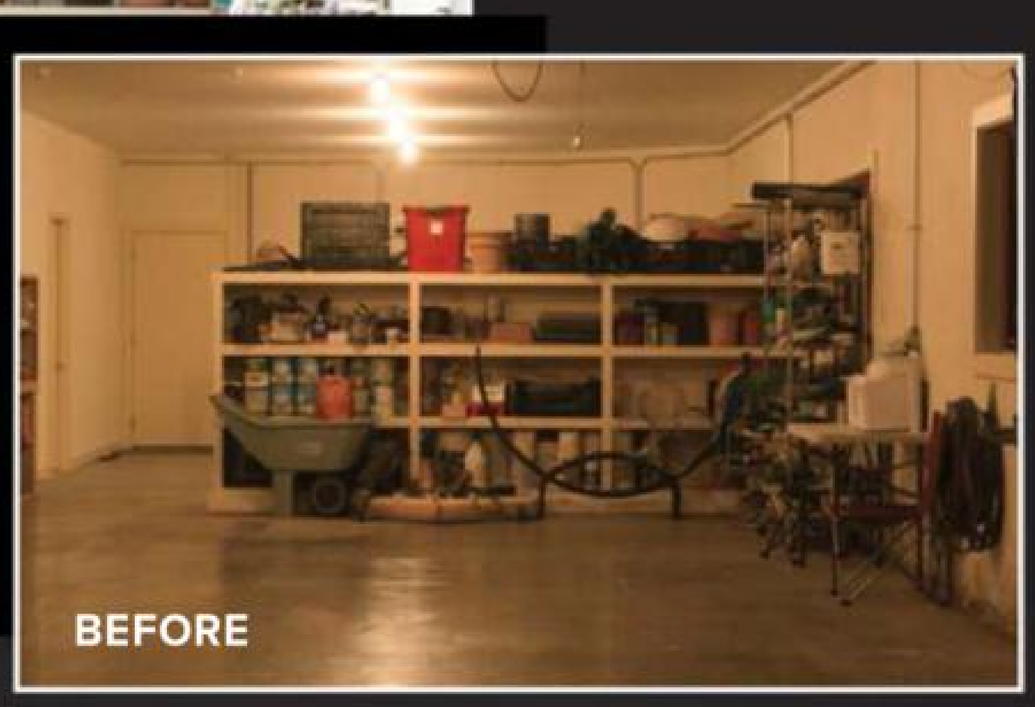

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Woodworker's Journal

June 2015 Volume 39, Number 3

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By Dan Cary
Carve a traditional beavertail style paddle — just like the ones used by explorers from a few hundred years ago.

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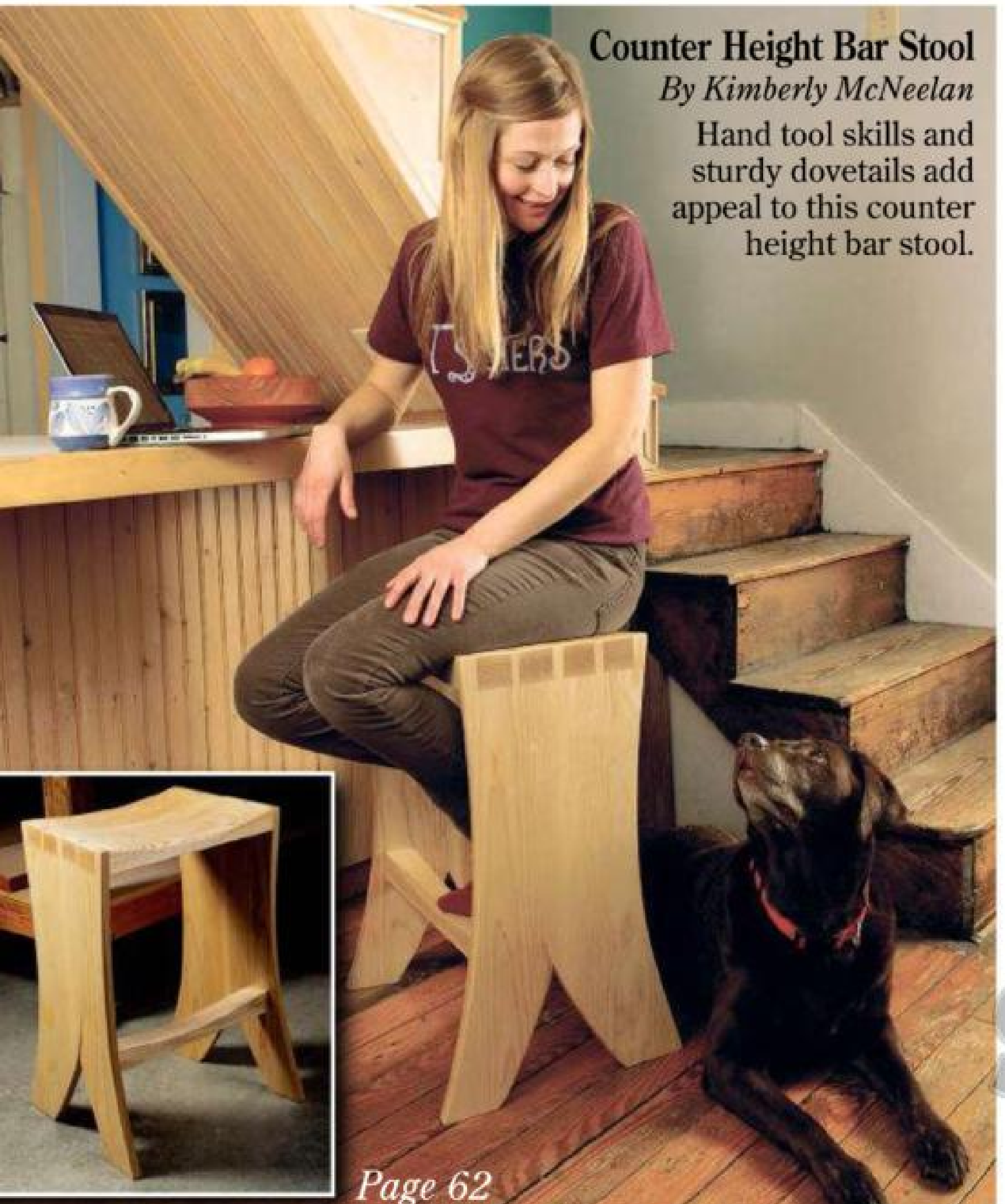

Counter Height Bar Stool
By Kimberly McNeelan
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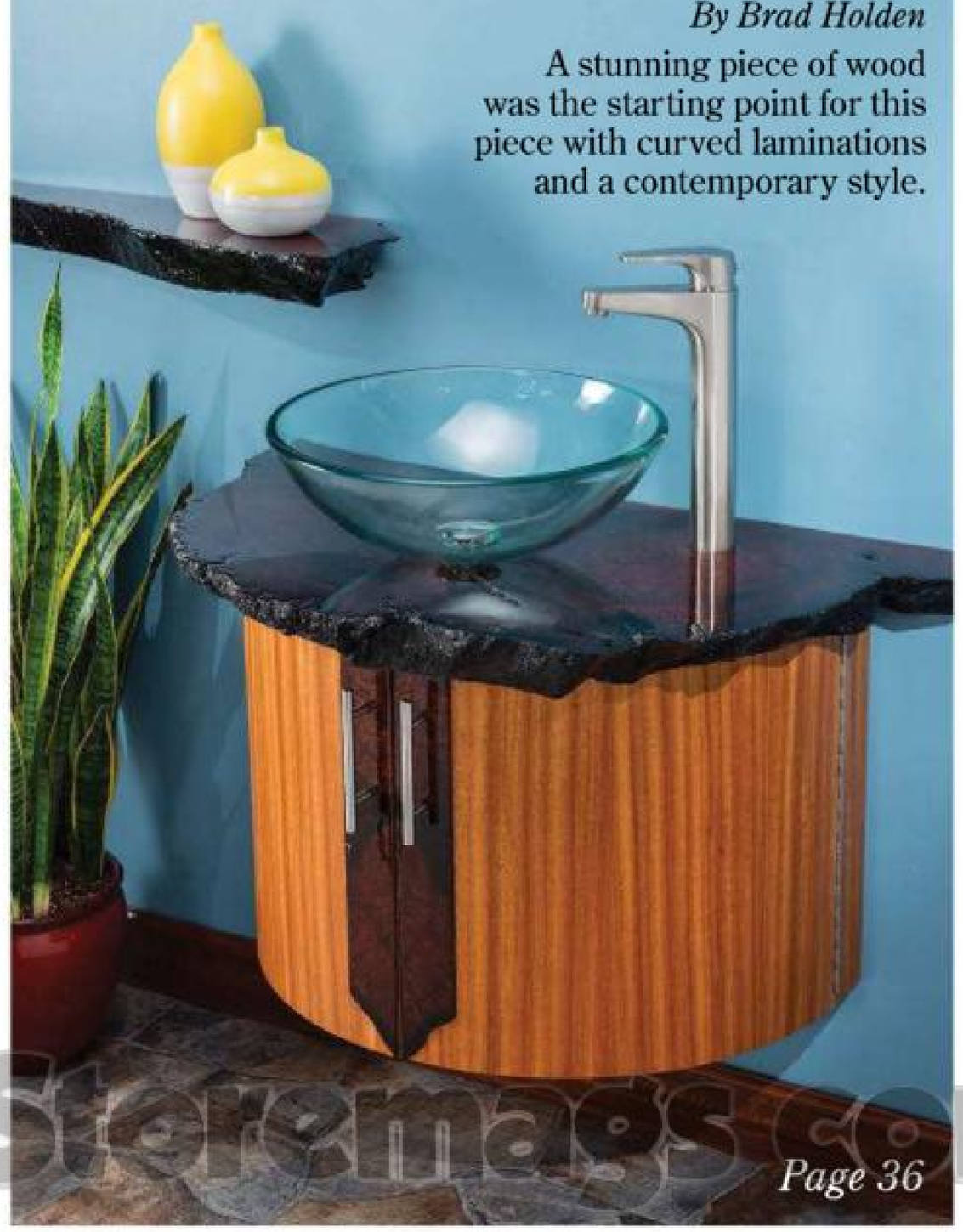

Redwood Slab Vanity
By Brad Holden
A stunning piece of wood was the starting point for this piece with curved laminations and a contemporary style.

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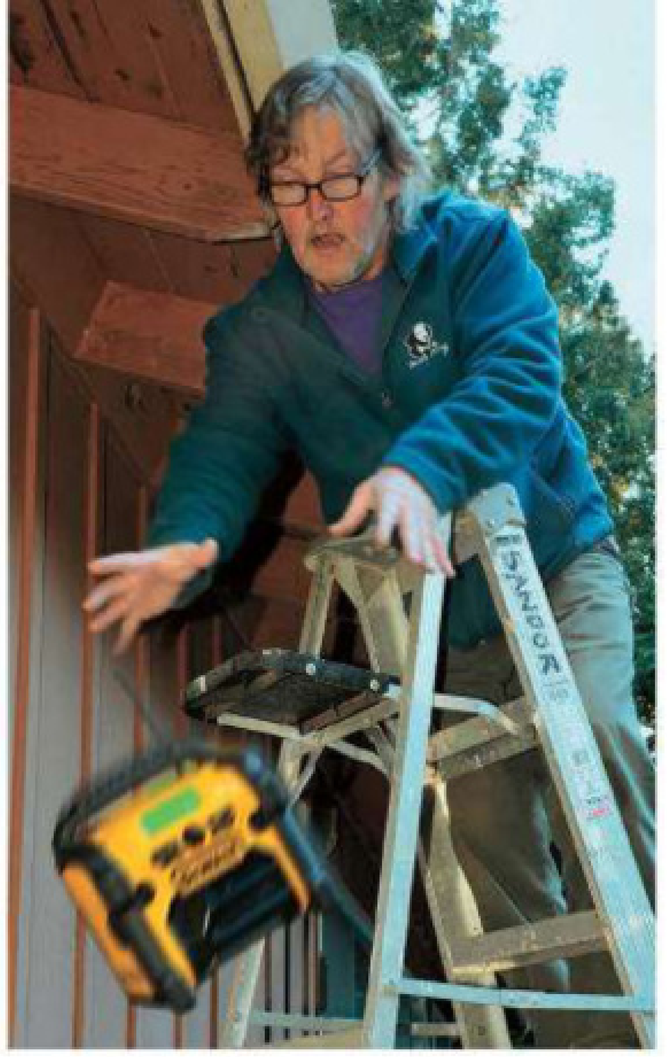

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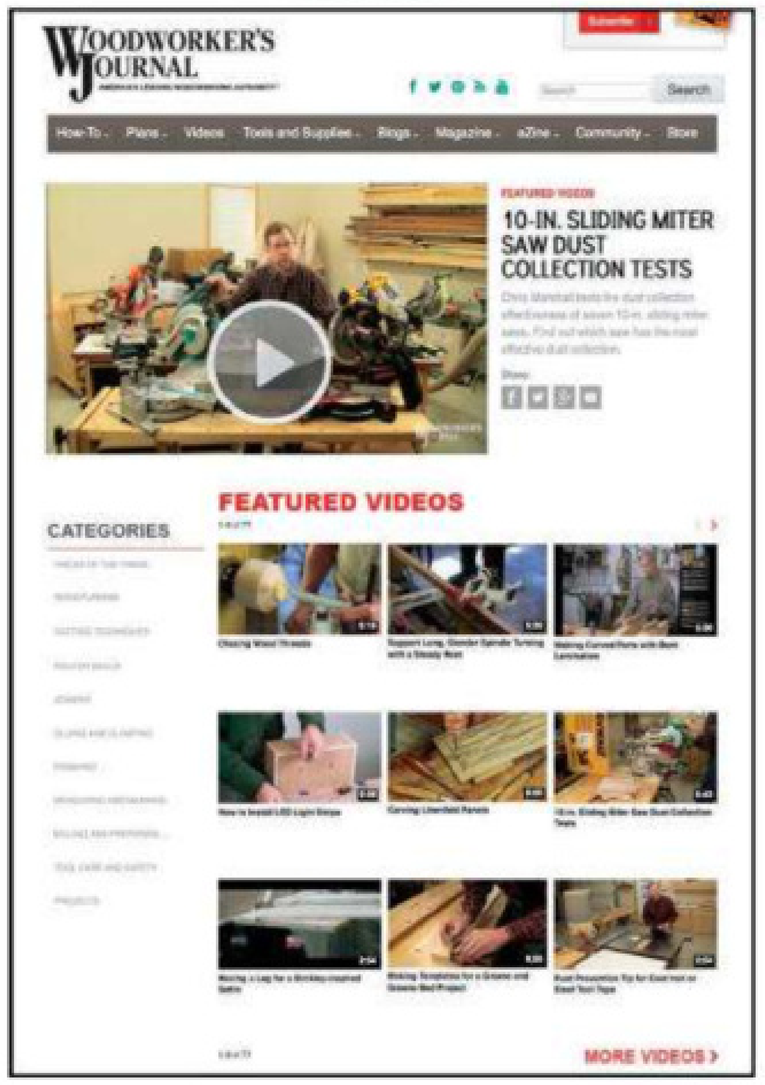
MORE ON THE WEB

I'm sure you've noticed that just about every project and many of our other articles includes our More on the Web icon. It's our way of saying that you can learn a lot more about that project or story on *woodworkersjournal.com* — and it's often in the form of a video!

If you haven't checked out the video gallery at *woodworkersjournal.com*, then you are missing out. Our video gallery page includes videos featuring tips, skills, product previews and interviews. Even if you're not planning to build the project, the More on the Web video associated with that project will likely teach you a skill you can use on other projects.

So do yourself a favor and take a look at our video gallery page. To get there, just click the "Videos" tab located in the top navigation bar on our homepage. We know you'll enjoy it!

— Dan Cary



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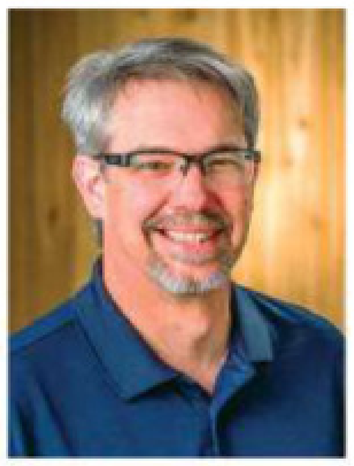
Letters

Projects from Many Paths



WOODWORKING ON THE EDGES

In my opinion, woodworking is the most versatile of crafts. Consider the projects in this issue, for example. We've employed woodworking skills to create a gorgeous bathroom vanity from a waney-edged slab of solid redwood (harvested sustainably from an old stump) and bendable plywood. I suppose you could call it home improvement, but you'll see it is some sweet woodworking from start to finish. We also teach you how to make a canoe paddle from scratch — a perfect summer project, and one that I intend to do in my shop. (Think of it as your hobby, helping out your other hobby.) And, towards the end of the magazine in our *Small Shop Journal* article, Kimberly McNeelan shows how to build a sturdy, yet stylish, bar stool out of solid ash lumber. It would be difficult to find three more diverse projects, but they are all great woodworking. Plus, they all fit the theme of using our woodworking skills to enhance our lives, our homes and the lives of those we care for.

What sort of woodworking projects are you up to this summer? Are they simple or sublime, practical or pompous, or just plain fun? Let me know, and as always, keep on making sawdust!

— Rob Johnstone

Bed Heads

I loved your article "Greene & Greene Inspired Bed" [Feb. 2015]. Chris mentioned that the project was made from mahogany. Could we find out what specific species he used? From the color of the raw lumber, I doubt he used genuine (Honduran) mahogany. It is probably one of the African "mahoganies"; my guess is either Khaya or Sipo.

John Pettus
Westminster, California

WJ Responds: Thanks for the kind comment about the bed project I built for our February issue. You are correct: while I wish my supplier had Honduras mahogany, what they stock is "African" mahogany. The exact species is indeterminate, unfortunately. I bought the wood from Steve Wall Lumber, and that's as specific as they get regarding their mahogany.

— Chris Marshall

I read with interest your article on constructing the G&G bed in your February 2015 issue. However, I am disappointed that the design only addresses a queen-size bed. I understand that the queen is the most popular size sold in the U.S., but there are a lot of us that

Continues on page 10 ...

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have king-size beds as well. My interest is not so much in the aesthetic upscaling to a king, but more to the "bones" of the support structure. This information would be very helpful to allow those of us wanting to build a king-size bed to work from your plans and produce a bed that won't collapse!

Richard Marsh
Decatur, Georgia

David Wakefield's animated penguin toy was a winner with the grandfathers in our readership! Pablo Gazmuri's black-and-white version is below, while John Lebens stuck with the unpainted look.

Granddads Build Birds

Since my youngest daughter, who just had a baby girl, loves penguins, I had to make one ["The Well-Tailored Penguin," February 2015]. It will make a great present for her and the baby.

John Lebens
Wayzata, Minnesota

In building the wooden penguin for my grandson, I had a question on the placement of the cam and whether the cam should be glued to the axle.

Thank you for your interest in wooden toys. In an era of electronics, I find the most entertaining toys are simple, and wood toys last for generations.

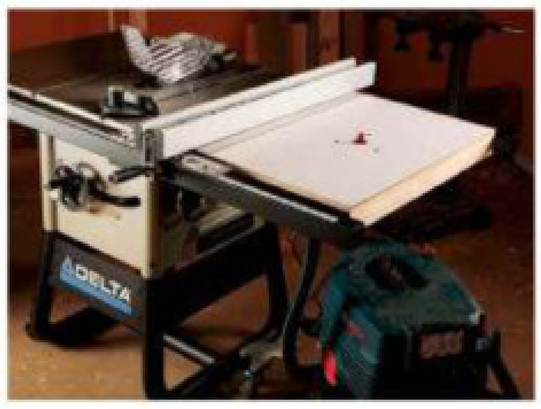
Pablo Gazmuri, M.D.
Needham, Massachusetts

A reader wanted more how-to instruction in our spoon carving article. We've provided a link in the copy below.

WJ Responds: We're glad that you and other readers are enjoying building the penguin designed by David Wakefield. We have had a few readers ask about placement of the drive dowel. This dowel (piece 9) is not mounted to anything. It is placed in the drive slot when you glue up the assembly and floats in that channel. The cam is attached behind piece 3, in the middle of the slot of the dowel.

Add a Safety Switch

I read the article on the router table insert, and found it very interesting ["Router Table Extension with Dust Collection," February 2015]. It's similar to the one I have installed, but I like the method of dust collection presented better than mine. However, there was one safety concern.



When I installed my router under the table, the height adjustment involved turning the router. That means the On/Off switch is constantly moving around, and is usually accessed from the side, not the front where you would feed from. Solution: install a "Safety power tool switch" (Rockler #20915). This switch has a large "STOP" paddle that can be found with hand or knee.

Bert Grant
Yuma, Arizona

Read the article in your February issue on how to turn your table into a router table. I have two identical table saws and made a router table and dado machine by cutting away part of the extension and putting a piece of hardwood in the cutout and fastening my router to this.

Dale Z. Jost
Syracuse, Kansas

Spokeshave How-to

I was rereading the Dec. 2014 article on "Carving Spoons." After I had read the article several times, I thought it would be fun to try. I'm sure it will be — once I master, or rather begin to learn, the spokeshave. I am sure many of your readers have the knowledge, but for those of us who do not, a short "how to do" sidebar would have been very helpful.

Maybe you could point me to any articles on using the spokeshave or maybe a video on the same.

Bob Isgrigg
White Lake, Michigan

WJ Responds: Thanks for your comments, Bob, and you raise a good point that we will keep in mind. You may find this article on the use of the spokeshave to be helpful: *www.woodworkersjournal.com/how-to-set-up-and-use-a-spokeshave/*

Continues on page 12 ...

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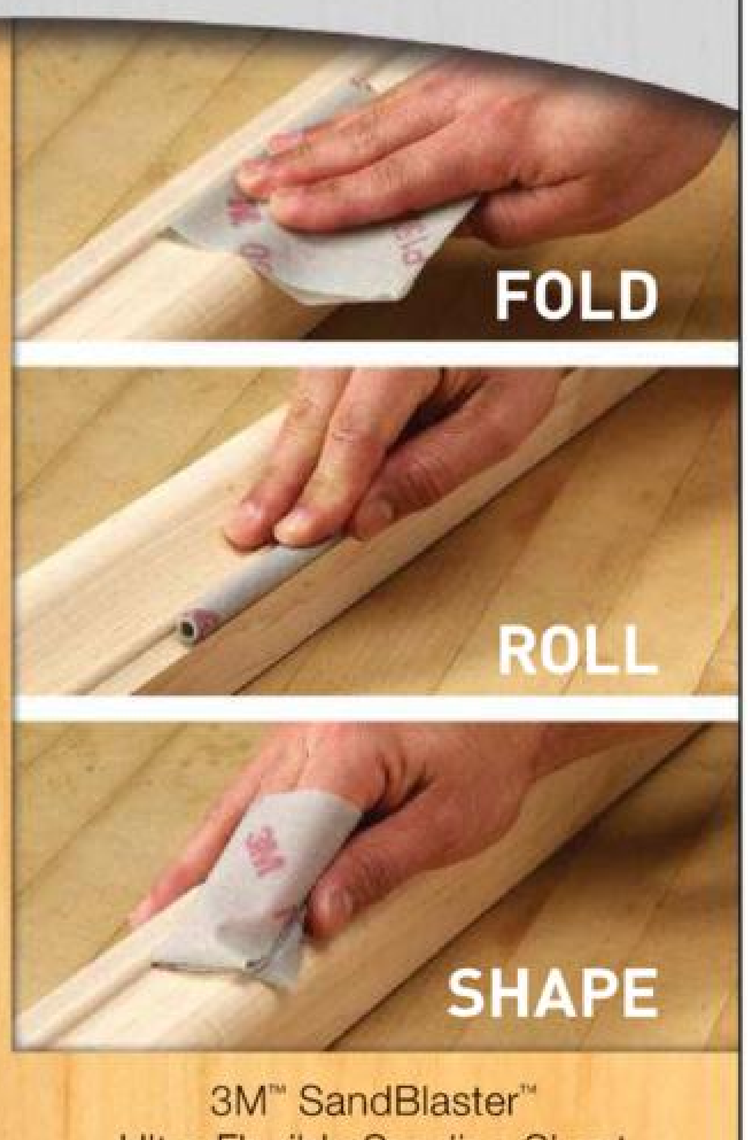

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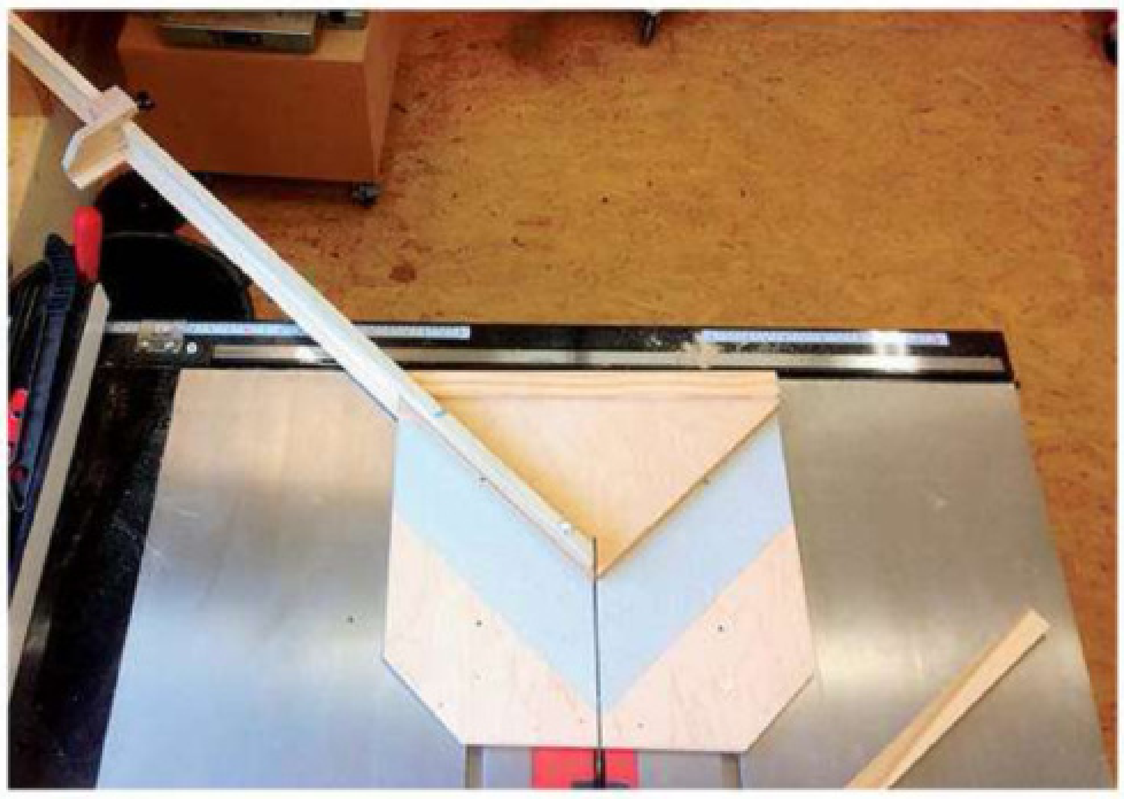

Our reader has a useful upgrade to a mitering technique we featured in our February issue. Adding an adjustable stop block helps to ensure accuracy.

Building On Success

Like Sandor Nagyszalanczy, [*Questions & Answers*, February 2015], I use a sled to build mitered frames. As he points out, unless opposite sides are exactly the same length, the joints will not be square. My method involves cutting all the left miters first and then, by using the adjustable stop block on an extension rail (bolted to T-nuts in the sled), it assures that opposites have the same dimension. With this setup, I can make frames with a maximum size of 60".

Anthony Fisher
Sebastopol, California

Making it Better

Just a suggestion: If you cut the 3/4" hole in the baseplate of the "Circle-cutting Jig with Fine Adjustment" [*Jigs & Fixtures*, February 2015] with a hole saw and enlarge the hole in the plug for a pencil, you could drop it back in and draw the arc or circle you want. You might need to wrap a layer or two of tape around it to make a snug fit.

Paul Ray
Maryville, Tennessee

A reader's clever suggestion turns this super-useful circle-cutting jig into a supersized compass.

Good Catch

I have to write you to tell you that I was shocked to see the photo showing Kimberly McNeelan in such a dangerous pose over her table saw on page 72 ["Spice Rack," February 2015].

We failed to use the proper safety gear in this photo ... we are properly abashed and will do better in the future.

One slip and she is going to be missing a thumb and finger at the very least. I use a SawStop saw in my shop and even with it, I would never put myself in such a position. I always use a push stick for that type of cut.

Les Austin
Lincolnton, North Carolina

WJ Responds: This was a poorly chosen photo. We apologize and appreciate your concern for safety. I am usually quite the safety captain, but the need for a riving knife and push stick was overlooked here. In the photo, I am actually using my left hand to hold the wood down and apply pressure towards the fence. My left hand would remain stationary. Please, keep reading and executing safe techniques!

— Kimberly McNeelan

Great Gift

I just want to thank you for sharing your ideas and details for building a "Lap Desk" in the October 2014 edition of *Woodworker's Journal*. I built one recently and gave it to my granddaughter for Christmas. She loves it.

Jerry Jackson
via Internet

A version of our lap desk made it under the Christmas tree last December. Lucky grandchild!

There's more online at woodworkersjournal.com

MORE ON THE WEB

Check online for more content covering the articles below:

Woodturning (page 22): *Turnings for your household (video)*

Miter Saw Station (page 30): *Space-saving miter saw station (video)*

Live-Edge Vanity (page 36): *Creating a curve on a bending form (video)*

Canoe Paddle (page 44): *Building a canoe paddle at Minnesota's North House Folk School (video)*

Shop Test (page 48): *Sound test comparison of jobsite radios (video)*

Small Shop Journal (page 62): *Creating book-matched panels (video)*

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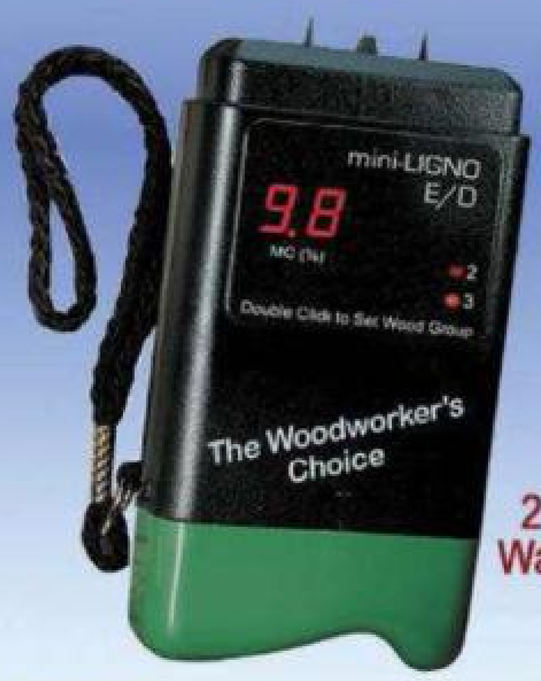

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Tricks of the Trade

Tricks to Help Do More with Less

Tested and photographed by Chris Marshall

Grinding Compound Loosens Tough Threads

Here's a trick for loosening up hard-to-turn or rusty threads on your tools. Apply a small amount of valve grinding compound, available at auto parts stores, to the threads. Cycle the threads back and forth through their travel until they operate smoothly, then remove the abrasive grit with solvent. Coat the threads with dry lubricant or wax to keep them working properly.

John Crawford
West Fork, Arkansas

Scrap Block Creates High-Rise Mortiser

My Delta mortising machine lacked the vertical capacity for mortising some wider stock recently, so I bolted a 2"-thick hardwood spacer beneath the tool column to give the machine more "reach." Now I can mortise workpieces up to 4½" tall. But, to preserve the original mortising depth for narrower stock, I clamp a second 2" spacer block to the table in front of the fence. A couple of stopped holes on the ends hold it in place with spring clamps.

Ken Johnson
Bellefonte, Pennsylvania

Tape-and-cut for Same-length Parts

When I was building your *Small Shop Journal* "Stickley-inspired Bookcase" (February 2013) recently, the plan called for six accent stiles to be cut to the same length. I didn't have a stop block setup long enough to do it, so here was my solution. I cut the stiles overly long and taped them together tightly. Then, I trimmed one end flat and square and used that reference end to measure off the distance I needed to crosscut the other end. Result: six identical lengths.

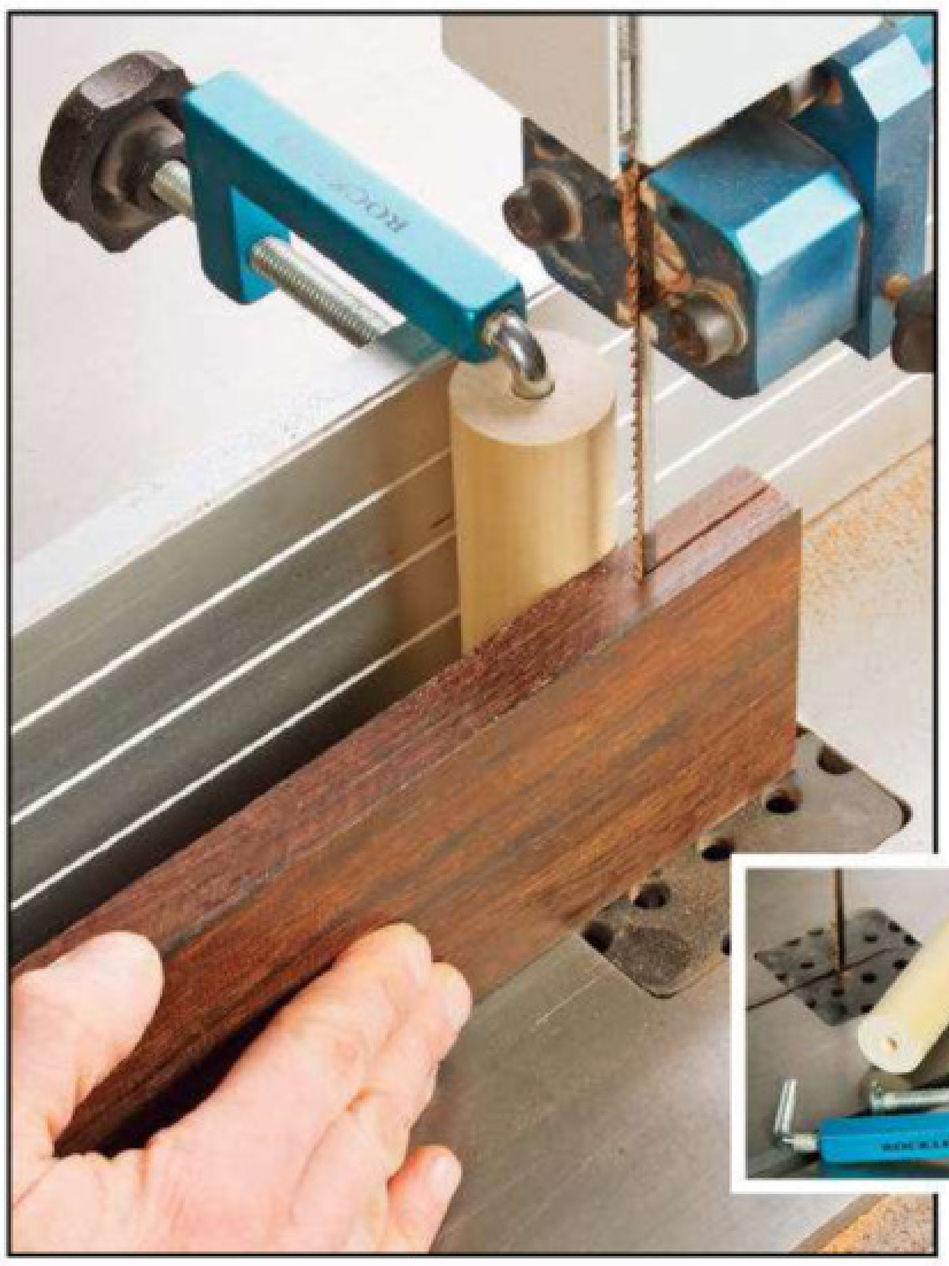
Joseph Kasinec
Macomb, Michigan

New Use for an Old Stepstool

As our children grew, the stepstool they once needed was retired to my basement workshop. I've since repurposed it as a multilevel support next to my workbench. It assists the vise for holding longer or odd-shaped workpieces. A very handy shop helper!

Ronald Casteel
Russell, Pennsylvania

PICK OF THE TRICKS



Simple Resawing Point Fence

Here's a nifty way to turn Rockler's Universal Fence Clamp (item 31373) into a point fence for resawing at your band saw. Drill a hole into the end of a 3/4" or larger dowel that matches the height of your band saw's rip fence. Insert the clamp's adjustable arm into the hole, and tighten the assembly securely to your rip fence. Thanks to the dowel's curvature, you can pivot and "steer" workpieces through a resaw cut to adjust for blade drift as needed.

Wade Meyer
Johnstown, Pennsylvania

In addition to our standard payment (below), Wade Meyer of Johnstown, Pennsylvania, will also receive a RIDGID 10" Dual Bevel Miter Saw (R4112) 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. Submit your Tricks to Woodworker's Journal, Dept. T/T, P.O. Box 261, Medina, MN 55340. Or send us an email: tricks@woodworkersjournal.com

Safety First Learning how to operate power and hand tools is essential for developing safe woodworking practices. For purposes of clarity, necessary 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.

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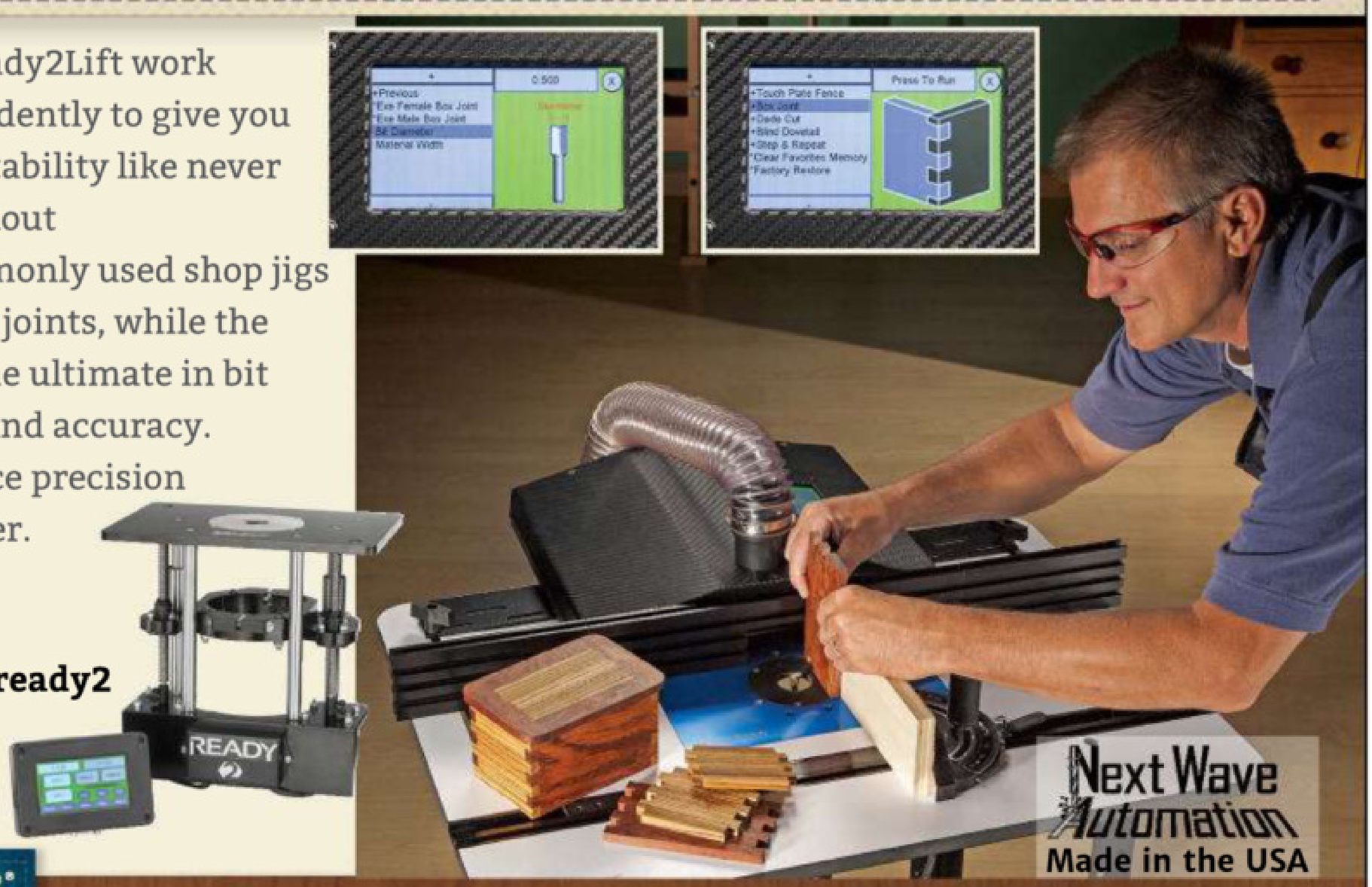
New Ready2Lift shown with touch screen controller (sold separately)



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Questions & Answers

Where Can You Send Your Saw Blade?

THIS ISSUE'S EXPERTS

Joanna Werch Takes is editor of *Woodworker's Journal*.

Ian Kirby is the host of the Way to Woodwork DVD series, available through the store at *woodworkersjournal.com*.

Chris Marshall is senior editor of *Woodworker's Journal* and author of several books on woodworking.

Contact us by writing to "Q&A," Woodworker's Journal, 4365 Willow Drive, Medina, MN 55340, 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.

Q I have tried four or five different table saw blades before I settled on a general purpose Freud Fusion Blade for all my cutting. My question is what to do with these other blades? Are they recyclable, donate-able, or what?

Don Price
Malvern, Pennsylvania

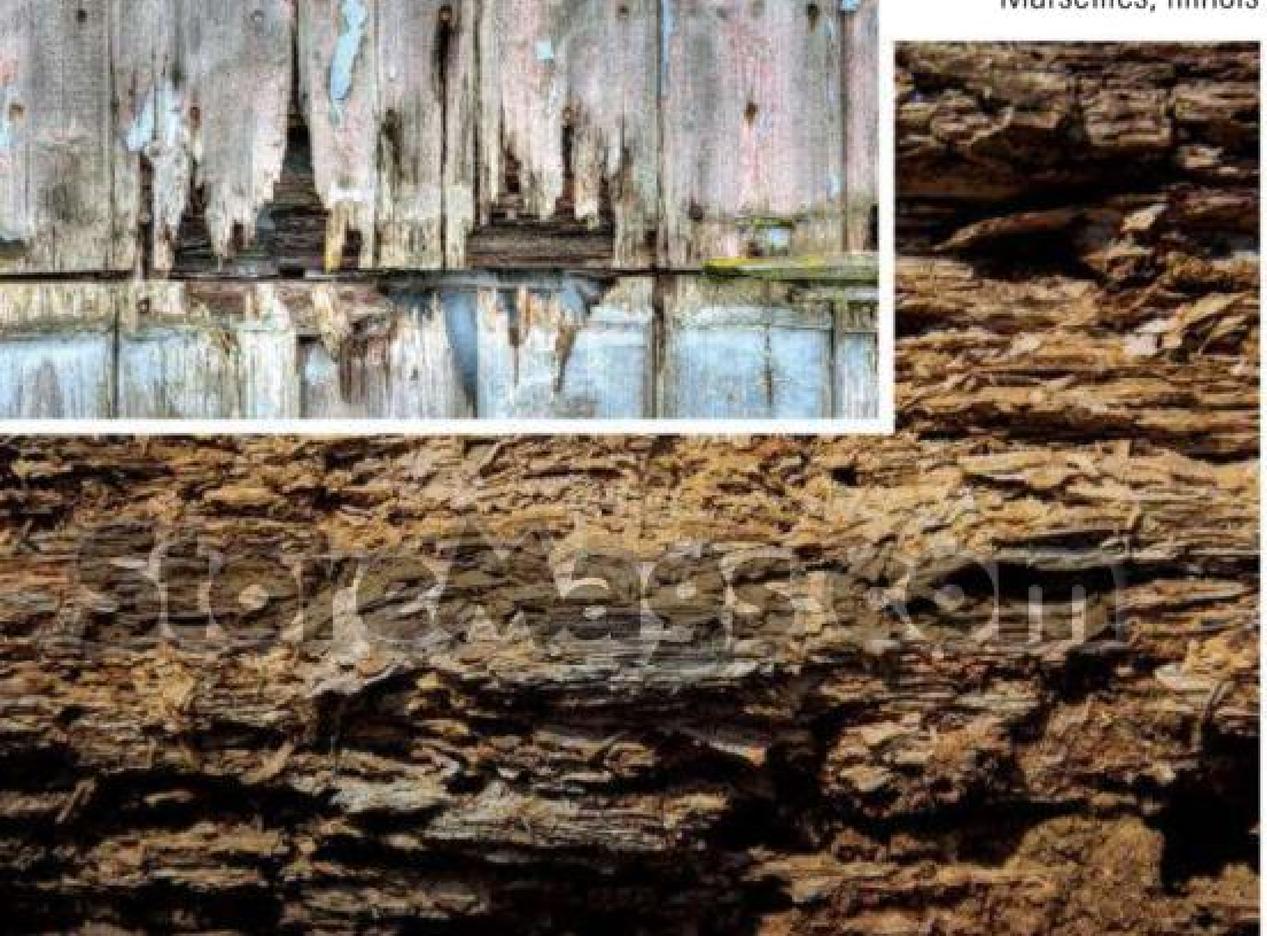
A According to our local scrap metal specialist, saw blades — steel blades, carbide tips, etc. — can be recycled by your local scrap metal recycler. If you are interested in donating them, you might also contact your local high school or community education program to see if they would want these items for their woodshop.

— Joanna Werch Takes

Q What exactly is "dry rot"? Why doesn't 200-year-old furniture suffer its demise from dry rot?

Keith Deck
Marseilles, Illinois

Digital image courtesy of smikeymikey1/Bigstock.com



Digital image courtesy of sms/photography/Bigstock.com

Should your furniture live in fear of the dry rot fungus? Our expert shines a light on that question.

A Dry rot is a fungus which, if the conditions are right, will infest wood, leaving it a dry, crumbling shell with none of its former strength or integrity. The expression "dry rot" goes back almost 200 years and is commonly used to describe brown rot and wet rot, the other rots which will infest wood.

Merulius Lacrymans and *Serpula Lacrymans* are the specific culprits of dry rot and, in the past few years, mycologists (people who study fungi) have been having second thoughts about how, exactly, these fungi do their work.

Briefly, and without being too technical, it goes like this. The "seeds" of fungi are called spores. Spores are microscopic in size and present in most atmospheres. When they land on wood and the conditions are right, they will "root," growing fine white strands called hyphae. The hyphae spread and grow, feeding off the cellulose and hemicellulose in the wood, causing it to be denatured. At some point, for no seasonal, climactic or other timeline, the infestation will create a fruiting body, or a "mushroom," known as mycelium. This will emit millions of spores into the air for the cycle to continue.

The vital aspect to the growth of any rot is in the phrase, "if the conditions are right." There are two conditions. Briefly, the moisture

Continues on page 18 ...

Plane & Simple

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A Tool to Transfer

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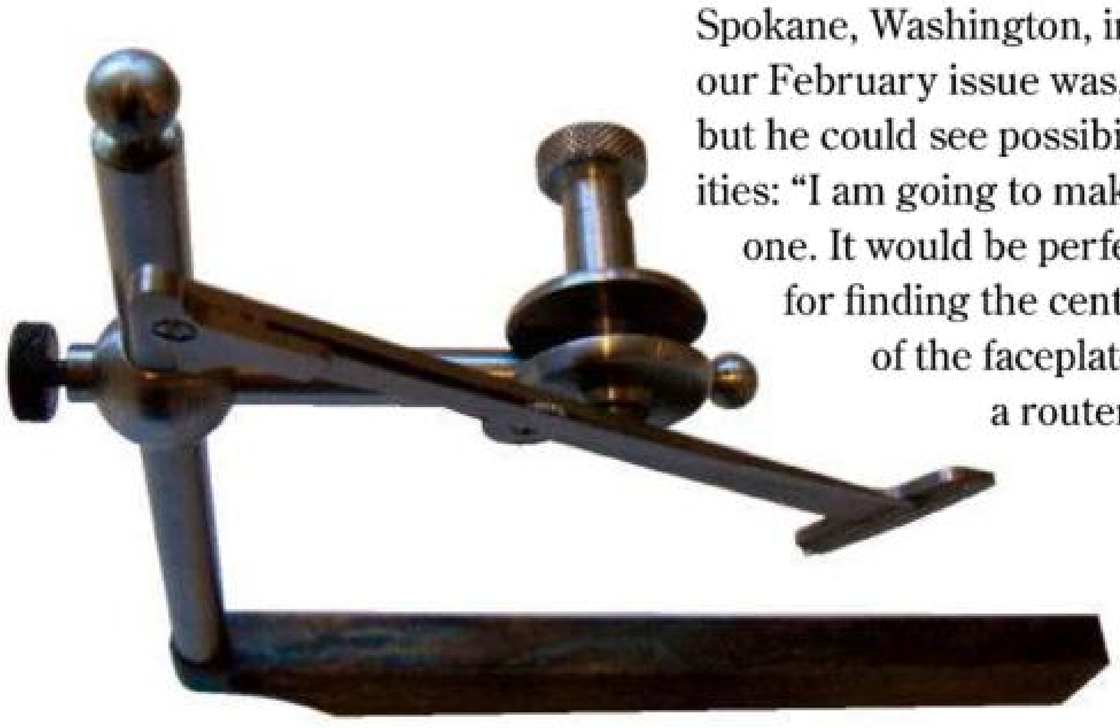
Doug Ripka's photo (below) shows this tool in use with a radio component.



What's This?

This mystery tool comes from Ron Christensen of Jacksonville, Florida. Do you know what it is? Send your answer to *stumpers@woodworkersjournal.com* or write to "Stumpers," Woodworker's Journal, 4365 Willow Drive, Medina, MN 55340 for a chance to win a prize!

Woodworker's Journal editor Joanna Werch Takes compiles each issue's Stumpers responses — and reads every one.

Marv Thompson of Rice Lake, Wisconsin, didn't know what the mystery tool from **William Rosevear** of Spokane, Washington, in our February issue was, but he could see possibilities: "I am going to make one. It would be perfect for finding the centers of the faceplate on a router."

Mark Morris of Coupeville, Washington, didn't know what it was called, "but I saw my dad use one when I was a youngster. He used it to draw circles. He would take a 16d nail and bang a hole into a centerpoint and remove the nail, then he'd place the nib into the dent and place a pencil at the other end (or inside of the set screw depending on how large he wanted the circle)."

We did (at last) hear from someone who had "used an object very much like the one William Rosevear asked us about." **Jon Slaton** of Mansfield, Missouri, "had a clock repair shop for many years. I used it to transfer hole centers. You would loosen the setscrew, and put one point in each of three (or two) holes and transfer it to the new place. Occasionally I needed one to make a new plate for a clock mechanism. It works very much like a pair of dividers, except with three legs. A light tap with a hammer would make a starting point for a drill bit."

Jon also notes that, "Like most tools, there could be multiple uses for it," which makes sense, especially when **Douglas Ripka** of Rebersburg, Pennsylvania, sent in the photo of the version he owns. "It was used during the 1920s homemade radio craze to help lay out the holes for radio components on the front panel," Doug explained.

The tool's overall purpose, Doug said, was "to transfer irregularly spaced mounting holes from a piece of hardware to a mounting surface."

Winner! Mark Morris of Coupeville, Washington, wins a Hitachi 10" Sliding Dual Compound Miter Saw (C10FSHPS). We toss all the Stumpers letters into a hat to select a winner.

Questions & Answers

continued

content of the wood needs to be about 30% and the surrounding air still, meaning no wind, conditions we wouldn't expect to find in many places today. Those damp, still conditions were common in earlier days in wooden boats and, more recently, in buildings that are poorly constructed, in that they are without good ventilation. Building codes are designed to avoid this.

Furniture is not likely to be in use in a place where the moisture content of the wood is about 30%, and you wouldn't want to live there either so, unless it's stored in such an unlikely place, it's not going to meet its demise by dry rot.

The longevity of wood is not one of its lauded features compared with its various species and beauties but, on balance, it may be one of its greatest assets.

— Ian Kirby

Q I am taking a hard look at making picture frames with a router. I have practically no experience with a router so I would like your advice on: Will a compact router handle this work? Will an economic router table handle this? These are the two purchases I will have to make and would appreciate your advice.

Bob Smith
Ballwin, Missouri

A A compact router would work for picture frames if what you want it to do is create profiled edges on your frames. Compact routers

Our editor explains why a router with a bit more power is the best choice for picture frame making.

also have the advantage of plunging capability with an accessory plunge base. You can certainly mount a compact router in a router table.

A compact will do template routing and cut joinery, such as modest-sized mortises. However, if you plan to use a router for more demanding joinery eventually or for heavy-duty profiling with large bits, buy a mid-size router in the 2hp range with fixed and plunge bases instead. It's more powerful and will accept both 1/4" and 1/2" shank bits (compacts only take 1/4" shanks, which limits your options).

Think of a compact router primarily for convenience: it's small and easy to steer by hand. A mid-size router works great in a router table, is still easy to maneuver for handheld work and offers you a broader range of bit choices.

This workhorse could serve you well as your woodworking skills grow. The accessories market also is geared toward mid-size models — all in all, it's a better long-term value.

— Chris Marshall

Winner!

For simply sending in his question on recycling or donating saw blades, Don Price of Malvern, Pennsylvania, wins a General International 7-piece Deluxe 8" Dado Blade Set (item 55-185).

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

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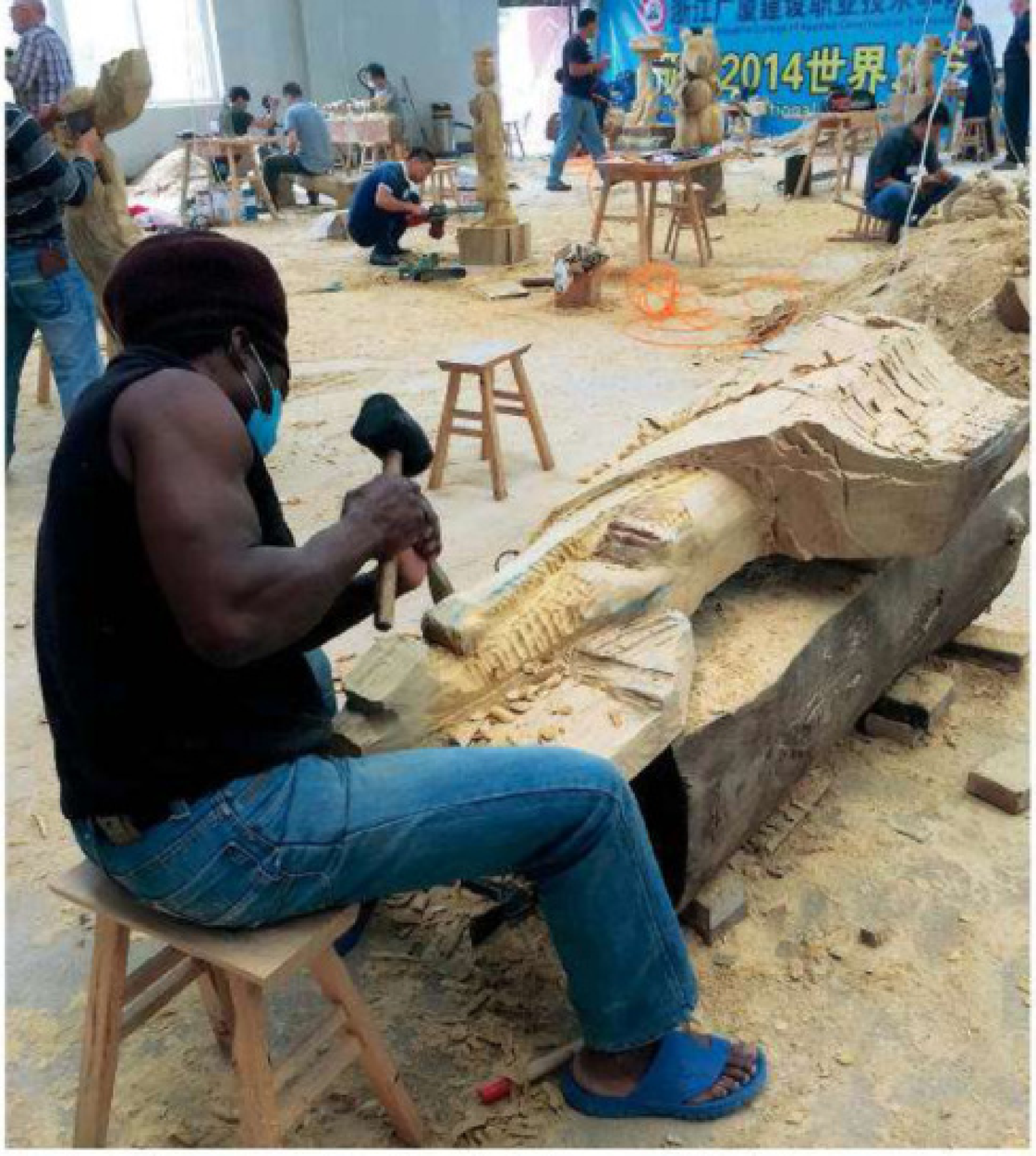
Shop Talk

International Contest

The sculptures completed by Betty Scarpino and others will remain in a museum in Dongyang, China.

Betty used a chainsaw for initial shaping and an angle grinder with a Saburr Tooth disc to add details to her sculpture.

Photo Courtesy of Martin Bill



Contestants used a variety of methods to accomplish their carvings. Charles Chambata from Zambia employed a mallet and chisel.

Carving in China

I had just three months to get in shape for eight days of intense woodcarving in China. I was out of shape and practice because I had primarly been editing *American Woodturner* for the last six years instead of working in my shop. I accepted the challenge in July and jumped full swing into biking, weightlifting and yard work to build strength and carving on a large sculpture to reestablish woodworking skills. As my plane lifted off in October, I felt strong and ready for the upcoming adventure.

In China, becoming a Master Carver confers status and wealth. We witnessed that firsthand while attending a lavish dinner at Master Lu's "workshop." Master Lu Guangzheng is China Arts and Crafts Master and Asia Pacific Region Arts and Crafts Master. Master Lu employs hundreds of workers who carve and sand his picturesque panels. Prices are high and sales obviously brisk. Carving in China is big business, and Dongyang, the city we visited, is seen as China's woodcarving capital.

In Dongyang, we found crowds of students, TV crews and newspaper reporters, all interested in the experience of the eight-day carving competition.

An International Cohort

Although I was the only sculptor from the U.S., other countries represented included Argentina, Bhutan, Ecuador, Iceland, Japan, Norway, to name a few. I already knew the only other woman in the group, Zina Manesa-Burloiu from Romania. Right from the start, she and I shared stories, insight and laughter.

Terry Martin from Australia organized the internationals. Part of his planning included ensuring that each artist could either speak English or act as a translator. Despite minor communication challenges, we all spoke the language of "carving

Golden teak logs were provided for the 38 carvers (20 from China; 18 from elsewhere) participating in the competition.

wood." As such, a feeling of camaraderie grew as we shared tools and helped each other reposition impossibly heavy chunks of wood.

The electricity in China is 220-volt, so I used a transformer, which allowed me to use the power-carving tools I packed into a small suitcase. Even so, the tool I ended up using the most turned out to be a small electric chainsaw.

Most of our initial wood removal was done by chainsaw, after which each of us resorted to a variety of cutting methods. Some used mallets and chisels, but most employed power tools. Personally, I used an angle grinder with Saburr Tooth® discs and an Arbortech reciprocating power carver, both aggressive workhorses. As my sculpture took shape, I switched to smaller rotary cutters for finer work.

We were provided with golden teak, a traditional carving wood in China, well suited for detail carving. Surprisingly, the quality of our logs turned out to be pretty rough. Many still contained the pith and some even included rot. As a result of the stock provided, I ended up changing my design.

Although some competitors finished early, I needed every bit of the eight days to complete my sculpture. Woodcarving competitions in China are extremely popular and doing well in one can lead to higher prestige, so the Chinese carvers were well seasoned and ready for action; their forms emerged with ease.

Master Lu Guangzheng's workshop (right) boasts a massive carving at its entrance; a detail of one of his carvings is shown above.

This carving competition was part of the 50th anniversary celebration of the World Crafts Council (WCC).

The WCC had arranged a display area for our sculptures in a building that also housed booths of varied craft items from a range of countries. We finished on Friday at 5:00 p.m., and by Saturday morning, at the WCC's opening ceremony, our carvings were on pedestals. I have to say, they looked stunning!

— Betty Scarpino

Betty Scarpino (bettyscarpino.com) *is* Woodworker's Journal's *former woodturning columnist and former editor of* American Woodturner.

The bottom third of Betty's original sculpture (above) eventually had to be removed: rot extended too deeply into the piece.

Ye's Carving Shop

Tin Tin, a reporter who made a documentary about my experiences in China, arranged for Zina and me to meet Ye, a fellow woman carver who lives in a small town a few miles outside of Dongyang. Ye has her own shop and employs five carvers and is working on achieving Master Carver status.

In a fascinating side trip, Ye took us to see a nearby blacksmith where many of the tools for local carvers are forged. After that we went to lunch and then strolled through a Buddhist temple where visiting monks were chanting. By moving off the usual tourist path, we gained an intimate glimpse of China.

— *Betty Scarpino*

A local Chinese blacksmith (above) makes carving tools. Ye, a professional woodcarver (left), is working to reach Master status.

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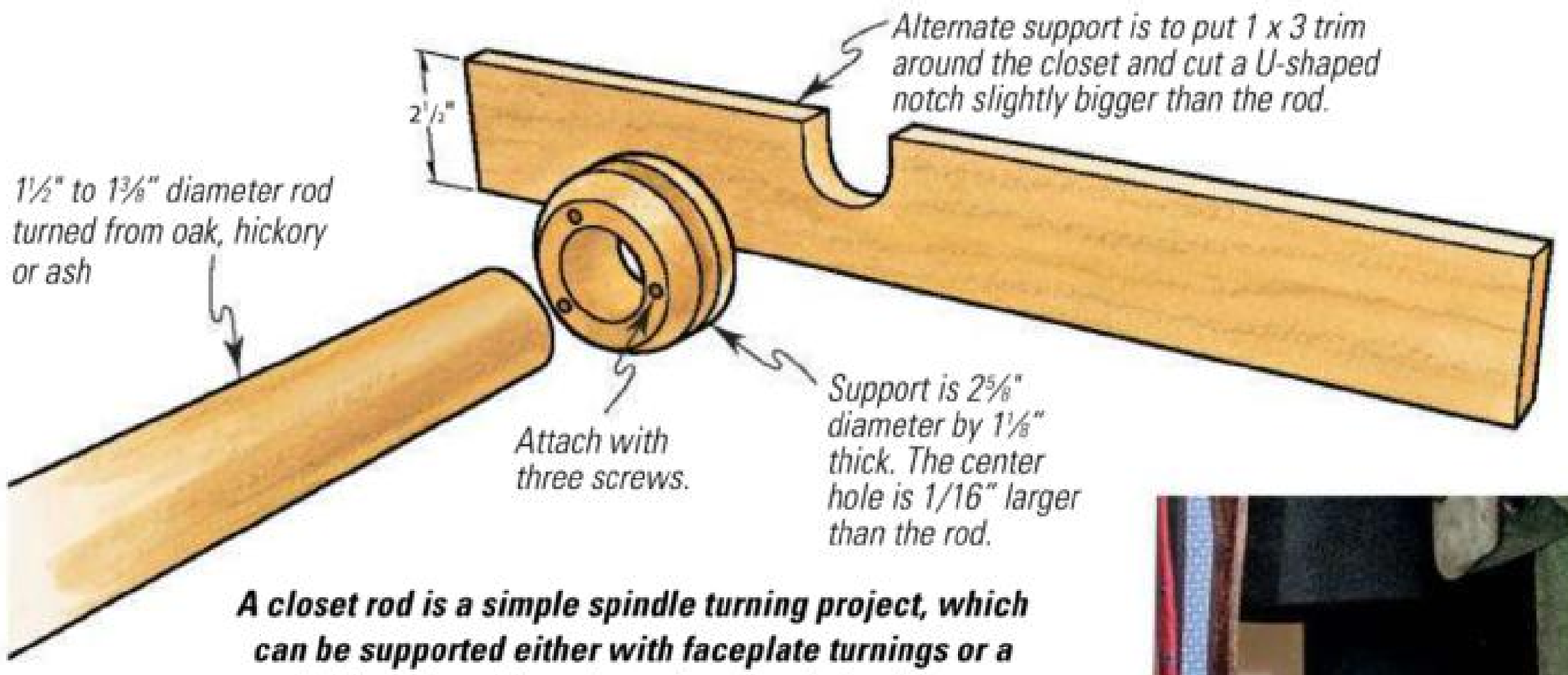
Working Turning Into Your Daily Life

By Ernie Conover

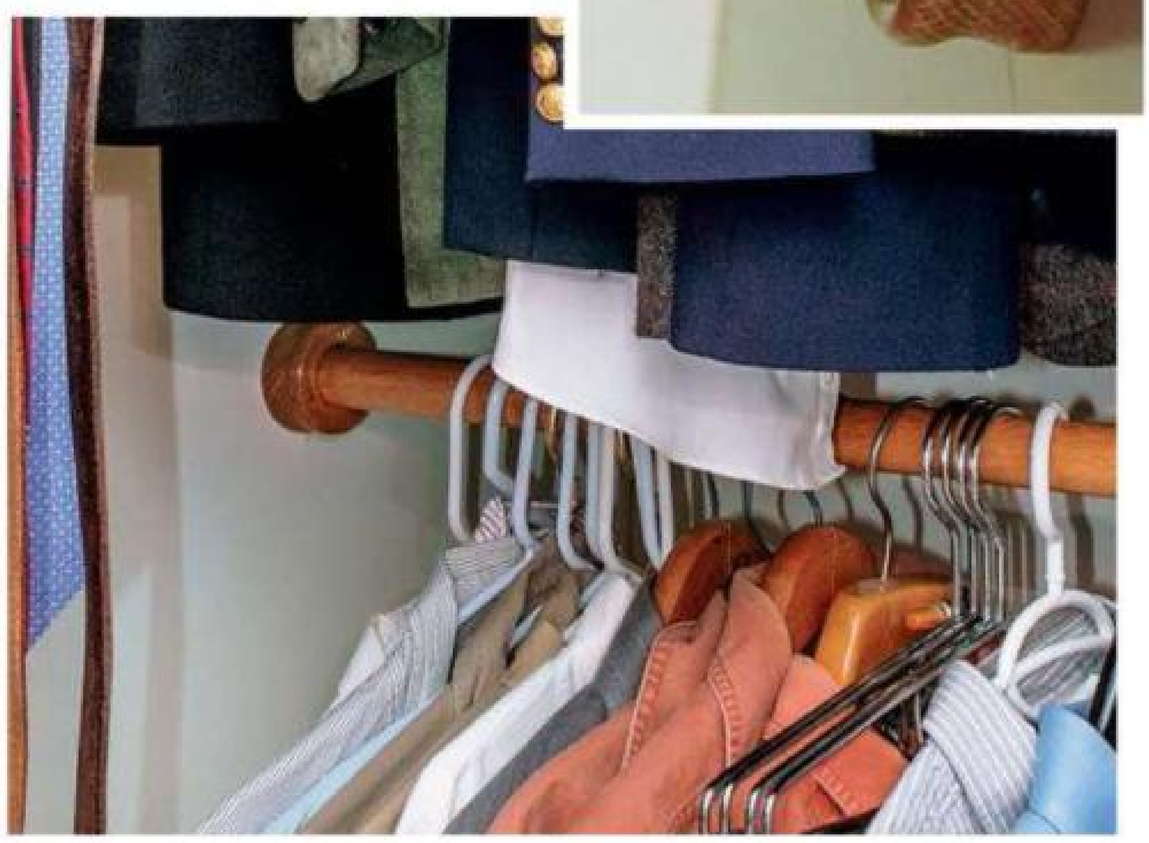
The lathe should be a go-to tool for home repair and improvement.

The author even used his lathe to create a better fit on a faucet replacement.

Although I have always considered myself a furniture builder with a turning problem, it's understandable why you might think of me primarily as a woodturner. In fact, I hate to do any piece of woodworking without including some turning. I even work turning into my home repair. In this article, I've provided some thoughts on ways to include turning in your household, along with some projects I have done over the years, with the hopes that they will get your mind to thinking turning in all woodworking.



A closet rod is a simple spindle turning project, which can be supported either with faceplate turnings or a U-shaped notch cut into trim around the closet.



A closet rod you turn yourself will bear up much better under the weight of clothing than the standard rod you purchase from a box store.

Clotheshorse Closet Rods

My wife, Susan, is a talented fiber artist, so we both have an affinity for clothes; much of this clothing is wool or linen. I long ago grew tired of the box store clothes rods in our closets sagging under the weight of our threads.

The answer was simple: turn 1½"-diameter clothes rods from oak. The supports holding the rod will break before the rod sags. I like to faceplate turn the supports, but simple housings cut in 1x3 trim at either side work well, too. This is simple straight turning that gives a high-end custom look to your home. You can find construction details in the illustration above and more information on turning long, slender spindles in the April 2015 issue of *Woodworker's Journal*.

Jar and Canister Lids

Every home has at least one jar or canister with a missing or broken lid. It is an easy matter to turn a new one and give this jar or canister a second life. This is a great faceplate turning job that will make the owner very happy.

These days, I do a separate spindle turning to create a knob for the lid, as it saves wood. You can also turn your knob as part of the lid if you start with 5/4 or 6/4 material — but you have to sweep up a lot of shavings.

You can also turn wooden lids with a recess that offers a snug fit for the original metal lid. This gives you a method to create an attractive storage option from a jar that was previously headed straight for the recycling bin.

Lamp Finials

The average floor or table lamp has a finial that secures the shade to the harp. Many are made of plastic and look cheap. Turning a new finial is a great project and one that can be done in a mini-lathe.

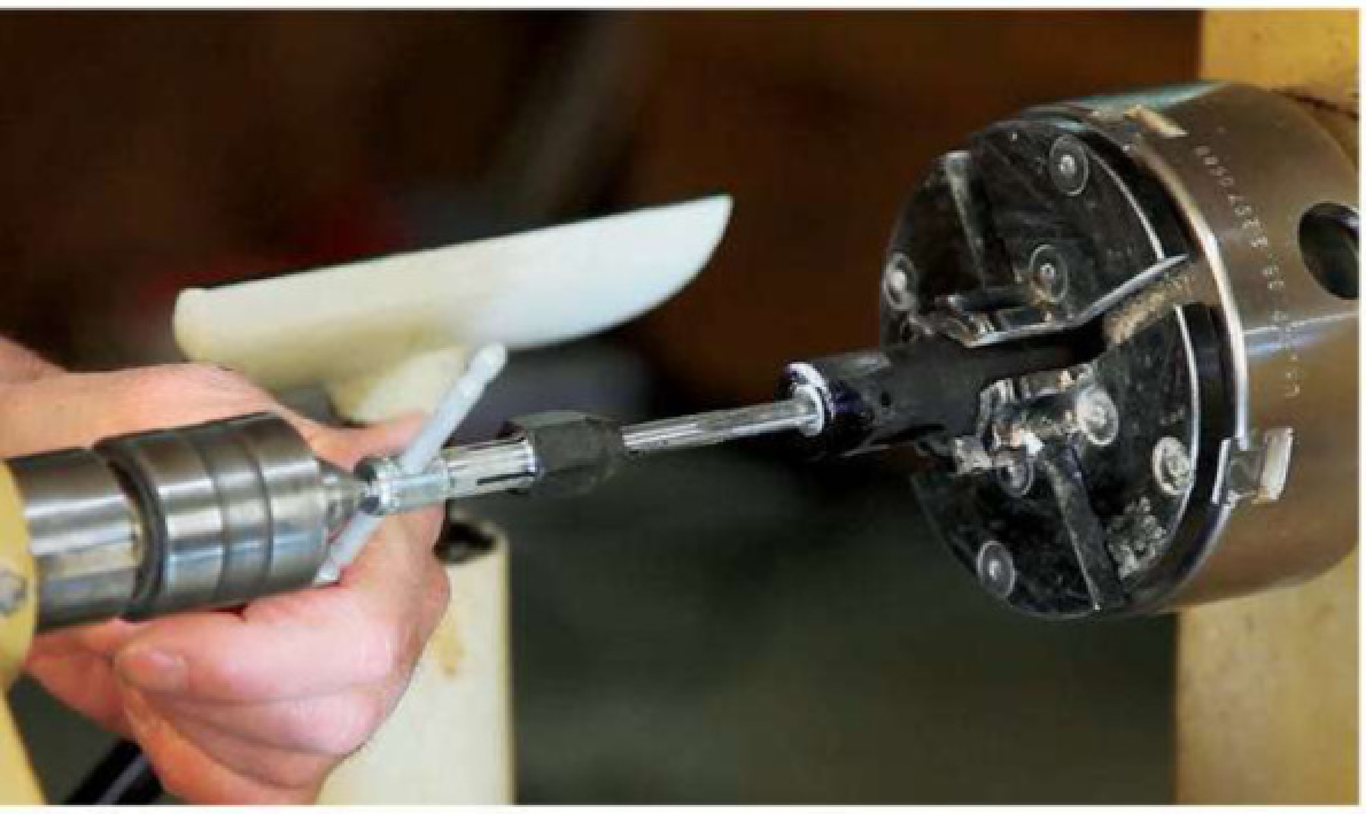
There is one slight speed bump to this project. The threaded stud on the top of a lamp harp is of a very peculiar pitch: 1/4"-27. Standard hardware threads are either 1/4" by 20 or 28 threads per inch. This leaves you with a limited number of choices.

One is to buy a brass 1/4"-28 thread, superglue this into the blank for your finial and accept that there will be a bit of cross threading. Since the distance is small,

The original lid for this canister met a bad end. Faceplate turning a replacement is a quick task that will make the owner very happy.

Nice-looking jar with a screw lid? Turn a wood lid with a recess that the metal one press fits into, and you've made yourself a new jar.

StoreMags.com



Drill a 1/2" counterbore in a finial blank, then drill deeper with a #3 twist drill. (This is a tap drill for 1.4" threads.) Superglue in a 1/4"-28, or even a 20, and tap the nut. You can do the tapping on the lathe.

Using a live center in the tailstock to support your tap holder will ensure the thread is on an axis with the hole. As you turn the finial between centers, catch the nut with the tailstock's live center.

The author shows a finished finial. Turning replacements for standard lamp finials offers the opportunity to create a customized, attractive piece of decor and to use materials ranging from wood to high quality plastics to tagua nut.

www.woodworkersjournal.com
MORE ON THE WEB

For a video on woodturning for the household, please visit woodworkersjournal.com and click on "More on the Web" under the Magazine tab.

this usually is not a problem. Or, you could order some 1/4"-27 nuts from a lighting parts supplier (I use Grand Brass, *grandbrass.com*).

Another solution is to drill a 1/2" counterbore in the blank with a Forstner bit to the depth of the nut you're going to use. On average, 1/4"-28 or 27 nuts are 7/16" across the flats. This puts the corner-to-corner distance at just a tad over 1/2", making them a press fit. Superglue seals the deal. Before pressing in the nut, you may want to drill a tad deeper with a 1/4" drill to give the excess screw thread on the harp someplace to go.

A final option is to order a 1/4"-27 tap from an industrial hardware, such as McMaster-Carr (*www.mcmaster.com*). Just run the tap through a 1/4"-28 nut, and you are good to go. This is also a good option if you want to use plastic or tagua nut for the finial and tap it directly.

I have made a few finials from tagua nut, which is the nut of the ivory palm tree and is indistinguishable from ivory except by chemical test. There are a wide variety of turnable high grade plastics (not the cheap plastic that came with the lamp) sold by turning supply houses that would make dandy finials.

You'll drill a 1/2" counterbore in the finial blank, then drill deeper with a #3 twist drill. Superglue in a 1/4"-28, or even a 20, and tap the nut. Using a live center in the tailstock to support your tap holder will ensure the thread is on an axis with the hole.

Other Options

What else can you turn for your home? The sky's the limit — or is it your ceiling?

For instance, you could turn ceiling medallions for chandeliers. Expensive or unobtainable these days, they are nonetheless easy to make with a sheet of plywood and some wood scraps glued to it. Straight scraping — outboard, of course.

Circular molding. Can't buy it (or, if you can, it is ugly). Scrape your own with mitered pieces paper-jointed to a disk of plywood.

Escutcheons for doorbell and garage door buttons. You can make them look much better than the cheap plastic escutcheons that come with such items today.

Use your imagination and turn a woodturner's eye toward your household.

Ernie Conover is the author of The Lathe Book, Turn a Bowl with Ernie Conover *and* The Frugal Woodturner.

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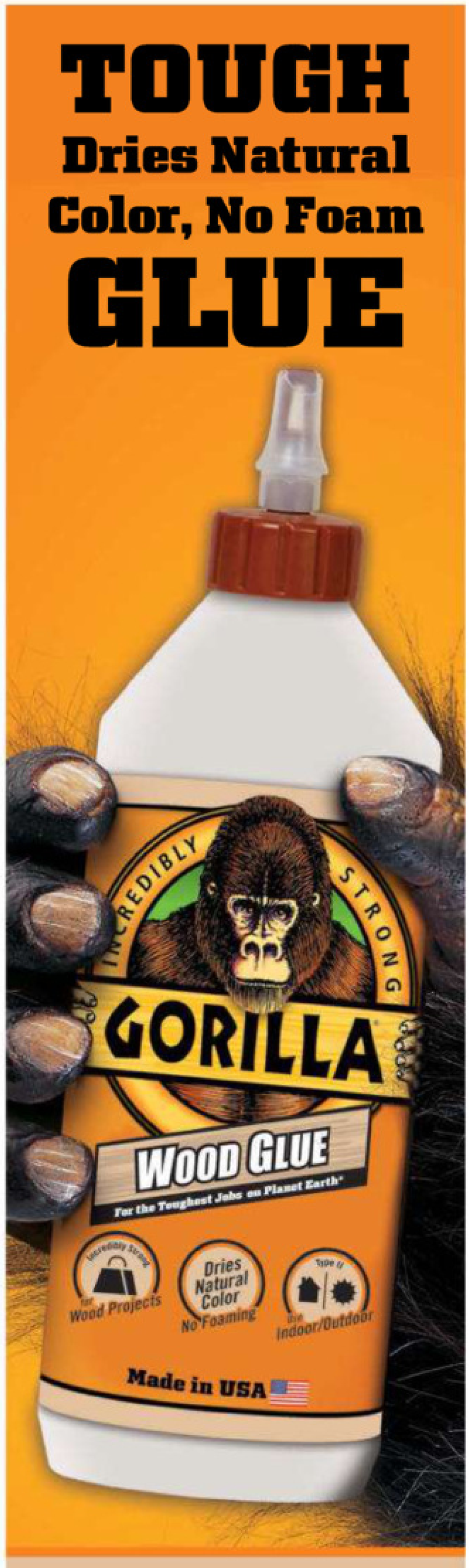
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Gift Ideas

6 Pros' Top Gift Ideas

Gifts Dad Will Love ... Trust Us!

Looking for a thoughtful woodworking gift this Father's Day? Here are a few hints from our wish lists, plus some tried-and-true favorites.

Michael Dresdner

Ox Hair Brush

To me, a great gift is something you'd truly enjoy, but for whatever reason — usually sticker shock — you hesitate to buy for yourself. A really good ox hair brush falls into that category, and it's one of those tools I would not want to be without. Because it is comparatively expensive, those who brush finish may not know how much better it is than the cheap brushes they're used to. Thus, it's a perfect gift.

Ox hair is much softer than other fibers and bristles, so it holds a lot of finish and lays it out smoothly with — and this is the important part — no brush marks. Yes, Dad will have to learn to clean and care for it, but like any great tool, the difference between it and its cheaper brethren is remarkable.

A 2"-wide 100% ox hair brush from Gramercy Tools, perfect for shellac and lacquer, will run you at least $50. If he prefers brushing varnish, Purdy makes a 2.5" straight or angled ox hair and china bristle blend that's ideal for thinned varnish or polyurethane. You can often find it for a street price below $40.

Chris Marshall

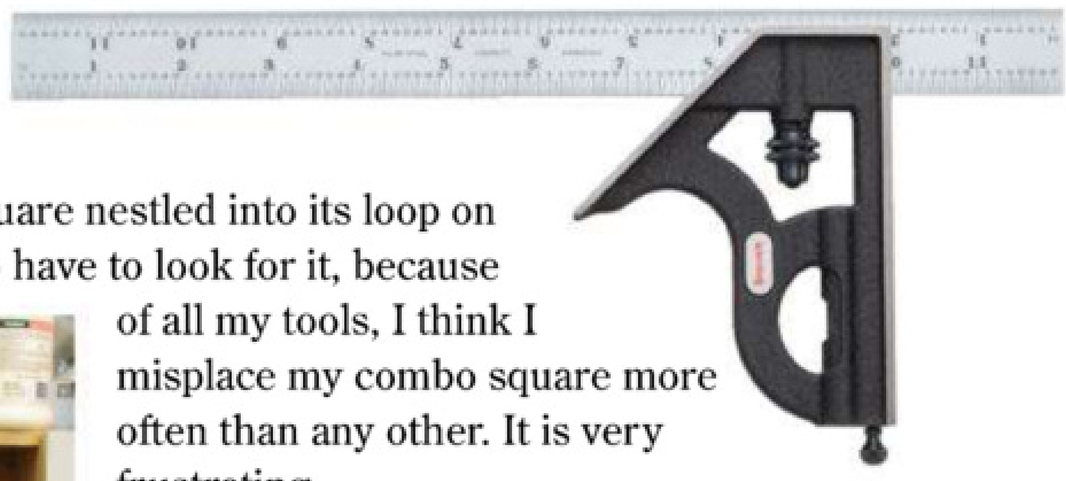
DeWALT DWP611PK Compact Plunge Router

In our December 2012 issue, I tested DeWALT's new-to-market compact plunge router — the DWP611PK. I had always been a fan of laminate trimmers, so these fresh little compacts with plunge bases(!) definitely had my attention. After I ran this router through its paces, I liked it a lot — enough to give it our "Best Bet" award. Since then, I've used this tough 1¼-horsepower dynamo over and over again. And honestly, I like it even better now than I did then. It has enough gusto to rout moderate-size mortises or profiles without bogging down. The motor slips in and out of its plunge or fixed bases easily. And the plunge base has every good aspect that you'd expect from a mid- or full-size plunge base, only in smaller form: the grips are comfortable and offer good control, its plunge action is smooth and predictable, and the depth stop system is easy to use.

Here are three of my favorite features: the sub-bases take standard-sized guide collars for template work; it has two bright LED lights that shed light down on the bit, and — simple though this is — the fixed base has an extra-long, squared off end to give your fingers better purchase when guiding it along narrow edges.

Will and should this little workhorse replace a mid-size router? No. But boy, does it come in handy for smaller jobs. Obviously, I don't need one for Father's Day, but trust me: your dear old woodworking dad will love it. I know I would.

When I walk into my shop, one of the first things I look for is my combination square. I find it almost impossible to do any serious woodworking without my handy combo square nestled into its loop on my shop apron. And I admit that I really do have to look for it, because of all my tools, I think I misplace my combo square more often than any other. It is very frustrating.



So if I was concocting a wish list for Father's Day, it would start off with not just one, but two or three combination squares. I'd like a 4" version, which I have long coveted but never purchased. Added to the 4" square, I would like a couple of "extra" 12" models. These new 12-inchers would have special storage places on my pegboard wall panels, so that I could just walk over and grab one after I have misplaced the one that should be hanging on my shop apron! My senior editor Chris Marshall suggests I throw in an 18" rule, too. He uses his often, and it's even harder to lose!

Rob Johnstone

Combination Square

Keeping my tools organized and close at hand is important, but buying the stuff that keeps them organized isn't nearly as fun as buying the tools themselves. That's why I'm asking for a couple of products this Father's Day that will improve my organization, but I don't really want to spend my own money on them.

The first is a new apron. I used to be a tool belt guy, because I did mostly remodeling work. But, a few years ago, I tried a short-front shop apron with shoulder straps, and I haven't looked back. The shoulder straps don't hang on the back of my neck like a traditional apron. The new Rockler Broad Shoulder Apron fits the bill and features even wider, padded shoulder straps than my old apron. It's also got a quick-release buckle and several pockets for pencils, squares, and other small tools I use a lot.

I'm always looking for a tool bag that's better than the one I have, and I still do a fair amount of remodeling work, so the second item on my list is Rockler's Joinery Tool Bag. It features two deep flat-bottom compartments that are perfect for hauling a screw gun and impact driver or a couple of nail guns. Plus, the various smaller pockets on the side are just the right size for holding boxes of fasteners, pencils, a battery charger and other odds and ends. That's everything I need to complete a project.

Dan Cary

Rockler Joinery Tool Bag

Rockler Broad Shoulder Apron

My Top Tool continued

Kimberly McNeelan

Japanese Handsaw

I recommend gifting a Japanese handsaw as a great present on any ol' day, whether it's Father's Day or otherwise. Japanese handsaws are easy to use, affordable and very efficient. There are different options of blade styles and sizes depending on the intended use of the saw. So maybe you'll decide to get two saws for the avid woodworker!

Japanese saws cut on the pull stroke, which makes them innately ideal to use for cutting straight lines. This also allows the blade to be thinner than most Western handsaw blades because the blade won't bind and fold. That being said, you can get a saw with a blade stiffener to assure the blade stays straight. A blade without the blade stiffener can double to cut fairly straight lines but will also flex enough to bend, which is really handy for making flush cuts against a flat surface. If you do happen to damage the blade, it's easy to order and install replacements.

As with any saw, another thing to note about Japanese handsaws is the size of the teeth. I have one saw with very fine teeth and a high ratio of TPI (teeth per inch) for making fine cuts, and I have one with a lower TPI and bigger teeth for cutting softer woods swiftly. I use my Japanese saw frequently for dovetailing, cutting small things (like dowels) and crosscutting rapidly with ease. The folks I've gifted this handy tool to really enjoy it! Your dad will, too.

Sandor Nagyszalanczy

M-Power CRB7 MK3 Router Base

Most router junkies I know (myself included) aren't happy unless they have a screaming router in their hands that's shooting out shavings faster than a pro ballplayer spits chewin' tobacco. But as useful as these tools are on their own, you'll get a lot more out of them by using the right accessories. One of the most versatile accessories I've used recently is the CRB7 MK3 router base made by M-Power. The CRB7 Attaches to your router like a regular edge guide and is designed to fit the majority of routers currently on the market. Its large acrylic baseplate adds stability to the router during regular edge routing, but that's only the beginning. By attaching a variety of small accessories that come with the CRB7, you can plow adjustably spaced dadoes, rout accurately sized mortises, or cut/shape precise holes, circles and arcs up to 4 feet in diameter. For accuracy, the CRB7 features a nice micro adjuster that makes it easy to tweak settings until they're dead-on. For even greater versatility, you can purchase an optional edge guide bar, to use for edge-guided routing tasks, or an edge trim kit for flush trimming and edge work. I really like the CRB7's large Bakelite ball-style handle, which is very comfortable to hold. Overall, the build quality is excellent and features precisely machined steel rods and various brass and hard-anodized aluminum components. It's a great gift for anyone who owns a router.

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Miter Saw Station

By Ralph Bagnall

This space-saving shop solution gives you the capacity to make cuts on your miter saw without sacrificing bench space.

During a recent move, it looked like I might have to locate my shop for some time in a two-car garage. I found a more spacious solution, but this forced me to take a hard look at how I could reduce my workspace without losing functionality. I have always thought that my miter saw took up a lot of space for the use it gets, so I spent some time considering how the support tables on either side could serve the saw without sacrificing bench space.

What I came up with was this miter saw station. It is essentially two standard cabinets with the saw mounted between them. Instead of drawers below the counter, a built-in shelf supports the lumber being cut. A 10" saw can really only cut about 7½" wide, so 7" of width is plenty to support the cut. Tucking it under the counter lets me have my miter station AND lots of bench space that does not need to be cleared off every time I want to make a cut. So let's begin maximizing your shop space.

Getting Started

Even in a well-equipped shop, cutting a full sheet of plywood when working alone is difficult and dangerous, so I reduce sheets into more manageable pieces using a circular saw and straightedge. A sheet of rigid foam insulation on top of the sawhorses (or even on the floor) allows you to make the cut without damaging your blade or horses, while supporting the whole sheet during the cut. Just set the circular saw blade to cut through the

Once the full sheets are crosscut using a circular saw, the parts are cut to final size on the table saw.

plywood but not through the foam. The cutting diagrams (see page 33) show you how the three plywood sheets can best be sectioned by hand. Rip about 1/4" to 3/8" off one long side to provide a clean edge and crosscut as shown. The smaller sheets are then ripped into the components using the table saw, and then crosscut to length.

Cut Shelf

The cut shelf needs to end up very flat and straight to work properly, so it gets built first and the cabinets fabricated to fit the shelf. Save the waste when you crosscut the two shelf parts and the shelf back; they will be useful as setup parts for the next step.

Unlike a portable saw stand, this Miter Station provides two continuous surfaces extending out from each side of the blade, perfect for adding a stop system. Before assembling the shelves, cut two T-slots in them for stops. Plow 3/8" grooves down the length of the shelves (see *Drawing* on page 33). Follow up with a T-slot cutter on the router table. This makes adding stops easy (I used Rockler's Inline stops).

With the cut shelves milled, the backs can be attached. Nothing fancy here: they get glued and pocket screwed along the back edge of the cut shelves. Start at one end and screw them on, working across, keeping them exactly flush with the back edge of the cut shelves. I assembled the cutoffs, too, so I have a sample part that will come in handy during some setup later.

You will use the leftovers from cutting the cut shelf and back to confirm the layout and make the template for notching the sides and dividers (photos above).

Mill grooves into the cut shelf, then form the T-slots at the router table (photo at right).

Sides/Dividers

The sides and dividers all need a large notch in the top front corner to accept the cut shelf. There are six to cut exactly the same, so a template is required. I used the cut shelf sample from earlier to mark out a template, then carefully cut and sanded the notch.

Cleats added to the top and front edges of the template ensure alignment. I marked and rough-cut all six parts on the band saw, then flush-trimmed them to match the template.

The bottom inside edges of the sides get a 1/8"-deep rabbet for the deck, and a 1/2"-wide by 3/8"-deep dado

Glue and pocket screw the cut shelf's back panel to the cut shelf (photo showing drill in use, above). You will use the cut shelf sample to mark out the router template (left photo) for cutting the notches in all the upright parts (right photo).

Miter Saw Station Hard-to-Find Hardware

T-Slot Cutter (1) #26099 ..... $29.99 ea.
Inline Stop (1) #43807 ..... $6.99 ea.
Adjustable Leveler Leg (1) #32183 ..... $17.49 pk.

To purchase this and other products online,
visit www.woodworkersjournal.com/hardware
Or, call 800-610-0883 (code WJ1577).

The cabinet sides get a shallow rabbet along the bottom edge to accept the deck and a dado that the back will slide into.

Pre-drilling pilot holes from the inside of the rabbet makes assembling the cabinet much easier.

to accept the back. This is where the sides become lefts and rights. It is just a shop cabinet, but there is no point in not having the best faces showing.

The final step in making the sides is to drill a line of 1/16" pilot holes along the centerline of the rabbet. You'll thank me for this tip as you assemble. The dividers need nothing other than the notch.

Deck

The two decks only require a 1/8"-deep, 3/4"-wide dado milled front-to-back along the centerline to locate the divider. Again, drill a series of 1/16" pilot holes along the dado centerline. Now you can assemble the basic cabinets.

Carcass Assembly

Attach one side to the end of the deck with glue and screws. Then attach the other side in the same way and screw through the deck into the divider.

Mount the cut shelf across the sides and dividers, and nail it into place to hold it while you're driving screws.

The cabinets sit on plastic leveling legs. Mount the brackets to the underside before attaching the legs.

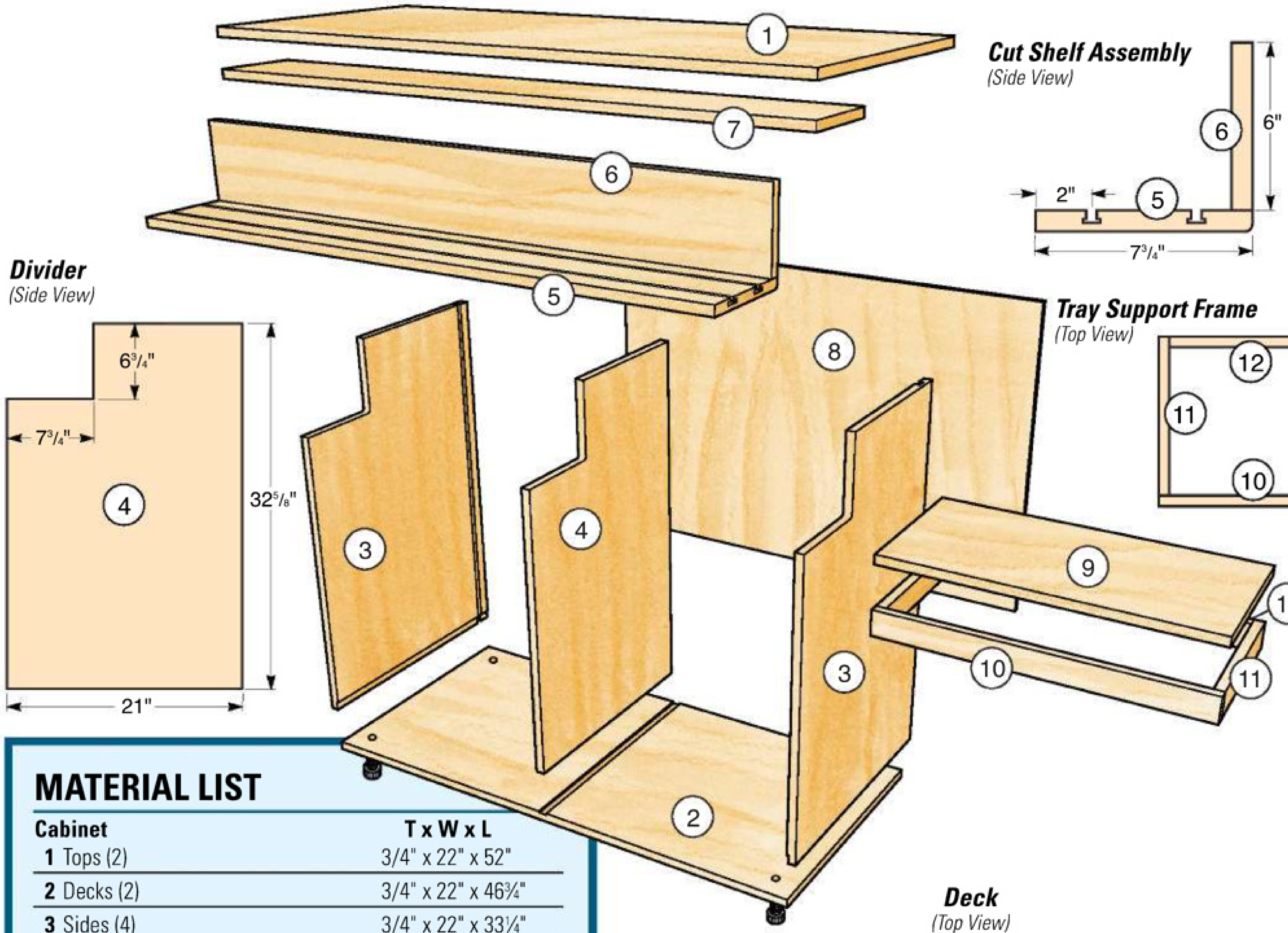
The routed notches in the cabinets have a rounded inside corner. It is easier to round over the back of the cut shelves to match rather than squaring all the notches.

Now the cut shelf can be added to each carcass. The ends mount flush with the sides, but I marked the center of the shelf to help get the divider in the right place. I glued and nailed everything to hold it as I drilled pilot holes and screwed through the shelf into the notches.

You may have noted the lack of a toe kick. Because the cut shelves need to be aligned very accurately across the station, I chose to use adjustable leveling legs to support the cabinets. This is the easiest way to precisely level and straighten the whole setup, and they are easy to use.

I drilled 5/8" locating holes in the four corners of each deck and near the centerline. I spaced them about 2" in from the ends and 3" in from the front/back. The leveler bracket has an expanding boss that fits into this hole. Driving the pin in from the outside spreads the boss, holding the bracket in place as you secure it with the included screws. The leveler legs then snap into the brackets. Turning the feet adjusts the height up or down.

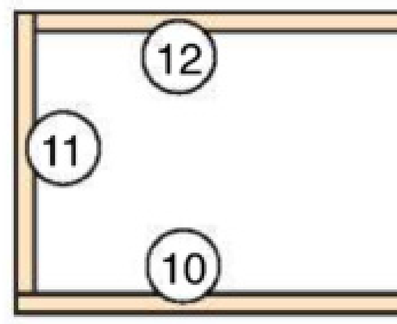
A simple roundover on the back corner of the cut shelves (inset photo) allows them to seat properly into the notches in the upright parts.



Cut Shelf Assembly
(Side View)

Divider
(Side View)

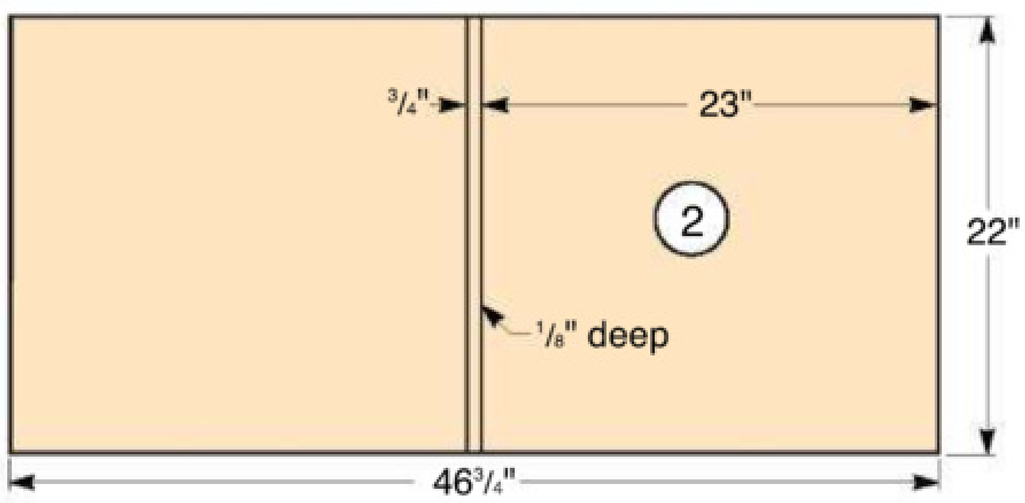
Tray Support Frame
(Top View)



MATERIAL LIST

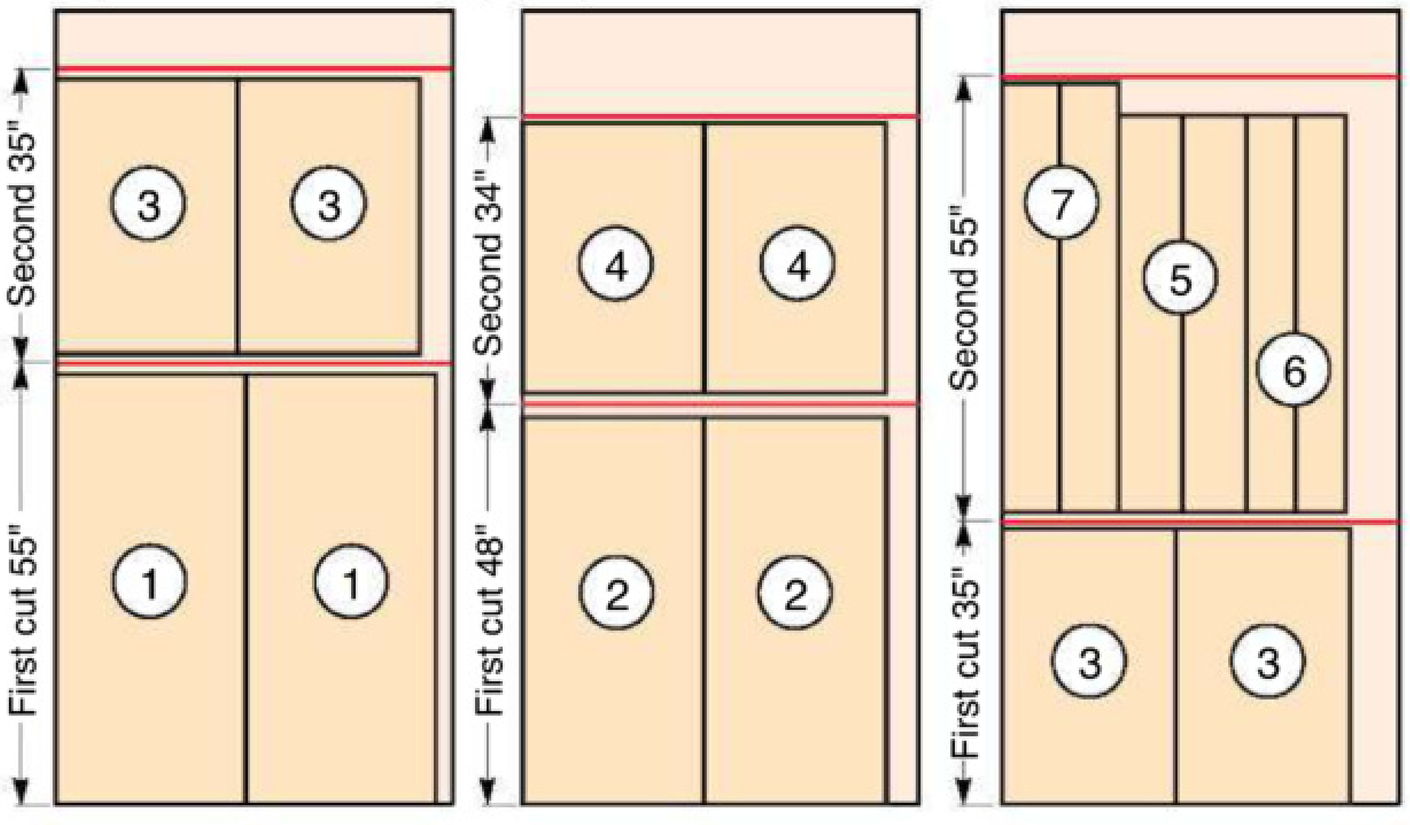
Cabinet	T x W x L
1 Tops (2)	3/4" x 22" x 52"
2 Decks (2)	3/4" x 22" x 46¾"
3 Sides (4)	3/4" x 22" x 33¼"
4 Dividers (2)	3/4" x 21" x 32⅝"
5 Cut Shelves (2)	3/4" x 7¾" x 48"
6 Cut Shelf Backs (2)	3/4" x 6" x 48"
7 Top Buildups (2)	3/4" x 7" x 52"
8 Back (1)	1/2" x 47¼" x 32½"
Saw Tray	
9 Saw Tray Shelf (1)	3/4"x 12" x 24
10 Tray Front Support (1)	3/4" x 2" x 24"
11 Tray Side Supports (2)	3/4" x 2" x 11¼"
12 Tray Rear Support (1)	3/4" x 2" x 22½"

Deck
(Top View)

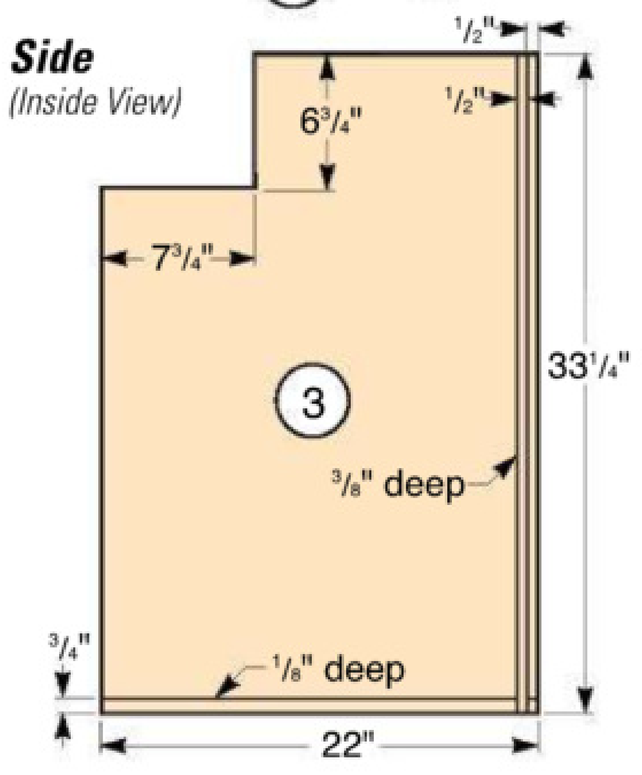


Top Buildup Assembly
(End View)

Plywood Sheets Cutting Diagrams



Side
(Inside View)



Check the height of your miter saw bed to determine its placement between the cabinets.

The shelf supporting the miter saw should be clamped in place and adjusted before you screw it to the cabinets.

Adjust the leveling legs until the cut shelves are flat along their combined length.

Set the cabinet on its legs and slide the 1/2" plywood back into the back rabbet. It rests on the deck and stiffens the cabinet. A couple of brads through the sides will keep the unit from racking.

Saw Tray

Now the miter saw needs a place to sit. I have included the dimensions used for my saw, but you may need to adjust them for your particular saw.

I cut the shelf parts from the remainder of the plywood. Measuring my miter saw, it was clear that I would need 24" of space to swing the saw, and at least 12" to bolt all four feet to the shelf. To stiffen the shelf, I added 2"-wide drop edges around the shelf bottom. I then carefully checked the height of the saw cutting surface. You'll need this dimension when you mount the shelf.

Setting the Cabinets

I set these without the tops or doors in place. The weight is manageable and the interiors are open for easy access. Set the two cabinets generally level and spaced apart by the width of your saw shelf. To mark the saw shelf position, measure down from the top of the cut shelf the same distance as the height of the miter saw measured previously. Mine was 3¼".

Clamp the saw shelf between the cabinets close to the lines. Set the clamps just tight enough to hold it in place. Use a mallet to tap it into final position, and firmly clamp it in place, but do not screw it in yet. Set the saw on the shelf and check to see that you have the positioning right. The saw deck should be perfectly level with the cut shelf, and the fence of the saw flush with the cut shelf back. This shelf worked out to be flush with the front of the cabinets. Others may not. No worries: adjust the shelf position until the saw lines up properly.

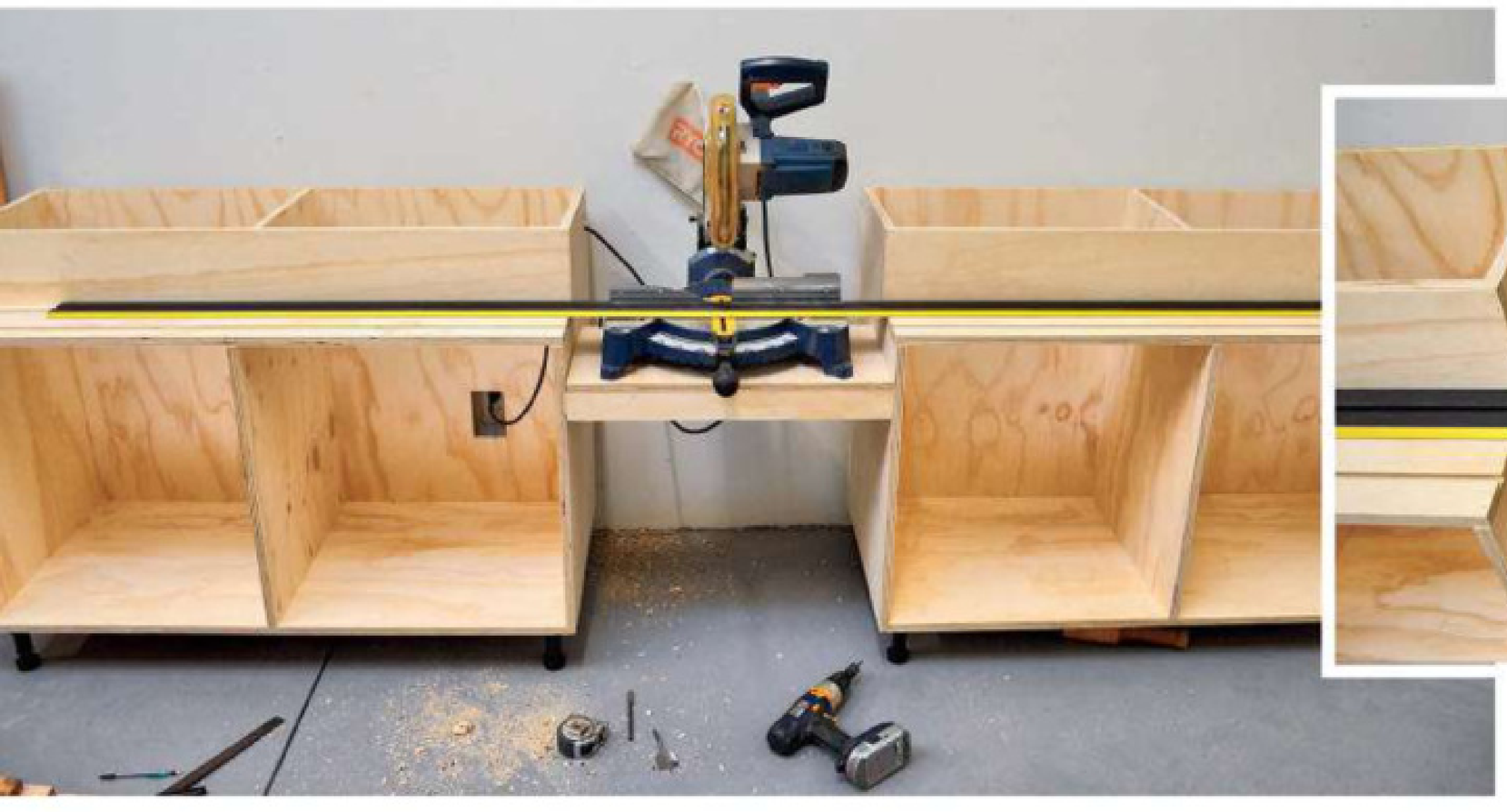
When positioned, screw the shelf into place. Two or three 1¼" screws in each side will hold any miter saw that you can lift. Do not yet secure the saw.

Level and Straight

This bit can be tedious, but it is crucial for accurate cutting. To adjust the cut shelf even with the saw fence, set a long straightedge centered on the saw fence, and align the cabinets until everything is touching the straightedge.

The cabinets are held together by the saw shelf, so you may need to shim between the saw shelf and cabinets front or back to achieve this. Loosen but do not remove the screws, add wedges until things are where you want them, and re-tighten the screws.

Next, stand the straightedge vertical and adjust the cabinet height until the straightedge is in contact with the



Use a straightedge to adjust the shelf until the bed of the miter saw is exactly in line with the cut shelves, front to back and top to bottom.

The author secured the cabinet tops to the sides and dividers with pocket screws.

The T-slots you cut earlier in the process make it easy to set stops anywhere along the cut shelves.

miter saw table and cut shelf all the way across. The leveling legs will make this a lot easier. The levelers allow for adjusting all four corners of the cabinets largely independently. Remember that level would be nice, but STRAIGHT is what is important.

I did not fasten these cabinets to the wall. I left room behind so the cords of my bench tools could be kept out of the work area. If you want to secure yours, no problem, but be careful not to misalign the cut shelves as you do so.

Tops

You can use premade laminated countertops from the home center. The tops on my unit are simple plywood panels. The top is supported by the sides, divider, cut shelf and back, so it should remain flat over time. The 7" overhang on the front worried me a bit so I doubled it up, gluing and nailing on a 7"-wide strip to the underside to resist sagging. My tops are cut to 54" for a bit more bench space. The inside edge is flush on the saw side, and the overhang is on the outside.

I drilled pocket screw holes in both sides and the divider. The top is set in place with the buildup tight to the cut shelf back, then screwed in place.

Doors and Shelves

This article is about the cut shelf, so I won't go into details on door construction. Simple slab doors cut from another sheet of 3/4" ply or whatever would work just as well. I happened to be making stile-and-rail doors for another project, so it was easy to make these at the same time.

The doors are hung with cup hinges, which make them easy to adjust after hanging them. I made up a template for drilling pilot holes for the hinge plates. This saves a lot of time and frustration. Just remember that the template will rest on top of the deck, but your door should align 1/8" up from the bottom edge of the deck.

Fixed shelves or even adjustable shelves could be used, but I hate having to kneel down to find things in the back, so I made pullouts. These are cut from the same 1/2" ply as the backs and are simple, open boxes 3" tall. I plan to store cased tools (routers, dado sets, nail guns and the like) on the deck and hardware in the pullouts. This way I'll be able to access everything easily.

The only thing to keep in mind with pullouts is that, unlike fixed shelves or even normal cabinet drawers, pullouts need to clear the door. This means that the pullout width needs to be 1" smaller than the opening for the slides, and an extra inch is needed to clear the door. I built mine 3" narrower than the space, and added a 1"-thick cleat to each side. Technically, you only need to cleat on the door side, but I like having an even gap on both sides.

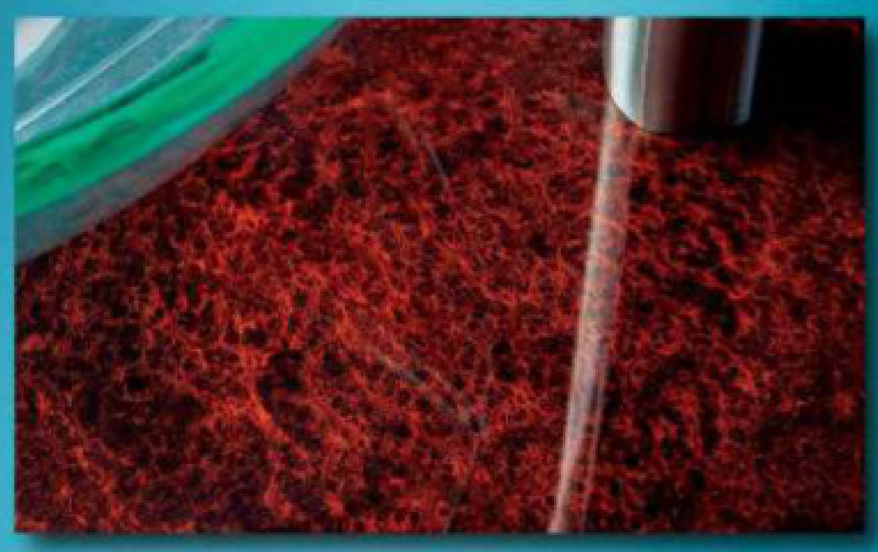
The doors are mounted with cup hinges. You can add shelves or pullouts to maximize the cabinet space.

And there you have it. An 8' miter station with adjustable stops, over 17 square feet of usable bench space, and nearly 30 cubic feet of storage all contained within 21 square feet of floor space. Perfect for small shops, and very convenient for larger ones, too.

Ralph Bagnall is a woodworking consultant and author working from his shop in Florida. His website is www.consultingwoodworker.com.

Redwood Slab Vanity

By Brad Holden



Furniture made from slab lumber is growing in popularity. This vanity uses sustainably harvested redwood burl.

At first glance, this elegantly curved bathroom vanity with its chunky live-edge countertop looks like quite a challenging piece, but it's really not all that difficult. That exquisite slab of redwood didn't need much help to make it beautiful; it just needed protection. The high-gloss finish is a self-leveling epoxy that gives the counter a hard, durable surface. I made the curved cabinet and doors using bendable plywood and a simple bending form. Every slab of wood is a little different in size and shape, so this article is meant to guide you through the process.

Start with the Slab

Since the slab determines the size and shape of the cabinet that goes under it, that's the place to start. First, decide which side of the slab will be the top. This one was obvious, as it had a huge crater on one side. As the slab will go against a wall, obviously it needs to be cut to make a straight edge. After considering that cut, a semicircular cabinet seemed like a natural choice, as it would roughly mimic the shape of the finished countertop.

Before making any cuts, make the slab as flat as possible. A drum sander — like the SuperMax 19-38 — makes easy work of the task, as its open end allows for sanding pieces up to 38" wide. Alternatively, you could use a belt sander or a hand plane. I was very happy to have the use of a drum sander, as the belt sander and I have never been very good friends, and a hand plane would have meant hours of labor.

After flattening the slab, make a rough layout of the cabinet using tape to determine where to make the cut (see top photo, this page).

Use a track saw or a shop-made saw guide for your circular saw to make the long cut (photo, center right). This slab was close to 3" thick, so I finished the cut with a hand saw and then smoothed the cut edges with a hand plane. You could make the cut on a band saw if you have a helper to catch it as it comes out.

In this case, the offcut is just as lovely as the main countertop, so I decided it would make a great shelf to complement the countertop. Also, to bring an element of the slab to the cabinet, I cut two strips from the offcut's edge to make book-matched trim for the doors (photo, below right).

Slabs like this one are a challenge, as there are often voids of all shapes and sizes. Use epoxy to fill the voids before proceeding. This slab had one large hole all the way through. To fill the hole, I applied tape to the top surface, covering the hole. Then, I flipped the slab over and filled the hole from the bottom (top photo, following page). I used black TransTint® from Rockler (a tint created with aniline dye) mixed into the epoxy, so that the hole wouldn't be transparent.

After the epoxy cured, I flipped the piece over to determine what areas of the top needed pre-filling. Most large voids will take several applications to fill them, as the epoxy will continue to flow until it finds the end of the hole, or a way out. When you're doing this, put

Lay out the countertop's wall-edge cut on the slab, as well as the location of the cabinet's parts, using masking tape. Precious lumber like this benefits from the "measure twice, cut once" proverb.

Cut the slab using a circular saw and a guide. If your saw won't cut all the way through, finish the cut with a hand saw and then clean up the edges with a hand plane or sanding block.

Our author cut two thin strips from the back edge of the offcut. He used these strips to make book-matched trim for the doors.

stolemags.com

Fill large voids with tinted epoxy. Black is a good choice for a dark piece like this. This slab had a hole all the way through, so he covered the hole with tape, flipped the slab, and filled it from the bottom.

Create a dam using masking tape to fill any voids at the edges of the workpiece. When the epoxy cures, sand the edge square.

plastic or cardboard on the floor and use wax paper under the slab. It's going to be messy.

This can take multiple pours, so be patient. Sometimes, what appears to be a small surface crack can actually be a hidden cavern that seemingly has no end. Or, as was the case for my slab, there were a couple of cracks that presented no easy way to block the exit. In the end, I decided to move on and let them be cracks in the finished piece.

For voids at the edge of the slab, dam them up with tape before pouring (photo, center left). Depending on your preference, you can use clear or tinted epoxy for these voids.

After filling the voids to my satisfaction, I let the epoxy cure for a couple of days before taking it back to the drum sander as shown in the photo, below left. If you try sanding it too early, it'll just gum up the sandpaper and make a mess. To see if it's ready to sand, try sanding it with a sanding block. If it feels even a bit sticky or the epoxy balls up, wait longer. When the epoxy is cured, sand both sides of the slab flat and then finish with a random orbit sander up to 220-grit.

When the slab and shelf are sanded, it's time to start applying finish. To apply MirrorCoat® epoxy, set the workpiece on sawhorses and then shim and level it. Leveling the workpiece is essential, as MirrorCoat is thin and will continue to flow as it cures, and you want it to flow evenly over the whole surface. Mix up a half-cup or so of epoxy and pour some on. You can always mix more if you run short, but if you mix too much it's a waste. Use a foam brush to spread the epoxy over the entire surface. Here again, cover the floor with plastic and place wax paper between the slab and the sawhorses.

After you've spread the epoxy over the entire surface, you'll notice air bubbles starting to appear; that's when it's time to apply some heat. Using a propane torch, just wave the flame over the finish and watch the bubbles disappear (photo, upper right, next page). Keep the flame moving so you don't burn the epoxy. Let the finish rest for 15 minutes or so, and then revisit it with the torch.

This finish will likely take three or four applications. You don't have to sand between coats as long as the next coat is applied within 72 hours of the last one. That said, I sanded anyway to make sure the surface was nice and flat. Between applying coats of epoxy, you can start building the cabinet.

Sand off the excess epoxy after it has fully cured, using a drum or belt sander. A SuperMax 19-38 open-ended drum sander easily makes a perfectly flat surface. Finish up with a random orbit sander or by hand-sanding.

Set the countertop and shelf on sawhorses and level them using shims. MirrorCoat epoxy is self-leveling, so if the piece isn't level, the epoxy will flow toward the low side or end.

Pour mixed MirrorCoat epoxy onto the slab and then spread it using a disposable foam brush. Place wax paper underneath the slab and use plastic or cardboard to protect the floor.

Use a propane torch to get rid of air bubbles after the epoxy settles for a few minutes. Keep the torch moving so you don't burn the epoxy.

Making a Bending Form

To make this curved cabinet, I laid up three layers of 1/4" bendable plywood on a bending form (photo sequence below). The outer plywood layer is veneered with ribbon stripe mahogany. My bending form consists of a base, four ribs and one layer of 1/4" bendable plywood. Lay out the arc with a large compass. Since this arc is the inside radius of the doors, it should be about 1" smaller than the doors' exterior radius.

Band-saw this first piece close to the line, then sand the rest of the way. Use this first rib as a pattern to rout the rest of the ribs. Screw the ribs to the base. I didn't glue the ribs to the base because I don't have room to store the form, and I wanted to be able to disassemble it and reuse the parts. Staple one layer of bendable plywood to the ribs. This layer of bendable plywood helps to prevent flat spots in the finished lamination.

Mark a centerline across the form to help line up the laminations when you're gluing them. This helps keep everything straight and square.

Lay out an arc to make ribs for a bending form for the doors. This arc represents the doors' inside radius.

Use either a band saw or a jigsaw to rough-cut the arc and then sand carefully to your line to fair the curve.

Trace and rough-cut the remaining ribs close to the line. Use the first rib as a pattern to rout them to their final dimension.

Screw all the ribs to a base. The author didn't use glue so that he could easily disassemble the form and reuse its parts.

Staple one layer of bendable plywood to the ribs to make a substrate for the form. This helps the laminations bend smoothly, with no flat spots.

Mark a centerline on the form and the edges of all of the laminations, so you can keep them reasonably lined up and square on the form.

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Use ratcheting tie-down straps to clamp the laminations around the form. The more clamps, the better. Let the arc cure overnight before removing the clamps.

Apply glue to the laminations and then bend them around the form. Because there's so much to do here, our author did this in stages, allowing the first two laminations to cure before applying the third.

After trimming the arc's edges, set it on a flat surface and use a straightedge to mark where you'll cut both ends square. Using a tall fence, the author clamped the arc, rotating it until the mark he made was square to the table.

Building the Arc

Cut three pieces of bendable plywood slightly larger than you've determined you'll need for the finished arc. Make sure they don't extend beyond the bottom edges of the form, however. Mark centerlines on the edges of all three pieces so you can line them up with the centerline on the form. Cover the form with wax paper so that you don't glue the laminations to the form.

To make sure the glue-up goes smoothly, do it in stages, letting the first two layers cure before applying the third. Apply glue to the bottom lamination using a foam paint roller. These rollers work great for spreading glue, and you can wash them out with water and reuse them. Bend the first layer around the form and then apply the second lamination (photo above, far left). Use ratchet straps to clamp the laminations (inset photo, above). Let them cure overnight and then glue and clamp the outer layer.

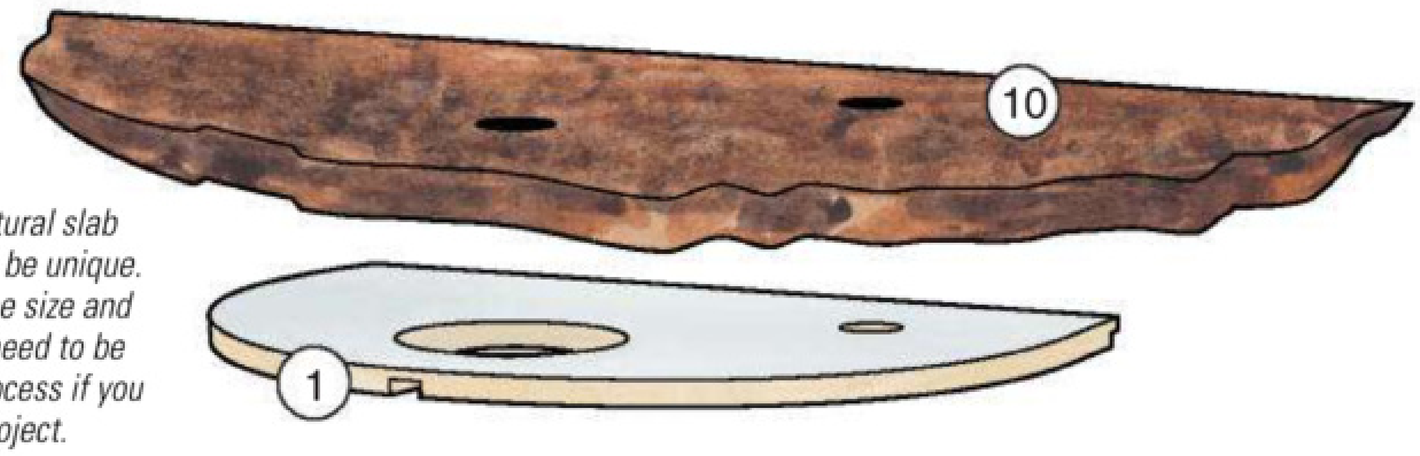
Sizing Up the Curve

After removing the finished arc from the form, you'll need to make two straight edges and two square ends. The edges are pretty straightforward: just run it through the table saw with the convex side down, rolling it as you go. The ends are a different matter. As a starting point, set the curve on a flat surface such as your bench. Lay a straightedge on the bench against one of the curve's edges. Make a mark along the top of the straightedge where it meets the curve, on both ends (photo, center left). Repeat this step on the other edge.

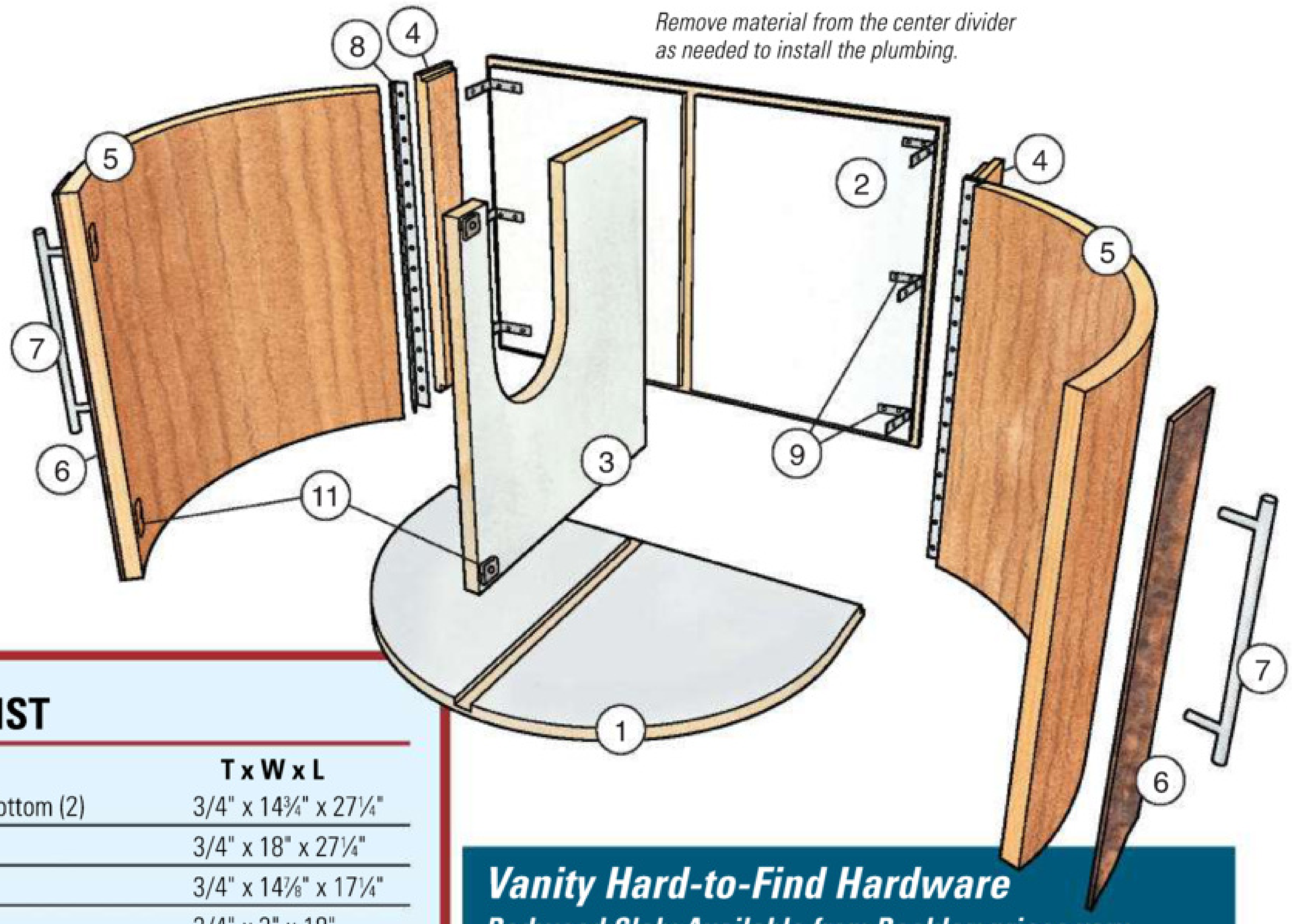
If you don't have a sliding fence for your table saw, this is a good time to build one. It's simply a fence that fits over your saw's fence; just snug enough so that there's no play but it'll still slide. Fasten a tall board to the sliding fence using either screws or clamps. Clamp the arc to the board so that the marks you made on the edges are perpendicular to your saw's table. Check the marks with a square and adjust if necessary. Slide the whole assembly through the saw, as shown in the bottom right photo on the opposite page, and then repeat the process on the other end of the arc.

Once the arc is square, lay out the

With the arc clamped securely to a sliding fence jig, slide the whole assembly past the blade to square one end. Repeat the process to square the other end.



When working with natural slab lumber, each piece will be unique. Accommodations for the size and shape of the slab will need to be part of the planning process if you attempt to build this project.



Remove material from the center divider as needed to install the plumbing.

MATERIAL LIST

	T x W x L
1 Cabinet Top and Bottom (2)	3/4" x 14¾" x 27¼"
2 Back (1)	3/4" x 18" x 27¼"
3 Center Divider (1)	3/4" x 14⅞" x 17¼"
4 Sides (2)	3/4" x 3" x 18"
5 Doors (2)	5/8" x 20¾" x 18"
6 Door Appliques (2)	1/8" x 2½" x 18"
7 Door Pulls (2)	1/2" x 6⅛"
8 Piano Hinges (2)	1½" x 16½"
9 Corner Brackets (6)	1/16"x 2" x 2"
10 Slab Top (1)	2½" x 19½" x 38"
11 Magnetic Door Catches (4)	5/16" x 13/16" x 1⅛"

Vanity Hard-to-Find Hardware

Redwood Slab: Available from Rockler; prices vary.
Stainless Steel Bar Pull (2) #20417 ..... $11.99 ea.
Stainless Steel Piano Hinge (1) #33958 ..... $31.99 ea.
Low Profile Magnetic Catches (4) #26534 ..... $3.99 ea.
MirrorCoat Bar/Tabletop Finish (1 pk.) #29138 ... $74.99 ea.
Blind Shelf Supports (2 pr.) #20103 .....$19.49 ea.

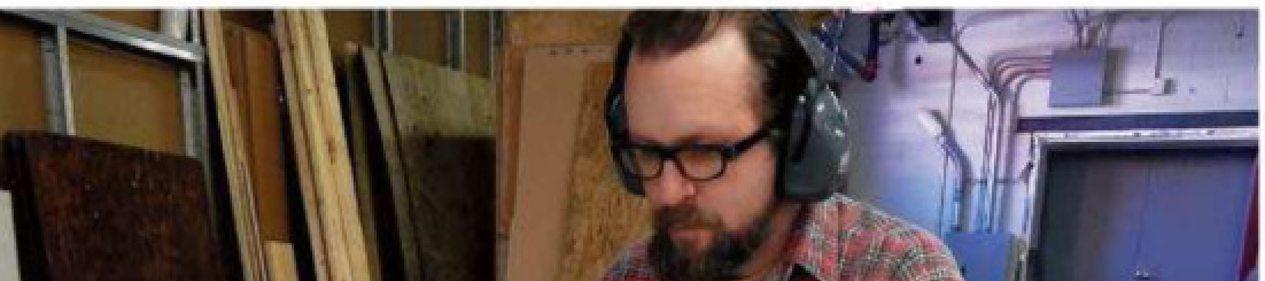
To purchase this and other products online, visit www.woodworkersjournal.com/hardware
Or, call 800-610-0883 (code WJ1577).

rest of the cabinet parts. Start by tracing the arc onto a piece of stock that will become the cabinet's top or bottom, allowing room for the cabinet's narrow sides (bottom left photo, this page). After laying out the cabinet, use hot-melt glue to temporarily stick the top and bottom together. Band-saw close to the line and then sand the rest of the way. Check the curve against the top and bottom to see if you need to trim any more from the ends of the arc. If so, trim them like you did before.

Split the arc into two equal size doors using the same table saw and fence jig setup used to trim the ends of the arc.

Trace the arc onto the cabinet's top or bottom. Once you've calculated the cabinet's dimensions and laid out the narrow sides, you may need to trim the arc's ends a bit more, just like you did in the previous step. Cut the arc into two equal-sized doors using the same setup you used to trim the arc's ends.

Glue up laminations for the cabinet's sides. Use four layers here to accommodate more substantial rabbets for gluing the cabinet together.



Cut and rabbet all of the cabinet's parts. Use a miter gauge with a long fence to dado the top and bottom for the center divider.

Assemble the cabinet using glue and screws. Don't skimp on the screws, as this cabinet hangs on the wall and carries a fair amount of weight. Melamine-covered sheet stock is a perfect choice for the cabinet.

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MORE ON THE WEB

For a video on making bent wood laminations using a form, please visit woodworkersjournal.com and click on "More on the Web" under the Magazine tab.

Building the Cabinet

Make the narrow cabinet sides by laminating more bendable plywood. I used four layers here so I could make more substantial rabbets for fastening the sides to the cabinet. The thicker sides also give a little more "meat" for the hinge screws. Make the pieces oversize, so you can square up the edges later (photo, above left).

To laminate the pieces, I used I-beam style clamping platforms to ensure that they'd come out flat. Be careful when applying clamping pressure, as the glue can cause the pieces to slide. While the side laminations are drying, cut the remaining cabinet parts, making any necessary rabbets and dadoes (photo, center left).

When the sides are dry, trim them to final dimension and then rabbet them for the top, bottom and back. Assemble the cabinet as shown in the left photo, below. Because this cabinet hangs on the wall and holds a lot of weight, use plenty of screws and glue. I added "L"-brackets to further secure the back to the sides.

Attach the hinges to the doors using just a couple of screws. Pre-hang both doors to check their fit (bottom right photo, below). I used piano hinges because they offer lots of support. Unfortunately, they don't offer much adjustability, so you may have to do some trimming to get the doors to fit just right. When you're satisfied, remove the doors and apply iron-on

Pre-hang both doors to check their fit. Make any necessary adjustments at this time. Our author used piano hinges as they provide plenty of support for these wide doors.

Offcut Shelf Accent

After I cut the shape for the vanity top, I had a piece remaining that made a nice shelf — and I sure didn't want a sliver of this wood to go to waste! Thinking it through, I didn't want to see any hardware on this shelf, so I used an invisible mounting system available from Rockler to mount it to the wall. The mounting system consists of small steel plates that mount to the wall, set screws and 5"-long hexagonal rods that thread onto the set screws. Use as many support rods as necessary. For this shelf, two would have probably been enough, but I used four because I like things a little "overbuilt."

You'll drill 7/16"-dia. holes that the wall-mounted rods will slide into to support the shelf. Because my shelf is wide at one end and narrow at the other, I had to cut two of the rods short.

Cut mortises in the back edge of the shelf to house the mounting plates, allowing the shelf to slide all the way against the wall.

Hidden shelf-support hardware makes the shelf look as if it's coming right out of the wall.

edge-banding to the cabinet's raw edges if you wish. I chose not to veneer the doors' edges. They don't show until you open the doors, and I think the plywood edge adds to the modern flair of the piece.

Applying the Door Trim

Cut the doors' trim pieces to length and sand or plane them to final thickness. These pieces were cut off of the edge of the piece of redwood that I made into an accent shelf (see *sidebar* above). They should be no more than 1/8" thick so they'll bend around the doors' curves. Use glue and lots of clamps to attach them to the doors as shown in the left photo, center of this page. Because of the bend I was putting in these pieces, I left the clamps on overnight to make sure the glue was well cured.

If you want the finish on the doors' trim pieces to match the counter, mask closely around them and then apply epoxy. For this application, use a brushing technique instead of pouring it on and spreading like you did with the counter (right photo, center of this page). You don't want the epoxy to flow over the edges and pool up on the tape, because it takes forever to remove the tape cleanly. Ask me how I know! You'll have to apply two or three coats.

Finishing Up

Apply the finish of your choice to the cabinet sides and doors. Attach the countertop to the cabinet using countersunk screws driven from inside

Glue and clamp the book-matched strips to the inner edge of each door. These strips should be very thin, so they'll flex around the curved doors.

Mask off the doors around the trim strips and then apply epoxy to just the strips, using a brushing technique instead of pouring.

the cabinet. When the finish is dry, re-hang the doors and install handles and catches (photo, below right). I found it best to wait to remove any material from the internal divider until I was ready to mount the sink and plumbing. Those details can vary. All in all, I found this to be a very satisfying project, and I think it looks just great in our bathroom.

Brad Holden is a woodworker in Minneapolis and a former contributor to American Woodworker.

To finish up your project, you'll need to take care of a few final details: remove material to install your plumbing, and install the door hardware.

A Northwoods Paddle

By Dan Cary

Learn to make a traditional solid wood canoe paddle, a tool that travelers in these parts have been making and using for hundreds of years.

There's a special place on the shore of Lake Superior, in Grand Marais, Minnesota, that combines the loves of handmade crafts, the outdoors and northern traditions. That place is the North House Folk School, a school that offers classes about such varied topics as woodworking, pottery, blacksmithing, traditional outdoor skills, boat making and cooking. I recently spent a couple of days there when the activities on campus included basket weaving, sausage making, canoe building and, in my case, making a paddle.

I can explain the basic process of making a paddle and share the plans with you, but I don't think I'll do the experience justice. You can learn to make most projects with a good set of plans and instructions, but the benefits of attending a class at a school like North House are meeting and working with other people that share your enthusiasm and the insights you gain from the instructor. Mike Schelmeske, a resident of Grand Marais who has been making paddles and other hand tools for over 30 years, taught my class. He's made nearly 200 paddles and helped others make another 200.

Choosing the Wood

Contrary to many assumptions, a paddle does not have to be made from moisture-resistant wood. As long as you apply a finish and hang your paddle to dry thoroughly after each use, you can make a paddle out of just about any wood. The best wood species for paddles are both strong and lightweight.

StoreMags

Mark the center of the board's growth ring pattern on the end of the board. Then draw a centerline on the wide face. Determine how long your paddle will be and mark the top and bottom ends of the paddle on the centerline. Then trace the blade and handle (inset photo) patterns on both sides of the centerline. Measure 9/16" out on either side of the centerline and draw lines to designate the 1⅛"-thick shaft between the blade and handle. Next, use a band saw to cut out the paddle shape.

Mark lines along the length of the shaft that are 1/4" in from each edge on the top and bottom faces. Then mark lines 5/16" in from each edge on the side faces. These lines designate the radius of the shaft edges.

Trace the Side View template onto the side of the handle. Notice that the top of the template extends beyond the corner of the handle so that it aligns with the longest point at the handle's centerline.

Mike's go-to choice is basswood. Other popular options include white cedar and Alaskan yellow cedar. These woods tend to have less character to their grains, but they are lightweight and easy to shape. If you'd like something with more interesting character, then you might choose a hardwood, such as ash, black cherry or walnut, but these woods will be heavier. Another consideration to keep in mind is that more interesting grain patterns tend to be more challenging to plane. Whatever species you choose, start with a piece that is 5/4" thick by at least 7" wide by roughly 60" long (the length depends on the intended paddler's height; see photo, page 46). It's also best to select a board that has a symmetrical growth ring pattern.

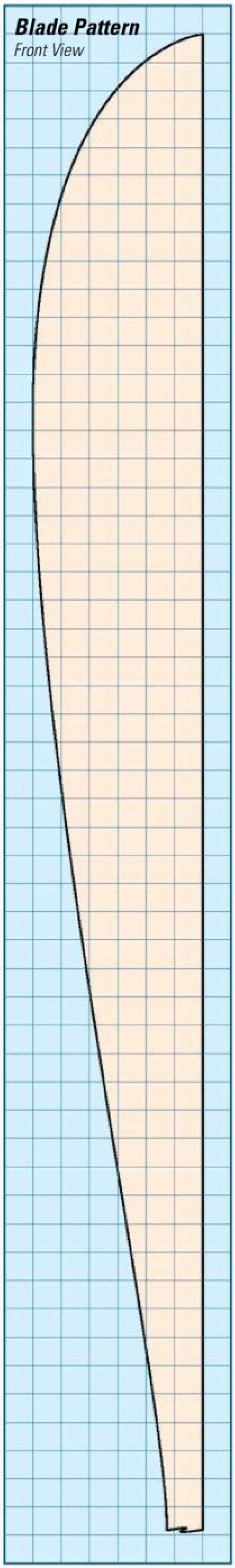
Design

There are countless variations of paddle designs. Mike had a selection of several templates that he has collected over the years. He was even kind enough to share his 26" Northwoods beavertail style blade and handle templates for you to use (see *Drawing*, page 46).We made a traditional solid wood paddle, but you can also laminate multiple pieces together and use the same templates and techniques to make a laminated paddle. Keep in mind that using multiple wood species and grain directions in the same paddle blank may create hand planing challenges.

Shaping

The steps to make a paddle are fairly easy to follow. As the old woodcarver's joke goes, you simply start with a piece of stock and remove all the wood that doesn't look like a paddle. Depending on your ability with a hand plane, making your first paddle will take the better part of a weekend. You can speed up the initial blade planing process (photo 4, page 46) with a power planer, but the rest of the shaping is best done with hand planes, a spokeshave and maybe a carving or crooked knife.

The goal is to remove as much material as you can without compromising strength. The most common mistake for participants in my class was actually being too cautious and not removing enough material. Unfortunately, knowing when to stop removing material is something that comes with experience — another reason attending a class with a seasoned instructor was helpful.



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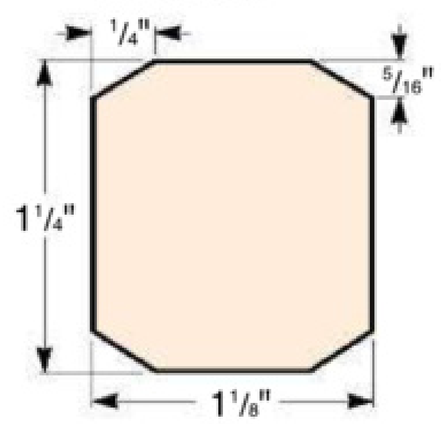
MORE ON THE WEB

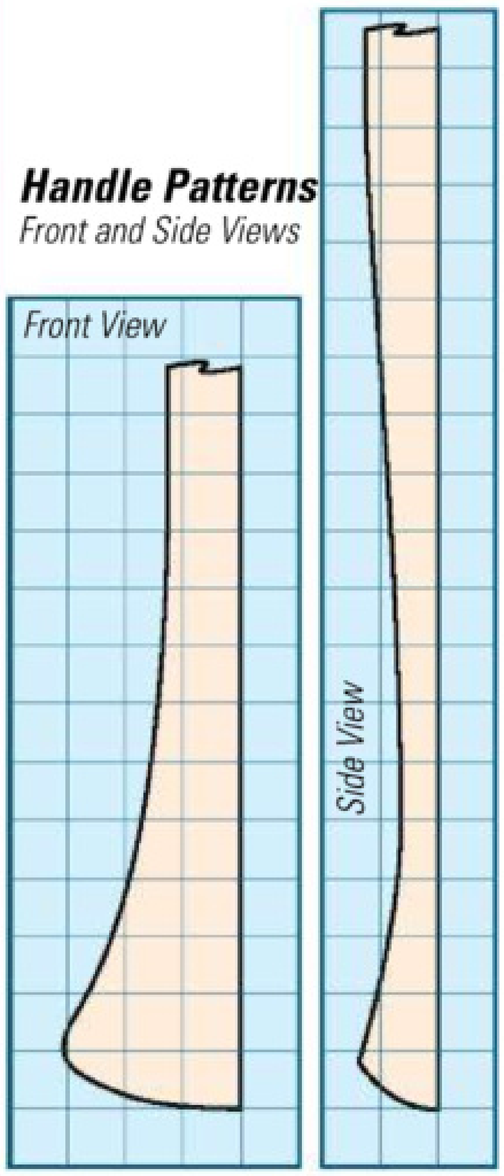
For a video on making a paddle at the North House Folk School, please visit woodworkersjournal.com and click on "More on the Web" under the Magazine tab.

Author Dan Cary demonstrates how to determine how long your paddle should be to fit your body frame.

A properly sized paddle should rest with the blade on the ground and the top of the handle just touching the bottom of your chin.



Begin shaping the shaft by chamfering the corners.



1

The tip and edges of the paddle's blade should be 1/4" thick or slightly less. Mark this thickness on the edge of the blade. Use a jack or smoothing plane to taper the blade faces. Start the taper 2" to 3" below the intersection of the blade and the shaft.

4

Shape the shaft, using the lines you drew (see photos on previous page). Round over the edges to create a comfortable grip. The amount of roundover is a matter of personal preference. Leave a short section in the middle of the shaft square for clamping.

7

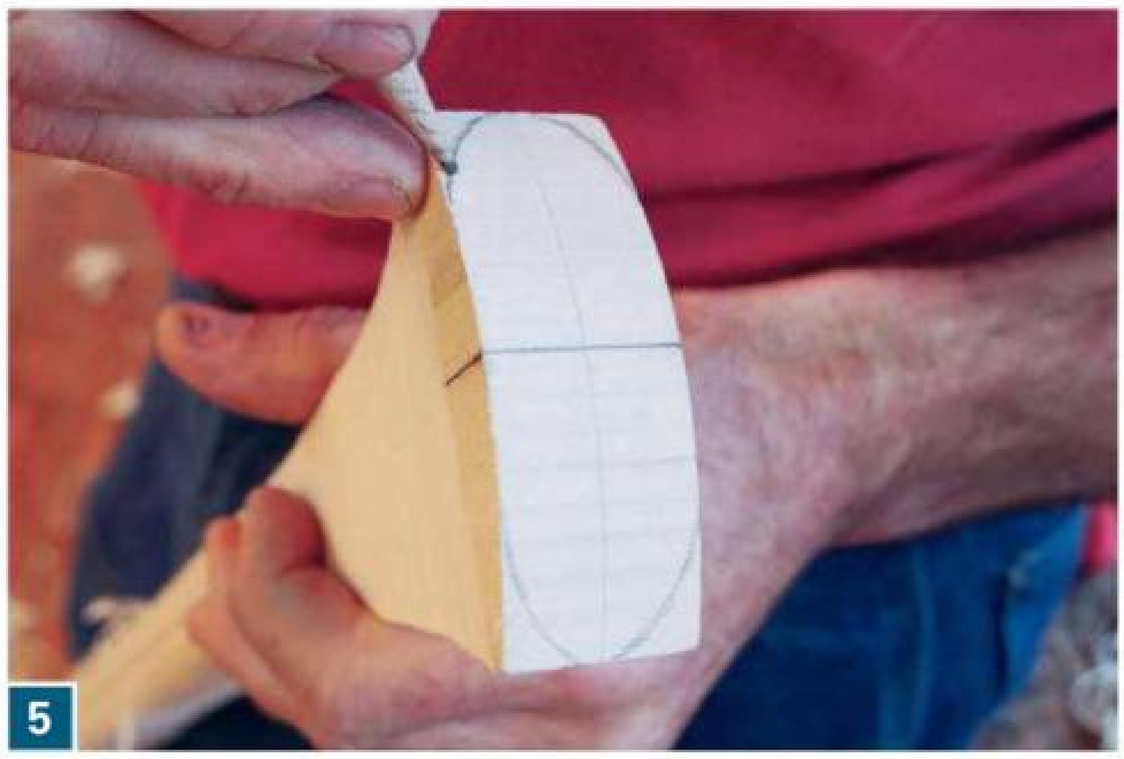
Shape the radius corners with a block plane. Work in from the end of the handle to prevent chipping on the edges. Continue shaping the handle with a combination of the block plane, spokeshave and carving knives.

Finishing

There are two schools of thought when it comes to finishing a paddle. One approach is to use a marine varnish or epoxy to provide maximum protection. The downside of this approach is that when the finish eventually breaks down, it requires more work to refinish. The other approach, the one that Mike endorses, is to apply an oil finish, such as tung oil finish, that

Draw a new centerline on the blade faces. Use a block plane to taper from the centerline out to the edges of the blade. This taper should be flat and not rounded. Use a straightedge or the edge of the plane sole to check for high spots.

Use a spokeshave to shape the transition between the shaft and the blade. The goal is to create a smooth, seamless transition. Remove small amounts on each side of the shaft and check frequently to keep the transition symmetrical.



Draw radius corners on the end of the handle. Like the shaft shape, the amount of radius is a matter of personal preference. Some people prefer a flatter handle, and others prefer a more rounded, bulbous handle.

Use a spokeshave to create the concave sides of the handle, using the lines drawn on the side of the handle. Test the grip and continue to remove material until the grip is comfortable.

Round over the top of the handle. Try to create smooth transitions between all surfaces of the handle and shaft. Cradling the handle and using a pushing motion works well for making controlled cuts on the end grain.

The final shaping step is to reposition the clamp on a finished section of the shaft, using a clamping block with a V-notch to secure the paddle. Then shape the last section of shaft to smoothly blend with the rest of it.

will seal the wood, but does not create a thick film layer. An oil finish must be reapplied more frequently, depending on how much use the paddle gets. In either case, the best way to keep your paddle in good condition is to hang it up to dry thoroughly after each use.

Whether you make one for yourself or as a gift, making a paddle is a very satisfying project. It will pay you back every time you use it. Even if you choose not to make a paddle, I highly recommend seeking out a craft school in your area and enrolling in a class. The experience will leave you with new skills, a new project and new friends.

Dan Cary is senior web producer at Woodworker's Journal *and the former editor of* HANDY *magazine.*

Storemags

Jobsite Radios

By Sandor Nagyszalanczy

In the wee hours in the shop, it's often only the sound of a local radio show that keeps me company. You might listen to music, talk radio or books on tape while you work — but a woodshop is a harsh place for standard radios or stereo systems.

Wafting sawdust can ruin a good stereo system; accidentally spearing a speaker with a wayward plank will kill the music.

Fortunately, jobsite radios are designed to handle the rigors of everyday use in a dusty environment and withstand their share of bangs and bumps. They'll run on AC or on the same battery packs used in cordless power tools, so they'll work outdoors at a remote worksite or a deck or patio lacking electricity. What's more, jobsite radios aren't just radios: They can play music from a smartphone or MP3 player, and some can even connect wirelessly via Bluetooth.

I was anxious to review the features and test the performance of the latest crop of jobsite radios. Being a part-time musician and recording engineer, I was especially anxious to hear how they sounded! I tested 13 models made by seven different tool companies: the Bosch PB360S, PB180 & PB120, DeWALT DCR012 & DCR015, Makita LXRM03B, Milwaukee 2792-20, 2790-20 & 2590-20, PORTER-CABLE PCC771B, RIDGID R84083 & R84084, and the RYOBI P742. The DeWALT DCR018 didn't arrive in time for my review, but I've included its

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MORE ON THE WEB

For a video that includes a sound test comparison of the radios in this article, please visit woodworkersjournal.com and click on "More on the Web" under the Magazine tab.

specifications and features along with the other radios in the chart on page 54. To help dispel a common misconception that all jobsite radios can recharge the battery packs they run on, I've divided the models into three groups: radio/chargers (large radios that can also serve as battery pack chargers); large radios (units roughly the size of boom boxes); and compact radios (the smaller, lighter models).

Shared Features

With the exception of the compact RIDGID and RYOBI radios, which are battery-powered only, all jobsite radios run on either 120v AC or battery pack power. Some radios accept only one type of battery pack: for example, the Milwaukee radio/charger only runs on (but also recharges) 18-volt M18 lithium-ion packs. Others may be powered by more than one type (NiCd, lithium-ion, etc.) and/or voltage of pack.

When AC power is handy, most radios plug directly into a standard household outlet and have a cord wrap on the back or bottom. The majority of compacts, as well as the Makita, require a plug-in AC adapter, which is included with each. I'm not a big fan of these "wall warts" because it's easier to plug in a power cord than have to lug an adapter along.

Something that distinguishes a jobsite radio from a standard radio is its sturdy construction. These units feature protective reinforcements that range from simple corner guards to armor-like enclosures to full exoskeleton-like "roll cage" bars. All offer protection should the radio be dropped, slam around in the back of a pickup truck, or even fall off a scaffolding or rooftop. While I didn't actually hurl any of these radios from the top of my two-story roof, I did toss them around a good deal, and none stopped working (to paraphrase a classic Timex® watch ad: "they took a lickin' and kept on tickin' "). On the downside, heavy-duty construction adds bulk and weight, especially to larger models. At more than 24 and 17 pounds respectively, the Bosch and Milwaukee radio/chargers — the two heaviest in this group — require some muscle to pick up and carry, especially compared to the smallest compact units.

To aid portability, all jobsite radios have carrying handles, although these are better realized on some models than others. I liked the models with top-mounted handles the best, as these made the radios easy to grab and carry. I wasn't fond of

The universal battery recipient award goes to Milwaukee's large model 2790-20, which can run on practically any battery the company makes.

Along with the Bosch, the two DeWALT radio/chargers feature AC outlets on their sides, great for plugging in a worklight or small tool.

The Bosch PB120 features a handy rear compartment for storage of its power adapter or a small electronic device.

Bosch PB360S

Type: Radio/Charger

Pros: Extensive connectivity. Good tuner & sound. Only radio with a subwoofer. 1- 12-volt & 4- AC power outlets

Cons: Very heavy and bulky. No dedicated tuner preset buttons.

Performance

Tuner: 9.5/10

Loudness: 6.8/10

Sound quality rank: #1

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Shop Test continued

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DeWALT DCR012

Type: Radio/Charger

Pros: Lightest radio/charger. Familiar dials for adjusting tuning & volume.

Cons: Boomy sound. No separate bass/treble adjustment.

Performance

Tuner: 7.2/10

Loudness: 7/10

Sound quality rank: #3

The Milwaukee radio/charger has the largest display panel, which is easy to see even from the other side of the shop.

Weighing in at more than 24 pounds, the Bosch radio/charger is the heaviest in the group.

The Makita's single dial controls both volume and tuning: you push it to switch between functions.

Milwaukee M18 2792-20

Type: Radio/Charger

Pros: Loudest unit with a very pleasant, warm sound. Easy to use.

Cons: Most expensive unit. Lacks dedicated tuner preset buttons.

Performance

Tuner: 7.9/10

Loudness: 10/10

Sound quality rank: #2

the side-mounted handles on some of the smaller radios, as I often fumbled around trying to figure out where to grab these to pick them up. The Milwaukee radio/charger and large model sport an additional feature that's really handy: a built-in bottle opener, perfect when it's time for a cold drink at the end of a long, hot day.

Buttons, Dials, Displays

All radio audio and other features are controlled by, depending on the model, various types of buttons and dials. Roughly half the radios use a rotating dial for adjusting volume, while the other half employ a pair of up and down volume buttons. I liked being able to change volume or tuning with the quick spin of a dial, rather than having to toggle the volume up or down by repeatedly pressing buttons. The DeWALT radio/charger and RIDGID compact have a separate dial just for radio tuning. Uniquely, the Milwaukee radio/charger's volume ramps up gradually after the unit is switched on, kind of like soft start on a router. I liked this feature, as I didn't get blasted when the radio was last left at an earsplitting volume.

Typically, jobsite models have separate buttons for power On/Off, mode selection (FM, AM, auxiliary input, etc.), radio tuning and clock display. The majority of these buttons are rubberized and comfy to push and larger buttons, as found on the Milwaukee radio/charger, are usable even with work gloves on. I found the small membrane-style buttons used on the compact RYOBI hard on bare fingertips. Some radios have buttons dedicated to specific features — EQ, Bluetooth, presets, etc., which I preferred to units with buttons that perform multiple functions. The Milwaukee compact and large models, as well as both compact Bosch radios, feature a dedicated "mute" button, which lets you turn the sound off in a hurry, say when you need to answer a ringing telephone. On most models, adjustments such as setting the clock, radio presets, EQ, must be done by pressing buttons and scrolling through computer-like menus, a process that's often confusing and frustrating.

All radios feature a backlit LCD panel that displays the tuning frequency, volume, sound source, and the time, — most radios display the time even with the power switched off. Some models display other information, such as how much juice is left in the battery pack and, on some radio/chargers, the pack's recharging status. The Makita LXRM03B not only shows you the time and date, but it also has a built-in alarm clock, complete with a "snooze" setting, I suppose in case you want to take a siesta in your shop. It also displays Radio Data System (RDS) information which, depending on if the station transmits it, shows you the station's call letters (KPIG, WKRP, etc.) and sometimes even the name of the artist and song currently playing!

Radio Tuners

Pulling in AM and FM stations is a jobsite radio's primary duty, so good reception is a must. A radio's station-grabbing power can make the difference between

Makita LXRM03B

Type: Large radio

Pros: Most compact full-sized radio. Advanced features. Easiest to carry.

Cons: Side-mounted speakers produce an indirect, diffuse sound.

Performance

Tuner: 9/10

Loudness: 5.4/10

Sound quality rank: #6

Milwaukee 2790-20

Type: Large radio

Pros: Runs on a large variety of battery packs

Cons: Bulky size. Awkward to carry.

Performance

Tuner: 9/10

Loudness: 6.8/10

Sound quality rank: #5

listening to your favorite programming or settling for some megawatt station that blasts a commercial every 30 seconds. I tested the reception of each radio by seeing how many stations it could tune in strongly and clearly, without excessive chatter or distortion. I gave the one that pulled in the most stations (the Bosch P180) a score of 10, and scored the other radios proportionally (see the individual model info boxes). The large RIDGID and Makita allow you to switch the radio's normal stereo reception to mono, a feature that helps weaker stations sound better by reducing annoying intermittent static.

All but one of the radios — the compact RIDGID — feature tuning presets that allow you to set and choose your favorite FM or AM station with the push of a button. The number of presets varies from model to model, but only about a

Continues on page 52 ...

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Shop Test continued

RIDGID R84083

Type: Large radio

Pros: Extensively armored body.

Cons: Bulky proportions.

Performance

Tuner: 9.3/10

Loudness: 6.6/10

Sound quality rank: #4

The Bosch radio/charger offers a novel (and clever) means of playing music directly from small SD memory cards (the kind used in most point-and-shoot digital cameras) or USB flash drives.

Only about a third of the radios have dedicated preset buttons (remember the push buttons on your parents '50s or '60s sedan?), great for quick station changes.

A top-mounted dock on the Makita allows you to plug in and play or charge an iPod or iPhone directly, and to control basic play functions via buttons on the front of the radio.

third have dedicated preset buttons. The other radios require you to scroll through your presets by continually pressing a button(s), which can be a bit tedious, especially if the model has 10 or more presets. To retain your presets, time settings, etc. when the radio's power is disconnected, all units employ replaceable backup batteries, typically AAs or AAAs.

Seek vs Scan

Designed to help you find radio stations more easily, tuner seek and scan functions are often misunderstood. All the radios, save the Makita, have a seek feature: Press a tuning up or down button and the radio automatically sets itself to the next available station. Only a handful of radios have a scan function: Once the scan button is pressed, the radio stops at each available station in turn, one after the other, pausing for a few seconds. To retain the last station found, press the scan button again. Both features are useful for finding available radio stations, especially if you're unfamiliar with the area; say, you're at a new worksite far from home. In practice, neither of these features works perfectly on any jobsite radio: seek and/or scan sometimes bypassed strong stations while stopping on other stations with weak signals.

Auxiliary Inputs

In addition to tuning in your favorite radio shows, all jobsite radios can play audio from an auxiliary device, such as an MP3 player, smartphone, tablet, CD player, etc. via a short cord plugged into a 1/8" (3.5mm) mini stereo jack that's standard on most portable electronics. The Makita offers even handier connectivity through a top-mounted dock (unfortunately, the connector doesn't fit all models). The Bosch radio/charger has sockets for SD memory cards or thumb drives inside a closeable digital media bay. Buttons on the front of the radio allow you to pause/play the music, advance between songs, and even randomize song order. This is a great way to play MP3 audio files while leaving valuable electronic devices at home.

Device Compartments

To house and protect auxiliary devices, most jobsite radios have built-in sealable compartments (the RIDGID and RYOBI compacts have a place on the back for securing a device with a small strap). Most compartments' doors have rubber gaskets to keep out dust, and latches that are easy to open — a good thing because of the need to access the device to start/stop the music. Although the Milwaukee 2790-20's top-mounted compartment/battery bay is conveniently located, its two rotating latches are hard to turn and tedious to operate. The majority of compartments also have a built-in USB port; however, some units (see chart) only provide USB power when the radio is plugged into an electrical outlet, a real drawback if you need to recharge your phone/device at a jobsite lacking AC power.

Bluetooth Connectivity

One of the coolest features found on a few jobsite radios is Bluetooth connectivity. Bluetooth is basically a radio-frequency signal that's transmitted by most modern

Bosch PB120

Type: Compact Radio

Pros: Great tuner. On-board storage for wall power adapte.r

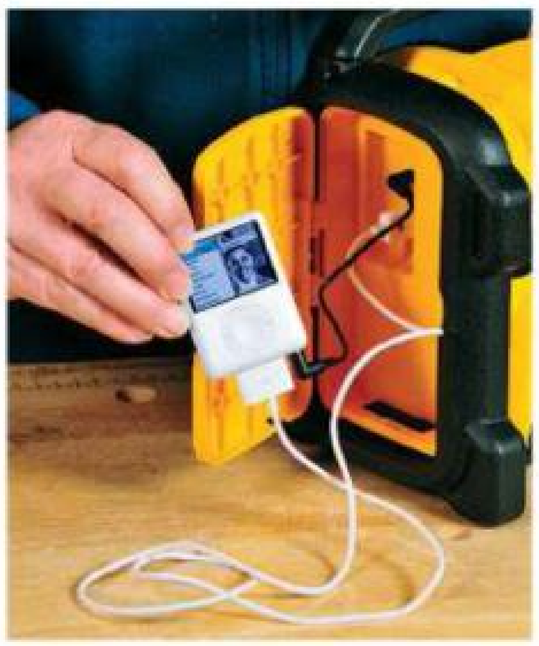
Cons: Battery pack difficult to remove.

Performance

Tuner: 9.6/10

Loudness: 4.7/10

Sound quality rank: #11



The majority of the device compartments on jobsite radios have a built-in USB port, which can be used to power or recharge a smartphone, tablet or MP3 player.

smartphones and tablets. Unlike FM or AM radio transmissions, Bluetooth signals have a range limited to about a hundred feet at best. That's usually more than adequate for playing music (or audiobooks, or podcasts) in your shop from a device that's safely located inside your car or home.

With my iPad in hand, I tested the Bluetooth-capable Milwaukee radio/charger, and RYOBI and PORTER-CABLE compacts. All three quickly connected to the iPad without a hitch and performed well, reproducing clear and glitch-free audio even when the iPad was 50 feet away in another room. Passing through doors and walls had varying effects on the signal, but whenever the connection was lost, each radio automatically reconnected when the device was relocated. Buttons on all three units offer some control over the remote device, either allowing pausing/playing and/or advancing songs.

Continues on page 54 ...

Bosch PB180

Type: Compact Radio
Pros: Excellent FM reception.
Cons: Only runs on one type of battery pack.

Performance

Tuner: 10/10
Loudness: 5/10
Sound quality rank: #8

The author used his iPad to test the Bluetooth performance of the three models with this feature.

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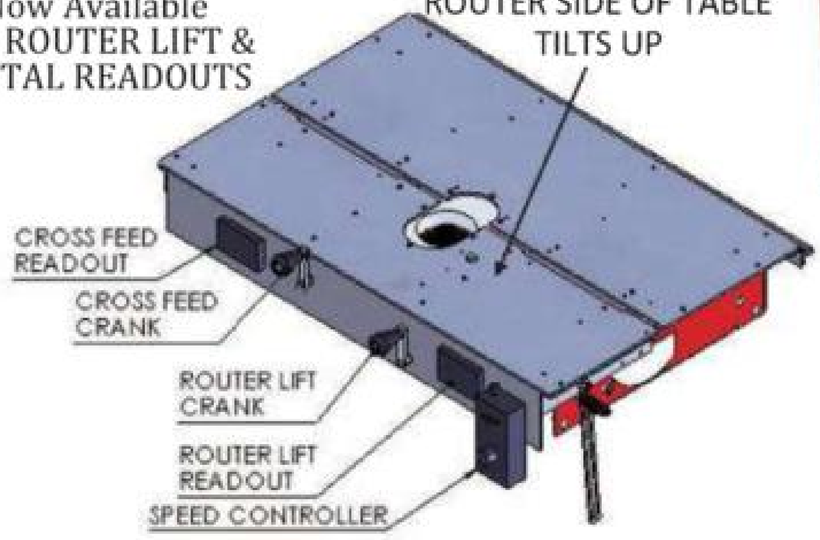

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Shop Test continued

Type	Brand & model	Street price*	AC power/ battery power	Batteries charged	Speaker number & size	AM/FM presets/ seek/scan	Equalization	Auxiliary inputs	Auxiliary device storage	Built-in power outlets	Size/ weight (with battery ^)	U.S. warranty
Radio/ Charger	Bosch PB360S	$188	Cord/ 14.4v to 18v Li-ion	14.4v to 18v Li-ion	4 x 2"; 1 x 4½" (subwoofer)	20 FM, 10 AM/Yes/No	5 EQ presets incl. custom bass & treble	Mini jack, USB Flash drive, SD card	Side compartment	4 AC; 1 12-volt ^^ 1 USB	14 x 13.5 x 14.5 inches/ 24 lbs. 5 oz.	1 year
Radio/ Charger	DeWALT DCR015	$179	Cord/ 12v/20v MAX Li-ion	12v/20v MAX Li-ion	2 x 3½"; 2 x 1" (tweeters)	10 FM, 5 AM/Yes/No	Bass & treble	Mini jack	Side compartment	2 AC 1 USB***	16.6 x 10.6 x 13.4 inches/ 13 lbs. 8 oz.	3 years
Radio/ Charger	DeWALT DCR012	$170	Cord/ 12v-18v NiCd, NiMh, Li-ion	7.2-18v NiCd, NiMH, Li-ion	2 x 3½"	10 FM, 5 AM/Yes/No	Bass boost	Mini jack	No	3 AC	12.3 x 10.4 x 20.8 inches/ 15 lbs. 14 oz.	3 years
Radio/ Charger	Milwaukee M18 2792-20	$230	Cord/ M18 Li-ion	M18 Li-ion	2 x 3½"; 2 x 1" (tweeters)	10 FM, 10 AM/Yes/No	Bass & treble	Mini jack, Bluetooth	Top compartment	1 USB	15 x 12 x 12 inches/ 17 lbs. 8 oz.	1 year
Large Radio	Makita LXRM03B	$137	Wall adapter/ 7.2-18v NiCd; 18v Li-ion	N/A	2 x 3"	5 FM, 5 AM/ No/Yes	Loudness setting	2 mini jacks, iPod/iPhone dock**	Top-mounted iPod/iPhone dock	No	13 x 9 x 15 inches/ 10 lbs. 4.5 oz.	3 years
Large Radio	Milwaukee 2790-20	$129	Cord/ 12v-18v NiCd; V18 & V24 Li-ion; M12 & M18 Li-ion	N/A	2 x 3½"	10 FM, 10 AM/Yes/ Yes	Bass & treble	Mini jack	Top compartment	1 USB***	21.2 x 11.6 x 10.4 inches/ 14 lbs. 8 oz.	1 year
Large Radio	RIDGID R84083	$120	Cord/ 18v Li-ion	N/A	2 x 3½"	10 FM, 5 AM/Yes/ Yes	Bass & treble	Mini jack	Side compartment	1 USB	20.8 x 10.2 x 11.6 inches/ 13 lbs. 14 oz.	3 years
Compact Radio	Bosch PB120	$88	Wall adapter/ 12v Li-ion	N/A	2 x 2"	5 FM, 5 AM/ Yes/No	Bass & treble	Mini jack	Back compartment for AC adapter storage	No	12.1 x 2.8 x 7.5 inches/ 3 lbs 4.2 oz.	1 year
Compact Radio	Bosch PB180	$89	Wall adapter/ 18v Li-ion	N/A	2 x 2"	5 FM, 5 AM/ Yes/No	Bass & treble	Mini jack	No	No	13 x 6.5 x 4.8 inches/ 4 lbs. 3.6 oz.	1 year
Compact Radio	DeWALT DCR018	$80	Cord/ 18v NiCd;12v or 20v Li-ion	N/A	1 x 3½"	10 FM, 5 AM/Yes/No	No	Mini jack	Side compartment	1 USB***	10.1 x 10 x 7.3 inches/ 7 lbs. 14 oz.	3 years
Compact Radio	Milwaukee M12 2590-20	$100	Wall adapter/ M12 Li-ion	N/A	2 x 2"	10 FM, 10 AM/Yes/ Yes	Bass & treble	Mini jack	Front compartment	No	11.5 x 11.5 x 4.5 inches/ 3 lbs. 15.5 oz.	1 year
Compact Radio	PORTER-CABLE PCC771B	$100	Wall adapter/ 20v Li-ion	N/A	2 x 2"	6 FM, 6 AM/ Yes/No	Bass & treble	Mini jack, Bluetooth	No	No	12.4 x 6 x 5.6 inches/ 3 lbs. 15.6 oz.	3 years
Compact Radio	RIDGID R84084	$38	No/ 18v NiCd or 18v Li-ion	N/A	1 x 3½"	None/Yes/ No	No	Mini jack	Back area with a strap	No	8.3 x 5.8 x 5.7 inches/ 2 lbs. 10.6 oz.	3 years
Compact Radio	RYOBI P742	$30	No/ 18v ONE+ Li-ion	N/A	1 x 3½"	10 FM, 10 AM/Yes/No	No	Mini jack, Bluetooth	Back area with a strap	1 USB	9 x 5.3 x 3.7 inches/ 2 lbs. 5.4 oz.	3 years

Selling price of radio without battery pack on Amazon.com at the time the article was written.
^Weight of units that accept packs of different voltages and capacities will vary.
**The dock doesn't fit all iPod models.
^^Socket for 12v car-lighter-style plug-in accessories
***USB power only provided when radio is plugged into AC outlet.

DeWALT DCR018

Type: Compact Radio
Pros: Only compact with a regular cord for AC power.
Cons: Largest & heaviest compact. Muffled sound quality.

Performance
Tuner rating: 7.6/10
Loudness rating: 4.3/10
Sound quality rank: #10

Equalization

To better suit different styles of music and the sonic preferences of the listener, the majority of jobsite radios offer adjustable equalization (a.k.a. " EQ"), allowing you to boost or cut treble and bass frequencies. In lieu of these adjustments, the DeWALT DCR012 and DCR018 have a dedicated bass boost button, which adds more low-end punch to the sound, and the Makita has a "loudness" setting, which boosts both bass and treble. The Bosch radio/ charger features five equalization presets: jazz, rock, pop, classical and a customizable setting. I really liked this feature, as it allowed me to change the radio's tonal quality to suit different kinds of music without having to fiddle with individual bass and treble settings.

Continues on page 56 ...

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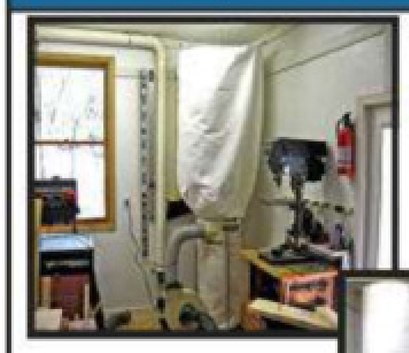

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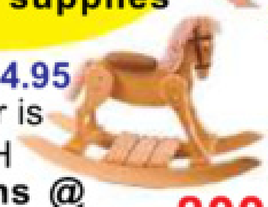

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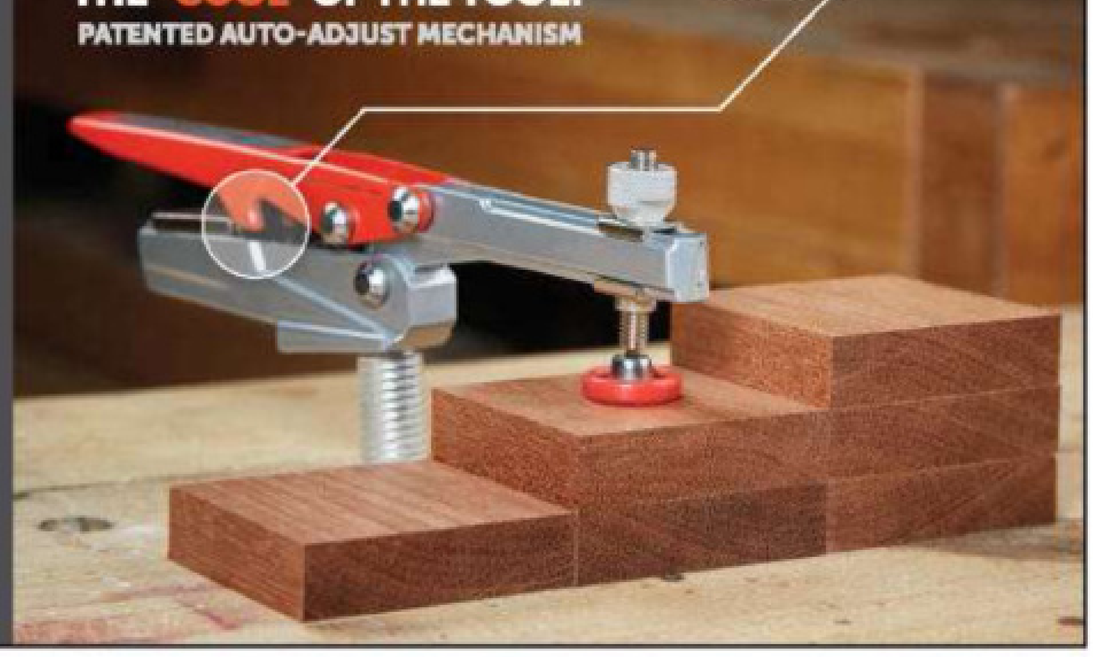

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Shop Test continued

PORTER-CABLE PCC771B

Type: Compact Radio

Pros: Big, pleasant sound for a small radio. Built-in Bluetooth

Cons: Pricey for a compact unit.

Performance

Tuner: 8.6/10

Loudness: 6.5/10

Sound quality rank: #9

Most of the radios had enough amplification to make music audible even when running power tools with earmuffs on (however, to avoid blasting noise, the author recommends hearing protectors with a built-in radio or Bluetooth connectivity).

How Do They Sound?

Here are the two main factors to consider when evaluating the audio produced by a jobsite radio: loudness and sound quality. The first is important because these radios should be audible even in a noisy environment. In addition to producing a considerable volume of sound, a radio's power amplifier must do so without driving its speakers into distortion. Good radio sound should also be as natural and true to the source as possible.

Measuring Loudness

To get a good sense of just how loud these radios were, I played the same musical selection (a contemporary big-band jazz tune with a full-spectrum sound) on an iPod connected to each radio. I turned the volume up until just before the speakers distorted and measured the sound pressure level, in decibels (Db) with a sound meter set a few feet away. The loudest radio, the Milwaukee radio/charger, measured 102 Db — roughly as loud as a roaring chainsaw! At 86 Db, the Milwaukee compact was the least loud. Unfortunately, decibel measurements don't provide a clear means of comparing the volume of different radios because the Db scale isn't linear: To the human ear, music playing at 90 Db actually sounds only half as loud as when it's played at 100 Db. Therefore, I gave the top-Db-producing Milwaukee a rating of 10 and scored the other radios on a linear scale relative to it. For example, the 92 Db RYOBI compact measured only half as loud as the big Milwaukee, and thus received a score of 5 (half of 10). The scores (found in the model info boxes) should give you a reasonable notion of how radio loudness compares in the real world.

Just how loud does a jobsite radio need to be? In my experience, even the units with the least amplification were loud enough to hear clearly even in a large shop, and the most powerful radios were plenty loud enough to blanket a big outdoor area.

Sound Quality

Even the loudest radio isn't a great choice if the sound it produces isn't pleasant to listen to. Obviously, sound quality is a highly subjective issue, depending not only on personal preferences, but on the kind of programming you're listening to. To rate the sound of these 13 radios, I played a variety of music on each one. Relying on my experience recording and mixing records, I awarded the highest points to models that sounded the most clear and transparent, with deep

Continues on page 58 ...

Milwaukee M12 2590-20

Type: Compact Radio

Pros: Convenient front-mounted auxiliary device compartment.

Cons: Least loud unit. Expensive for a compact unit.

Performance

Tuner: 6.2/10

Loudness: 3.7/10

Sound quality rank: #7

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RIDGID R84084

Type: Compact Radio

Pros: Very easy to operate. Built-in cord for auxiliary devices.

Cons: No tuner presets or EQ. Runs on battery power only.

Performance

Tuner: 9.3/10

Loudness: 5/10

Sound quality rank: #13

In general, larger units with bigger speakers are capable of producing better bass, while those with "tweeters" (small speakers designed specifically for reproducing higher frequencies) produced clearer highs.

and satisfying bass and crisp and natural high-frequency sounds (horns, cymbals, etc.). I ranked all the models in order from the #1 best-sounding Bosch PB360S down to the #13 last-place RIDGID R84084 (see the model info boxes).

In general, the large radios and radio/chargers sounded better than compact models. This is due to the fact that physically larger units with bigger (and/or specialized) speakers are simply more capable of reproducing fuller and richer bass and low-mid frequencies. The top-rated Bosch radio/charger produced very strong bass, thanks to its bottom-mounted 4½" "subwoofer" speaker designed specifically for reproducing low frequencies prevalent in bass-heavy music genres like reggae and hip-hop. The next highest rated radio, the Milwaukee 2792-20 (as well as the DeWALT DCR015), produced good bass through two regular 3½" speakers and clear highs through a pair of small "tweeters." The three top-sounding compacts — the Milwaukee 2590-20, Bosch PB180 and PORTER-CABLE PCC771B, all produced surprisingly rich sounds despite their small speakers and space-saving sizes.

Conclusions

Usually at this point of a tool review article, I sum up the various pros and cons of each model tested and identify my favorites. But in this case, there's a significant factor in play: None of the jobsite radios in this review come with a battery pack, nor do any, save the radio/charger models, come with chargers. So unless you're willing to invest in these expensive extras, it's much more practical to buy a radio that uses the same charger and packs you already own.

But what if you own several different brands/voltages of cordless tools, or are willing to invest in a new brand/battery type? If tool brand and battery were not a factor, my first choice in jobsite radios would be the Bosch PB360S. I think it's the best-sounding jobsite model, plus it's got lots of connectivity (save Bluetooth) and more useful features than any other model. All that, and it recharges Bosch's 18-volt lithium-ion battery packs, too. Yes, it's heavy, but I like to think that each time I lift it, I get a little upper-body workout.

If you don't need a super loud radio and size and weight (and price) are important considerations, I'd suggest choosing one of the three top-performing compact models by Milwaukee, Bosch (the PB180) and PORTER-CABLE. All three pack a lot of sound and features into a light, portable package and sell for around half of what the big models cost. Whichever type or model you choose, it's a good idea to sample a particular model's audio qualities before you buy it (you can hear high quality recordings of all the radios in my More on the Web video).

Sandor Nagyszalanczy is a furniture designer/craftsman, writer/photographer and contributing editor to Woodworker's Journal. *His books are available at* amazon.com

RYOBI P742

Type: Compact Radio

Pros: Light & compact. Least expensive unit with Bluetooth

Cons: Poor tuner performance. Hard membrane-type buttons. Runs on battery power only.

Performance

Tuner: 5.5/10

Loudness: 5/10

Sound quality rank: #12

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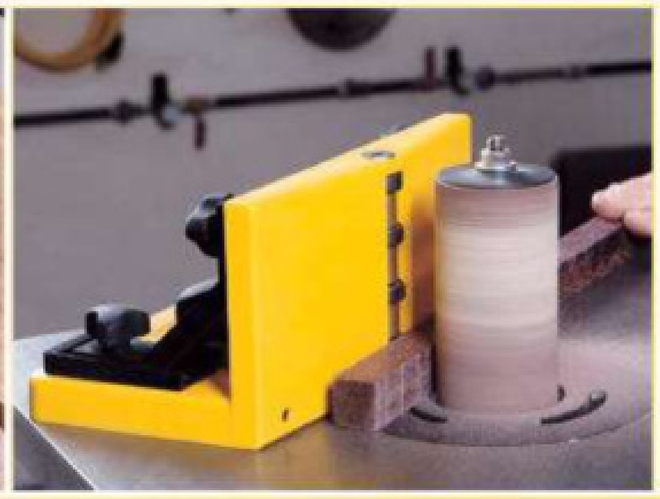

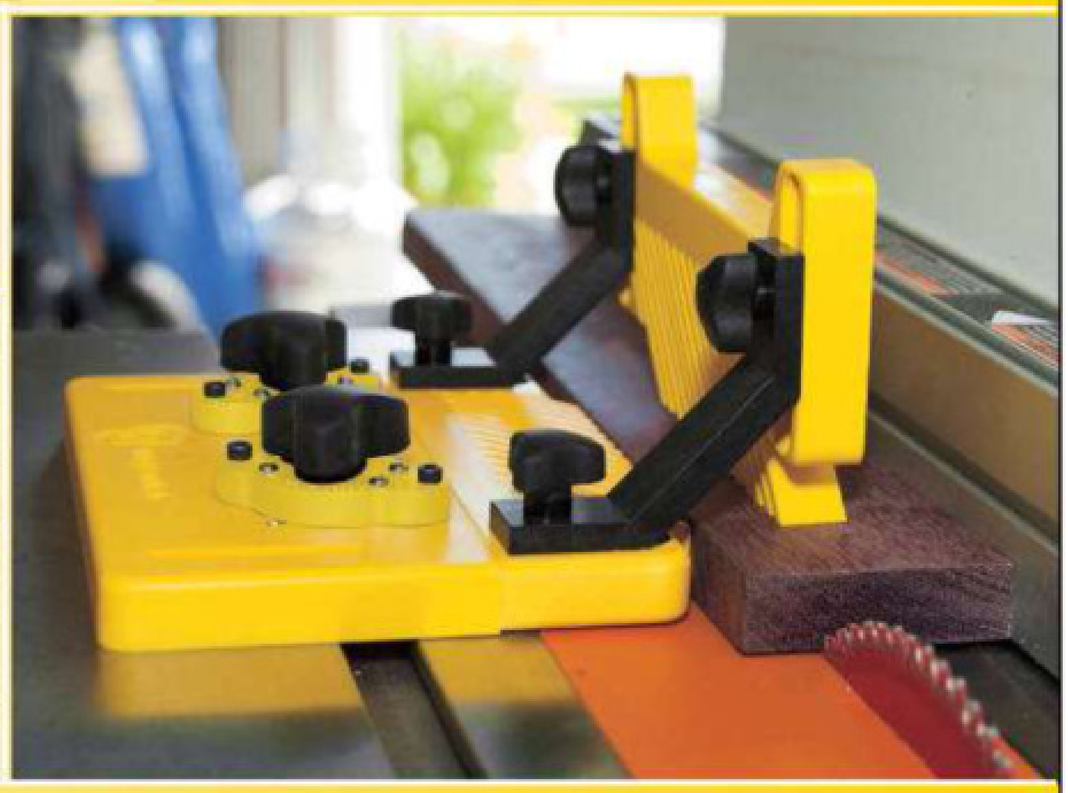

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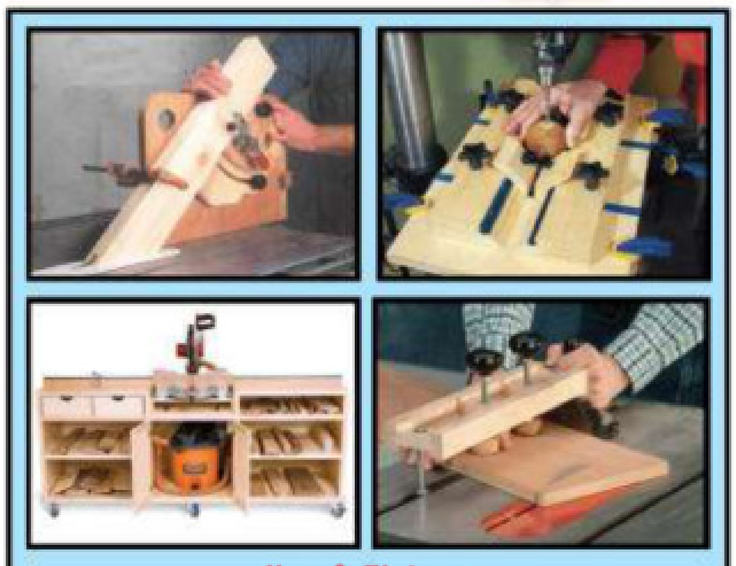

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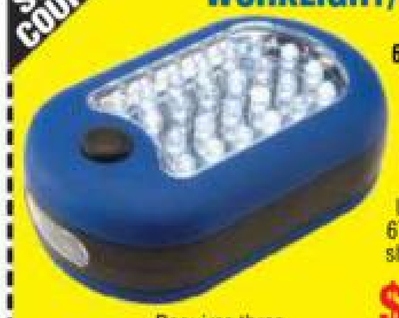
69567/60566/62532



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SAVE 62%

Requires three AAA batteries (included).

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LOT NO. 60237
44836/62408

Item 60237 shown

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9" x 72", 2 PIECE STEEL LOADING RAMPS

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69591/69646

SAVE $55

• 1000 lb. Capacity

Item 44649 shown

Haul Master

$44.99 REG. PRICE $99.99

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1500 WATT DUAL TEMPERATURE HEAT GUN (572°/1112°)

drill master

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62340/62546

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WINDSOR DESIGN

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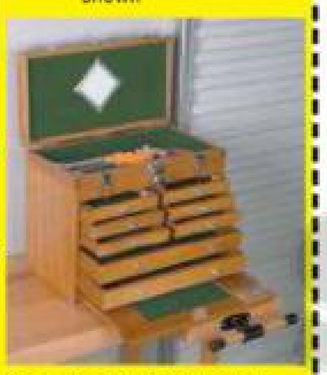
LOT NO. 94538/62585



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48707276

SUPER COUPON

WOW

44", 13 DRAWER INDUSTRIAL QUALITY ROLLER CABINET

US GENERAL PRO

SAVE $340

• Weighs 245 lbs.

Item 68784 shown

LOT NO. 68784/62591
69387/62270

$359.99 REG. PRICE $699.99

48752542

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SUPER COUPON

NEW

WARRIOR

29 PIECE TITANIUM NITRIDE COATED HIGH SPEED STEEL DRILL BIT SET

LOT NO. 5889 61637 62281

$9.99 REG. PRICE $24.99

Item 61637 shown

SAVE 60%

48822700

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SUPER COUPON

CENTRAL CENTRAL PNEUMATIC

3 GALLON, 100 PSI OILLESS PANCAKE AIR COMPRESSOR

LOT NO. 95275
60637/61615

SAVE 55%

Item 95275 shown

$39.99 REG. PRICE $89.99

48699434

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WOW

2.5 HP, 10" TILE/BRICK SAW

PROFESSIONAL SERIES CHICAGO ELECTRIC POWER TOOLS

SAVE OVER $191

LOT NO. 69275/62391

Item 69275 shown

$208.88 $269.99 REG. PRICE $399.99

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32 PIECE SCREWDRIVER SET

PITTSBURGH

LOT NO. 61259/90764

Item 90764 shown

SAVE 60%

$5.99 REG. PRICE $14.99

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18 GAUGE BRAD NAILER

WE CARRY A FULL LINE OF FASTENERS

LOT NO. 68021/62255

$13.99 REG. PRICE $34.99

SAVE 60%

Item 68021 shown

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CHICAGO ELECTRIC POWER TOOLS

MULTIFUNCTION POWER TOOL

8 Functions: Sanding, Remove Grout, Cut Metal, Cut Flooring, Cut Plastic, Plunge Cut, Scrape Concrete, Scrape Flooring

SAVE 70%

LOT NO. 68861/60428
62279/62302

Item 68861 shown

$14.99 $19.99 REG. PRICE $49.99

48833044

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SUPER COUPON

CEN-TECH

AUTOMATIC BATTERY FLOAT CHARGER

LOT NO. 42292
69594/69955

SAVE 70%

Item 42292 shown

$5.99 REG. PRICE $19.99

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SUPER COUPON

500 LB. CAPACITY ALUMINUM CARGO CARRIER

LOT NO. 92655
69688/60771

SAVE $70

Haul Master

Item 92655 shown

$79.99 REG. PRICE $149.99

48808963

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SUPER COUPON

PREDATOR GENERATORS

4000 PEAK/ 3200 RUNNING WATTS 6.5 HP (212 CC) GAS GENERATORS

SAVE $200

• 70 dB Noise Level

LOT NO. 69676/69729/68528

LOT NO. 69675/69728
CALIFORNIA ONLY

SUPER QUIET

Item 69676 shown

$299.99 REG. PRICE $499.99

48770132

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WOW SUPER COUPON

Customer Rating ★★★★★

12" SLIDING COMPOUND DOUBLE-BEVEL MITER SAW WITH LASER GUIDE

LOT NO. 69684/61776/61969/61970

CHICAGO ELECTRIC POWER TOOLS

Item 69684 shown

NEW

AWARD WINNING QUALITY

SAVE $165

$134.99 ~~$197.99~~

REG. PRICE ~~$299.99~~

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48743084

SUPER COUPON

FREE

WITH ANY PURCHASE PITTSBURGH 1" x 25 FT. TAPE MEASURE

ITEM 69080 69030/69031

Item 69080 shown

$6.99 VALUE

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SUPER COUPON!

PACIFIC HYDROSTAR 1650 PSI PRESSURE WASHER

LOT NO. 69488

- 1.3 GPM

SAVE $50

$79.99 REG. PRICE $129.99

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SUPER COUPON!

RETRACTABLE AIR HOSE REEL WITH 3/8" x 50 FT. HOSE

CENTRAL PNEUMATIC

LOT NO. 93897/69265/62344

Item 93897 shown

SAVE $90

$59.99

REG. PRICE $149.99

48837039

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SUPER COUPON!

1/4" TRIM ROUTER drillmaster

LOT NO. 44914/61626

Item 44914 shown

SAVE 42%

- Cutting depth adjusts easily for accurate cuts
- Standard 1/4 in. collet accepts most router bits
- Comes with trimmer guide and straight guide assemblies
- Transparent base for clear line-of-sight

$19.99

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48856446

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WOW SUPER COUPON

RAPID PUMP® 1.5 TON ALUMINUM RACING JACK

PITTSBURGH

- 3-1/2 Pumps Lifts Most Vehicles
- Weighs 27 lbs.

SAVE $60

$59.99

REG. PRICE $119.99

Item 68053 shown

LOT NO. 68053/62516 69252/60569 62160/62496

48766440

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WOW SUPER COUPON

17 FT. TYPE 1A MULTI-TASK LADDER

LOT NO. 67646/62514

- 300 lb. Capacity
- 23 Configurations

SAVE OVER $81

Item 67646 shown

$118

~~$139.99~~

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POWDER-FREE NITRILE GLOVES PACK OF 100

HARDY

SAVE 45%

- 5 mil. thickness

Item 68498 shown

YOUR CHOICE!

$6.49

REG. PRICE $11.99

MEDIUM LOT NO. 68496/61363

LARGE LOT NO. 68497/61360

X-LARGE LOT NO. 68498/61359

48851427

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SUPER COUPON!

MOVER'S DOLLY HaulMaster

LOT NO. 93888/60497 61899/62399

- 1000 lb. Capacity

SAVE 40%

Item 93888 shown

$8.99

REG. PRICE $14.99

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SUPER COUPON!

4" x 36" BELT/ 6" DISC SANDER CENTRAL MACHINERY

LOT NO. 97181/62502

SAVE $80

Item 97181 shown

$59.99 REG. PRICE $139.99

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SUPER COUPON!

1195 LB. CAPACITY 4 FT. x 8 FT. HEAVY DUTY FOLDABLE UTILITY TRAILER Haul Master

LOT NO. 90154/62170

- DOT certified

SAVE $140

Item 90154 shown

$259.99 REG. PRICE $399.99

48849520

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SUPER COUPON!

12" RATCHET BAR CLAMP/SPREADER PITTSBURGH

LOT NO. 62123 46807/68975 69221/69222

SAVE 66%

Item 69222 shown

$1.99

REG. PRICE $5.99

48852164

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SUPER COUPON!

12,000 LB. ELECTRIC WINCH WITH REMOTE CONTROL AND AUTOMATIC BRAKE BADLAND

LOT NO. 68142/61256 60813/61889

SAVE $300

Item 68142 shown

$299.99

REG. PRICE $599.99

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SUPER COUPON!

26", 4 DRAWER TOOL CART US GENERAL

Item 95659 shown

LOT NO. 95659 61634/61952

- 580 lb. Capacity

SAVE $180

$99.99

REG. PRICE $279.99

48856894

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SUPER COUPON!

350 LB. CAPACITY FOLDING SAWHORSE CENTRAL MACHINERY

SAVE 37%

LOT NO. 69446 46762/60710

Item 69446 shown

$9.99 REG. PRICE $15.99

48844646

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SUPER COUPON!

SAVE $160

LOT NO. 68751/62443

Item 68751 shown

45 WATT SOLAR PANEL KIT

THUNDERBOLT solar

$139.99 REG. PRICE $299.99

48833768

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Small Shop Journal

Bar Stool

By Kimberly McNeelan

Sturdy dovetails and long, flowing curves give this counter height ash bar stool an organic appeal, while highlighting your hand tool skills.

storemags.com

Shop-made Curve Bow

Having a curve bow makes layouts for projects like this much easier when you are working by yourself. All you need is a long, thin strip of wood about 1/8" thick, 3/4" wide and about 48" long. You can create bows of other lengths to suit different sizes of projects. Use a hardwood with fairly straight grain, like oak (or even ash!).

I recommend ripping the strip from a wider board to create a 1/8" offcut. Then sand the sides of the strip smooth. Drill a 1/8" hole 1" from each end and centered on the strip's width. Drill two more holes centered on the stick's length but separated about 2½". Simply tie two strings using a noose knot looped through itself and a trucker's knot through the hole in the middle closest to that end. Whatever keeps the strings attached here amounts to a successful knot. Make the strings the same length for a consistent curve. You want the strings to be just long enough so that when you squeeze them together at the center, they bow the strip. For tapered curves, you can either adjust how much you pull on one of the strings or use a strip of wood with tapered thickness.

There are a lot of bar stool designs out there. When I decided to make one for me, it took a while to come up with a design that would be an interesting form as well as a functional seat. I think the lines of this design, formed by careful shaping and the unique use of dovetails, make it a beautiful project as well as very enjoyable to build. I wouldn't say it is an easy project, but the following directions should lead you fairly seamlessly to completion.

Ash: A Great Species Choice

My wood of choice for many projects these days has changed from my usual walnut to ash. Structurally and aesthetically, ash is a truly wonderful hardwood. It is mostly blond with grain similar to oak, but ash has buttery tones along with gray at times. According to the Janka rating scale of hardness, green ash ranks to be a harder species than black walnut! Sadly, the blight being spread by that monstrous little beast known as the emerald ash borer has made ash lumber readily available and incredibly cheap. It's about half the price of walnut these days, so affordable but gorgeous, too.

When you have the tools to do it, resawing to produce book- or slip-matched grain really shows that you pay attention to all the details that make your project as beautiful as possible. Grain-matching is one of the things that you can do to make your handmade furniture truly special. So, I ordered a 9' x 7" piece of 8/4 ash for making this bar stool. The side pieces of the stool are book-matched and the seat comes from the center of my board. When assembled, the grain all lines up quite nicely.

Preparing the Stock

I milled the four book-matched pieces down to just under 3/4", and then glued up the sides. The two pieces from the center of the board for the seat needed to be planed to 1¾" thick and milled square. Next, I ripped a piece 1¾" wide from either side of the seat pieces and one that would later be the footrest.

The author used a shop-made curve bow to create long, flowing curves on the edges of the stool's side pieces (left) and to form the seat's top contour (right). It's a simple and adjustable layout tool.

Shaping the seat's top contours is best handled "resaw" fashion at the band saw. Cut carefully just to the waste side of your layout lines.

Cut the ends of the seat boards to length at the table saw. Back the cuts up either with a miter gauge and scrap fence or using a crosscut sled.

Next, I laid out the curve for the seat contours and cut those on the band saw. Make sure the saw's table is set up square to the blade and that you leave your pencil line (cutting on the waste side) for easier and accurate cleanup of those curves later.

After cutting the curves, I checked the glue joint between the seat halves to make sure the butt joint would disappear. Run the edges over the jointer, if necessary. Then glue up the seat. You'll find that cleaning the glue off with a scraper or an "abused" chisel right when the squeeze-out starts to become rubbery will make that job a whole lot easier. Ash has a tendency to tear out if you use a glue scraper on hardened glue ... yes, I found that out firsthand!

After the glue dries, rip the seat to final width, and form the seat into a slight trapezoid by putting a 4° taper on both ends of the seat (see the *Drawings*). I used a miter gauge with an auxiliary fence to make an angled cut. While still at the table saw, I used my crosscut sled to cut the side pieces to final length.

Cutting Dovetails

Now the fun really begins with hand tools! Before I cut the profile shape for the sides of the bar stool, I went ahead and cut the dovetails that join the seat and sides. I started with the pins. Here, I used a 9.5° angle for their layout, because it looks great and creates a solid and very strong joint. These joints will receive plenty of stress, so I left the pins thick for added strength.

Use your bevel gauge, square, marking gauge and either a marking knife or an awl for laying out pins on the stool's side pieces. Do your best to scribe the lines deeply. I usually use a very sharp pencil to highlight those lines. Next, I reached for a Japanese handsaw to cut on the waste side of the pins.

From there, I clamped a board with a straightedge facing the pins to give my chisel a 90° reference for chopping out flats between them. Then I went back and cleaned up the pins with chisels.

Next, I used my marking knife to trace around the pins onto the bottom of the seat. After making the initial marks, you can go back and align your bevel gauge to scribe deeper. I use my bevel gauge because it's easier to hold than the big side pieces. Transfer the lines around to the top of the seat, and use your bevel gauge again to finish the layout. Cutting the tails is very similar to cutting the pins, but I used a band saw to cut on the waste side of the lines this time. (For the tails, the cuts are square to the saw table.) Go back again and clean up with a chisel.

Carefully check the fit of your tails and pins. If the fit is too tight, don't force it; you could blow your piece apart. Refine the joints so they go together easily. While the seat and side pieces are dry-fitted, mark the outside pin with the angle you'll need to band-saw the profile cuts on the side pieces accurately.

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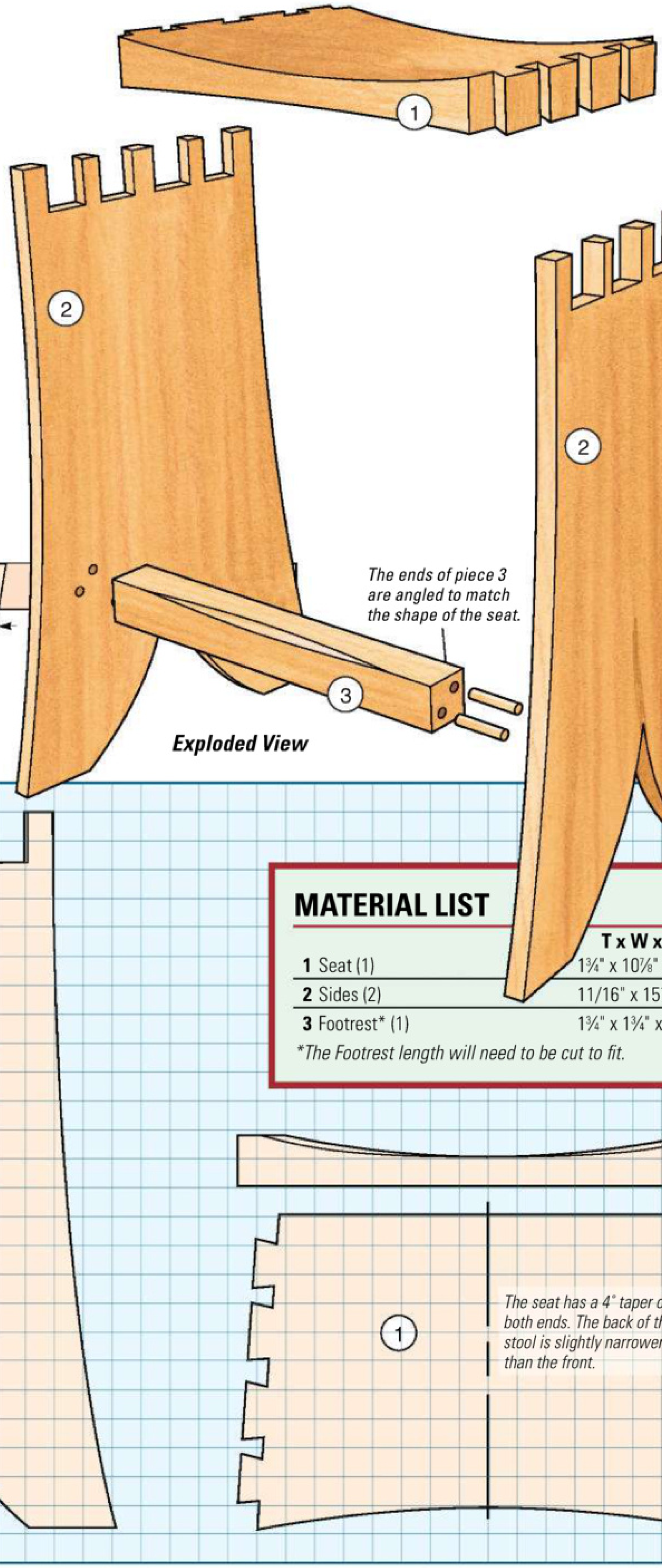
MORE ON THE WEB

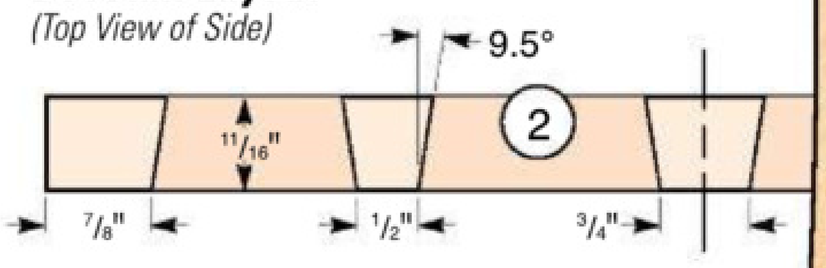
For a video on the process for creating book-matched panels, please visit woodworkersjournal.com and click on "More on the Web" under the Magazine tab.



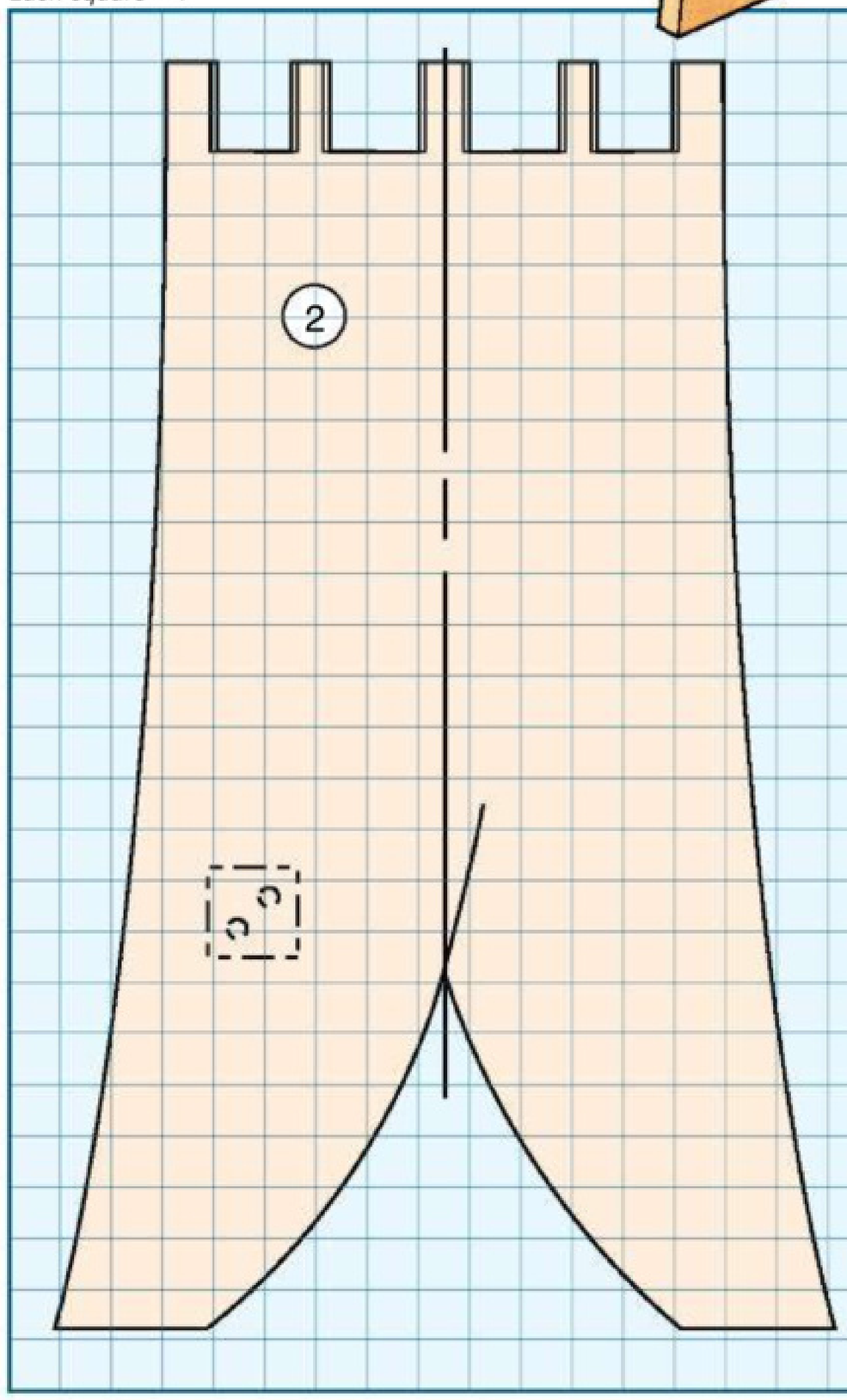
Exploded View

Dovetail Layout

(Top View of Side)



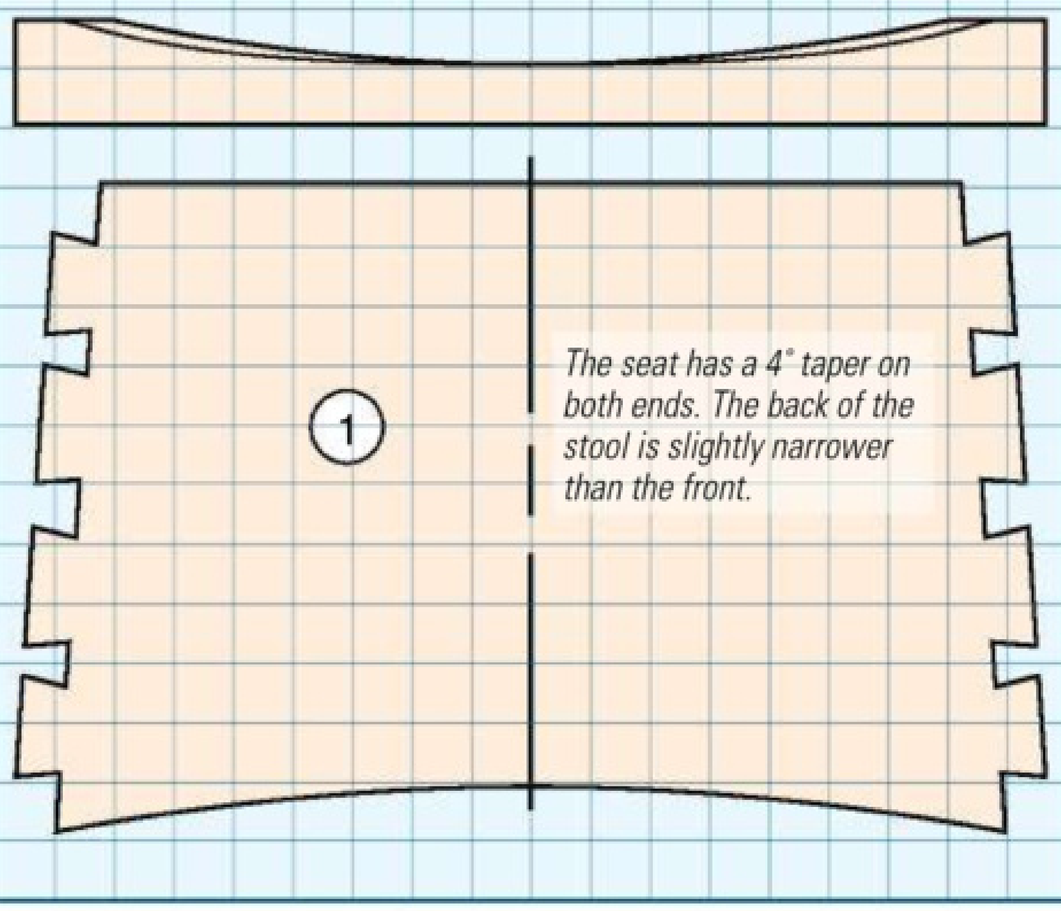
Each square = 1"



MATERIAL LIST

	T x W x L
1 Seat (1)	1¾" x 10⅞" x 17¼"
2 Sides (2)	11/16" x 15¼" x 24¾"
3 Footrest* (1)	1¾" x 1¾" x 16¼"

**The Footrest length will need to be cut to fit.*



Lay out the pins on one side piece, then transfer their angles and locations to the other side piece using a bevel gauge set to the correct angle. Line the side pieces up carefully.

Saw the pins to shape (left), then chop the waste free (top) using a backer board to align the chisel. It's a good idea to slightly angle-in the flats between your pins to ensure a snug fit with the tails.

Adding the Footrest

This is also a good time to position and machine the joints for the footrest — it's easier to do this now while the side pieces are still flat rather than after cutting their curved edges. Because of the slight angle of the side pieces, I chose to use dowel joints to attach the footrest. First, check the width directly under the front edge of the seat, and crosscut your footrest blank so it's about 1/16" longer than that distance. Cut your dowels to 1⅝".

Carefully draw the dowel layout on the ends of the footrest, and mark the footrest's position on the stool sides. Then drill two 3/8"-diameter holes 1½" deep into the footrest ends. If your drill press table can turn vertically so you can clamp your workpiece to it, that's the most accurate way. If you need to use a hand drill instead, do your best to drill squarely into the footrest.

After boring the holes, cut the footrest to fit precisely between the stool sides by marking the angle, cutting, and then checking its fit directly under the seat. Creep up on your layout lines. Now, using metal dowel centers in the footrest piece and following your layout on the side pieces, prick the stool sides so you can drill exactly at the dowel centerpoints. Drill those holes 3/8" deep.

Profiling the Stool Sides

It's time to lay out and cut the profiles on the side pieces. With the help of a handmade curve bow (see *sidebar*, page 63), drawing beautiful curves for this step is easy! Do this for the edges and faces of your stool sides, seat and footrest. Line up your curve bow with the intersection of the seat and side pieces and the bottom of the stool. Draw the curved lines. Remember, the seat is not square, it is a trapezoid, so to make these cuts, I tilted the band saw table to match the edges of the sides to the angle of the seat. It's easy to get that angle turned around, so mark your stock and be careful.

Feel free to play around with the cutout shape at the bottom of the stool. I like the look of the upside down curvy "V," but you can be creative here. Cut these shapes out on the band saw, too.

Scribe your lines for the tails directly off of the pins. This time-honored technique leaves less room for error. Use a marking knife or sharp pencil.

Draw the tail shapes carefully onto the seat. Use a square to transfer layout lines around its thickness. Accuracy is critical to a good fit here.

A drill press with table set vertically and your wood clamped (left)www makes easy work of boring holes into the ends of the footrest (top) for metal dowel centers (bottom).

Drill matching dowel holes in the bar stool's sidepieces (right). Keep the drill held squarely.

Save at least one of the profile waste pieces, and belt-sand it smooth. (You may need more than one, depending on how it fits the curve.) Cut the piece shorter to use as a sanding block later. It's difficult to get a super-smooth curve any other way.

Now it is time for hand-shaping the edges to make this project really come alive. Working back and forth to the center of the curves, my spokeshave became a favorite tool all over again. The ash proved to be a bit difficult, but my curved sanding block took care of any really tricky places.

Before gluing up, go ahead and finish-sand the inside faces of the seat, sides and footrest. Make two notched clamping cauls on the band saw for the dovetails and have two straight cauls ready for the bottom of the side pieces.

Soften the bar stool's hard edges as you like: it presents a made-by-hand-tool appeal. The author eased these edges with a spokeshave.

Final Assembly and Finish

Start assembling the stool by gluing and clamping the footrest in place. Use blocks in between the clamp and the wood so you don't mar it. Then tackle the dovetail glue-ups. Brush glue between the pins and tap the seat down into place. Then use your cauls and clamps to bring it all together. Remember to scrape the glue off as soon as it gets rubbery but not all the way hard.

The next day, you can finish shaping the seat of the stool and finish-sand the outer surfaces, too. For topcoating, I used Arm-R-Seal — a simple, durable wipe-on finish. Three coats and voila ... my hard work had paid off.

I like to apply wax and buff it off immediately, just to even out the sheen and make the surfaces of this bar stool feel wonderful. Let the finish dry at least overnight before applying the wax, and let the wax dry before getting fingerprints all over it. Then take a seat!

This bar stool required both patience and planning with all the hand tool work involved. However, my most leisurely time spent in the shop is usually in these quieter moments. My mind has a chance to wander, and I have the opportunity to slow down a bit. Maybe you'll find the same peace in these exercises when you build your bar stool.

A coat of wax, buffed to a smooth sheen, brings this project to completion.

Kimberly McNeelan is a woodworker, artist and woodworking teacher. Her website is kimswoodfurniture.com.

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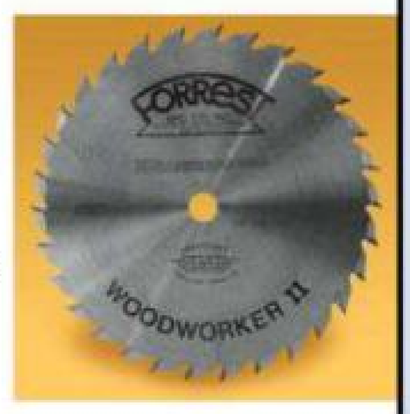

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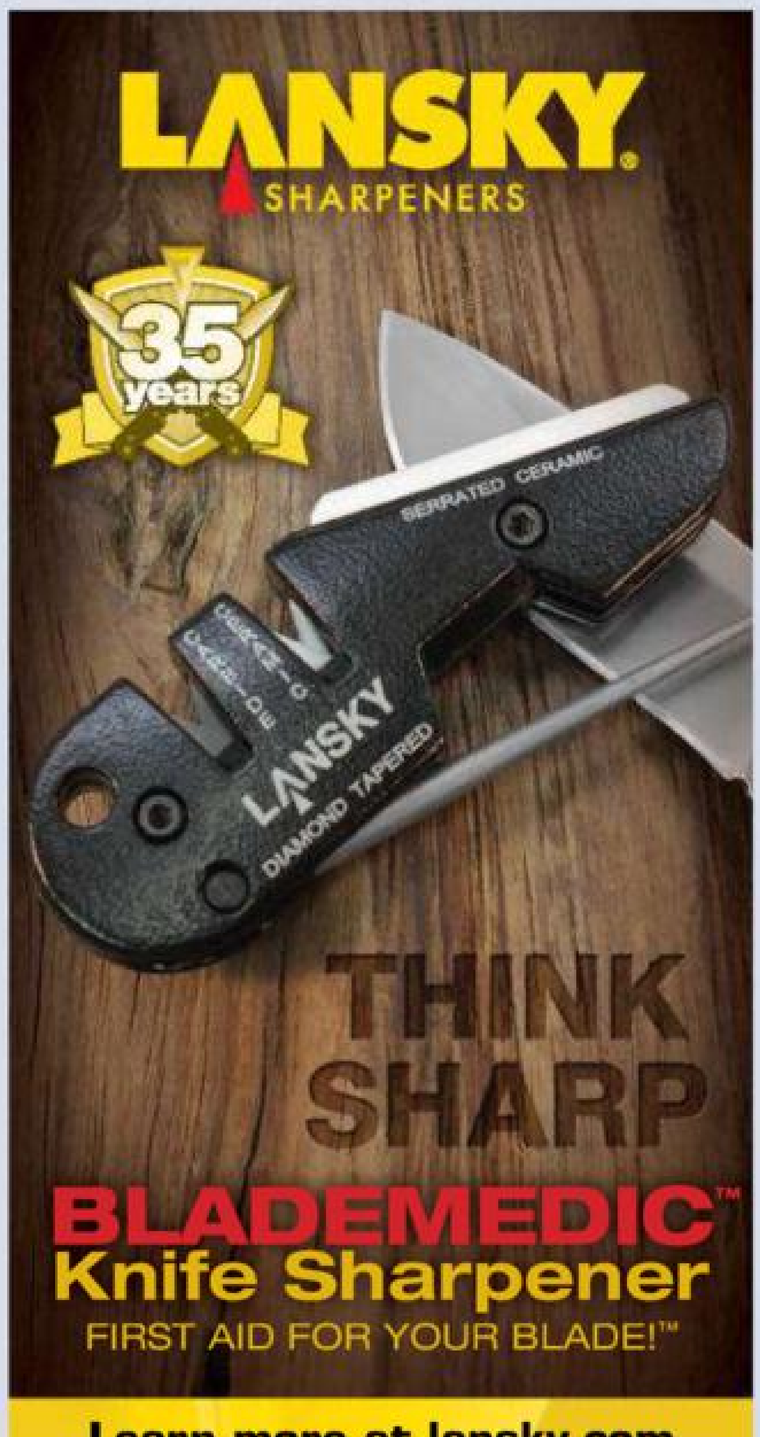

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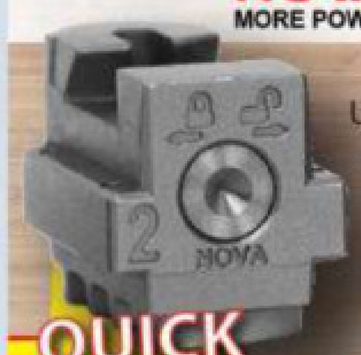

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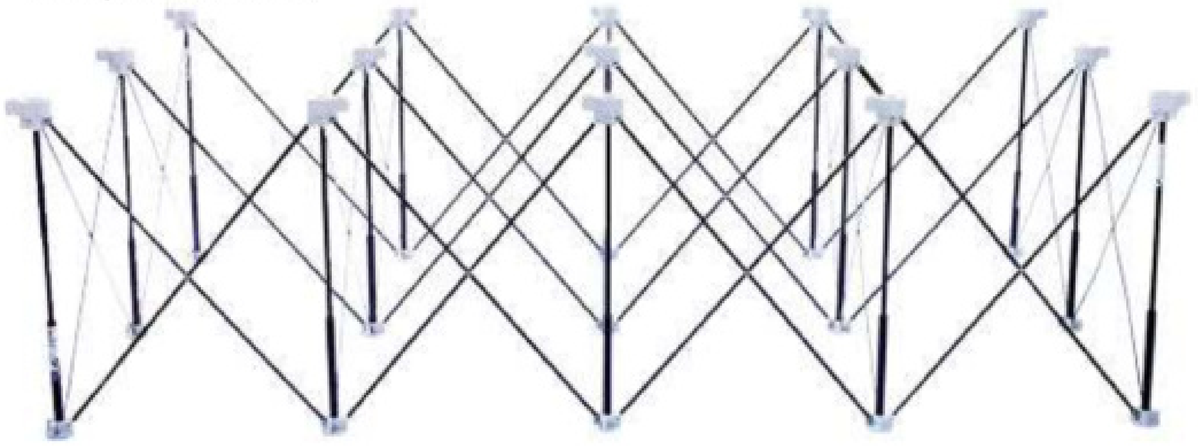
Centipede Sawhorse



SKILSAW 10¼ inch Worm Drive Saw

The new **SKILSAW®** *10-1/4 inch Worm Drive Saw* (nicknamed "Sawsquatch™") has a Dual-Field™ motor, which uses a copper winding pattern that results in increased surface area to keep the motor running cooler. That, in turn, increases the durability of the saw, and its magnesium components — the upper and lower guard and foot — decrease the weight. The Sawsquatch (model SPT70WM-22) has a 51° bevel capacity, a 31⁄16" depth of cut at 90° and a 2¾" depth of cut at 45°. The 15-amp motor provides 4,600 rpm, while the saw weighs in at 16.45 pounds. Included with the saw is a Diablo® 40-tooth carbide blade. The Sawsquatch has a suggested price of $499.

Bosch's new *PL1632* and *PL2632 Planers* include an industry-first combination of lock-off-release button with a lock-on button to help prevent accidental startup and reduce hand fatigue during extended operation. They also have a Bosch-exclusive dual-mount fence that provides no-flex guidance. The 6.5-amp motor powers a cutting speed of 16,500 rpm. The blade for these planers is the Bosch reversible Woodrazor® micrograin mini-carbide, which resists fractures from nail and staple strikes. The PL1632 has a single-blade system, while the PL2632's two-blade system allows the user the option of converting the planer for use with large high-speed steel blades. Both planers have a maximum planing width of 3¼"; the PL1632's planing depth is 0-1/16", while the PL2632's is 0-3/32". Suggested price for the PL1632 is $129; for the PL2632, which also comes with a case, it's $169.

Bosch PL1632 Planer

Bosch PL2632 Planer

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RYOBI's *TSS120L Sliding Compound Miter Saw* has a crosscut capacity of 13¼", with the ability to cut 90° miters on 2x14 or 4x6 lumber, and 45° miters on a 2x10. Miter stops are located at the most common crown molding angles: 0°, 15°, 22.5°, 31.6° and 45° — both left and right. Powered by a 120-volt, 4,000 rpm motor, the TSS120L comes with a 12" carbide-tooth blade, as well as a pair of fixed table extensions to support longer workpieces, an adjustable Exactline laser for lining up cuts to the blade and a hold-down clamp. It's priced at $299.

RoboReel Air Hose Reel

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Rockler's two new *Spline Jig* options give you the option of using a handheld router or router table to create decorative splines for mitered box and frame joints. The *Router Table Spline Jig* (item 59288) consists of a base that attaches to a router table and a sled that holds the workpiece at a 45° angle to the router bit. The sled slides in the tracks of the base to guide the spline cuts. It can accommodate frames with an 11" x 14" opening or boxes measuring up to 12"x12"x12". This jig sells for $79.99. For larger pieces, the *Large Box Spline Jig* clamps to the corner of a box, with the jig supporting and guiding a router as it cuts the splines. The edge guide on the Large Box Spline Jig (item 55153) adjusts to accommodate a variety of router models; it sells for $49.99.

Rockler Large Box Spline Jig

Rockler Router Table Spline Jig

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RIDGID GEN5X 5pc Combo Kit

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Finishing Thoughts

A Short History of Guitar Finishes

By Michael Dresdner

Borrowing liberally from both furniture and car coatings, guitar finishes run the gamut from edible to high-tech.

Michael Dresdner is a nationally known finishing expert. He shares his expertise on the DVD *The Way to Woodwork: Step-by-Step to a Perfect Finish*, available through the store at *woodworkersjournal.com*.

First there was the oud, a Middle Eastern instrument named after the Arabic word for wood, which led to the lute, and ultimately to the guitar. As these plucked, fretted instruments evolved, so did the finishes on them. Why? Let's look back and find out.

The lute is a very light instrument, with a thin, lively top made of softwood, like cedar or spruce. The best top woods are light, but stiff, a property called stiffness-to-mass ratio. While oil-based finishes were fine for furniture, they're not for tops. The softwood will absorb oil varnish, causing the top to become heavier but not stiffer, thus upsetting the ideal stiffness-to-mass ratio.

Glair, a mixture of egg white, sugar, honey and sometimes gum arabic, was the finish of choice for lute tops, and some makers today still use it. Made of items found in most kitchens, it is clear, nontoxic, water-based, and won't penetrate too deeply. The egg white acts as the binder or glue to form a film and adhere to the wood, the sugar acts as a hardening resin to add durability, and the honey (or gum arabic) acts as a plasticizer to prevent it from being too brittle. Applied very thin, glair offers little protection from abrasion, but it will help shed dirt and water and keep the top looking clean.

Many guitars made before 1920, and some classical guitars to this day, are done in French polish.

When the modern guitar emerged in the early 20th century, it also wanted a very thin, somewhat brittle finish. French polish, which is shellac applied by pad, became the favored finish for classical and parlor guitars, and is still common on handmade classicals today. Applied in ultra-thin layers, it's easy to keep a French polish finish thin, yet it still offers protection and a clear, glossy sheen without harming the guitar's delicate sound.

By 1920, the Jazz Age was in swing, and

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both nitrocellulose lacquer and spray guns had been invented, opening a range of finishing options. Meanwhile, guitars were getting bigger in order to be louder and, for the same reason, adopted metal strings. There were flat-top guitars in all sizes, from small parlor instruments to the big-bodied dreadnought, first built in 1917, and archtop guitars for another style of music and a different sound.

As guitarmaking went from individuals to factories, clear, high-gloss lacquer became the favorite finish for guitars. Lacquer sprays on, dries very fast, lets you apply thin layers that blend into one another seamlessly, and lets the wood show through. However, some folks preferred added color.

Jazz and orchestral players, who favored archtop guitars for their strong mid-range chop and ability to cut through when played with a big band, often opted for so-called sunburst finishes. For that, you stain the wood in a background color, usually yellow, seal with clear lacquer, then spray one or more coats of carefully applied darker reddish or brown color around the edges to create a corona, or sunburst. When done expertly, the sunburst color visually intensifies the arch of the top.

As concert halls got bigger and microphones came into use, even the large body guitars weren't loud enough. The first electric guitar was mocked up around 1925, but

This koa wood Martin guitar sports a nitrocellulose lacquer finish, like almost all furniture of the Jazz Age.

Color added around the edges of a sunburst finish intensifies the curve of an archtop guitar.

photo courtesy of Doug Youland/Willie's American Guitars

Contact us

with your finishing questions by writing to Woodworker's Journal, 4365 Willow Drive, Medina, MN 55340, or by emailing us at: *finishing@woodworkersjournal.com*. Please include your address, phone number and email address (if you have one) with your thoughts or questions.

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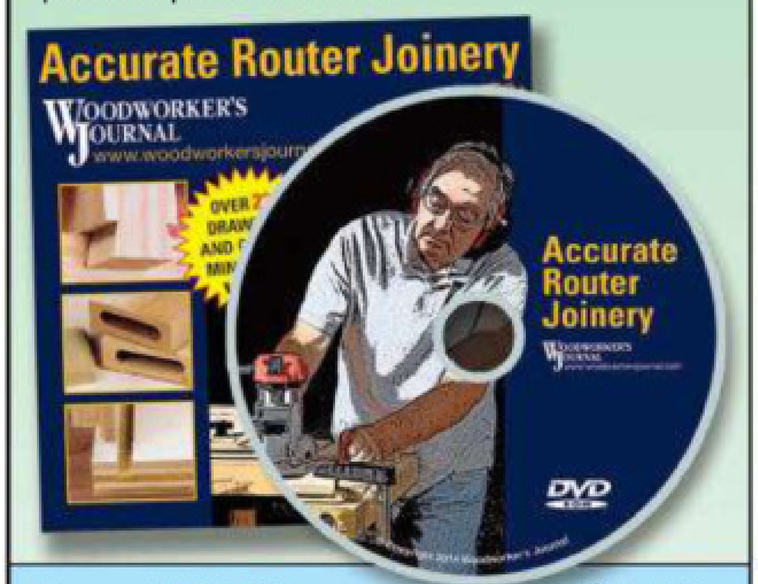

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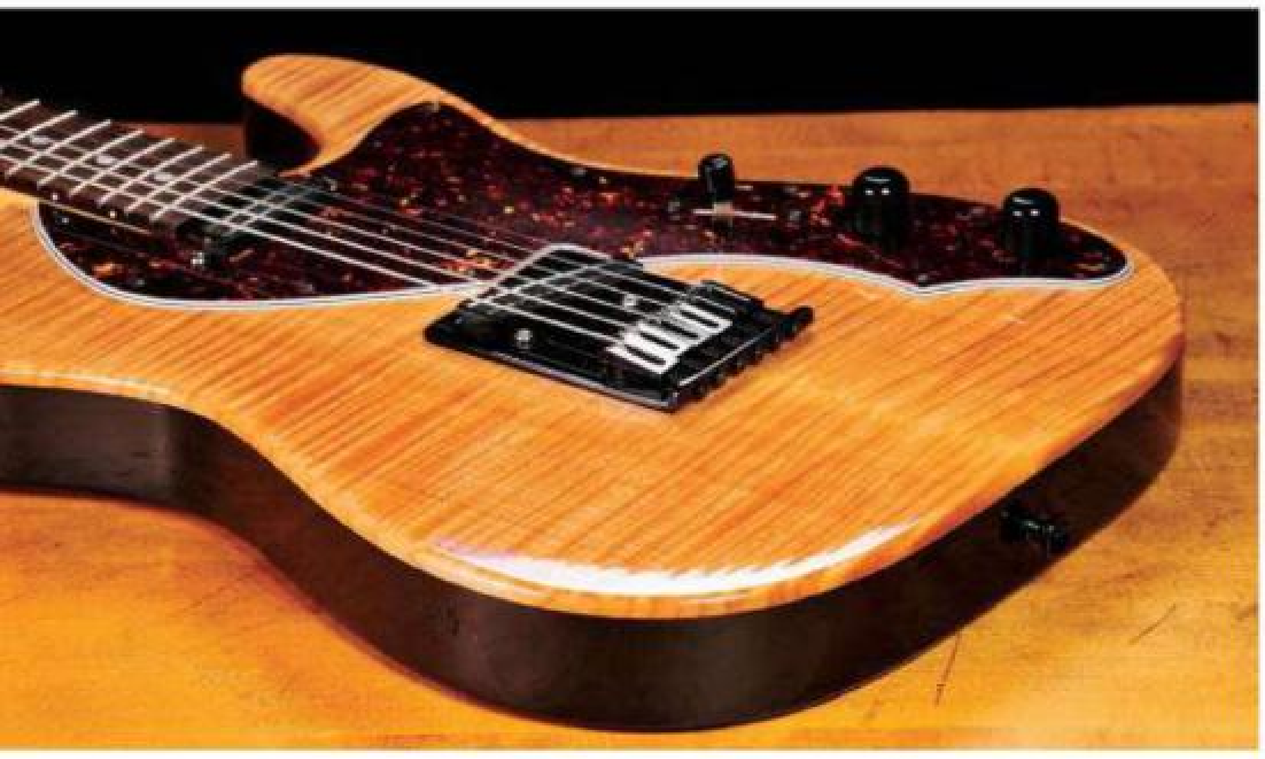
Finishing Thoughts continued

Early Fender guitars used two DuPont automotive lacquers: Duco nitrocellulose (left) and Lucite acrylic (right).



Two-part linear urethane, also known as automotive polyurethane, makes a finish that's both durable and glossy.

Taylor Guitars helped pioneer the ultra-durable, crystal-clear, high-tech, UV-cured finish for acoustic guitars.

within two decades something very different emerged, with a decidedly new appearance and different concerns when it came to finishing.

None of the formerly critical sound issues are at play with the solidbody electric guitar. It's a thick slab of wood cut in a variety of interesting shapes, and almost any coating can go on top of it. What does matter is durability, because, let's face it, electric guitar players have a reputation for being a lot harder on their "axe" than the average classical guitarist.

They also favor a different appearance. While acoustic guitarists gravitate to clear finishes that show off the wood, electric guitar aficionados often wanted their guitars to look more like … well, cars, to be honest. It's no surprise that Leo Fender, whose company emerged in the 1940s, painted his guitars with brightly colored automotive paints.

Fender used DuPont's automotive lines of nitrocellulose lacquer, called Duco, and acrylic lacquer, called Lucite. He didn't even bother to change the color names. Thus, we have old Fender guitars in Duco colors like Dakota Red, Daphne Blue and Seafoam Green, and in Lucite colors like Lake Placid Blue, Olympic White and Shoreline Gold. Why, you could match your guitar color to your car, and back when I repaired guitars, I had one customer who did just that. He owned a '56 Buick and a matching turquoise Fender Stratocaster.

Car finishes became more sophisticated, and guitars followed close behind. Modern guitar finishes include linear urethane, a durable, two-part polyurethane that is easy to apply, cures fast and is relatively low in VOCs; two-part conversion varnish (also called catalyzed lacquer); cross-linked acrylics; and two- or three-part polyester finishes that are water clear and make a film as tough as your kitchen counter. In fact, the same coating may be on your kitchen counter, fiberglass boat hull and favorite guitar. Some guitarmakers today even use a hybrid approach, applying clear polyester as a base coat and filler, and topping it with repairable, easy-to-buff lacquer.

Nor are ultra-durable finishes limited to solidbody electric guitars. Our chemical prowess means we can create finishes with whatever properties we want, apply thick or thin coats, and even cure them in a variety of ways. One of the slickest curing methods is UV, or ultraviolet.

A clear, almost solvent-free finish laced with photo-reactive additive is sprayed on. The coating is then exposed to strong ultraviolet light in a particular wavelength, and it cures completely, from liquid to solid, in just seconds. Taylor Guitars helped pioneer this guitar finish, and their beautiful, great-sounding

Using a combination of clear finish and translucent dye, this BC Rich guitar shows off its dazzling figured maple top.

acoustics prove its worth. In fact, the coating is so durable that pickguards, invented to protect the finish, aren't even necessary.

There you have it: from simple, food-based ingredients to high-tech films, the history of guitarmaking has dabbled in them all.

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The Way To Woodwork:
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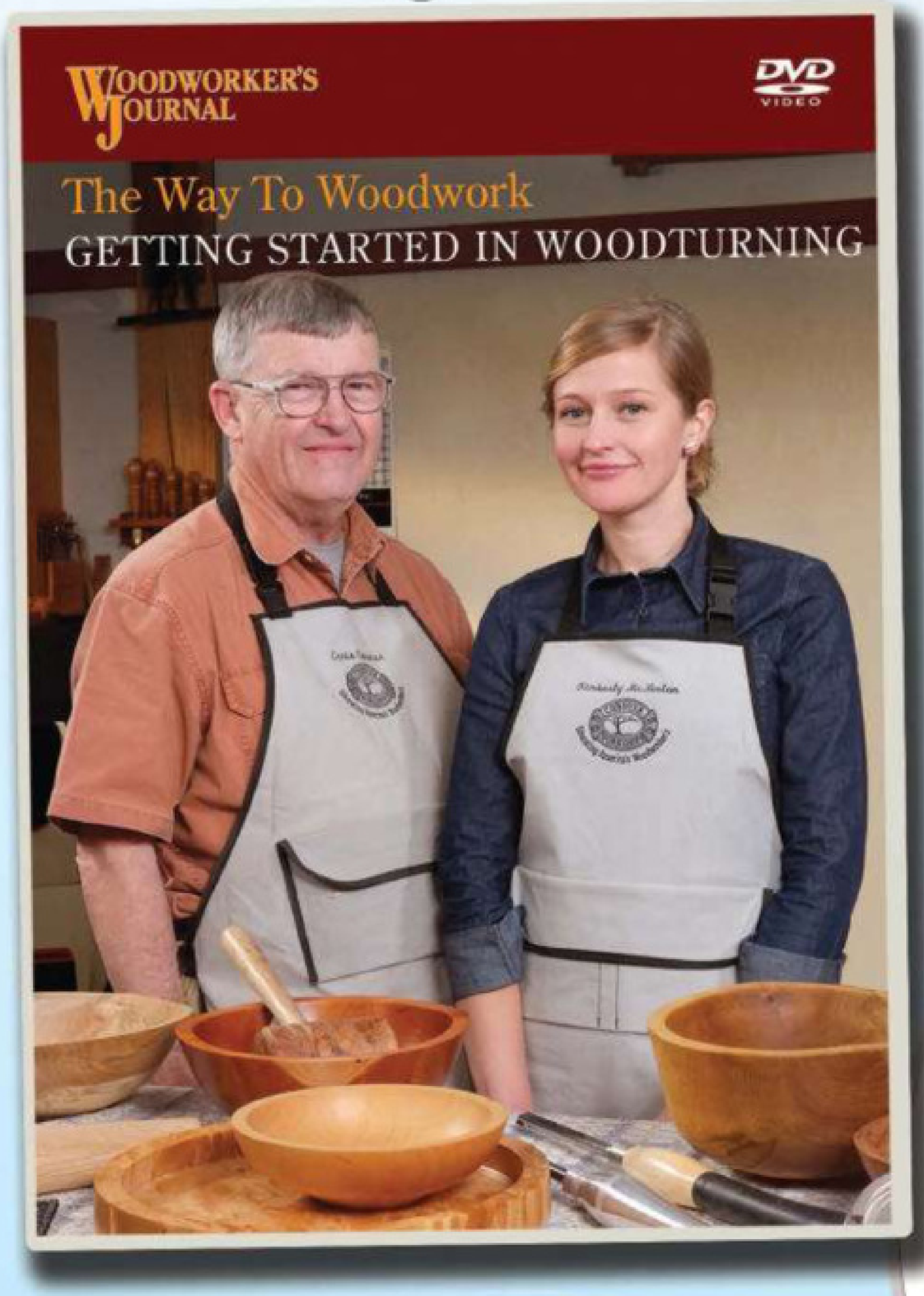

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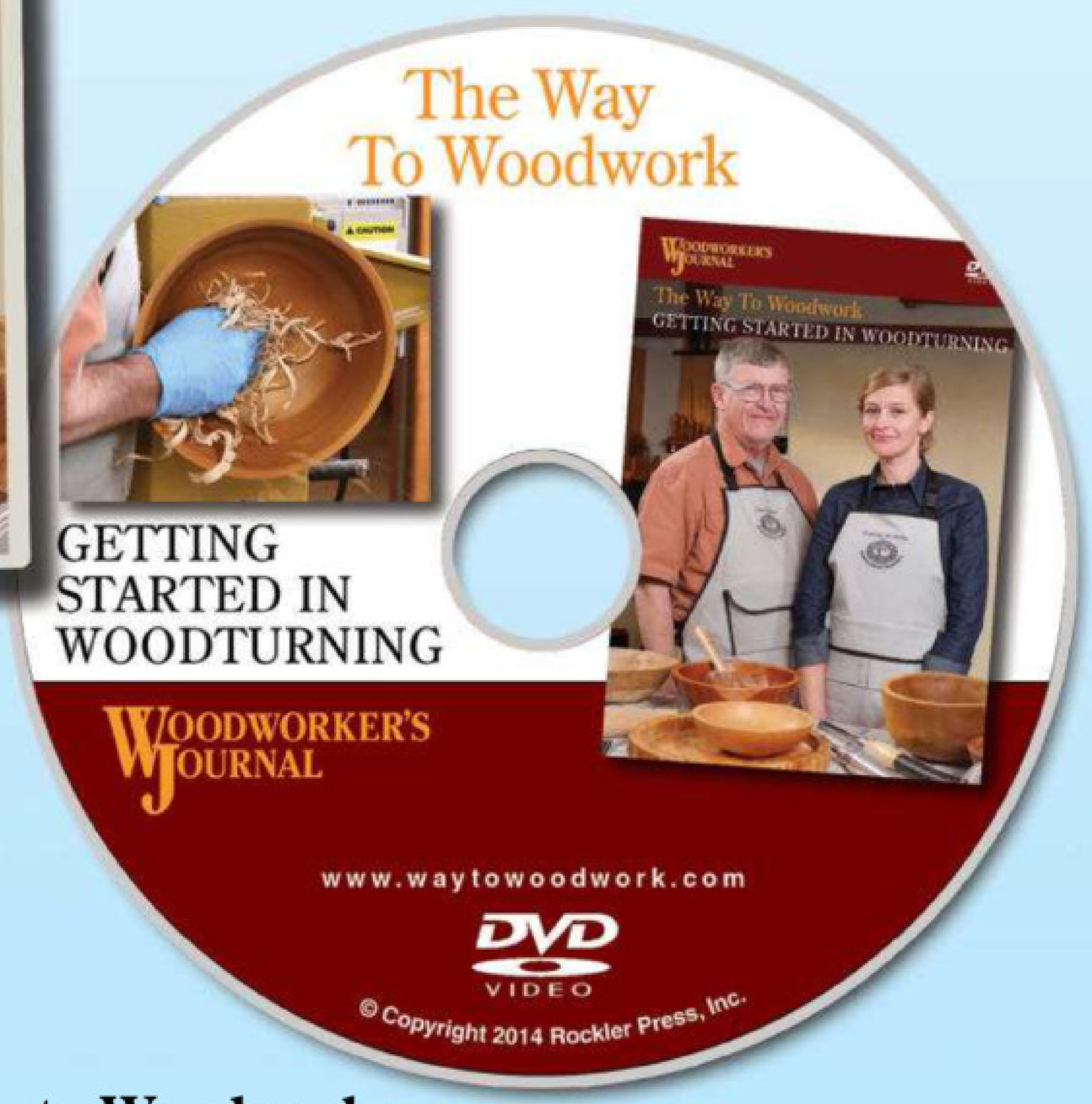

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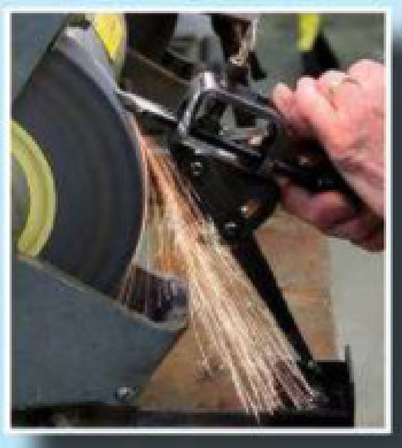

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HEY Did You Know?

Woodworking trivia: the plumb truth

The hide glue we use for wood is simply gelatin, the same material, extracted from animal hides, used to make that iconic, jiggly dessert. The primary difference in food grade gelatin is that it is more highly refined so as to rid it of its dark amber color and unattractive odor.

What Does It All Mean?

A quick guide to terms from the world of woodworking.

Wane: A natural edge on lumber, often with bark still attached

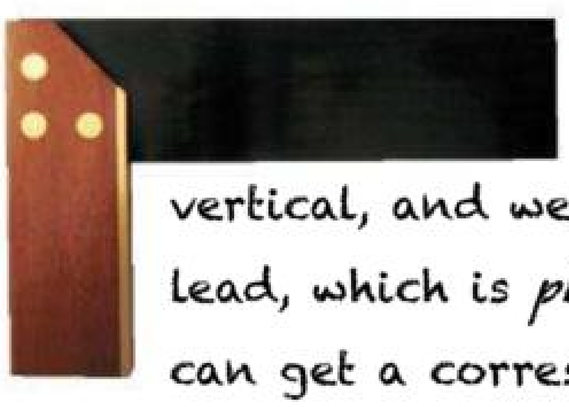
Sled: Device to guide a workpiece squarely and safely through a cutting or shaping operation

Worm Drive: A driveshaft with a spiral groove that transfers rotation at a 90° angle to the motor; used most commonly in circular saws

photo used with permission by Louisville Slugger Museum & Factory®

Bud Hillerich, shown here turning a bat, brought bat making to the company that's been making Louisville Sluggers for over 100 years.

The traditional Louisville Slugger® baseball bat is turned from northern white ash *(Fraxinus Americana)* cut from a particular forest on the NY/PA border. It's been made by the Hillerich & Bradsby Co. since they registered that name in 1894. (Earlier H&B-made bats, from 1884 on, were called Falls City Slugger bats.)



Tried and true: Plumb bobs hang "true," or vertical, and were originally made of lead, which is *plumbum* in Latin. You can get a corresponding horizontal plane by aligning the bob's string with one edge of a try square: thus, tried and true.

Submit your own trivia ...

Send in a curious fact about your favorite topic and ours: woodworking. If it is selected for use, you will win an awesome prize!

Submit your Trivia to Woodworker's Journal, Dept. Trivia, 4365 Willow Drive, Medina, MN 55340. Or send us an email: *trivia@woodworkersjournal.com*

Your Trivia Test:

Q What woodworking product might you find on your food?

Answer

Shellac isn't just used on wood: the next time you eat jelly beans or take a bite of a bright red apple you bought in a grocery store, you can thank the *Kerria lacca* insect for that lovely shine.

Jerry Midler of Lake Havasu City, Arizona, will receive a SENCO FinishPro 23SXP 23-ga. Headless Pinner, 1 Gallon Finish & Trim Air Compressor (model PC1010N) and pack of 23-ga. Pins (item A101009) for having his contribution selected for the Trivia page.

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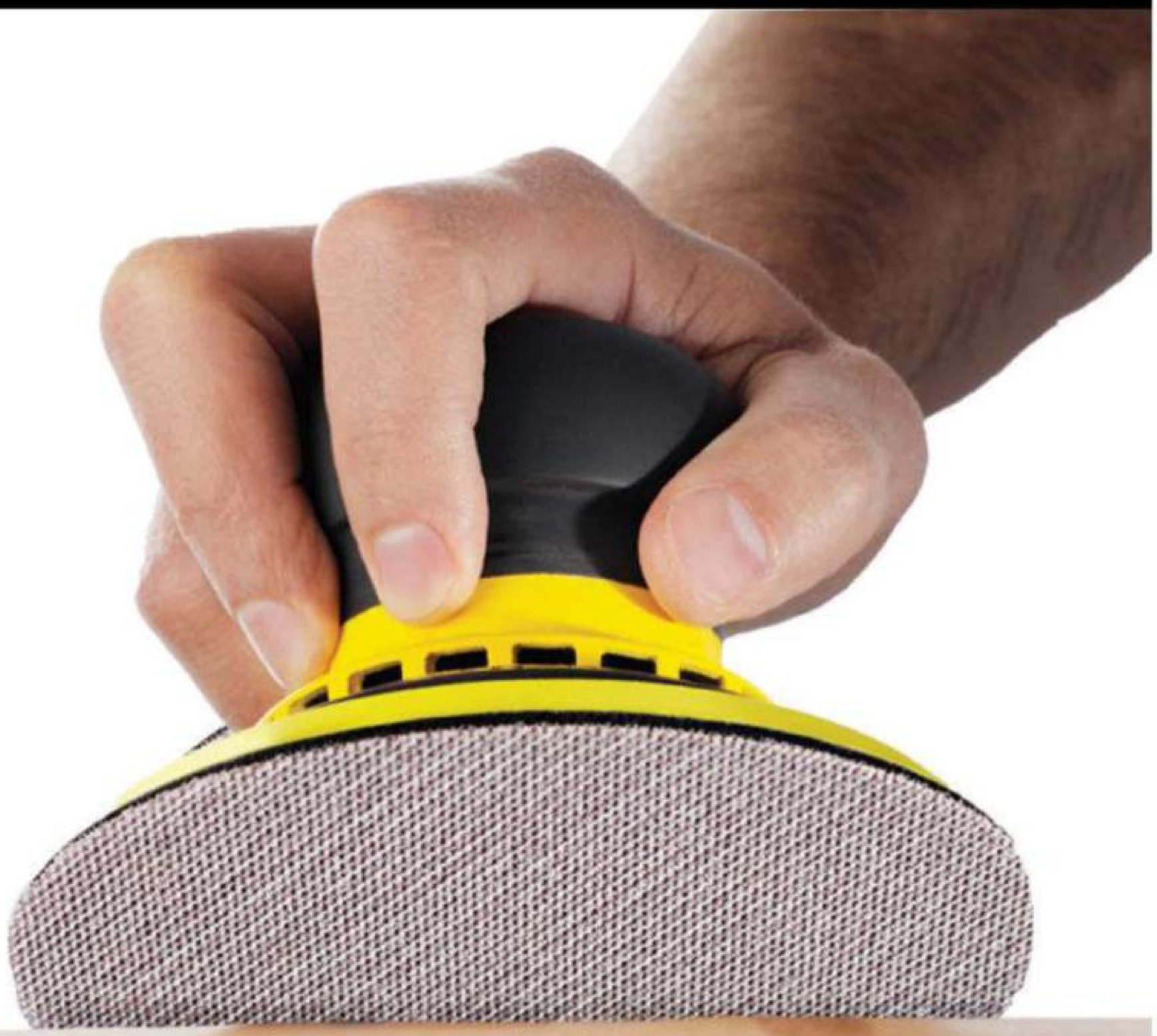

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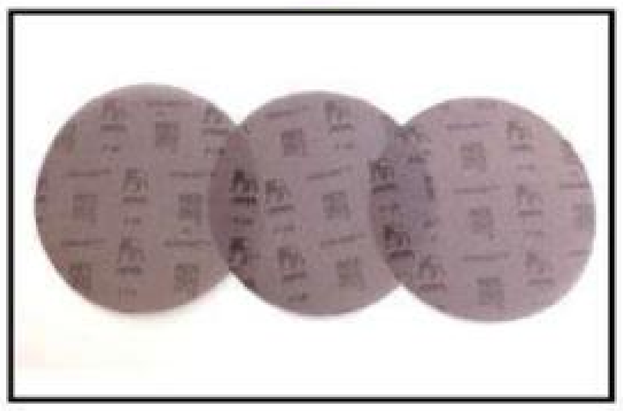

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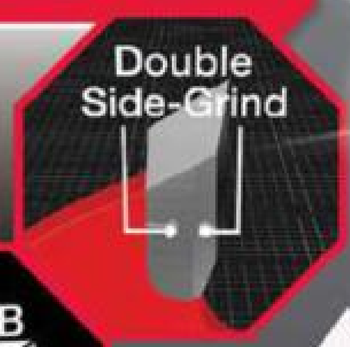

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