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Great Plans

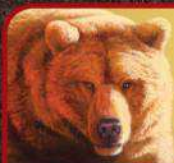
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- Overall height: 64 1/2"
- Approx. shipping weight: 147 lbs.



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G7946 **ONLY \$345⁰⁰** 

15" HEAVY DUTY PLANER

- Motor: 3 HP, 240V, single-phase, 14A
- Max. cutting width: 15", depth: 3/16"
- Max. stock thickness: 6 1/8", min.: 1/4"
- Min. stock length: 6 1/2"
- Feed rate: 16 and 30 FPM
- Cutterhead diameter: 3"
- Number of knives: 3 HSS
- Knife size: 15" x 1" x 1/8"
- Cutterhead speed: 5000 RPM
- Table size: 20 1/8" x 15" x 3 1/2"
- Overall size: 32" W x 28" D x 23 1/2" H
- Approx. shipping weight: 382 lbs.

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- Motor: 2 HP, 240V, single-phase, 9A
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- Max. static pressure: 10"
- Sound rating: 83-85 dB
- 6" inlet has removable "Y" fitting with three 4" inlets
- Canister filter size (dia. x depth): 19 1/2" x 23 1/2"
- Bag capacity: 4.5 cubic feet
- Overall size: 37 3/8" W x 31 1/2" D x 71" H
- Approx. shipping weight: 150 lbs.



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SP US
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G0548ZP **ONLY \$515⁰⁰** 

35TH ANNIVERSARY 14" DELUXE BANDSAW

- Motor: 1 HP, 110V/220V, single-phase
- Amps: 11A at 110V, 5.5A at 220V
- Precision-ground cast-iron table size: 14" x 14"
- Table tilt: 10° left, 45° right
- Floor-to-table height: 43"
- Cutting capacity/throat: 13 1/2"
- Max. cutting height: 6"
- Blade size: 93 1/2" (1/8" to 3/4" wide)
- Blade speeds: 1800 and 3100 FPM
- Overall size: 27" W x 67 1/2" H x 30" D
- Footprint: 23 1/2" L x 16 1/2" W
- Approx. shipping weight: 247 lbs.

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10" HYBRID TABLE SAW WITH RIVING KNIFE

- Motor: 2 HP, 110V/220V (rewired 220V), single-phase
- Amps: 16A at 110V, 8A at 220V
- Precision-ground cast-iron table with wings measures 40" W x 27" D
- Table height: 34"
- Arbor: 5/8" • Arbor speed: 3850 RPM
- Capacity @ 90°: 3 1/8" • Capacity @ 45°: 2 1/8"
- Cutting capacity: 30" right, 12" left
- Overall size: 62" W x 39" D x 48" H
- Footprint: 20 1/2" L x 19 1/2" W
- Approx. shipping weight: 416 lbs.



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*110V operation requires part T23999 circuit breaker and wiring procedures that must be completed by an electrician or other qualified service personnel.

COMBINATION SANDER WITH CABINET STAND

- Motor: 3/4 HP, 110V/220V, prewired for 110V, single-phase, 3450 RPM, 12A/6A
- Sanding belt tilt: 90°
- Platen size: 17" L x 6 1/4" W
- Table size: 12 1/4" L x 6" W
- Table tilt: 45° right
- Table height from floor: 37 1/2"
- Dust ports: 2" for belt, 2 1/2" for disc
- Belt speed: 2300 FPM
- Disc speed: 3450 RPM
- Footprint: 15" L x 16 1/2" W
- Overall size: 30" W x 24" D x 56" H
- Approx. shipping weight: 148 lbs.

EXCLUSIVE
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G1014ZX **ONLY \$535⁰⁰** 

35TH ANNIVERSARY 17" HEAVY-DUTY BANDSAW

- Motor: 2 HP, 110V/220V, prewired 220V, single-phase, TEFC capacitor 110V start induction, 60 Hz, 1725 RPM
- Amps: 20A at 110V, 10A at 220V • Power transfer: belt drive
- Precision-ground cast-iron table size: 17" x 17" x 1 1/2"
- Table tilt: 10° left, 45° right • Floor-to-table height: 37 1/2"
- Cutting capacity/throat: 16 1/4" L of blade
- Max. cutting height: 12 1/8" • Blade size: 131 1/2" long
- Blade sizes available: 1/8"-1" wide
- Blade speeds: 1700 and 3500 FPM
- Fully-balanced cast aluminum wheels
- Overall size: 32" W x 73" H x 32" D
- Footprint: 27" W x 17 1/4" D
- Approx. shipping weight: 342 lbs.

New!

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G0513ANV **ONLY \$995⁰⁰** 

10" CABINET LEFT-TILTING TABLE SAW WITH RAILS & EXTENSION TABLE

- Motor: 3 HP, 240V, single-phase, 3450 RPM, 14A
- Precision-ground cast iron table with extension: 74" W x 27" D
- Cutting capacity: 8" L, 53" R of blade
- Maximum depth of cut @ 90°: 3"
- Maximum depth of cut @ 45°: 2 1/8"
- Footprint: 20 1/2" x 20 1/2"
- Approx. shipping weight: 550 lbs.



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Hood and hammer

Last May, our son Colby did something that no one in my family had ever done: He earned his Master's degree, officially in "postsecondary education: student affairs." Basically it means that, after spending seven years in college, his career will be spent... well... working at a college. Honestly, Annette and I couldn't be more proud.

Before he graduated, Colby gifted me with this hammer, into which he'd woodburned his gratitude. (Annette received a similarly adorned flower pot with his thanks "for helping me grow.") The hammer hangs by my office door as a daily reminder that we always need to build—and grow—our skills, regardless of how much we know, or how much we think we know; and regardless of our age.

The point was hammered home at our annual *Weekend With WOOD™* conference just two weeks after Colby earned his hood. I saw seriously skilled senior woodworkers scribbling notes as they learned a refinement on a finishing method. And I watched just as many doe-eyed "up-and-comers" deeply drinking in everything they could learn about tuning—and safely using—their hand-me-down tools. Several people told me they couldn't wait to rush home and put their learnings into practice.

They didn't have to wait that long, as more than 200 attendees built a truckload of urns for indigent veterans at Omaha (Nebraska) National Cemetery as part of our annual *Weekend With WOOD* Charity Build. The donation of time and talent (and tools and materials, in the case of Ryobi, Ridgid, and Woodworkers Source, who graciously provided all we needed for the build) reinforced what I've always believed: that woodworkers are the most generous and giving folks around.

Speaking of giving, Colby's hammer confirmed that a gift from your hands is a gift from your heart. It doesn't have to be fancy; it doesn't have to be perfect. It just has to be from you. Being on the receiving end was a strong reminder to give even more handmade gifts this year. And Christmas is right around the corner...

See you in the shop.

Dave
Dave Campbell
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Facebook and Twitter: @WOODeditor



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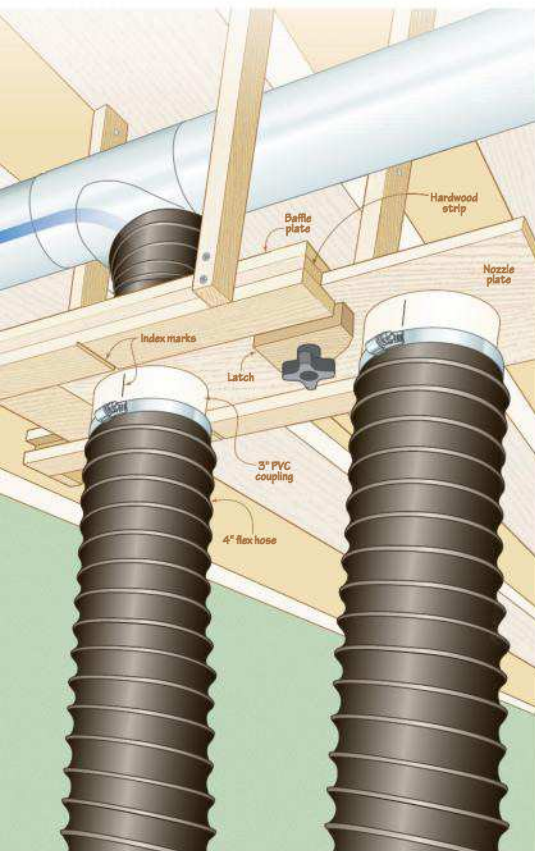
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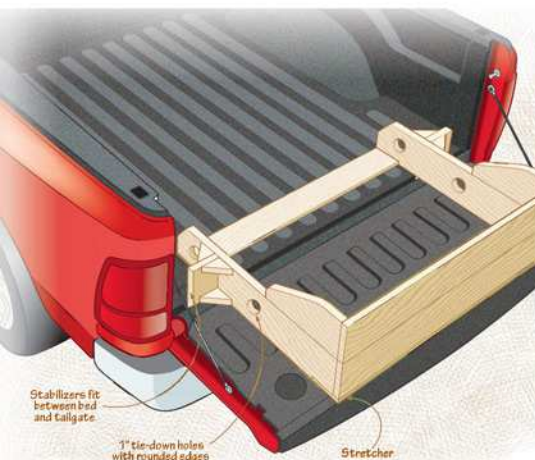


Are this issue's five brand-new Shop Tips (page 16) not quite enough to hold you until next issue?

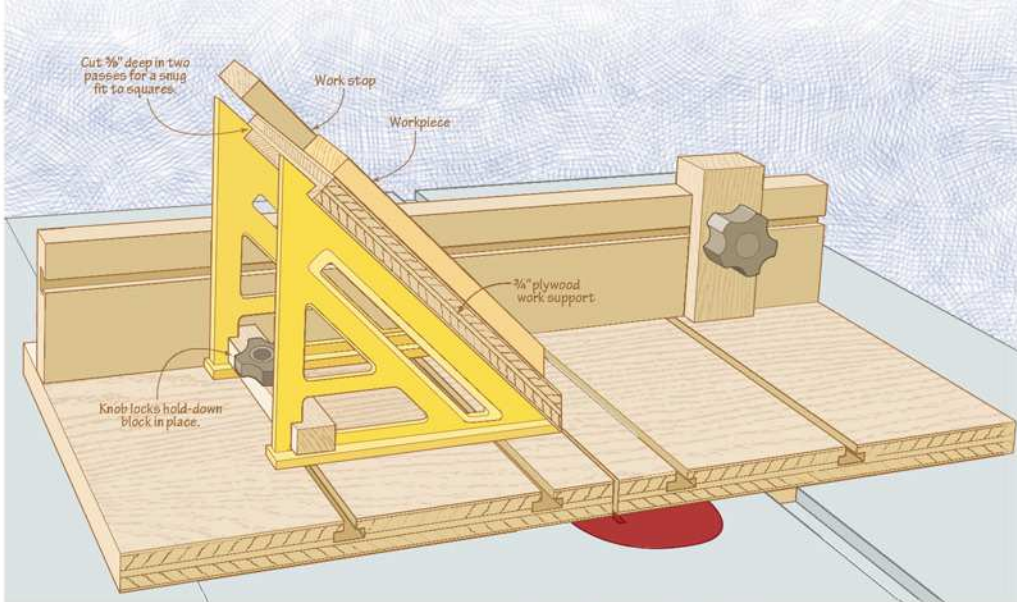
Point your browser to woodmagazine.com/shoptips for 1,500 more. Bring snacks; this will take a while.



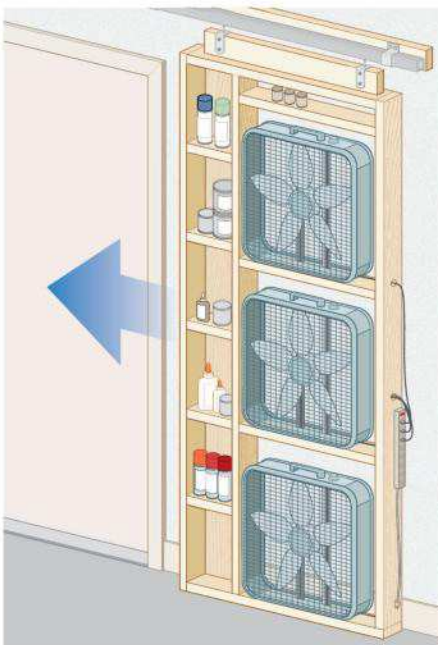
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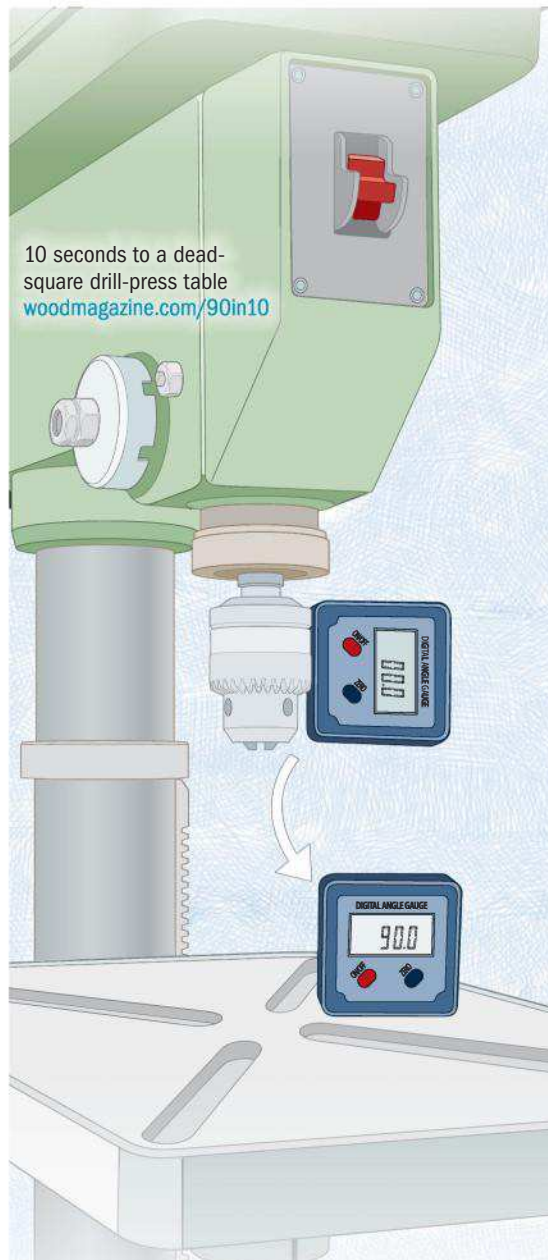
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Triton's T41200BS Belt Sander is host to many significant features, from variable speed control for improved versatility, to belt tracking adjustment for accurate alignment of the sanding belt.



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2.5A RANDOM ORBIT SANDER 5"

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Compact bench a perfect fit

Thanks for the Compact Workbench plans in issue 252 (March 2018). When I received the issue, I owned just a worktable, and I was searching for an affordable vise, as well. The vise and Wonderpup are good buys!

Rather than rip the 2x8 boards down to 5½" wide, I just ripped the rounded edges off, making my bench 6" wider than yours. While it certainly adds some weight, the wider legs also make this bench feel very sturdy.

I wanted my bench to have a rustic or reclaimed look, so I only lightly sanded with some low grit and then stained with Minwax Puritan Pine, which turned out just how I had hoped it would.

Thanks again!

—Tim McFarlin
Greensboro, N.C.



Peter's first airborne

My son, Peter, and I had a blast building together the A-10 Warthog from your plans in issue 252. We made a few modifications (camo paint is more exciting to a 6-year-old than a natural wood look) and he is so proud of his project. Thanks for the inspiration!

—Matt Reeves
Havana, Ill.

Soap makes slab sled slicker

While flattening a slab with your router sled (issue 252), I found myself fatiguing from friction between the carriage and base rails. I rubbed some bar soap on the contact surfaces, and it was like skating on ice after that.

—Scott Gutauckis
Holly Hill, Fla.



A sale by any other name...

I sure enjoyed the story of Dave Campbell's first bandsaw in "Taking Measure" (issue 253, May 2018)! It reminded me of when I had to sell all of my tools before moving a few years ago.

We lived on a busy road, and my wife had held many successful yard sales over the years, so I put out a few benchtop tools, and a couple of routers and drills. All day, no sales. The next day, I added my 6" jointer. Still nothing. Something wasn't right. Then, the light came on inside my head.

The next morning, in addition to three or four tables of tools, I put out a sign that said "TOOL SALE." Before I knew it, my shop was completely empty, and I had heard story after story from woodworkers I'd never met before. We had a GREAT time!

—Harold Bricker
Chambersburg, Pa.

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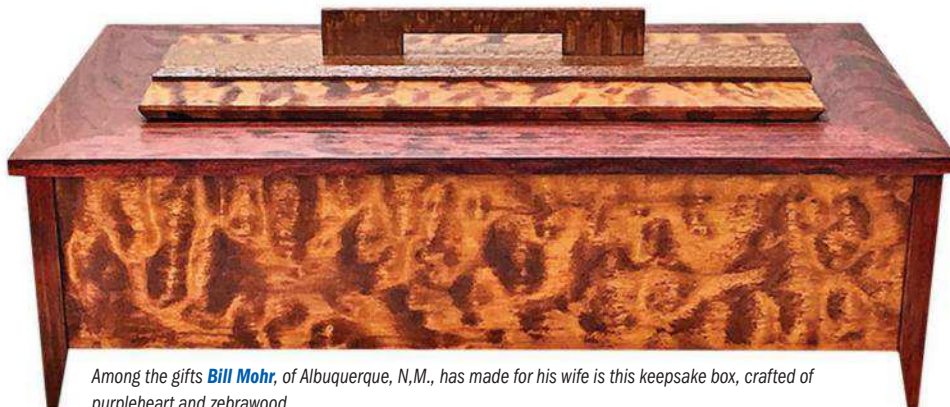
SOUNDING BOARD

YOUR PROJECTS

In this issue, we're featuring projects built by attendees of Weekend With WOOD™ 2018, our annual educational event for woodworkers. The conference, which is held at WOOD® magazine headquarters each May, is open to all skill levels.



Using quartersawn oak—and not a lick of glue—**Clay Bearden**, of Tullahoma, Tenn., built this graceful floating-top table.



Among the gifts **Bill Mohr**, of Albuquerque, N.M., has made for his wife is this keepsake box, crafted of purpleheart and zebrawood.



Mike Driver, of Strongsville, Ohio, designed and built this mobile cabinet to support his mini-lathe and store his woodturning accessories.



Juliana Shei, of Niskayuna, N.Y., built this Shaker-style occasional table from maple and poplar to enhance the airy atmosphere in her home's open entryway.

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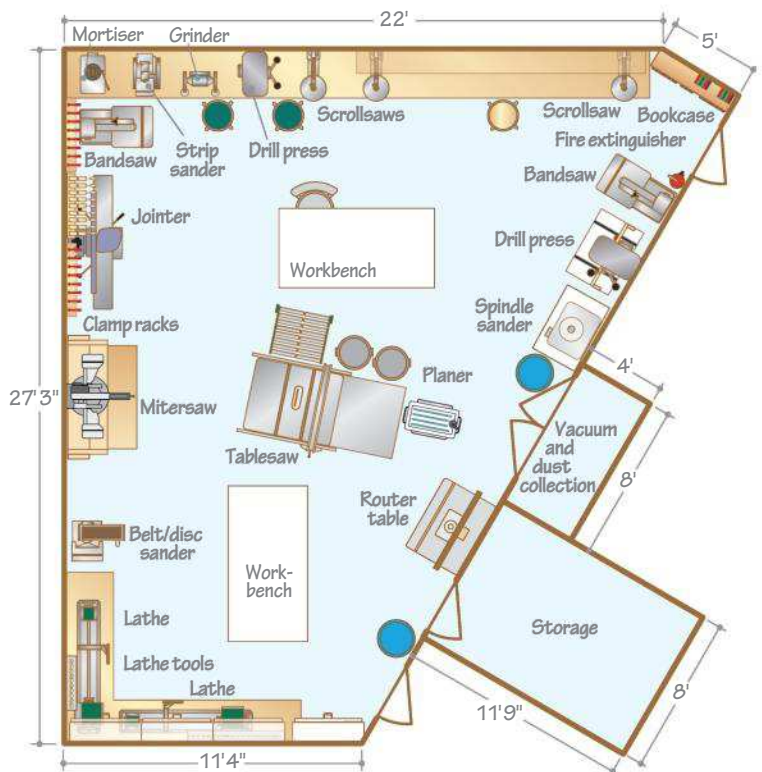
Broomfield, a community of 67,000 near Denver, possesses a unique woodshop. At first glance you might think it could be anyone's garage or basement setup. But this shop occupies a room in the city's Community Center and is open for use by anyone in the city.

The shop began more than 30 years ago with five local woodworkers who donated their time and tools. Any profits they made from the pieces they built were put right back into the shop in the form of tools and supplies.

It wasn't long before the city recognized the benefits of a community shop. Broomfield includes the shop's upkeep in the city budget and in return, woodworkers contribute many projects to the local library, board of elections, veteran's museum, and police headquarters.

Volunteers using the shop commonly repair furniture for local residents. But residents can also work on their own projects. Several supervisors ensure that each person

► Questions about the Broomfield woodshop? Contact Clay Shuck, Director of Recreation Services at the Paul Derda Recreation Center. cshuck@broomfield.org





Users of the shop construct many pieces for the city and county. These cases in police headquarters display historical memorabilia.



Hardware and small tools reside in a side room. Corraling small items here controls clutter in the shop.

receives thorough training on the safe use of the equipment, and everyone who uses the shop signs a liability waiver. Supervisors are always available to assist when needed. Users thoroughly clean the shop every day.

Local companies often donate supplies for the shop. Hardwood vendors provide off-cuts and seconds at no charge, which the shop stores in outbuildings.

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Efficient layout provides room to work. With two lathes, two drill presses, three scrollsaws, and two bandsaws, several people can work at the same time.



The shop offers civic benefits. Residents can use the shop to work on their own projects.

The shop's small space requires efficient layout and storage for tools and supplies. It can accommodate 4×8' sheet goods, and there's ample room to maneuver around equipment. Many supplies and smaller tools are stored in adjacent rooms.

Dr. Joseph Marr, one of the shop's long-time supervisors says, "The projects and personal interactions have made the woodshop an integral part of this community."

Show us your shop

Send high-resolution digital photos of your shop to woodmail@woodmagazine.com and we may showcase it in the magazine.

Ask Wood

YOUR QUESTIONS

Fog-killing wipes really work. The left side of these goggles was wiped with an anti-fog treatment. The right side received no treatment. Then, both sides were subjected to warm water vapor. Wiped-on products do need to be renewed from time to time.

Q Clearing the air on foggy eye-safety wear

I value my eyesight too much to not wear safety glasses, goggles, or a face shield in the shop. But fogging on the lenses drives me to distraction, especially when wearing a dust mask. Do you have any recommendations for keeping the fog at bay?

—Mark Finnegan, Park City, Kan.

A Depending on the severity of the fogging, Mark, your solution may be as simple as buying eyewear with an anti-fog lens coating. Or switching to eyewear that has greater venting, or goggles that move the lenses farther from your face, allowing for better air circulation. Using a fan to keep the air moving around you can also help.

Have a question?
Drop us an e-mail.
askwood@woodmagazine.com

If those practices don't provide relief, try applying an anti-fog treatment, like those *below left*. In our tests, they prevented fogging entirely. A number of home remedies also

work, including applying soap or shaving cream, and then buffing the lenses clear with a soft cloth. (Never use an abrasive product such as a paper towel.) Windshield rain repellents work similarly. The old trick of rubbing a bit of saliva on the lenses can work in a pinch, though the effect can be fleeting.

It also helps to use a dust mask with an exhalation valve that channels breath straight outward, away from your face. If you still experience fogging, try the trick shown *below*.

Respirators with silicone face seals completely block exhaled breath from reaching your eyes, but they can prove uncomfortable to wear in combination with eyewear.

Fortunately, these solutions come with small price tags. But if you find these don't work for you, the ultimate solution costs a few hundred bucks. A power air shield incorporates a rechargeable-battery-powered fan that sends a continuous stream of filtered, fog-eliminating air across your face. 🌿

► Find the products shown in this article at woodmagazine.com/fogbusters



Anti-fog products come in several economical forms. You can buy 1 oz. of spray or 100 wipes for about \$10. We find the wipes most convenient for small surfaces such as goggle lenses.



Medical tape won't win you any fashion contests, but it does effectively block leakage of warm, moisture-laden breath from the top edge of a paper dust mask.



The ultimate in fog-busting eye protection, a powered face mask, such as this Trend Airshield, keeps the view clear and your face cool.

Penn State Industries

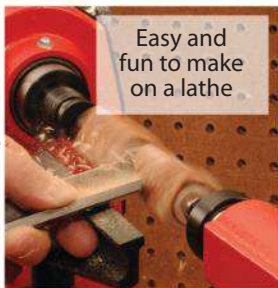
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The pen tip features a fierce, intricately cast eagle head with the engraved words, "Ride Hard. Live Free" as a band above the eagle head. A true to life old school single cylinder engine adorns the pen end. A machined shock absorber sits beneath the engine while the engine's straight exhaust pipes act as the pen clip. On shock absorber you'll find a super cool "kickstart" mechanism that replicates the kickstarter on the motorcycle. This mechanism functions the same way as our Bolt Action pen kits to smoothly advance and retract the refill. Requires a pen making mandrel, bushings (Item #PKPT100BU \$5.95) and 10mm drill bit (Item #PK10-10 \$7.95).

Football Pen Kits **NEW!**

Create this pen for the ultimate game day gift. The top of the pen is sculpted to honor the grand architecture of a professional football stadium. The interior of the stadium captures essential stadium components in wonderfully fine detail; from a scoreboard with lights, fan seating and hallways, player entrances and of course, the field. The pen clip features a graceful player in motion, cradling the ball with one arm and stiff arming with the other. The player runs on top of a yard marker that marks the football field center band; When you twist the pen to extend the refill, the marker will mark different points of the field center band to mimic a scoring drive.

The pen tip replicates a football with pigskin texture and contoured for a comfortable writing experience. Requires a pen making mandrel, bushings (Item #PKFBALLBU \$5.95) and 10mm drill bit (Item #PK10-10 \$7.95).

Bolt Action Pen Kits

Our best-selling pen kits enjoys a huge following in the pen making community. It's beloved for its realistic bolt-action handle that smoothly advances and retracts to securely lock the refill in place. Includes a bolt-action rifle clip and replica 30 caliber cartridge and rose gold tip for added authenticity. Requires a pen making mandrel, bushings (Item # PKCP3000BU \$5.95) and 3/8" drill bit (Item #PKEXEC-3/8 \$3.95). Patent No.: US D682,352 S

Motorcycle Pen Kits **NEW!**

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Gun Metal	#PKCP8020	\$12.95	\$12.05	\$11.15	\$10.25
24kt Gold	#PKCP8000	\$14.95	\$13.95	\$12.95	\$11.95

3 Bolt Action Pen Kit Starter Set

You get one of each pen in Chrome, Gun Metal and 24kt Gold plus the 3/8" drill bit and 2pc Bushing Set

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Bolt Action Pen Kit in Gun Metal



Bolt Action Pen Kit in 24kt Gold

Motorcycle Pen Kits **NEW!**

	Item #	1-4	5-9	10-24	25+
Antique Pewter	#PKMOTAP	\$24.95	\$23.95	\$22.95	\$21.95
Matte Black	#PKMOTMB	\$23.95	\$22.95	\$21.95	\$20.95
Matte Black & Chrome	#PKMOTMBCH	\$22.95	\$21.95	\$20.95	\$19.95
Chrome (shown above)	#PKMOTCH	\$21.95	\$20.95	\$19.95	\$18.95

4 Motorcycle Pen Kit Starter Set

You get one of each pen in Antique Pewter, Matte Black, Matte Black & Chrome and Chrome. Plus, you get the bushings and drill bit.

#PKMOTSS **SAVE \$20 Only \$87.70**

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Motorcycle Pen Kit in Antique Pewter



Motorcycle Pen Kit in Matte Black



Motorcycle Pen Kit in Matte Black & Chrome

Football Pen Kits **NEW!**

	Item #	1-4	5-9	10-24	25+
Chrome	#PKFBALLCH	\$18.95	\$17.95	\$16.95	\$15.95
24kt Gold	#PKFBALL24	\$19.95	\$18.95	\$17.95	\$16.95
Antique Brass	#PKFBALLAB	\$19.95	\$18.95	\$17.95	\$16.95
Antique Pewter (shown above)	#PKFBALLAP	\$19.95	\$18.95	\$17.95	\$16.95

4 Football Pen Kit Starter Set

You get one of each pen kit in Chrome, 24kt Gold, Antique Brass and Antique Pewter. Plus, you get the bushings and drill bit.

#PKFBALLSS **SAVE \$18 Only \$73.60**

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Football Pen Kit in Chrome



Football Pen Kit in 24kt Gold



Football Pen Kit in Antique Brass

SHOP TIPS

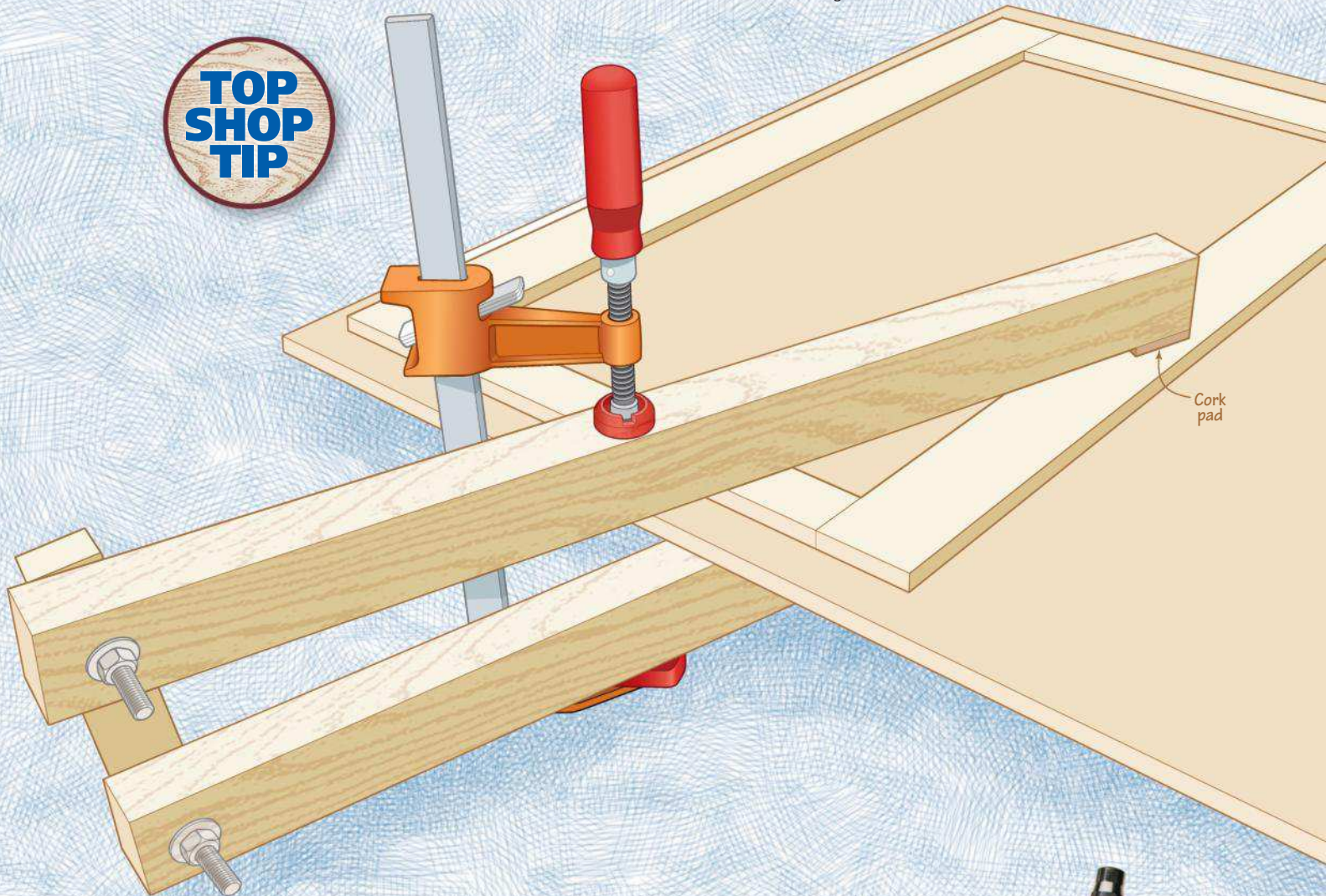
WORK FASTER, SMARTER, SAFER

Low-dough, long-arm clamp

Deep-throated clamps come in handy when you need them but represent a healthy investment. And even the deepest of them sometimes don't reach far enough.

Here's a far-reaching clamp you can make to any length, using scrapwood, common hardware, and a typical F-style clamp. Add cork to the tips of the wood arms to provide cushion. Once you have the long jaws positioned and before you fully tighten the F-style clamp, tighten the bolts to keep the long jaws from shifting.

—Dale Ferguson, Polson, Mont.



Tips earn up to \$150.

If your tip is the best of the issue, it wins **Top Shop Tip** honors, and you receive a **tool prize** worth at least **\$300**.

Send your tip, photos or drawings, and contact info to shoptips@woodmagazine.com

Because we try to publish original tips, please send yours only to **WOOD** magazine.



For sending this issue's **Top Shop Tip**, Dale receives a Grizzly G0459 12" Baby Drum Sander worth \$650.





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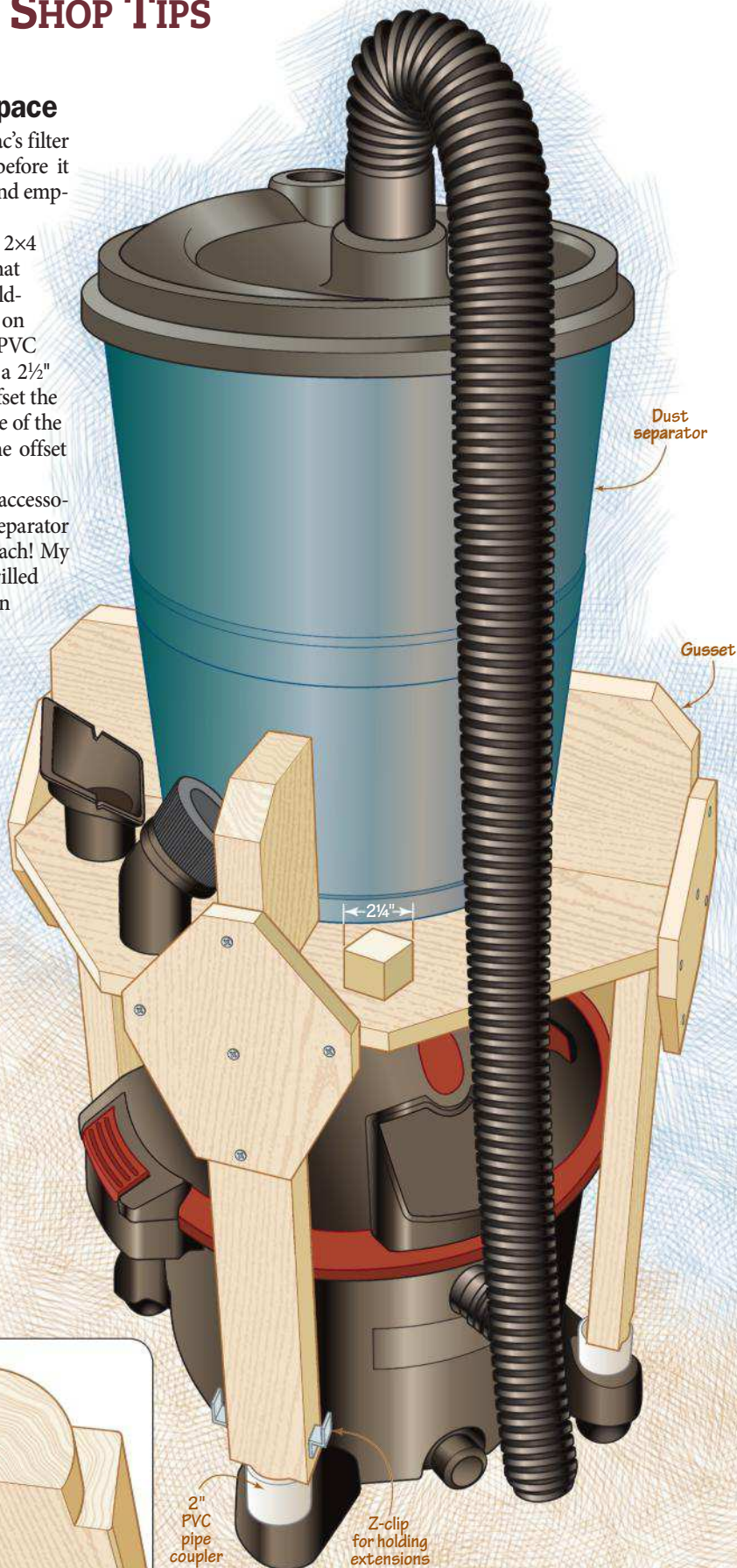
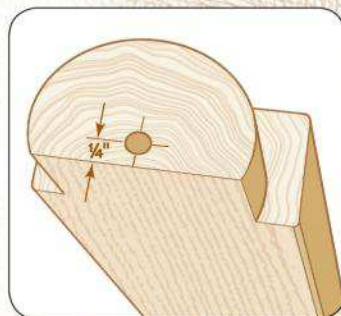
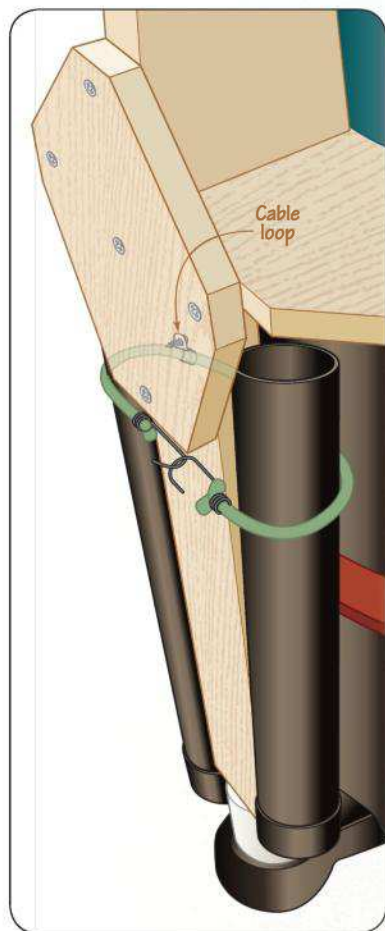
Stackable dust separator saves floor space

By connecting a dust separator to my shop vacuum, the vac's filter stays cleaner because dust settles out in the separator before it reaches the vacuum. Also, the separator holds more dust and empties easier.

The setup shown here—made from $\frac{3}{4}$ " plywood and 2×4 scraps—works with many Craftsman and Ridgid vacs that have outboard caster housings with circular grooves for holding $\frac{1}{4}$ " nozzles and wands. The separator platform rests on legs secured in the caster housings with short pieces of 2" PVC pipe couplers. Tenons cut on the ends of the 2×4s, using a $\frac{1}{2}$ " holesaw, fit into the couplers—after a bit of rasp work. I offset the tenons by placing the holesaw's pilot bit just inside the edge of the 2×4 and used a handsaw to cut the tenon shoulders. The offset tenons move the legs away from the vacuum tank.

The caster housings previously provided storage for vac accessories, so I glued blocks measuring $\frac{1}{4}$ " diagonally to the separator platform for the vac accessories—now they're easier to reach! My Dust Right separator (rockler.com) has five casters, so I drilled five holes in the platform to accept them. Gussets cut at an angle hold the tapered separator tank in place. The wands rest on Z-clips screwed to one leg, and are secured by a bungee cord held in place with a cable loop screwed to the back of the leg.

—Ed Piché, Troy, Mich.

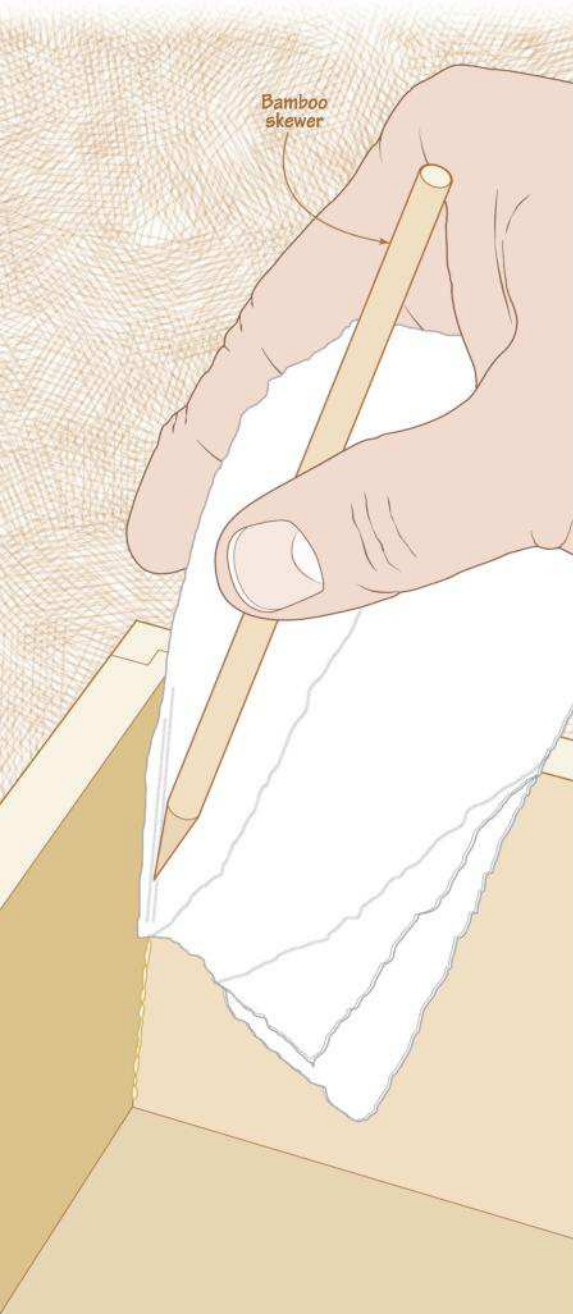


SHOP TIPS

Put the skewer to glue squeeze-out

Removing excess glue from inside corners can be a challenge. I used to do the job with a putty knife, but that sometimes led to smearing the glue or scratching the wood. Then I hit upon the idea of using bamboo skewers, available at grocery stores. Simply use the skewer in conjunction with a paper towel to get into the corner without doing any damage. To prevent smearing, frequently rewrap the towel around the skewer to a clean section of towel.

—Dan Martin, Galena, Ohio



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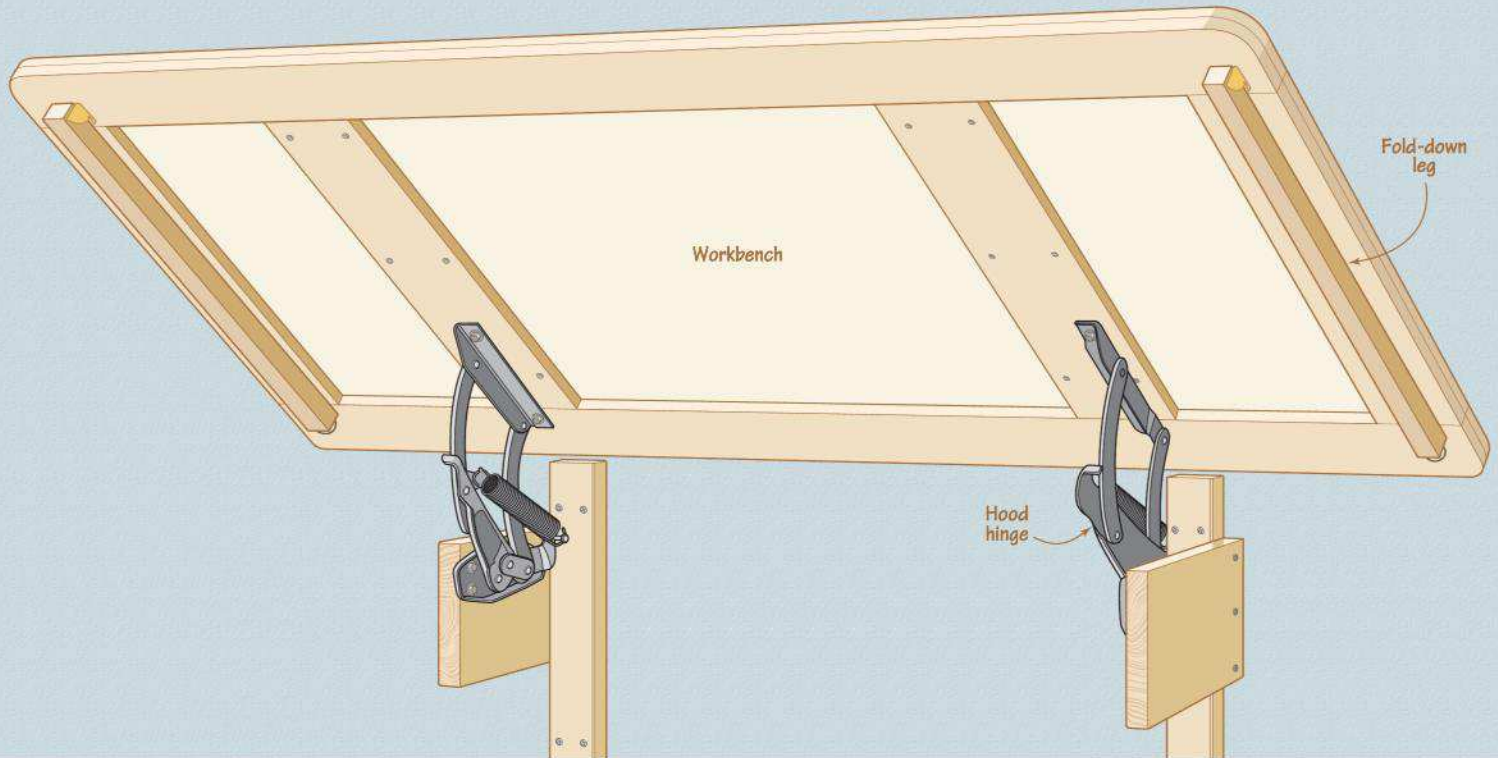
SHOP TIPS

Take a look under the hood of this fold-up bench

With shop space at a premium, I built a wall-mounted workbench that folds out of the way. In this case, *up* and away, utilizing a pair of hood hinges from a junked vehicle. These hinges were used on many 1960s and 70s General Motors vehicles, as well as Ford

F-series trucks. The springs make it easy to pivot the bench up and down. Wall-mounted wood extensions and two fold-down legs make the top rock-solid in the down working position.

—Ranald Millar, Black Mountain, Qld., Australia



Quick-cutting sandpaper template

Here's a super-simple way of cutting sandpaper to exact size for sanding blocks and finishing sanders. From $\frac{1}{2}$ " or $\frac{3}{4}$ " plywood, cut a template that matches the dimensions of the sandpaper sheet for each tool. Bevel-cut two adjoining edges at 45°. Those "sharpened" edges allow you to crisply cut the sandpaper by pulling up on it. Label the template with its paired tool and drill a hanging hole.

—Chris Degatano, Franklin, Tenn.



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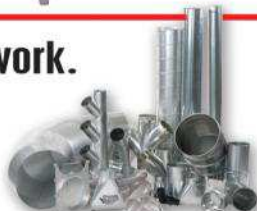


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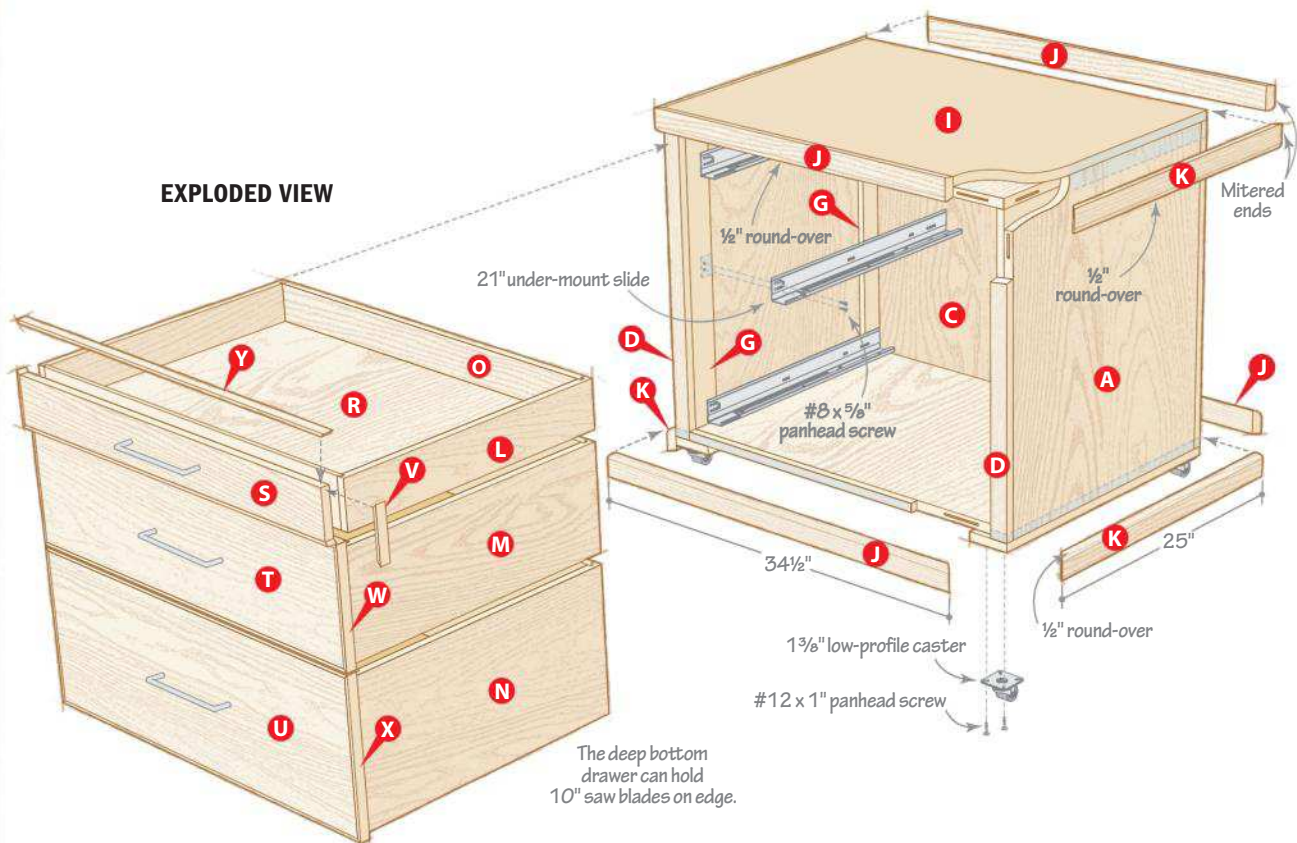
DIMENSIONS:
34½" W x 25" D x 30" H

Approximate
materials cost:

\$350

with three
pairs of
soft-close
drawer slides



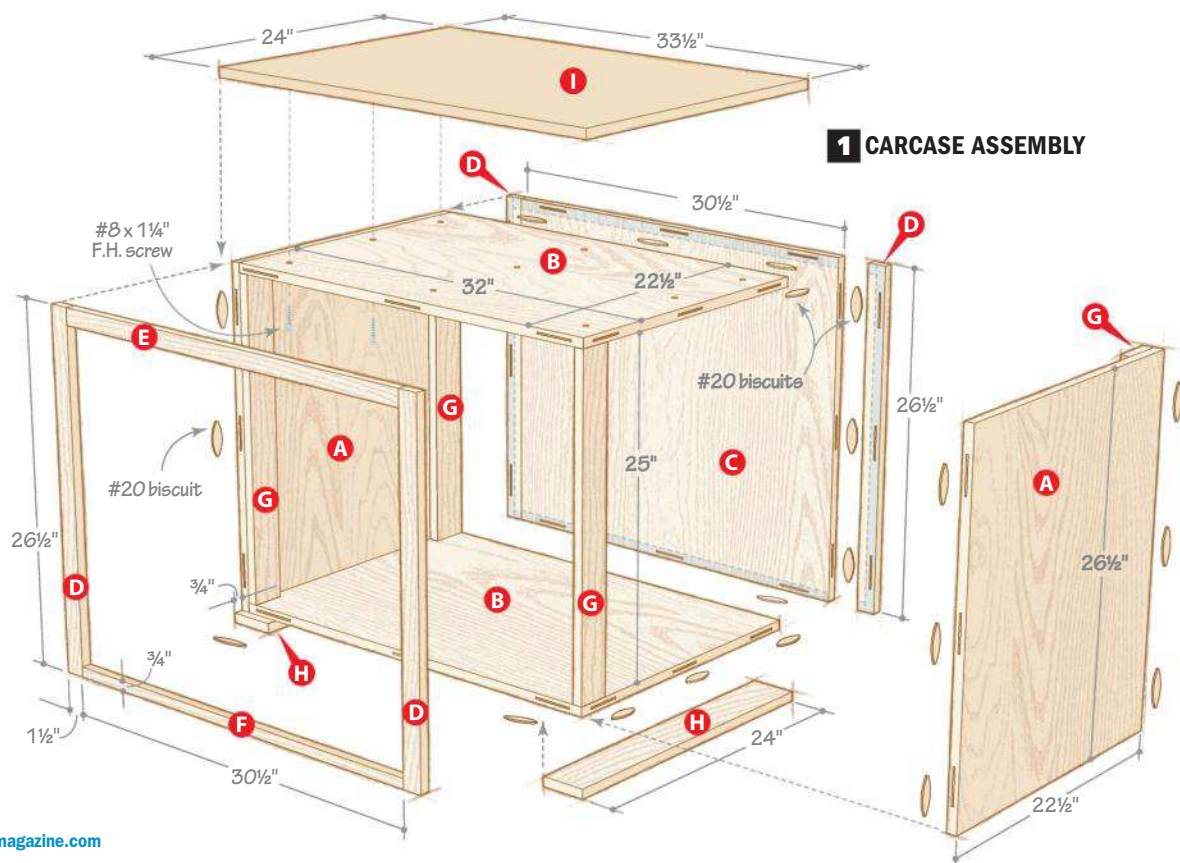


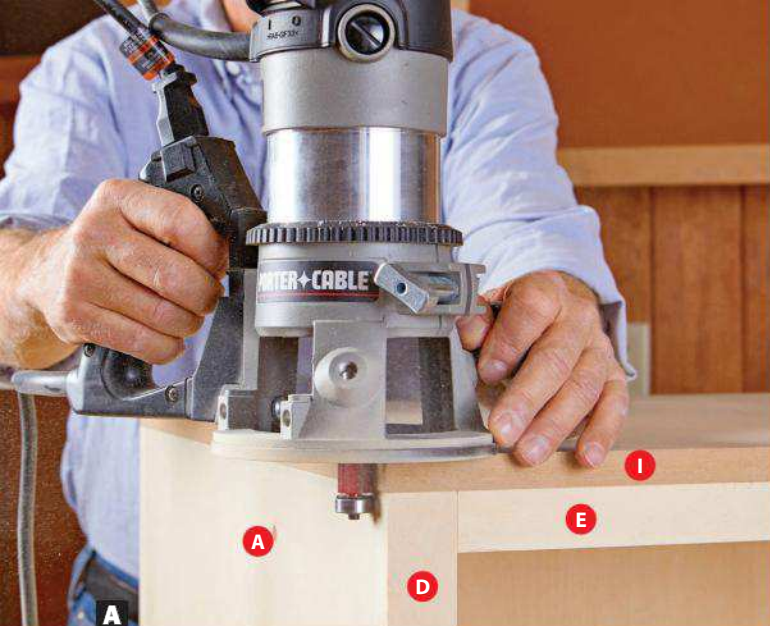
Make a case for storage

Refer to the finished dimensions on the *previous page* and confirm that the cabinet will fit beneath your saw's extension wing. If not, adjust part sizes as needed.

1 Cut parts A–H [Materials List, Drawing 1]. Cut biscuit slots in the sides (A) and top/bottom (B). Glue the sides to the top and bottom and check for square. Then glue the drawer spacers (G) to the assembly.

Tip! Biscuits accelerate your glue-up by quickly aligning parts.





A Remove the overhang on the outer top using a flush-trim bit.



B Miter one end of each molding (J, K) and clamp it in position while you mark where to miter-cut the opposite end.



C A scrapwood spacer supports each drawer slide parallel with the cabinet bottom while you screw it in place.



D Attach an auxiliary face to your rip fence with the outside just touching the dado set to rabbet the drawer fronts and backs (O–Q).

2 Biscuit-join the back (C) to two vertical trim pieces (D) [Drawing 1]. Glue the back assembly to the case (A/B/G).

3 Biscuit-join the front trim (D–F) to the case and glue the caster cleats (H) to the case bottom (B).

4 Cut the outer top (I) $\frac{1}{4}$ " oversize in both dimensions. Glue and screw it centered on the case top (B), then trim it [Photo A].

5 Cut each molding (J, K) 2" overlength and round over one edge [Exploded View]. Miter-cut and glue them to the case [Photo B].

Add three heavy-duty drawers

1 From scrap, cut two spacers 20 $\frac{1}{2}$ " and 11 $\frac{13}{16}$ " tall. To install a top drawer slide [Sources], hold the tall spacer against a side

(A), rest the slide atop the spacer set back $\frac{3}{4}$ " from the front edge, and screw the slide to the cabinet. Repeat for the other side and for the middle slides using the short spacer [Photo C]. Rest the bottom slides on the case bottom (B) [Exploded View] and screw them in place.

2 Cut parts L–Q [Drawing 2]. Dado the drawer sides (L–N) [Skill Builder]. Then rabbet the drawer fronts and backs (O–Q) [Photo D].

3 Cut the drawer-bottom grooves [Drawing 2a, Photo E]. Cut the drawer bottoms (R) and assemble the drawers.

4 Notch the drawer backs (O–Q) [Drawing 2a, Photo F]. Then drill the stopped holes in the drawer backs to accept the slides.

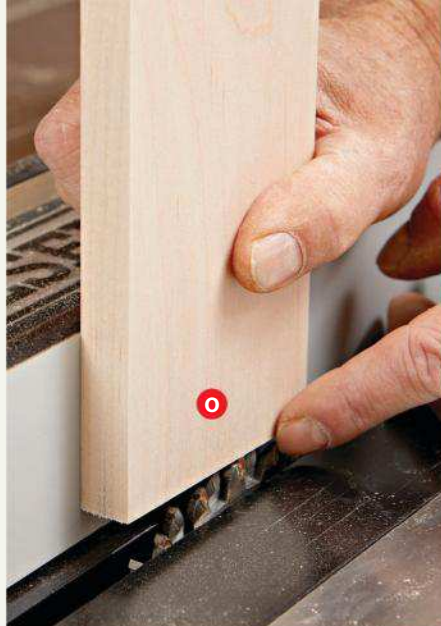
► See how under-mount slides compare with the alternatives. woodmagazine.com/slides

Tip! Tape the drill bit $\frac{1}{2}$ " from the tip to avoid accidentally drilling through the drawer backs.

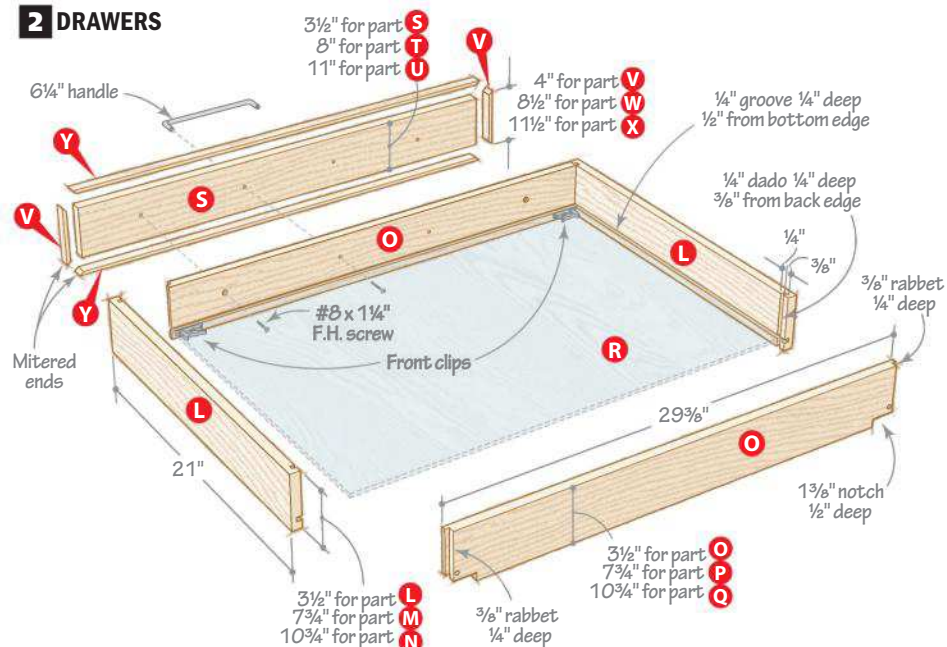
SKILL BUILDER

Measure less, cut once

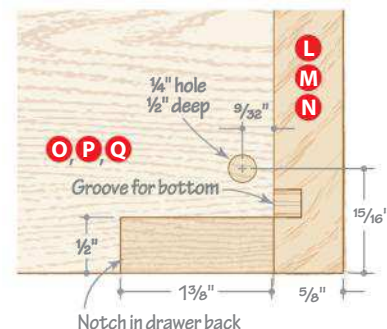
Give your ruler a rest when setting a tablesaw fence to cut drawer dados. Instead, use the thickness of the actual parts to guarantee the outside face of the drawer fronts and backs will be flush with the sides. Holding a drawer front (O) against the fence and above the dado blade, slide the fence until the outside face of the board aligns with the outside edge of the blade teeth *left*. Then cut the dado backing up the cut with a miter-gauge extension to reduce tear-out *right*.



2 DRAWERS



2a DRAWER REAR CORNER



E Under-mount drawer slides require drawer-bottom grooves cut $\frac{1}{2}$ " above the bottom edges of the drawer sides, fronts, and backs.

F Notch the drawer backs (O–Q) in two passes with a dado set to accommodate the under-mount drawer slides.

5 Screw the front clips to the drawer fronts (O–Q) [Photo H]. Rest the drawers on the slides and seat the slides in the clips.

6 Cut the drawer false fronts (S–U). Cut the false front trim (V–Y) 2" longer than listed. Miter the ends to fit the false fronts and glue on the trim.

7 With the drawers installed in the cabinet, use double-faced tape to fasten the false fronts to the drawer fronts with an even reveal. Remove the drawers and screw the false fronts to the drawers [Drawing 2]. Drill holes to accept the drawer handles [Sources] and screw the handles to the drawers.

Ready to stock and roll

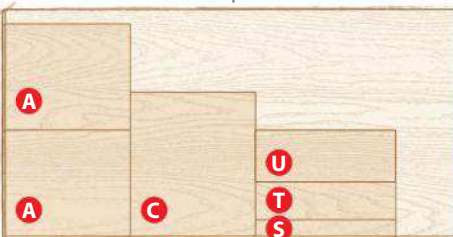
1 Remove the drawers and hardware from the cabinet. Sand to 180 grit and apply a clear finish of your choice.

2 Install the casters [Sources, Exploded View], and reinstall the hardware and drawers. Then gather those blades, jigs, and saw accessories scattered around your shop and store them where you'll use them. 🌲

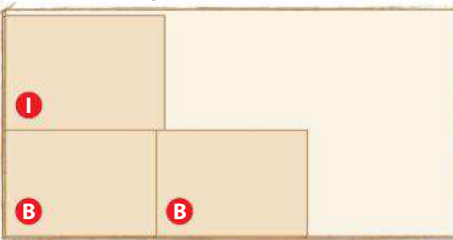
Tip! Add two extra coats to the top (I) if you plan to use the cabinet as an assembly table.

Cutting Diagram

This project requires 13 board feet of 4/4 pine and 20 board feet of 4/4 maple.



$\frac{3}{4}$ x 48 x 96" Plywood



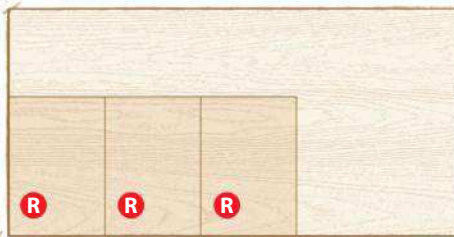
$\frac{3}{4}$ x 48 x 96" Medium-density fiberboard



$\frac{3}{4}$ x $3\frac{1}{2}$ x 96" Pine



$\frac{3}{4}$ x $3\frac{1}{2}$ x 96" Pine (2 needed)



$\frac{1}{4}$ x 48 x 96" Plywood



$\frac{3}{4}$ x $5\frac{1}{2}$ x 96" Pine (2 needed)



$\frac{3}{4}$ x $3\frac{1}{2}$ x 96" Pine



$\frac{3}{4}$ x $11\frac{1}{4}$ x 96" Maple



$\frac{3}{4}$ x $11\frac{1}{4}$ x 72" Maple



$\frac{3}{4}$ x $11\frac{1}{4}$ x 72" Maple

*Plane or resaw to the thicknesses in the Materials List.



H Position the under-mount drawer-slide clips snug against the drawer sides (L–N) and drill pilot holes.

Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
Case					
A sides	¾"	22½"	26½"	Ply	2
B top/bottom	¾"	22½"	32"	MDF	2
C back	¾"	30½"	26½"	Ply	1
D vertical trim	¾"	1½"	26½"	P	4
E top horizontal trim	¾"	1¼"	30½"	P	1
F lower horizontal trim	¾"	¾"	30½"	P	1
G drawer spacers	¾"	2½"	25"	P	4
H caster cleats	¾"	3½"	24"	P	2
I* outer top	¾"	24"	33½"	MDF	1
J* front/back molding	½"	2"	34½"	P	4
K* side molding	½"	2"	25"	P	4
Drawers					
L small sides	⅝"	3½"	21"	P	2
M medium sides	⅝"	7¾"	21"	M	2
N large sides	⅝"	10¾"	21"	M	2
O small front/back	⅝"	3½"	29⅝"	M	2
P medium front/back	⅝"	7¾"	29⅝"	M	2
Q large front/back	⅝"	10¾"	29⅝"	M	2
R bottoms	¼"	29⅝"	20¼"	Ply	3
S small false front	¾"	3½"	29¾"	Ply	1
T medium false front	¾"	8"	29¾"	Ply	1
U large false front	¾"	11"	29¾"	Ply	1
V* small vertical trim	¼"	¾"	4"	P	2
W* medium vertical trim	¼"	¾"	8½"	P	2
X* large vertical trim	¼"	¾"	11½"	P	2
Y* horizontal trim	¼"	¾"	30¼"	P	6

*Parts initially cut oversize. See the instructions.

Materials key: Ply-plywood, MDF-medium-density fiberboard, P-pine, M-maple.

Supplies: #20 biscuits (48), #12x1" panhead screws (16), #8x¾" panhead screws (18), #8x1¼" flathead screws (15).

Blade and bits: Dado blade set, flush-trim and ½" round-over router bits.

Sources: 1½" low-profile polyurethane casters (4), no. 00K22.30, \$13.50; 6¼" brushed-nickel plate reversible handles (3), no. 01W37.10, \$6, Lee Valley Tools, Inc., 800-871-8158, leevalley.com. Hettich 21" Quadro soft-closing under-mount drawer slides (3 pairs), no. 9 048 776, from \$17.40 plus shipping; Hettich Quadro front clips (3 pairs), no. 9 026 839, from \$1.76 plus shipping, amazon.com.

K Body REVO

REVOLUTION

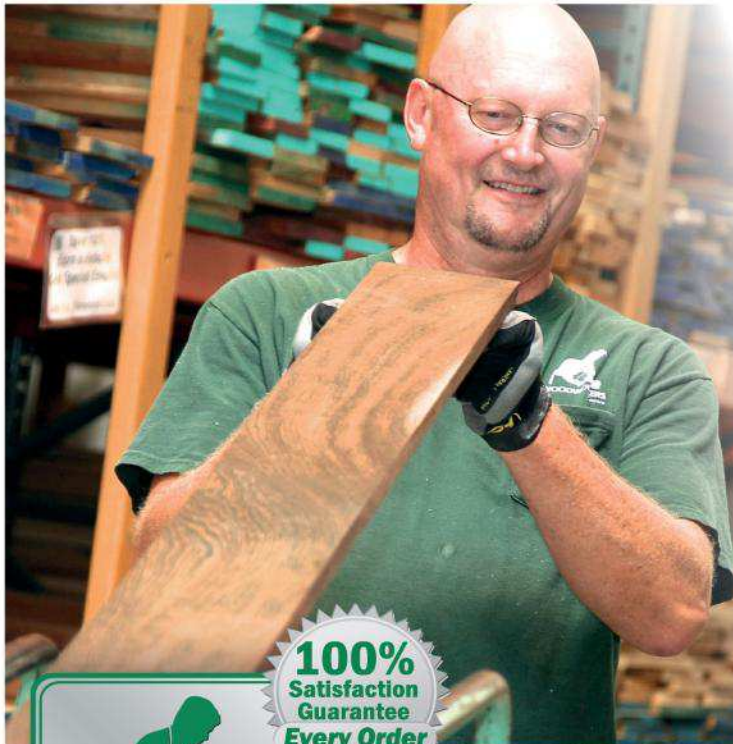
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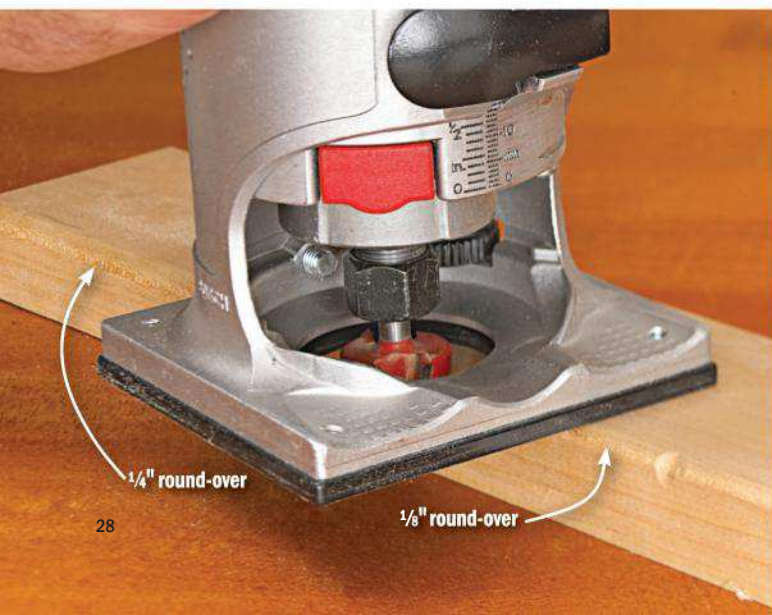


PayPal

Fast Fixes for Dinged Edges

It's happened to all of us: dinging a drawer edge or crushing a cabinet corner. Colorful language is one reaction, but after that it's time to salvage the situation. These techniques will repair even big goofs, saving you time, energy, and money.

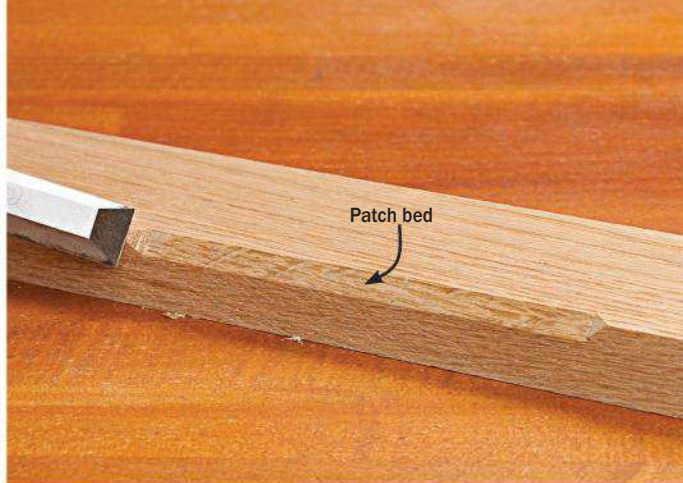
Align the plug's grain with the workpiece when you glue it; then trim with a flexible flush-cut saw.



1 Machine away the problem

Unless the dimensions of your workpiece are absolutely critical, you can often make a problem area completely disappear with a machining step or two. Let's say you've banged up the edge of a tabletop that will overhang the aprons. Simply recut the top slightly smaller to remove the damage and then rout a fresh profile along that edge. No one will ever know that the tabletop is $\frac{1}{8}$ " smaller than planned.

Another quick fix: Slightly alter and recut the edge profile. For example, switching from a $\frac{1}{8}$ " to a $\frac{1}{4}$ " round-over, as shown at left, makes the problem vanish with only a subtle change to your project.



Deep damage may require an inlay patch. After routing away the damage, taper both ends of the routed patch bed with a sharp chisel (left) to help the patch blend in. Glue the patch in place (right), and then clamp it with painter's tape. Let the repair dry overnight, permitting any temporary swelling of the wood at the glue line to subside.

2 Raise the surface

Wood swells when it gets wet. Normally, that's a problem, but you can use this characteristic to your advantage. Dampening wood fibers that were accidentally compressed helps the fibers "remember" their pre-damage position. It's most useful on impressions as deep as $\frac{1}{16}$ ".

You can try water alone, but heat accelerates the process. First, apply a drop or two of water to the damaged area, and give it a minute to soak into the wood. Next, lay a barely damp cloth over the wood to protect it from scorching, and apply heat by touching the tip or edge of a clothes iron to the cloth. Try to confine the heating to the immediate area of the damage, and change the position of the cloth often as the heat dries it.

Be patient, because it takes awhile for the wood fibers to respond. In fact, you'll probably need to repeat the soaking and ironing sequence several times. Make sure that the wood dries thoroughly before sanding and applying a finish.

3 Patch with a plug

When dimensions are critical, such as an inset door where the reveal must match that of an adjacent door, or where repairs will be visible from two sides, patch the damage with a cylindrical (nontapered) solid-wood plug. To drill the hole into the edge of the workpiece, tilt your drill-press table to 45°, clamp the wood securely, and use a Forstner bit. (It's guided by its rim, so it won't wander.)

Chuck the plug cutter into your drill press, and cut edge-grain plugs, as shown in the photo on the *previous page*, from project scrap. For accurate alignment, mark the grain direction on the plugs before removing them from the blank. Cutting a number of plugs will help ensure a good match of grain and color. After final sanding, the plug virtually disappears.

Plug cutters: Set of $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ " (no. 146723), \$33.99. Woodcraft, 800-225-1153, or woodcraft.com

4 Inlay a repair patch

For a repair too large for a plug, you'll need to cut away stock along the edge to insert a patch. Again, careful stock selection will produce a patch that nearly disappears. Rout away the damage using a 45° chamfering bit, and complete the patch as shown in the photos *above*. Finally, plane or sand the patch flush with the surrounding wood, and finish-sand.

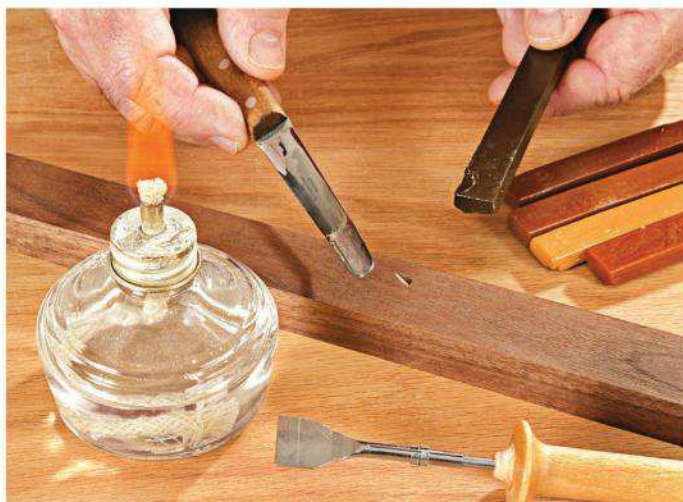
5 Repair sticks rescue finished projects

If you ding an edge after applying the finish, consider using a melt-in lacquer stick. Heat the special flexible repair knife over an alcohol burner to liquefy the color-matched repair stick. Apply the melted fix to the wood surface (*below*). You can even blend two or more sticks for a custom tint.

Finish the repair with 400-grit sandpaper and a touch of polishing compound, or an abrasive pad to even out the sheen. If you don't like the results, you can remove material by again heating the knife. 🌲

Lacquer sticks: Set of 12 assorted colors (80K70.20), \$60.00; individual colors, \$5.80 per stick; burn-in knife (80K02.02) \$9.40. Lee Valley Tools, 800-871-8158, or leevalley.com

Produced by Bob Settich with Dave Campbell



Bring the heat. Gently warm the repair knife because overheating a lacquer stick can scorch and alter the color.



DIMENSIONS:
39" W x 20" D x 36" H

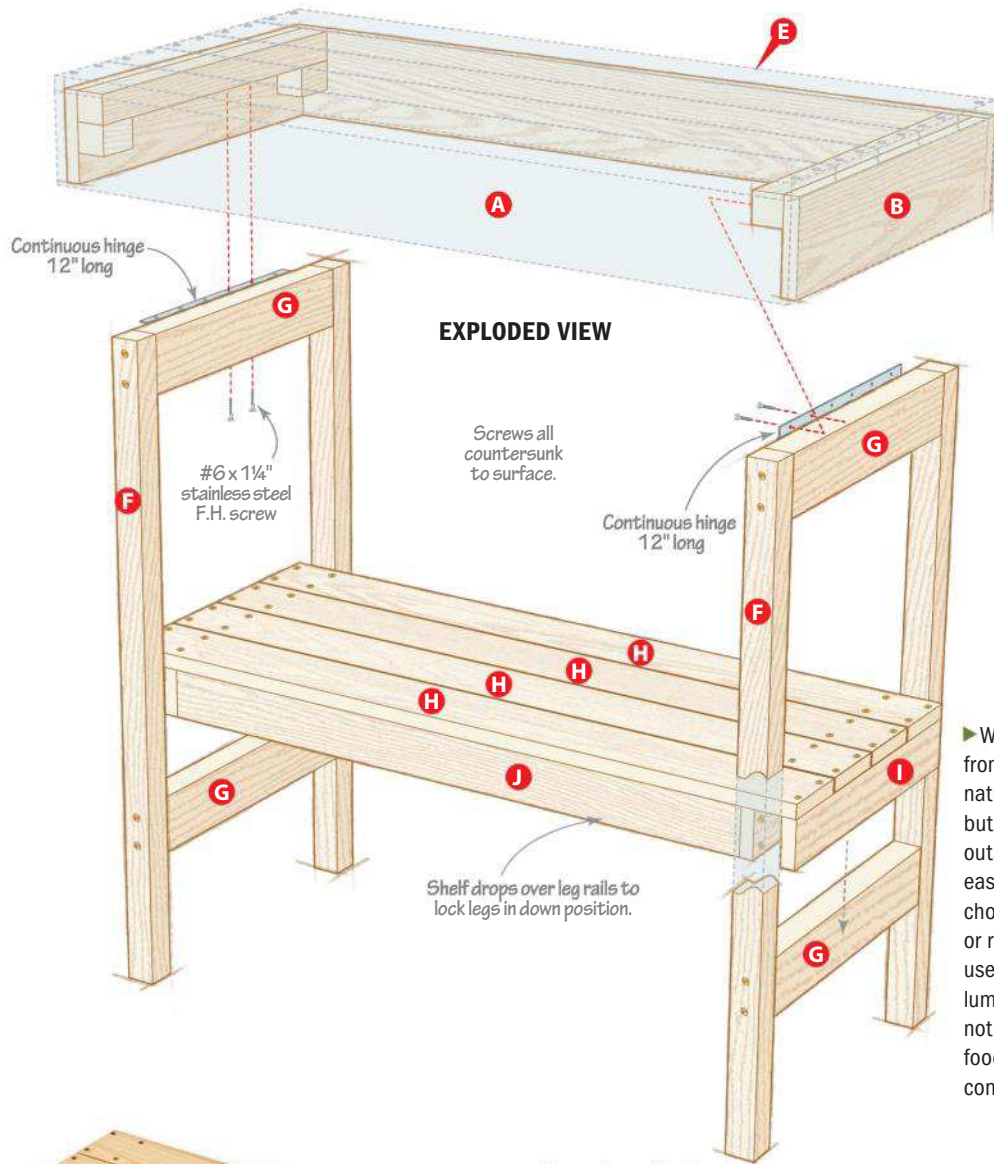
Total surface
area set up,
square feet:

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► We built our table from cypress for its natural rot resistance, but the wood is costly outside the South-east U.S. Other good choices include cedar or redwood. Do not use pressure-treated lumber because it is not recommended for food preparation or contact surfaces.

Tip! Use water-resistant type II woodworking glue for outdoor durability.

Go right to the top

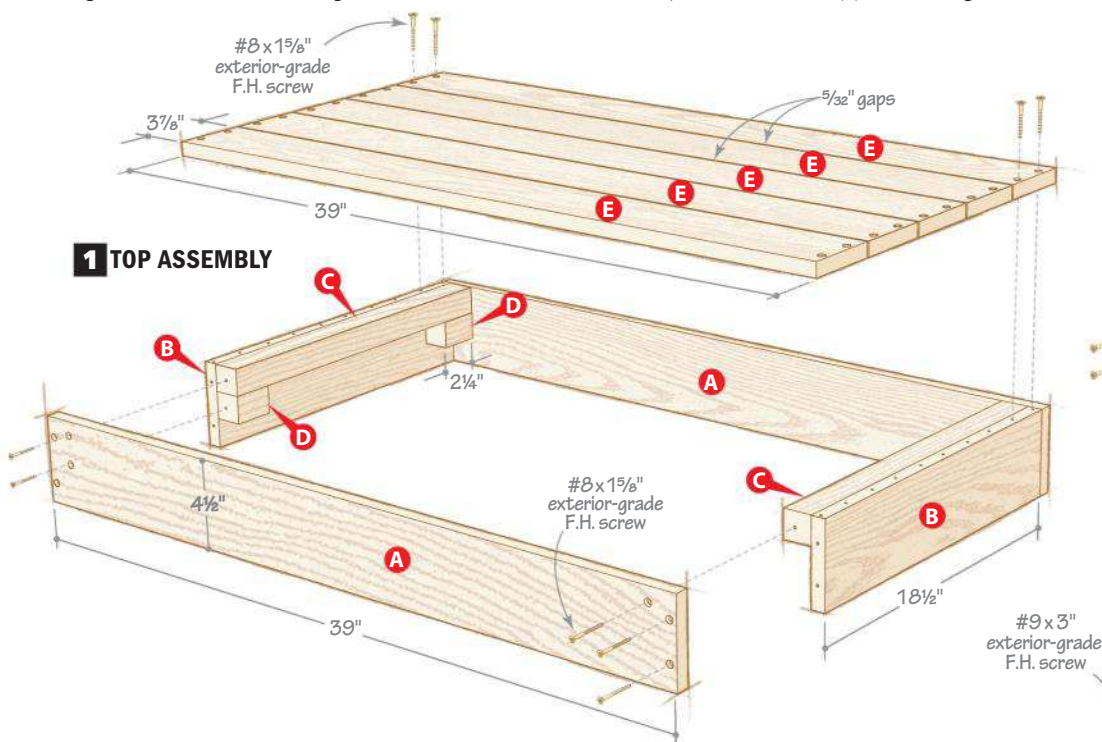
- 1** Cut parts A-D [Materials List, Drawing 1]. Glue and clamp the rails and hinge blocks (A-C) together. Check the assembly for square. After the glue dries, drill pilot holes and drive in screws.
- 2** Glue the filler blocks (D) in place on one end of the A-C assembly.
- 3** Cut the top slats (E) and attach them to the short rails (B), evenly spaced, with screws and glue. Finish-sand the top.

The shelf fits inside the top for storage. The shelf fits snugly, but wrap a bungee around the pieces to secure them while transporting the unit.





Fold the hinge leaves over the edge of the leg rail (G) for positioning, which is the same on both leg assemblies. The side of the hinge leaf with countersunk screw holes faces up.



Give it legs to stand on

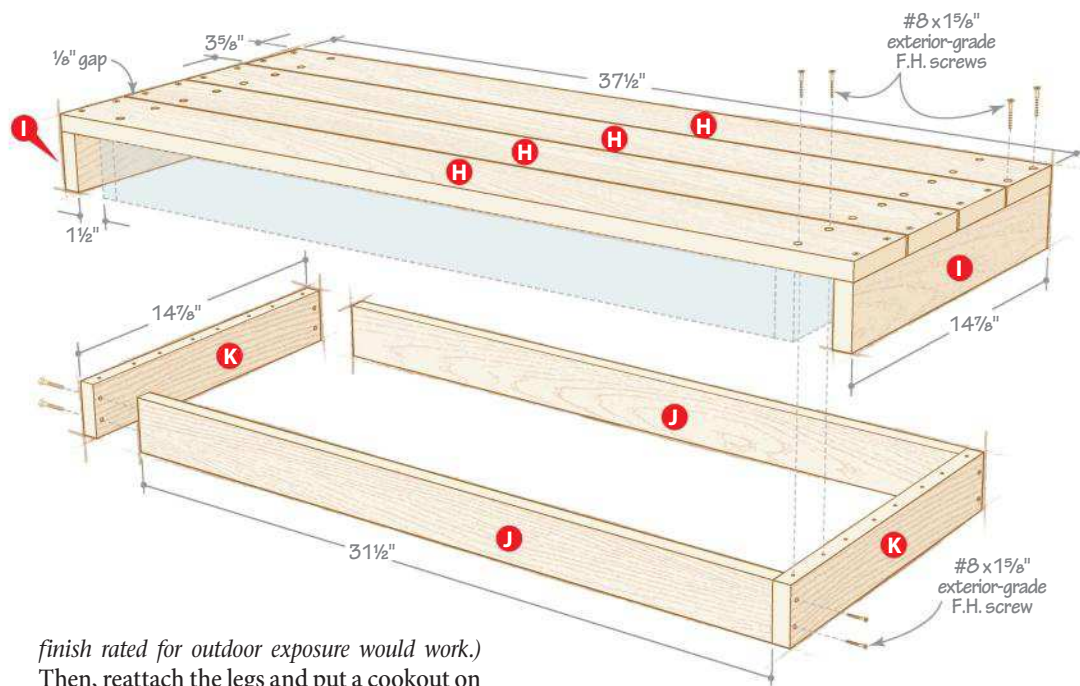


C At the other end of the top, center the remaining leg assembly between the table long rails (A). Screw the hinge to the inside face of the hinge block.



D The legs overlap as they fold into the top, allowing room for the shelf assembly (H–K) to sit upside down in the space on top of the legs for compact storage.

3 SHELF



finish rated for outdoor exposure would work.) Then, reattach the legs and put a cookout on the calendar. Stow the table by folding the legs and nesting the shelf over them [photo, page 31]. 🌳

Produced by **Larry Johnston**
with **Joshua Steele**
Project design: **John Olson**
Illustrations: **Roxanne LeMoine,**
Lorna Johnson

Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A table long rails	3/4"	4 1/2"	39"	C	2
B table short rails	3/4"	4 1/2"	18 1/2"	C	2
C hinge blocks	1 1/2"	1 1/2"	18 1/2"	C	2
D filler blocks	1 1/2"	1 1/2"	2 1/4"	C	2
E table slats	3/4"	3 7/8"	39"	C	5
F legs	1 1/2"	1 1/2"	33 3/4"	C	4
G leg rails	1 1/2"	3"	15"	C	4
H shelf slats	3/4"	3 5/8"	37 1/2"	C	4
I shelf end rails	3/4"	2 1/2"	14 7/8"	C	2
J shelf long rails	3/4"	2 1/2"	31 1/2"	C	2
K shelf short rails	3/4"	2 1/2"	14 7/8"	C	2

Materials key: C-cypress.

Supplies: #9x3" exterior-grade flathead screws (16), #8x1 5/8" exterior-grade flathead screws (74), #6x1 1/4" stainless steel flathead screws (24), 12" stainless steel continuous hinges (2).

Cutting Diagram

This project requires 13 bd. ft. of 4/4 cypress and 6 bd. ft. of 8/4 cypress.



3/4 x 7 1/4 x 96" Cypress (2 needed)



3/4 x 9 1/4 x 96" Cypress (2 needed)



1 1/2 x 1 1/2 x 96" Cypress (2 needed)



1 1/2 x 3 1/2 x 72" Cypress

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Bench Vises

Here's a rundown on the different types of vises, and which one or two would be best for your workbench.



Think of a bench vise as a tool that's as essential to your success as a hand plane, router, or table-saw. Although clamps might substitute in some situations, they tend to get in the way, and a vise gives you freedom to do almost any type of work.

Woodworking vises differ from metalworking vises in that they attach to the bottom of the bench surface or are built into it, with (typically wood) jaws flush with the benchtop. Metalworking vises usually mount to the top of a bench.

Woodworking vises vary in price from about \$30 to as much as \$400. Generally, once you decide on a particular style of vise, the more you spend, the better the quality and effectiveness of that vise. Now let's take a look at the most common types of vises for woodworking.

Front vises

As the name implies, these mount to the front (long edge) of the bench, typically on a left-hand corner. Left-handed folks usually prefer a front vise mounted on the right corner.

Face vise

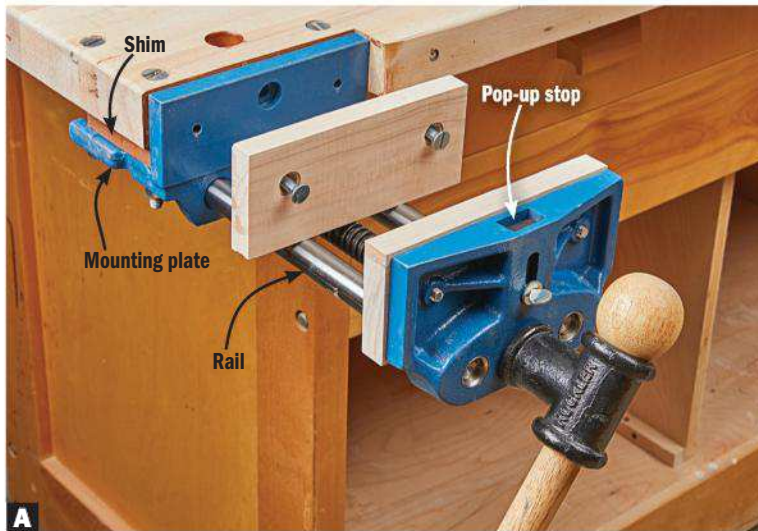
These come in two styles: one with steel or cast-iron jaws you can use as is or add auxiliary wooden jaws [Photos A and C], and the other with no jaws, requiring you to build wooden jaws [Photos B, D, and E]. The first typically costs more, but installs easier. For both styles, mount the inner jaw flush with the benchtop surface and edge (or apron), so that you can secure long workpieces in the vise and also clamp the board's far end to

the bench for added stability. Your benchtop must clear the bench base or legs for mounting. Make sure the mounting plate and rails won't interfere with dogholes made to use with an end or tail vise [Photo E].

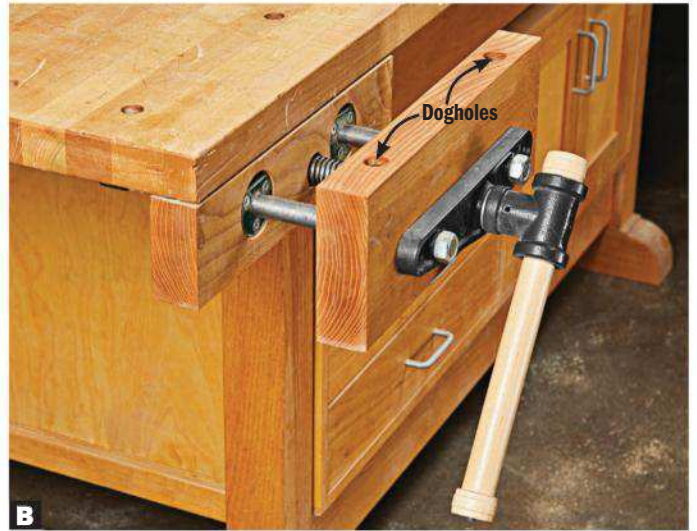
Things to know:

- A quick-release jaw lets you move the vise in or out without a lot of turns of the handle.
- A pop-up stop on some face vises eliminates the need to drill a doghole in the movable jaw.
- The longer the handle, the more leverage you can apply to the vise. But don't get crazy here: Apply only enough force so a workpiece won't budge.
- Most face-vise jaws toe in slightly at the top, then go parallel under pressure.

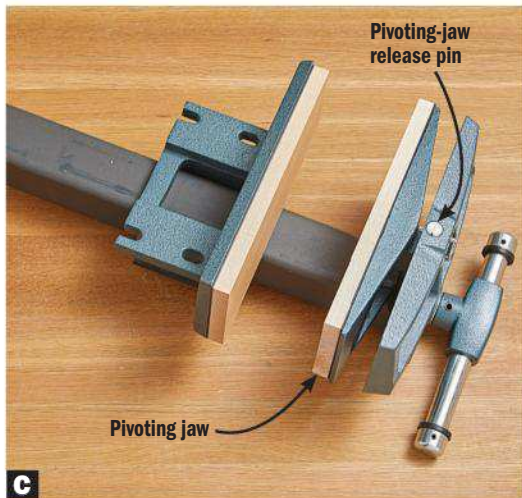
► Building a new workbench? Find plans for dozens of workbenches that will work great with one or more of these vises. woodmagazine.com/workbench



A Bolt or screw this type of face vise onto an existing benchtop in less than an hour. You might have to shim it to flush the jaws with the benchtop and notch the benchtop to align the inner jaw with the edge. The cast-iron jaws have threaded holes for attaching wood jaws, and a pop-up stop works with a bench dog to hold stock on the bench surface.



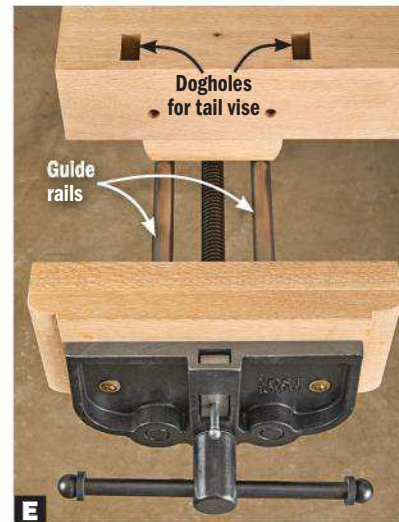
B This vise hardware requires a shop-made outer jaw of 1½–3" thick hardwood with dogholes (if you so choose) for holding stock with bench dogs. The benchtop's edge or apron typically serves as the inner jaw, frequently with an attached piece beneath the top that's flush with the edge to add more jaw surface.

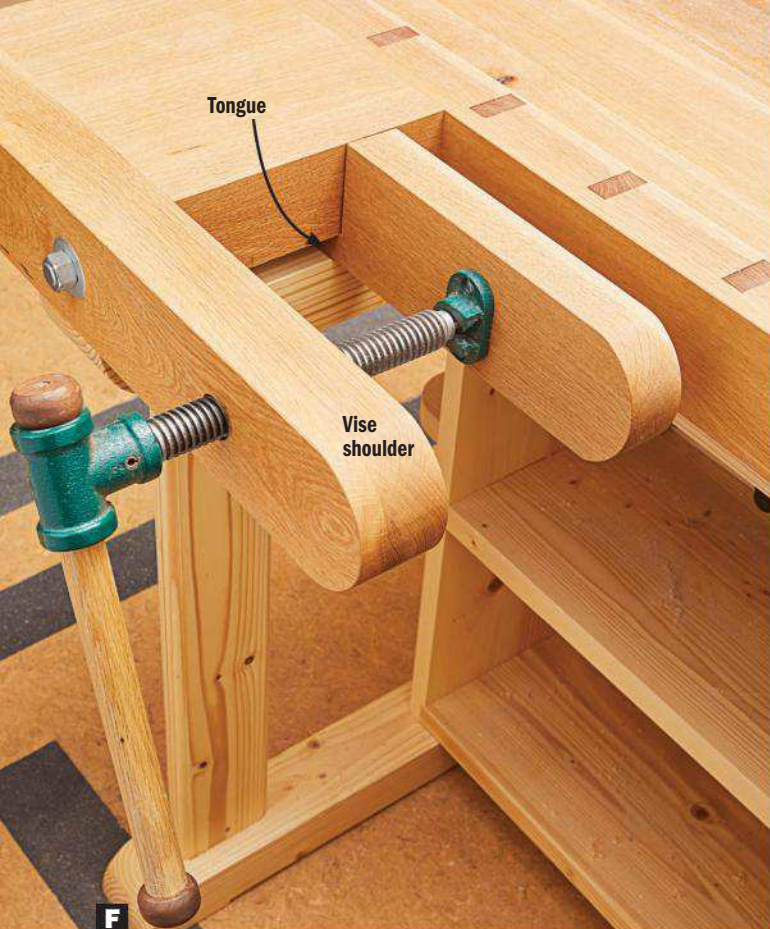


C A pivoting-jaw vise holds irregular-shape stock without racking the jaws. You also can remove the pivoting jaw for parallel-jaw clamping. Magnet-lined wood jaw pads stay in place without screws.

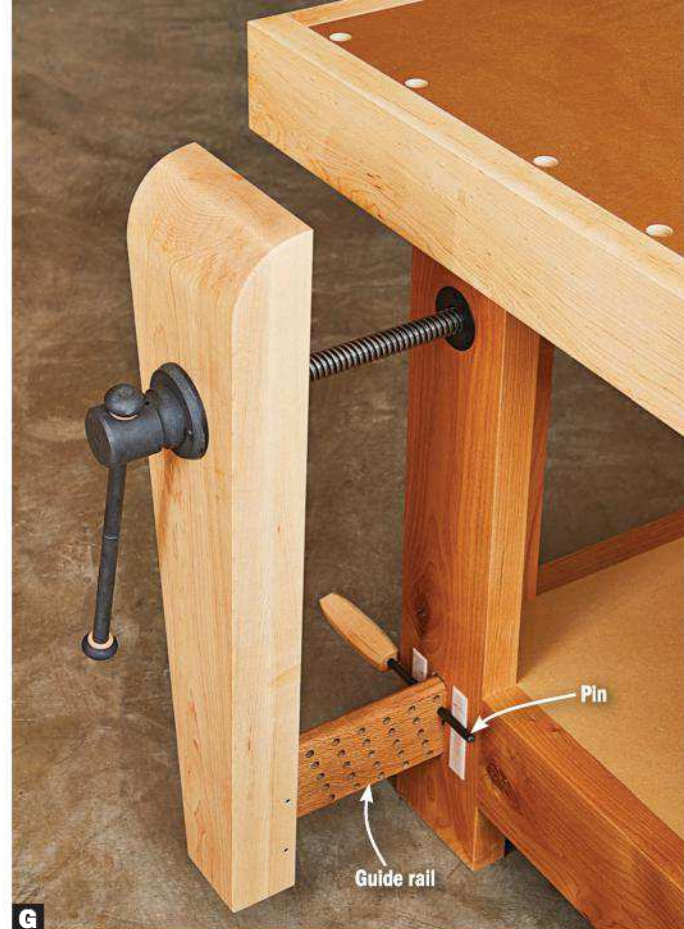


D A cast-iron-jaw vise can be recessed into the bottom of a bench for maximum strength and stability. A thick outer jaw distributes clamping force over a wide surface area. Note how the vise rails fit between dogholes for the tail vise located at the right end of the bench.





F A shoulder vise gives you floor-to-ceiling clamping space between its jaws. A threaded bushing mortised into the vise shoulder (unseen) keeps the screw on track.



G A leg vise moves via a single screw with a pinned sliding guide rail to maintain parallelism. The guide-rail pin rests against end-grain hard-maple pads that prevent compressing the softer alder leg of this bench.

Shoulder vise

Found traditionally on Scandinavian-style workbenches, a shoulder vise's greatest advantage is open space between the jaws, free of support rails or a screw. The benchtop or apron serves as the fixed jaw, while the movable jaw travels on a single screw [Photo F]. Because the outer jaw has a tongue that slides in a groove on the fixed arm, it has enough play to let you clamp uneven-shaped workpieces.

Things to know:

- Low cost: Besides wood, you only need the screw assembly, selling for as little as \$30.
- Protruding from the bench edge, this vise can be a bump hazard for your hips and legs. And high humidity could cause the parts to swell and bind.
- This vise does not easily retrofit to an existing bench.

Leg vise

As the name implies, this vise installs into the bench leg, which sometimes serves as the fixed jaw. Build the outer jaw from thick stock about three-quarters of the leg's length. You can buy the hardware to make a leg vise for about \$100.

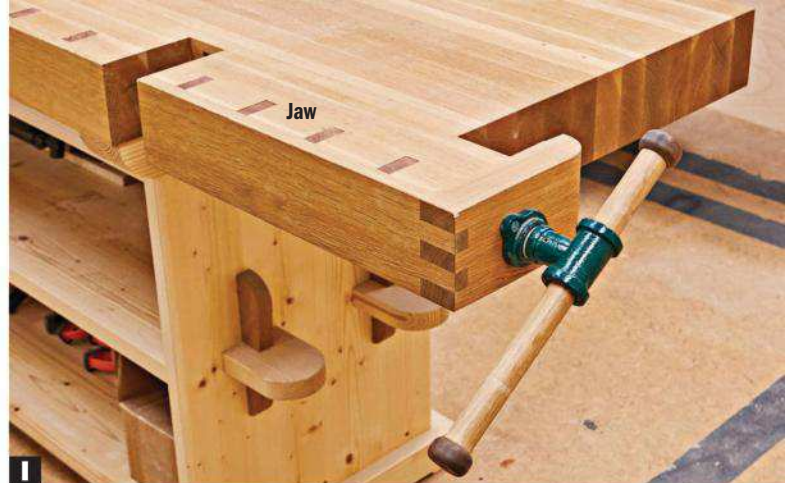
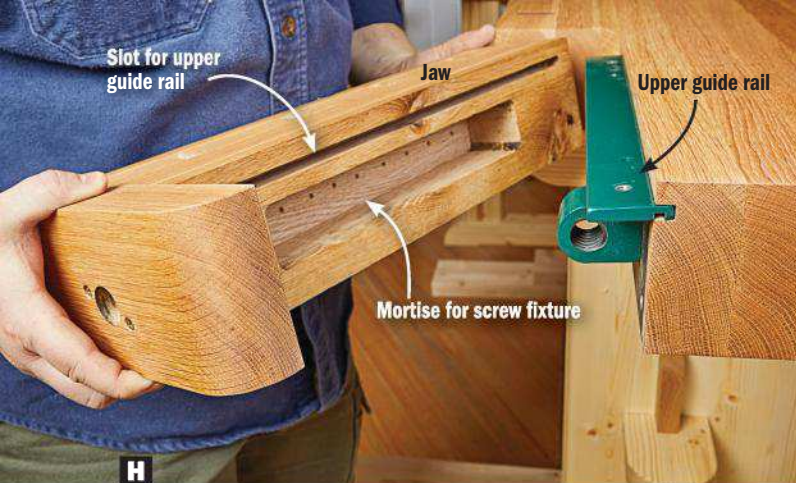
Things to know:

- These can be built two ways: With an inset leg [Photo G], you get more toe-kick space below. The fixed jaw is what you build it up to be (in this case, simply the bench's apron). With a flush-fitting vise, the leg itself serves as a full-length fixed jaw. In both cases, keep the movable jaw 2½–3" thick to avoid deflection.
- The pin and sliding guide rail keep the jaw parallel for even clamping force. Reposition the pin for the workpiece you're clamping.
- A low screw location decreases clamping force and increases deflection, so install the screw 8–9" below the benchtop.
- A leg vise excels at holding long stock on edge; you can also clamp the workpiece to the benchtop edge for added stability.
- With only a single screw, you can clamp boards vertically on either side of the screw.
- Scissor-type variations replace the sliding guide rail and maintain jaw parallelism, but cost about \$100–\$200 and work best with a flush leg.
- These can be difficult to retrofit to an existing bench, depending on the leg style, size, and placement on your bench. (However, you can build up some legs to make a leg vise work.)

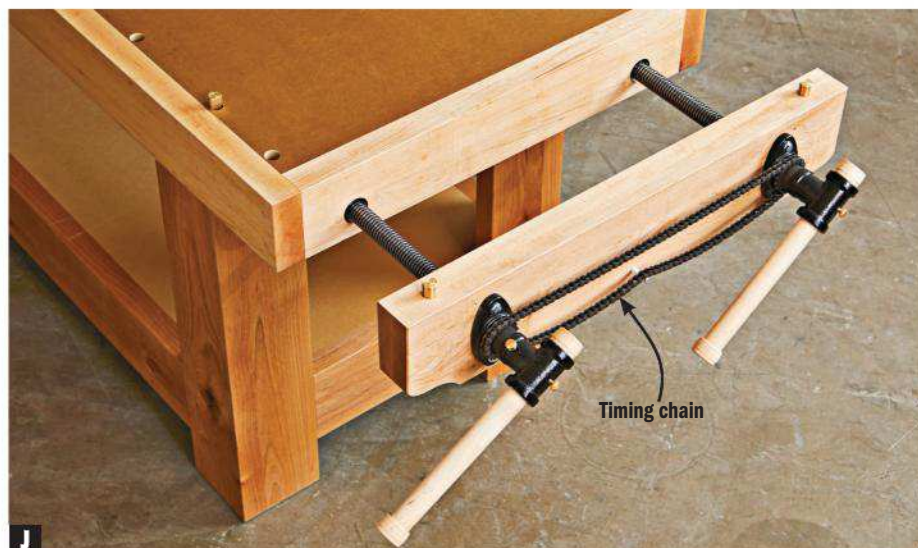
Sources for vises:

- ▶ Lee Valley
800-871-8158, leevalley.com
- ▶ Rockler
800-279-4441, rockler.com
- ▶ Woodcraft
800-225-1153, woodcraft.com
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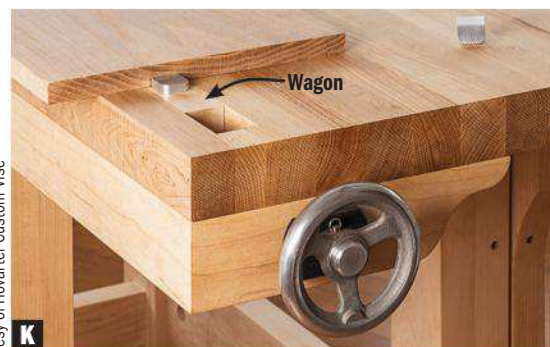
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The tail-vise jaw mounts over a fixed plate. A long mortise accepts the screw and threaded fixture, and the upper guide rail fits in the slot. (A lower guide rail, not shown, mounts beneath the jaw.) The tail vise slides back and forth along the guide rails, held in place by the screw assembly. Tail vises typically open 7–8".



The timing chain on a twin-screw end vise syncs the screws, so you need only turn one handle to operate the vise. (Chain cover removed for clarity.) You can adjust either screw should the vise jaws get out of parallel. Likewise, you can intentionally make the jaws unparallel for clamping irregular-shape workpieces.



A wagon vise moves within a closed channel to secure workpieces between bench dogs. The wagon attaches to the mechanism that rides along the vise screw, moving the wagon along with it.

End vises

These mount to the end of the bench and typically work with bench dogs along the length of the benchtop. If you prefer rectangular dogholes, cut those notches in the boards before gluing them to the benchtop; round holes can be drilled before or after assembly.

Tail vise

A traditional tail vise [Photos H and I] consists of a rectangular or L-shape block of wood (the jaw) fastened to a steel or cast-iron fixture that slides back and forth in a cutaway corner of the bench.

Things to know:

- You have to space the vise and dogholes around the bench legs and any face-vise mounting hardware.
- You also can hold stock vertically between the movable jaw and the bench.
- A quick release, available on some tail vises, speeds up big changes in vise position.

- A tail vise holds long stock securely without any springiness. Too much clamping force, however, can cause boards to bow up.
- Retrofitting one to an existing bench typically requires adding material to the benchtop to stay outside the legs or base.

End vise

Essentially a large face vise, this type usually spans most, if not all, of the benchtop's width [Photo J]. Typically, you use two rows of bench dogs to hold long or wide stock.

Things to know:

- The bench's apron, or a built-up end of the benchtop, serves as the inner jaw.
- A twin-screw vise has a large opening between the screws for holding wide stock or assembled drawers.
- Planing long boards held in the jaws can move the bench sideways. Instead, capture the workpiece with bench dogs to take advantage of the bench's full mass.
- If an end vise spans less than the full width of the benchtop, install it flush with one edge

(rather than centering it) so you can easily hand-plane stock held with bench dogs.

Wagon vise

A condensed version of a tail vise, a wagon vise [Photos K and L] holds long stock securely, but with less capacity (because a tail vise opens beyond the bench's end).

Things to know:

- The gap in front of the wagon can be used to hold narrow stock vertically.
- A wagon vise can be retrofitted to an existing bench by cutting a notch for the wagon and screw, and attaching the mounting hardware. 🌱

Produced by Bob Hunter with John Olson

Go Figure: Choosing the Best Grain for Your Project

Plainsawn

Riftsawn

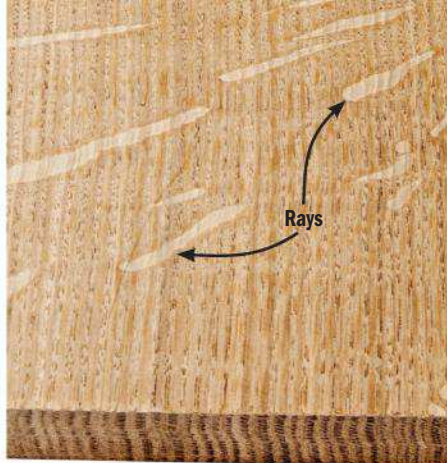
Quartersawn

One log can yield all three types of grain: the wavy, peaked “cathedral” pattern of plainsawn; tight, straight-grain riftsawn; and the trademark flecks and rays of quartersawn.



by Jim Heavey

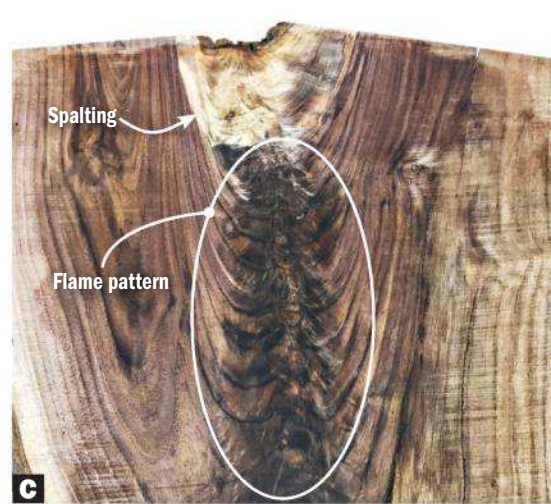
As I talk with woodworkers around the country, one thing I hear time and again concerns building projects that look as good as those on the pages of *WOOD*® magazine. Woodworkers tell me that even after following every step carefully, cutting and assembling each piece accurately, and applying a finish, something just doesn't look right. Typically, the difference lies with the selection and placement of the wood figure.



A The quartersawn rays and flecks show prominently here. These grain elements absorb stain and finish differently than the balance of the grain, adding visual interest.



B Riftsawn boards have consistent, nondescript straight grain. Stock glued up for a wide panel has a uniform look as opposed to the wilder grain of plainsawn boards.



C This crotch cut displays a flame pattern where the trunk and branch converge. Notice how moisture accumulating at the junction caused spalting. In some cases, these directional grain changes cause the wood to be unstable and prone to cracks.

What creates grain pattern

The pattern or figure of a board is determined by how a log is sawn [Opening photo]. How you choose and use the resulting grain patterns can dramatically change the appearance of your project. So let's begin with a look at how logs are sawed into boards, and how that affects what you select at the lumberyard.

A mill has three basic options when cutting a log. A log sawn as shown in **Drawing 1** is considered *flatsawn* or *plainsawn*. Slabbing a log this way creates very little waste, making plainsawn the least expensive cut. It yields boards with growth rings oriented from about 45° to near-parallel to the face of the board. The face features wavy, peaked “cathedral” figure in the middle of the face, and may have straight grain along one or both outside edges. On many wood species, the cathedral figure is quite pronounced.

A log sawn into four quarters and then slabbed produces *quartersawn* boards with the initial cuts [Drawing 2]. This cut costs more than plainsawn lumber because of the additional time and labor required. Growth rings on quartersawn boards fall between 75° and 90° to the face. The face of quartersawn lumber, especially white and red oak, displays “rays and flecks” in unique patterns [Photo A]. These rays and flecks are prominent design elements found in Mission, Arts & Crafts, and Craftsman furniture styles.

As the cuts approach the edge of a quartersawn log, the growth rings begin to run from 45° to 75° [Drawing 3]. This *riftsawn* lumber has a very consistent straight-grain face without the pronounced rays and flecks of quartersawn [Photo B]. Rift sawing produces a very stable board that moves little across its width with seasonal

changes in humidity. Because of lower yield, this is the most expensive cut.

Two decorative cuts of lumber, *crotch* and *burl*, are not typically found at standard lumber suppliers. Although generally not considered structurally strong or stable, their bold appearances add dramatic impact to furniture designs.

A crotch grain pattern comes from the intersection of the tree trunk and a main branch. The change in wood direction yields striking patterns [Photo C].

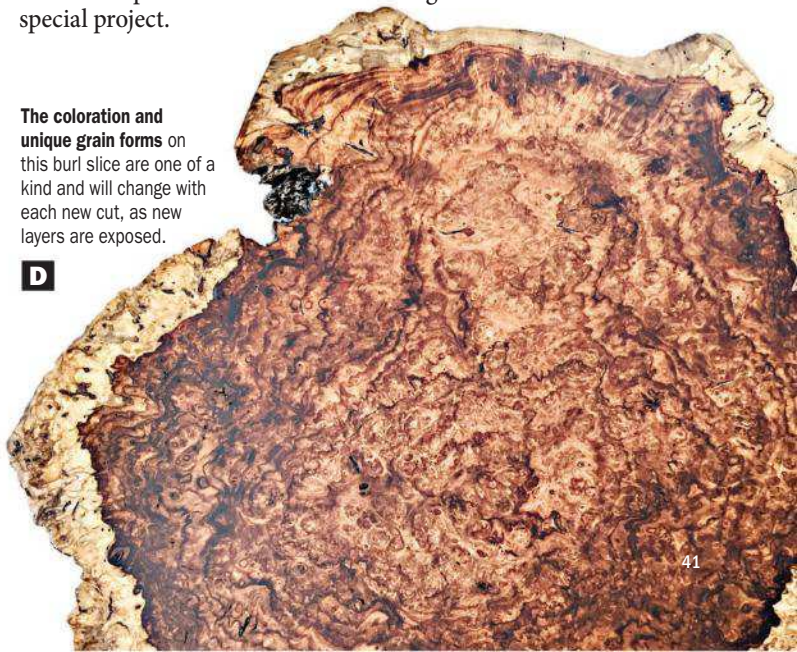
Burl comes from a nodulelike growth created by a fungus or damage on the trunk of a tree. The irregular grain in a burl, often filled with small knots, produces a unique pattern that adds interest to even the most mundane surface [Photo D]. I consider burls to be one of nature's great surprises because it's nearly impossible to predict the figure before sawing. Thick burl slabs can be used just as they are for small tables and nightstand tops. Burl veneers, especially when trimmed with a complementary wood, offer unlimited possibilities for embellishing a special project.

Tip! Knowing the end-grain ring orientation can help you find a board of the desired type quickly when looking at a stack of lumber in a bin.

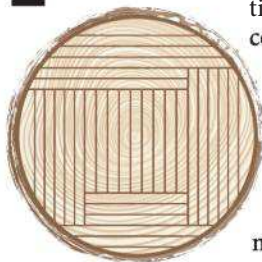
► **Spalting:** A discoloration in wood caused by fungi. Spalted areas may not be as strong or as stable as the surrounding wood.

The coloration and unique grain forms on this burl slice are one of a kind and will change with each new cut, as new layers are exposed.

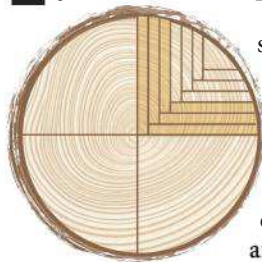
D



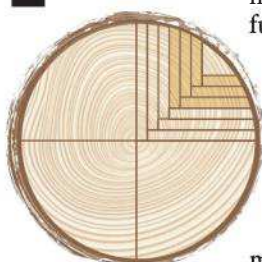
1 PLAINSAWN



2 QUARTERSAWN



3 RIFTSAWN





E The rails and stiles on this cabinet utilize straight grain to accentuate the vertical and horizontal members. This uniformity softens the look of the opening.



F These rails and stiles show places for improvement. The diagonal grain of the upper rail makes it look out of level. The dissimilar grain patterns of the side stiles make the opening seem distracting.

Making the most of the grain

How you use each of these types of grain can make a big difference in the look of any project. For example, in a typical cabinet, doors and drawers fit within or overlap the horizontal rails and vertical stiles of a face frame. Choosing straight-grain stock for the face frame provides an undistracting surround for these elements [Photos E, F].

The grain patterns on drawer fronts can unify the look of a cabinet or piece of furniture. Try these methods to create a continuous pattern for either a vertical or horizontal bank of drawers.

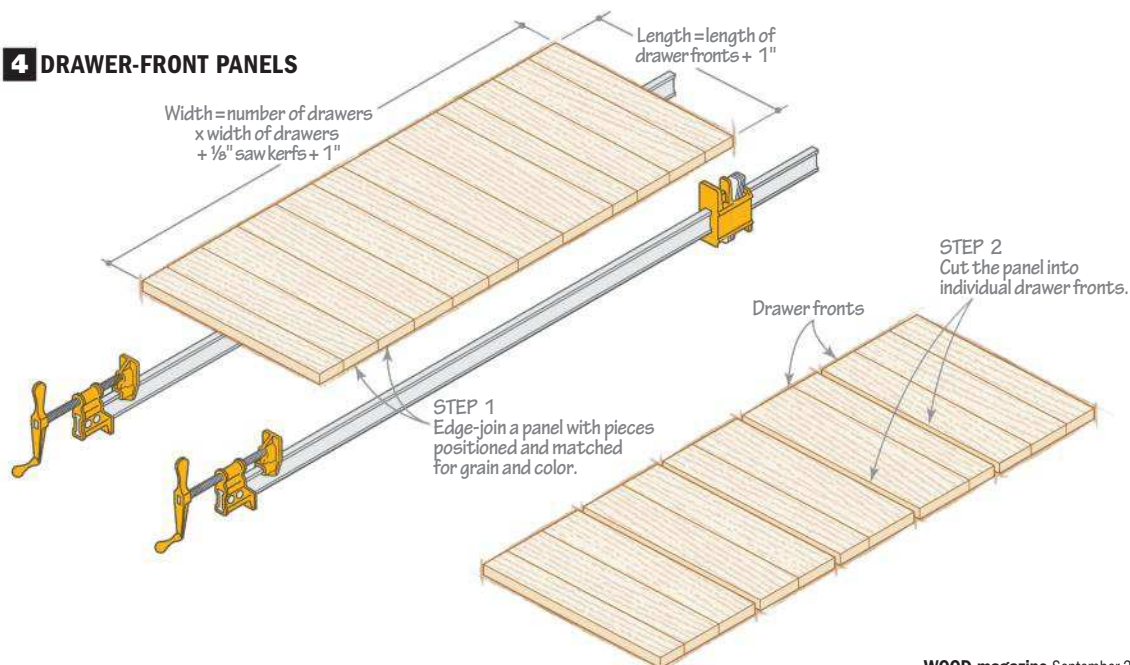
For side-by-side drawers, cut the drawer fronts from a single, well-chosen board and arrange them on the cabinet in their original orientation [Photo G]. The resulting effects can be dramatic or subtle, depending on your intention.



G Especially with inset drawers that abut each other, drawer fronts cut from a single board move the eye seamlessly across the piece.

For stacked drawers, glue up a wide panel, choosing boards with similar color and grain patterns, so the joint lines fade away. Then, cut the drawer fronts from the panel [Drawing 4].

4 DRAWER-FRONT PANELS





H This door utilizes a consistent figure for the rail and stile components, which moves focus to the panel. Centering the book-matched panel balances the dark, arrow-shape grain elements within the frame.



I Each of these doors has a different grain presentation on the raised panel. Any of the panels would be fine standing alone but this dissimilar grouping seems confusing. Note the cathedral pattern on one door points up while the other points down.

Riftsawn grain used throughout this icebox allows the brass hardware to stand out.



If a door provides a statement on a cabinet face, its panel is the exclamation point. Material used for the rails and stiles should provide a straight, nondescript border for the panel. Riftsawn material works well in this application [Photo H].

The cathedral grain in plainsawn boards draws attention, so center this figure on a panel. If there are multiple doors, all the grain placements should be similar, or you risk creating a mishmash of patterns [Photo I]. For a subdued appearance, the straight grain of riftsawn provides uniformity to cabinets with many doors.

Like flatsawn cathedral figure, crotch grain can have a pronounced effect on the look of a cabinet door. Whether you use it as solid wood or veneer, display this pattern with the open edge facing up, as it did in the growing tree.

Cabinet sides and tabletops provide broad surfaces, where grain choice can make a bold statement or whisper quietly. A panel using flatsawn stock can add drama and interest to a tabletop, while a panel of all riftsawn stock provides a relaxed appearance [Photo J]. Combining the two tones down the wild grain of plainsawn while adding some pop that counters the sedate riftsawn pattern [Photo K].

These, of course, are only suggestions. Style is in the eye of the woodworker and the lucky recipient. Incorporating these fundamentals will help you create a classic, no matter which style you choose. Instead of hearing, "I see you made that yourself," you'll be treated to, "Wow, what a beautiful piece of furniture!" 🌲



K Wide plainsawn boards may have riftsawn grain at their edges. Ripping these wide boards in half and then regluing them eliminates much of the tendency to warp while preserving the natural blend of grain figure.

Arts & Crafts Hall Cabinet

Greet guests with understated style.

This raised-top cabinet features a different spin on typical frame-and-panel construction. Instead of rails captured between stiles, they chase each other “pin-wheel” fashion around the panel. The benefit: Although the stiles and rails are different lengths, they are machined the same.



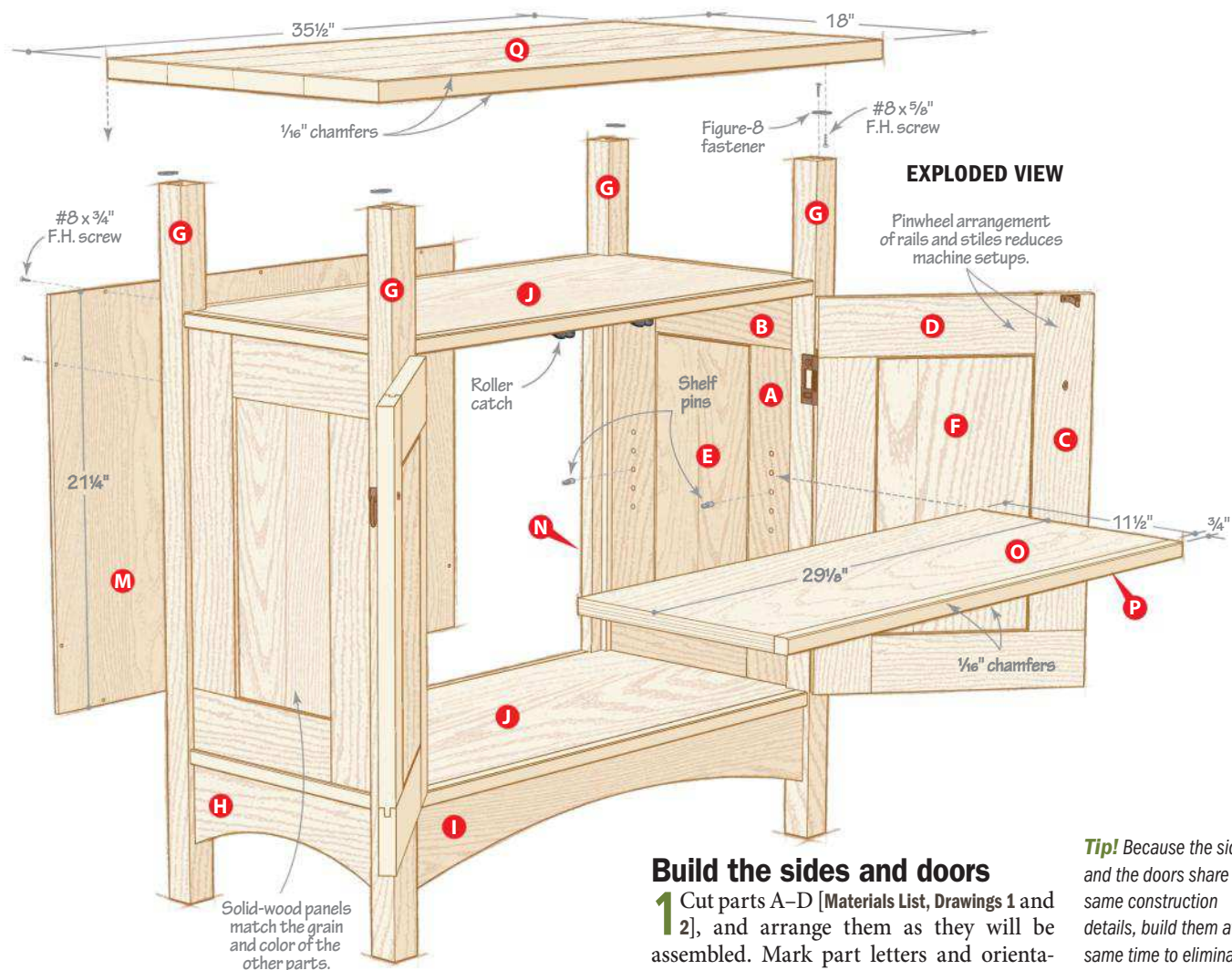
DIMENSIONS:
35½" W x 18" D x 36" H

Approximate
materials cost:

\$225

4.8
cubic feet
of
enclosed
storage

WOOD magazine September 2018

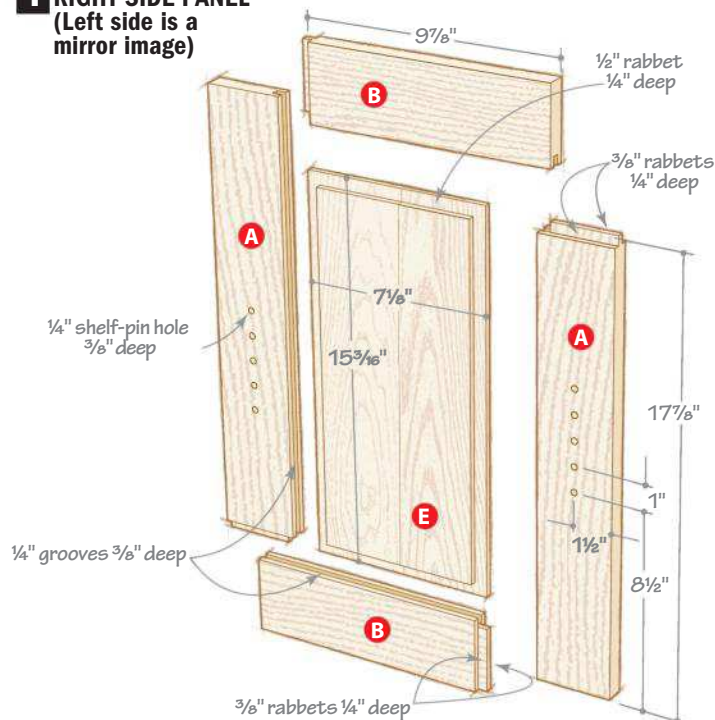


Build the sides and doors

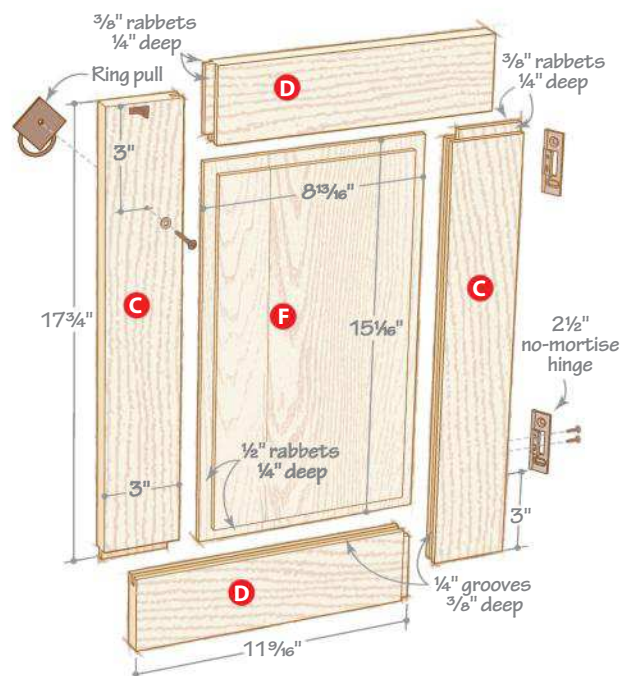
1 Cut parts A–D [Materials List, Drawings 1 and 2], and arrange them as they will be assembled. Mark part letters and orientation (right, left) on the outside faces with

Tip! Because the sides and the doors share the same construction details, build them at the same time to eliminate repeat setups.

1 RIGHT SIDE PANEL (Left side is a mirror image)



2 LEFT DOOR (Right door is a mirror image)





A

Clamp up the sides and doors on a flat surface. Square-cut stile and rail ends ensure square assemblies.

Tip! Solid-wood panels expand and contract seasonally. Stain them before assembly to ensure unstained wood won't show during times of seasonal shrinkage.

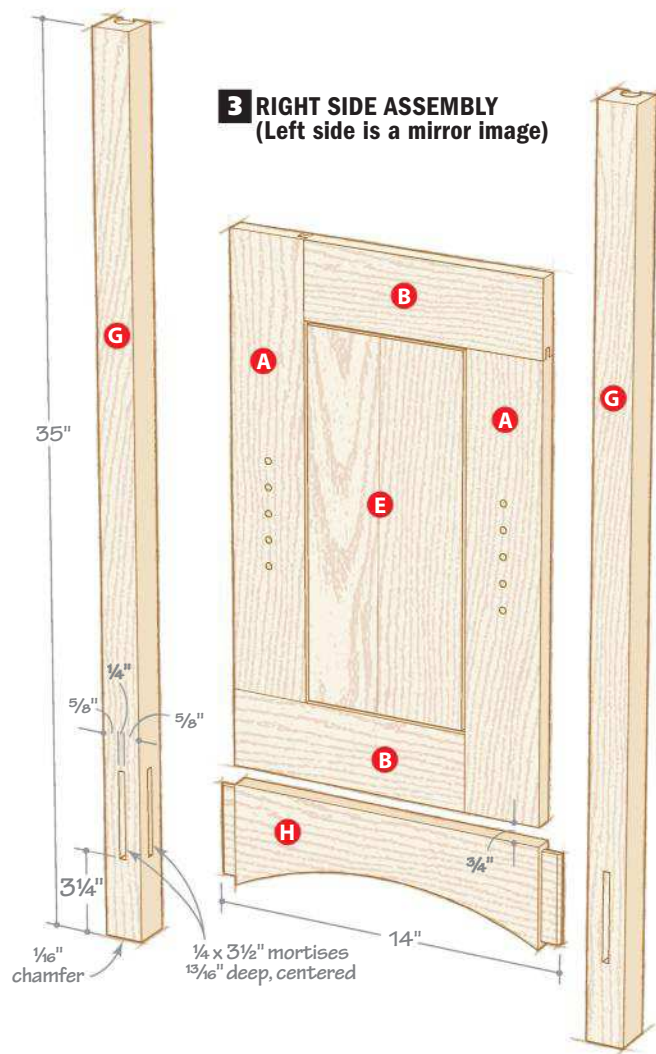
chalk. Also indicate the tenoned ends and grooved edges, making the sides and doors mirror images. Cut the tenons and grooves.

2 Edge-join oversize blanks for the panels (E, F). Plane and cut the panels to finished size and rabbet the back faces. Finish-sand and stain [Sources] the panels and the inside edges of the rails and stiles.

3 Apply glue to the tenons (do not glue the panels) and assemble the sides and doors [Photo A]. Drill shelf-pin holes in the side stiles and finish-sand the frames. **Note:** Sanding will scuff the stain on the inside faces of the panels (E, F); restain these areas when finishing the cabinet.

Make the case

1 Cut the legs (G) and arrange them with the best grain facing out. Mark their orientation (RF, LF, RB, LB) and mortises [Drawing 3].



3 RIGHT SIDE ASSEMBLY
(Left side is a mirror image)

SKILL BUILDER

Cut tenons without a dado set

No dado set? No problem. Instead, form tenons with a regular tablesaw blade and a bandsaw.



Cut the tenon shoulders on the tablesaw, using the rip fence to control tenon length.



Bandsaw the cheeks, taking care not to cut into the tenon shoulders.



B

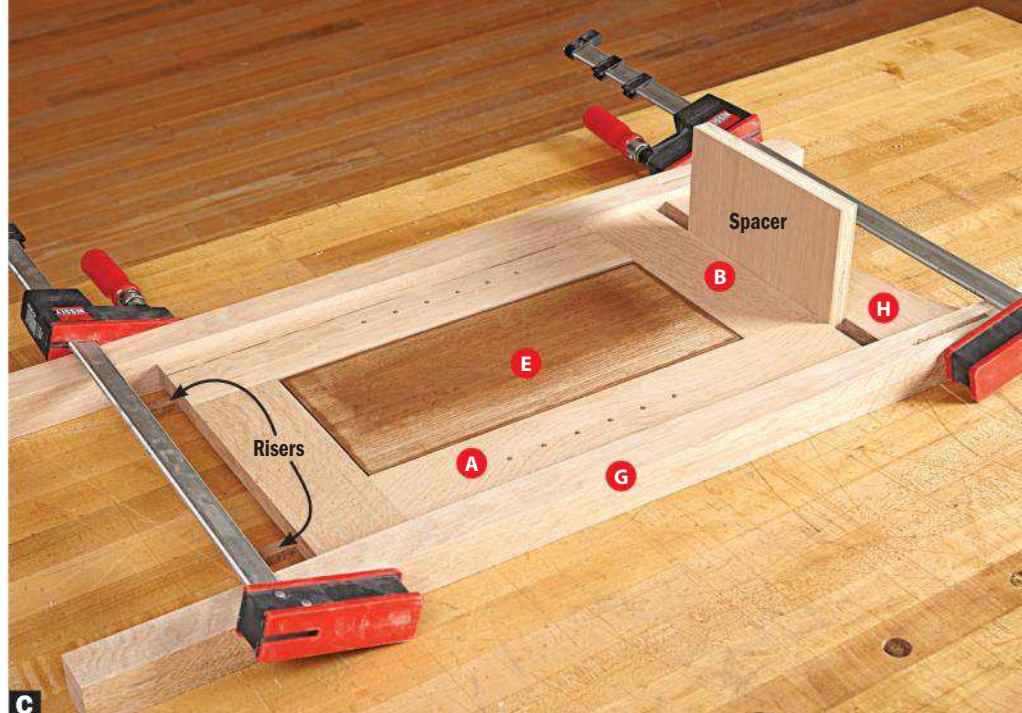
Plane $\frac{1}{8}$ " chamfers on the inside cheeks of the tenons to eliminate interference when inserting them into the intersecting leg mortises.

Tip! When forming the rail (H, I) tenons, dial in your setup on scrap. Cut the tenons a little fat, then fine-tune the fit with a shoulder plane.

Form the mortises and chamfer each leg bottom. Finish-sand the mortised faces.

2 Cut the lower side rails (H) and front and rear rails (I). Form the tenons [Drawing 4, Skill Builder], then bandsaw and sand the arcs. Arrange the rails as they will be installed and mark the inside cheek of each tenon. Chamfer the tenons [Photo B].

3 For accurate assembly, cut a $\frac{3}{4}$ " plywood spacer and four $\frac{1}{4} \times \frac{1}{4} \times 4$ " scrapwood risers. Glue the case side assemblies [Photo C].



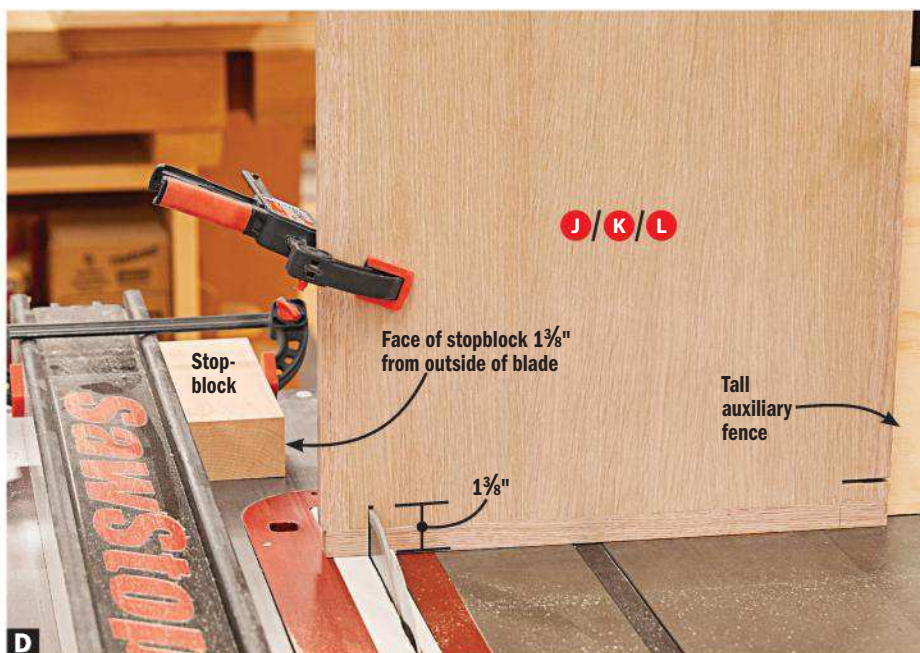
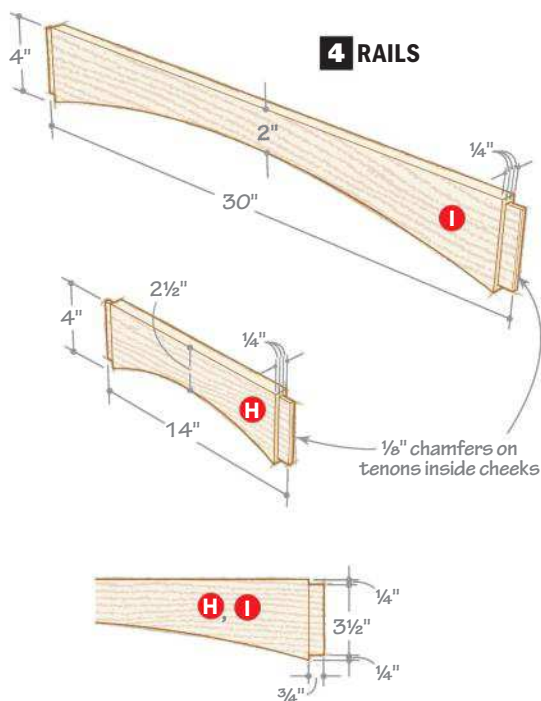
C

Apply glue to the side (A/B/E) edges and lower rail (H) tenons and clamp the assembly, inserting a spacer between the side and lower rail, and the risers under the side.

4 Cut the upper and lower panels (J) [Drawing 5]. Cut the long banding (K) $29\frac{3}{4}$ " long and the short banding (L) $15\frac{1}{4}$ " long. Glue the long banding to the panel, flush at the faces and ends, then glue on the short banding. Notch the corners of the case top and bottom (J/K/L) [Photo D]. Turn the workpiece and rotate again to complete the notches.

5 Rabbet the rear edges of the case top and bottom and finish-sand them. Chamfer the banding (K, L).

Tip! To avoid unsightly gaps between the notched corners of the case top and bottom (J/K/L) and the legs (G), sneak up on the first cut. When satisfied, with the setup, proceed with the remaining cuts.



D

Notch the corners of the case top and bottom (J/K/L), using a stopblock clamped to the fence and clamping the workpiece to a tall auxiliary miter-gauge fence. The stopblock creates clearance so the cutoff doesn't kick back at you.



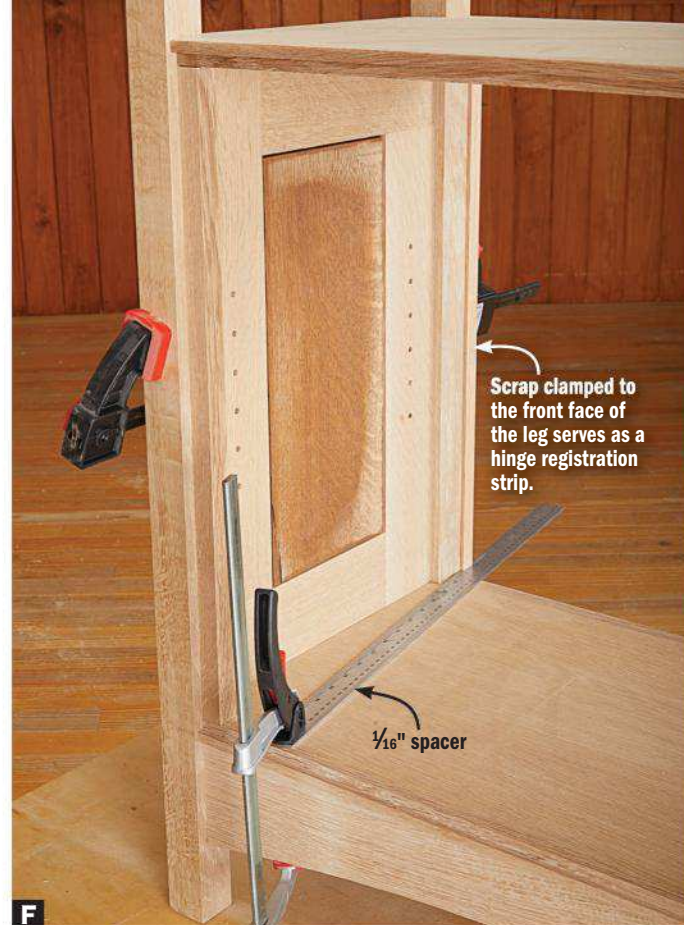
E

Apply glue to the tops of the front and rear rails (I) and the leg (G) mortises and clamp the assembly.

6 Check the fit of the parts [Drawing 5], then glue up the assemblies [Photo E]. Glue the case top (J/K/L) to the upper edges of the sides (A/B/E).

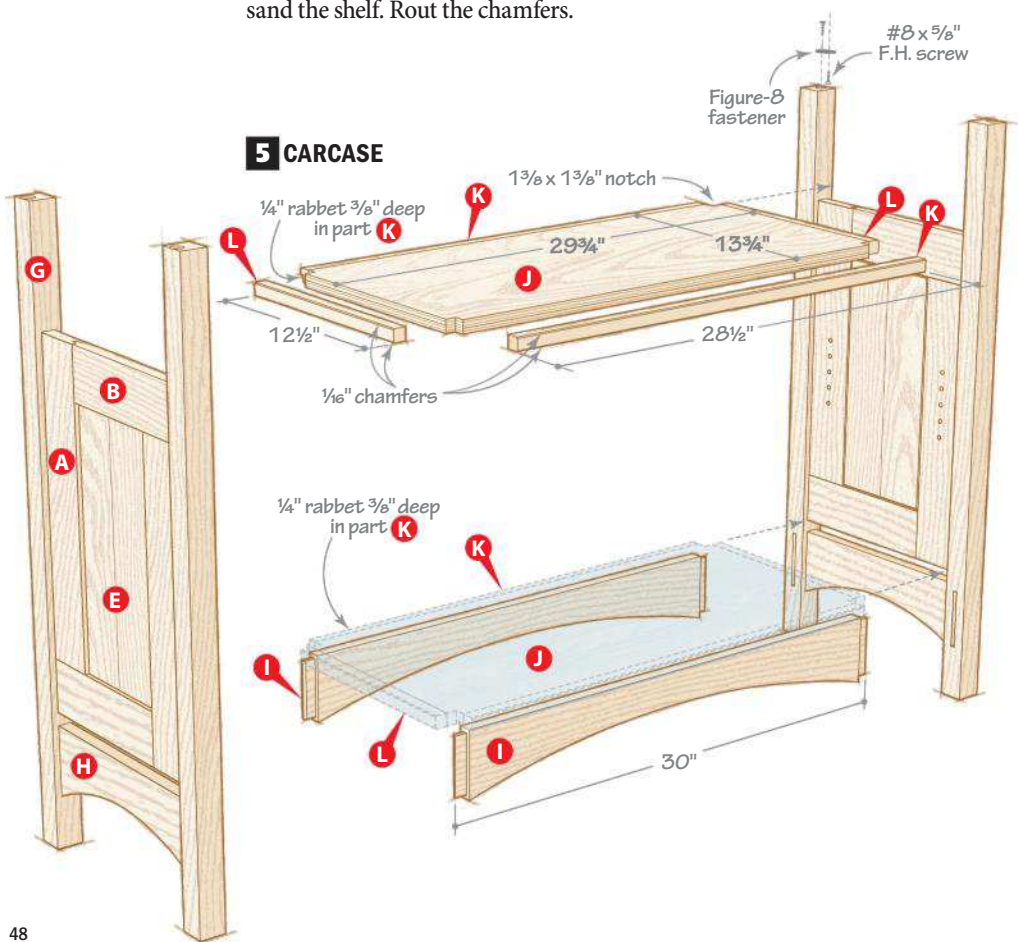
7 Cut the back (M) and cleats (N). Glue the cleats to the rear legs (G), aligning them with the rabbets in the rear banding (K) [Exploded View]. Finish-sand the back and set it aside.

8 Cut the shelf panel (O) and banding (P). Glue the banding to the panel and finish-sand the shelf. Rout the chamfers.



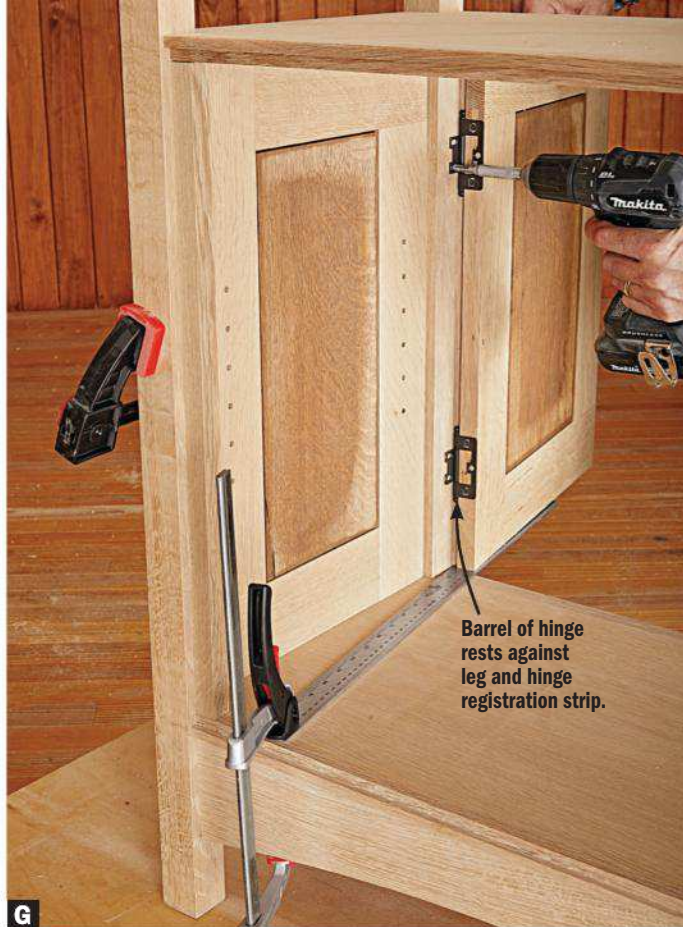
F

Clamp a 1/16"-thick spacer (steel shop ruler shown) to the case bottom, and a hinge-registration strip to the front face of the leg, protruding 3/16" into the door opening.



5a LEG TOP VIEW





G Rest the door with attached hinges on the spacer with the hinge knuckles against the registration strip. Drill screw holes with a self-centering bit and drive the screws.

Add the top and doors

1 Edge-join an oversize blank for the top (Q) and cut it to finished size. Finish-sand the top and chamfer the edges [Exploded View]. Counterbore the legs for figure-8 fasteners [Drawings 5 and 5a].

2 Screw the hinges to the doors and install the pulls [Drawing 2, Sources]. Mount the doors in the case [Photos F and G]. Install the catches [Exploded View].

3 Remove all hardware. Inspect all parts and assemblies and finish-sand where

Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A side stiles	¾"	3"	17⅞"	O	4
B side rails	¾"	3"	9⅞"	O	4
C door stiles	¾"	3"	17¾"	O	4
D door rails	¾"	3"	11⅞"	O	4
E* side panels	½"	7⅞"	15⅞"	EO	2
F* door panels	½"	8⅞"	15⅞"	EO	2
G legs	1½"	1½"	35"	O	4
H lower side rails	¾"	4"	14"	O	2
I front and rear rails	¾"	4"	30"	O	2
J upper and lower panels	¾"	13¾"	29¾"	OP	2
K* long banding	¾"	¾"	28½"	O	4
L* short banding	¾"	¾"	12½"	O	4
M back	¼"	21¼"	28½"	RP	1
N cleats	¾"	¾"	20½"	O	2
O shelf panel	¾"	11½"	29⅞"	OP	1
P shelf banding	¾"	¾"	29⅞"	O	1
Q* top	1"	18"	35½"	EO	1

*Parts initially cut oversize. See the instructions.

Materials key: O—quartersawn white oak, EO—edge-joined quartersawn white oak, OP—white oak plywood, RP—red oak plywood.

Supplies: #8×¾" flathead screws (8), #8×¾" flathead screws (10), figure-8 fasteners (4).

Blade and bits: Dado set, 45° chamfer router bit, ¾" Forstner bit, self-centering drill bit.

Sources: Schaub 1100B-03 oil-rubbed bronze no-mortise ball tip 2½×¾" hinges no. bci2081974, \$9.56 ea. (4), Hickory Hardware P657-STB statuary bronze roller catches no. bci1280893, \$1.68 ea. (2), Pulls Direct, 800-470-1505, pullsdirect.com; Antique finish ring pulls no. MS-4, \$18 ea. (2), Horton Brasses, 800-754-9127, horton-brasses.com; ¼" shelf pins, antique brass, 16 pack no. 22765, \$5 (1 pack), Rockler, 800-279-4441, rockler.com; PureColor stain no. 35 Fawn, quart, \$32, PureColor Inc., 855-729-7873, purecolorinc.com.

needed. Apply stain and finish. (We used a water-based satin polyurethane topcoat.)

4 Reinstall the doors and hardware. Install figure-8 fasteners and the top. Rest the shelf on shelf pins [Sources]. Place the cabinet in a hallway, hang a mirror over it, and watch a smile spread across your face. 🌿

Produced by **Jan Svec** with **Kevin Boyle**
Project design: **Kevin Boyle**
Illustrations: **Roxanne LeMoine**, **Lorna Johnson**

Cutting Diagram



¾ x 7¼ x 96" Quartersawn white oak



¾ x 7¼ x 72" Quartersawn white oak



¾ x 3½ x 72" Quartersawn white oak * Plane or resaw to the thicknesses in the Materials List.



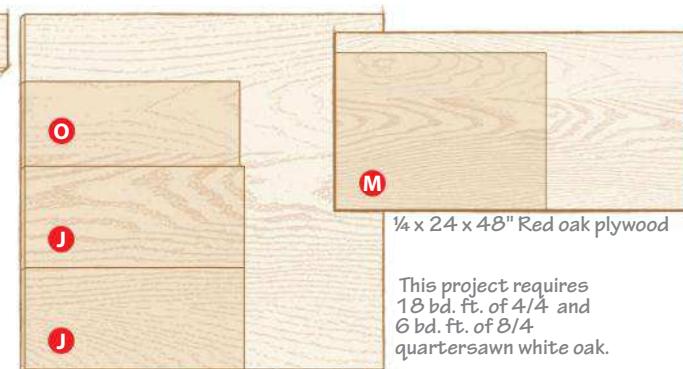
¾ x 5½ x 72" Quartersawn white oak



1½ x 1½ x 72" Quartersawn white oak (2 needed)



¾ x 5½ x 96" Quartersawn white oak



¼ x 24 x 48" Red oak plywood

This project requires 18 bd. ft. of 4/4 and 6 bd. ft. of 8/4 quartersawn white oak.



¾ x 48 x 48" White oak plywood

1½ x 5½ x 72" Quartersawn white oak (2 needed)

Gotta-have Router Accessories

Get more capability, accuracy, and repeatability from your handheld and table-mounted routers with these tools and jigs, tested and proven in the WOOD® shop.

Handheld helpers

Create perfect circles and ovals

With this jig, you can rout precise shapes that need only light sanding along the edges. Start by screwing the jig to the bottom face of the workpiece (where the screw holes won't be noticed on the finished project). To rout circles, simply secure one of the two dovetailed sliders in the center of the jig's grooves with the router set for the radius you want, and then rout in incremental depths until done. For ovals, set the two sliders for the maximum travel in their axes, and then rout. The sliders glide back and forth in the jig as you rout the elliptical shape. The large jig we tested allows for ovals with a maximum of 8" between the long and short axes and a minimum of 3½". You also can rout circles from 9¼" to 52" in diameter. On the small jig, you can rout circles up to 24" in diameter and ovals 6×11" to as large as 19×24". Both come predrilled for many common routers.

Oval/circle-routing jig

Large jig, no. 27712 (midsize routers), \$90; small jig, no. 55819 (compact routers), \$70
Rockler Woodworking & Hardware
800-279-4441, rockler.com

► Router categories:
Trim router, 1 hp or less;
compact router, 1¼ hp;
midsize router, 1½-2¼ hp;
full-size router, 3+ hp.





Be an efficient copycat

Guide bushings, also known as template guides or rub collars, make it possible to rout using a jig or pattern to create a copy on your workpiece of a specific template. Choose a bushing larger than your bit, make a template that accounts for the offset between the bit and bushing, secure the template to the workpiece, and then guide the bushing along the template to rout the identical pattern onto the workpiece. This kit provides eight sizes of bushings ($\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{7}{16}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", $\frac{5}{16}$ ", and 1" outside diameters) that fit the 1 $\frac{1}{8}$ " stepped opening on most router subbases. It also includes two locking rings.

10-piece guide bushing set

no. 144625, \$45.50
Woodcraft
800-225-1153, woodcraft.com

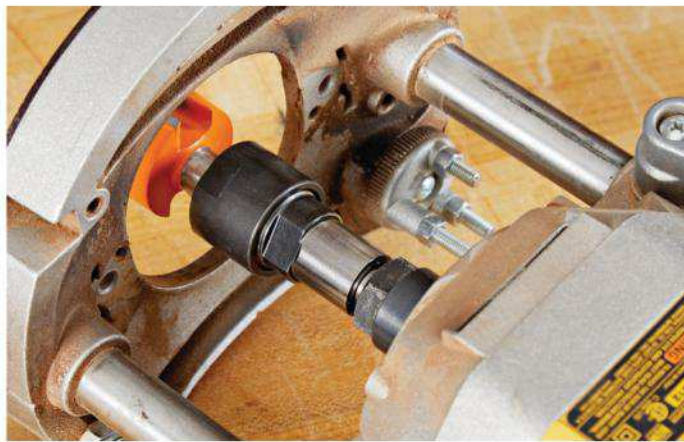


Dust can't beat this shroud

You'll find a ton of aftermarket dust-collection attachments for routers, but in our experience, this one tops them all. It corrals the chips with upper and lower shrouds where your shop vacuum can capture them. The top shroud (with the port) swivels to prevent a stiff vac hose from steering the router. The port's 1 $\frac{1}{2}$ " outside diameter and 1 $\frac{1}{4}$ " inside diameter means you'll need a hose that size or an adapter (not available from Oneida). This accessory's upper and lower plates—predrilled to fit many common routers—replace the subbase on your router.

Universal dust-free router hood

no. AXH000001, \$35
Oneida Air Systems
800-732-4065, oneida-air.com



Add reach for deep routing

Sometimes, such as when routing out trays or flattening a wide slab with a shop-made jig, a router bit just needs more cutting depth. This collet extension adds 2 $\frac{1}{4}$ " of reach. To use it, simply chuck it into your router's $\frac{1}{2}$ " collet, and then secure any $\frac{1}{2}$ "-shank bit in the collet. We experienced no runout or additional vibration when using this accessory.

Collet extension

no. 115-070, \$29.90
Infinity Cutting Tools
877-872-2487, infinitytools.com

woodmagazine.com



Nonslip pad adds grip

Every shop should have at least one of these: a spongy, rubbery pad that prevents workpieces from slipping while routing, and protects surfaces from scratches. It also works great at holding workpieces for sanding.

16x24" nonslip router pad

no. 123633, \$16.23
Woodcraft



Support your local router

Small routers provide finesse and dexterity as one-hand-use tools, but sometimes it's nice to have the steadiness only two hands can provide. These oversize subbase plates stabilize small routers, ensuring even cutting depth and consistency. Choose from a two-handle version for trimmers and compact routers, or a single-handle offset model for two different sizes of routers. The rigid phenolic plates stay flat without flexing, and they come predrilled for the most common router models.

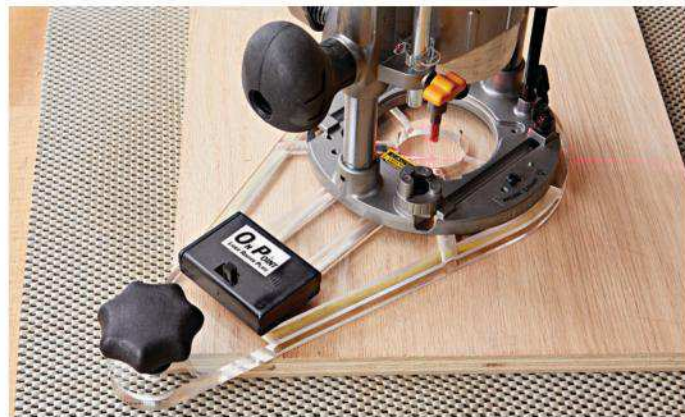
Offset router plate

Available in two versions for midsize routers (predrilled 3-hole pattern and undrilled), \$31; and in six versions predrilled for different trim/compact routers, \$25.

Trim/compact router plate

Predrilled for five different routers, \$22
Woodhaven

800-344-6657, woodhaven.com



Plunge with perfect placement

Besides the benefits of an offset base, On Point's crosshair lasers pinpoint the bit center for plunge-routing jobs that require precise placement, such as creating workbench dogholes or marble recesses in a Chinese-checker board. Or, switch on the LED lights for amazing bit visibility. (Two AA batteries are included.) Attach its dual-bearing guide to rout around a workpiece's perimeter or make flutes parallel to the edge. The base comes predrilled to fit some common plunge routers.

On Point laser-guided offset base

no. 9098, \$59.95
MLCS Router Bits & Woodworking Products
800-533-9298, mlcswoodworking.com



No-play jig for flutes

This jig makes routing perfectly straight and evenly spaced flutes a breeze. (Okay, you have to do a little math to determine the spacing.) After mounting your router—it's predrilled for common midsize models—lay out the flutes on the workpiece and on the jig's erasable template, and then rout to the desired depth. From there, it's a simple step-and-repeat process for each flute. Because the jig traps the workpiece between its two rails, you can't help but rout straight, parallel grooves in boards up to 9½" wide, for flutes spaced over 8" of that width.

Fluting jig

no. 28636, \$70
Rockler Woodworking & Hardware



Make bit changes easier and faster

If you're tired of battling with your router's collet, wrenches, or spindle lock, then switch to an Eliminator Chuck. With this collet replacement, you insert the bit, and then tighten a socket screw with a hex wrench to engage a camlike mechanism that snugs the bit in place. It holds well without slipping, releases bits just as easily, adds ¼" to the spindle length, and runs smoothly without vibration.

Quick-release router collet

Available in four versions, \$48-\$60; ¼" collet reducer, \$13.
Eliminator Chuck
703-644-4188, eliminatorchuck.com

Tops for table routing



Set bit heights with precision

This set of bit-height gauges features the most common fractional sizes ($\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{7}{16}$ ", $\frac{1}{2}$ ") in bit-straddling aluminum bars. Each bar also has a post at the same dimension, giving you the ability to check depths on the router table and workpiece. And, at $\frac{1}{4}$ " thick, they stand without falling over as you adjust bit height. You can also buy a metric version (3mm, 4mm, 6mm, 8mm, 9mm, 11mm, 12mm).

Bit setup bars

no. PRS3400, \$45
Kreg Tool
800-447-8638, kregtool.com



Take dust downtown

Table-mounted routers typically spew chips and dust in two directions: sideways above the table and downward into the opening around the bit. You can capture much of the sideways debris with a fence-mounted dust port. And Incra's Clean Sweep housing does a great job of trapping the down-below debris so a dust collector, hooked to the 4" port at the bottom, can suck it all away. A door (removed in photo) gives you access to the router should you need it. Clean Sweep mounts to any wood or phenolic router-table top.

Clean Sweep dust-collection cabinet

no. CSMLR-SINGLE, \$99.95
Incra
888-804-6272, incra.com

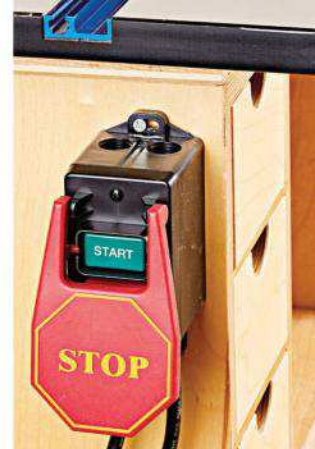
woodmagazine.com

A safer way to trigger power

We love auxiliary switches that make it possible to power up routers without having to reach beneath the table. And this one's magnetic switch breaks the circuit to the router in the event of a power outage, preventing accidental startups when the power comes back on.

Magnetic auxiliary power switch

no. 9077, \$39.95
MLCS Router Bits & Woodworking Products



Secure small parts for safety

This jig clamps small parts for worry-free routing, and the handles keep your fingers well away from the bit. A quick-release button makes large adjustments fast and easy, and a knurled knob tightens the abrasive-lined clamps around the workpiece.

Small-piece holder

no. 57896, \$55
Rockler Woodworking & Hardware



Fence stops provide critical endpoints

If you're routing stopped grooves, you'll need a stop at each end of travel, and nothing works better than a flip-stop. They're easy to install and position, and flip out of the way when not needed without having to reset for step-and-repeat operations. We like these from Kreg Tool because they slide easily in a T-slot and stay locked without deflecting. They'll fit a fence that's at least $\frac{3}{4}$ " tall (the length of the arm) with a top T-slot centered $\frac{3}{4}$ " from the fence's front face. (If your fence doesn't match these specs, you might have to buy a flip-stop from the fence's manufacturer.)

Fence flip-stops

no. PRS7850, \$25 each
Kreg Tool

Router-table joinery jigs



Add strength (and pizzazz) to miters

This intuitive jig slides smoothly in the miter slot, and the movable supports capture your project securely. Use a dovetail, straight, or spiral bit to rout the slots, then make splines to glue in place. It's spot-on, safe, and easy. For projects too large to fit between the supports, simply remove one and register against the other.

Spline-slotting jig

no. 9537, \$89.95

MLCS Router Bits & Woodworking Products



Make quick and easy box joints

This jig makes possible a precise-fit box in less than 15 minutes (including setup). To use it, first secure the jig over the bit and registered in the miter slot. Then, position the spacer bar—choose from ¼", ⅜", and ½"—the same distance from the bit as the bar itself, and lock the jig in place. Hold the workpieces against the sled and step-and-repeat rout to a completed box joint. You can use straight bits with this jig, but we get best results using an upcut spiral bit.

Box-joint jig

no. 59032, \$80 (bits not included)

Rockler Woodworking & Hardware



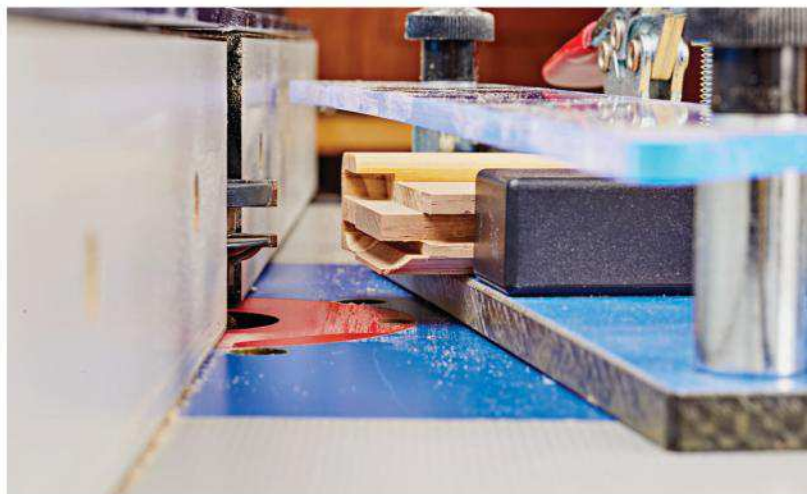
Cope rails with confidence

We've used a lot of coping sleds to make cope-and-stick doors (also known as rail-and-stile doors), and this one's our favorite because of its problem-free performance and fair price. Made of rigid phenolic that doesn't flex under clamping pressure, the sled holds your door rails securely as you rout the cope cuts on their ends. A replaceable screw-on backer board prevents tear-out as the bit exits the cut. And a clear acrylic "visor" guides the sled against the fence for perfect depth of cut. 🌲

Coping sled

no. 52149, \$60

Rockler Woodworking & Hardware



Produced by Bob Hunter

 **WORK SHARP®**
KNIFE & TOOL SHARPENERS

 **Drill Doctor**
The Drill Bit Sharpener



WOOD TOOL SHARPENING



DRILL BIT SHARPENING

SHARPENING SOLUTIONS

SINCE 1973



KNIFE AND TOOL SHARPENING



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WORKSHARPTOOLS.COM / DRILLDOCTOR.COM / 1.800.597.6170



Convertible Crib

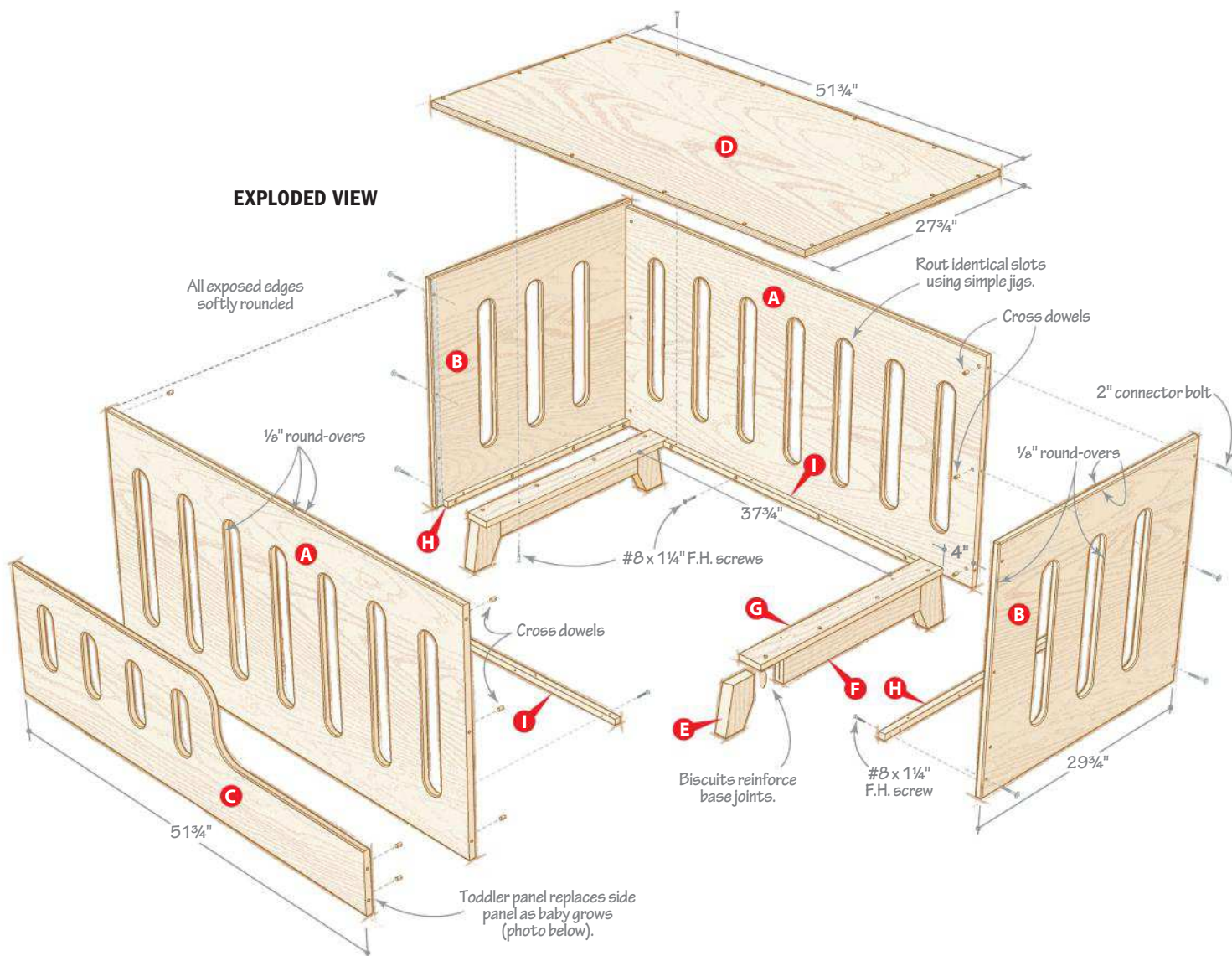
This bed adapts to a growing child's needs and knocks down for storage.

DIMENSIONS:
53 1/4" W x 29 1/4" D x 33 1/2" H

Approximate materials cost:

\$160

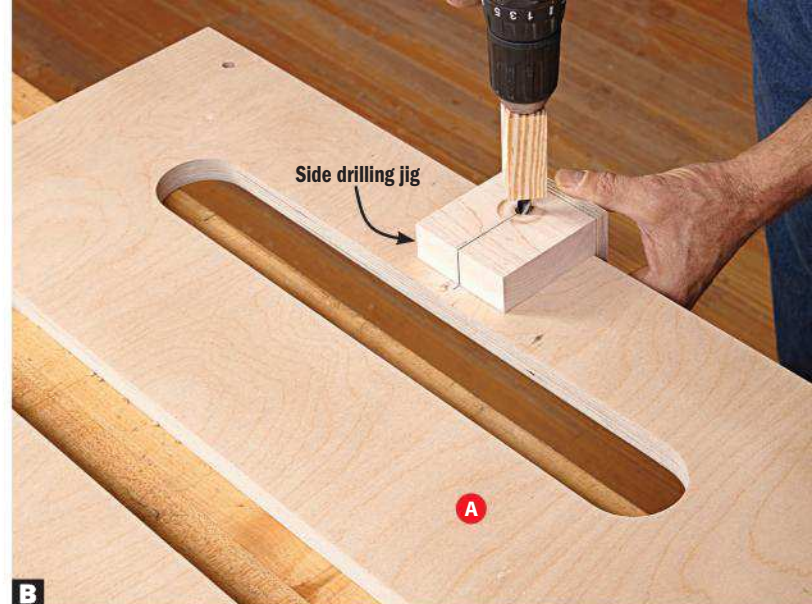
Build with just
3
sheets of plywood



Simple plywood panels secured with knock-down fasteners make this bed fast to build, set up, and break down. Start with the crib, and when the child is old enough, swap in the toddler panel. It allows a little one to get in and out on their own, while preventing them from rolling out. When they outgrow the toddler bed, everything disassembles for storage in minimal space.



A Clamp the slot jig to an end (B) and a backer board, with the cleat against the bottom edge. Risers create room for the clamp heads.



B Slip the depth stop and drilling jig over the bit, and adjust the bit so $\frac{5}{8}$ " extends past the drilling jig. Align the index line with a hole layout mark and drill the holes into each side (A).

Note: For safety purposes, the completed openings in the crib must be no more than $2\frac{3}{8}$ " wide.

Make the sides and ends

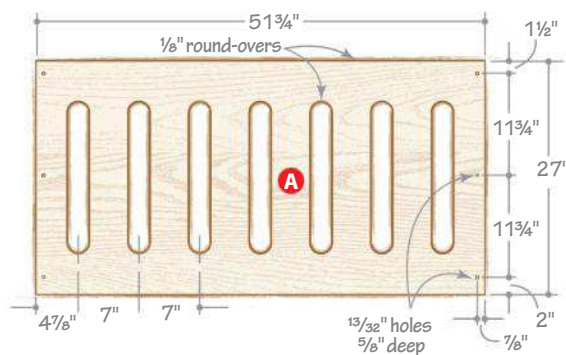
1 Cut the sides (A), ends (B), and toddler panel (C) to size [Materials List]. Lay out the slot centerlines and the hole locations [Drawings 1-3].

2 From $\frac{1}{2}$ " plywood, make the long-slot jig [Drawing 4] and the short-slot jig [Drawing 5]. Mark the centerline, and drill the $2\frac{1}{2}$ " hole in each end before crosscutting the ends to finished length. Glue up the jigs, including the cleat on each. Transfer the centerlines to the inside edges of the slots.

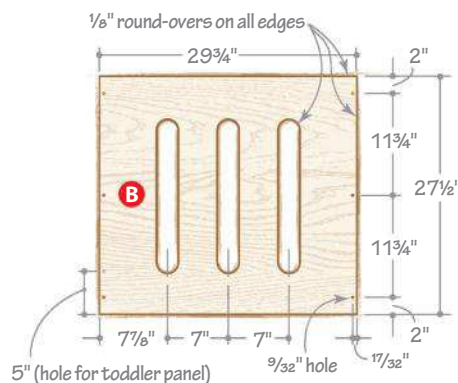
3 Mount a $\frac{1}{2}$ "-outside-diameter guide bushing and a $\frac{3}{8}$ " upcut spiral bit in your router. Place the long-slot jig on an end (B), aligning the centerlines of the jig and panel, and clamp the jig and workpiece to a backer board [Photo A].

4 Set the router depth stop to plunge the bit $\frac{7}{8}$ " below the router base. Rout around the perimeter of the jig opening, reset the depth stop for a $1\frac{1}{4}$ "-deep cut, and complete the slot [Photo A]. Repeat the process to rout the remaining slots in the ends and sides,

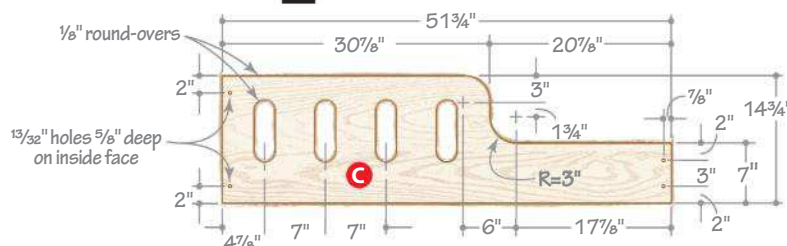
1 SIDE (Inside face)



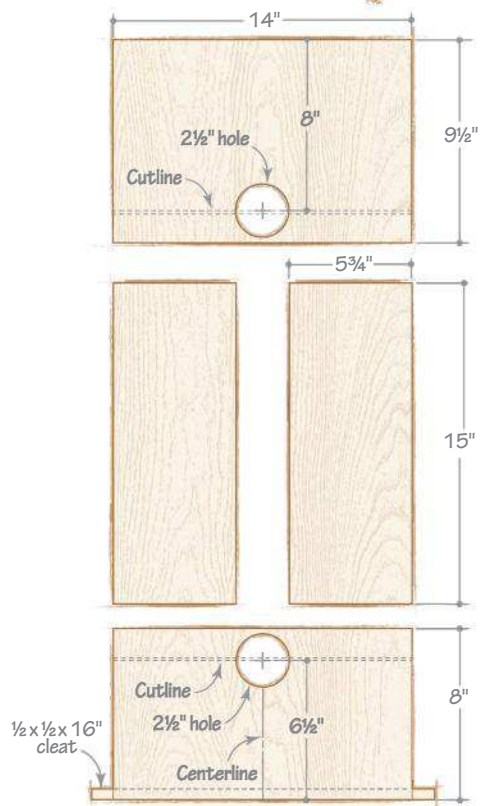
2 END



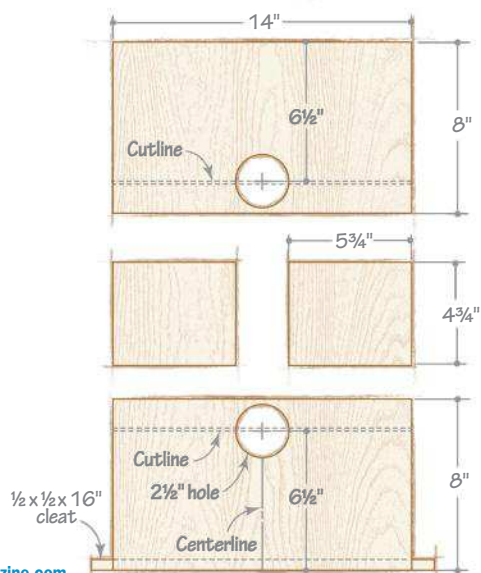
3 TODDLER PANEL



4 LONG-SLOT JIG



5 SHORT-SLOT JIG



C Clamp the ends (B) to the sides (A) with their bottom edges flush and the sides inset $\frac{1}{4}$ ". Drill holes that intersect the holes in the sides and toddler panel.

and using the short-slot jig, the slots in the toddler panel. Always register the jig cleat against the bottom edge of the workpiece.

5 Make the drilling jigs [Drawing 6]. Extend the index line over the edge of each jig. Also make a depth stop by drilling a $\frac{13}{32}$ " hole through a $\frac{3}{4} \times \frac{3}{4}$ " length of scrap. File the center point off a $\frac{13}{32}$ " brad-point bit to prevent it from poking through, then drill the holes in the sides [Photo B] and the toddler panel.

6 Using the end drilling jig, drill through the ends (B) where marked [Photo C].

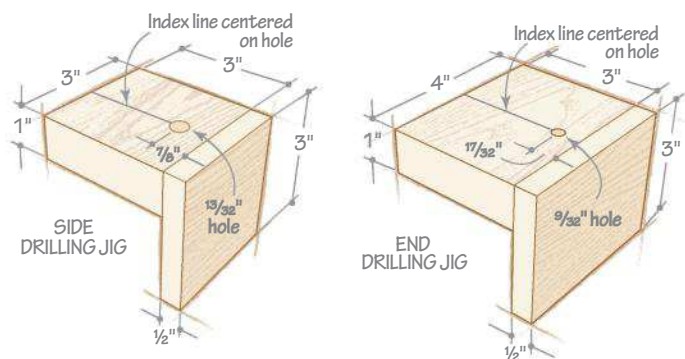
7 Round over the slots and indicated edges and ends [Drawings 1-3]. Finish-sand the panels to 220 grit.

8 Assemble the sides and ends with connector bolts and cross dowels [Source, Exploded View]. Measure for the bottom (D), and cut it to size.

Tip! You may want to buy a cheap $\frac{13}{32}$ " brad-point bit for this task.

Note: We spray-painted the exposed heads of the hardware silver. You can leave them bronze if you like.

6 SIDE AND END DRILLING JIGS



Note: Laminate stock for the feet and rails if you don't have 1½"-thick material.

Give it feet to stand on

1 Cut the feet (E) and rails (F) to size [Drawings 7, 7a]. Cut biscuit slots and glue up two foot assemblies. Rout the round-overs and finish-sand the assemblies.

2 Cut the base cleats (G) to size. Glue and screw them to the foot assemblies, flush with one face.

3 Cut the end and side cleats (H, I) to size. Glue and screw the cleats to their respective panels, flush with the bottom edges and centered on their lengths [Exploded View]. Apply a finish to all pieces. (We sprayed on two coats of water-based Enduro-Var from General Finishes.)

Put it together

1 After the finish dries thoroughly, place the bottom (D) in the crib, drill countersunk ⅜" pilot holes, and screw the bottom to the side and end cleats [Exploded View].

2 Turn the crib over. Screw the foot assemblies in place [Photo D].

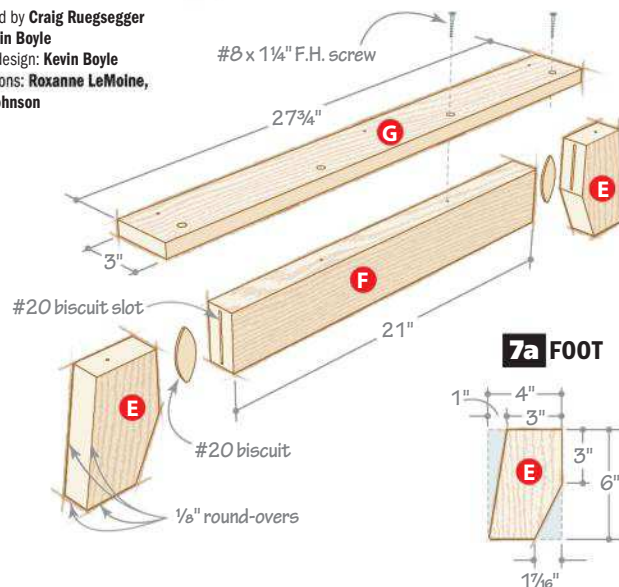
3 Flip the crib over, place the mattress in it, and ready the bed for your new arrival. 🌳



D Butt the extended portion of the base cleats (G) against the side cleats (I). Screw the base cleats to the bottom.

7 FOOT ASSEMBLY

Produced by **Craig Ruegsegger** with **Kevin Boyle**
Project design: **Kevin Boyle**
Illustrations: **Roxanne LeMoine**, **Lorna Johnson**



Cutting Diagram



¾ x 48 x 96" Birch plywood (2 needed)



¾ x 48 x 96" Birch plywood



1½ x 5½ x 72" Maple



¾ x 5½ x 96" Maple

Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A sides	¾"	27"	51¾"	Ply	2
B ends	¾"	27½"	29¾"	Ply	2
C toddler panel	¾"	14¾"	51¾"	Ply	1
D* bottom	¾"	27¾"	51¾"	Ply	1
E feet	1½"	4"	6"	M	4
F bottom rails	1½"	3"	21"	M	2
G base cleats	¾"	3"	27¾"	M	2
H end cleats	¾"	¾"	27¾"	M	2
I side cleats	¾"	¾"	37¾"	M	2

*Part cut to fit. See the instructions.

Materials key: Ply-birch plywood, M-maple.

Supplies: #8 x 1¼" flathead screws, #20 biscuits.

Bits: ⅜" spiral upcut, ⅛" round-over router bits.

Source: ¼-20 x 2" connector bolts, no. 163129 \$5.25 (8-pack) (2); cross dowels, no. 163135 \$5.25 (8-pack) (2), Woodcraft, 800-225-1153, woodcraft.com.

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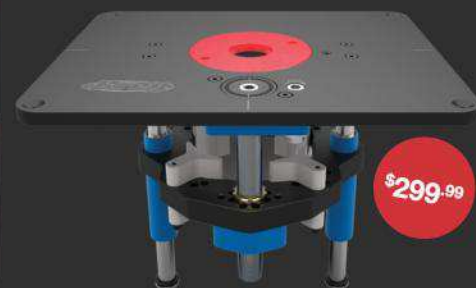


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Distressing techniques fall into two areas: *Aging the wood* can happen before or after construction, and even between coats of finish. *Aging the finish* typically occurs after construction or near completion. Consider the look you want, then use the appropriate techniques.

For example, reclaimed barn boards have a rough texture from years of weather exposure, and were likely painted several times. Much or most of that paint may be gone,

leaving a worn, gray board with hints of several paint coats. See the sections titled **Give the wood some wear**, next page; **The layered look**, page 64; **Feeling chippy**, page 65; and **Go gray**, page 66.

A piece sheltered indoors won't have the weathered texture of barn boards, but may have been refinished several times, without benefit of stripping the piece to bare wood each time (**The layered look**, **Feeling chippy**). Each layer likely suffered dents, dings, and

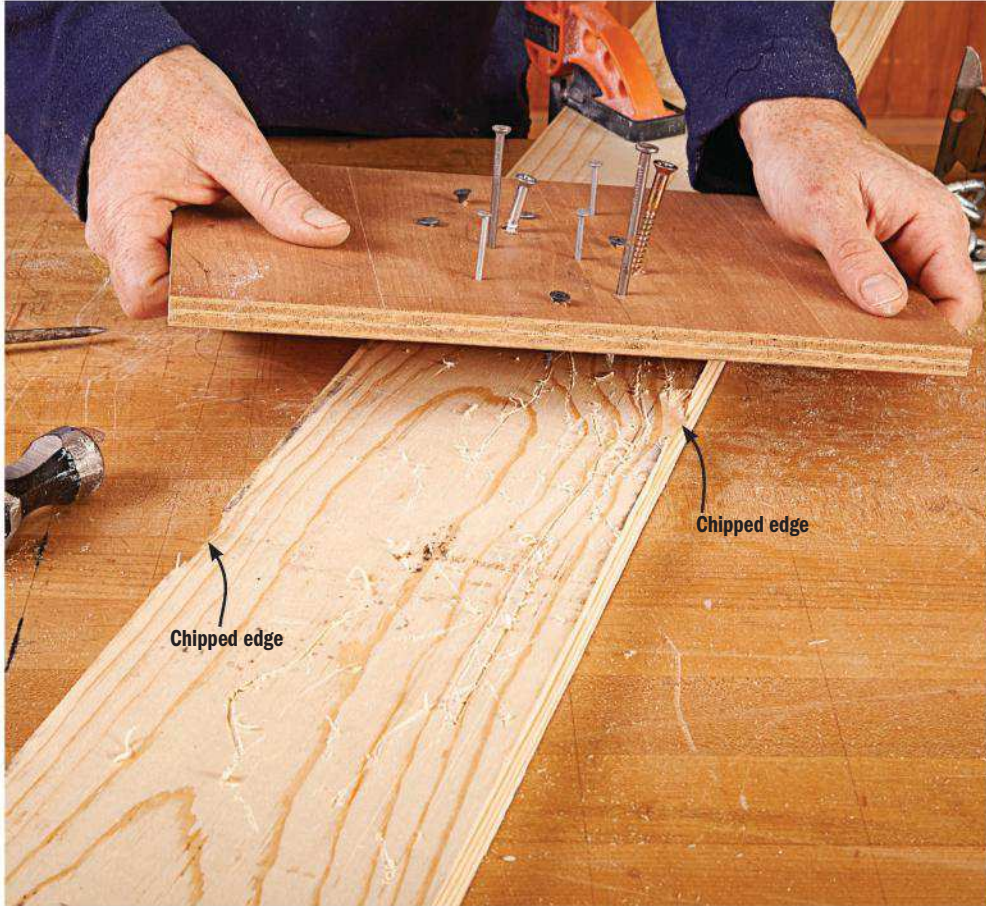
scratches that may not have been remedied before the next finish was applied (**Give the wood some wear**).

Painting has always been a quick way to rejuvenate a furniture piece. Incomplete surface preparation and wear would cause the paint to chip or peel (**Crack under pressure**, page 65; **Feeling chippy**). Several layers of paint may exist (**The layered look**). And if the piece should look as if it sat in a dusty attic for decades, see **Dig up some dirt**, page 67.

Give the wood some wear

Woodworkers typically select the best-looking boards they can find for projects. But when creating a distressed look, less-than-perfect boards may be desirable. Knots, chipped edges, end checks, and wild grain can add character. Just make sure the imperfections don't pose a hazard to those

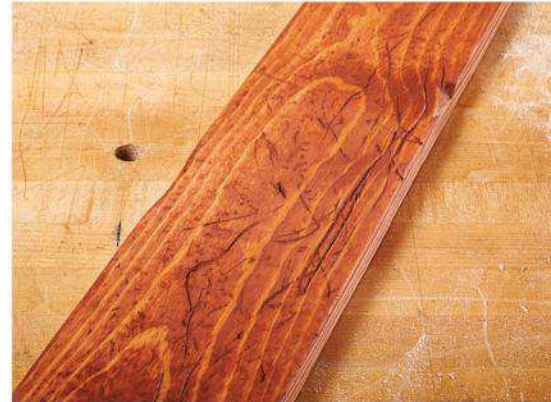
handling the completed project. Filing and sanding them smooth simulates years of wear while removing the potential for snags and splinters. Then, try these methods for creating boards that look as if they've survived a rough existence.



Simulate worm tracks, insect holes, and scratches with screws and nails of various sizes driven through a piece of scrap. Drag the points along the board in short, random directions, and press them down here and there.



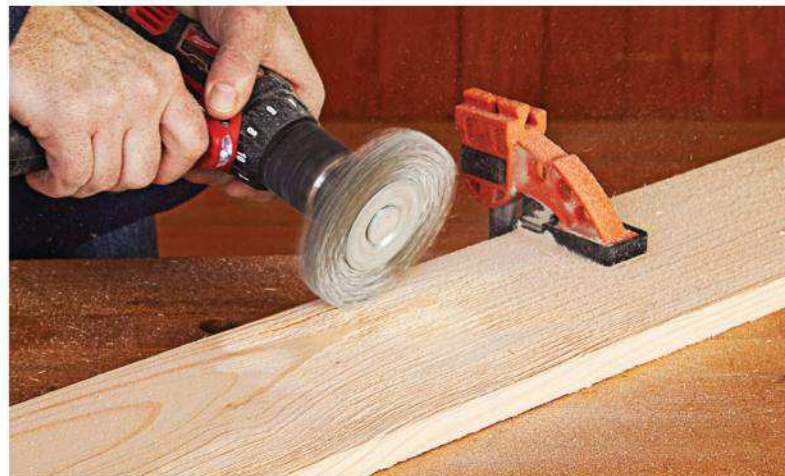
Add dents and gouges by rolling various pieces of hardware and rocks between two boards. Strike the workpiece randomly with a hammer, a length of chain, or other lumber. Lightly sand the dinged-up surface so the edges of the new dents look worn smooth.



Dents and scratches collect more pigment from the stain, simulating the look of dirt and grime trapped in these areas.



Re-create the sawmill marks of rough-cut lumber by dragging a board backward across a running bandsaw blade. A 2- to 3-tooth-per-inch blade gives good results.



Create the texture of weather-beaten wood by using a wire wheel in a drill. It strips away more of the soft earlywood and less of the harder latewood, leaving ridges, and raising a fuzz of wood fibers. A handheld wire brush creates areas of less-pronounced wear.

The layered look

Tip! Highly contrasting stain and paint layers call attention to distressed areas. For a more subtle look, use similar colors.

When a piece has several layers of finish or paint, each of those layers will show through in varying degrees at naturally worn areas. Think of where items were set down too firmly, edges that were handled or rubbed against a wall, surfaces around door and drawer pulls, and where legs and stretchers were kicked by shoes and bumped by brooms or vacuum cleaners.

You can re-create years of distress in minutes with sandpaper. Note that when doing this, dings, dents, and scratches retain the topmost color, as sandpaper doesn't reach into them. Conversely, flat areas and raised grain, as well as brush strokes and paint glops in base paint layers, will buff away to reveal the color below.

Note: We used interior latex paints in a satin finish for all of the projects shown in this article.



A coat of yellow (Sherwin-Williams no. 6667 Afterglow) applied over a darker base coat (Sherwin Williams no. 9059 Silken Peacock) provides high contrast, emphasizing the distressing done in the next step.



After the paint dries, you can add some light distressing, as shown in the first two photos on page 63. Then, sand areas that would have received wear. Varying the sandpaper between 100-, 120-, and 150-grit prevents the wear from looking too uniform.



If you like, apply a third color (Sherwin-Williams no. 6043 Unfussy Beige shown), brushing or rolling on, as you would for a typical piece. Sand wear areas again after the paint dries.

Feeling chippy

Another way to remove part of the top layer of paint: Lightly coat edges and corners with petroleum jelly before spraying on the paint. (Brushing or rolling would smear the jelly all over.) After the paint dries, rubbing a shop rag over the item removes the paint wherever the jelly was applied.



Work carefully, dabbing on very little petroleum jelly, primarily on corners and edges. We stained this table with Varathane Kona first.



Roll the rag as you work to prevent the paint from discoloring the freshly revealed edge. If the paint doesn't remove easily, buff lightly with 150-grit sandpaper.



Drizzle white glue over the surface. Spread it unevenly with a foam brush, but cover the entire surface. The uneven coverage varies the crackle pattern.



As soon as you finish spreading the glue, start applying a moderately heavy coat of paint with a clean brush.

Crack under pressure

Paint cracks as it ages because it hardens, and wood expands and contracts. Get that look almost instantly with this simple technique. To accentuate the cracks, start by applying a stain or paint that contrasts with the top coat of paint. We applied Sherwin-Williams Classic Cherry stain and painted on Sherwin Williams no. 6667 Afterglow. Work on one horizontal surface at a time, laying the item on its sides, front, and back as needed. Allow the paint to dry before tackling the next surface.

Tip! Control the crackling by drying the paint with a hair dryer on low heat. Experiment on scrap to discover how much drying creates the desired effect.

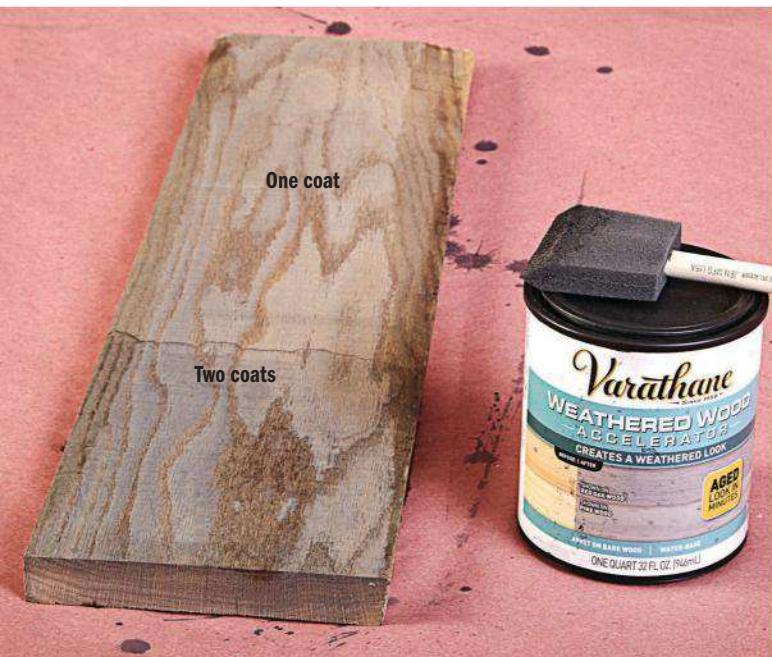
Tip! Add a few drips and runs intentionally to add more texture to the piece.



As the paint dries, cracks develop. If the pattern of cracks isn't to your liking, scrape off the paint before it dries completely, and repeat the glue and paint applications.

Go gray

Exposure to UV rays in sunlight eventually weathers unprotected wood to gray. Here's how to accomplish the same look in just a few hours.



A new oak board weathers to gray in minutes with Varathane's Weathered Wood finish. Simply brush it on and allow to dry.

When brushing on weathered highlights, *below*, the brush should be almost dry. Don't overdo it; this is a tough look to fix if you go too heavy.



Add more weathered highlights by dabbing a brush in light gray paint. (We used Sherwin-Williams no. 7072 Online.) Tap the brush on a rag before lightly feathering the brush across the piece in short, quick strokes.

A little too distressed? Don't despair.

One great thing about distressing is the ease of repairs: There's no need to blend perfectly with the existing finish. On this table apron, we sanded a bit too aggressively, *below*. A quick paint application and lightly rubbing the area with a rag, *right*, re-covers the goof, resulting in a just-right reveal of the layers beneath.





Lightly brushed dark wax simulates built-up grime. Concentrate on areas where hands would touch the item (pulls, drawer fronts, doors, handles) and in recessed corners of framed panels and moldings. If you apply too much dark wax, wipe it off using mineral spirits. Reapply the clear wax, then the dark again.



Imitate flecks of dirt and fly specks by dabbing the tip of a small brush in dark stain and wiping off most of the stain. Move the brush slowly at varied distances above the surface as you run your finger across the bristles.

Dig up some dirt

Dust, spills, and stains accumulate over time to add subtle patina. These techniques provide the finishing touch of authenticity. Start with light touches, then step back frequently and take a look to avoid overdoing the effect.

To “dirty up” a surface, first, buff on a light, even coat of a clear wax and let it dry. This prevents the dark wax, applied next, from penetrating too deeply, allowing you to gradually build the look. After dabbing a brush in the dark wax, swirl the bristle tips on a piece of cardboard to spread the wax evenly and remove any clumps. Then, feather the brush lightly across the piece, in a series of overlapping, randomly placed Xs.

Apply flecks of dark stain or paint, *above right*, for even more grime. Stain spreads flat, looking like grease or water spatters; paint allows you to add a hint of another color (or more of one of the base colors). Simulate a water ring by lightly wiping the outside edge of a lid with light brown stain, then just touching it to the table surface.

Tips for success

■ Practice techniques and color combinations on scrap to build confidence and find the look you like.

■ Small pieces need less distressing. Pieces with more surface area, such as a dining table, allow for more pronounced distressing without looking overdone.

■ If you aren’t satisfied with the results, simply strip away the paint and finish, and begin again. Any remnant of previous attempts will likely enhance new efforts.

■ Work slowly, stepping back often to review the overall distressing effect. A good

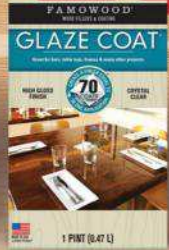
rule of thumb: Stop before you think you have enough. It’s easier to add a touch more than to undo a touch too much.

■ Aged furniture has few sharp corners remaining. Soften edges and molding details with light sanding before applying a finish. Additional sanding while distressing further rounds these areas. 🌳

Produced by **Craig Ruegsegger**
with **John Knight**

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Approximate
materials cost:

\$50

(not
including
hose reel,
hose, or
compressor)



This customizable organizer keeps all your nailers within easy reach, and all your fasteners, hose nozzles, and accessories where you can easily find them. Add a hose reel if you like [Sources] for even more convenience.

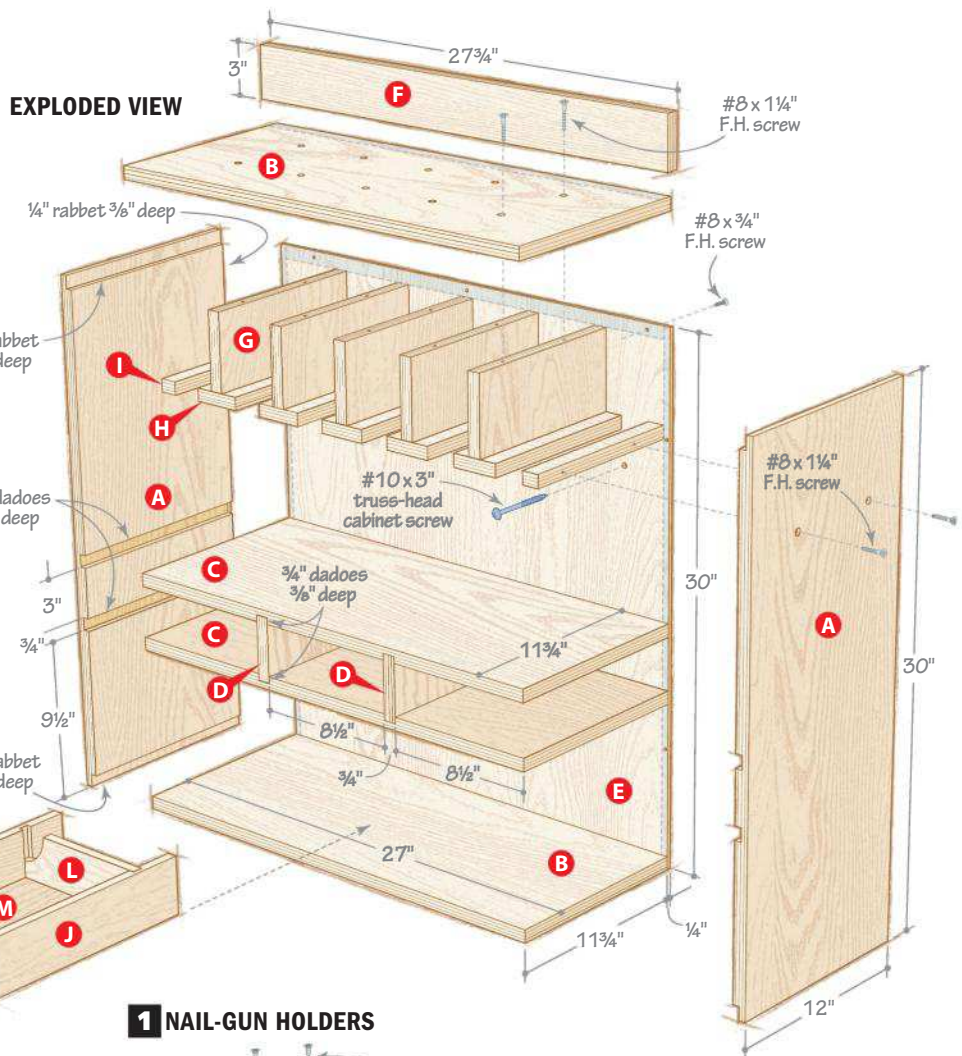
Start with the cabinet

- 1 Cut parts A–F to size [Exploded View, Materials List].
- 2 Dado and rabbet the sides (A) and shelves (C). Glue together the shelves and dividers [Photo A].

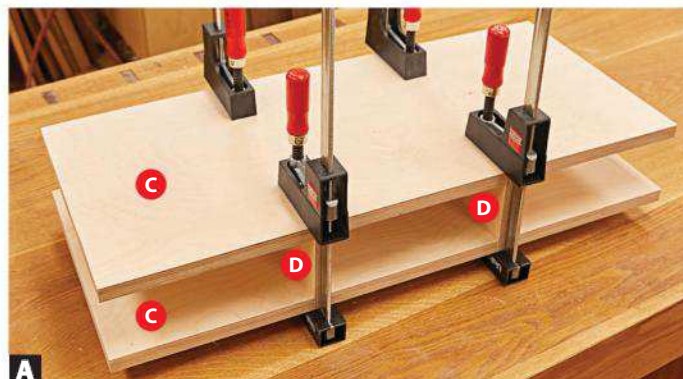
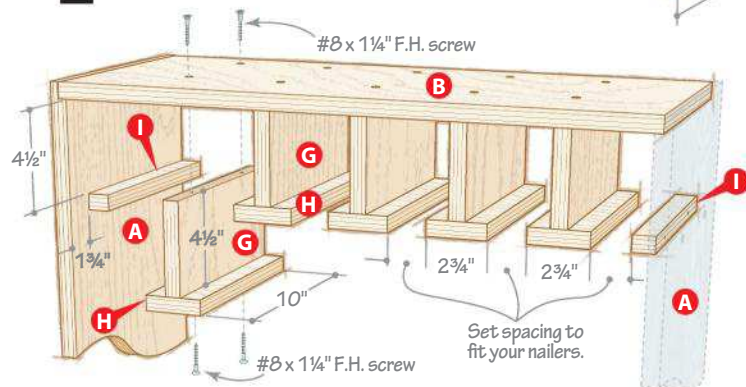
Fit the holders

- 1 While the shelf assembly dries, cut parts G–I to size [Drawing 1]. Sand each piece, lightly rounding over the edges and ends. Screw together each holder (G/H).
- 2 Dry-clamp the cabinet sides, top, and bottom (A, B)—no glue. Arrange the G/H assemblies and side holders (I) to fit your nail guns [Photo B].

Tip! To quickly identify each nailer, write its type (for example, “18ga” or “brad”) above it on the edge of the cabinet top.



1 NAIL-GUN HOLDERS



A Keep the front edges flush when clamping up the shelves and dividers. Wipe away any glue squeeze-out to ensure the drawers will fit and slide smoothly.



B Position the holders and nail guns so that each gun fits snug enough between them to stay in place, yet still removes and replaces easily.

3 Mark the location of each divider (G) on the top. Drill countersunk pilot holes for each divider, and screw them to the top [Drawing 1]. (Don't glue them—this allows you to change the setup should you change nailers.) Glue the top trim (F) to the top [Exploded View]. Screw the side holders to the cabinet sides.

4 Glue and clamp the shelf assembly (C/D), top assembly (B/F), and bottom (B) to the cabinet sides. When dry, screw the back (E) to the cabinet.

Now make the drawers

1 Cut the drawer sides (J), fronts (K), and backs (L) to size [Drawing 2]. Dado, groove, and rabbet the sides and fronts.

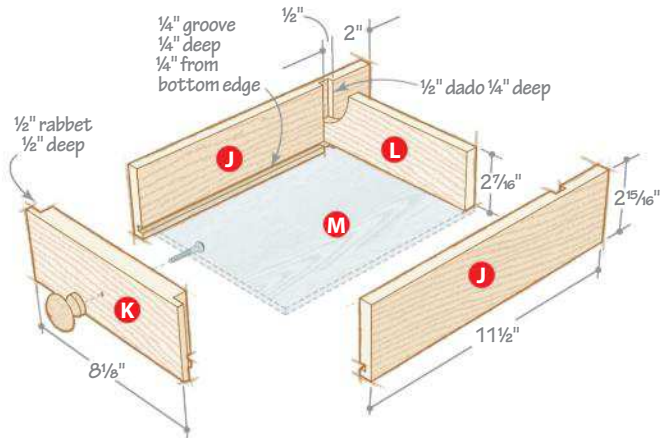
2 Dry-fit each drawer to ensure it fits into its opening. Cut the drawer bottoms (M) to fit. Drill centered holes in the fronts for the knob screws. Sand each part smooth and lightly round over all edges.

Tip! Cut the drawer fronts sequentially from the same board for continuous-grain appearance—a hallmark of custom-made quality.

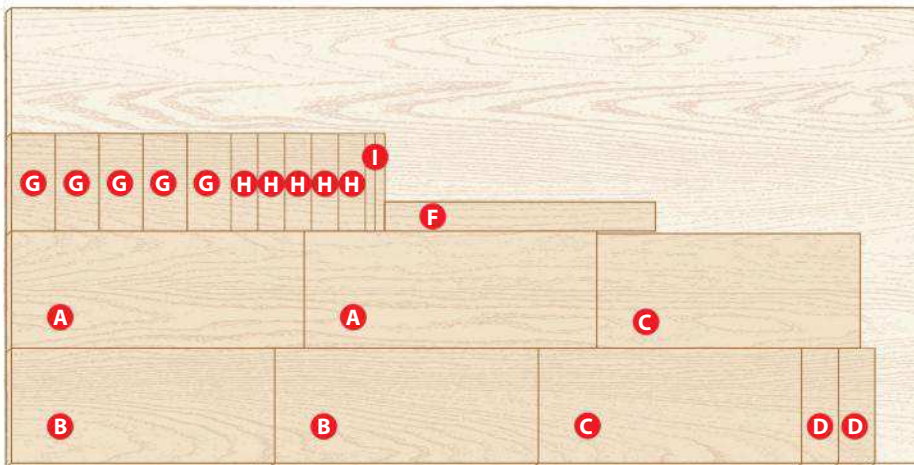
3 Glue together the drawers. When dry, install a knob [Sources] on each drawer.

4 Hang the cabinet on a wall with 3" screws, making sure to screw into wall studs for the necessary support. 🌳

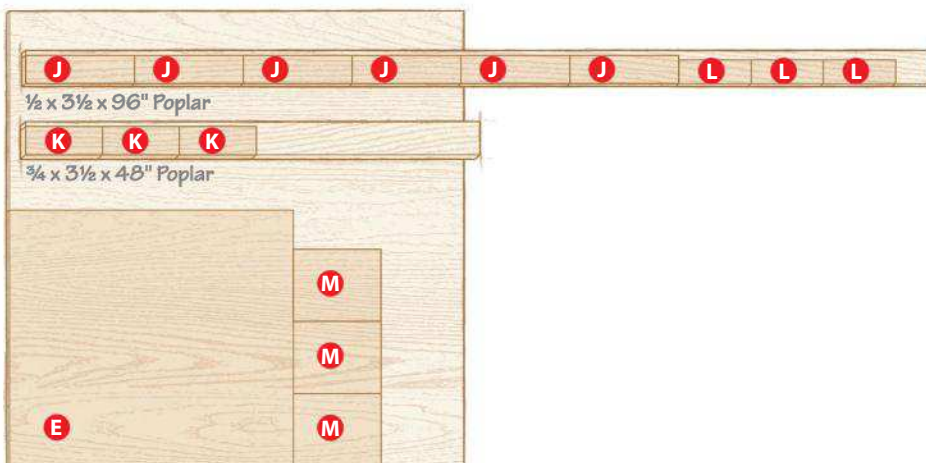
2 DRAWERS



Cutting Diagram



3/4 x 48 x 96" Plywood



1/4 x 48 x 48" Plywood

Produced by **Bob Hunter** with **Kevin Boyle** and **Kent Welsh**
Project design: **Kevin Boyle**
Illustrations: **Roxanne LeMoine**, **Lorna Johnson**

Materials List

Part	FINISHED SIZE			Matl.	Qty.	
	T	W	L			
Cabinet						
A	sides	¾"	12"	30"	Ply	2
B	top/bottom	¾"	11¾"	27"	Ply	2
C	shelves	¾"	11¾"	27"	Ply	2
D	shelf dividers	¾"	11¾"	3¾"	Ply	2
E	back	¼"	27"	30"	Ply	1
F	top trim	¾"	3"	27¾"	Ply	1
Nail-gun holders						
G	dividers	¾"	10"	4½"	Ply	5
H	horizontal holders	¾"	10"	2¾"	Ply	5
I	side holders	¾"	10"	1"	Ply	2
Drawers						
J	sides	½"	2 5⁄16"	11½"	P	6
K	fronts	¾"	2 5⁄16"	8 1⁄8"	P	3
L	backs	½"	2 7⁄16"	7 5⁄8"	P	3
M	bottoms	¼"	7 7⁄8"	9¼"	Ply	3

Materials key: P—poplar, Ply—plywood.

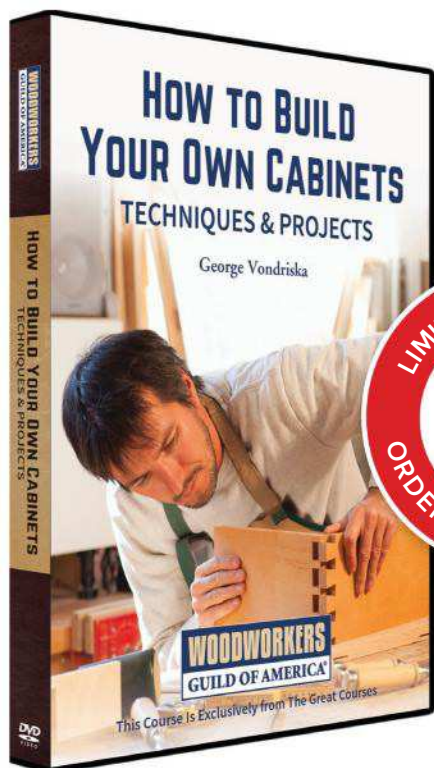
Supplies: #8 x 1 1/4" flathead screws, #8 x 3/4" flathead screws, #10 x 3" truss-head cabinet screws.

Blade and bit: Dado set; countersinking pilot drill bit.

Sources:

1" beech low-profile drawer knobs: no. 23077, \$3 per pair, Rockler Woodworking & Hardware, 800-279-4441, rockler.com.

Hose reel: no. 49587, \$35, Northern Tool & Equipment, 800-221-0516, northerntool.com.



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Smart Shop Uses for Your Smartphone



Note: We show an iPhone in this article, but the same functions can be found on Android devices, with any differences noted.

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You likely have already found many shop tasks your smartphone or tablet can perform, using the flashlight, calculator, or music player, or accessing how-to videos, articles, and even shopping for supplies right from your workbench. Well, you've only tapped (ahem) the surface. Here are some tips for getting even more out of your smartphone.

Harness voice power

Via voice commands, iPhone's Siri and Android's Google Assistant can calculate

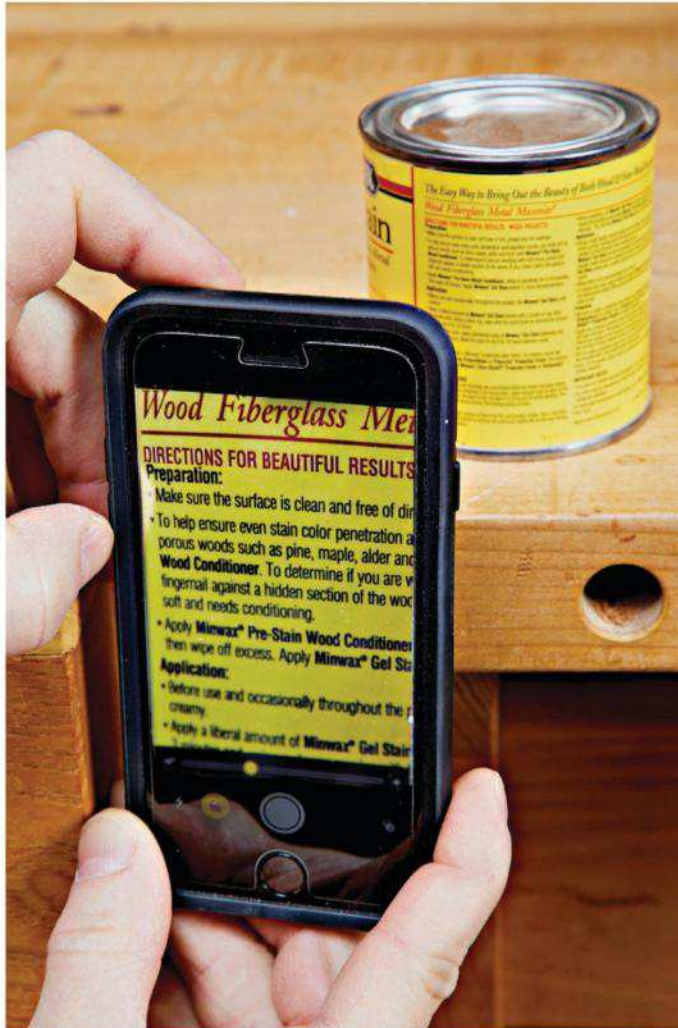
equations ("What's $4\frac{7}{8}$ plus $12\frac{3}{16}$ plus $6\frac{1}{2}$?"), convert fractions ("What is $2\frac{3}{64}$ as a decimal?", "What is $\frac{5}{8}$ " in millimeters?"), set alarms ("Set an alarm for 3:30pm"), create reminders ("Remind me to remove the clamps in 40 minutes") and lists ("Create a list with #8x1 $\frac{1}{4}$ " screws, Danish oil, 220 sandpaper, and milk"). Jog your memory by making location-specific reminders, such as "Remind me to bring in my tape measure when I get to the hardware store." You can also make a speakerphone call ("Call Jim using speakerphone").

► Discover how to access these and other functions on your phone. woodmagazine.com/iphonetips
woodmagazine.com/androidtips

Focus on the camera

This one function makes shop time easier and more productive. Here are just a few

tips for turning the camera into one of your most-used tools.



Use a magnifier app to enlarge the tiny print on a can of finish, or to get a high-definition view of that pesky splinter in your finger.



A photo of a piece of hardware or label provides a perfect reference when shopping for a replacement or matching piece.



Get advice from a friend with a video conference via FaceTime or Skype and let them see the problem you've come up against.



Use the camera to see places you can't. Shoot a photo or video of an inaccessible area to inspect a tool, read a label, or find where a missing part fell.



Document the disassembly of a tool in a series of photos to help you recall which fastener fits where and the proper reassembly order.

Tap into apps

Apps add even more functions to your phone or tablet. Find them in the App Store (iPhone) or on Google Play (Android). With one exception, the apps shown here are free.



Retailer apps

(Platform support varies.) If you don't have time to wander the aisles of a home center or hardware store, apps can help you find items and guide you to the proper aisle and bay. You can check prices by scanning the barcode on the package or shelf, and browse the latest sales flyer. If an item is out of stock in one store, the app may be able to find it at another nearby store.



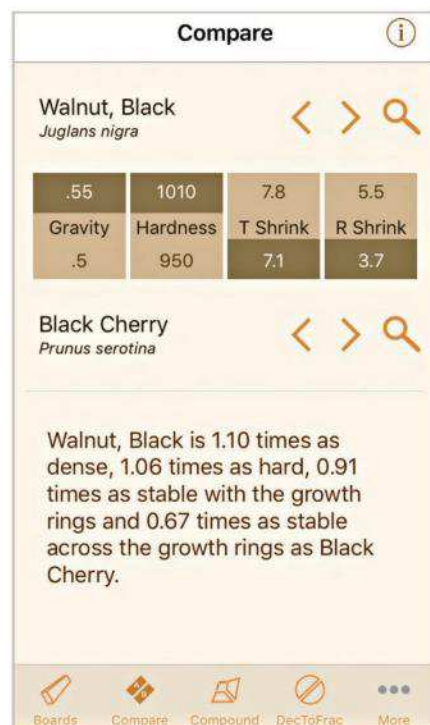
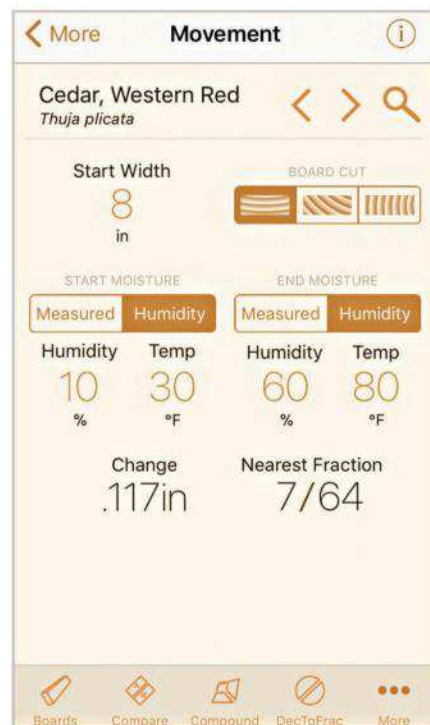
Fraction Calculator

(iPhone, Android) Punch in whole numbers on one keypad, the numerator on a second, and the denominator on a third. Add, subtract, multiply, or divide, and see the result as both a fraction and the decimal equivalent.



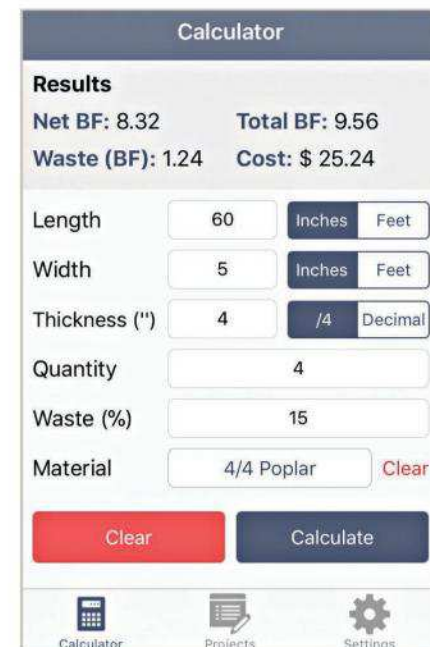
Woodshop Widget

(\$3.99 iPhone, \$1.99 Android) Its wood-movement calculator estimates how much a board's width will change with variations in humidity. You can also compare the density, hardness, and shrinkage of two species. Also included: calculators for compound cuts on crown molding, mixing shellac, and figuring board feet. The app also contains a fraction-to-decimal converter.



Board Feet Planner

(iPhone only) This powerful app tracks materials and their costs for a project. Start by entering the cost of each type of wood you plan to use; for example, 5/4 black walnut at \$7.24/board foot (bf) and 4/4 poplar at \$2.64/bf. Then set up a project such as "Table." Type in the parts needed for that project with their sizes and quantities, and choosing the part's material from those you entered. The app totals the project cost, and you can even email a shopping and cut list with all of that info in a tidy table.



Produced by **Craig Ruegsegger**

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DRstumpgrinder.com

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Vise Squad

Even the best bench vise can't properly hold every workpiece for every task without a little help. That's why you need a few accessories to work in conjunction with—or sometimes instead of—a vise. Here are a few of our favorites.

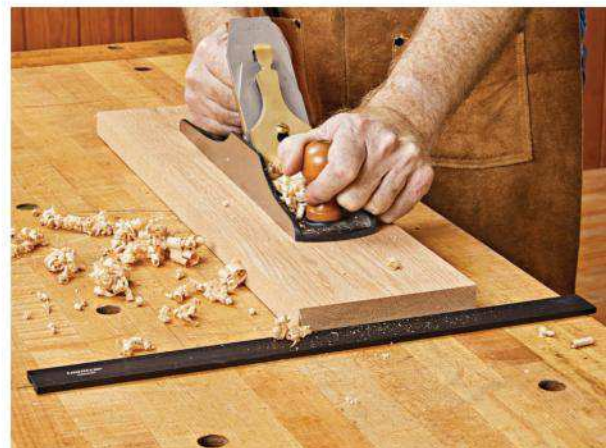


Gramercy holdfasts

no. MS-HOLDFAST.XX, \$38.95 per pair

These old-school accessories still deserve a place in today's shops for one simple reason: They work well. Made of $\frac{3}{4}$ " steel rod that anchors in bench-dog holes, these Gramercy grabbers secure almost anything—especially workpieces a vise won't hold. A tap or two from a mallet on top secures them, and a sideways tap on the stem frees them.

Tools For Working Wood
800-426-4613, toolsforworkingwood.com



Veritas planing stop

$9\frac{3}{4}$ " stop, no. 05G23.01, \$24.50; $17\frac{1}{2}$ " stop, no. 05G23.05, \$29.50; $25\frac{1}{4}$ " stop, no. 05G23.07, \$34.50

These stops effectively prevent boards or panels from scooching forward while hand-planing. Two posts on each stop anchor solidly in $\frac{3}{4}$ " dog holes. Sold in three sizes, the stops adjust to fit your bench's hole spacing. Posts on the small stop can be spaced up to 9" apart; the middle model up to $16\frac{3}{4}$ ", and the larger up to $24\frac{1}{2}$ ".

Lee Valley
800-871-8158, leevalley.com

Bench Dogs: Best of Show



Pop-up vise dogs

2-pack, no. 05G10.22, \$27.50

These spring-loaded "prairie dog" stops fit into the vise's outer (movable) jaw. When you need them, just press down and they pop up ready to use.

Lee Valley
800-871-8158, leevalley.com

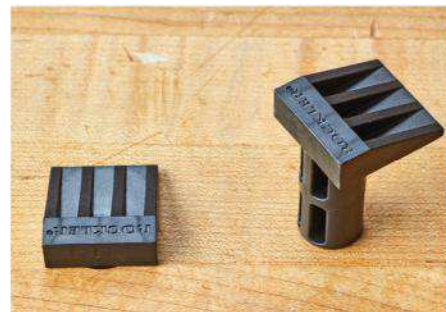


Aluminum bench dogs

2-pack, no. 163086, \$10

These lightweight stops hold stock well, and simply slip below the benchtop surface when not in use, so they're always at the ready.

Woodcraft
800-225-1153, woodcraft.com



Plastic bench dogs

4-pack, no. 64256, \$10

Short of making your own bench dogs, these stops offer the lowest buy-in. They hold workpieces securely, but can get misplaced because they don't self-store by dropping below the benchtop when not in use.

Rockler Woodworking & Hardware
800-279-4441, rockler.com

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Licensed Hearing Aid Dispenser

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✓Yes



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✓Yes



✓Yes



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Benchtop 8" jointer marries capacity with affordability

8" benchtop jointer, no. 40180HCB-CT, \$470

I'm a big proponent of 8" jointers because the wider the cutterhead, the wider the boards you can face-joint. This Cutech jointer pairs big capacity with a segmented carbide-insert cutterhead for less than \$500.

For a benchtop model, this unit has surprising power. Its universal motor won't compete with the induction motors on stationary jointers, but it gets along nicely if you remove no more than 1/32" per pass on most wood species, and 1/64" on very dense hardwoods. The cutterhead creates a smooth, clean cut without snipe or tear-out. I never dulled the cutters during testing, but replacements sell for \$60 per 10-pack. Changing cutters is quick and easy, using the included wrench.

The cast-aluminum tables proved perfectly coplanar, and pull-out extensions increase workpiece support from 33 1/2" to 51" without drooping or causing catches while jointing boards. The aluminum



fence moves easily back and forth, and locks solidly in place. Dust collection proved exceptional.

—Tested by Bob Hunter, Tools Editor

877-568-8879, cutechtool.com

Two portable spindle sanders, good to go

Handheld oscillating spindle sanders

When Porter-Cable launched a portable oscillating spindle sander nearly 20 years ago, its price proved too steep for me, and it's since been discontinued. But now Grizzly and MLCS have come out with similar tools, at prices about one-third of that P-C model. These virtually identical tools differ only in body color and method of spindle-sleeve tightening, both of which work well. (MLCS uses a tool-free thumbscrew; Grizzly uses a socket-head screw.)

Both sanders perform well and provide low-cost alternatives to benchtop and stationary oscillating spindle sanders. I used each in handheld mode to sand tight and large curves, and both smoothed edges well. I found vibration minimal at the slowest speed (1,800 rpm), but more pronounced at higher speeds.

My biggest issue: The sanders' bases cover layout lines on workpieces, making it a guessing game as to how long or deep to sand. So sand lightly and check the line often. This problem goes away when you secure the sander to a worksurface with the included clamps to sand in stationary mode. The small base/table on each unit works well with small workpieces.

Each sander comes with four 3"-long 80-grit sanding sleeves (1/2", 3/4", 1", and 1 1/2" diameters). Replacement sleeves sell in a variety of grits in 3-packs for \$5.95 to \$6.95.

—Tested by Pat Lowry



Grizzly Industrial,
no. T27961, \$85.95
800-523-4777
grizzly.com



MLCS Router Bits &
Woodworking Products
no. 9557, \$80
800-533-9298
mlcswoodworking.com

SUPER COUPON

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7 FUNCTION DIGITAL MULTIMETER

- 3.5" LCD Display
- Battery Included

ITEM 63604/63758/98025/69096/63759/90899 shown

88041111

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HARDY SUPER COUPON

MECHANIC'S GLOVES

Customer Rating ★★★★★

NOW \$3.99

COMPARE TO MECHANIX \$14.99
MODEL: 907591

SAVE 73%

ITEM 62434, 62426, 62433, 62432, 62429, 62428 shown

88040486

LIMIT 5 - Coupon valid through 11/3/18

CENTRAL MACHINERY SUPER COUPON

12" x 33-3/8" WOOD LATHE WITH REVERSIBLE HEAD

Customer Rating ★★★★★

NOW \$279.99

COMPARE TO JET \$919.99
MODEL: 100322

SAVE \$640

ITEM 34706

88046421

LIMIT 4 - Coupon valid through 11/3/18

luminar OUTDOOR SUPER COUPON

24 FT., 18 BULB, 12 SOCKET OUTDOOR STRING LIGHTS

Customer Rating ★★★★★

NOW \$19.99

COMPARE TO PORTFOLIO \$54.99
MODEL: 100322

SAVE \$35

ITEM 64486/63483 shown

88046413

LIMIT 7 - Coupon valid through 11/3/18

drillmaster SUPER COUPON

1/4" TRIM ROUTER

Customer Rating ★★★★★

NOW \$19.99

COMPARE TO MAKITA \$99
MODEL: 100322

SAVE \$79

ITEM 61626/62659/44914 shown

88038969

LIMIT 6 - Coupon valid through 11/3/18

SUPER COUPON

20% OFF

ANY SINGLE ITEM*

88040244

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CENTRAL MACHINERY SUPER COUPON

14" OSCILLATING SPINDLE SANDER

Customer Rating ★★★★★

NOW \$99.99

COMPARE TO TRITON TOOLS \$165.71
MODEL: 100322

SAVE \$65

ITEM 62146/69257 shown

19933078

LIMIT 5 - Coupon valid through 11/3/18

PITTSBURGH SUPER COUPON

4 PIECE WOOD CHISEL SET WITH CLEAR PVC HANDLE

Customer Rating ★★★★★

NOW \$4.99

COMPARE TO DEWALT \$29.97
MODEL: 100322

SAVE \$25

ITEM 42429/69471 shown

19943074

LIMIT 9 - Coupon valid through 11/3/18

CHICAGO ELECTRIC POWER TOOLS SUPER COUPON

2.5 HP, 10" INDUSTRIAL TILE/BRICK SAW

Customer Rating ★★★★★

NOW \$219.99

COMPARE TO KOBALT \$429
MODEL: 100322

SAVE \$209

ITEM 62391/69275 shown

88046925

LIMIT 5 - Coupon valid through 11/3/18

CENTRAL PNEUMATIC SUPER COUPON

3 GALLON, 100 PSI OIL-FREE AIR COMPRESSORS

Customer Rating ★★★★★

NOW \$39.99

COMPARE TO PORTER-CABLE \$98.82
MODEL: 100322

SAVE \$58.83

ITEM 69269/97080 shown

19905299

LIMIT 5 - Coupon valid through 11/3/18

CENTRAL MACHINERY SUPER COUPON

16" VARIABLE SPEED SCROLL SAW

Customer Rating ★★★★★

NOW \$69.99

COMPARE TO PORTER-CABLE \$199
MODEL: 100322

SAVE \$129

ITEM 62519/63283/93012 shown

19913995

LIMIT 3 - Coupon valid through 11/3/18

YUKON SUPER COUPON

46" MOBILE WORKBENCH WITH SOLID WOOD TOP

Customer Rating ★★★★★

NOW \$229.99

COMPARE TO KOBALT \$269.10
MODEL: 100322

SAVE \$39

ITEM 64023/64012 shown

19933622

LIMIT 3 - Coupon valid through 11/3/18

PREDATOR SUPER COUPON

4000 MAX. STARTING/3200 RUNNING WATTS 6.5 HP (212 CC) GAS GENERATOR

Customer Rating ★★★★★

NOW \$289.99

COMPARE TO HONDA \$1,999
MODEL: 100322

SAVE \$1,709

ITEM 69729/63080/63079 shown

19938837

LIMIT 4 - Coupon valid through 11/3/18

KRAUSE & BECKER SUPER COUPON

AIRLESS PAINT SPRAYER KIT

Customer Rating ★★★★★

NOW \$169.99

COMPARE TO GRACO \$299
MODEL: 100322

SAVE \$129

ITEM 62915/60600 shown

19946772

LIMIT 3 - Coupon valid through 11/3/18

WARRIOR SUPER COUPON

29 PIECE TITANIUM DRILL BIT SET

Customer Rating ★★★★★

NOW \$9.99

COMPARE TO DEWALT \$64.99
MODEL: 100322

SAVE \$55

ITEM 62281/61637 shown

88047431

LIMIT 8 - Coupon valid through 11/3/18

PITTSBURGH SUPER COUPON

50" CLAMP AND CUT EDGE GUIDE

Customer Rating ★★★★★

NOW \$14.99

COMPARE TO BORA \$39.98
MODEL: 100322

SAVE \$25

ITEM 66581

88040920

LIMIT 7 - Coupon valid through 11/3/18

CENTRAL MACHINERY SUPER COUPON

4" x 36" BELT/6" DISC SANDER

Customer Rating ★★★★★

NOW \$59.99

COMPARE TO GENERAL INTERNATIONAL \$121
MODEL: 100322

SAVE \$61

ITEM 62502/97181 shown

19948077

LIMIT 4 - Coupon valid through 11/3/18

CHICAGO ELECTRIC POWER TOOLS

12" DOUBLE-BEVEL SLIDING COMPOUND MITER SAW

- Powerful 15 amp motor
- Makes precision cross, bevel and miter cuts
- Laser guide



Blade sold separately.

Customer Rating
★★★★★

NOW
\$129.99
~~\$179.99~~

SAVE
\$119

COMPARE TO
RYOBI
\$249
MODEL TSS120L

ITEM 61970/69684
61969 shown



LIMIT 4 - Coupon valid through 11/3/18*

COMPARE TO
RYOBI
\$249
MODEL TSS120L

Bauer

15 AMP, 12-1/2" PORTABLE THICKNESS PLANNER



Includes two knives.

Customer Rating
★★★★★

NOW
\$249.99
~~\$299.99~~

COMPARE TO
DEWALT
\$399
MODEL DW764

ITEM 63445
SAVE
\$149



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3-1/2" SUPER BRIGHT ALUMINUM FLASHLIGHT
• 9 LED
• Compact, Lightweight
ITEM 69111/63599/62522/62573
63875/63884/63886/63888/69052 shown

COMPARE TO RAYOVAC \$175
MODEL RAYOVAC

88059718

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Hammer

1000 LB. CAPACITY SWING-BACK TRAILER JACK

NOW
\$179.99
~~\$259.99~~

COMPARE TO
REESE
\$459.99
MODEL T4410

SAVE
60%



Customer Rating
★★★★★

ITEM 69780
41005 shown



LIMIT 7 - Coupon valid through 11/3/18*

CENTRAL MACHINERY

2 HP, 5 MICRON INDUSTRIAL DUST COLLECTOR

- 70 gallon capacity

NOW
\$169.99
~~\$199.99~~

SAVE
\$155

COMPARE TO
SHOP
FOX
\$324.99
MODEL W1665

ITEM 61790/97869 shown



LIMIT 5 - Coupon valid through 11/3/18*

PITTSBURGH #1 SELLING JACKS

RAPID PUMP® 1.5 TON ALUMINUM FLOOR JACK

- 3-1/2 pumps lifts most vehicles
- Lifts from 3-1/2" to 14-1/8"
- Weighs 34 lbs.

NOW
\$59.99
~~\$79.99~~

Customer Rating
★★★★★

COMPARE TO
KTOOL
\$125.99
MODEL KTM3004

SAVE
\$65

ITEM 68053/62160
62496/62516/60569 shown



LIMIT 3 - Coupon valid through 11/3/18*

WINDSOR DESIGN

60" HARDWOOD WORKBENCH WITH 4 DRAWERS

Tools sold separately.

NOW
\$129.99
~~\$159.99~~

COMPARE TO
GRIZZLY
\$534
MODEL G1072

SAVE
\$404

ITEM 93454/69054/63395/62603 shown



LIMIT 4 - Coupon valid through 11/3/18*

U.S. GENERAL

30", 5 DRAWER MECHANIC'S CARTS

Item 64031 shown

Item 64080 shown

• 15,000 cu. in. of storage

• 700 lb. capacity

• Weighs 139 lbs.

Customer Rating
★★★★★

YOUR CHOICE OF COLOR

Item 64033 shown

Item 64031/64061

64059/64060/64032

64030/64033



LIMIT 5 - Coupon valid through 11/3/18*

Lifetime CARBIDE

ALUMINUM OXIDE SANDING SPONGES PACK OF 10

Item 46751 shown

Customer Rating
★★★★★

COARSE

ITEM 46751

63918

MEDIUM

ITEM 46752

63915

FINE

ITEM 46753

63912



SAVE
20%

YOUR CHOICE
\$4.99
~~\$3.99~~



LIMIT 3 - Coupon valid through 11/3/18*

CENTRAL MACHINERY

10", 12 SPEED BENCHTOP DRILL PRESS

Item 63471/60237 shown

Customer Rating
★★★★★

NOW
\$109.99
~~\$134.99~~

COMPARE TO
WEN
\$179.95
MODEL 1212

SAVE
\$69

ITEM 63471/60237 shown



LIMIT 3 - Coupon valid through 11/3/18*

Bauer

20 VOLT LITHIUM CORDLESS 1/2" COMPACT DRILL/DRIVER KIT

• 450 in. lbs. of torque

• 1.5 amp hour battery

• Weighs 3.4 lbs.

NOW
\$64.99
~~\$69.99~~

COMPARE TO
RYOBI
\$99
MODEL PM1

SAVE
\$34

ITEM 63531



LIMIT 5 - Coupon valid through 11/3/18*

PITTSBURGH

12" RATCHET BAR CLAMP/SPREADER

LIFETIME WARRANTY



COMPARE TO
IRWIN
\$19.98
MODEL 1964710

SAVE
85%

ITEM 62123/63017/69222 shown

Customer Rating
★★★★★

NOW
\$2.99
~~\$3.99~~



LIMIT 6 - Coupon valid through 11/3/18*

BADLAND Battle Tested

2500 LB. ELECTRIC WINCH WITH WIRELESS REMOTE CONTROL

- Weighs 14.3 lbs.
- 11-1/8" L x 4-1/2" H

NOW
\$49.99
~~\$69.99~~

COMPARE TO
SUPERWINCH
\$189.99
MODEL 100000

SAVE
\$140

ITEM 61840/61297/63476/61258 shown



Voted Best Winches



LIMIT 3 - Coupon valid through 11/3/18*

CHICAGO ELECTRIC WELDING

125 AMP FLUX-CORE WELDER

- Includes everything you need to weld right out of the box

Item 63583/63582 shown

Customer Rating
★★★★★

NOW
\$99.99
~~\$109.99~~

COMPARE TO
IRONTON
\$179.99
MODEL 16403

SAVE
\$80

ITEM 63583/63582 shown



LIMIT 5 - Coupon valid through 11/3/18*

HYDROSTAR

50 FT. ELECTRIC DRAIN CLEANER

Item 61856/68285 shown

Customer Rating
★★★★★

NOW
\$199.99
~~\$259.99~~

COMPARE TO
COBRA
\$398.95
MODEL 18411

SAVE
\$198

ITEM 61856/68285 shown



LIMIT 4 - Coupon valid through 11/3/18*

CENTRAL MACHINERY

UNIVERSAL TOOL STAND

Item 69805

Customer Rating
★★★★★

• 500 lb. capacity

• Three height adjustments:

26", 29" and 32"

NOW
\$29.99
~~\$39.99~~

COMPARE TO
CRAFTSMAN
\$41.99
MODEL C286

SAVE
\$12

ITEM 69805



LIMIT 3 - Coupon valid through 11/3/18*

FREE

1" x 25 FT. TAPE MEASURE

WITH ANY PURCHASE

COMPARE TO KOMETON \$6.98

ITEM 69080/69030/69031 shown

88064607

LIMIT 5 - Coupon valid through 11/3/18*

CENTRAL PNEUMATIC

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

Customer Rating ★★★★★

NOW \$59.99

COMPARE TO KOBALT \$99

ITEM 69265/62344/93897 shown

88066937

LIMIT 5 - Coupon valid through 11/3/18*

PITTSBURGH

PNEUMATIC ADJUSTABLE ROLLER SEAT

• 300 lb. capacity

Customer Rating ★★★★★

NOW \$199.99

COMPARE TO DURALAST \$64.99

ITEM 61160/61896/63456/46319 shown

88068056

LIMIT 7 - Coupon valid through 11/3/18*

WINDSOR DESIGN

DOVETAIL JIG

• Use your router to make strong, beautiful dovetail joints

Customer Rating ★★★★★

NOW \$27.99

COMPARE TO GENERAL TOOLS \$46.99

ITEM 34162 shown

88068507

LIMIT 3 - Coupon valid through 11/3/18*

HaulMaster

STEP STOOL/WORKING PLATFORM

• 350 lb. capacity

Customer Rating ★★★★★

NOW \$199.99

COMPARE TO GPL \$145

ITEM 62515/66911 shown

88068637

LIMIT 7 - Coupon valid through 11/3/18*

CENTRAL PNEUMATIC

2-IN-1 FLOORING NAILER/STAPLER

WE CARRY A FULL LINE OF FASTENERS

Customer Rating ★★★★★

NOW \$99.99

COMPARE TO HUSKY \$199

ITEM 69703/61689 shown

88070229

LIMIT 5 - Coupon valid through 11/3/18*

PITTSBURGH

CLICK-TYPE TORQUE WRENCHES

LIFETIME WARRANTY

Customer Rating ★★★★★

• Reversible

Item 239 shown

DRIVE ITEM

1/4" 2896/6127/63861

3/8" 807/61276/63880

1/2" 62431/239/63882

COMPARE TO HUSKY \$84.97

ITEM 88072239

LIMIT 5 - Coupon valid through 11/3/18*

CHICAGO ELECTRIC WELDING

MIG-FLUX WELDING CART

Welder and accessories sold separately

Customer Rating ★★★★★

NOW \$299.99

COMPARE TO FORNEY \$104.19

ITEM 60790/61316/69340 shown

88072292

LIMIT 3 - Coupon valid through 11/3/18*

SUPER COUPON

POWDER-FREE NITRILE GLOVES

PACK OF 100

• 5 mil thickness

12¢ PER PAIR

Customer Rating ★★★★★

NOW \$5.99

COMPARE TO VENOM \$9.99

ITEM 61363, 68497, 61360, 61359, 68498, 68496 shown

88073083

LIMIT 8 - Coupon valid through 11/3/18*

CHICAGO ELECTRIC

RECIPROCATING SAW WITH ROTATING HANDLE

Customer Rating ★★★★★

NOW \$199.99

COMPARE TO PORTER-CABLE \$59.98

ITEM 61884/65570/62370 shown

88074600

LIMIT 7 - Coupon valid through 11/3/18*

PITTSBURGH

1 SELLING JACKS IN AMERICA

RAPID PUMP® 3 TON STEEL HEAVY DUTY LOW PROFILE FLOOR JACK

Customer Rating ★★★★★

• Weighs 73 lbs.

NOW \$199.99

COMPARE TO TEQ \$149.99

ITEM 62326/61282/61253 shown

88075881

LIMIT 4 - Coupon valid through 11/3/18*

drill master

80 PIECE ROTARY TOOL KIT

Customer Rating ★★★★★

NOW \$6.99

COMPARE TO PROFESSIONAL WOODWORKER \$26.35

ITEM 63292/63235/68986/97626 shown

88078466

LIMIT 9 - Coupon valid through 11/3/18*

HaulMaster

18" x 12" MOVER'S DOLLY

• 1000 lb. capacity

Customer Rating ★★★★★

NOW \$79.99

COMPARE TO BUFFALO TOOLS \$16.43

ITEM 61899/63095/63096/63098/63097/93888 shown

88078879

LIMIT 7 - Coupon valid through 11/3/18*

CHICAGO ELECTRIC

4" BISCUIT PLATE JOINER

Customer Rating ★★★★★

NOW \$44.99

COMPARE TO MAKITA \$179

ITEM 68987 shown

88079393

LIMIT 4 - Coupon valid through 11/3/18*

Lynxx

40 VOLT LITHIUM CORDLESS 14" BRUSHLESS CHAIN SAW

Customer Rating ★★★★★

NOW \$169.99

ITEM 64478/63287 shown

COMPARE TO KOBALT \$179

ITEM 19970434

LIMIT 3 - Coupon valid through 11/3/18*

PITTSBURGH

9 PIECE FULLY POLISHED COMBINATION WRENCH SETS

LIFETIME WARRANTY

YOUR CHOICE \$5.99

Item 42304 shown

TYPE ITEM

SAE 69043/63282/42304

METRIC 42305/69044/63171

SAVE 66%

COMPARE TO HUSKY \$17.97

ITEM 88080491

LIMIT 6 - Coupon valid through 11/3/18*

SUPER COUPON

TILTING FLAT PANEL TV MOUNT

• 176 lb. capacity

Customer Rating ★★★★★

NOW \$149.99

COMPARE TO ROCKFISH \$99.99

ITEM 62289/61807 shown

88081594

LIMIT 7 - Coupon valid through 11/3/18*

HaulMaster

9" x 72" STEEL LOADING RAMPS SET OF 2

Customer Rating ★★★★★

• 1000 lb. capacity

NOW \$44.99

COMPARE TO MAXXTOW \$80.53

ITEM 44649/69591/69646 shown

88082184

LIMIT 3 - Coupon valid through 11/3/18*

THUNDERBOLT SOLAR

100 WATT SOLAR PANEL KIT

Customer Rating ★★★★★

2X MORE POWER

NOW \$149.99

COMPARE TO SUNFORCE \$357.19

ITEM 64335/63585 shown

88084164

LIMIT 4 - Coupon valid through 11/3/18*

CENTRAL MACHINERY

350 LB. CAPACITY FOLDABLE SAW HORSE

Customer Rating ★★★★★

NOW \$89.99

COMPARE TO STANLEY \$179.99

ITEM 60710/61979/69446 shown

88082198

LIMIT 9 - Coupon valid through 11/3/18*

FREE WITH ANY PURCHASE

6 PEICE SCREWDRIVER SET

COMPARE TO HUSKY \$6.98
PITTSBURGH LIFETIME WARRANTY

• Magnetic Tips
• Ergonomic Handles

ITEM 62728/62583/47770/62570 shown

88084483

Cannot be used with other discounts or prior purchases. Original coupon must be presented. Valid through 11/3/18 while supplies last. Limit 1 FREE GIFT per customer per day.

CENTRAL PNEUMATIC SUPER COUPON

21 GALLON, 2.5 HP, 125 PSI VERTICAL OIL-LUBE AIR COMPRESSOR

Air delivery: 5.8 CFM @ 40 PSI
4.7 CFM @ 90 PSI

Customer Rating ★★★★★

COMPARE TO HUSKY \$229
NOW \$149.99
SAVE \$79

ITEM 69091/61454/62803/63635/67847 shown

88085176

LIMIT 5 - Coupon valid through 11/3/18*

Hawt Master SUPER COUPON

4 PIECE, 1" x 15 FT. RATCHETING TIE DOWNS

Customer Rating ★★★★★

• 400 lb. working load

COMPARE TO ATE TOOLS \$54.88
NOW \$6.99
SAVE \$47.89

ITEM 63057/63056/63094/90984/60405/63150/61524 shown

19978040

LIMIT 8 - Coupon valid through 11/3/18*

drillmaster SUPER COUPON

1/4 SHEET ORBITAL PALM SANDER

Customer Rating ★★★★★

COMPARE TO BLACK & DECKER \$29.98
NOW \$9.99
SAVE \$20.00

ITEM 61509/61311 shown

88087618

LIMIT 7 - Coupon valid through 11/3/18*

FREE WITH ANY PURCHASE

SOLAR ROPE LIGHT

• Great outdoor accent lighting
• Super bright light

COMPARE TO HAMPTON BAY \$29.97
NOW \$9.99
SAVE \$20.00

ITEM 62533/63941/68353 shown

88091226

LIMIT 8 - Coupon valid through 11/3/18*

PORTLAND SUPER COUPON

7 AMP ELECTRIC POLE SAW 9.5" BAR

6 ft. to 8 ft. 10"

Customer Rating ★★★★★

COMPARE TO WORK \$99.98
NOW \$79.99
SAVE \$20.00

ITEM 68862/63190/62896 shown

88084658

LIMIT 3 - Coupon valid through 11/3/18*

Grant's GARAGE SUPER COUPON

SHOP TOWELS PACK OF 50

Mechanic's Choice

Customer Rating ★★★★★

COMPARE TO VIKING \$17.98
NOW \$9.99
SAVE \$8.00

ITEM 63365/63360 shown

88085260

LIMIT 9 - Coupon valid through 11/3/18*

Apache Model 2800 SUPER COUPON

ULTRA-LIGHT, CRUSH PROOF WEATHER-RESISTANT LOCKABLE CASE

Customer Rating ★★★★★

• 13-3/4" L
• 11-1/2" W
• 5-7/8" H

COMPARE TO PELICAN \$73.18
NOW \$22.99
SAVE \$50.19

ITEM 64551/63926 shown

88093637

LIMIT 4 - Coupon valid through 11/3/18*

Bunker Hill Security SUPER COUPON

60 LED SOLAR SECURITY LIGHT

Customer Rating ★★★★★

Includes 6V, 900 mAh Ni-Cd battery pack

COMPARE TO SUNFORCE \$59.99
NOW \$29.99
SAVE \$30.00

ITEM 62534/69643 shown

88088223

LIMIT 5 - Coupon valid through 11/3/18*

FRANKLIN SUPER COUPON

HEAVY DUTY PORTABLE SCAFFOLD

• Holds up to 900 lb.

Customer Rating ★★★★★

COMPARE TO BAKER \$260.00
NOW \$169.99
SAVE \$90.00

ITEM 63051/69055/63050 shown

88095053

LIMIT 4 - Coupon valid through 11/3/18*

CHICAGO ELECTRIC POWER TOOLS SUPER COUPON

HEAVY DUTY MOBILE MITER SAW STAND

Supports 16 ft.

Customer Rating ★★★★★

ITEM 63409/62750 shown

COMPARE TO KOBALT \$129
NOW \$99.99
SAVE \$30.00

88093399

LIMIT 4 - Coupon valid through 11/3/18*

FRANKLIN SUPER COUPON

17 FT. TYPE IA MULTI-TASK LADDER

• Versatile - 24 configurations
• Safe + Secure + Stable
• Super strong - holds 300 lbs.
• Weighs 34 lbs.

Customer Rating ★★★★★

COMPARE TO LITTLE GIANT \$298.99
NOW \$109.99
SAVE \$189.00

ITEM 63418/63419/62656/67646/62514/63417 shown

88094296

LIMIT 4 - Coupon valid through 11/3/18*

drillmaster SUPER COUPON

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

Customer Rating ★★★★★

COMPARE TO BLACK & DECKER \$28.06
NOW \$8.99
SAVE \$19.07

ITEM 62340/62546/63104/96289 shown

88086231

LIMIT 9 - Coupon valid through 11/3/18*

PITTSBURGH SUPER COUPON

6" DIGITAL CALIPER

Customer Rating ★★★★★

Includes two 1.5V SR44 button cell batteries.

COMPARE TO HUSKY \$29.97
NOW \$9.99
SAVE \$20.00

ITEM 61585/62387/63711/47257 shown

88088753

LIMIT 8 - Coupon valid through 11/3/18*

WARRIOR SUPER COUPON

11 PIECE, 1" - 2-1/2" CARBON STEEL HOLE SAW SET

• Cuts to a depth of 1"
• 6 - 7 teeth per inch

Customer Rating ★★★★★

ITEM 69070/68114 shown

COMPARE TO MASTERFORCE \$39.99
NOW \$5.99
SAVE \$34.00

88094105

LIMIT 8 - Coupon valid through 11/3/18*

CENTECH SUPER COUPON

2/10/50 AMP, 12 VOLT BATTERY CHARGER/ENGINE STARTER

Customer Rating ★★★★★

COMPARE TO SCHUMACHER ELECTRIC \$59.99
NOW \$29.99
SAVE \$30.00

ITEM 60581/60653 shown

88085158

LIMIT 5 - Coupon valid through 11/3/18*

drillmaster SUPER COUPON

4-1/2" ANGLE GRINDER

Customer Rating ★★★★★

COMPARE TO PERFORMAX \$28.99
NOW \$9.99
SAVE \$19.00

ITEM 69645/60625 shown

88094807

LIMIT 8 - Coupon valid through 11/3/18*

FREE WITH ANY PURCHASE

7 FT. 4" x 9 FT. 6" ALL PURPOSE/WEATHER RESISTANT TARP

Customer Rating ★★★★★

COMPARE TO BLUE HAWK \$9.98
NOW \$2.99
SAVE \$6.99

ITEM 69249/69115/69137/69129/69121/877 shown

88086928

LIMIT 7 - Coupon valid through 11/3/18*

Bauer SUPER COUPON

10 AMP DEEP CUT VARIABLE SPEED BAND SAW KIT

Customer Rating ★★★★★

COMPARE TO DEWALT \$299
NOW \$99.99
SAVE \$200.00

ITEM 63763/64194/63444 shown

88090470

LIMIT 5 - Coupon valid through 11/3/18*

CHICAGO ELECTRIC POWER TOOLS SUPER COUPON

BENCHTOP ROUTER TABLE WITH 1-3/4" HP ROUTER

• Depth scale for precision bit placement

Customer Rating ★★★★★

ITEM 95380

COMPARE TO SKIL \$139
NOW \$89.99
SAVE \$49.00

19976916

LIMIT 3 - Coupon valid through 11/3/18*

*Original coupon only. No use on prior purchases after 30 days from original purchase or without original receipt. Valid through 11/3/18.

At Harbor Freight Tools, the "Compare to" price means that the specified comparison, which is an item with the same or similar function, was authorized for sale at or above the "Compare to" price by another national retailer in the U.S. within the past 90 days. Prices advertised by others may vary by location. No other meaning of "Compare to" should be implied. For more information, go to HarborFreight.com or see store associate.

TOOLS & MATERIALS

NEW AND NEXT



Jet revamps its ProShop tablesaw

10" tablesaw, 30" rip capacity, 4 versions from \$1,200 to \$1,500; 52" rip capacity, four versions from \$1,400 to \$1,700. Long a mainstay in the Jet lineup, the ProShop 110-volt tablesaw has received a makeover. Powered by a 1 $\frac{3}{4}$ -hp motor with a magnetic switch, this saw also has a larger trunnion, arbor lock (for one-wrench blade changes), and blade shroud to improve dust collection. A T-square-style rip fence, miter gauge with adjustable stops, low-profile riving knife, and dado throat insert are included.

Jet
800-274-6848, jettools.com

Make big box joints with a router or router table

Router box-joint jig, no. B975, \$109

Leigh's new jig helps you create $\frac{1}{2}$ " and $\frac{3}{4}$ " box joints in workpieces up to 9 $\frac{1}{4}$ " wide, or wider by repositioning the jig after routing the first set of notches. The jig comes with $\frac{1}{2}$ " and $\frac{3}{4}$ " router bits, a $\frac{5}{8}$ " elliptical guide bushing (specific to Leigh jigs for adjusting joint fit), and spacers for the two sizes.

Leigh Industries
800-663-8932, leighjigs.com



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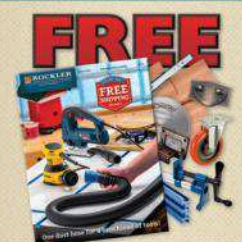
Vendor Cart

Kit to build includes 2-24" iron wheels that really work, axles and step-by-step plans. Finished project measures 60"L x 25"W x 34"H. \$94.70 P.P.D.

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It's Enough to Make You Blue in the Face

Time to take a stand against overpriced watches with the Stauer Urban Blue, **now only \$29**.

You need a new watch...the one you are wearing was made when Nixon was in office, but extravagantly-priced watches that add zeros just because of a high falootin' name are an insult to your logic. It's time to put an end to such madness. It's absolutely possible to have the highest quality, precision classic timepiece without the high and mighty price tag. Case in point: The Stauer *Urban Blue*.

Packed with high-end watch performance and style, minus the high-end price tag. It's everything a high-end watch should be: Sturdy stainless steel and genuine leather construction. Precision timing that's accurate to four seconds a day—that's more precise than a 27-jewel automatic watch priced at over \$6,000. And, good looking—with simple, clean lines and a striking metallic blue face.

"Blue watches are one of the growing style trends seen in the watch world in the past few years"—WATCHTIME®

So, while we're busy revolutionizing the watch industry to bring you more real value, you can take your own stand against overpriced watches with the *Urban Blue*.

Your satisfaction is 100% guaranteed. Wear the *Urban Blue* for 30 days. If you're not convinced that you achieved excellence for less, send it back for a refund of the item price.

The *Urban Blue* is one of our fastest sellers. It takes six months to engineer this watch so don't wait. Take a stand against overpriced watches in impeccable style.

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Stauer Urban Blue Watch \$199†

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You must use this insider offer code to get our special price.

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• Water resistant to 3 ATM • Genuine leather band fits wrists 6 3/4"—8 3/4"



"Are you kidding? What a great watch at a ridiculous price. Thank you Stauer!"

— Gitto, Hicksville NY



Stauer®



Rating of A+

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Burnsville, Minnesota 55337 **www.stauer.com**

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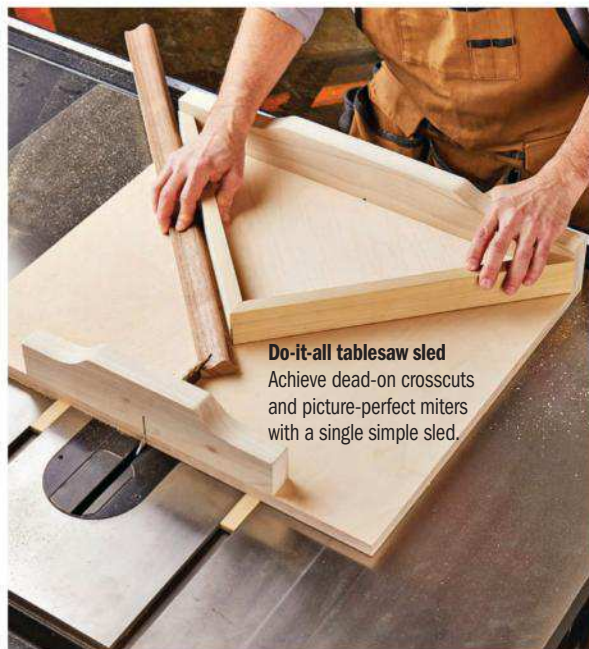
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WHAT'S AHEAD

A GLIMPSE INSIDE THE OCTOBER ISSUE
(ON SALE AUGUST 14)

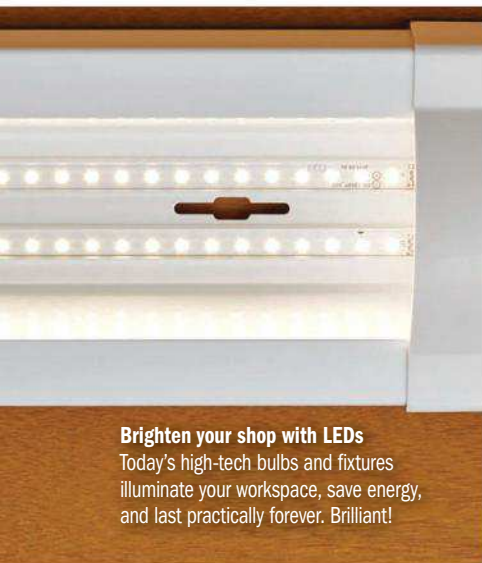
Multi-grain table

Make this table uniquely yours using remnants of past projects, and colored by whatever species you use.



Do-it-all tablesaw sled

Achieve dead-on crosscuts and picture-perfect miters with a single simple sled.



Brighten your shop with LEDs

Today's high-tech bulbs and fixtures illuminate your workspace, save energy, and last practically forever. Brilliant!



Shop test: 10" sliding miter saws

We put 11 crosscutters—including 3 cordless models—through their paces. The results may surprise you.



Buffet/table

Temporarily stretch your dining space with this stowaway that seats six.

WOOD magazine September 2018

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