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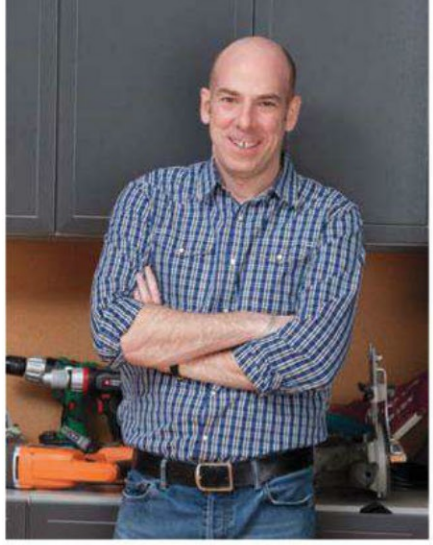
COVER PHOTOGRAPHY: ROGER YIP



Editor's Notebook

BY **DOUGLAS THOMSON**

> "Actually, "purge" is an understatement: I need to sort out the junk from the good stuff and, eventually haul a lot of it to the curb"

Get **Organized**

A thorough purge is the first step

OK, CONFESSION TIME: I hate to open my garage door. The door opens to face the street, and I'm afraid a neighbour passing by will peek inside and conclude I'm a slob.

That's because, over the past few years, the garage (which doubles as my shop) has fallen into a disorganized mess. Tools have been slowly getting harder to find, and things often go missing and are presumed lost. That means I end up with a lot of doubles of tools too. Even if I do know where the item is, getting to it can be like negotiating an obstacle course. And to add to the problem, aside from being discreet about when I open the garage door, I mostly have been doing a good job of ignoring the chaos. That is, until I have reason to open the door again; then I'm reminded of the mess I'm hiding.

As time goes by, the disorganization has been slowly getting worse, and it now feels like it has reached the point of no return. I'm afraid I'll come home one evening to find that the garage has burst at the seams—with tools and gear strewn all over the driveway!

The place desperately needs a purge.

Actually, "purge" is an understatement: I need to sort out the junk from the good stuff and, eventually, haul a lot of it to the curb.

Thankfully, I have a friend who is an experienced organizer whom I can consult to help me formulate a plan of attack. The concept is to start by grouping all the stuff into piles, each with a different theme. One pile for tools, one for sports gear, another for garden supplies. The idea is that if you can take control of the organization process by grouping the stuff into themes, you then can start to figure out what you need (and what you don't).

When broken down into stages, taking on a cleanup project like my garage/shop seems like a fairly straightforward task. The catch, of course, is that this is not the first time I've been through this process. Just a few short years ago, I went through a very similar process.

But this time will be different.

That's because I'm getting better at preventing stuff from making it into the garage in the first place. Simply learning to say a polite "No, thank you" when someone offers me something they don't want has helped. I've learned the hard way over the years that the more I collect, the more clutter I'll have to manage eventually. Sometimes, one man's junk is another man's junk too.

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Plane **Trouble**

I JUST RECEIVED my October 2012 (35th anniversary) issue of *CHW*. Was I seeing things, or did the front cover show a plane sitting sole down on top of a tool chest? I was taught in manual training, at age 11 or so, not to ever, ever do that! On page 33 of this same issue, my training was reinforced when I read under the heading "Store it Right" (Top 10 Shop Tips) that "all workshoppers know you shouldn't store a plane by resting its sole on a surface." Where were all the workshoppers at *CHW*?

What am I to do? I turned the magazine upside down on the coffee table so I wouldn't get too stressed out.

John Shackleton, Gagetown, N.B.

We love our readers' sharp eyes! Every time we show a plane laying on its sole in our pages, we hear from readers on this touchy matter. We promise that the blade was removed from the plane at the photoshoot and it was used in that way for visual purposes only. No planes were harmed in the photographing of this magazine cover. ***—Eds.***

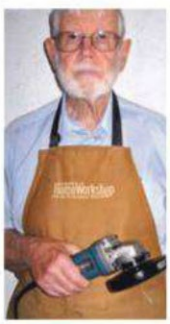
"I just went to my mailbox and was delighted to find the latest edition of your magazine!"

Abraham TenHove
Fergus, Ont.

HOT TOOL CORRECTION

Pictured at left is the new Bessey Rapid-Action clamp. The wrong image was used in our Winter 2013 issue. Also, the Irwin Marples saw blade in that issue was actually a 10" 60-tooth tablesaw blade, not a circular-saw blade (as it was labelled).

CHW SAVES THE DAY



I am one of the winners of your Mystery Tool contest and I won an apron for correctly guessing the Tool of the Month. Here is the story of how your beautiful apron saved my day.

I wear the apron always. I wanted to remove a hanger rod in a small closet and convert the closet to shelving. I located the only two studs. One was right at the entrance and interfered with closing the steel door; I needed to cut slots in the door so it would close. I used a jigsaw with a metal-cutting blade, which left a very jagged look. I was able to use my handy angle grinder to smooth the higher slots, but the bottom one required me to sit on the floor. While grinding away, the tool slipped out of my hands and landed (running) in my lap! Your terrific apron, consisting of thick, strong fabric, grabbed the spinning blade and jammed it. Whew! I was able to finish the job, more carefully, in one piece. Thank you! Thank you!

Raymond Beaton
Burnaby, B.C.

MIDNIGHT READING MATERIAL

I was reading your 35th anniversary edition (October 2012) late one night and came across the Top 10 Shop Tips of the past 10 years. I was pleasantly surprised to see I had made your list! Unfortunately, I couldn't share my excitement with my wife, as she had already gone to bed (although I was thinking of waking her). Thanks for making my day.

Warren Chernoff
via email

Online Poll

canadianhomeworkshop.com

What is your clamp of choice?

44% F-clamp
32% Pipe clamp
13% C-clamp
6% Spring clamp
4% Wooden handscrew
1% Strap clamp

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Shoptalk

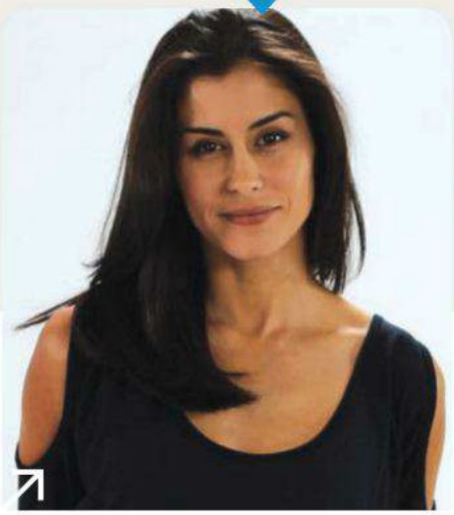
Brace Yourself

While the hand drill may seem like a relic to some, it still is useful for boring bolt holes in outdoor projects or joinery holes in rough furniture.

PHOTOGRAPHY BY JUAN LUNA

The experts give you the right advice for your DIY and woodworking projects

askapro



Danielle Nicholas Bryk

Nicholas Bryk is a self-made Renaissance woman with expertise in design and construction. Her first television show was *Family Under Construction* for the DIY Network. She will launch her new show, *Bryk House*, on HGTV Canada in March.

FAVOURITE TASK Carpentry
LEAST FAVOURITE Anything involving drywall dust—they don't call it "divorce dust" for nothing!

QUESTION FOR DANIELLE NICHOLAS BRYK

I'm thinking about installing a new hardwood floor, but I'm unsure what is best. Should I install it unfinished, and finish it once it's installed? Or is a prefinished floor a better option? Can I refinish a prefinished floor at some point in the future, or is that not done anymore?

Kathryn Myers
Richmond Hill, Ont.

The benefit of site-finished is that you can customize colour and sheen. The downside is that installation and finishing is a longer process. There are many more options today than even a few years ago with prefinished floors. Gone are the days of one sheen, bevelled-edge planks. You can opt for a

+CONTINUED ON PAGE 12

Hawk Your Wares

Use a site like Etsy to manage a small online store

IT'S BEEN SLIGHTLY more than a year since Cal Robinson opened up shop—online. The Flesherton, Ont.-based cabinetmaker decided to use the online marketplace Etsy to sell his hand-turned projects, such as spalted-maple bowls and rustic serving trays. Without much foot traffic to his showroom, Robinson set up a store called The Workbench (etsy.com/shop/WorkbenchCo) as a means of showcasing the items he likes to make in his spare time. Robinson was pleased by how easy it was to get started. He has found a great customer base south of the border and is happy with his success thus far. He even had to head back into the workshop before Christmas. "I had some log salt and pepper shakers, and they all sold out," he says. "I wanted to give a pair to my grandmother, but I had to make another set!" **—Tara Nolan**

Some brief Etsy facts

- Etsy deals in US dollars
- It costs 20¢ to list an item
- Etsy charges a 3.5 per cent transaction fee on each purchase
- Be prepared to figure out your own shipping costs

Testimony

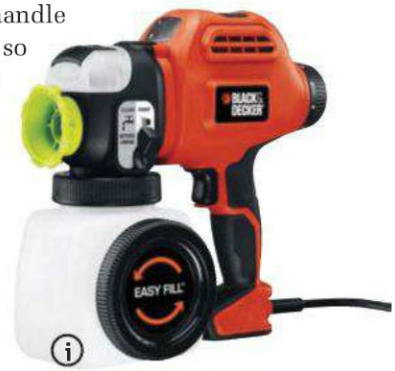
Spray and Go

Ditch the brushes for certain paint projects

AS THE SON of a professional painter, I'm no stranger to rollers and brushes. But just because I'm good at painting, that doesn't mean I like it. I heard about the new Black & Decker paint sprayers last summer, when I was planning to repair and repaint an old shed on my property. The idea of getting the job done quickly without paint rollers and brushes intrigued me. So, I got my hands on Model BDPS600K, which is recommended for spraying latex paint. Other models can handle oil-based paints, deck and fence stains, and so on, but latex paint is more difficult to spray.

The sprayer plugged into a regular wall outlet—nothing an extension cord couldn't handle. The side-loading paint cup was super-easy to use, and two fan nozzles gave me a choice of spray patterns. The instruction manual was clear, and even cleanup was straightforward. The best part? I covered a 12' x 20' shed (about 10' tall) with two coats in slightly more than three hours. I hate to think how long it would have taken me with a roller and brush, especially in high areas and inside corners. For more information, visit **blackanddecker.com.**

—Hendrik Varju



BLACK & DECKER 2-SPEED QUICK-CLEAN SPRAYER
A handy tool for speedy paint jobs
Price: $119 to $129

The Heat is On

Discover the benefits of hydronic radiant heat

BY **TARA NOLAN**

WHEN VISITING FRIENDS, Karen Sealy likes to bring her slippers to keep her feet warm—except when she visits her neighbour, who has hydronic in-floor heating. Homeowners and builders are starting to eschew the modern furnace for this heating system with Roman roots. Sealy recently teamed up with Beautiful Heat (beautifulheat.com), an organization that puts consumers in touch with in-floor heating professionals and whose mandate is to educate consumers so they can make informed decisions. Sealy didn't need to be convinced about the benefits. The interior designer, owner of Sealy Design Inc. (sealydesigninc.com) and frequent *Cityline* guest, installed in-floor heating in her recent studio reno. She finds more and more clients are asking about whether in-floor heating is right for their reno. "The most important thing is to know how you want to live in your home," she says.

Below, Sealy outlines some of the benefits of hydronic radiant in-floor heating:

ZONE CONTROL

One of the things I love about hydronic heating is you can do zone heating, says Sealy. This means you can walk into a toasty bathroom first thing in the morning, but your basement rec room, for example, can remain at a lower temperature.

YOU DON'T NEED TO TEAR UP YOUR FLOORS

"The cool thing about radiant heating that a lot of people don't know about yet? It doesn't have to be in the floor; it can be in the ceiling," says Sealy. If you have finished floors, you can install in-floor heating from underneath.

GET RID OF THE DUCTS

As an interior designer, Sealy especially loves hydronic heating because she doesn't have to deal with ductwork: "Obviously, heating is really important, but who wants to see it?" she says.

THINK GREEN

Without a furnace (and ducts), homeowners don't have to worry about dust and allergens blowing around the house. Furthermore, Sealy adds, "The eco-friendly element is that it's an efficient system to run. You're heating an object, as opposed to heating the air."

(Learn more about radiant heat in our Winter 2012 issue, page 58.)

floor that has unbevelled edges that mimics the look of a floor that's been finished onsite. The benefits of prefinished floors are a much shorter installation process (one day) and, as is the case with engineered floors, the amount of expansion and contraction due to humidity levels is reduced. Also, solid, prefinished hardwood can be refinished multiple times.

Make sure you leave space around the perimeter of the room so that should expansion occur, the planks won't buckle.

—Danielle Nicholas Bryk

FINISHING IN A BASEMENT SHOP

I build several furniture projects each year in my basement shop (many from plans I see in *CHW*). My challenge is that the finish never seems to turn out as nicely as I hope. Sometimes, I apply wipe-on polyurethane and, sometimes, it's just a simple, painted finish. Do you have some suggestions that will yield better results?

David Chen
New Westminster, B.C.

Basement shops usually offer two challenges when it comes to finishing: poor lighting and dust. The lighting problem can be fixed with a simple portable worklight held at a low angle relative to the workpiece.

The dust problem is

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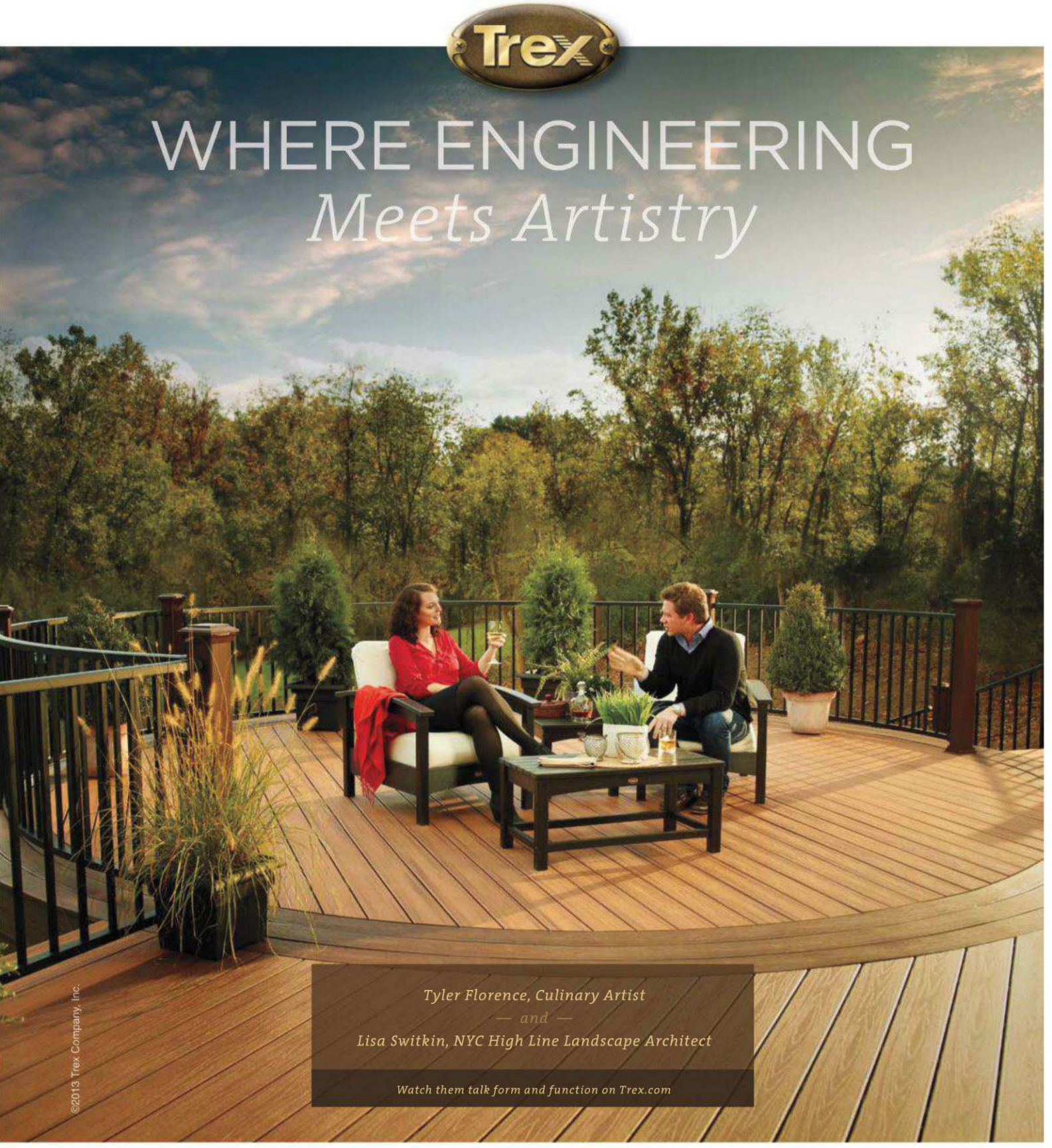

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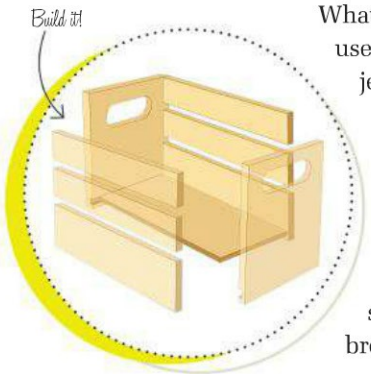
Crate and Carry

A useful gift to tote your stuff

BY **MIG FILION**

OVER THE PAST couple of years, I've been a groomsmen/best man a handful of times and have received all the standard thank-you gifts that come along with the gig. There's the flask, the watch, the knife, the multi-tool—I even got a new suit once. So, when it came time for me to stand at the altar, it forced me to be more creative when choosing a way to show appreciation for my two best men.



What I came up with was something that was personal and useful. The wooden crate I made was packed with beer, beef jerky, lotto tickets and their favourite hot rod/motorcycle magazines. Sort of a survival kit for a night alone.

Once all the beer and jerky are gone, this gift is still very useful. My two best men live around the corner from each other and they use their crates to carry beer between houses when they get together to watch a game or spend time "working" in the shop. It was specifically designed to hold eight tall cans, and can be brought with you to the store to save on bags or boxes.

Testimony

Winter Warmup

Radiate heat throughout your garage workshop

OVER THE YEARS, I've tried various methods of heating my garage workshop, but none of them were cost-effective or produced even heat—until now. Last autumn, I helped a contractor install an EZ-Duzzit residential garage heater (Model ED 40U), from the folks at Easy Radiant Works in Wainfleet, Ont., in my workshop. This radiant tube heater works as a closed system, getting its outside combustible air via a 4" duct from outside my shop. The exhaust exits through the roof or through the wall, depending on the application.

EZ-DUZZIT RESIDENTIAL GARAGE HEATER

Warm objects in your shop to stay toasty

Price: $1,356

A radiant tube heater heats the objects in the room, much like the sun heating the Earth's surface, and, in turn, these heated objects radiate this heat back into the room. Requiring no blower to move air, this heater heats the floor, the walls and objects in my shop with no temperature variations (hot or cold spots) like there is with a conventional hot-air heater. Throughout the winter, I was meticulous in monitoring the heat in my workshop with an infrared thermometer to test the effectiveness of this heater, and I can honestly say that I was amazed at what I found. I set the heater to 65°F and left it there throughout the winter months. The walls, concrete floor and even items inside my shop cabinets remained at 65°F, regardless of the temperature outside. Checking the gas bill, I noticed no appreciable increase in gas consumption over last year's bill. I wish I had done this years ago. For more information, visit **easyradiantworks.com.**

—Gord Graff

usually due to dust's tendency to settle in nooks and crannies overhead and then fall into your wet finish. Here are three ways to minimize dust contamination on your projects:

1. Oil-based finishes tend to take a long time to become tack-free, allowing dust to settle. Instead, choose fast-drying finishes with minimal odour, such as water-based poly, water-based lacquer or shellac.
2. As soon as you have applied your finish, cover the wet project with a large, inverted cardboard box to keep the dust off.
3. "Rub out" your film-forming finishes, such as poly or paint. Begin by applying multiple coats of your chosen finish until you have a reasonably thick layer. Once fully cured, use 0000 steel wool and rub down the surface of the finish until it is uniformly smooth and dull-looking. This smoothes out any brush marks and removes any dust nibs. Finally, a coat of quality paste wax will bring the shine back and offer added of protection for your furniture.

Ryan Shervill is *CHW*'s online Ask a Pro expert

MAIL

ASK A PRO, *Canadian Home Workshop*, 54 St. Patrick St., Toronto, ON M5T 1V1

EMAIL

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CRATE: ROGER YIP

Well Worn

From mild days to frosty reminders of winter, stay warm and dry during spring's unpredictable weather with this assortment of work jackets.

BY **TARA NOLAN**

Dickies for men

Performance softshell jacket

Part of the Dickies Performance System line of outerwear, the stretch fabric of this jacket will allow for layering and be lightweight yet water-repellent on rainy days.

MORE INFORMATION dickies.ca

PRICE $110

Carhartt

Sandstone sierra jacket

With its Sherpa-lined body and hood and rib-knit storm cuffs, this popular jacket from Carhartt—available in six shades—will keep you warm on the job.

MORE INFORMATION carhartt.com

PRICE $125

Blåkläder

Brawny canvas jacket

This heavy-duty, mesh-lined canvas coat has ample pockets for an assortment of tools, your ID and pens, as well as adjustable cuffs and waist.

MORE INFORMATION blaklader.com/ca

PRICE $180

Dickies for women

Performance channel-quilted vest

Waterproof yet breatheable, this wind-resistant vest will keep your core warm on days on which you don't need a heavy jacket. (There is a men's version too.)

MORE INFORMATION dickies.ca

PRICE $100

Winning Reader

Craftsman's tool chest finds a home!

THE LUCKY WINNER of our 35th-anniversary tool chest is Debbie Yarnell of Dunsford, Ont. Yarnell won the craftsman's tool chest, as well as the $1,000 gift card from Lee Valley Tools. The chest, built by master craftsman Gary Walchuk, was commissioned by *Canadian Home Workshop* to award to a reader in honour of the magazine's 35th anniversary.

TOOL CHEST: JUAN LUNA

Toolbox
BY **STEVE MAXWELL**

> It's surprisingly easy to mill short, small logs into furniture-grade boards in your workshop without special equipment

Mill Your Own Micro-Lumber

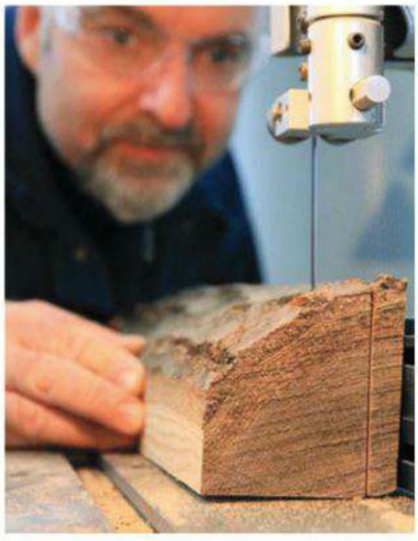
Turn your bandsaw into a sawmill to create project-ready stock

IT'S EASY TO look past the obvious fact that lumber comes from logs; but once you remember this, interesting things can happen. It's surprisingly easy to mill short, small logs into furniture-grade boards in your workshop without special equipment. Dry this wood properly, then you're ready to joint, plane and cut this material into parts for small projects. Besides saving money, this kind of micro-milling gives you access to species of wood you'll likely never find for sale in most lumberyards. Plus, you'll have complete control over grain orientation and the look of your wood.

You can even treat construction-grade beams and planks from building-supply outlets as your "logs," resawing them into smaller pieces for project work using these same techniques.

I've had good results using two methods for milling lumber from small logs in my shop. The simplest involves a hydraulic wood splitter. Clear, straight-grained, easily split species are perfect for cleaving into board-like billets. Most firewood splitters handle blocks up to 24" long, so, when you find a good log, cut blocks to this length even if you're making your firewood shorter. You'll find the best boards come from the middle of a log, where the wood is widest and the growth rings are closest to perpendicular to the faces of the boards.

Split boards 1" to 2" thick, depending on how a particular piece of wood behaves and how thick you want your finished boards to be. Species such as ash and oak split cleanly where no knots are present, so you can split them closer to final size. A wilder grain yields more irregular split boards that require extra material for jointing and planing into shape later. I usually split bigger logs in two passes, flipping the log by 180° in between.



MILLING TWO flat and square adjoining surfaces on a quartered log using a jointer makes sawing easier (top); Cut quartered logs into small boards with a bandsaw (left); These vertical-grain, red oak boards were cut from ordinary firewood logs (above)

Any bandsaw 14" or larger makes a great workshop sawmill for converting longer logs into boards without the use of a wood splitter. Depending on the diameter of your logs, you can saw them, while in the round or as pre-split logs, into quarters before sawing. A sledge-hammer driving a wood-splitting

PHOTOGRAPHY: STEVE MAXWELL

GROWTH RINGS MATTER

CONTROL OVER GRAIN direction is one of the hidden advantages of milling your own lumber on a small scale. When you want lumber that's as dimensionally stable as possible, cut your boards so growth rings are as close as possible to 90° to the faces of the boards. This is called "quartersawn" or vertical-grained lumber, and it's what Cathy Dalrymple recommends for her shower stool project (page 60). Vertical-grained wood has fine, straight and regular lines on the surfaces of the board. It's one of my favourite grain patterns. For a wilder, more pronounced grain pattern, saw small logs so the growth rings run parallel to the board faces. This is called "flatsawn." Just remember that flatsawn wood expands and contracts by 200- to 300-per cent more than vertical-grained wood for a given change in moisture content.

THIS PERFECTLY flat vertical-grained board started as a slab from a 126-year-old ash tree cleaved with a wood splitter

wedge works well for this kind of initial splitting. The bandsaw method handles logs that are longer than typical wood splitters, and the results are smoother and more refined. The maximum practical length of logs for bandsawing is between 36" to 48", which is plenty for many home-workshop projects. Even urban communities produce big limbs or tree trunks that mill perfectly on a bandsaw.

Regardless of how you mill your micro-lumber, drying involves the same process used with other kinds of rough lumber. No matter how long it's been since your logs have been cut, the wood is still too wet for woodworking. That's why you need to promote air circulation on all sides of every board. A household fan really speeds up the progress. Stack your lumber with ½"-thick strips of scrap lumber between each layer, then direct airflow over the pile.

If you can set things up in a heated space, drying time is surprisingly quick. I've had micro-lumber drop from 25 per cent moisture content to 10 per cent in less than a month. Ash, pine and cedar can dry this fast without warping or splitting. Maple, oak and especially apple benefit from slower drying.

Jointing and planing comes next, and it's my favourite part of the process. That's because the beauty of the wood starts to show through at this stage, although results take a little more time to achieve than with regular rough lumber. Irregular shapes mean more passes over the jointer and planer before you get the flat, precise boards you need.

One thing you'll probably notice as you work is how smoothly your dried, workshop-milled lumber planes, saws and chisels. The difference is especially striking with softwoods. The reason is air drying, which is a gentler process than the kiln drying applied to most commercial lumber. Air-dried lumber simply behaves more pleasantly and predictably under any blade.

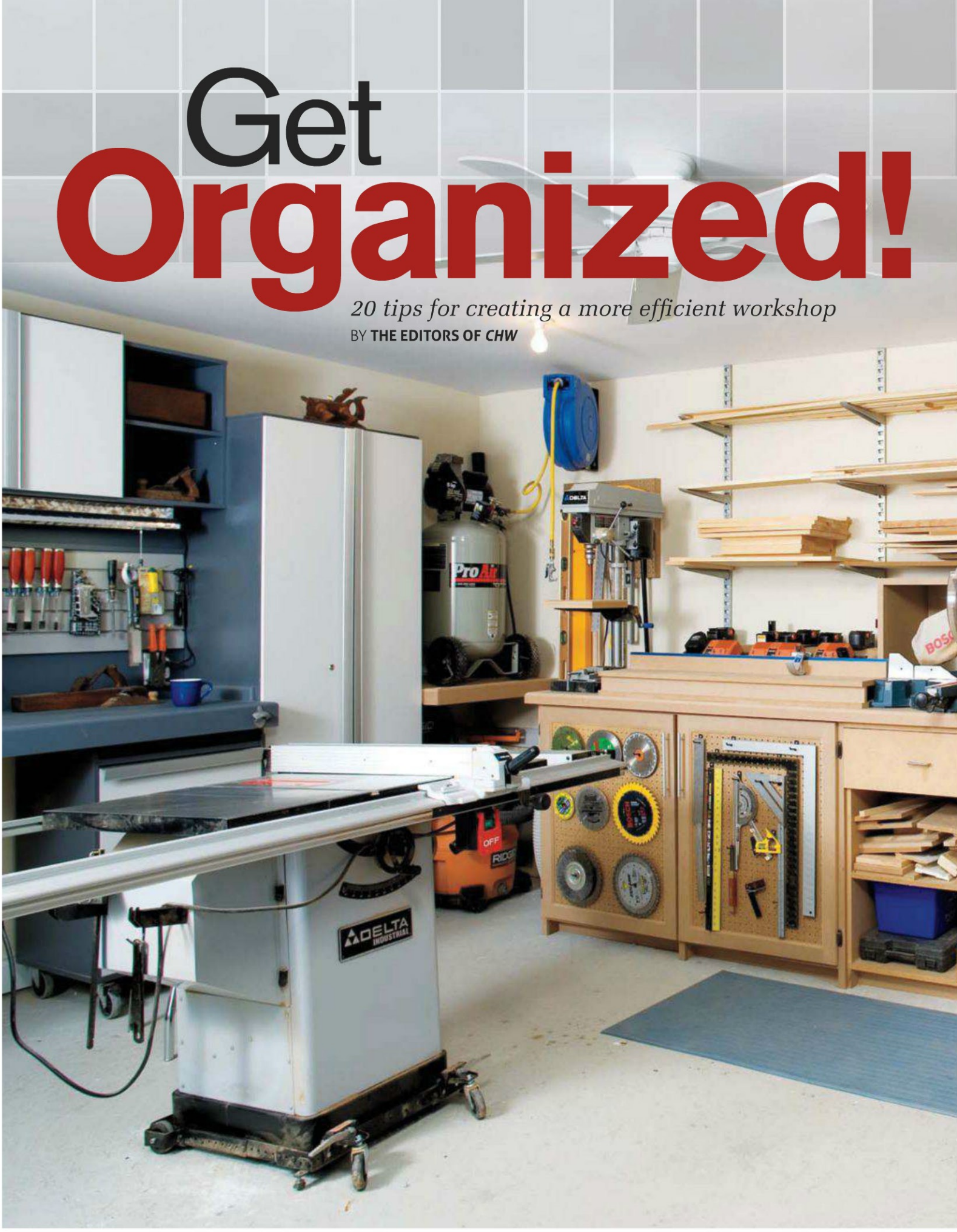
Making your own rough lumber without a sawmill probably isn't going to keep you supplied with wood for all your projects, but it's still worth doing. The more you put into your projects, the more you get out of them.

***Steve Maxwell** is a woodworking expert and* CHW*'s technical editor.*

Get Organized!

20 tips for creating a more efficient workshop

BY **THE EDITORS OF *CHW***



JOE ALLEN'S shop (originally featured in the March 2008 issue) is the near-perfect standalone workshop

PHOTOGRAPHY: ROGER YIP

OF THE HUNDREDS of questions our readers send to us each year, most of them involve shop layout, organization and dependable tips from our panel of experts. Where is the best place for my tablesaw? How can I organize all the electrical cords crisscrossing my shop floor? What is the best way to store clamps?

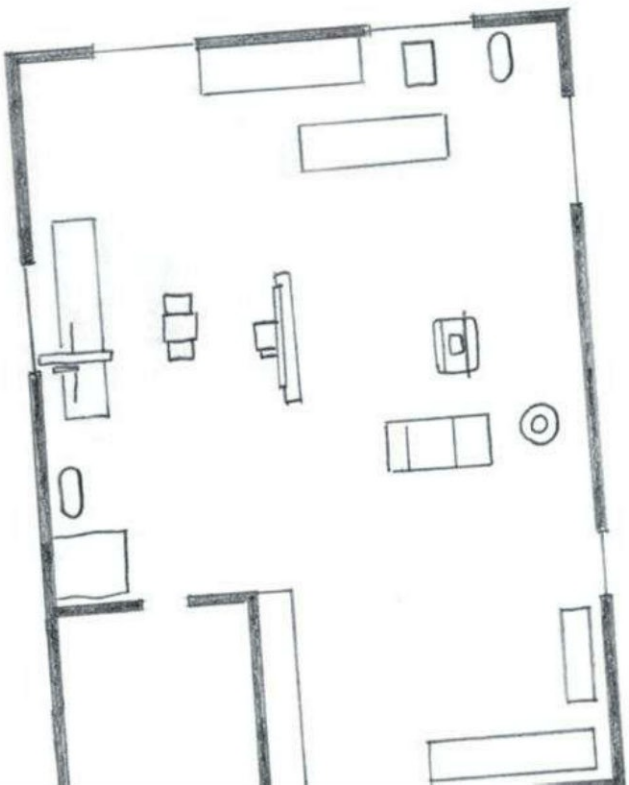
The more efficient your shop, the more likely you are to work and have fun in what should be your home's most interesting room.

To help our readers in their quest for creating the most efficient and dependable shops, we've gathered a list of the 20 best tips for organizing your workshop. As well, we've included some samples of the most practical shop layouts with popular configurations.

TIP 1

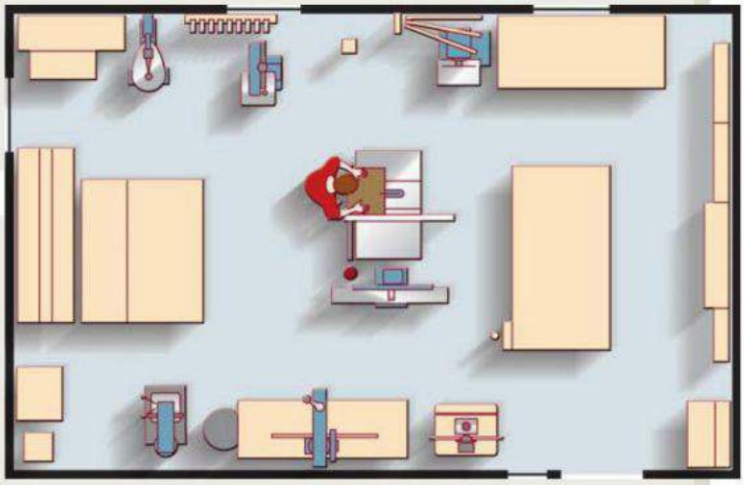
MAKE A PLAN

Before you start any woodworking project, you have a plan, right? (Or so we hope!) The same should apply to workshop organization. Draw out your shop layout and play around with it on paper until you get it right. Then, start to add all the details that make a shop run like a well-oiled machine.



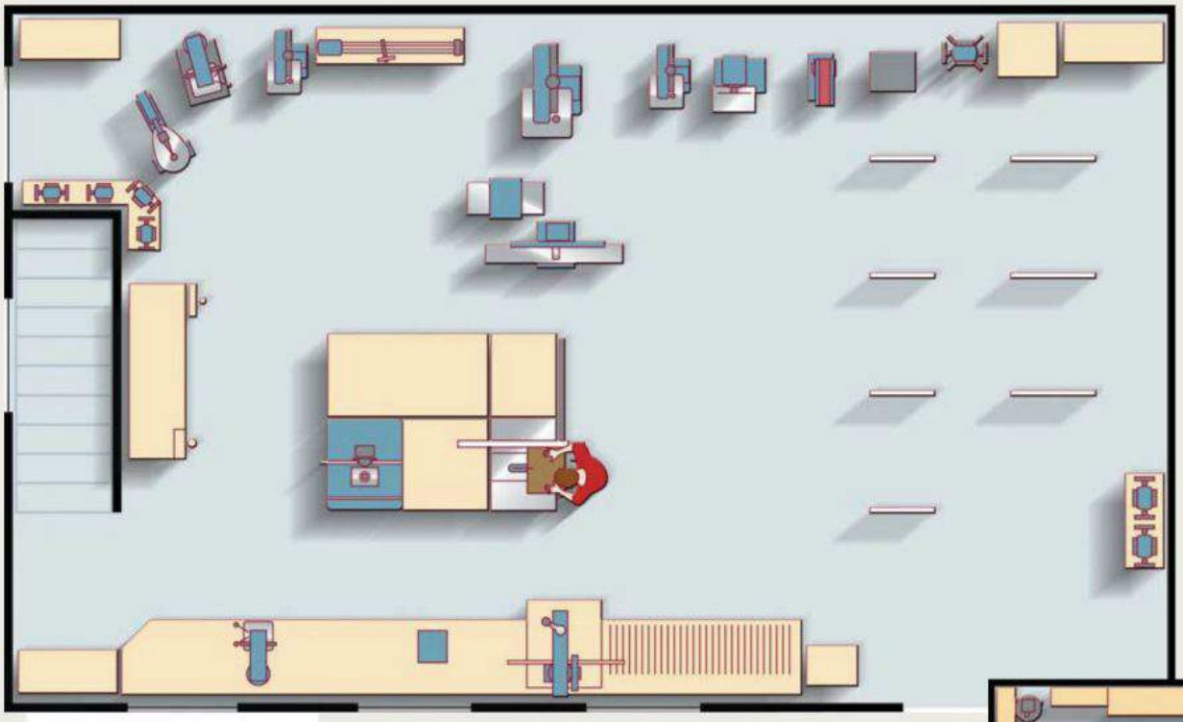
A Place for Everything

The best shop layouts, based on location



THE BASEMENT SHOP

When deciding where to put your equipment in a basement shop, be sure to consider the traffic pattern. Leave yourself room to get around your machines. Put some tools, such as a scrollsaw and drillpress, on wheels (see Tip No. 3), so they can be tucked away when not in use. Maximize storage by building storage space into the corners of the room, leaving more space for work surfaces and tool storage.



THE GARAGE SHOP

Is it possible to have a functional workshop in a space just big enough to fit a car? Yes. Even professional woodworkers have found ways to make it work. Put all machines (except the tablesaw) around the perimetre and store as much as you can on the walls, such as clamps (see tip No. 9). Add storage underneath a long work area on one wall and keep tools that you don't use a lot (such as a knock-down router table) hidden below.

THE STANDALONE SHOP

You may think that people with a standalone building for a workshop have it made. They have so much space that they don't have to worry about shop organization, do they? Not true. Even a lot of space can quickly become cluttered and inefficient. With a lot of room, give large tools a permanent spot so they don't end up cramped together in one area. Then, build a long work area with plenty of storage above and below. (See tips Nos. 4 to 6.)

ILLUSTRATIONS: PAUL LEWIS

TIP 2

EASY REACH

Mount your tool's accessories next to the machine; blades, pushsticks and wrenches all can fit in simple plywood storage.

TIP 3

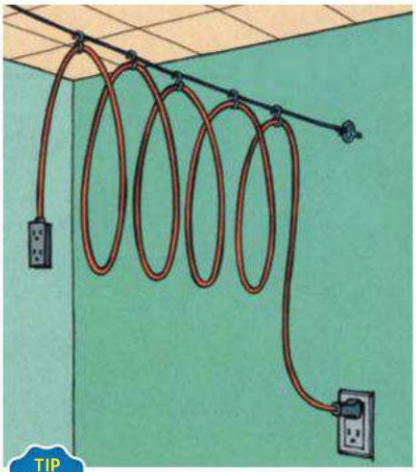
TOOLS ON WHEELS

Use castors or wheeled bases for tools that may need to be moved around for space and practicality.

TIP 4

LOOK UP...

Use all the vertical space you can by adding storage overhead wherever possible. And be sure to have a safe stepstool handy for reaching.



TIP 5

...AND UP AGAIN

Store your electrical cables off the ground and run them along the ceiling. You won't trip over them or have to clean up around them.

ILLUSTRATION: STEPHEN HUTCHINGS

TIP 6

STORAGE BELOW

Store blades and rulers on the doors of pegboards, then store tools inside.

TIP 7

KEEP IT CLEAN

Sweep and vacuum during your workday and before you close up for the night. It's simple, but many woodworkers skip this step.

TIP 8

PAIR OFF

Put two similar tools, such as a spindle and belt sander, on the same rolling surface. The cabinet base includes accessory storage.

TIP 9

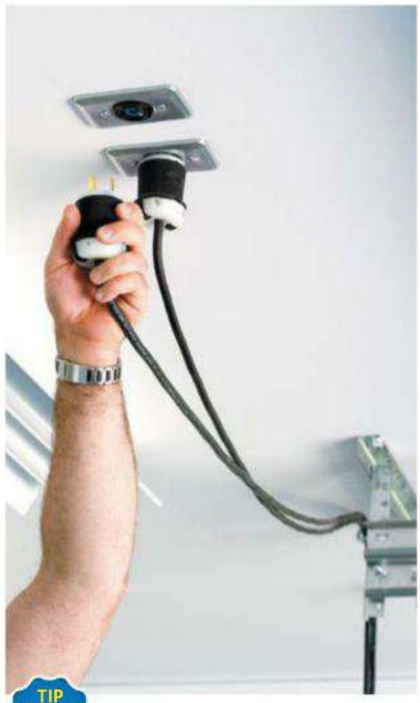
CLAMP RACK

A tall storage area has dowels across, spaced every 6" to 8" for, well, clamping.

TIP 10

DON'T BE AFRAID OF PREFAB

Just because someone else built it doesn't mean it can't help you get organized.



TIP 11

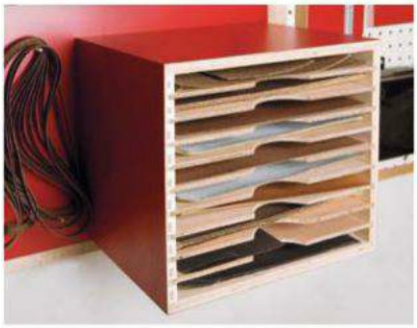
ELECTRIFY

Plan where you need electrical outlets. Use your ceiling space and extension cords to keep your floor space clear.

TIP 12

RETROFIT

If you can't add new outlets, use a retractable cord reel to keep power close at hand but cords off the floor.



TIP 13

CLEATS GALORE

Use a support-rail system to hang cabinetry easily and securely. Secure a 45° angle-cleat to studs and another cleat to the back of the cabinet.

TIP 14

MAKE IT YOUR OWN

You know your workshop needs better than anyone. Make a list of how you want your shop to function and find a way to achieve those goals. Also, make a list of your tools and figure out where each would best be placed for maximum efficiency and enjoyment. Because, after all, a workshop needs to be fun to functional.

TIP 15

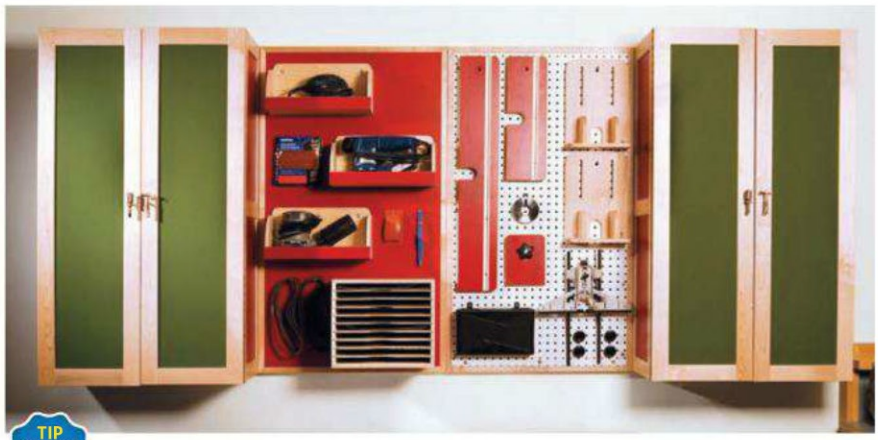
REUSE IT

Something old can be new again. Turn an old filing cabinet into a dream storage spot for blades, sanding discs and anything else that needs a home. Shop-built inserts that fit in the drawers are the key.

TIP 18

IN CLEAR VIEW

You'll not only save space, but you'll also save time and money if you build shelving for your nuts, bolts, screws and other hardware. That way you can easily see what you need to buy and what you have plenty of on hand.



TIP 16

ADD COLOUR

Just because it's a shop, doesn't mean it can't look good! Use coloured laminates for cabinet doors and shelving. Even the mitre gauges should match for a professional finish.

TIP 19

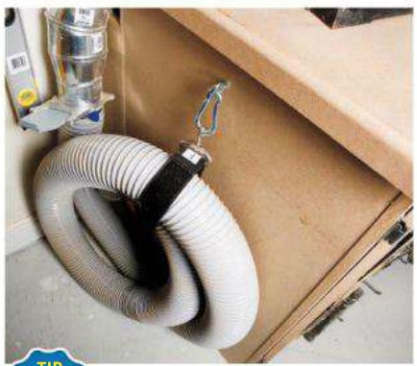
USE EVERY SURFACE

Chalkboard paint isn't just for playrooms. Add it to a wall or a cabinet door and you will always have a place to make notes or quick drawings.

TIP 17

POWER UP

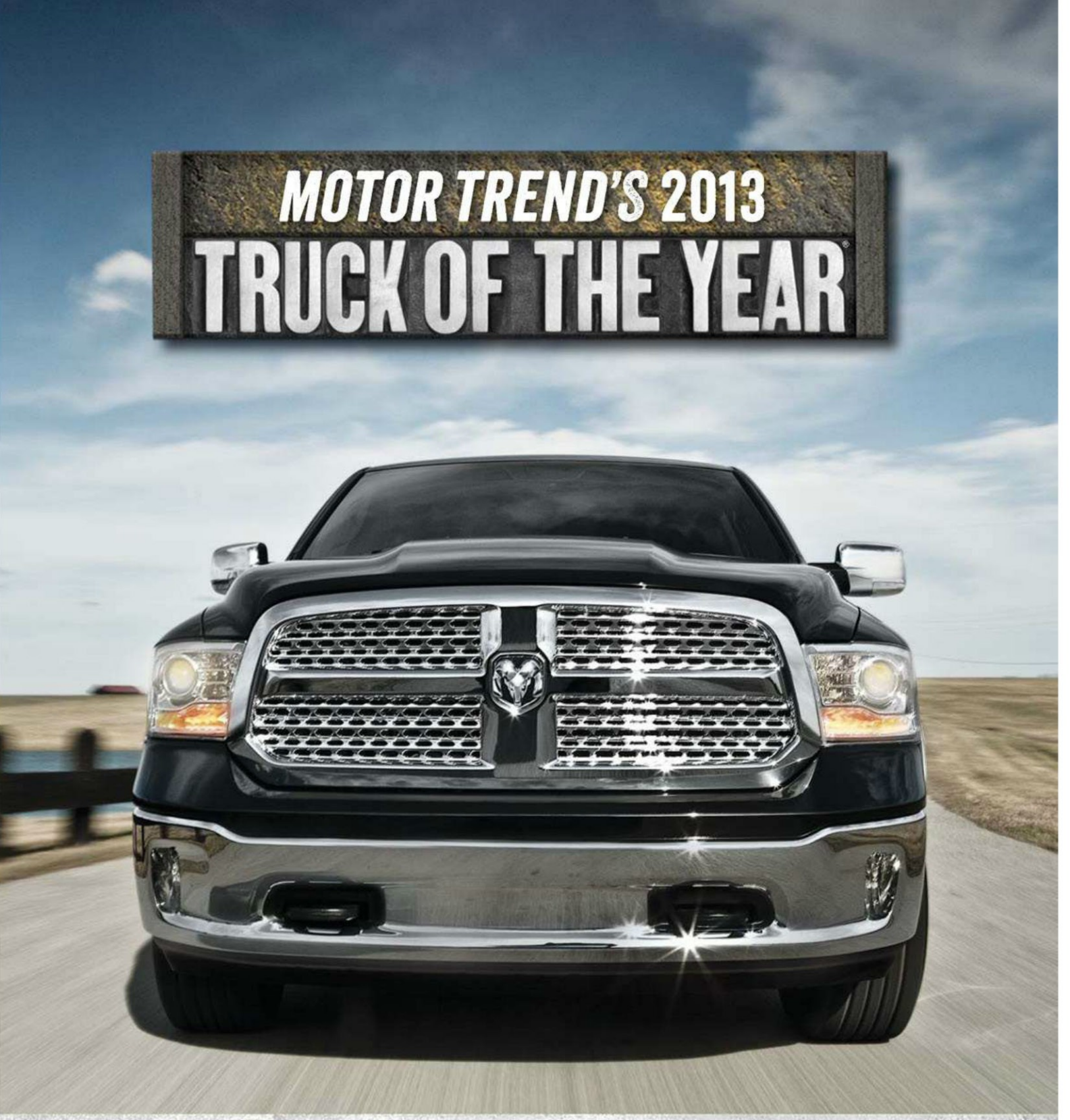
Build a simple charging station for all your battery packs. It will keep chargers and batteries together and you can easily see what needs juice and what doesn't.



TIP 20

MacGYVER DIY

If you can't find the hardware you need, make it! For example, using a carabiner and a Velcro strap, you can secure a dust-collection hose.



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Don't Do It!

Avoid these common tablesaw safety hazards

BY **HENDRIK VARJU**

"Just because you haven't lost a finger (yet) doesn't mean you're using your tablesaw properly"

Sometimes, even the most experienced woodworkers can forget basic safety rules when using a tablesaw. Just because you haven't lost a finger (yet) doesn't mean you're using your tablesaw properly. For beginners, it is even more important that you review these serious dos and don'ts. It always surprises me when a complete novice buys a tablesaw, plugs it in and just starts cutting without getting any training at all; it's like driving a car without a driver's licence. Most tablesaw accidents can be prevented if woodworkers learn some basic tablesaw rules.

PHOTOGRAPHY: FELIX WEDGWOOD

FENCE TROUBLES

DON'T run your workpiece against the fence when it is wider than it is long. The fence is used for rip cuts, but it isn't the grain orientation that matters. Most importantly, the workpiece should be longer than it is wide when doing rip-type operations when using the fence. If the workpiece is wider than it is long, it's more likely to wander off the fence and over the blade's rear teeth, causing kickback.

DO use a mitre gauge, cross-cut sled or sliding table to make this kind of cut. When the part is wider than it is long, this should be done as a cross-cut operation even if you're cutting with the grain. Don't use the fence at all; move it far to the right or remove it from the saw altogether.

TAKING OFF YOUR BLADE GUARD

IF YOUR BLADE guard isn't set up properly or can't be installed and removed easily, you'll probably never use it. But working without a guard significantly increases your risk of serious injury to your hands and fingers. You also risk dangerous kickbacks, which can impale your body, break your ribs—or worse. If you've ever experienced a real kickback, you'll know that the workpiece will be hurled back at you faster than you can move out of the way.

There are a few situations in which I take off my blade guard; but I keep it on for virtually all rip cuts, for which the danger is elevated. I only remove the guard when:

1. Using my cross-cut sled. However, a plexiglass guard can be fitted to the sled itself to increase your safety. A riving knife or short splitter can be used with a sled too. But it really is the blade-contact risk that is highest; not a kickback situation. Cross-cut sleds are used for cross cutting, and kickbacks generally happen when ripping.

2. Cutting a rabbet, dado or other non-through cut, for which a traditional guard can't be used. But a riving knife or short splitter can. Other types of guards, such as an overarm guard, can be used as well, for additional safety. Don't forget about featherboards too, which help prevent kickback.

3. Cutting joinery such as finger joints. A full guard can't be used and even an overarm guard might be impossible in this situation. However, you can still clamp the workpiece to the jig you're using, keep your hands well out of the way of the blade and turn off the tablesaw before repositioning the workpiece. Extreme vigilance and using the grey matter between your ears also qualify as "safety equipment."

GLOSSARY OF TERMS

BLADE GUARD Usually a complete system, including a splitter or riving knife as well as blade cover and anti-kickback fingers.

CROSS-CUT SLED Generally, a shop-made jig that replaces a mitre gauge and allows very accurate cross cuts or mitre cuts.

FENCE The part of the saw that guides the workpiece when ripping. The workpiece must be longer than it is wide to run against the fence safely.

KERF The cut produced by the saw. The width is equal to the thickness of the blade, including the teeth.

KICKBACK A violent and dangerous situation in which a board is thrown off the tablesaw, often toward you.

MITRE GAUGE A jig, usually provided with the tablesaw, that rides in a mitre slot. This jig is used to guide material in a cross-cut procedure. For ultimate safety, clamp the workpiece to the mitre gauge.

RIVING KNIFE Newer saws and European saws have a low-profile riving knife. It works like a splitter, but is shorter than the arc of the blade, allowing it to stay on for non-through cuts such as dados and rabbets.

SLIDING TABLE A more complex sliding carriage that attaches to the left side of the tablesaw. It allows you to clamp on a workpiece and travel smoothly past the blade for a cross-cut operation. Some sliding tables have an enormous amount of travel, even allowing rip cuts to be done without a fence, such as on plywood sheets.

SPLITTER The metal plate on a guard system that holds the kerf open and, more importantly, holds the stock tightly against the fence when making a rip cut.

pro tip

Above all, learn what a guard, splitter and riving knife are for. Set them up properly, then use them whenever possible.

LEFT-HAND RULE

DON'T let your left hand travel past the front of the blade guard when ripping. Your left hand's job is to hold the stock tightly to the fence in front of the guard. But once the blade has cut the kerf, pushing on the left edge of the stock will only pinch the kerf around the blade. Using your left hand behind the blade is even more dangerous, due to kickback risk that can pull your left hand into the back of the blade.

DO use your left hand from the front of the tablesaw's table to a point a few inches in front of the guard. When there isn't enough workpiece in front of the guard for your left hand to hold on to, you must remove your left hand from the workpiece. Only your right hand or, preferably, a pushstick or pushpad, can continue to push the workpiece forward, while the splitter takes the place of your left hand.

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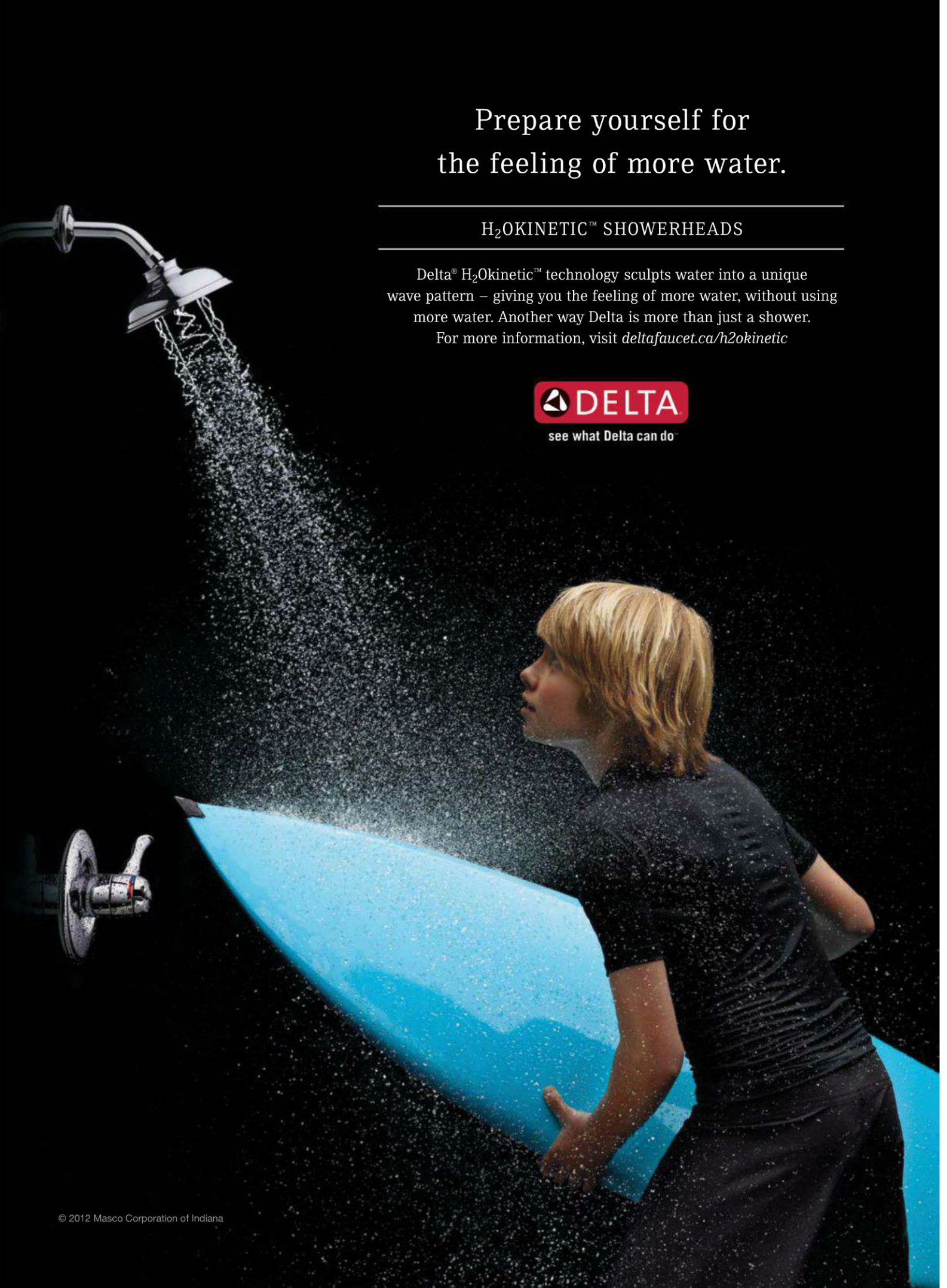
PREVENT KICKBACK

DON'T rip boards that are shorter than the distance from the front of the splitter or riving knife to a point about 3" or 4" in front of the blade guard. In order to avoid kickback, your left hand must hold the stock firmly to the fence until the leading end of the board reaches the splitter, at which time the splitter takes over the job of your left hand. Since your left hand can't travel beyond the front of the blade guard, this means there is a minimum length you can safely rip on a tablesaw. One exception might come up with plywood or other wider panels, in which a pushpad can be used between the guard and the fence to exert sideways pressure toward the fence while advancing the stock. But if the stock is wider than it is long, you shouldn't be using a fence in the first place. This should be done as a cross cut, not as a rip. (See Don't, page 25.)

DO use other methods to rip short workpieces safely. For example, if you have a bandsaw, that would be preferred. Even a jigsaw or a handsaw would be better. With the correct jig to hold the stock firmly, it can be done on the tablesaw—but not by holding with just your hands. Or if the stock is just slightly too short, a featherboard can hold the stock to the fence closer to the front of the blade than I would be willing to go with my hand. But for super-short boards, the stock needs to be firmly attached to a sled or jig of some kind to make this cut safely.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SPLITTER & GUARD

DON'T rip lumber on your tablesaw without at least using a splitter, although a full guard is even safer. The splitter (or riving knife, on newer saws) doesn't just hold the kerf open. When properly set up, it also holds the workpiece firmly to the fence behind the blade, where your hands are not allowed to travel. This prevents kickback, which occurs when the workpiece drifts off the fence and over the blade's rear teeth.

DO use the full blade guard for all rip cuts unless there is a specific reason that you can't. Even when a full blade guard can't be used, such as when cutting a dado, use a splitter or riving knife instead. A splitter will prevent kickback, while the full guard is best to protect your hands.

TOP 3 TUNE-UP TIPS

YOUR TABLESAW will be safer and perform better with adjustments to the blade, fence and splitter

I AM OFTEN hired by other workshoppers to make their tablesaws perform better. There are many steps to tuning up a tablesaw, but I will outline three of the most important tips here.

First, I adjust the trunnions of the saw so that a 10" blade at full height is canted away from the right mitre slot by 0.003" to 0.005" at the rear. This very slight canting of the blade is measured using feeler gauges referenced off a steel rod clamped to a slop-free mitre gauge.

The 0.003" to 0.005" clearance is less when the blade is lowered, but it helps to prevent burning, binding and kickback when ripping. I do most cross cutting on the right side of the blade, so this clearance gives perfect cross cuts as well.

Second, I adjust the fence parallel to the right mitre slot and square to the table. A slight rightward cant at the rear of the fence is recommended, but is not necessary when the blade is angled.

Last, I set the right side of the splitter or riving knife tight to the right side of the cut line. This set-up means that when you rip a board, the splitter holds the board tightly to the fence behind the blade. Setting the splitter in the middle of the kerf is not good enough to prevent kickback. Remember that your left hand should not travel past the front of the guard and you should not hold the offcut. The splitter takes the place of your left hand behind the blade.

CONVEX EDGES

DON'T rip boards with convex edges on the fence side. It is unsafe to rip boards that have not yet been jointed straight on the edges. As you move your left hand's side pressure from the front of the board toward the back, the convex shape will force the leading end of the board away from the fence and into the blade's rear teeth. A properly set splitter should prevent this, but you can still experience kickback when the leading end of the stock has reached the rear teeth but not the splitter behind it.

DO check the straightness of a board's edge before you put it against the fence for a rip cut. A straight edge is preferred, but a slightly concave edge is still far better than a convex one. Attaching a superlong face to your fence will allow a concave edge to travel in a straight line, as long as the fence is long enough to be in contact with both ends of the stock at all times. If you don't have this option, use a jointer to straighten one edge of the stock before attempting to rip it on the tablesaw.

ANATOMY OF A TABLESAW

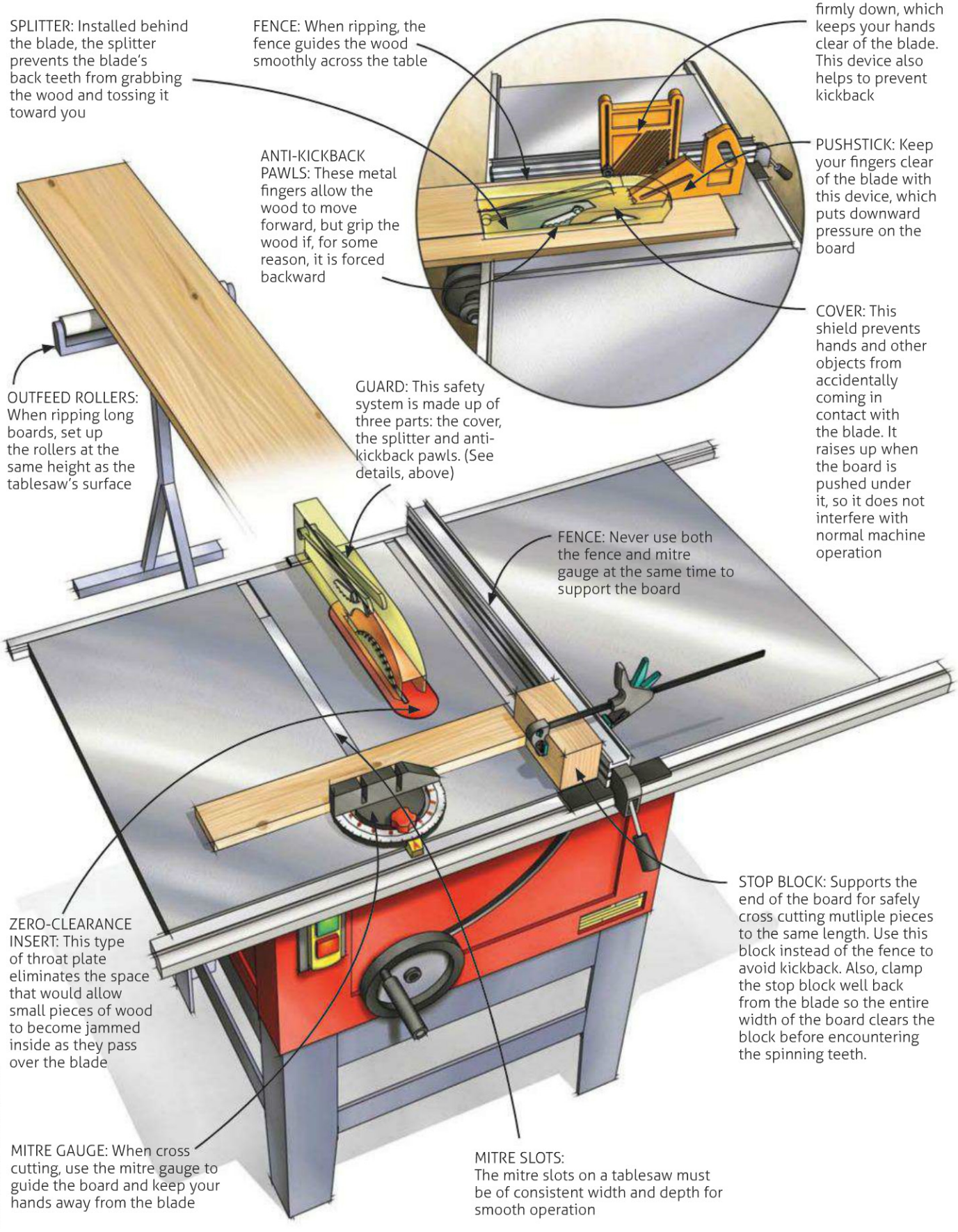


ILLUSTRATION: PAUL PERREAULT

Skill Level
Novice Expert

- ☑ REDUCE HEATING COSTS
- ☑ LOWER ENERGY BILLS
- ☑ AUTOMATE POWER CONSUMPTION

It All **Adds Up!**

Three easy installs to save money on your energy bills BY **JODI MACLEAN**

ENERGY-SAVING TASKS, such as only using your heating, lighting and fans when you need them, are easier said than done in a busy household. But a few little add-ons can make things easier and help reduce your energy bills. Automation is the key with these three quick and easy projects. As with other electrical projects, contact your local electrical safety authority to determine if your project requires inspection. (Most do.)

safety first

Before you begin any of these projects, turn off the relevant breaker on your electrical panel.

THERMOSTAT

PROGRAMMABLE THERMOSTATS HAVE been popular for some time now. But since the introduction of simple clock thermostats offering varied temperatures for only two times in a day, they've become more effective. Now you can raise and lower your temperature for different days of the week based on the flow of your household. And the newest models, such as this one from Venstar, have smartphone apps that allow for climate control from anywhere with a Wi-Fi or cellphone signal. To maximize your cost savings, make sure your temperatures from morning to night vary by at least 5°C and reduce the heat (or cooling) during the day when you aren't home.

SAVE UP TO 15% ON YOUR HEATING BILL

PHOTOGRAPHY: ROGER YIP

SWITCH OFF power, remove the old thermostat and fish the wires through the provided slot of the new thermostat's backplate. There should be five wires

SECURE THE backplate to the wall with anchors and screws, leaving sufficient slack on the wires

USE THE diagram provided by the manufacturer to match up the wires to their corresponding slots

CLICK THE new thermostat into place by mating it with the pins on the backplate. Install a Wi-Fi card to use a smartphone or computer for climate control

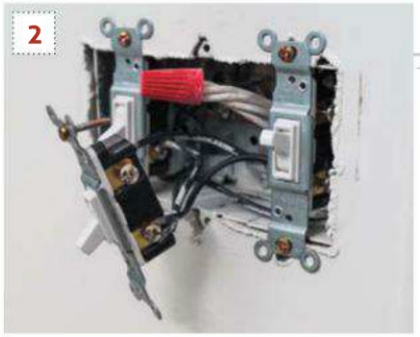
FAN SWITCH

GETTING YOUR KIDS to remember to run the bathroom fan when they take long, hot showers every day is one thing. Getting them to remember to turn it off is a whole other problem. An automatic exhaust fan sensor and switch is a great way to solve both problems.

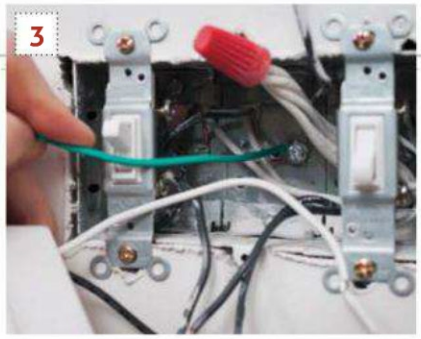
RUN YOUR BATHROOM FAN ONLY WHEN NEEDED

The DewStop combo switch senses excess humidity in the air and turns the fan on; then turns it off again 30 minutes later, when the air is clear. This switch also has an on/off override for when you want to control the fan on your own.

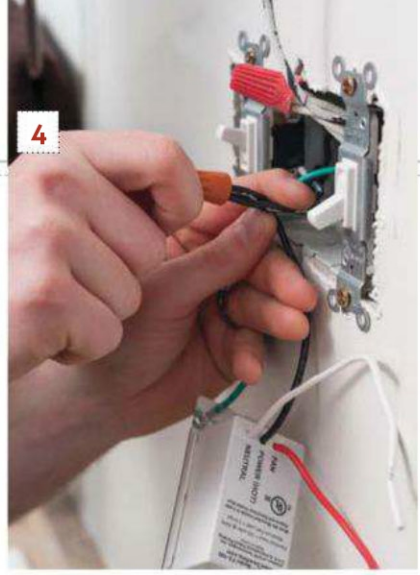
TURN OFF the power to all switches in the box, then remove the old faceplate. The DewStop fits in a Decora slot, so if you have smaller toggle light switches in the same box, you will need to replace those with Decora switches and a new faceplate



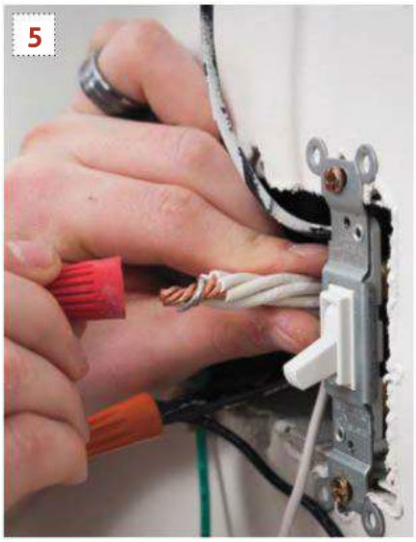
AFTER USING a multimeter to double-check that the power is off, unscrew the toggle switch that controls the fan and remove its wire connections



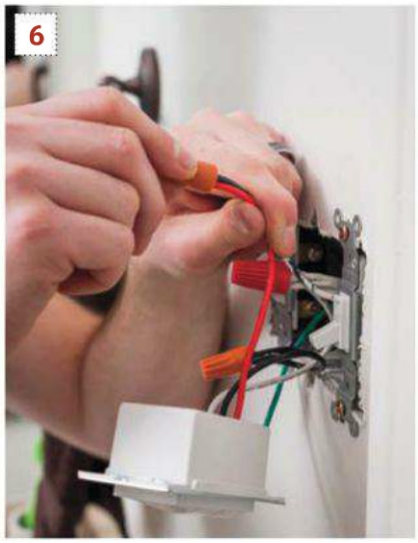
ATTACH THE new switch's ground wire to the grounding screw in the box, wrapping the bare end of the wire clockwise around the screw before tightening



THE BACK of the switch outlines what each wire does. Attach the black wire to the power source and cap the connection with a wire nut (a.k.a. marrette)

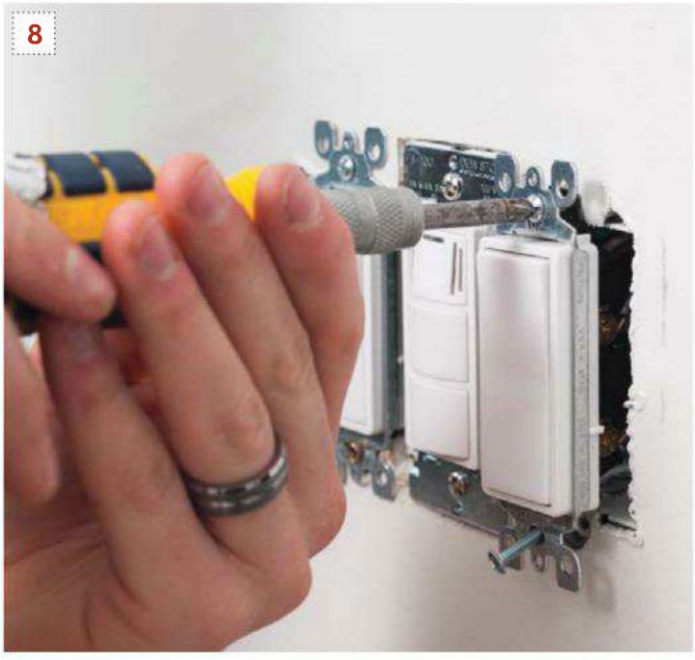


THE WHITE wires are the common or neutral wires. Twist the new white with all the rest and cap with a wire nut



THE FINAL wire connection is to the fan itself. Again, use a wire nut to secure the connection

ATTACH THE new fan switch to the box, then replace the old toggle switches with Decora-style switches, if needed



OVAL SCREW holes allow side-to-side adjustment. If any switches are out of place, the faceplate won't fit properly

THIS SUB-FACEPLATE hides the mounting screws. Line up the screws for each switch and tighten carefully. The top faceplate simply clicks into place, leaving a smooth finish

NO EMPTY GROUND SCREW?

Instead, connect the ground wire from your new switch to any group of ground wires joined together within the box, using a wire nut.

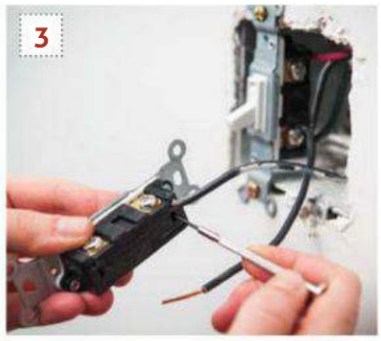
LIGHT DIMMER

IT'S A SIMPLE concept: the brighter the light, the more power it uses. If you dim a light by 25 per cent, it uses one-quarter less power. Replacing a regular light switch with a modern dimmer switch is an easy way to achieve this.

CONTROL THE ENERGY YOUR LIGHT FIXTURES USE

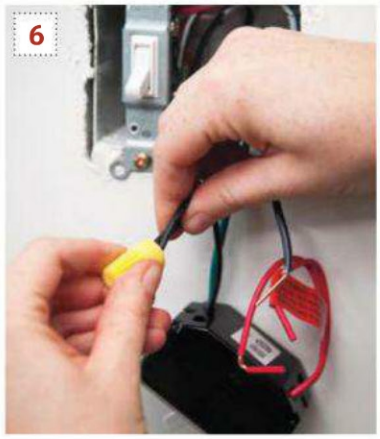
You can find a variety of dimmers, from toggles to tap-style. Want to reduce your energy consumption even more? Use an energy-efficient bulb. Just make sure it is dimmable before you team it up with your new switch.

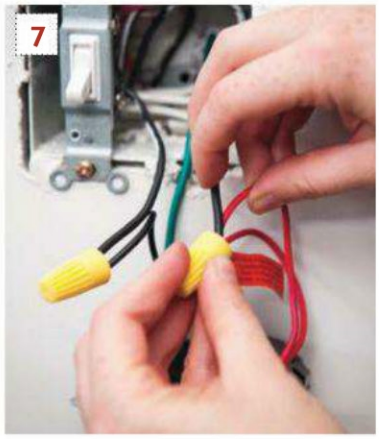
TURN OFF the power to all switches in the box, remove the faceplate's mounting screws (top), test that wires are safe using a multimeter, then remove the toggle switch that you are going to replace with a dimmer



OFTEN, THE wires are wrapped around the screw at the side, or you may need to use a small screwdriver to push the release pin inside the switch

SECURE THE green ground wire of the new dimmer switch. Wrap the wire clockwise so it wraps around more when you tighten the screw





MAKE ALL the necessary electrical connections for the dimmer switch, twisting the wires tightly and capping each connection with a wire nut

MOUNT THE dimmer switch's plate to the box. Carefully tighten the screws as you keep the switch aligned. Install the old faceplate to finish the job

PROPER WIRE NUT CONNECTIONS

Twist bare wire ends together with linesman's pliers, then twist on the wire nuts to cover bare wire ends. Keep turning until insulated parts of the wires begin to wrap together, then give the wire nut a moderate tug. It shouldn't pull off.

ROUTER-BIT HOLDER

Skill Level

Novice Expert

Bit BY Bit

Never lose a router bit (or wonder what it does) again

BY **RYAN SHERVILL**

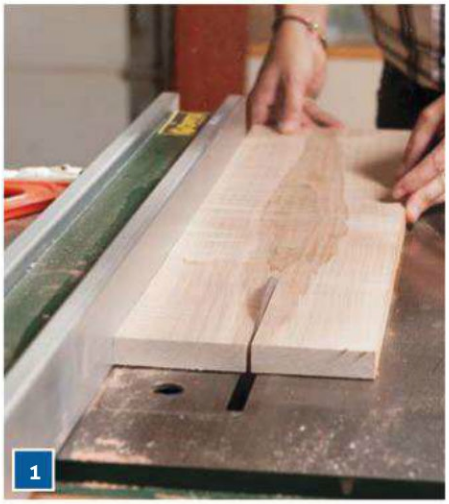
INSTEAD OF BUYING full sets of router bits that I may not use, I prefer buying individual bits as I need them. In the end, it saves me money because it ensures I only pay for the bits I actually need in my shop. However, this approach also offers a problem: how to store all the different bits effectively. When the editors at *Canadian Home Workshop* asked me to come up with a highly functional but easy-to-build router-bit storage solution, I knew that this project would be right up my alley (and finally allow me to empty out that drawerful of odd router bits). I designed this project to be both a multi-functional and an attractive addition to the shop. Consisting of a rail system, either as a simple stand or hung on a cleat system on a wall, the holder uses removable bit-storage blocks. Each block not only shows you the profile that the bit will cut, but it also serves as a setup block so you can get the perfect bit height without needing to do any test cuts on your next big project.

> "This project is a great way to use up those "too nice to throw away" scraps that all workshoppers seem to accumulate"

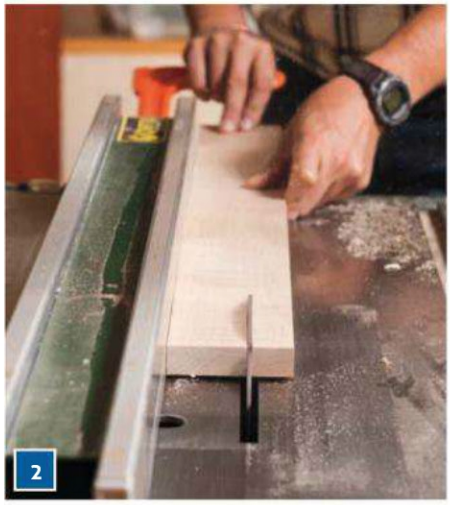
REMOVABLE STORAGE blocks hold the bits when not in use and showcase their profiles

PHOTOGRAPHY: ROGER YIP

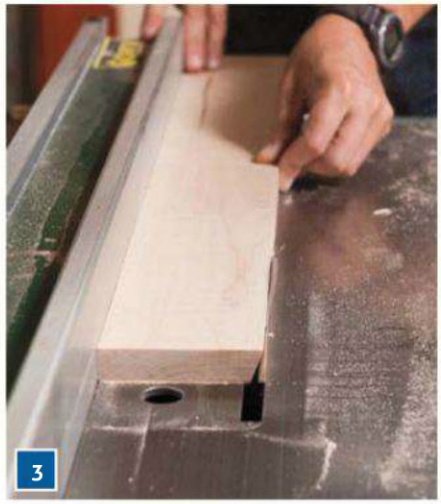
STEP-BY-STEP



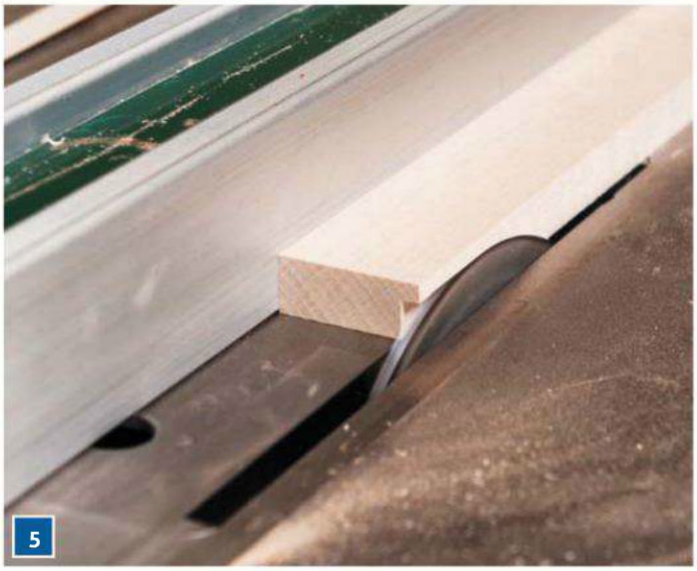
1. TO MAKE the router-bit holder blocks and rails, start at your tablesaw. Set your fence to 3 1/2". Rip the 3/4"-thick maple holder block stock to width



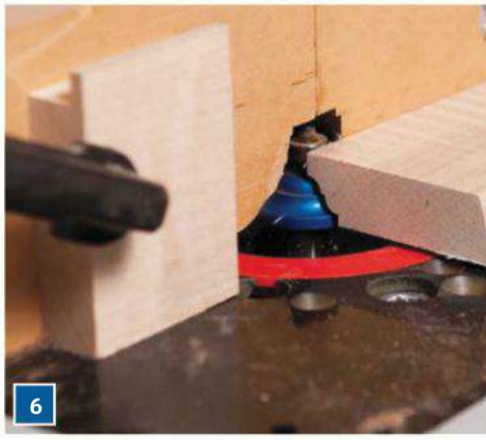
2. NEXT, ADJUST the fence to 1 3/4" and rip more 3/4"-thick maple stock for the rack rails. The length of this part depends on how many holders you wish to make

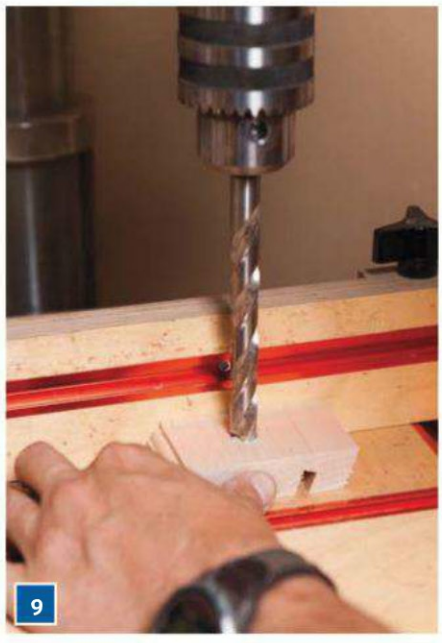


3. SET ASIDE the rail stock and grab your bit-holder stock. Tilt the blade to 20° from vertical and cut a bevel on one edge of the holder stock



5. SET ASIDE the bit-holder stock and turn your attention back to your rail stock. Adjust the stacked dado blade set to 90° and cut the 1/2" x 1/2" rabbet along one edge of the rail stock with two passes. The rail is now ready to support the bit-holder blocks





7. NOW THAT the first bit-holder block has a bit profile, you need to saw the block from the longer blank. Mark your cut at 2"

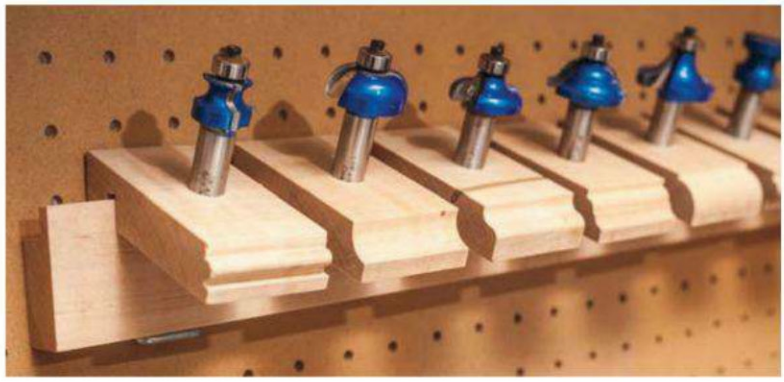
8. USING A mitre saw, cut the block from the stock. Next, repeat steps 6 and 7 with each profile of the bits you have on hand

4. USING A 1/4"-wide stacked dado blade and the same 20° bevel, cut a dado in the bottom face of the bit-holder stock, 1/2" from the bevelled edge

6. TAKE YOUR bit-holder stock to your router table. Set up a stop block approximately 2 1/4" from the outfeed side of your bit and cut the profile into the end of the non-bevelled edge of your holder stock

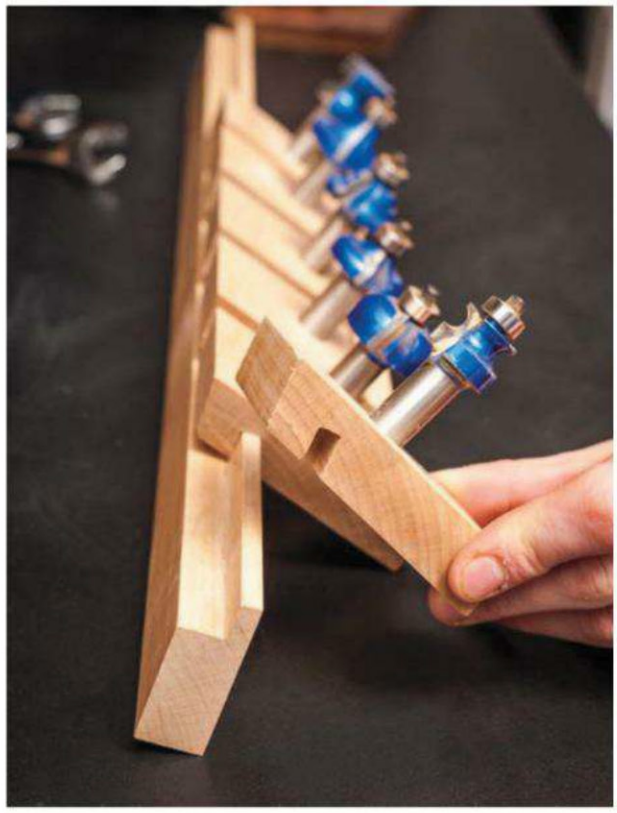
9. USING A drill bit that matches your router bits' shank diameter, drill a 5/8"-deep flat-bottomed hole with a brad-point or Forstner bit in each block to hold the bits. The blocks fit perfectly on the rails (above) and not only hold the bits but display the profiles as well

THE MULTI-FUNCTIONAL RAIL



When I was in the drawing stages of creating this router-bit storage project, I realized that there are as many different places where bits can be stored as there are woodworkers who need to store them. With that in mind, I decided to make the design as simple as possible, not only for functionality but also to make it easy to take on the task of cleaning out your workbench drawers. This standalone rail system is so straightforward that it could easily be adapted to go just about anywhere.

Since it can be made from any 3/4"-thick hardwood you may have laying around, it's a great project for using up scraps. Once you cut the profile needed on the rail (see step-by-step instructrions, at left), it can be cut to any length and mounted anywhere—on a wall, the inside of a cabinet door, the side of a router table or even inside a drawer. Or, for those woodworkers who need portable bits, they can even be mounted into their own stand, which looks as good on your bench as it does in transit. (See page 40 for details on building the frame.)



CREATE A standalone rail that fits as many holder blocks as you need. When you do eventually need to use a bit, the block easily lifts off the rail. You can hang the rail on a wall (above) or build simple yet portable frames to hold all the bits and blocks. (See page 41 for plans and details.)

BUILD THE RACK

If a wall-mounted router-bit storage rail system doesn't suit your needs or workshop setup, you have another option: a portable bit-storage rack.

The nicest feature with a rack like this is that you can make it any size you like. Only have a few bits right now? The rack I built comfortably holds 15 to 18 bits. Need more room? You can make your rack wider or add an extra rail or two. And for those lucky workshoppers with a really big router-bit collection, you can make your rack both wider and taller.

I made mine from scrap walnut I'd been holding on to, and even though it's a relatively simple design with an easy wipe-on finish, the dark walnut looks great against the contrasting maple holder blocks.

Begin by making up three 12"-long sections of rail using the same method as outlined in the step-by-step directions on page 38. With the rails cut, test-fit a block or two. Assuming all is good, go ahead and sand, then finish the rails as you like. I used a simple, wipe-on polyurethane.

To make the stand itself, begin by ripping the material for the sides to 2¼" wide and cross-cutting to a finished length of 15¾". Then, as with the rails, sand and pre-finish the parts for easier final assembly.

The next step is to make the base and top. Both the top and bottom are cut to exactly 4" wide x 14½" long, though they're positioned differently. Once again, cut your pieces to size, finish-sand and round over any sharp edges before applying the finish.

Once the finish on all three sets of components is completely dry, it's time for final assembly.

The method you use to join everything together is completely up to you. Biscuits, countersunk screws or even pocket-hole screws work fine. I used ¼"-diameter x 1¼"-long dowels to bring my rack together.

You Will Need

PART	MATERIAL	SIZE (T x W x L*)	QTY.
Rack rails	Walnut	3/4" x 1 3/4" x 12"	3
Rack sides	Walnut	3/4" x 2 1/4" x 15 3/4"	2
Rack top/bottom	Walnut	3/4" x 4" x 14 1/2"	2
Bit-holder blocks	Maple	3/4" x 3 1/2" x 2 1/2"**	1 per bit
Standalone rail (alternative)	Maple	3/4" x 1 3/4" x 2 1/4" per block	1

*Length indicates grain direction **Add at least 6" to length for cutting safety

RECOMMENDED TOOLS

Tablesaw, table-mounted router, drillpress, drill-driver

THE BIT holders fit on the frame in the same way they do on the standalone rail. Adjust the size of the frame to suit your needs

Begin by installing the lowest rail between the uprights, positioned as far toward the rear edge as possible. The bottom of this rail must be flush with the bottom of the uprights.

Next, measure 3½" up from the top of the lowest rail and mark a line. Position and fasten the next rail in place, with its bottom edge touching that line. Repeat the process with the top rail.

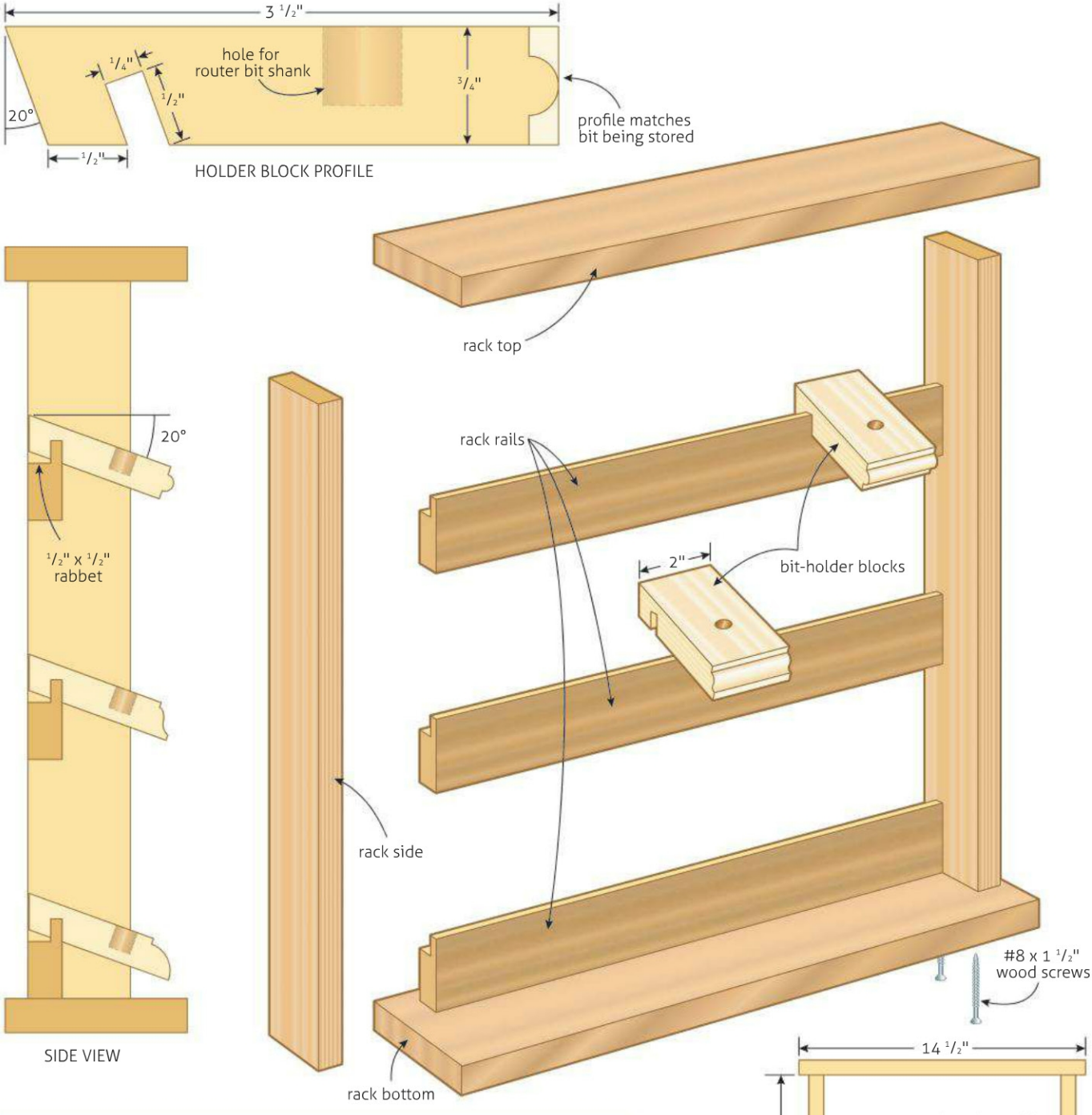
Next, position the assembly on the base, centred side to side, but ½" forward from the rear edge.

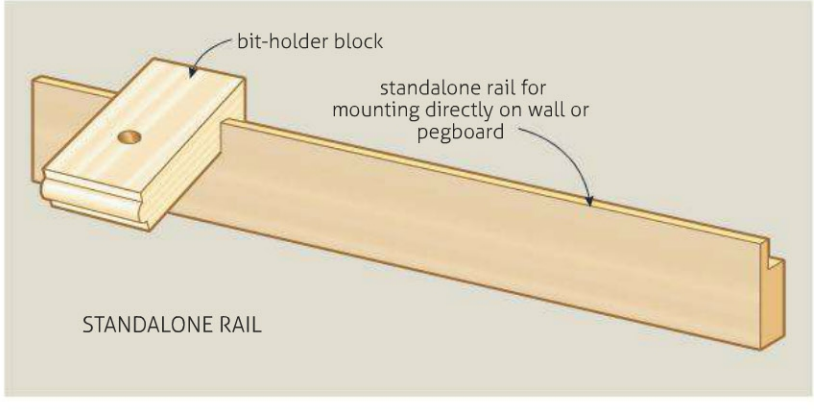
Once you have the assembly looking good, clamp everything into position and attach the sides permanently with a couple of countersunk #8 x 1½" screws driven up through the rack bottom and into the upright sides.

Finally, attach the top, keeping it centred, both side to side and front to back, using the joinery method of your choice. I prefer dowels for this step as they are completely invisible. Countersunk screws and plugs would work just as well.

And there you have it: an attractive and portable storage solution for all those router bits that need a proper home. Now, if I could just come up with a way to store my tape measures as effectively. I know there has to be one around here somewhere…

→ PLANS FOR THE ROUTER-BIT HOLDER





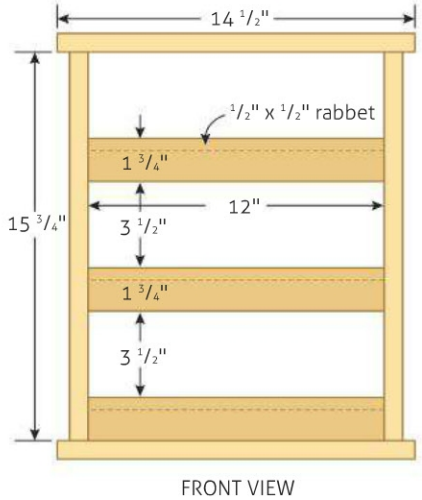


ILLUSTRATION: LEN CHURCHILL

Skill Level
Novice

Install a Range Hood

Keep kitchen smells from travelling through the house

BY **MICHEL ROY**

> The challenging elements involved coring a large hole through the concrete and running the ducting through the cabinets

INSTALLING A RANGE hood can be a relatively simple project that is well within the capabilities of a hard-core do-it-yourselfer. As is the case of many home-reno projects, though, the devil is in the details. The ease of a range hood installation will depend on a number of factors. Simply replacing an existing unit—with ducting and wiring already in place—is pretty simple. A completely new installation in an existing kitchen is a little trickier to tackle. There are three factors to consider: Can you get wiring (a 120-volt circuit) to the location? Is the existing cabinet or wall space above the range the right size to allow room for a hood? Can you run ducting from the hood to an exterior wall or roof? In this project, I tackled the installation of a range hood in a basement suite. The original builder had provided a circuit and wiring that was hidden behind the wall. For this job, the challenging elements involved coring a large hole through the concrete-and-stone foundation and running the ducting through the cabinets. Here's how I did it.

PHOTOGRAPHY: ROGER YIP

1. Use a 5" hole saw to cut a hole through each cabinet side that you need to pass through. Adjust the location to the circumstances while trying to preserve as much storage as you can. While many hoods suggest a 5" or 6" duct, I stepped down to 4" to preserve space in the cabinet. Consider using rectangular ducting if that will work better in your situation

2. After checking for plumbing, wiring and building structure, you need to get through the exterior wall. Drill a pilot hole from the inside that you can see from the outside. In this case, an extra-long masonry bit did the trick

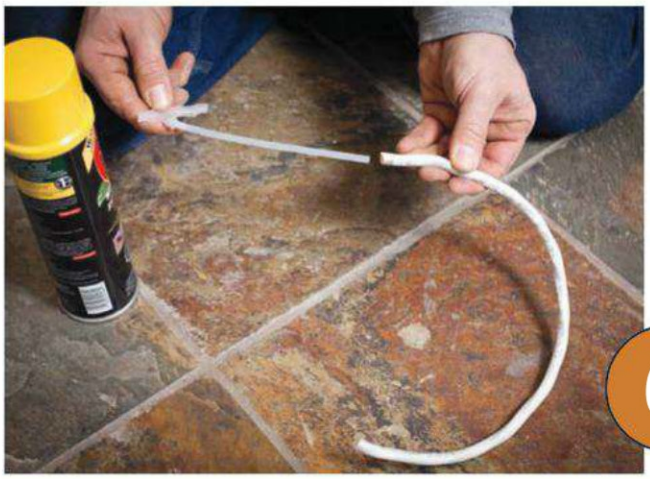
3. To core a 5" hole through an 18"-thick masonry foundation, you need a pretty big hole saw. But don't be discouraged. A rented rotary hammer and a carbide-tipped bit are relatively easy to use. A good rotary hammer has a clutch to eliminate the danger of twisting your wrists if the bit catches. You'll drill through in two to three minutes. Use a cold chisel and a prybar to snap the plug that is left when the bit bottoms out, then drill out the next stage

4

4. If the exterior masonry isn't flat, the exterior vent won't sit flush. Use an angle grinder and a masonry wheel to carve out an area for the vent to rest against. Test-fit the vent on the wall to ensure it sits flat. This step would be unnecessary on a flat brick wall

5

5. Use self-tapping masonry screws to hold the new vent in place, then apply exterior-grade silicone or polyurethane caulking



6

6. Before continuing with your installation, inject some expanding foam around the ducting to seal against air leaks. Here's a tip: to get the foam deep into a cavity that you cannot reach with the attached straw, simply tape on an extension made from the exterior sheathing of electrical cable. With a little care, you can put that foam where it needs to go

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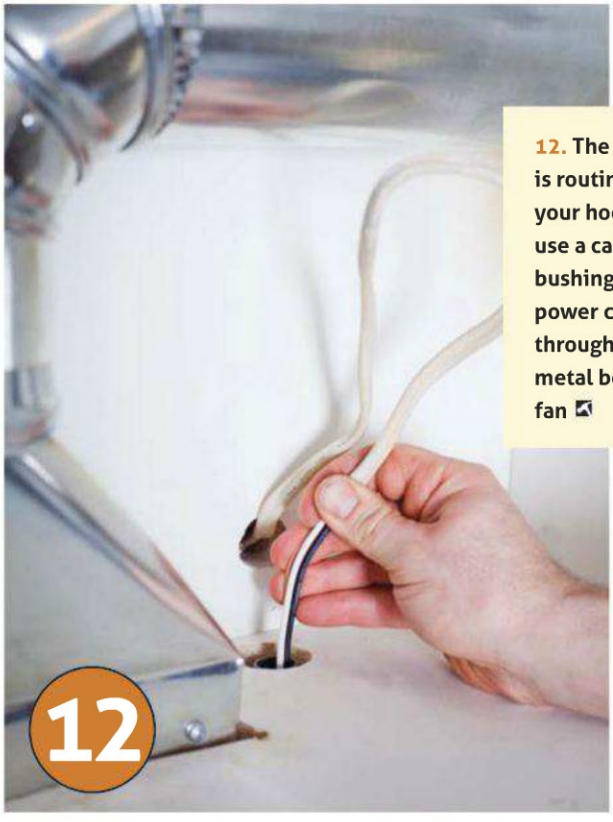
7. Continue by running the ducting in the cabinet that the fan will be attached to. Air flows best when bends are kept to a minimum, so fewer elbows are better. The easiest way to cut round ducting is to use aviation snips before locking the ducting into its cylindrical shape. Remember to feed the factory-crimped edge into the cut end of the previous duct in the direction of the airflow

8. Depending on the range hood, you'll need to cut a round or rectangular hole through the bottom of the cabinet that it will be mounted to. Use the included template to transcribe the cut lines. A jigsaw is the go-to tool for this job

9. The same template you used to mark the cutout will show you the locations for the mounting screws. Typically, the screws mate up with keyhole slots in the range hood. Predrill holes for them and drive them almost all the way in, then lift up the hood, align it with the screws and push the hood to the back. Tighten the screws for a secure installation

10. To make the final duct connection, I used a round-to-rectangular transition piece called a universal, or straight, boot. As the round end isn't usually crimped to allow it to fit inside the round ducting, I used sheet-metal crimping pliers to reduce its circumference for a good fit. Another tip: if you don't have crimping pliers, you can get a similar effect using needlenose pliers. Just clamp the pliers onto the pipe and give a little twist. Move the pliers over a little and repeat, going all the way around

11. Self-tapping metal screws and some foil duct tape will minimize rattling and keep the air flowing through the ducting



12. The final step is routing power to your hood. Be sure to use a cable clamp or bushing where the power cable passes through the sheet-metal body of the fan

COAT RACK

Skill Level

Novice Expert

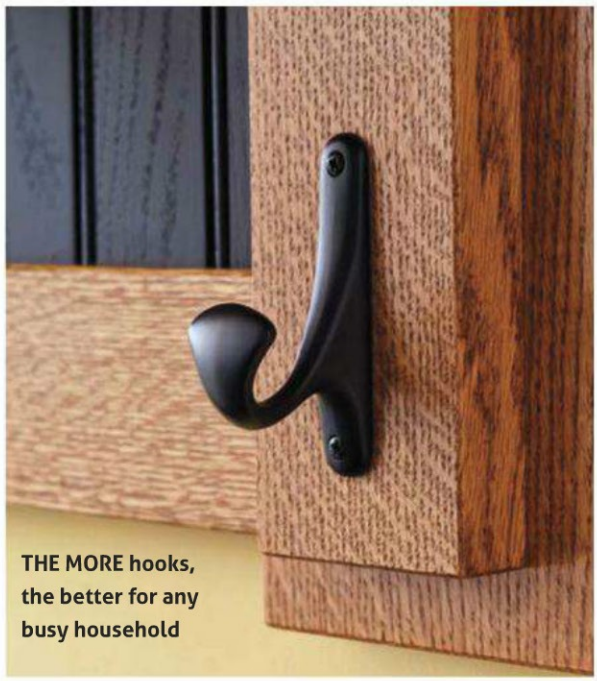
Hanging On

Front-hall storage with style to match your favourite coat and hat BY **GARY WALCHUK**

builder's tip

Sand wood flat and smooth, ready for finishing before assembly—it saves time and effort to do it now rather than when the project assembly is complete. You need to try this at least once to be sold on the results.

EVERY HOUSEHOLD NEEDS a place to hang outdoor gear, from hats and coats to umbrellas and scarves. But not every household has a spacious closet or even the room for a coat tree on the floor. This project doesn't take up a lot of space on an entryway wall, yet it holds more items than meet the eye. My design allows good coats and jackets on hangers to rest flat to the wall. The smaller-than-usual hooks handle two to three hangers each, while the even smaller inner hooks are handy for lighter items. Got company? There's a hole in the brace that will handle a couple more hangers. And the large top shelf is sure to accommodate even the biggest hats.



THE MORE hooks, the better for any busy household

I used solid black oak, salvaged from a huge backyard city tree, for this project. When quartersawn, black oak displays a grain figure that is similar—although finer—to the white oak used in Mission-style furniture. Your options for wood choices are endless: cherry, maple or pine, or a lesser-grade wood with a painted finish.

FRAME FIRST

It all starts with a basic 1"-thick flat frame. Cut the stiles and bottom rails to the exact size listed, then biscuit-join, glue and clamp the ends of the rails to the inside edges of the stiles. Note that the top edges of the top rail and stiles are flush, but the bottom edge of the bottom rail is 1" up from the bottom ends of the stiles. This creates a 6" x 26" frame opening, to be filled later with back boards.

Locate and cut biscuit slots, not on centre as usual, but about ¼" in from the back faces of the frame parts. This ensures that no slot or biscuit will peek through the inside corners of the frame. After the frame is assembled and the glue is dry,

PHOTOGRAPHY: DONNA GRIFFITH

A simple piece of trim hides the mounting screws, giving the finished project a very clean look

rout rabbets along the rear inside edges ½" deep and ⅜" wide. Chisel the corners square. These rabbets will hold the back boards later.

BRACE YOURSELF

The brackets are an easy step. Each three-piece bracket has a vertical hook support, a horizontal shelf support and a brace. Cut all parts to size, then drill a 1"-diameter hole through the brace parts, 1½" in from the outer end and centred on the 2"-wide face. (The plans show details.)

Assemble the bracket with #8 x 2" countersunk screws—no glue required. It's neater this way. First, attach the shelf support to the top end of the hook support to form an L-shape. Two screws will do here. Next, centre and clamp the top edge of the brace to the bottom face of the shelf support. The rear end of the brace rests against the front face of the hook support. Finally, apply a few screws from the outer faces into the brace to secure it.

Centre the brackets on the frame stiles, with the top edges flush. Mark their positions, then apply glue and clamps to secure the brackets to the frame.

TOP IT OFF

Cut the veneered-plywood shelf to size, as well as the front and side solid-wood edging. Mitre the ends of the edging to mate at the shelf's front corners, then glue and nail the edging to the shelf's front and side edges. Arrange the solid-wood edging so it's flush with the bottom face of the shelf and forms a ¼" lip along the top edges of the shelf.

Centre the shelf onto the shelf supports, with the shelf's back edge flush with the rear face of the frame. Mark the location, remove the shelf, then apply glue to the top surfaces of the shelf supports and the top rail. Replace the shelf, clamp in place, then secure with countersunk screws or nails.

Cut the top rail trim to size and rout the profile (see plans) on the bottom front edge, but keep this piece separate. The idea here is simple: After the coat rack is mounted to the wall with a few screws placed about 1" below the shelf (into the top rail), use a few finishing nails or double-sided tape to secure the top rail trim beneath the shelf to hide the screw heads.

BACK IT UP

You have a lot of options for creating the back boards. You could use a plain piece of sheet stock and paint it, or perhaps use a sheet of fibreboard wainscotting, beaded wood wainscotting or V-groove stock.

I chose to make my own solid-wood beaded boards—despite the fact it takes more time and effort, but knowing the result would render a professional look.

You Will Need

PART	MATERIAL	SIZE (T x W x L*)	QTY.
Frame stiles	oak	1" x 5" x 12"	2
Top rail	oak	1" x 2" x 26"	1
Bottom rail	oak	1" x 3" x 26"	1
Hook supports	oak	1" x 3" x 10"	2
Shelf supports	oak	1" x 3" x 9"	2
Braces	oak	1" x 2" x 7"	2
Top rail trim	oak	1/2" x 1 1/2" x 28"	1
Shelf	oak ply	3/4" x 11 1/4" x 44 1/2"	1
Shelf front edge	oak	3/4" x 1" x 46"	1
Shelf side edges	oak	3/4" x 1" x 12"	2
Back boards	oak	1/2" x 2 1/2" x 6 3/4"	12
Coat hooks	Lee Valley 00W86.61		2
Small hooks	(Stanley) Lowes		2

*Length indicates grain direction

RECOMMENDED TOOLS

Tablesaw, biscuit joiner, table-mounted router, chisel, drillpress, drill-driver

→ PLANS FOR THE COAT RACK

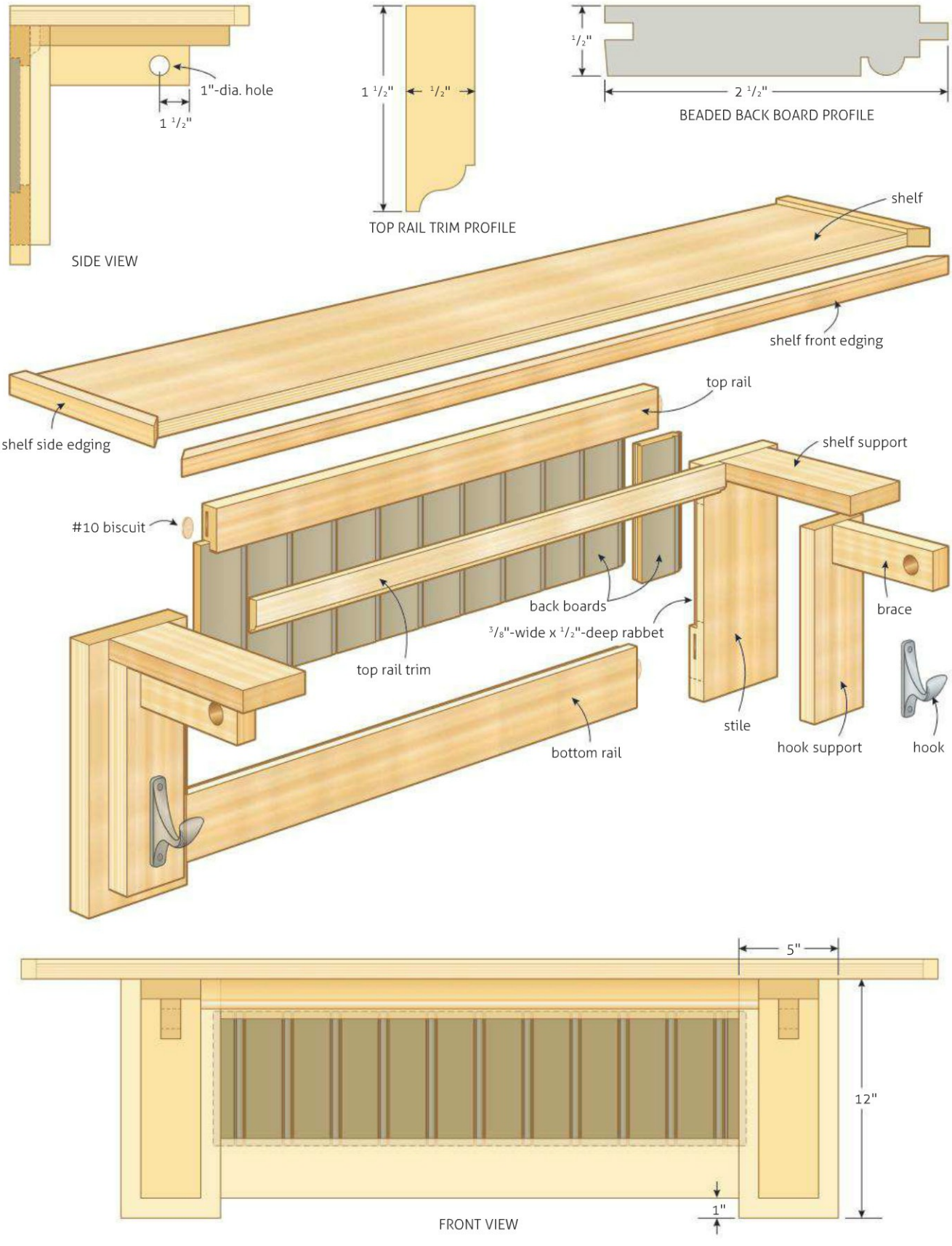


ILLUSTRATION: LEN CHURCHILL

I started with two 4'-long strips of ½"-thick x 2½"-wide oak. A few passes on the router table takes care of the profile, beginning with a ¼" beading bit, a ½" straight bit to form the tongue and a ⅛" straight bit for the groove. After sanding, I sprayed satin black paint and a topcoat of flat lacquer, then finally cut the pieces to the required 6¾" lengths.

For finishing, I used a Minwax Puritan Pine stain, followed by satin polyurethane on the main body and the top rail trim.

When all is dry, attach the back boards to the rabbeted frame, beginning with the centre of a bead located vertically at the centre of the frame opening. Attach the hooks, mount the rack level, then apply the top rail trim to hide the screws.

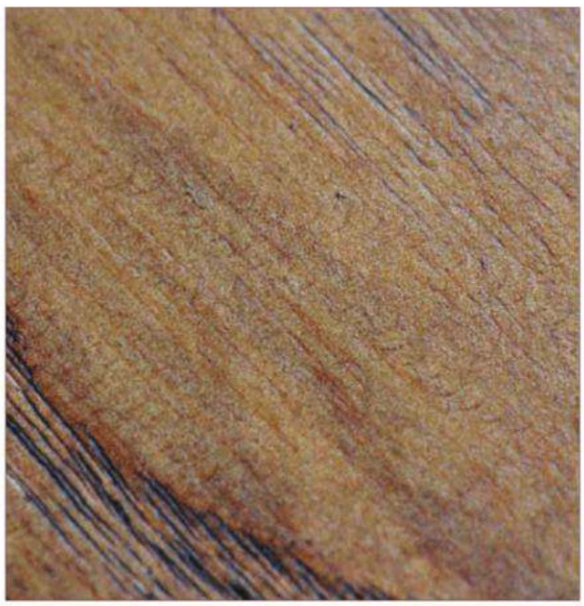
Your new coat rack is sure to make an excellent first impression with your guests.

SANDING WITH STYLE

SUCCESSFUL SANDING OF refined woodworking projects isn't as simple as it looks, especially if you plan to stain your wood as part of your finishing strategy. Cross-grain scratch marks and swirls are the big risk. They're often invisible at first, but the moment stain hits the wood, they pop right out and look terrible.

The key to success involves progressing through various grits of sandpaper, while also avoiding the use of one popular type of sanding power tool. Also, you have got to understand that even seemingly smooth lumber still needs sanding to eliminate marks left behind by the planer. Don't take shortcuts. Planed lumber might look good at first, but stain brings out every flaw. And the darker the stain, the worse these flaws appear.

I always start sanding smoothly planed hardwoods using 80- or 100-grit abrasives (100- or 120-grit for softwoods), covering the entire surface evenly in the direction of the wood grain. This business of grain direction is key, and often overlooked. While random-orbit sanders have become popular because they remove wood quickly, the swirl marks they leave behind are difficult to see at first and extremely difficult to remove easily after staining has begun.



That's why I always begin sanding with a belt sander: it moves the abrasive in only one direction. Sanding through consecutive grits is vital too, so continue with 150- or 180-grit abrasive, either by hand and parallel to the grain direction, or with a pad-style finishing sander. My favourite tool for intermediate stages uses a half-sheet of sandpaper with a pad motion that's mostly forward and backward. For really fine work, I always sand by hand, using 180- or 220-grit paper under strong light. It's the last chance you have to make things right. **—STEVE MAXWELL**

PHOTO: STEVE MAXWELL

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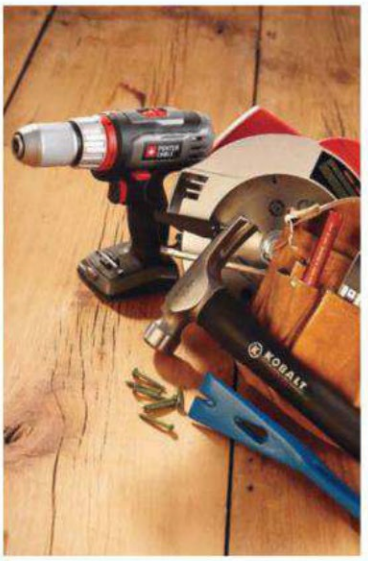

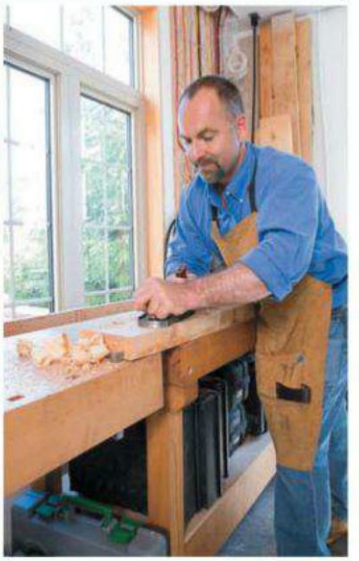

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IPGAW13A

GOLF BALL CABINET

Skill Level

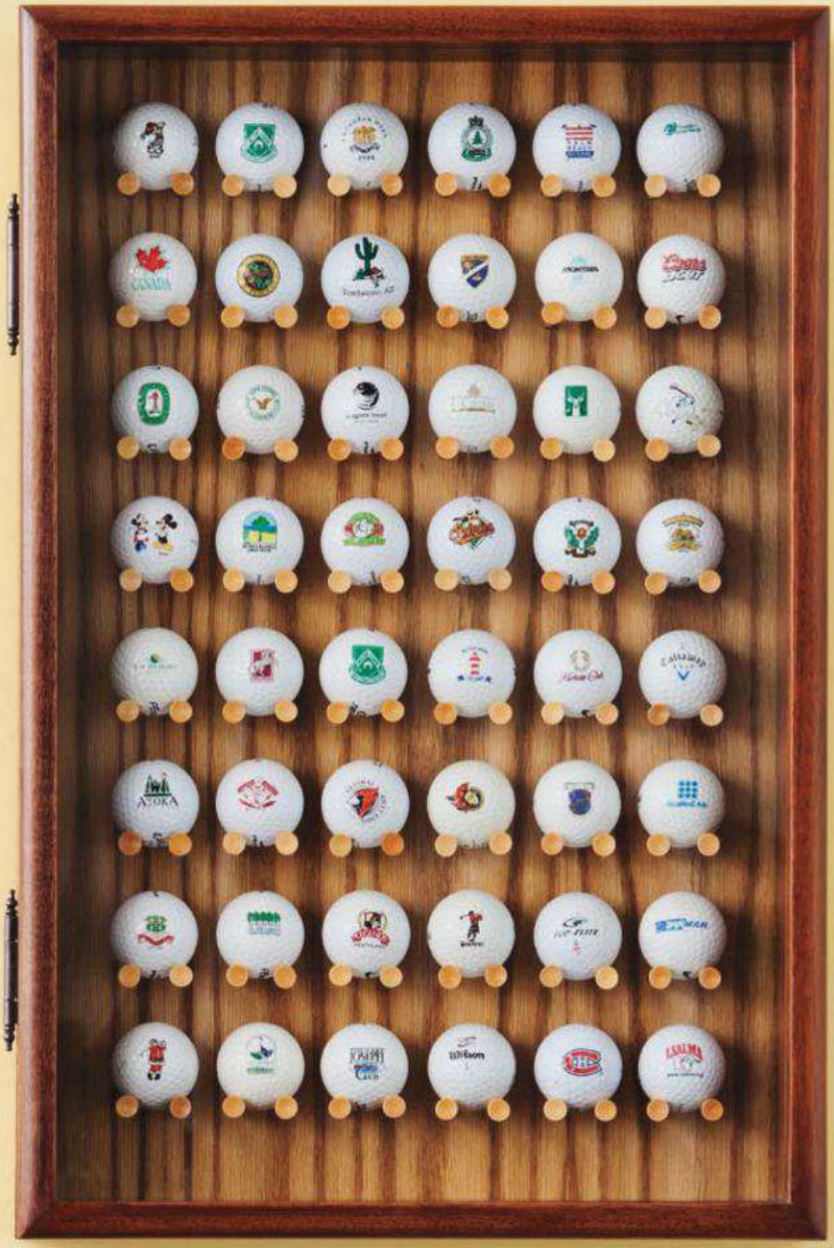
Novice Expert

Best Ball

Play up your greatest achievements on the golf course and in the workshop

BY **RICK CAMPBELL**

MANY GOLFERS ARE deeply passionate about the sport. They can remember their high scores from games past, a round on their favourite course or milestone moments on the fairway. And there's no better way to commemorate these achievements than to save a golf ball from each special game. For these diehard enthusiasts, this attractive display case provides the perfect place to exhibit treasured keepsakes prominently for all to see. If golf isn't your thing, replace the ball rack with shelves and you will have a multi-purpose display case for family heirlooms or other precious mementoes.



REMEMBER YOUR favourite greens or most amazing shots by displaying the golf balls in this handsome cabinet

> The fine details of this project won't be overlooked when your golfing buddies admire your workmanship

TEEING OFF

Before you don your safety goggles and let the sawdust fly, there is a major construction detail you need to know about: the door for this project starts out as a part of the cabinet box and is sliced off after the box is completely assembled. This technique may seem unconventional at first, but there's no arguing with the results. For starters, the door is guaranteed to be a perfect fit, without the need for dead-on measurements or fussy adjustments. In addition, since the sides of the cabinet and the door frame are cut from the same board, the grain pattern will always end up being an exact match.

Get started by selecting a board that is roughly 84" long x 4½" wide. I went with African mahogany for my project, but any material that complements your room's decor will work. Make sure the board you choose is straight, flat and free of major defects along its entire length. After running the material through the surface planer and jointing one edge, rip the plank to final width, which is 4⅛". The width of the board includes a ⅛" allowance for the blade kerf when you slice off the door later on.

Now, you need to install a dado blade in your tablesaw to make dados and rabbets. First up is a ⅜"-deep x ¾"-wide rabbet applied to one long edge of the board, to house the back of the cabinet after the box's parts are cut and assembled. When you prepare rabbets with the tablesaw, the fence is positioned flush against the side of the blade. For safety reasons, you need to clamp a sacrificial board to your fence when you do this. This board allows the blade to spin directly against the fence without causing damage to the teeth.

Next, adjust the setup to mill a ¼"-deep x ½"-wide dado in the entire length of your workpiece, positioned 3⅛" in from the rear edge. After the door is removed from the assembled cabinet, this dado will accommodate the display glass and wood retainer strips. When this milling is done, head over to the router table and use a ½"-radius bearing-guided bit to round over the top edge of the blank on the outside face. This will eventually become the outside of the door frame. It's much safer to complete this work now, while the door frame is still attached to the wide board, and ensures that your fingers are clear of the bit.

Now, you're finally ready to cut the cabinet box's parts to the finished length. This step is completed with the saw blade tilted by 45° to form mitred corners on

PHOTOGRAPHY: DONNA GRIFFITH; GOLF BALLS ON WHITE: JUAN LUNA

the ends. If you want to take your building skills to the next level, sequence the cuts so that the grain pattern wraps continuously around the outside of the box. I started with the left side, then cut the rest of the parts in order as I worked my way around the outside of the cabinet in a clockwise direction. If you follow this sequence, the only corner that won't have a continuous matching grain will be located on the bottom of the cabinet, where it is much less obvious.

It's attention to subtle details such as these that will set your work apart. If you decide to follow this approach, don't forget to mark the parts so they can be repositioned in order when the box is assembled.

Speaking of assembly, that's the task you need to tackle next. Before you grab the glue bottle, complete a dry run to make sure that no gaps appear in the corners when the parts are clamped together. This also is a good opportunity to apply strips of masking tape to the interior of the joints. The tape protects the wood from glue that squeezes out from the corners, saving you some tedious work when it's time to sand. If everything fits as planned, spread an even coat of glue on both surfaces of the mitred bevels and reassemble the parts using a couple of web clamps to secure the joints. Before the adhesive has an opportunity to cure completely, check and adjust for square, then peel off the protective strips of masking tape from the interior of the joints.

WORKING ON YOUR SLICE

Now, the scary part: slicing the door off the cabinet. Prepare carefully for this procedure because you have only one opportunity to get it right. Start by applying strips of masking tape to the outside corners of the box. This helps prevent tearout when the blade exits the tail end of the cuts. Next, position the fence to cut just below the location of the dado you cut earlier, starting on the bottom

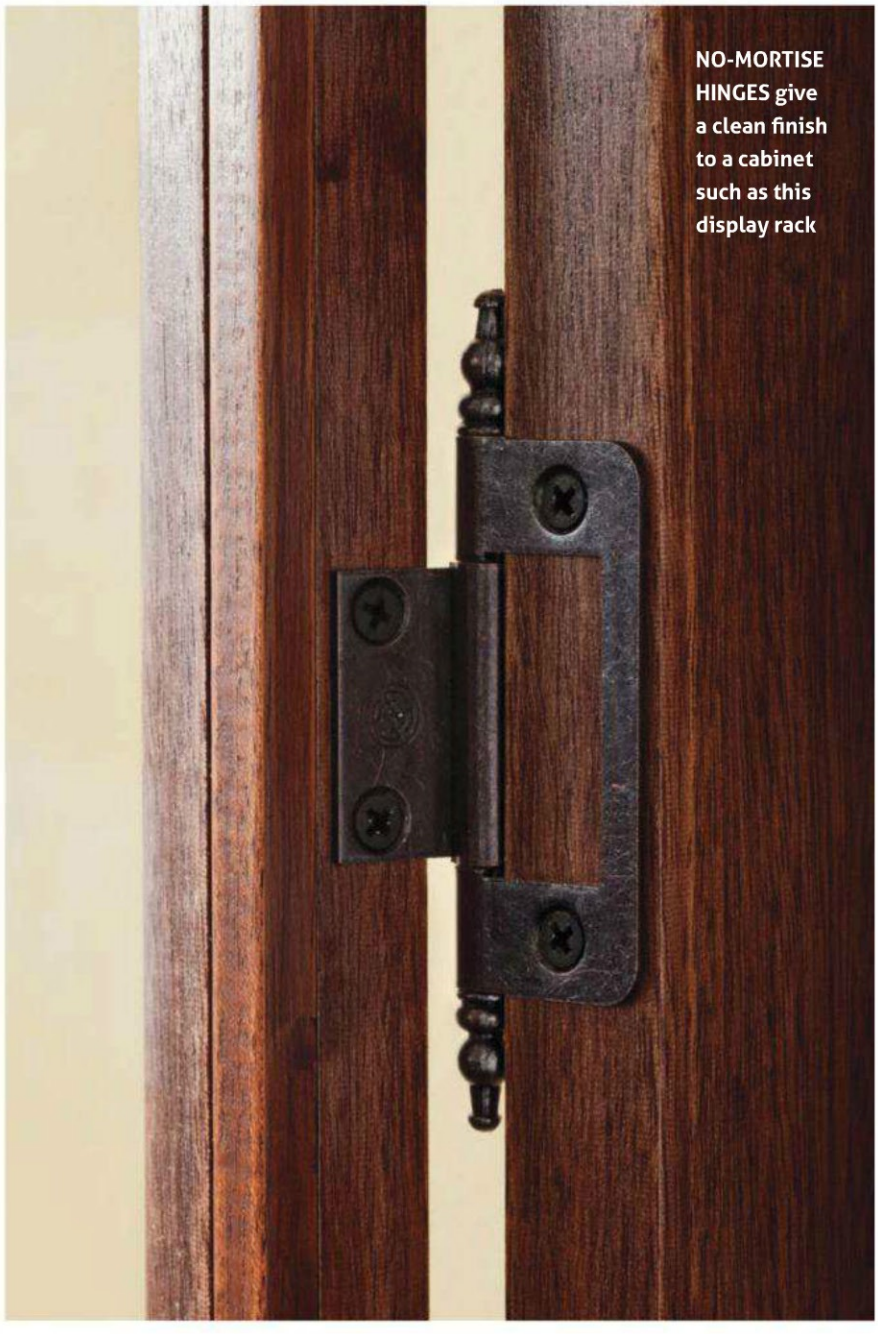
You Will Need

PART	MATERIAL	SIZE (T x W x L*)	QTY.
Cabinet door/sides	African mahogany	3/4" x 4 1/8" x 23 1/4"	2
Cabinet door/top/bottom	African mahogany	3/4" x 4 1/8" x 15 1/4	2
Cabinet back	oak plywood	3/4" x 14 1/2" x 22 1/2"	1
Side glass retainer strips	African mahogany	3/8" x 1/4 x 22 1/4"	2
Top/bottom glass retainer strips	African mahogany	3/8" x1/4" x 13 3/4"	2
Golf tees	natural wood	3 1/4"-long	96
Glass		3mm x 14 1/4" x 22 1/4"	1
No-mortise hinges		LV 00H52.22	1 pr.
Snap clasp		LV 00D43.01	1
Cabinet hangers		LV 00S06.20	2

*Length indicates grain direction

RECOMMENDED TOOLS

Surface planer, jointer, tablesaw, table-mounted router, drillpress, bandsaw



NO-MORTISE HINGES give a clean finish to a cabinet such as this display rack

→ PLANS FOR THE GOLF BALL CABINET

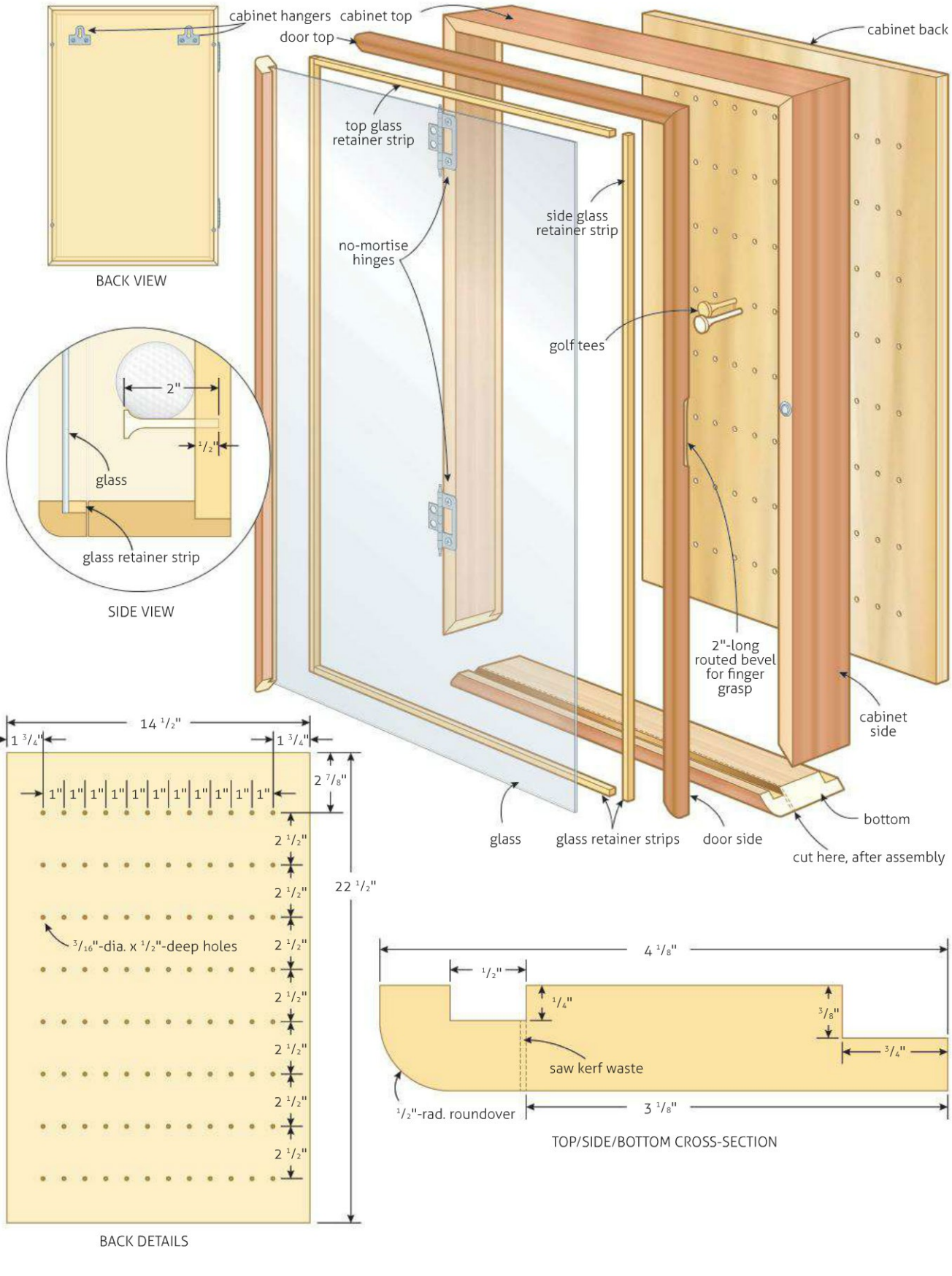


ILLUSTRATION: LEN CHURCHILL

LONG GOLF tees are the perfect rests for the balls inside the cabinet

of the door frame. Triple-check this measurement before continuing onto the next step.

Hold the rear edge of the box firmly against the fence as you complete your first pass. After the blade stops spinning, insert temporary shims in the kerf to prevent the door from collapsing against the box as you continue with the rest of the cuts. All that's required to hold these shims in place are a couple of strips of masking tape stretched from the door frame to the cabinet sides.

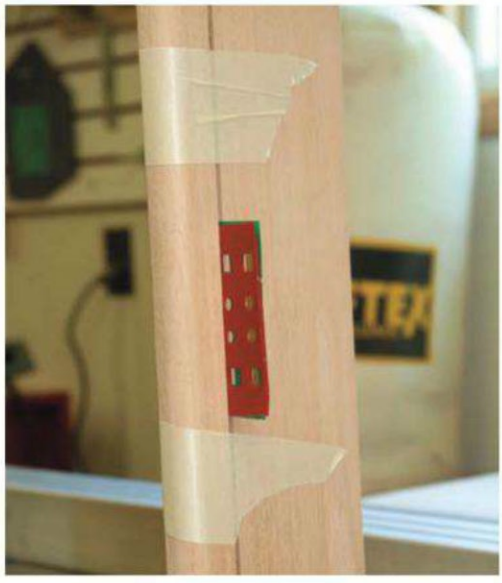
Repeat this process as you work your way around the remaining three sides of the cabinet box. After completing the final cut, remove the tape holding the door in place and breathe a huge sigh of relief.

Next, take the door frame to your local glass supplier and request that they cut a piece of 3mm-thick clear glass to fit the opening. After returning to your shop, place the glass in the door frame and cut the retainer strips to size. Sand these wooden strips flush with the surface of the door frame but hold off on gluing them in place for now. (Later, you will want to remove the glass to make it easier to apply the finish to the cabinet.)

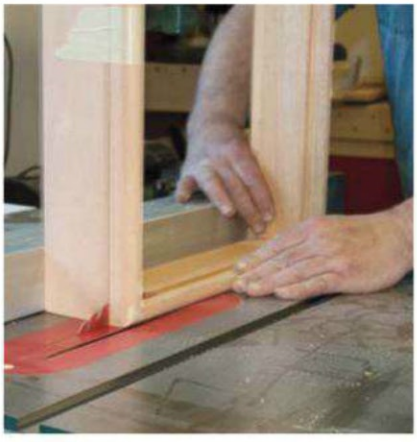
To maintain the clean lines of this project, I decided against using conventional cabinet knobs for the door. Instead, I bevelled a 2"-long section of the door frame to provide a place for fingertips to grip when pulling the door open. I completed this bevel at the router table, using a 45° bearing-guided bit. You don't need to remove much material here—a ⅛"-wide bevel should do the trick.

Cutting the Cabinet Door

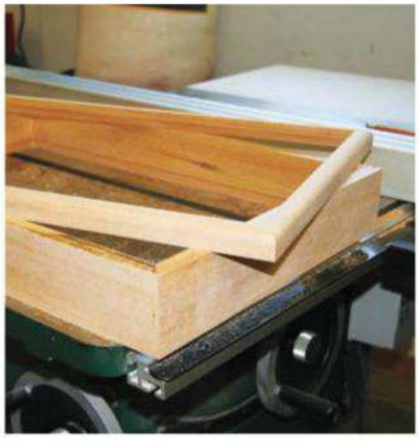
POSITION THE fence to make the first pass along one side of the box



INSERT SHIMS in the saw kerf to prevent the door from collapsing against the base. A couple of strips of tape stretched between the door frame and base will apply sufficient pressure to hold the shims in place



FOLLOW THE same process to complete the cuts on the remaining three sides



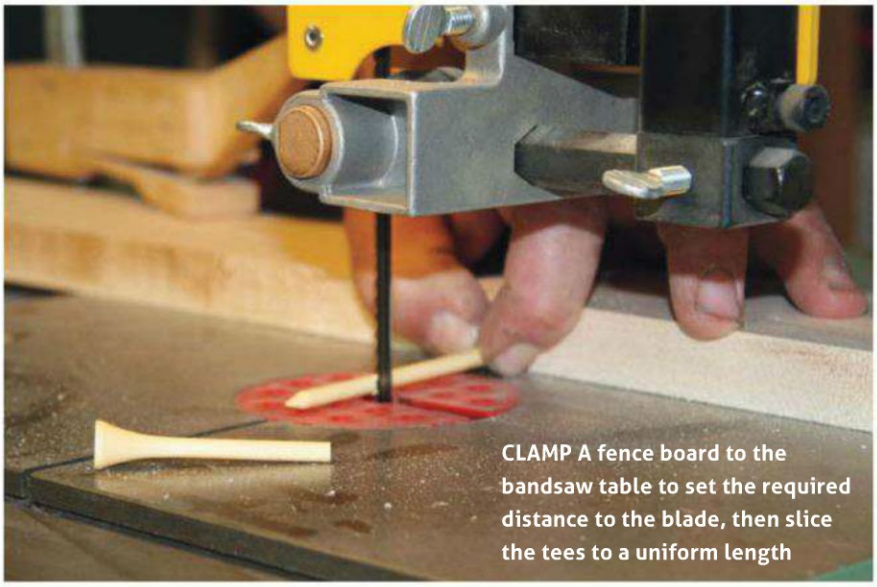
REMOVE THE tape holding the shims in place to release the door from the base

THE BACK NINE

In keeping with the golf theme, I decided to mount a series of tees on the back panel to support the souvenir balls on display. The cups on the ends of the tees work well to prevent the balls from rolling off the tees. I used extra-long 3¼" tees for this project because they have thick shafts that are substantial enough to support the weight of the golf balls. I was fortunate to find some packages of natural wood-grained tees that suit the cabinet design perfectly. Traditional, painted tees will also look good if wood-grained tees are difficult to find.

Begin by cutting the back panel to size from a piece of ¾"-thick furniture-grade plywood, then lay out a grid pattern with a pencil to mark the tee locations. (All the measurements you require can be found in the plans.)

Now, get comfortable at the drillpress because you're going to be spending some quality time here, preparing the 96 holes required to seat the tees. I drilled all of my holes ½" deep with a



CLAMP A fence board to the bandsaw table to set the required distance to the blade, then slice the tees to a uniform length

3/16"-diameter bit. The shaft of your tees may be a slightly different diameter, so prepare a test hole in scrap to verify the fit before you begin. Take your time, because any tees that are misaligned will stick out like sore thumbs.

After you have been released from your purgatory at the drillpress, cut a corresponding number of tees to the required 2" final length by removing their pointed tips with the bandsaw. You can avoid a lot of measuring if you clamp a fence to the bandsaw table to establish the correct distance to the blade. Insert these cut tees in the holes, but don't permanently glue them in place until after the finish has been applied to the panel.

THE FINAL DRIVE

Before heading to the finishing room, I gave all parts a final sanding and applied masking tape to protect any surfaces that will be glued later. These include the edges of the glass retainer strips and the inside of the door frame. The first stage of my finishing process involved wiping on an even coat of red mahogany gel stain to enhance the rich tone of the African mahogany. You may decide to stain the back panel as well, but I left mine natural to create a contrast with the cabinet sides. After letting the stain dry for several days, I followed up with four coats of wipe-on polyurethane to protect the surfaces. As always, I sanded with 400-grit paper between coats to create a silky-smooth feel that you just can't resist running your hand over.

After applying the finish of your choice, you're ready to assemble all components of the cabinet. First, install the golf tees by applying a dab of epoxy cement on their cut ends to bond them in place. Next, place the glass in the door frame and glue on the retainer strips with contact cement. (The advantage of contact cement is that no clamps are required.)

Next, attach the door with a pair of no-mortise hinges and drill holes to install the snap catch that will secure the door when it's closed. The barrels of the snap catch are glued in place using epoxy cement.

Now, flip the cabinet over and install four screws at the locations shown in the "back view" on the plans to hold the back panel in place. After attaching a couple of cabinet hangers to the back panel, you're ready to mount the cabinet to the wall.

Before you lock up the shop and head out for a round of golf, I have a few final words of wisdom to offer gained through my wealth of experience on the links: always keep your head down when you swing. That way, you won't see the rest of the players laugh when you duff the ball—again.

SHOWER BENCH

Skill Level

Novice Expert

Bathing Beauty

Weatherproof wood is perfect for a shower stool

BY **CATHY DALRYMPLE**

YOUR BATHROOM CAN be a real sanctuary—a place to run a hot bath and close out the world for a while. The aesthetics of this room can have a huge impact on your feeling of sanctuary, and the simple lines of this little western cedar bench will add a lovely and practical touch. • Not only is the aroma of cedar pleasing, but we have seen this species used successfully in saunas forever—and for good reason. It is mould- and rot-resistant, which makes it ideal for damp locations. The mortise-and-tenon joinery is tough too.

GET IT wet! Cedar is the perfect material choice for this bench

> This sturdy bench is handy for bathing children, stacking towels outside the shower and is a great place to set a glass of wine during a relaxing bath

OFF THE SHELF

Gathering materials for this project is as easy as a trip to your local home-improvement store for two 8'-long 4x4 cedar posts. Begin by resawing the wood to create parts for the legs: cut the post to 2" x 2", then run the pieces through a jointer, then a thickness planer to get the 1¾"-square stock needed for the legs.

Resaw the remaining wood to 1⅛" thick. You will use it for the stiles, rails, skirts and slats. Take these pieces to the thickness planer and mill them down to 1" thick. As you work, be sure to make extra stock to use as test pieces for setting up your machines.

Begin by ripping the 1" pieces to 2½" wide. This stock will be used for the shelf and top stiles, rails and skirts. The slats are the same thickness, but only 1½" wide. Make these now too.

Next, set up your dado blade to mill a ⅜"-wide x ½"-deep dado centred along one edge of a 2½"-wide piece of stock to accept the rails and stiles later.

Use this same blade height and width to mill 2½"-long dados extending down from the top of each leg, centred and on two adjoining faces. These will form the mortises that hold the ends of the skirts later. You'll find it safest to use a stop block to ensure you don't cut these grooves too long.

Also, since the dados in the legs will be tapered at their bottom ends, because of the curvature of the blade, the tenons on the skirts also need to be curved to fit. This can be done with a jigsaw or a sander.

The shelf is supported on notches cut across the inside corner of each leg, and you'll need to make a jig to hold the leg corner down while milling this feature. Using a tablesaw with the blade set to a 45° tilt, run the 2x4 lengthwise, cutting about ¾" deep, then flip the piece around and cut again to create a wide dado. Set one leg in this dado, support the 2x4 using the mitre gauge, then slide the whole thing across a dado blade that matches the thickness of the shelf stock. Next, repeat this process for each leg, with the top edges of the notches 4" up from the bottom ends of the legs.

Cut the shelf slats, shelf rails and skirts to length now. The sizes in the materials list include the extra ½" needed on each end for tenons. Use the extra 1" stock you milled up earlier to set up your tablesaw and dado blade. You'll need to rig up a stop block to ensure identical tenon lengths, and to adjust the height

THE MORTISE-AND-TENON joinery looks good and creates a strong benchtop

PHOTOGRAPHY: ROGER YIP

of the blade to create the tenon thickness needed. Cut a tenon, test it in its dado, then adjust the blade height, if necessary, and cut another test piece. You're aiming for a snug fit of the tenons that doesn't put stress on the sides of the dados they fit into. When you're done cutting all tenons, rip some wood to use as filler strips between the slats in the stile dados. The spacers will be the same size as the rail dados in cross section (⅜" x ½"), cut 1" long to create consistent spacing between the slats.

TOGETHER AT LAST

Begin assembling the top and the shelf. You should use an exterior, weatherproof glue for this bench, since it will likely get wet. When the glue is dry, mitre the corners of the shelf to fit into the notches in the legs. Give all pieces a final hand-sanding with 180-grit paper.

Bring the shelf and the skirts together with the legs after a successful dry-fitting without glue, then clamp the parts together after glue application (strap clamps work best here). Measure and equalize diagonal dimensions taken across the legs to make sure the entire assembly is square before putting it aside to dry.

The skirts require pilot holes with a ¼"-deep countersunk hole drilled up from their bottom edges to accept #8 x 3"-long wood screws to hold the top. Create one pilot hole in the middle of each short skirt, and two in each long skirt. Attach the top to the skirts with the wood screws now.

Once the bench is fully assembled, wipe on two to three coats of teak oil, letting it dry for a week before use. I put ¼"-thick nylon feet on the legs to prevent excessive wicking of water up into the wood, but you don't necessarily need to follow my lead. Nylon feet work well on ceramic tiles, but they may cause damage to acrylic or fibreglass shower stalls.

Add this sturdy little bench to your bathroom, and I'm sure you'll find many uses for it.

You Will Need

PART	SIZE (T x W x L*)	QTY.
Legs	1 3/4" x 1 3/4" x 14 3/4"	4
Top slats	1" x 1 1/2" x 10"	6
Bottom slats	1" x 1 1/2" x 9"	6
Top rails	1" x 2 1/2" x 17"	2
Top stiles	1" x 2 1/2" x 14"	2
Shelf rails	1" x 2 1/2" x 16"	2
Shelf stiles	1" x 2 1/2" x 13"	2
Long skirts	1" x 2 1/2" x 18"	2
Short skirts	1" x 2 1/2" x 11"	2
Spacers	3/8" x 1/2" x 1"	28
Top stile filler strips	3/8" x 1/2" x 9"	2
Bottom stile filler strips	3/8" x 1/2" x 8"	2

*Length indicates grain direction. All wooden parts made from cedar

RECOMMENDED TOOLS

Tablesaw, jointer, thickness planer, drill/driver

THE BENCHTOP slats come together with mortise-and-tenon joinery with spaces between the slats

THE SHELF rests on notches cut in the lower ends of the legs

VERTICALLY INTEGRATED

THE MORE INVOLVED you get in woodworking, the greater your need for words to describe wood grain. And I don't just mean how wood looks from an artistic point of view, either. While it's true that the orientation of growth rings relative to the faces and edges of a board does affect the appearance of project parts, growth-ring orientation also involves practical considerations.

Take a look at the end of the stile at the bottom right-hand corner of the photo on page 61. See how the growth rings are getting close to being 90° to the faces of the stiles? This is called a "vertical grain" orientation, and it's something our builder, Cathy Dalrymple, specifically created by the way she sawed the project parts out of the cedar 4x4s she began with.

Vertical-grain wood puts the finest lines of wood grain on a board face, and it also creates greater physical stability. This means wood expands and contracts much less than for other orientations of lumber—exactly what you want in a project that will get wet.

—STEVE MAXWELL

➔ PLANS FOR THE SHOWER BENCH

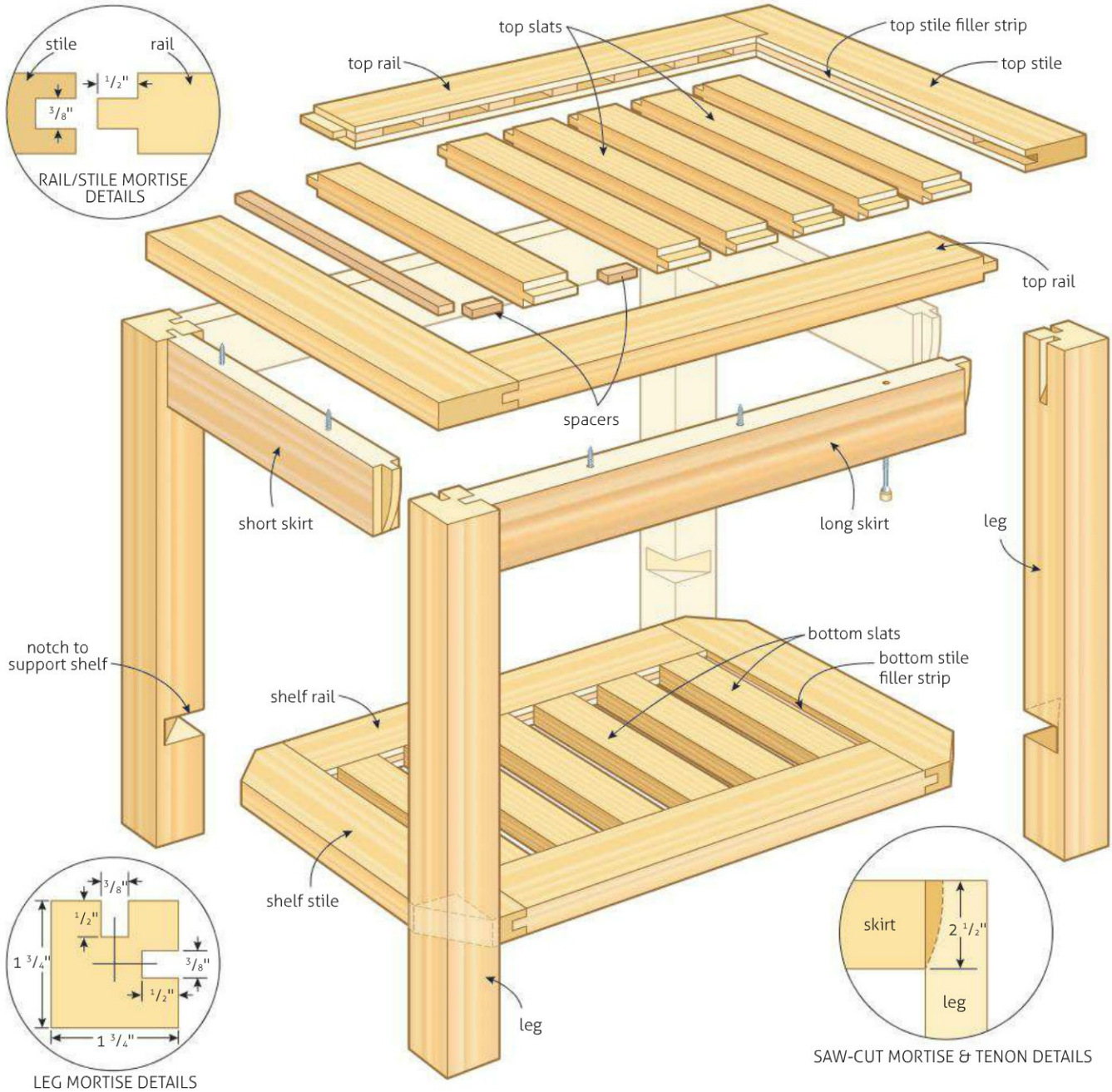


ILLUSTRATION: LEN CHURCHILL

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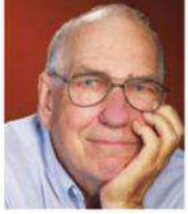


Paul's Place
BY **PAUL RUSH**

> "I was supposed to keep my area clean and tidy. Sadly, even back then I lacked the essential gene for tidiness"

Pantryman

Attempts over the years to master "tidy"

When I was young, I was a pantryman on the CNR dining cars, which, in those days, were rolling palaces—three chefs, four waiters, a steward and me. At the very bottom.

I made sundaes and salads, and learned how to scramble eggs as well as how roast beef should be cooked. But mostly I washed dishes.

I was supposed to keep my area clean and tidy. Sadly, even back then, I lacked the essential gene for tidiness. One day, I received a note from a supervisor who had just inspected the dining car. It read: "Pantryman Rush has not left his area shipshape."

These were hard words—but true—that have cast a long shadow. Shipshapedness seems to have eluded me ever since. I have never mastered tidy.

When I worked in an office, I kept all my files on my desktop in what I thought were neat piles. When these piles proliferated, I got a table. Then, I stacked the files on the windowsill and, finally, on the floor. When I ran out of floor space, I found another job.

I have applied this same technique to my favourite workshop. It is at the cottage and has sufficient space—if you can work around the canoe and inflatable boats. I have a wall of stout shelves, two walls of old-style pegboard, a rack for wood, a paint table, a workbench and a carving bench. There are lots of ceiling beams from which I can hang tools, although the 20 fishing rods, three lanterns and the camp stove make it a bit crowded.

I do have some order. A few years ago, I was given a set of clear plastic boxes; and into these, one rainy month, I sorted screws, nails, nuts and bolts, hooks and eyes, and washers. Many hand tools live on the pegboards, and power tools are mostly on the shelves. Tools that can hang—such as saws—do just that.

In a stroke of near brilliance, I took a 1x6, drilled it full of holes, fastened it to the wall and filled it with screwdrivers, gouges and scoops. My sharp chisels went into their own wooden box. Everything else went into a large drawer that I rescued from a kitchen renovation.

I also have preserved various bits of junk that came with the cottage. Thus, I have a wooden box full of old foot valves, plumbing supplies and 18-inch bolts that were used to hold a floating dock back in 1958. After all, some day, I might need them. There also is a camp stove, a portable toilet and a bottle that might just be full of whisky, but which no one has ever had the courage to try.

Nowadays, I don't accomplish much in this workshop because pantryman Rush spends most of his time trying to keep it tidy.

ILLUSTRATION: STEPHEN MacEACHERN

Premier – FUSION

HOW CAN THE BEST GENERAL PURPOSE SAW BLADE GET EVEN BETTER?

Make It Available In Thin & Full Kerf Designs For Every Table & Chop Mitre Saw!

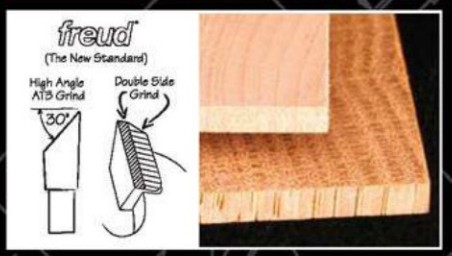
Introducing the Premier Fusion saw blade in both Thin and Full Kerf design. Now woodworkers have a superior general purpose blade for both the table and chop mitre saw in the shop and for the lower horse-powered saw on the job site. The New Thin Kerf combines the advanced Premier Fusion features with a thinner kerf design to provide a flawless finish while reducing material waste, which makes it the ideal choice for lowered powered saws.

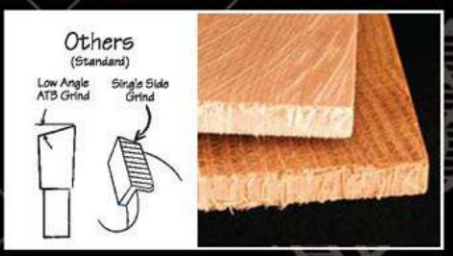
Freud's patent-pending Premier Fusion Saw Blade is the most technologically advanced blade on the market with a radical new "Fusion" tooth design that combines a double side grind with a 30 degree Hi-ATB to produce a glass-smooth, chip-free top and bottom surface while ripping and crosscutting.

The unique Fusion tooth design, combined with Freud-made TiCo™ Hi-Density Carbide, superior anti-vibration design and patented Perma-SHIELD® non-stick coating create the ultimate general purpose saw blade with flawless cutting performance.

Choose from four blades in the Full Kerf Premier Fusion series – 8", 10", 12" and 14" or try the NEW Thin Kerf 10" Premier Fusion. Use a Premier Fusion blade once and you'll be convinced.

Freud's Fusion Tooth Design vs. Others





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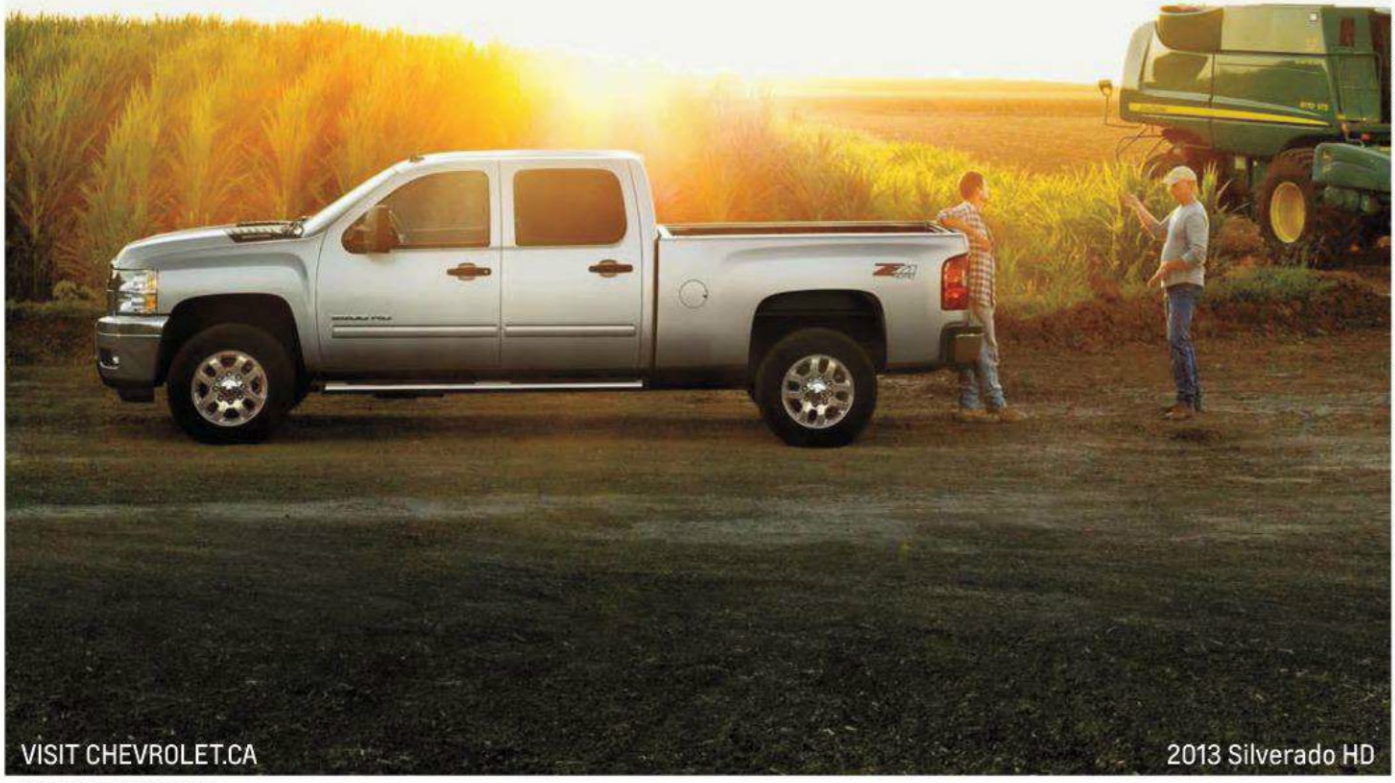
Chevrolet Silverado—King of Heavy Duty—winner of the 2013 Canadian Truck King Challenge.
- Best-in-Class Towing *23,100* lbs.[1]
- Best-in-Class Warranty[2]



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2013 Silverado HD

MOBILE ENABLED

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1 Large Pickup class per R.L. Polk Canada, Inc. Towing capacity as shown is 15,800 lbs. (7,167 kg). 2 Based on latest competitor data available.