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Ruth Walker in her backyard shop. See p. 26.

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Bill Shannon *(page 20)* has hosted artisan woodworkers in his shop.

editor's letter

Let's face it: For decades, this hobby we love so much tended to be a solo endeavor. Nothing but you, the wood, and your tools, tucked away in the shop—your haven!—in a basement, garage, or outbuilding. Nobody to tell you what to do. But, nobody to bounce ideas off when you ran into a puzzler.

Well, it's a changing world. These days, help is often merely a mouse click or text message away, and woodworkers are sharing more ideas than ever via computers, clubs and guilds, and online communities.

In this issue (which is all about sharing ideas), you'll learn how the shops of several woodworkers exemplify that community building. For example, Bernie Burke *(page 4)* and Dan Martin *(page 40)* serve as presidents of growing woodworking clubs and regularly open their shops to club members. Ruth Walker crowdsourced elements of her new shop *(page 26)* through Internet woodworking forums. And there's Jed Wachlin *(page 34)*, who attended the three-day *Weekend With WOOD* conference last May at our shops in Des Moines: It was Jeff's first official woodworking training, and he made 200-plus new friends from across the continent there.

Look, I love the solo time spent in my shop as much as the next woodworker—it's the perfect escape from the pressures of work and family. But I also know that everybody needs a little help and inspiration from time to time. I hope this special issue, with the ideas between its covers, motivates and inspires you to make your own shop just a little bit better.

Dave Campbell
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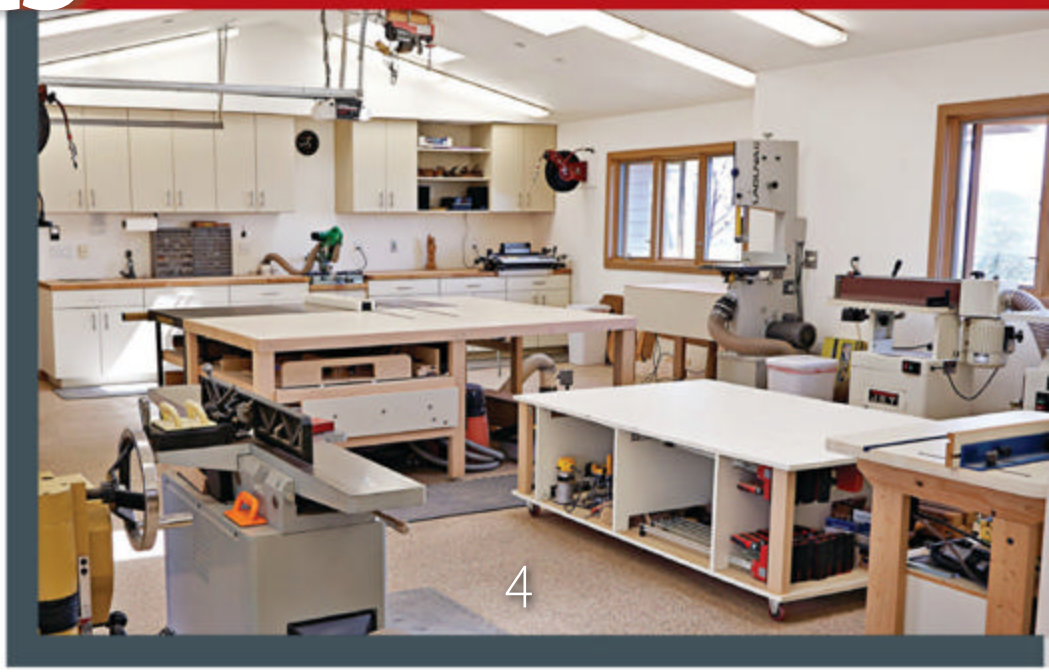
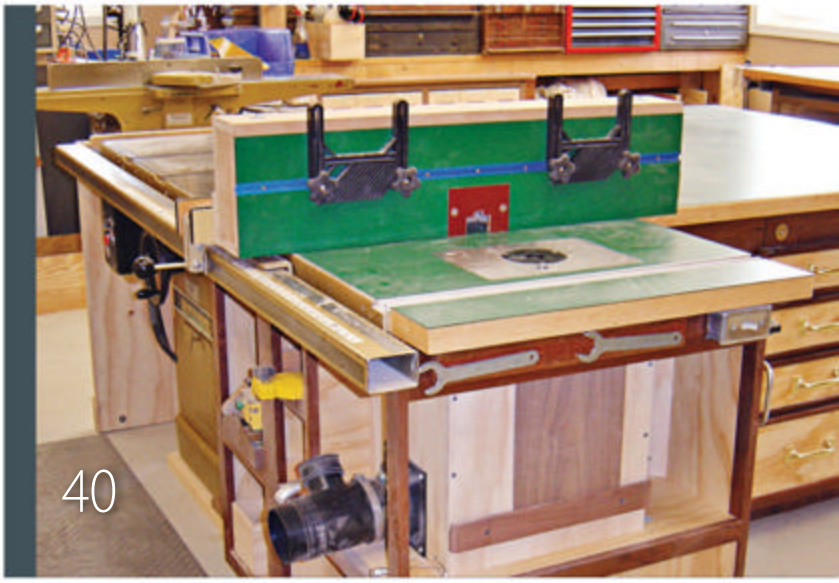
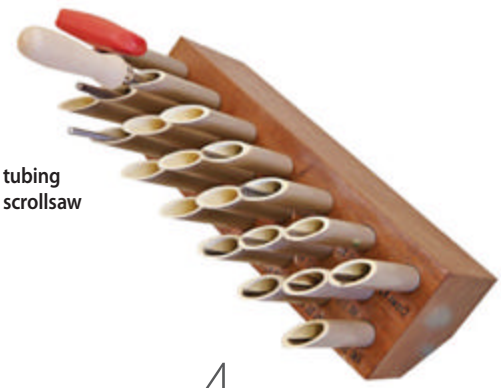


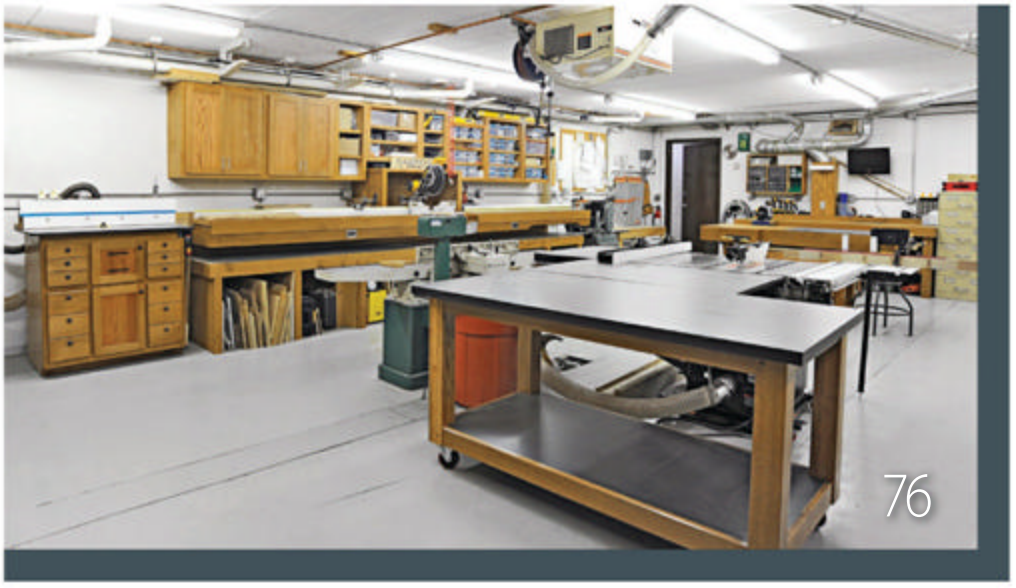


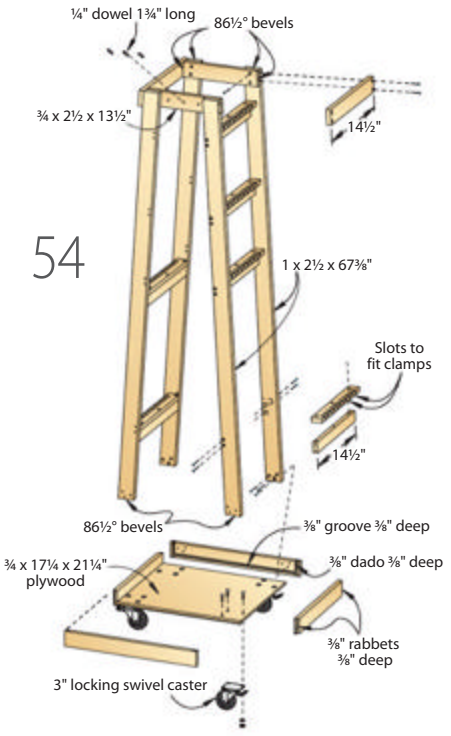


Use ⅝" PVC tubing to organize scrollsaw blades.

4

Daylight streaming through polycarbonate windows illuminates the interior of this shop *(left* and *above)*.





This clamp rack tucks into a narrow space beneath the track for an overhead garage door.

planning ahead

Before adding a shop to his home, Bernie Burke made sure the floor plan would work for the next owner—someone who might be less enthused about woodworking.

From the street, the structure looks like any other in the neighborhood. Yep, it could easily pass for a mother-in-law's apartment, a home office, or a guesthouse.

But, walk up for a closer look, swing open the front door, and bam! You've just entered Bernie Burke's nicely appointed shop. Ever the planner, Bernie built this addition to his ranch-style house understanding that the next owner might not be as interested in woodworking. Thus, the neighborhood-appropriate addition was permitted as a living space or a shop. The wall where clamps hang today? It's stubbed for wiring and plumbing

continued on page 6

Six skylights, large windows, and a vaulted ceiling create a roomy, well-lit shop.

Bernie Burke built his shop to blend into his California neighborhood.

SHOPSPECS

TYPE: Addition to ranch-style home

SIZE: 1,100 sq. ft. with 10' walls and vaulted ceiling

CONSTRUCTION: 2×4 frame construction on 16" centers. Exterior walls are sheathed with ½" OSB and covered on the exterior with house wrap and wood siding.

HEATING AND COOLING: Central heat and air conditioning

ELECTRICAL: 200-amp service with 30 110-volt outlets and 10 220-volt outlets

LIGHTING: Six 2×2' skylights supplemented with 23 4' T8 fluorescent fixtures

DUST COLLECTION: 5-hp Oneida Dust Gorilla in outside closet adjoining shop. Cyclone connects to 6" ductwork embedded in floor; ten 4" lines pull from individual machines; two additional floor sweeps.

AIR COMPRESSOR: Porter-Cable 3.5-hp 25-gallon compressor. Copper lines feed compressed air to five 50' reels.

FLOORING AND WALLS: Concrete slab covered with 100 percent epoxy; gypsum walls

Bernie built this 29×72×35" split-top bench as one of his class projects at Palomar College. The 3"-thick maple top sits on sturdy legs made from 3¼"-square walnut.

continued from page 4

for a kitchen. The mortiser and sanding station sit along the wall of what could be a king-size bedroom. Bernie's finishing room could convert to a walk-in closet. And new owners would just need to finish the tub and shower enclosure where Bernie now stores lumber.

So how does a guy get a shop like this? Every lasting marriage requires compromises, and the Burke marriage is textbook. Bernie's wife, Jewell, wanted a quilting room for her fabric and machines, so a deal was struck—and now, they each have a hobby retreat. When the San Diego Fine Woodworkers toured the Burke shop, about half of the 75 touring members—a record crowd—had an accompanying wife eager to see Jewell's quilting studio.

Bernie's 48×72×24" mobile assembly table with ¾" melamine top sees plenty of use. Notches in the three dividers provide convenient storage for his Bessey clamps ranging in length from 18" to 65". Three-inch locking casters roll easily across the floor.

Bernie goes back to school, falls in love with woodworking

Bernie developed his love of woodworking after he retired as a CPA. Poking around for something interesting to keep busy, he enrolled in the woodworking program at nearby Palomar College.

Over the next seven years, he completed 10 for-credit classes. "Most of my classmates were interested in a woodworking career. My goal was to just reach a level of confidence to

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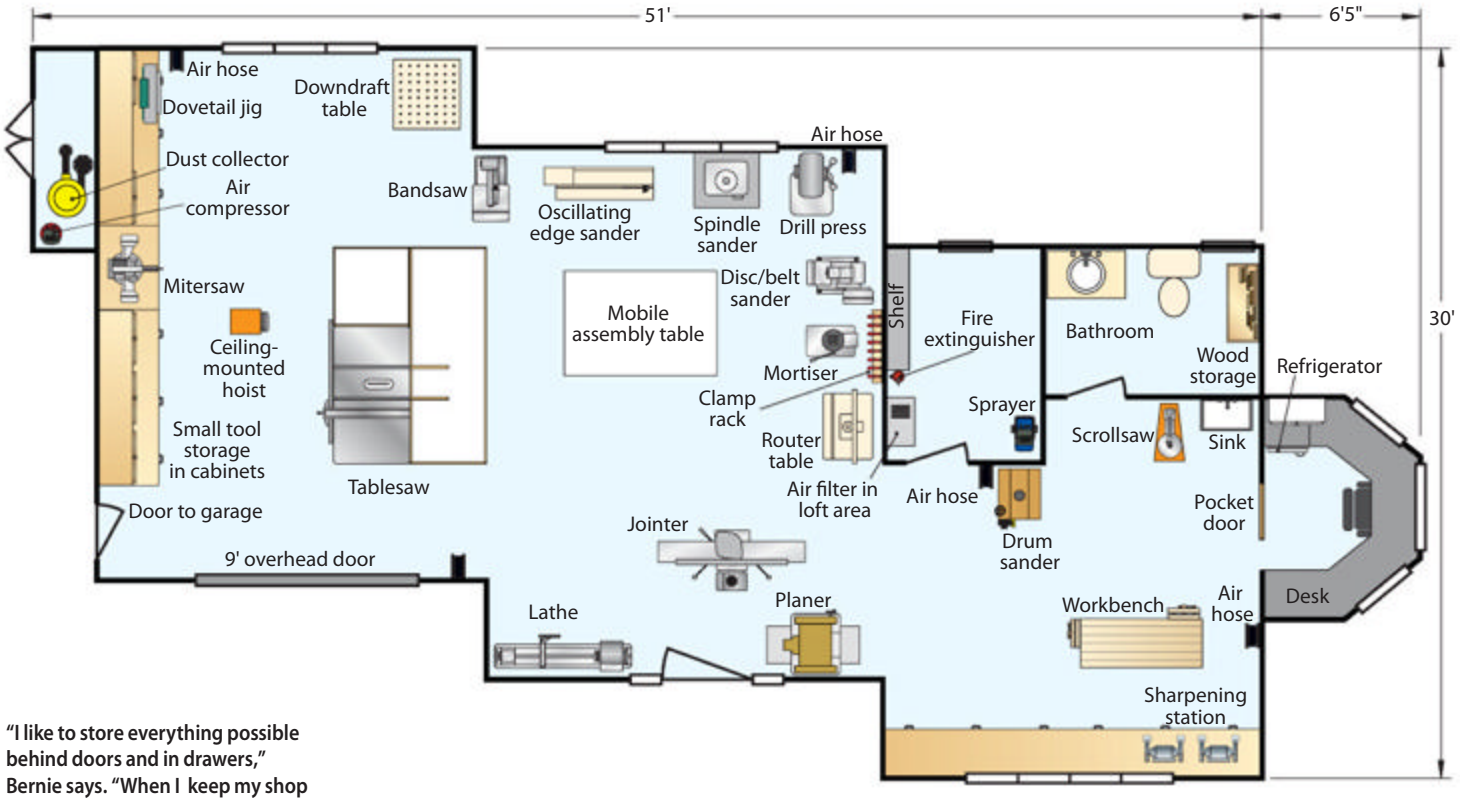
the floor plan



"I like to store everything possible behind doors and in drawers," Bernie says. "When I keep my shop organized, cleanup is easy."

Dust-collection ductwork and electrical service extend through the concrete floor. If the shop was converted to an office or living space, the new owner could pull electric service, cap off the dust runs, and install new flooring. The door with sidelights would become the main entry .

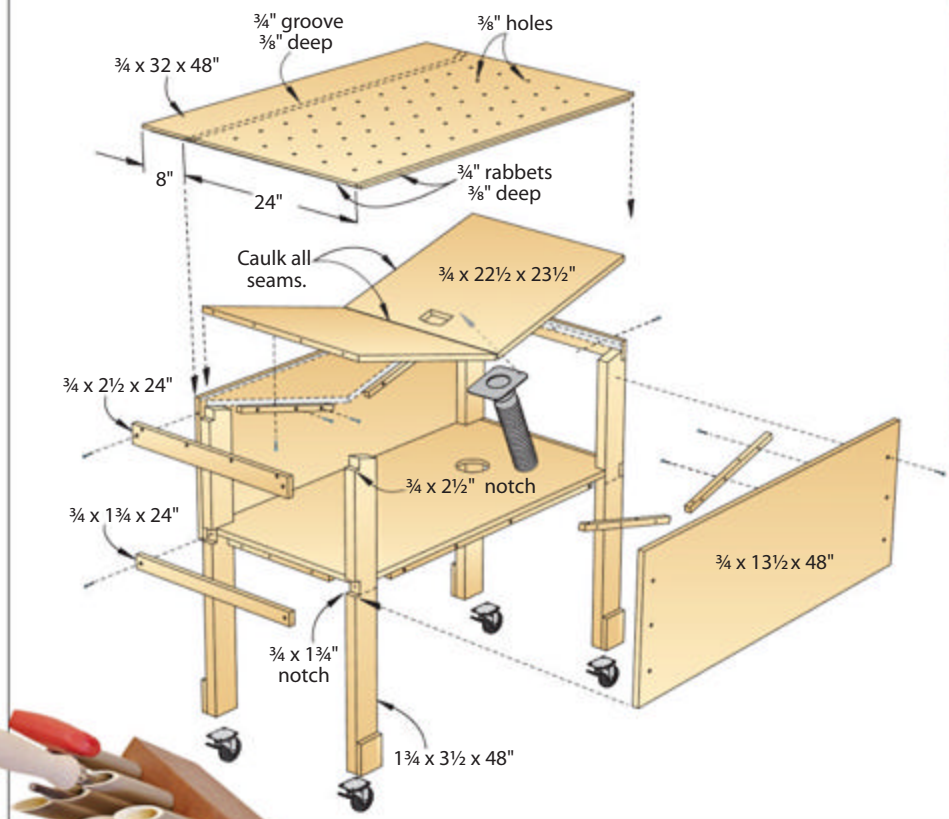
continued from page 6

produce work I could be proud of. And, I wanted to take a few classes before I invested in woodworking tools.

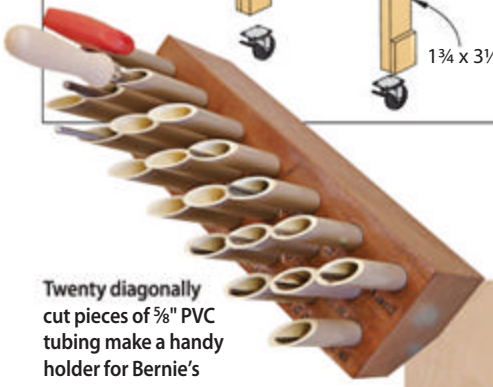
"After I bought a few tools, I began working on class projects at home so I could become more proficient with my own tools. I started out with a garage shop, but it didn't take long before I outgrew that. After my wife and I agreed

An 83×94½" island wraps around Bernie's Powermatic tablesaw. Sturdy 3¼"-square maple posts support the shop-made additions; he stores an assortment of tablesaw jigs on the 42"-wide shelves. For the maple-edged top, he covered two layers of ¾" plywood with plastic laminate.

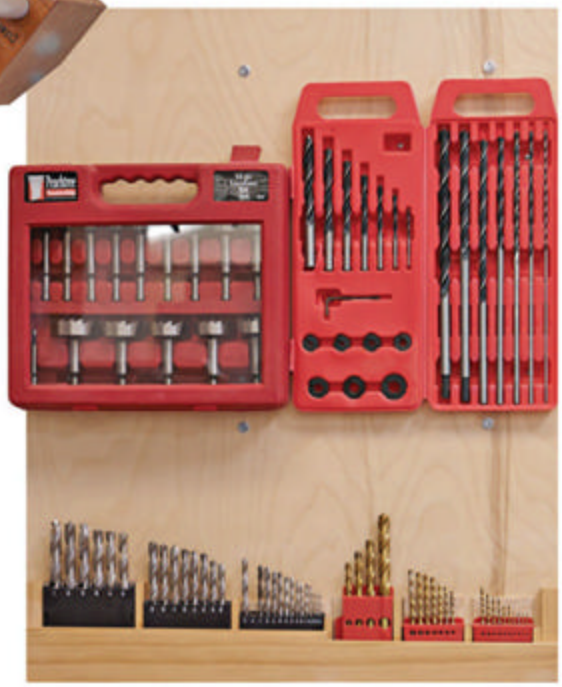
DOWNDRAFT TABLE: EASY TO MAINTAIN



Bernie's shop-made downdraft table includes a handy shelf for his portable sanders. He sealed the joints of the box and the fitting for the vacuum line with a silicone rubber sealant. The top pops off easily if he needs to maintain the interior. Vacuum suction helps hold it in place. So far, Bernie reports the design works well and he rarely needs to remove the top. "I was pleasantly surprised by one aspect of the table," Bernie says. "I found that the vacuum tends to hold pieces in place while I sand."



Twenty diagonally cut pieces of ⅝" PVC tubing make a handy holder for Bernie's scrollsaw blades. The 25° angle on the tops make it easy to remove blades. If he made a second holder, Bernie says he would space the PVC tubing farther apart, making it easier to label.



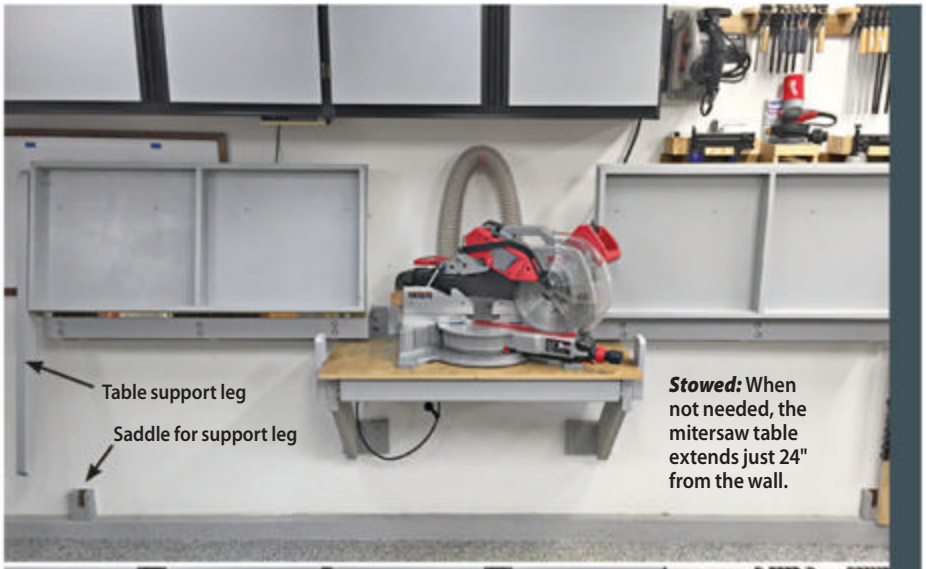
Bernie organizes all his drill indexes on a simple 24×30" birch plywood board mounted within arm's length of his floor-model drill press.

to add on for our quilting and woodworking hobbies, the chief inspiration for my shop was the first issue of *America's Best Home Workshops*."

Bernie's shop was nearly complete before he attended his first meeting of the San Diego woodworkers group—one of the largest in the country with more than 1,000 members (sdfwa.org). This year, Bernie has jumped in with both feet and will serve as the club's president.

With a CPA holding the president's gavel, it's a good assumption that the club will follow good accounting practices. With luck, maybe members will discover, as Bernie did, that a little education can go a long way.

Photos: **Andy Peterson**



Stowed: When not needed, the mitersaw table extends just 24" from the wall.

Ready to cut: It takes Herb about 30 seconds to fold down the 30×49" wings, pull out the 18½×43" table, and align the saw to the fences on the wings.

a different kind of sliding mitersaw

This pull-out table with fold-down wings conserves precious space in a small shop.

Until Herb Mathay builds his dream shop, he'll make the best of a woodworking shop in a 13×20'6" garage stall walled off from the remainder of the three-car garage. Although most equipment rolls around on mobile bases, Herb found a splendid solution to the puzzle that many home woodworkers face: How do you create a compound mitersaw station that doesn't gobble up all the floor space?

"Besides a compact footprint," Herb says, "I wanted to incorporate a dust-collection system that worked at all angle settings. That dictated a design that left space behind the saw for the collection hose."

The table rides on heavy-duty full-extension drawer glides and fastens to a sturdy 2×4 frame.

Before making a cut, Herb pulls out the glides 10" and pins the saw in position with a bolt through the table. "To prevent wear," Herb says, "I epoxied into the holes PVC pipe of the same inside diameter as the outside diameter of the bolt."

The pull-out table creates ample space behind the compound mitersaw for a 3" hose to connect to the dust port on the saw.

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Peter Melchione, a junior at Virginia Military Institute, and his dad, Bill, have spent countless hours together in the woodworking shop.

carpeted comfort in

This woodworker has some concrete ideas to share, including how to make the best of shop time on a rock-hard floor.

You won't see many woodshops with a carpeted floor. But for Bill Melchione, carpeting was a practical and professionally reasoned decision when planning his shop.

For more than three decades as a physical therapist, Bill has treated scores of patients with skeletal and muscular damage from standing on concrete floors. "Walking across a wood floor in the house," Bill explains, "you feel the give. The wood absorbs shock instead of transferring it to your body. But on concrete, your body absorbs all the shock."

Bill got lucky finding a bargain supply of carpet. "A nearby carpet manufacturer sometimes has remnants or off-square carpet that it makes available to employees," Bill explains. "One of my patients worked at the plant and a few months after I mentioned that I was looking for carpeting for my shop, he acquired a truckload of vinyl-backed commercial-grade carpet. He even dropped it off at my shop.

"I installed the carpet four years ago and I have yet to replace a single 24×24" square. It looks as good as new. Of course, I'm fastidious if I'm working with finishes. I always roll plastic out on the floor before I start."

Bill's dust collector helps keep things tidy by sucking away most of the sawdust at the source. "When debris ends up on the carpet," Bill says, "I try to vacuum the same day so nothing gets

continued on page 14

For big tasks at the tablesaw, Bill relies on a fold-down infeed table. For more details about this feature, see *page 19*.

the shop

Bill and Peter built this 4×8' assembly table from 2×6s. When the ⅛" hardboard top becomes damaged, Bill can easily pop it out and replace it.

Bill's shop stands about 100 feet from the back door of his Virginia home.

SHOPSPECS

TYPE: Dedicated building

SIZE: 1,296 sq. ft. with 8' walls rising to 10' peak in original building; 10' walls in addition

CONSTRUCTION: 2×4 frame construction on 24" centers. Insulated walls are sheathed with ½" OSB and covered on the exterior with house wrap and vinyl.

HEATING AND COOLING: Gas-forced air from a 30,000–55,000 Btu Reddy heater. Two large fans and a dehumidifier (plumbed into gutter discharge piping) keep the shop comfortable in the summer.

ELECTRICAL: 100-amp subpanel in the shop

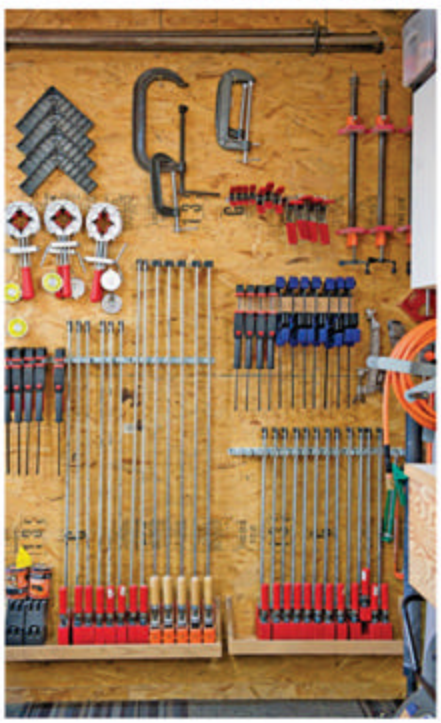
LIGHTING: Eight 4' T12 fluorescent fixtures in the original shop; six 8' T8 fluorescent and five 4' T8 fluorescent fixtures in the addition

DUST COLLECTION: 3-hp Oneida Super Dust Gorilla cyclone networked across the ceiling with 4" drops to equipment

AIR COMPRESSOR: 20-gallon compressor with 50' hose reel

FLOORING AND WALLS: Concrete slab covered with 24×24" carpet squares. Interior walls sheathed with ½" OSB

It's a rare project that doesn't include one or more trips to Bill's 17'-long bench with more than 11' to the left of the saw blade. As shown in the floor plan on the *next page*, a portion of the mitersaw rests outside the shop in a 30×30" enclosure. With Peter's help, Bill constructed this bench from 2×4s. For the benchtop, Bill installed ¾" melamine. A machine shop made the 2×2" arrow-straight fence bolted to the benchtop. Two 48"-long fluorescent fixtures flank the mitersaw.



Because he chose oriented strand board (OSB) instead of drywall for his shop walls, Bill saved money and time, and he can position (and reposition) tool holders anywhere on the wall. Inexpensive spring clamps for mops and brooms organize clamps and sell for about $1 in hardware stores.

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ground in. I also bought an $8 rolling attachment for my shop vacuum."

For additional comfort while working at the assembly table (where he spends most of his time), Bill added a 36"-wide ring of ½"-thick interlocking foam pads purchased from a home center.

Upgrading the tablesaw

To improve dust collection at the tablesaw and provide an extra measure of safety, Bill installed an Excalibur overarm blade guard. He also constructed an infeed table, primarily for handling sheet goods.

The tablesaw sits on a sturdy torsion box built from 1½"-wide white oak; the extra height allows wide stock to clear the top of his jointer.

From father to son

Bill describes his son, Peter, as one of those kids who loved taking apart anything and everything—just to figure out how it worked. "He was my little builder," Bill recalls, "and he always followed me around the shop. For a majority of his life, I've been remodeling the house or building

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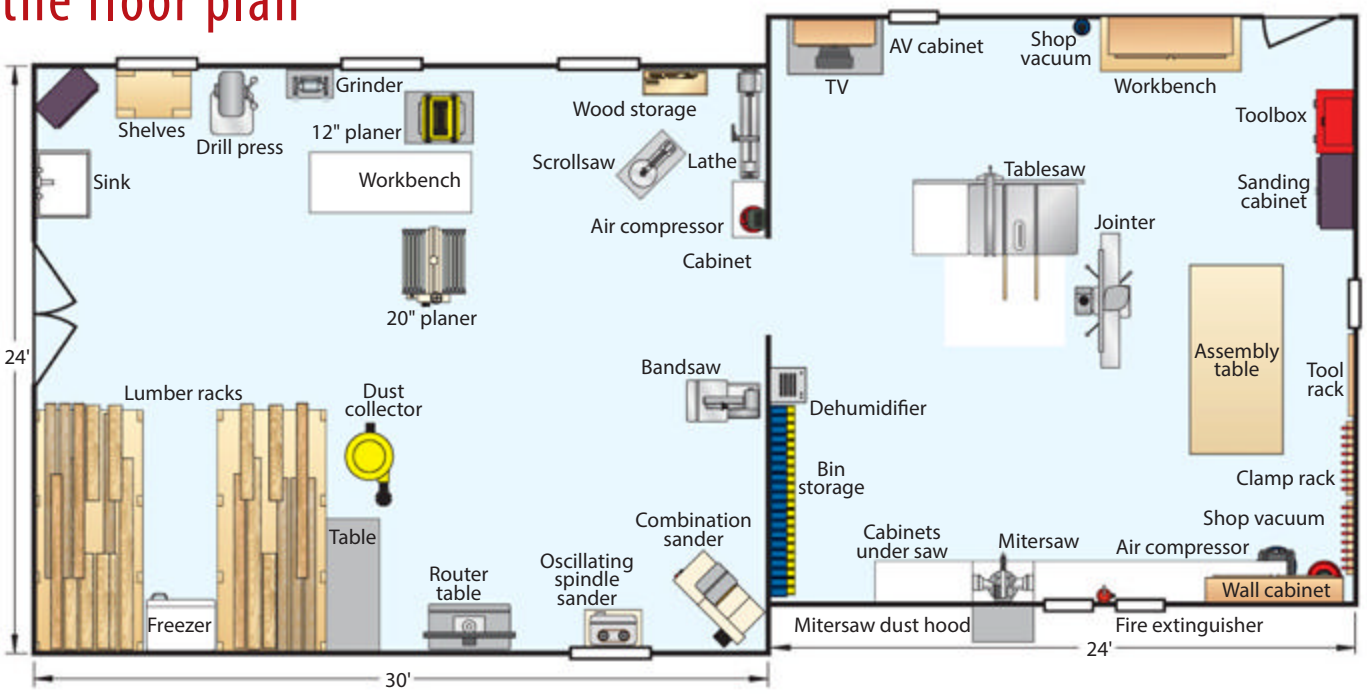
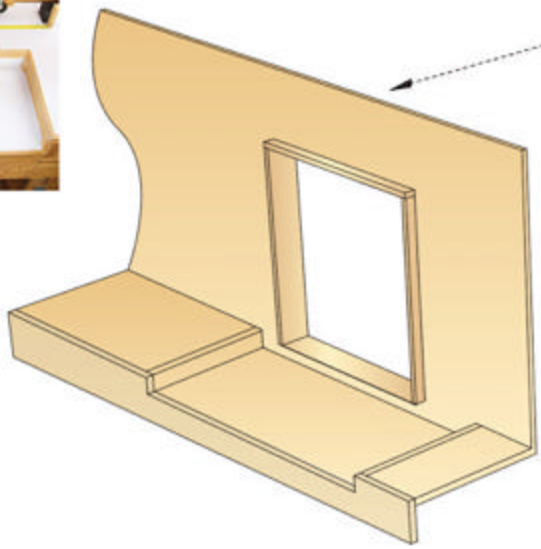
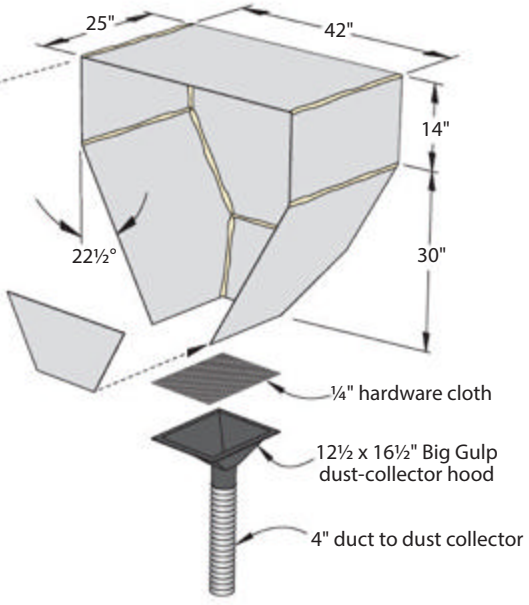
the floor plan



DUST-COLLECTION HOOD SITS OUTSIDE THE SHOP, SAVES FLOOR SPACE

"I built a 30×30" box off the back of the shop," Bill says, "to contain my DeWalt mitersaw and all the dust it produces. By placing the slide of the saw in the box, the mitersaw station projects just 14" into my shop. And, I can still swing the saw to the right and left. This is one of the greatest things I have added to my shop." A dust-collection hose connects to a Big Gulp collector hood (purchased online) in the bottom of a sheet-metal hopper in the box.





carpeted comfort in the shop

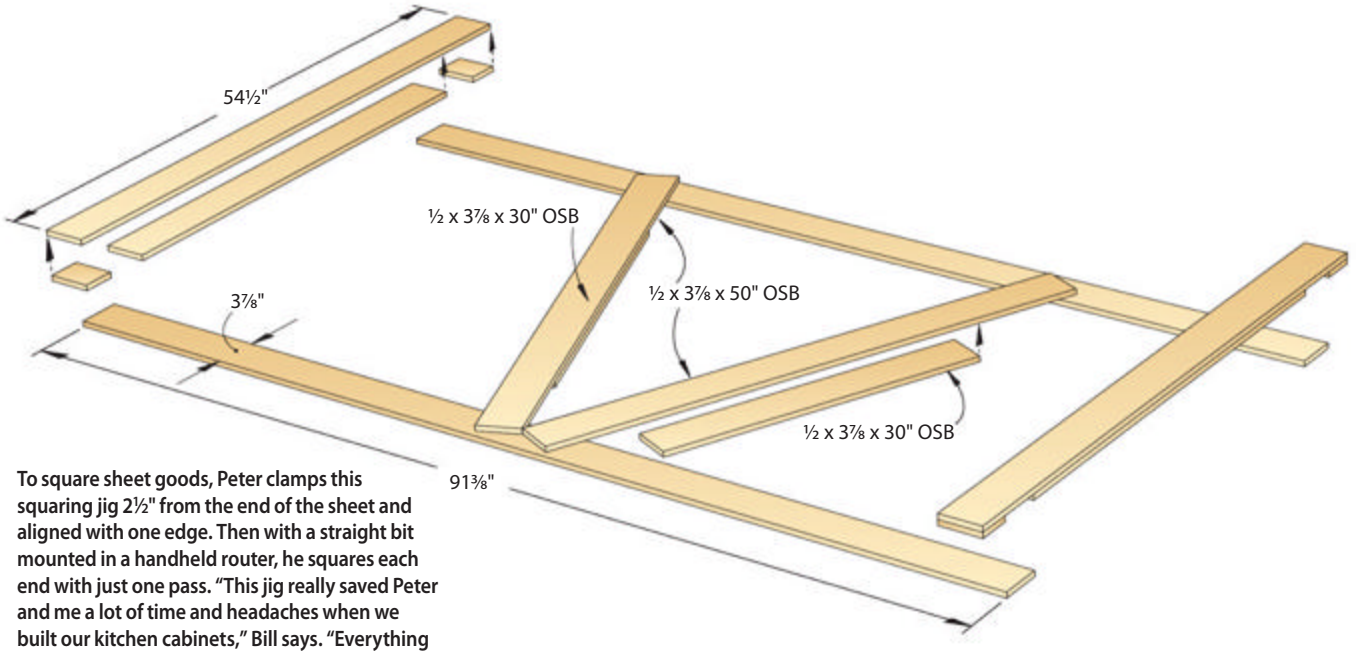
Above: A 20" planer—one of Bill's biggest sawdust generators—sits just 6' from the dust collector for maximum dust-collection efficiency. Bill installed ten 4" drops to his shop equipment.

Left: A 34"-wide aisle makes easy work of organizing and selecting lumber stored on two 5×10' lumber racks that each stretch to the 10' ceiling. Bill built the racks from 2×4 stock. An upright freezer and kayak share the space.

A 12×36×66" cabinet (repurposed from Bill's kitchen remodel) stores sanding equipment and supplies. "I use a flat-blade paper trimmer to cut each sheet to one-half or one-quarter size or sized for my hand-sanding block," Bill says. "It works great." Bill stores the paper trimmer, purchased at an office supply store, above the cabinet.

To organize hardware and small parts, Bill relies on inexpensive plastic bins, purchased for about $1 each at a home center. A wall-mounted bracket accompanies each set of bins. On shelves above the bins, Bill organizes hinges, knobs, and other small parts in plastic containers (donated by his dad) that originally held bulk peanuts.

SQUARING JIG: PRICELESS FOR BUILDING CABINETS



To square sheet goods, Peter clamps this squaring jig 2½" from the end of the sheet and aligned with one edge. Then with a straight bit mounted in a handheld router, he squares each end with just one pass. "This jig really saved Peter and me a lot of time and headaches when we built our kitchen cabinets," Bill says. "Everything we made was absolutely square."

continued from page 14

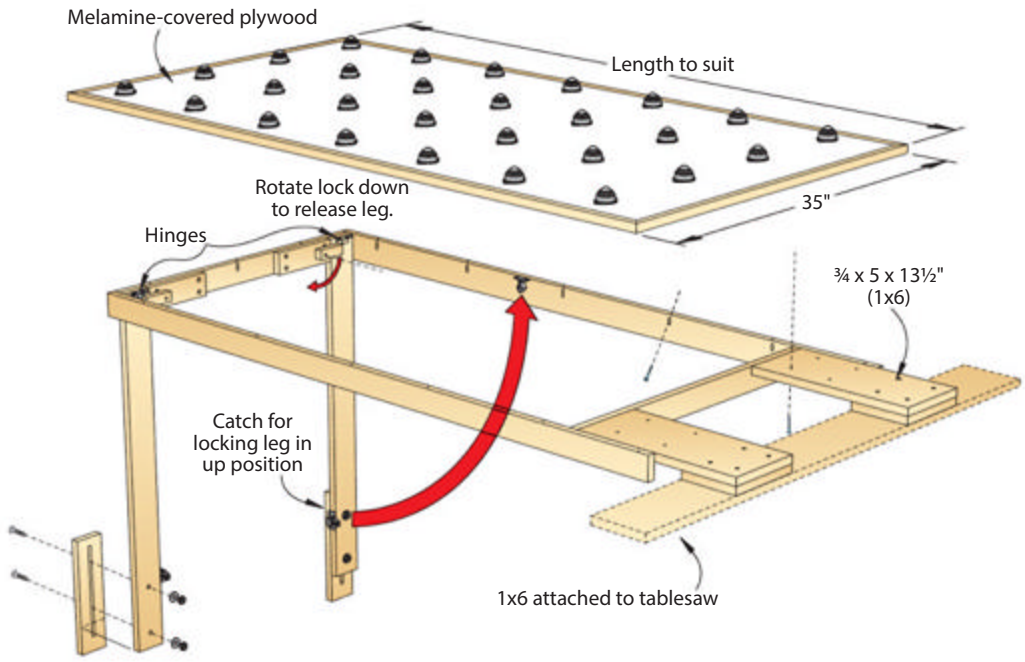
furniture for the home. So it made perfect sense he'd be interested in woodworking."

Of course it's great to have a large woodworking shop that can accommodate big projects. Peter helped build the original shop and its addition, too. Until he left for college three years ago, Peter was a welcome additional pair of hands for project-building. Bill has a hard time imagining how he could have finished the kitchen remodeling project—it consumed more than 30 sheets of 4×8' melamine—without his son's help. But a new chapter is in the works as he winds down his college career and prepares for a full-time job, hopefully as a project manager for a construction company.

And if it works out for his leisure time, Peter will figure how to get *his* first shop under way. If he's lucky, maybe Dad will come and help out.

Photos: **Tamara Hattersley**

INFEED TABLE ASSEMBLES IN 60 SECONDS



In Bill's shop, this infeed table is a workhorse. The two ¾×5" supports rest on a 1×6" bolted to the bottom of his Biesemeyer fence rail; he can easily adjust the height of the fold-up legs to allow for an uneven floor. When the infeed table isn't in use, Bill props it along a nearby wall. "The legs are attached by a 2" hinge so they can swing up and lock in place against the top for storage," Bill says. "The stock just floats on the roller balls—it's a much better system than rollers. I've had no problems keeping this infeed table aligned with the saw." Bill purchased roller balls from Lee Valley (no. 99K5220, about $4 each, leevalley.com).

warm from the floor up

The walls and floors of this shop are packed with solutions that make it easy to clean and affordable to heat.

Bill Shannon's move from a cramped basement shop brought more than a welcome flood of daylight through six windows in his new shop. Now, he can work his way through a project without shuffling tools around on mobile bases and without whacking lumber on the low ceiling. From engineered wall panels and radiant floor heating to wall-mounted machines and dust runs in the wall and floor, Bill researched improvements at every opportunity.

Nontraditional construction

Structural insulated panels (SIPs) delivered by the manufacturer to the jobsite make up the sidewalls of the shop. These consist of 5½"-thick foam panels sandwiched between sheets of OSB. They are fastened between 2×6s on 48" centers. The factory-cut panels reduced on-site assembly labor by half.

Bill's shop remains toasty warm all winter, thanks to a radiant-heating system looping through the concrete floor in ½" plastic tubing. "A local plumber was very knowledgeable about these systems," Bill says. "For example, he put extra tubing by the outside doors that get exposure to cold."

Two thermostats monitor the temperature: One measures the ambient air

continued on page 23

Bill's shop sits on a rise about 50' from his house. Steps inside the shop (see *page 23*) lead to a floored loft for lumber storage. He built the shop to function as a garage for the next homeowner.

Daylight and wood trim contribute to a welcoming woodworking shop in Bill's backyard. Bill converted a 36"-wide door into a workbench and outfeed table. For a smooth benchtop, he added a layer of ¾×8" pine to the door.

Flexible hose and a mobile base make it easy for Bill to connect his drum sander to the 4" dust port.

SHOPSPECS

TYPE: Dedicated building

SIZE: 520 sq. ft. with 9' walls

CONSTRUCTION: Structural insulated panels (SIPs) with R25 rating, wrapped on the exterior with building felt, mesh netting, and T1-11 siding; R45 roof

HEATING: Radiant floor heating via Rinnai on-demand tankless propane-fired water heater

COOLING: Window air conditioner when necessary in summer months

ELECTRICAL: 200-amp service with 19 110-volt outlets

LIGHTING: 18 4' fixtures, each with four T8 fluorescent bulbs

DUST COLLECTION: Delta 50-7601½-hp dust collector with nine 4" dust runs in floor and below windows; Jet AFS-1000B ceiling-mounted air cleaner

AIR COMPRESSOR: DeVilbiss 1-hp 4-gallon compressor on a mobile cart

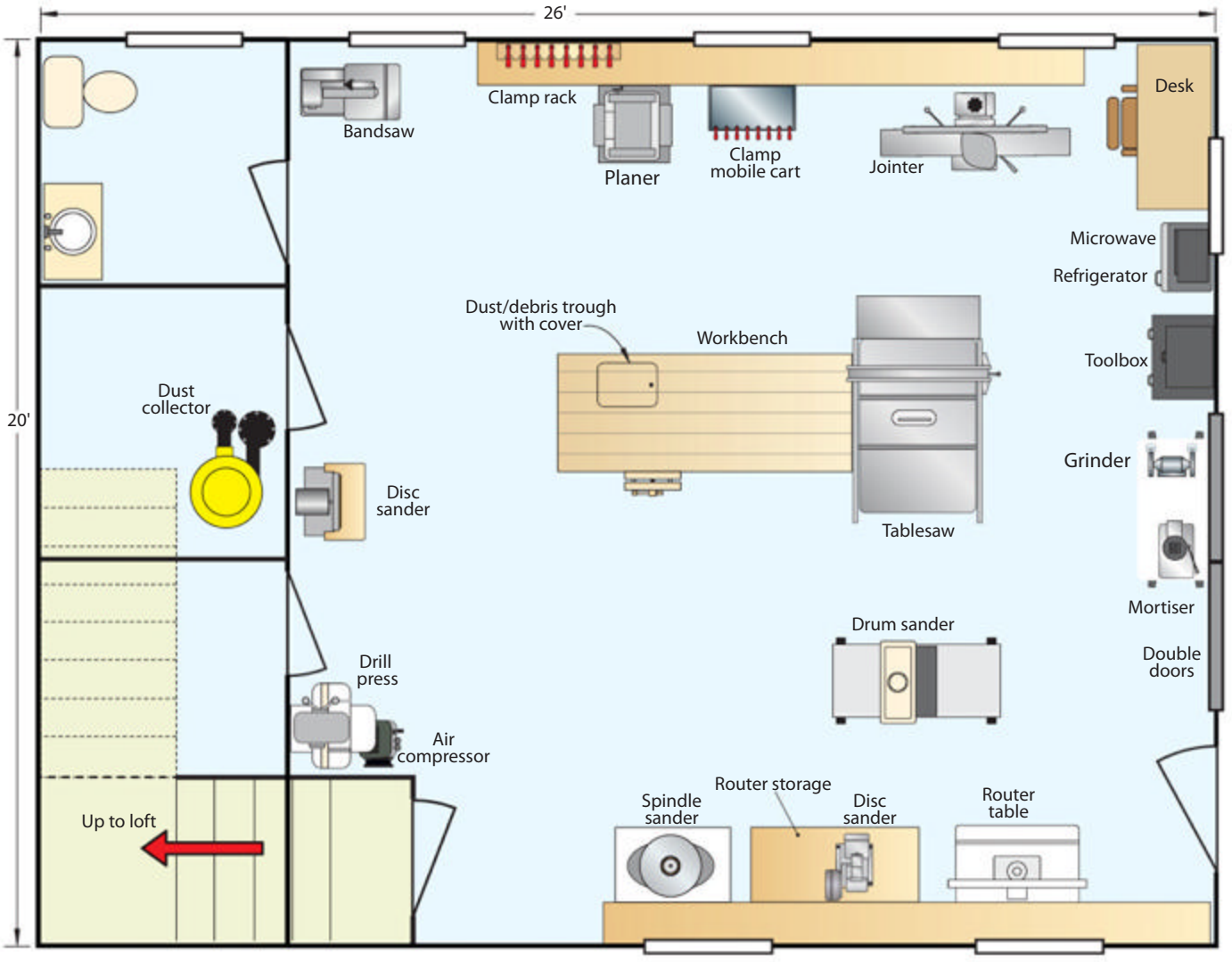
FLOORING AND WALLS: Concrete with 2"-thick foam panels beneath slab; walls covered with ½" drywall and 9"-wide shiplap siding.

Two open shelves provide a home for a combo sander on top, and routers and other portable power tools below. Bill organizes his router bits in the 4×13¼×13¼" lidded box (*above* and *right*) lined with 1¼" -thick foam.

Three workstations line one wall just inside the shop entry door. Shiplap siding beneath the 12"-wide ledge hides 4" dust runs to individual machines. Each station has its own dust gate and dust port. Because the walls are engineered panels, the electrical supply runs are surface-mounted.

Next page: Bill placed a mini refrigerator, microwave, and coffee-maker next to his desk. "It's easy to take a break in the shop for lunch," Bill says. "After coffee, soup, and crackers, I'm back to work! Plus, I don't drag any sawdust into the house." Wide aisles—up to 8'— and mobile bases allow him to easily roll other equipment parked on this wall anywhere in the shop.

the floor plan



continued from page 20

(sometimes influenced by a sunny day). A probe on the concrete, set at 65°F, prevents big temperature swings.

Dust collection via floor, walls

Before pouring the 5"-thick floor, Bill laid out 4" dust-collection lines to the tablesaw and rows of equipment along the two long shop walls. "I didn't want a mess of overhead ducts," Bill says, "so I ran the lines in the walls. The shelves below the windows hide the ductwork."

Wall-mounted tools ease cleanup

Bill reduced the number of mobile bases from his basement shop by mounting equipment such as his sanders, router table, and drill press to

Bill's benchtop drill press sits on a ¾×18×24" melamine base. He fastened a ¾×13⅜×21" mounting plate to the wall before securing the shelf brackets with lag bolts.

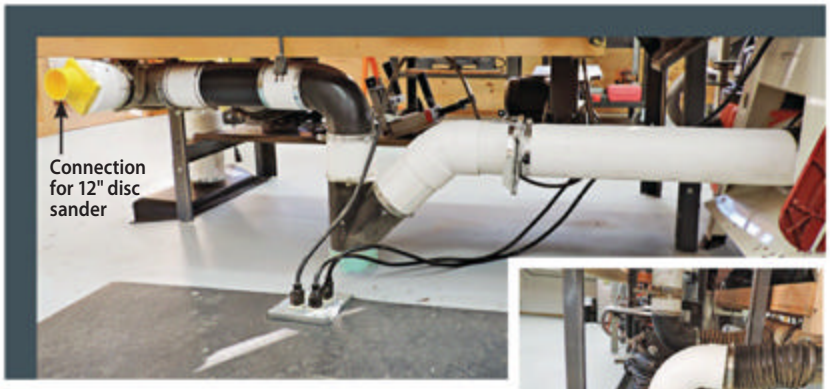
the wall with pairs of John Sterling shelf brackets, each rated for a 500-lb load (1,000 pounds total; about $12–$14 each from grainger.com and local and online sources). This clears floor space and streamlines sweeping chores.

Heavy equipment, such as the bandsaw, jointer, and planer, still roll about on mobile bases.

Other than wishing he'd plumbed a shower into the building, Bill has few regrets about the final design of his dream shop. No surprises here: Bill adapted years of process-control expertise learned from his Xerox career into the thinkology required to design just the right shop.

Above: Two 19¾"-long metal shelf brackets support Bill's wall-mounted router table. The 24×31¾" Rockler top includes a fence with a 2½" dust port.

Right: A 9¾×12¼×12" box, built from ½" plywood, surrounds the router and connects to a 4" dust hose. Bill regulates the airflow through the box by adjusting a peanut-butter-jar lid that covers a series of holes.



A network of ducts beneath the workbench feeds a 24"-long floor sweep (*above* and *right*), a downdraft cutout in the bench, and the tablesaw. If Bill upgrades his tablesaw, he can easily convert the in-floor 110-volt outlets to 220-volt.

To corral 15' of flexible hose on his Fein dust extractor, Bill runs the hose through 60"-long sections of plastic downspout.

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finding new happiness

A stable of Internet woodworking friends helped this stay-at-home mom design and outfit a shop from the ground up.

It's a long journey from an unheated 6×10' basement workshop to a spacious 1,132-square-foot backyard shop, but along the way, Ruth Walker has filled her shop with tools and her life with a legion of woodworking friends.

After her dad introduced Ruth to tools, she quickly showed a knack for woodworking. With her husband's encouragement and tool gifts from him for every special occasion, she acquired enough basic equipment and confidence to set up a small shop and part-time business in the corner of a friend's sawmill.

Then, a sea change. After her husband died of cancer, Ruth made a big leap to build this shop to help fill her empty days and nights. "My hubby knew that woodworking was one of my biggest passions," Ruth recalls, "and this was my way of picking up and moving on."

continued on page 29

South-facing windows provide a steady stream of daylight to illuminate Ruth's shop.

Ruth modified the footprint of a four-car garage. She added a bump-out and large windows, and topped it off with a cupola she designed and built.

SHOPSPECS

TYPE: Dedicated building

SIZE: 1,132 sq. ft. with 9' walls on ends; 14' cathedral ceiling in center of shop

CONSTRUCTION: 2×6 frame construction on 16" centers. Walls are sheathed with ½" OSB and covered on the exterior with cedar siding.

HEATING AND COOLING: Napoleon Independence wood-burning stove fueled with recycled pallet stock. On warm days, fans cool the shop.

ELECTRICAL: 100-amp service with 16 110-volt duplex outlets and nine 220-volt outlets

LIGHTING: Eight can lights with 90-watt-equivalent LED bulbs. Ceiling-mounted fixtures with 100-watt bulbs at each end of shop.

DUST COLLECTION: Mobile 1-hp Delta dust collector, Jet air-filtration system

AIR COMPRESSOR: Campbell-Hausfeld 1½-hp 4-gallon compressor on a mobile cart

FLOORING AND WALLS: Concrete slab on top of 2" foam insulation panels; in-floor trough for electrical and dust lines. R19 insulated walls and R65 insulated ceiling.

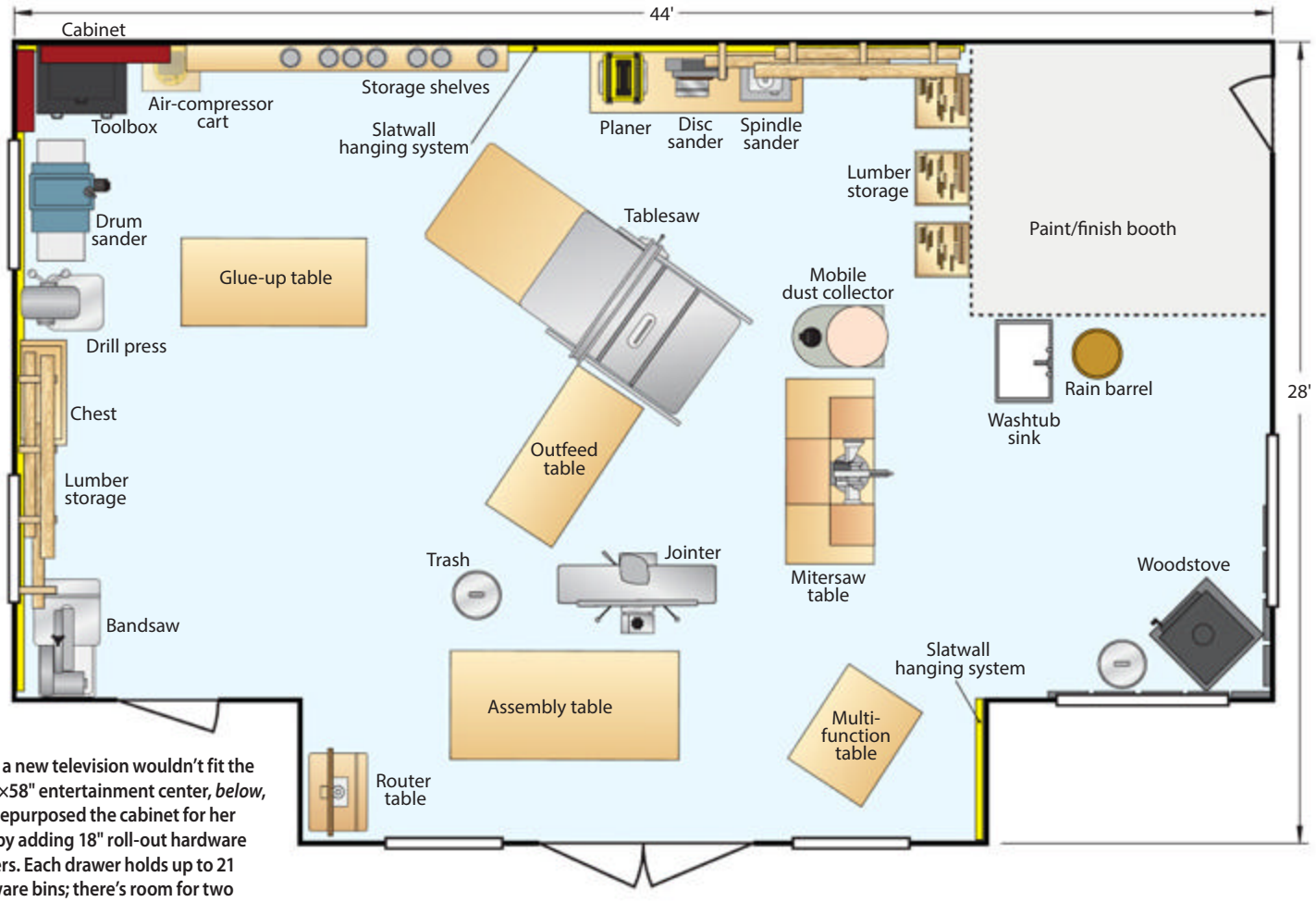
LOFT STORAGE: 10×10' floored storage above ceiling at each end of shop

Although Ruth Walker completed her new shop in 2010, she continues to make improvements. The 12" jointer, *foreground above*, is her latest equipment purchase.

Every time she adds a new power tool, she rearranges the shop. "I just hate to call anyone to help move equipment," Ruth says, "so everything rides on mobile bases. I try to be self-sufficient."

After upgrading to a cabinet saw, Ruth kept her job-site tablesaw, a Christmas gift from her husband. With a 1½×20½×48" removable top, the saw and cart serve as a convenient outfeed table.

the floor plan



When a new television wouldn't fit the 21×41×58" entertainment center, *below*, Ruth repurposed the cabinet for her shop by adding 18" roll-out hardware drawers. Each drawer holds up to 21 hardware bins; there's room for two more drawers below the four existing.

continued from page 26

And what a shop Ruth has built.

You'd be hard pressed to find a woodworking environment with a warmer, comfier feel. From the classic cupola and rich cedar siding wrapping the shop exterior to a practical wood-burning stove nestled in a corner, Ruth gathered and weighed sage advice from the woodworking community before stamping her personality on her shop.

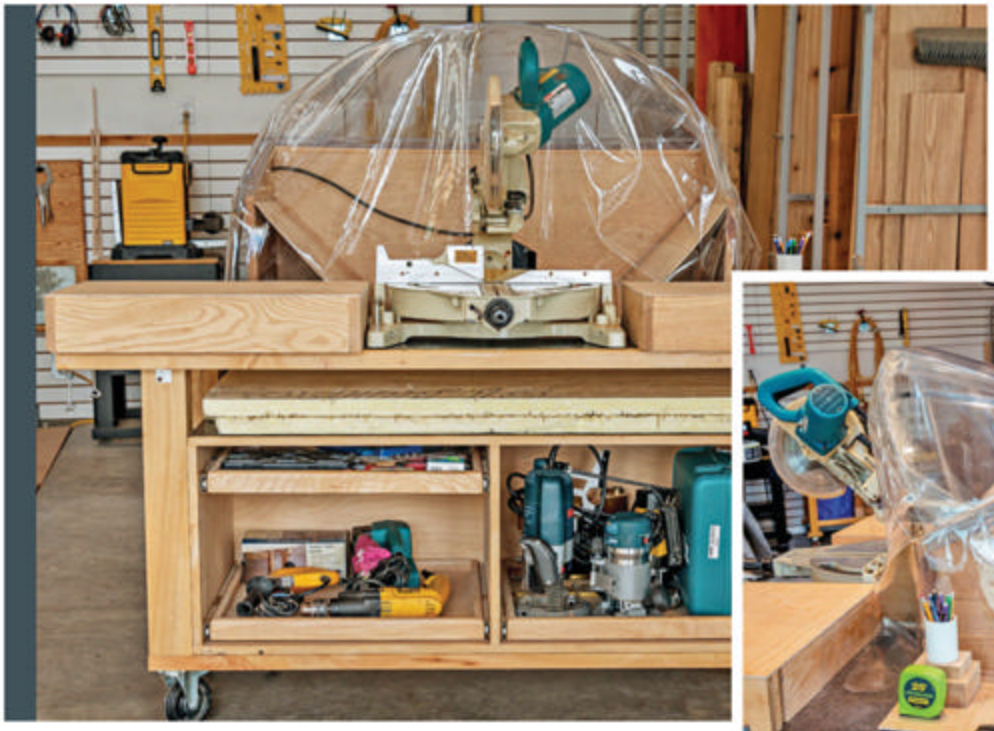
She turned to woodworking forums to sort out the best options for heating her shop. Before spending $2,000 for a wood-burning stove, she sifted through a pile of comments about a continuous supply of wood (she burns discarded pallets), insurance (no problem with approved installation), and more. "I can add supplemental heat if I need to," Ruth says, "but so far I just love it. With

continued on page 33

"This 4×8' torsion-box assembly table is the backbone of everything I build," Ruth says. "It's probably the most-commented on item in my shop. Some of the attraction is its simplicity. Because of the I-beams, it doesn't look like a typical table." She originally assembled the torsion box to build a media cabinet for her husband, but she enjoyed the 27½"-high table so much she decided to make it a shop mainstay. A local sawyer provided the 3½×6" cottonwood beams supported on eight 4" casters. She built the three I-beams from ¾" plywood scraps.

Ruth converted a free 38×72" oak school desk into a glue-up table that rides on 5" casters. Her parallel-jaw clamps ring the desk and rest on holders cut from 2" PVC pipe.

A 79"-tall utility stand, made from discarded 3×3½" pallet stock, occupies a corner of Ruth's 10×10' finish room. A similar stand in the shop holds extension cords and a utility light.



Ruth's compound mitersaw occupies a 14×24×69" cart. Her shop-made dust chute includes a window-well cover (about $8), sheet plastic, ¼" plywood, and a 2½" dust port. "Nothing fancy," she says, "but it works."

When a home center cleared out store fixtures before moving to a new location, Ruth acquired two 29×29×84" lumber racks. Total cost: $10. Behind it is Ruth's paint/finish booth framed by a discarded metal gazebo and inexpensive tarps.

Ruth saved about $5,000 by not running a water line to her shop. Instead, she fills the 55-gallon rain barrel with a garden hose, then drains off water to the utility sink for cleanup tasks.

Ruth's Excalibur mobile router table sits near the main entry door to the shop. The slatwall used throughout the shop came from a retail store about to close. She paid $6 a sheet; it normally sells for $40.

A member of the concrete crew cuts 4×8' sheets of 2"-thick foam insulation with a handsaw. The insulating layer lines the entire slab.

"I worked closely with my concrete contractor to form the utility trough," Ruth says (*above*). "I wanted it large enough for electrical outlets plus room for a 6" duct if I acquired a bigger dust collector. A 2×12 fits perfectly over the top" (*right*).

Before installing the exterior cedar siding, Ruth brushed on stain in a 16'-long shop-made vat lined with house wrap *(below)*, then dried the sections on an inexpensive 3×8×8' shop-made rack constructed from 2×4s and lattice strips *(right)*.

A classic cupola tops off Ruth's shop. She paid less than $10 for the weather vane. A 40-watt bulb illuminates the cupola at night.

As Ruth's general contractor finished his tasks, Ruth began finishing and hanging all the cedar siding (see photos on the *previous page*) and completing the exterior and interior trim work.

Factory-made trusses quickly add shape to the shop and provide a glimpse of the shape of the cathedral ceiling. Ruth converted the open areas above the dropped ceiling into 10×10' floored storage lofts.

continued from page 29

the money I saved on an HVAC system, I bought great tools."

Ruth is loaded with stories of how she stretched her budget. For example, she couldn't justify a proper finishing room, so she built hers with a framework from a patio gazebo that was headed for the curb after a windstorm; $50 in tarps made it complete.

Concrete slab: insulate or not?

Before pouring the slab, Ruth spent five months planning her shop. She visited several woodworking forums and asked if it made sense to insulate with 2"-thick foam sheets beneath the 6" slab. "Of all the questions I posted when I planned my shop," Ruth says, "this topic got the most responses. There were lots of opinions, and some of the exchanges between guys got heated! In the end I sided with my concrete contractor, who said he would insulate beneath the pad if it was his shop.

"I've stood on uninsulated concrete slabs in our Iowa winters, and my workshop floor is warmer. I will tell you this: It was well worth the extra money."

making magic in the

When he's not on duty at his fire station, you're likely to find Jed Wachlin in his shop, where he constructs illusions for magicians. "Good woodworking—and especially good joinery," Jed says, "is all an illusion anyway."

When Jed Wachlin walks out to his garage shop to make a little magic, he's speaking literally. "I have enjoyed and been fascinated with magic since I was a very small child," this Oregon woodworker says, "and now I'm lucky to have found a way to combine my two loves—magic and woodworking."

Jed Wachlin's tablesaw and router insert are centerpieces of his 12'-wide garage shop. Mobile tool carts provide storage and store out of the way to maximize floor space.

shop

Jed Wachlin, a lieutenant for the Clackamas, Oregon, fire district, made this custom mailbox for his station.

Jed incorporates some magic tricks in his fire-prevention demonstrations at schools and public events. But he primarily focuses on new illusions for a core of magician-customers.

"Think of building illusions as being the Oz behind the curtain," Jed adds. "Now if you think kitchen cabinets are built to close tolerances, consider the precision a magician requires for a stage illusion. Joints need to be so tightly fitted that they just blend in—or disappear!

"It's definitely a niche market, requiring quiet and protected construction. You won't find plans for anything I build on the Internet.

continued on page38

SHOPSPECS

TYPE: One dedicated stall of two-car garage

SIZE: 287 sq. ft. with 9'6" walls; 17-sq.-ft. attached shed for compressor and dust collector

CONSTRUCTION: 2×6 frame construction on 16" centers. Walls are sheathed with ½" plywood and covered on the exterior with house wrap and vinyl siding to match the house.

HEATING AND COOLING: Cadet 2,000-watt auxiliary heater. Shop is cooled via a box fan and open garage door.

ELECTRICAL: 150-amp subpanel to house; 19 110-volt duplex outlets and two 220-volt outlets. Five circuits, each with color-coded outlet covers, feed equipment.

LIGHTING: Ten 4' T8 fluorescent fixtures

DUST COLLECTION: 1-hp Jet DC-650 dust collector with two 4" lines embedded in concrete floor. One line serves the tablesaw; the other machines share the second drop.

AIR COMPRESSOR: Hitachi 2-hp 4-gallon vertical compressor. Schedule 40 PVC air lines feed three quick couplers.

FLOORING AND WALLS: Concrete slab; ⅝" drywall on interior walls. R21 wall insulation; R38 ceiling insulation

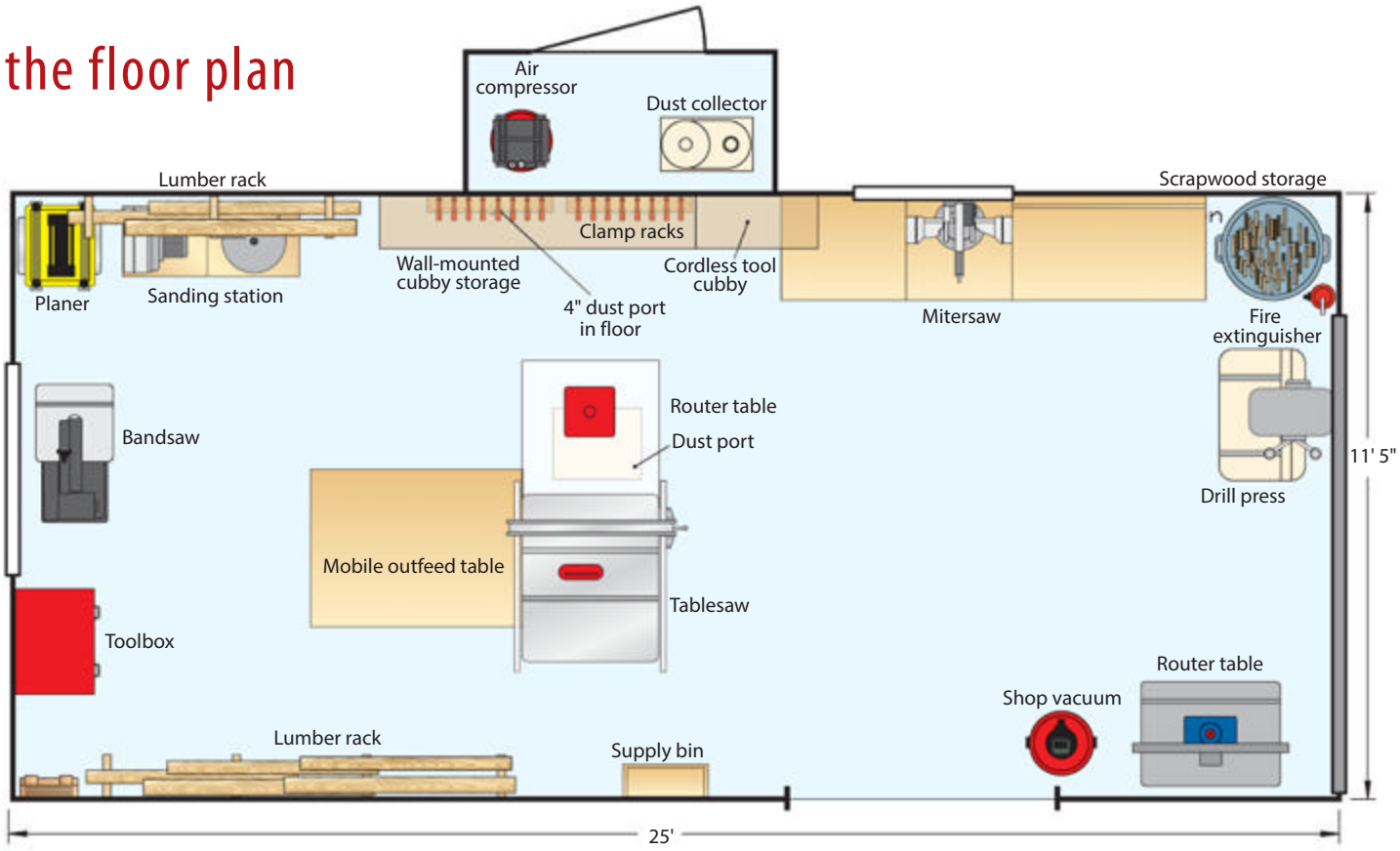
Jed generally keeps a ⅛" or ¼" round-over bit mounted in the Bosch table-mounted router.

A hardboard cover converts the tablesaw into a temporary work and assembly surface.

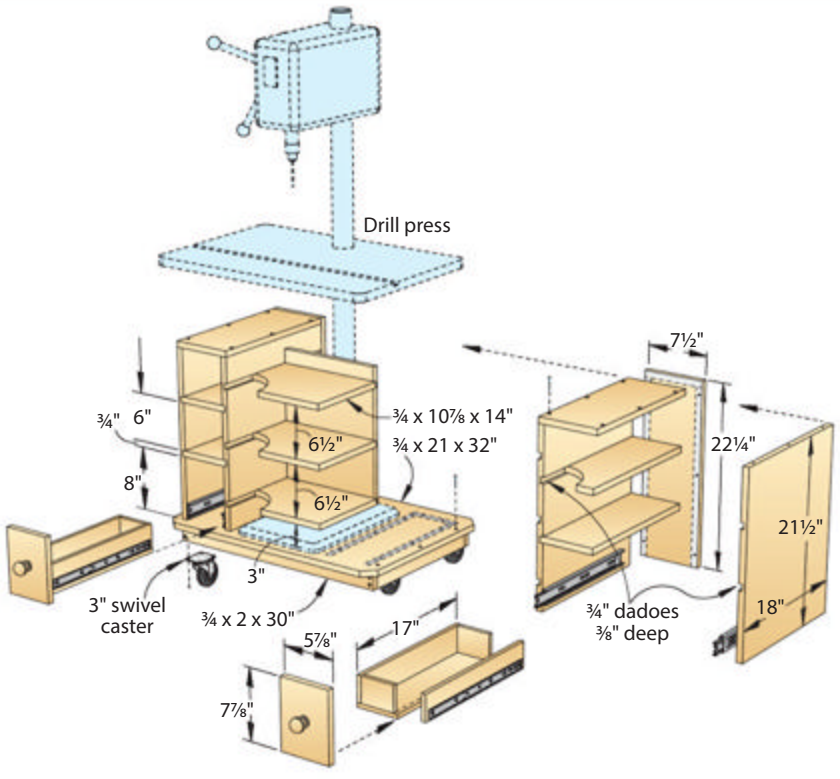
Each of the five circuits in Jed's shop has a color-coded switch plate. The orange circuit for the tablesaw has a safety cover so Jed can easily turn off the power supply while changing blades or making a repair.

Jed built the 8'-long cabinet for his compound mitersaw and tool storage. The design is a replica of kitchen cabinets his grandfather built in the 1940s; Jed salvaged the original drawer and door pulls for his shop cabinets.

the floor plan



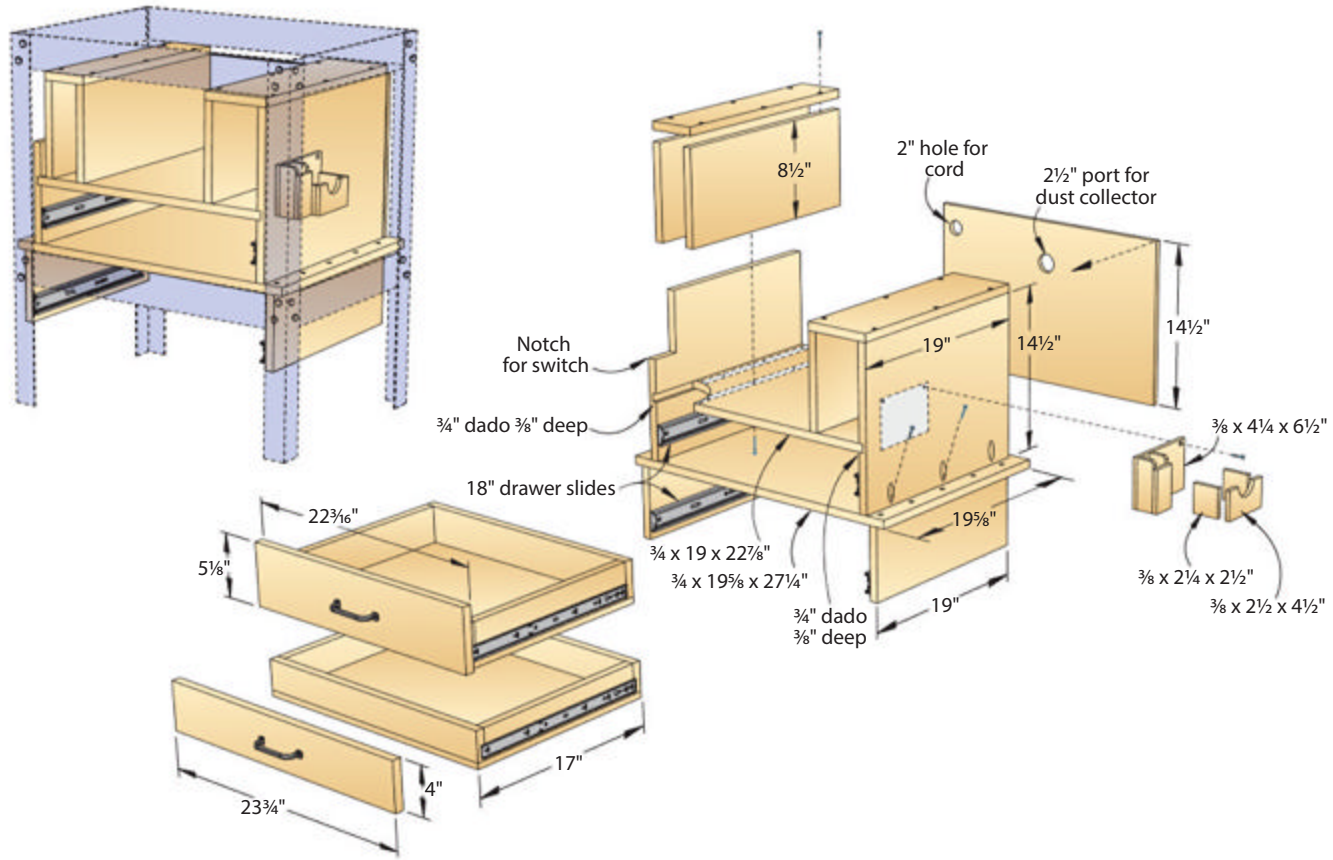
COMPACT DRILL STAND WITH A WHOLE LOT GOING FOR IT



With the exception of the tablesaw, everything in Jed's shop has to remain mobile, and that includes the drill press. For the base, he engineered a trusslike web to support the drill-press weight. For mobility, he selected 3" Stromberg STP6600 casters. "I found these at a local industrial supplier," Jed says. "This cart rolls easily with a gentle push."

His collection of bits includes a specialty set of Forstner coin bits. On each project he builds, Jed finds a discreet location to embed a coin minted in the current year.

KREG BENCH LOADED WITH UPGRADES FOR ROUTER TASKS



A 20×28" Kreg universal bench (about $140; kregtool.com) became the framework for Jed's custom router table. A Kreg table, fence, and insert sit above a Triton router. He outfitted the table with a 2½" port in the back of the base and a 1½" port on the fence; a wye connection allows him to run both ports simultaneously. "The top drawer holds bits, measuring blocks, wrenches, and a variety of router-plate holes for different sizes of bits," Jed says. "The black trays are Craftsman toolbox organizers. I've reserved the bottom drawer for additional tools."

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No magic to build a router table

Jed says the best tool for an illusion builder is an imaginative brain, but you can't beat a good tablesaw and a router table—or two.

Although the router in the wing of his tablesaw still gets plenty of use, Jed spent two years scouring the options for an upgrade for a stand-alone router table. "Because I build to 1/64" and tighter tolerances, I had to be sure I made the best choice for my budget. I read *WOOD*® magazine tool reviews and looked at Internet forums for routers and woodworking. I made my final decision at the Woodworking Show in Portland. I got to talk to the tool demonstrators and actually use the router, the fence—everything."

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Fourteen pairs of bench-dog holes line Dan's 36×108" bench. A 1¾" clean-out space beneath the benchtop provides easy access to parts that fall through the dogholes. Dan trimmed most of his cabinets and drawers with walnut.

community shop

Take a number for assistance at this Ohio shop: Chances are, you'll bump into another woodworker from the local club getting help or working on a project. But that's fine with Dan Martin—he loves being a part of the woodworking community.

By the time Dan Martin finally decided to build a deluxe woodworking shop, he had already spent 30 years working in a 26×28' garage. As he explains, it was a stretch to call his old shop a garage—he had taken over the entire space, leaving no room for autos. "I was tired of that mess," Dan recalls. "Stuff was just thrown in there! And the workflow was shaky.

"Before I retired, I built a new shop building so I could reclaim the garage. I promised my wife that I would remodel the house first, so I didn't have any time to set up the new shop building. I just cleared out my tools and lumber, moved everything to the new shop, and started remodeling the house."

It would be a couple of years before Dan finished the house and he could circle back to organizing his shop building with new cabinets. Because he had worked out of a garage shop of nearly the same size, Dan had the workflow figured out in his mind before fine-tuning his ideas in design software. In addition to workflow, he included ease of cleanup and organization as his top three priorities.

To reduce the effort required to sweep sawdust from beneath mobile bases or cabinets, nearly every cabinet and machine in Dan's shop has an enclosed toekick. If a power tool didn't have an enclosed base, he built one. (Exceptions are his drill press, which moves for big

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Dan Martin stands behind a multipurpose tablesaw guard that acts as a see-through blade guard, holds down stock, and collects dust. The guard clamps to customized fittings on his tablesaw rip fence. Using the gate handle, Dan raises the guard to fit over stock.

SHOPSPECS

TYPE: Dedicated building

SIZE: 783 sq. ft. with 10' walls

CONSTRUCTION: 2×6 frame construction on 16" centers. Exterior walls are sheathed with ½" waferboard and covered on the exterior with house wrap and vinyl siding to match the house.

HEATING AND COOLING: 100,000-Btu propane heater. Cooling by two high-volume fans

ELECTRICAL: 100-amp service with 24 110-volt outlets and two 220-volt outlets

LIGHTING: Eighteen 4' T-8 fluorescent fixtures; task lighting over the radial-arm saw and bandsaw

DUST COLLECTION: 2-hp Northwood dust collector connects to three 4" drops in zones; two shop vacuums

AIR COMPRESSOR: Makita 2-hp 2.6-gallon compressor with a 50' hose reel

FLOORING AND WALLS: Concrete slab with eight 3×5' comfort mats. Walls are insulated with R19 batts and covered with ⅝" drywall; R57 ceiling insulation.

Four tool chests consume just about all of the horizontal space on this 10'-long bench. Dan has organized calipers, hand tools, and gauges in the toolbox drawers; the drawers below the bench hold more tools and miscellaneous hardware.

Dan stores all of his handscrew clamps on the wall behind this bench, inserting the handles into 1"- to 1½"-diameter holes, spaced 4" apart on a 2×6. "Instead of adjusting the clamp to squeeze a 1×6, I just push a handle into a hole," Dan says.

continued from page 40

tablesaw jobs, and the mitersaw.) "The large island for the tablesaw is handy," Dan says. "I have nice 4'-wide aisles to the rest of the shop, yet just three steps to the jointer or planer.

"Another feature that I like is a handy lumber rack for sheet goods right by the main door, yet just a few steps from my plywood lift at the tablesaw." (See *page 45* for more details.)

How well has it worked out? Since Dan finished his buildout in 2010, he's found himself enjoying most of each weekday in the shop—and some weekends, too.

His shop has become a regular go-to location for members of the Woodworkers of Central Ohio (Dan is the 2015 president), who annually build more than 3,700 wooden toys in member shops. It's not unusual to find a dozen or more club members cutting parts for a production run of 50 toys.

"I come over here all the time," says Gary Warchock, a club member. "I go

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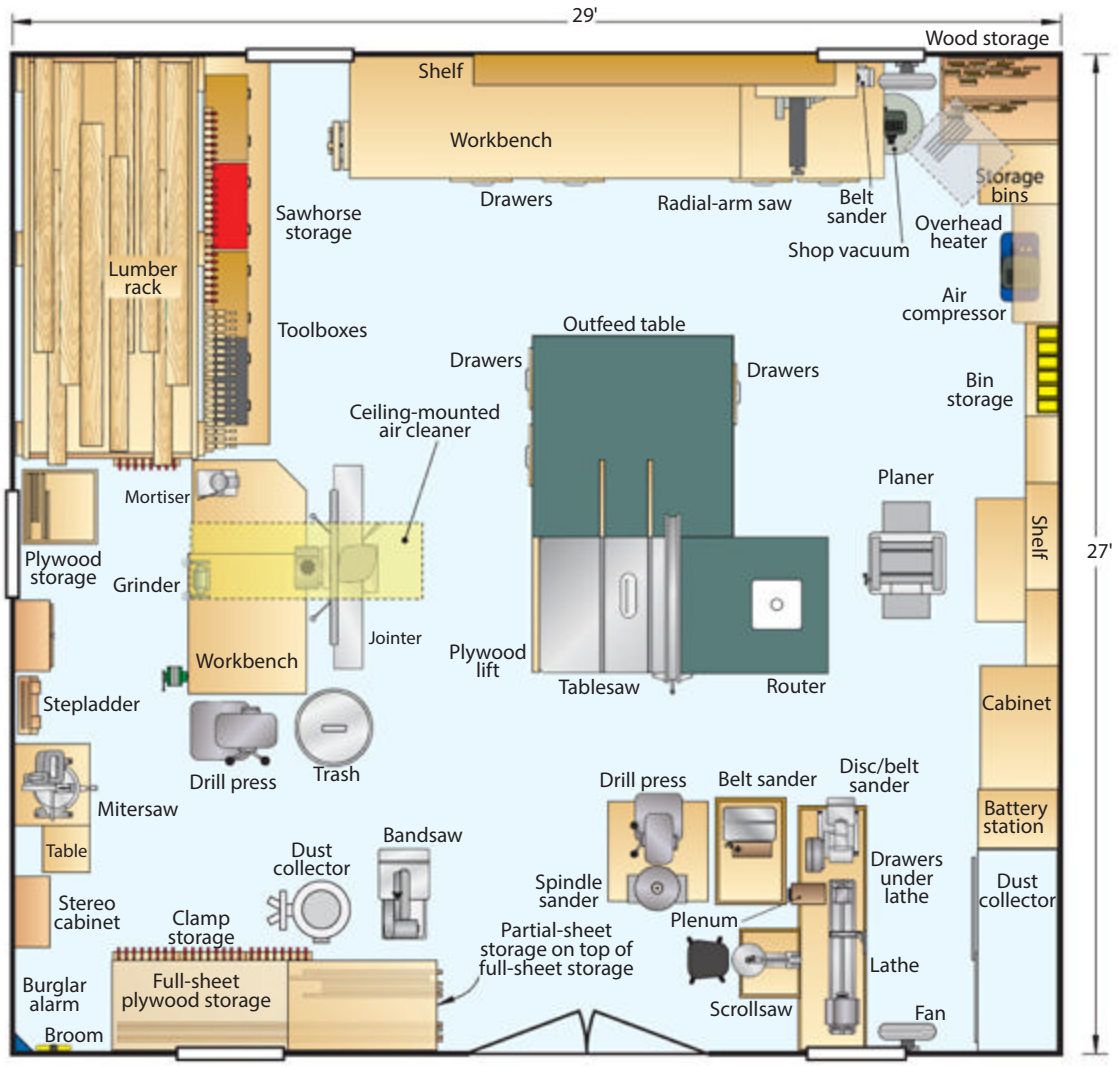
Dan's 7" benchtop drill press has an interesting history—part unknown. After he rescued the cast-iron vintage drill press from a trash bin, he welded a crack in the adjustable table. Then he added a ¾-hp DC motor, variable-speed control, and custom belt guard. Dan's trash-bin find is now suitable for wood and metal work. "This is a beast," Dan says. "It probably weighs 150 pounds now. I can barely lift it off the cart." The 29½×27½×30½" mobile bench includes shop-made work supports with 15" of travel; he secures each support by tightening a bolt on the side of the cart.

Dan organizes his Forstner bits in the top drawer of the cart, as shown at *right*.

the floor plan



Dan spends at least 40 hours a week in his shop. In this space, he has hosted as many as 13 members of his woodworking club who cut and assemble wooden toys for needy children in central Ohio.

A shop-made 2×6×3' air cleaner provides ample space for Dan to hang easy-to-reach Starrett metal rulers from a magnetic strip. On the other side of the air cleaner, he hangs Japanese saws and small tools on another 24"-long strip. A cast-off furnace motor and blower assembly powers the air cleaner. "This cleaner does a great job," Dan says. "The furnace filters catch most of the dust, but there are also three filter bags inside. I rarely need to empty the bags."

The heart of Dan's shop is a 33-square-foot island that includes his tablesaw and router. He built the top by gluing and screwing together two layers of ¾" high-density particleboard and then covering it with forest green plastic laminate. To provide ample clamping surface, a 3½" overhang (banded with ¾" maple) rings the surface. Dan incorporated 23 drawers and 4 duplex outlets into the bench design.

A 4×44¾×2½" drawer slides out for easy removal of sawdust or stray parts that fall through one of two benchtop slots for the tablesaw miter gauge. "It's easy to retrieve hardware that would otherwise have been lost," Dan says.

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to the master to learn. And Dan has all the tools I could imagine."

"One of the club members liked using my infeed table so much," Dan says of the system shown *below*, "that he bought a lift like mine at Harbor Freight and then made a cabinet for his shop."

"I have copied a number of ideas from Dan's shop," says club member Don Wenzlik. "I added 16 drawers like the ones in Dan's shop under my workbench and plan to add more in other areas."

Sharing ideas

Dan, an idea man from the get-go, honed his skills during his working life as a maintenance mechanic who repaired production machinery at a pharmaceutical plant.

"I enjoy finding a better way to do woodworking," Dan says. "Sometimes that's a new jig, sometimes it's just better organization. But whatever I

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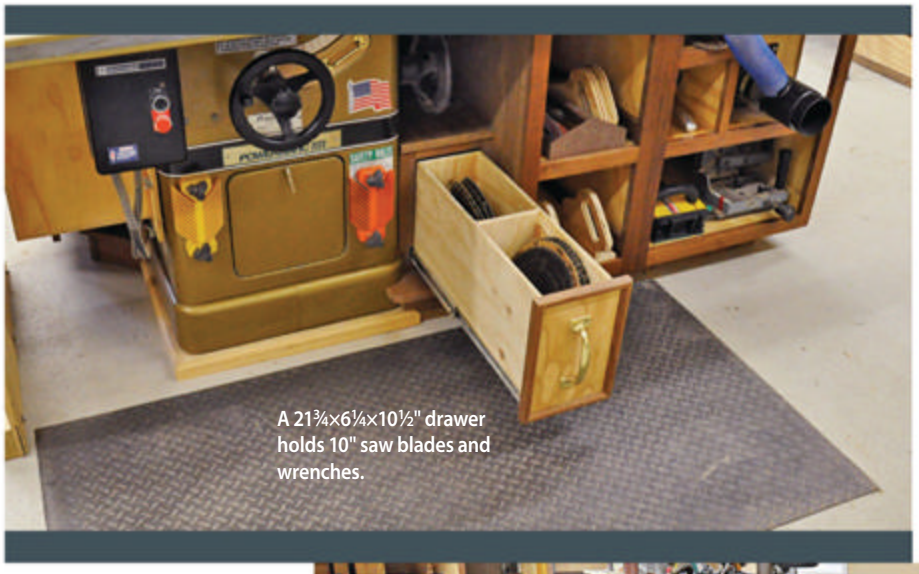
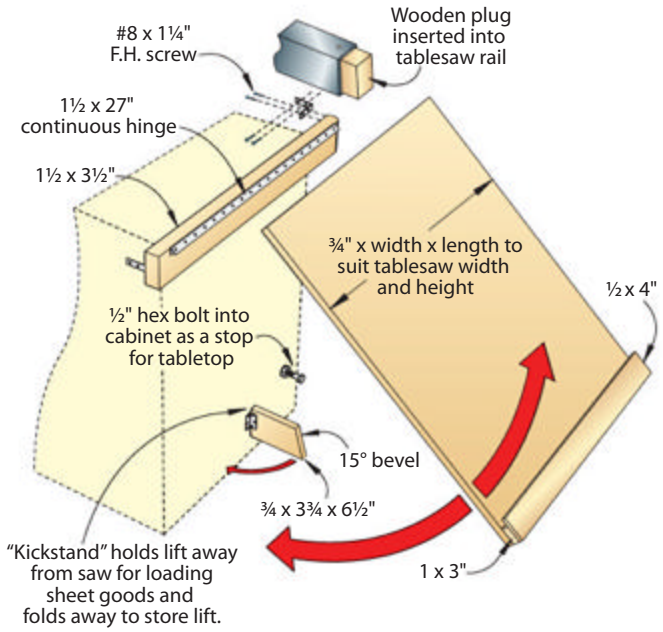


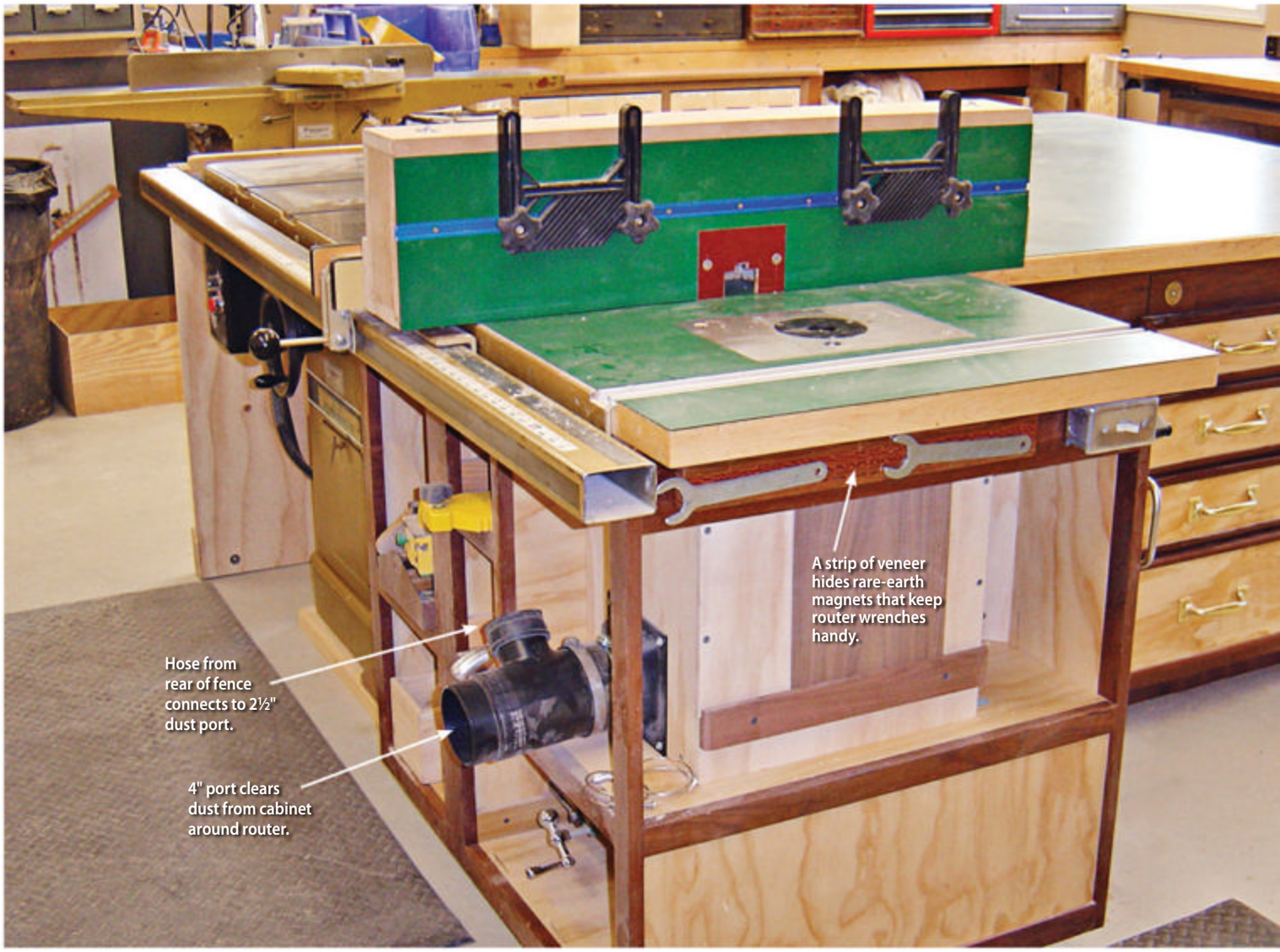
A 21¾×6¼×10½" drawer holds 10" saw blades and wrenches.

Right* and *inset: A 28¼×20¼×28½" cabinet on a hydraulic lift cart (about $160 at Harbor Freight) sees plenty of duty in Dan's shop. " I use this all the time as an infeed table," he says. "I built the cabinet so at its lowest position it matches the height of my tablesaw. Sometimes I crank the lift up to 45" so I can support long stock at the drill press. And it's great for laying out parts that I cut at the tablesaw or mitersaw."

Instead of grunting and straining to place 4×8' sheet goods onto his tablesaw, Dan relies on a handy tablesaw lift. An earlier version was named a *WOOD*® magazine "Top Shop Tip" in 2013.

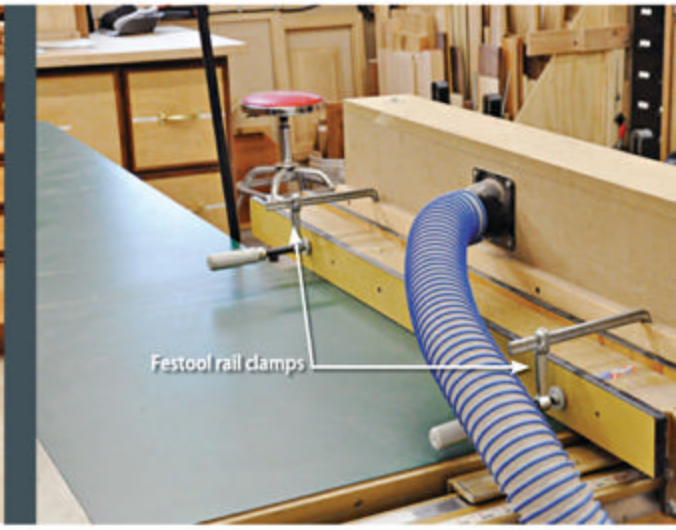
IN A ONE-MAN SHOP, THIS TABLESAW HELPER PROVIDES A LIFT



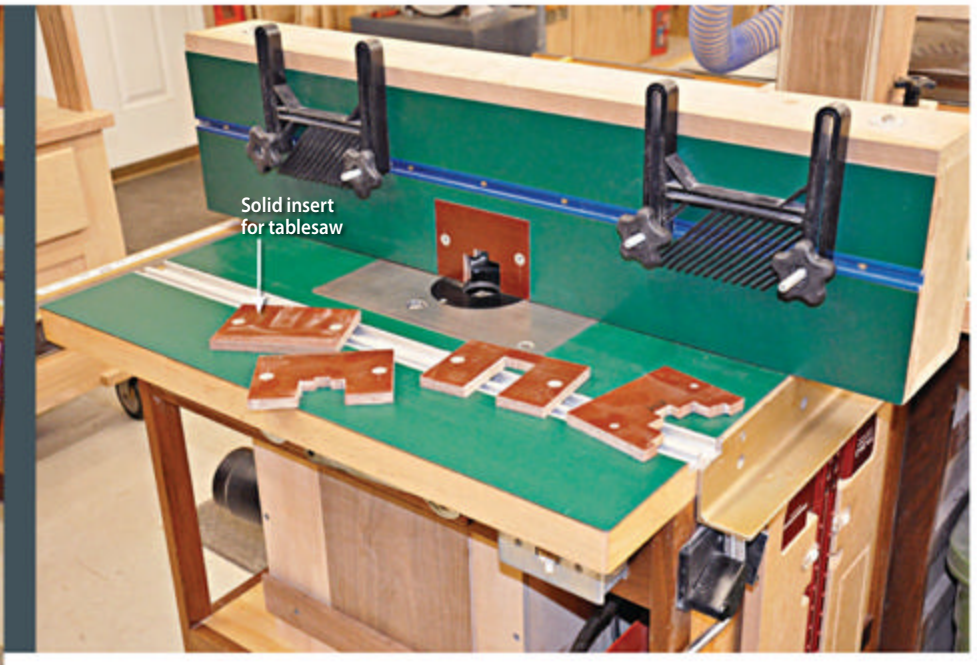


A shop-made tall fence with dust port and T-track gets plenty of use in Dan's shop.

Dan operates his router table with a foot pedal or on/off switch below the tabletop.

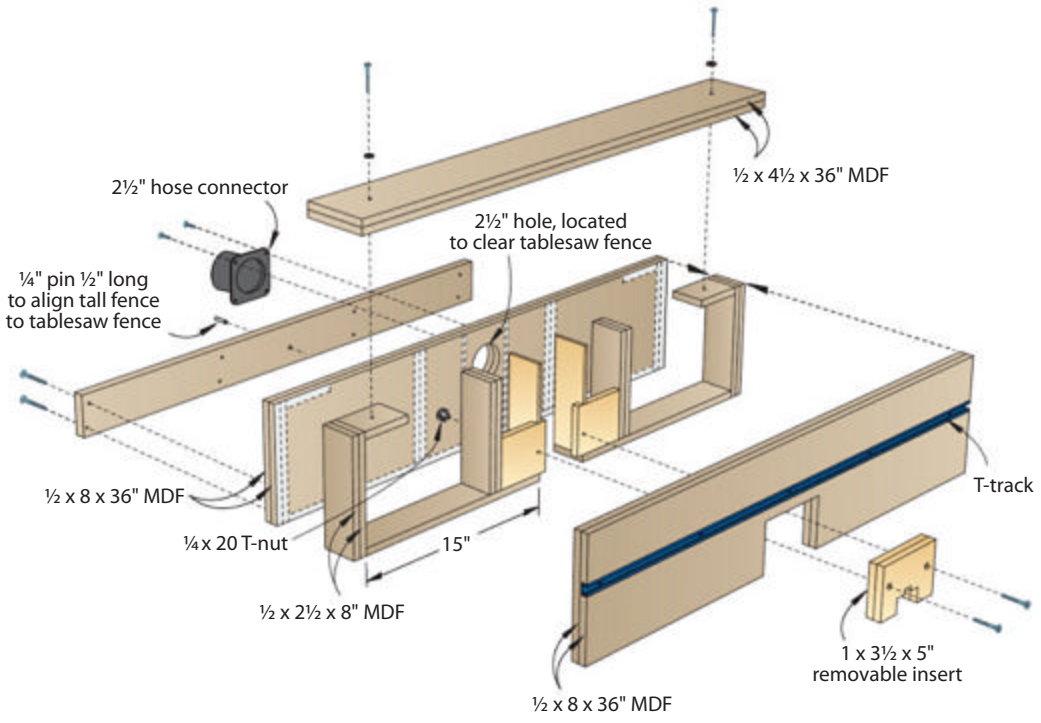


Far right: Two Festool rail clamps (about $40/pair) secure Dan's auxiliary fence to his tablesaw fence. It takes him just a few seconds to remove the dust hose and set up the fence to cut from the tablesaw side.



In addition to hold-downs, shop-made stops slide into the T-track—handy for improved safety and performance at the router table. Dan made seven phenolic plastic inserts for bit profiles—five are shown at *left*— that improve dust collection. Dan attaches the unnotched insert when he flips the fence around for cuts at his tablesaw.

DELUXE TALL FENCE DOES DOUBLE DUTY WITH DUST COLLECTION



Coatrack for visiting club members

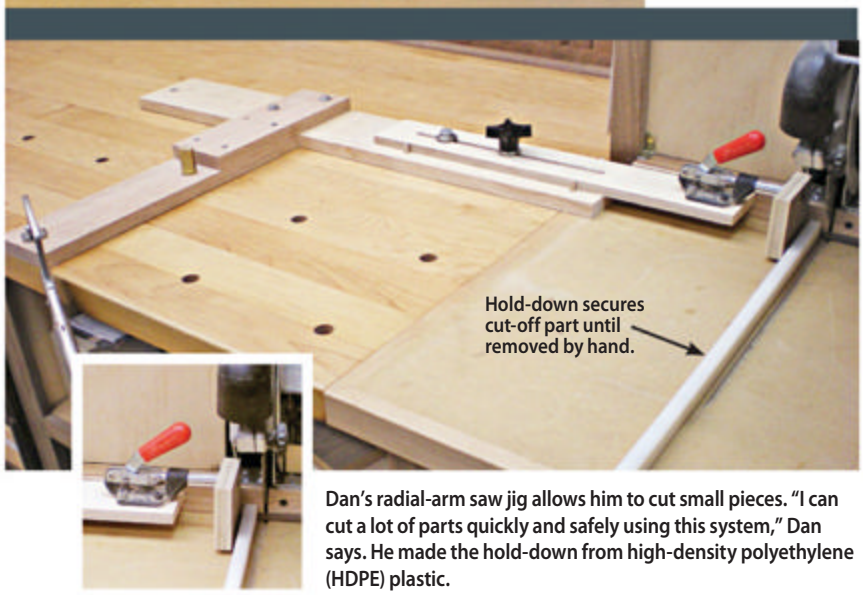
Plastic food-storage containers fit neatly into a stack of 25 drawers just a few steps from the tablesaw. He purchased the inexpensive 24-oz tubs at a grocery store, filled the tubs with hardware, and threw away the lids. "Buy all your containers before you start building drawers," he advises.

A hinged swing-out support at the end of Dan's 9'-long bench was a "Top Shop Tip" in *WOOD*® magazine. The swing-out portion provides extra support for long pieces.

Standard shower doors provide easy access to Dan's 2-hp dust collector. Furnace filters on the front and top of the enclosure allow exhausted air back into the shop.

At Dan's radial-arm saw station, a 6-gallon shop vacuum connects to custom dust channels behind the saw. The platform supporting the vacuum provided room for a walnut frame around a 2' fluorescent fixture to illuminate the workspace.

This 34½×46" lumber rack rests on a heavy-duty tablesaw mobile base for good reason: It must roll out of the way temporarily when it's time to service the propane heater (not shown) above it.



Dan's radial-arm saw jig allows him to cut small pieces. "I can cut a lot of parts quickly and safely using this system," Dan says. He made the hold-down from high-density polyethylene (HDPE) plastic.

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come up with, I like to share with other woodworkers."

In praise of the radial-arm saw

Dan puts high value on his radial-arm saw. "I know a lot of woodworkers don't care for the radial-arm saw," Dan says, "but I get a lot of use out of mine.

"For starters, some woodworkers complain how the blade climbs. It's easy to overcome that with a radial-arm, you need a negative-hook blade. I use a 5° negative hook and have no problems with climb.

"This saw is perfect for making multiple cuts—especially with small pieces. On some of our club's toy projects, we need to cut 200 pieces that

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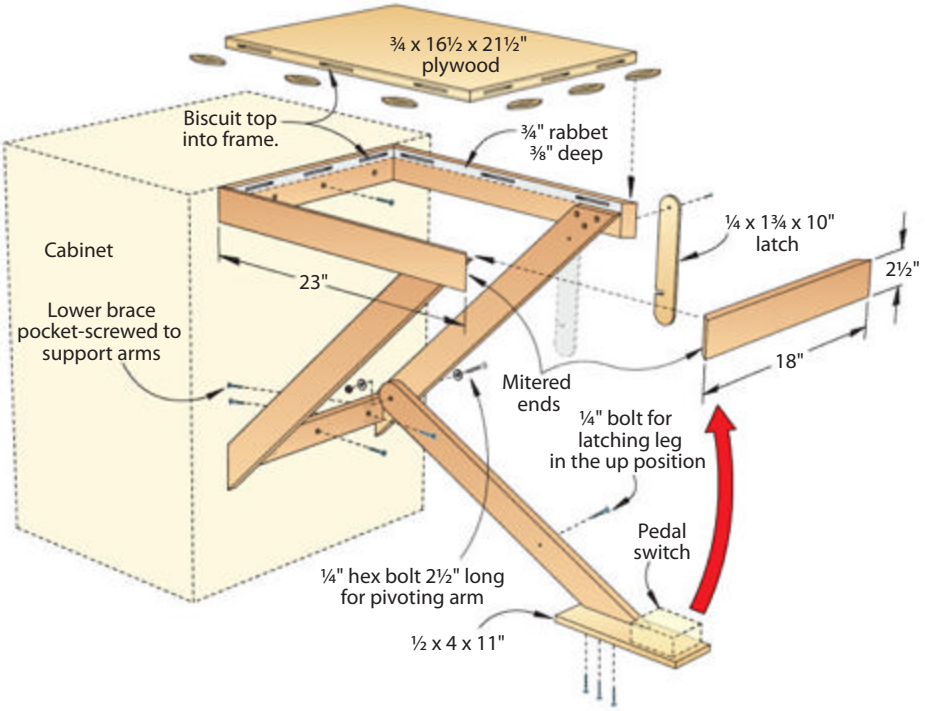
SCROLLSAW NOOK MAKES CLEANUP EASY

This custom scrollsaw table mounted on the back of Dan's lathe cabinet keeps the floor space open below it. Because he didn't want the nuisance of a foot pedal on the floor (harder to sweep around), Dan designed a fold-up version that latches out of the way when not in use.

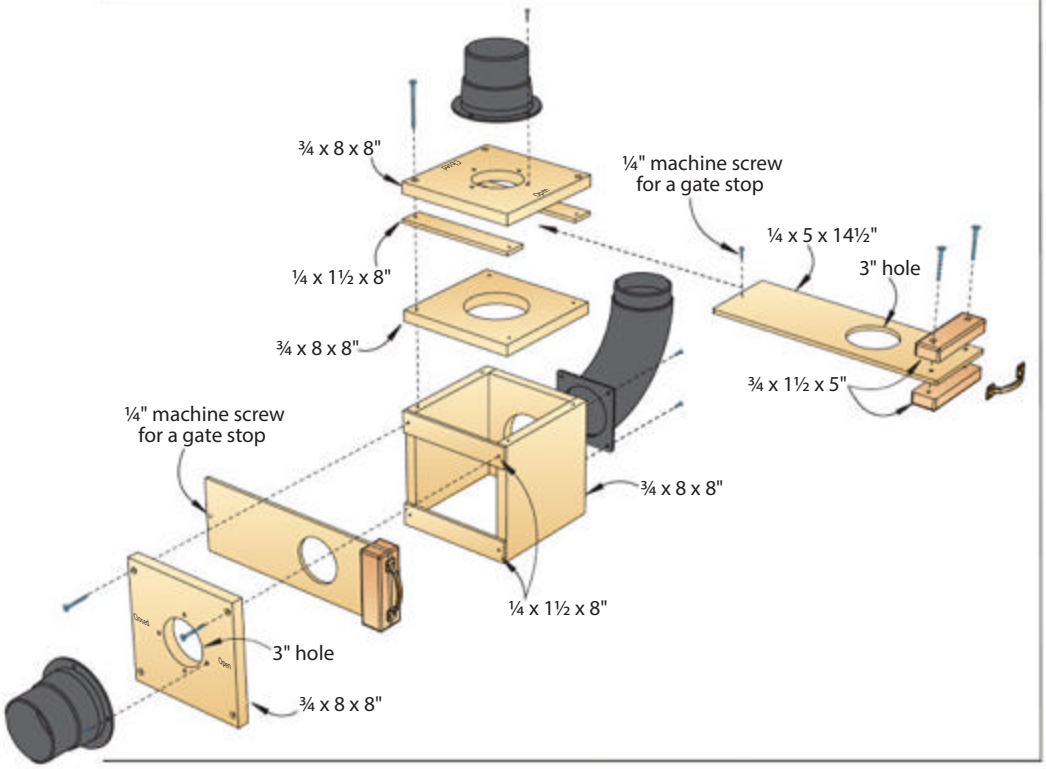


Dan built a ¾×27×47½" lift-off cover for a cabinet space devoted to sawhorses. A ½" pin in the bottom of the panel helps him register the correct panel location after he returns the sawhorses to their shop stable. "Until I built this door," Dan says, "the sawhorses and shelf loaded up with sawdust every time I sanded at a vise nearby."

Above: To streamline his network of hoses, Dan added a shop-made plenum at the intersection of several sanding machines. As he moves from one machine to another, Dan closes one gate and opens the other; much easier than swapping hose fittings. See the plenum details *below.*

Left: Dan makes the best use of shop space by placing his belt/disc sander on a removable platform above his lathe bed.

PLENUM AT THE CROSSROADS OF DUST RUNS



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are 1" long. For jobs like this, the radial-arm beats the tablesaw and mitersaw for accuracy and safety.

"I tried cutting handrails for my granddaughter's dollhouse at the mitersaw, and that mitersaw just tore up the wood."

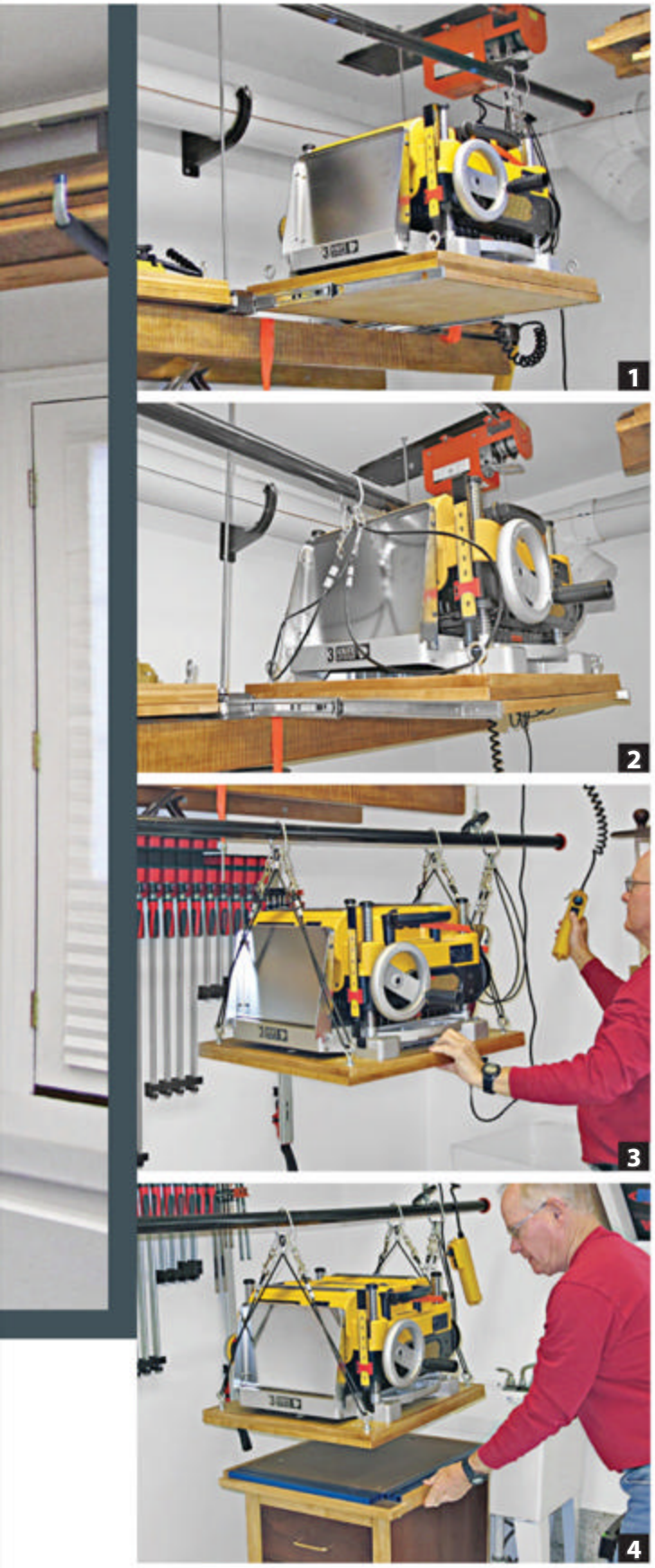
Membership has privileges

Dan and a couple of video-savvy club members are currently building up the library of club-produced instructional videos. Dan has assisted with videos that include tablesaw setup, building drawers, making cabinets, and cutting through-dovetails. Filming routinely takes place in Dan's shop, where "everything I use is near where I use it," Dan says.

You can't find fault with Dan's brand of organization.

going airborne

When Bud Jones found himself cramped for floor space, he commandeered square footage beneath the garage ceiling. Keep reading to find out how he increased his floor space 10 percent with an electric lift and a 76"-high platform.



In a tiny, 305 square-foot shop, every inch of floor space counts. So when Bud Jones plotted his strategy to acquire and store more tools, his situation began to look up when he adjusted his thinking from square feet to volume of shop space.

"The elevated platform," Bud says, "frees up floor space because I can now park four pieces of equipment out of the way when they're not in use." The platform consists of two ledger segments attached to the wall on either side of a 6" dust-collection pipe, and a beam suspended from six threaded rods. Bud built it to be sturdy: The tools alone weigh 276 pounds.

Tools "fly" in and out of storage as shown in the photo sequence at *left*. For use, the tool is positioned on one of two 25½×22×33$^{15}/_{16}$" mobile carts. Without a tool parked on them, the carts double as infeed or outfeed tables. Bud secures each tool on the cart with bench dogs tapped through ¾"-diameter holes in each tool mount.

Bud invested about $500 in hardware and less than $250 in wood. He says his system has two minor drawbacks: "I have to move equipment off the platform when I want to use it," he says, "plus to do this, I need a step stool to attach or remove the cables and to properly position the equipment on the sliding bases. I view these as acceptable trade-offs to freeing up floor space."

Bud demonstrates how he lowers his thickness planer from an elevated platform about 76" above the shop floor. First, he slides out the shelf on which the tool rests (Photo 1). Then, he connects steel cables secured to the lift bar through screw eyes at each corner of the mount (Photo 2) and raises the bar to lift the tool from the shelf. After sliding the shelf back into place, he lowers the tool using a motorized winch (Photo 3) onto one of his mobile carts (Photo 4).

After Bud lowers his planer to a mobile cart, he easily rolls it about his shop. Ready for use, *above*, the planer connects to a 4" hose from the dust collector.

Bobbi Palmer spends most of her day working in her garage shop. On the weekends, her husband, John, joins her and is especially welcome for handling cumbersome and heavy sheet goods. Bobbi built the couple's kitchen cabinets with John's weekend help.

schooled in wood

Twelve years of woodworking classes fanned a spark into a flame. Now, this California woodworker has the perfect shop setup in her garage.

Bobbi Palmer's journey along the woodworking trail began simply enough: She wanted to build a display case for patches, medals, and merit badges her son received on his path to becoming an Eagle Scout. Fast-forward 12 years and this mom has jumped from completing that case with assistance in an adult education class to earning straight As in the wood technology program at Cerritos Community College. "And they don't give away As," Bobbi adds.

In fact, a home-remodeling contractor was so impressed with Bobbi's woodworking skills that he encouraged her to build her own kitchen cabinets. Little did anyone expect that those cabinets would become a one-page feature, "I Did It!" in *Better Homes and Gardens* magazine.

Today, Bobbi does most of her woodworking in a two-car garage she outfitted about a year ago. "I built most everything for the workshop and house in what I call my disaster shop," as Bobbi describes her original garage setup that grew haphazardly and without direction.

"It was so unorganized," she continues. "I can't believe I accomplished a thing. But this new shop fits me to a tee. I really like organization and efficiency, so I have my tablesaw, jointer, and chop saw in a work

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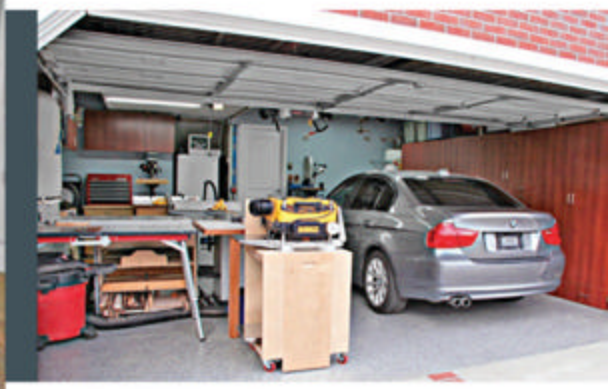
An efficient layout and mobile tools allow Bobbi to create plenty of room for John's car at the end of a day in the shop.



SHOPSPECS

TYPE: 2-car garage

SIZE: 420 sq. ft. with 8'6" walls

CONSTRUCTION: 2×4 frame construction with drywall interior walls

HEATING AND COOLING: None

ELECTRICAL: 200-amp service with 48 110-volt outlets and one 220-volt outlet

LIGHTING: Five 4' T8 fluorescent fixtures and one 2' fluorescent fixture over mitersaw

DUST COLLECTION: Delta 1½-hp single-stage dust collector and two wet/dry shop vacuums

AIR COMPRESSOR: Craftsman 1-hp 3-gallon compressor

FLOORING AND WALLS: Concrete slab covered with 100 percent epoxy coating

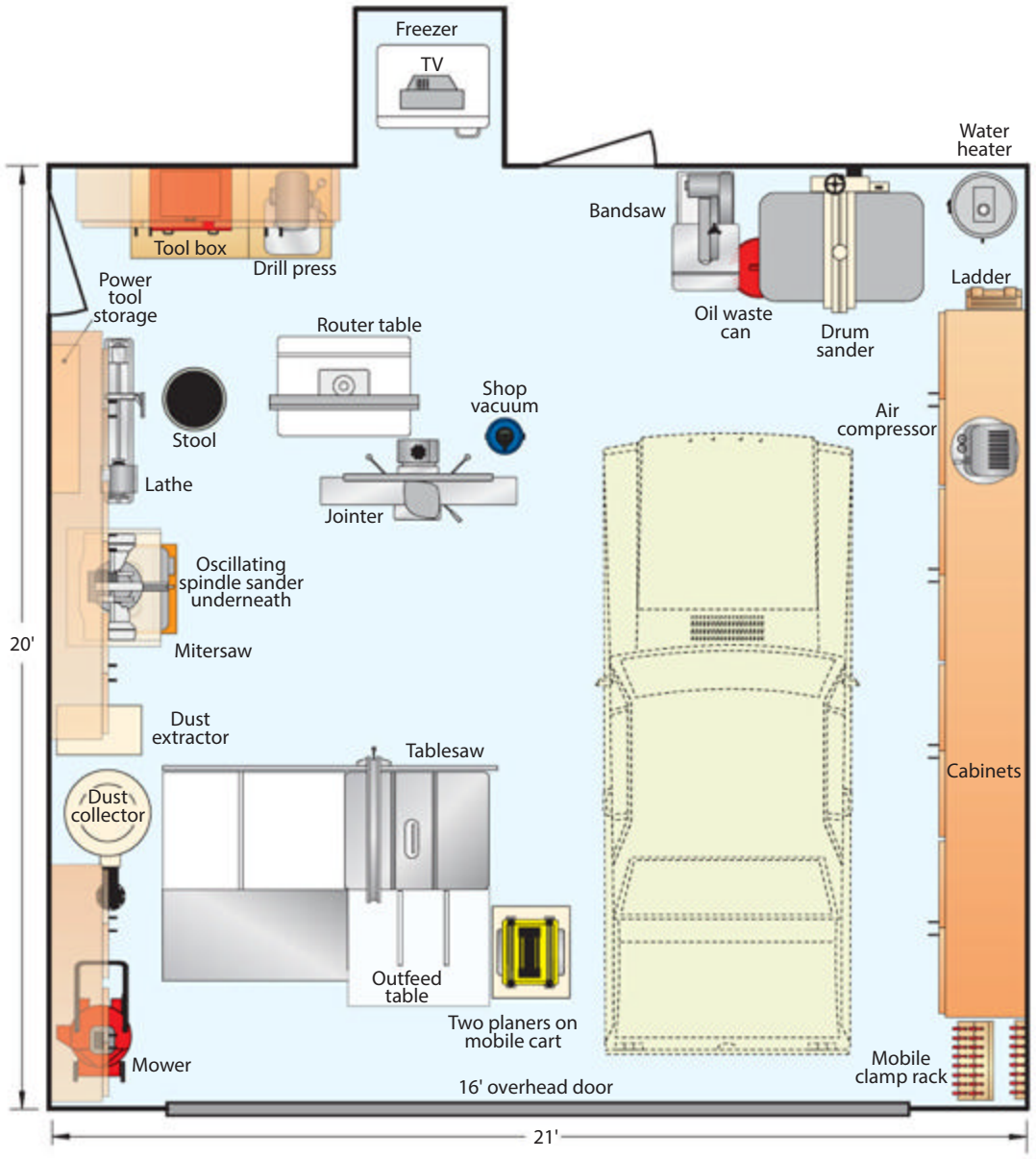
WOOD STORAGE: Outside the garage in a 2'7"×11'× 6' lean-to

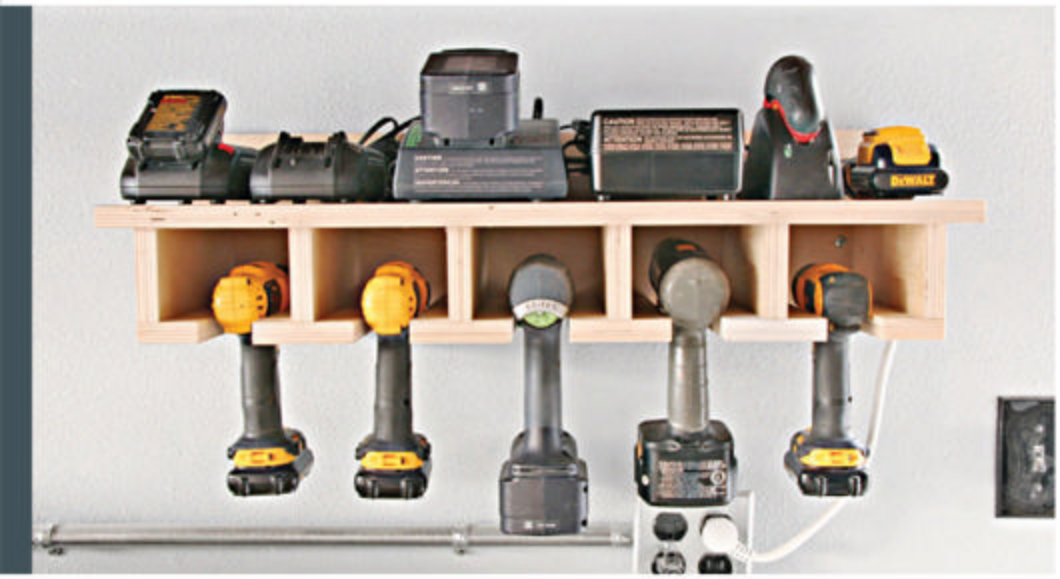
A 23½×24½×31¾" mobile cart holds two benchtop planers. Bobbi uses the planer on the lower shelf for rough stock, extending the life of the knives in the top machine. A riser, used when planing thin stock, stores conveniently on the side of the cart.

Bobbi's ears perked up when she heard about a $10 clearance price for 4×8' sheets of returned cherry-grained melamine. She said yes to 20 sheets and then began designing a 21×180×78" wall of shop cabinets with shelves and 36 drawers. Because of the concrete curb behind the cabinets, the bottom row of drawers is just 18" deep. Bobbi had enough scrap remaining to build wall-hanging cabinets on the opposite wall. (See opening photos, *page 54*.)

the floor plan

John and Bobbi Palmer dedicated half of the two-car garage to woodworking tools. But at the end of Bobbi's day playing in the shop (her words), there's space inside to park one of their cars. John built an outside shed for wood storage, which Bobbi tries to minimize. "Recently, I started converting my best scraps into cutting boards," she adds.





Bobbi adapted a wall-mounted garage for drill/drivers and chargers from a plan available at woodmagazine.com/drillstation. Her version is 10×27½×7¼".

Bobbi's 19½×27½×35" mobile cart features fold-down leaves for the mitersaw. When locked in the up position, each leaf adds 30¾" of support. The cart height also matches her tablesaw height, so she can lift a leaf as a support when crosscutting long stock. At the bottom of the cart, her oscillating belt/spindle sander rests on a pullout drawer.

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triangle—just like the efficient kitchen triangle [stove, sink, and refrigerator].

"The reason I have so many drawers and doors along one wall is that sawdust gets into everything and I don't want to spend time cleaning up at the end of the day. I like to keep my shop just as clean as my kitchen.

"I have lots of shallow drawers where I can lay tools out nicely and not have to rummage through stuff. No tools hanging on boards in my shop!"

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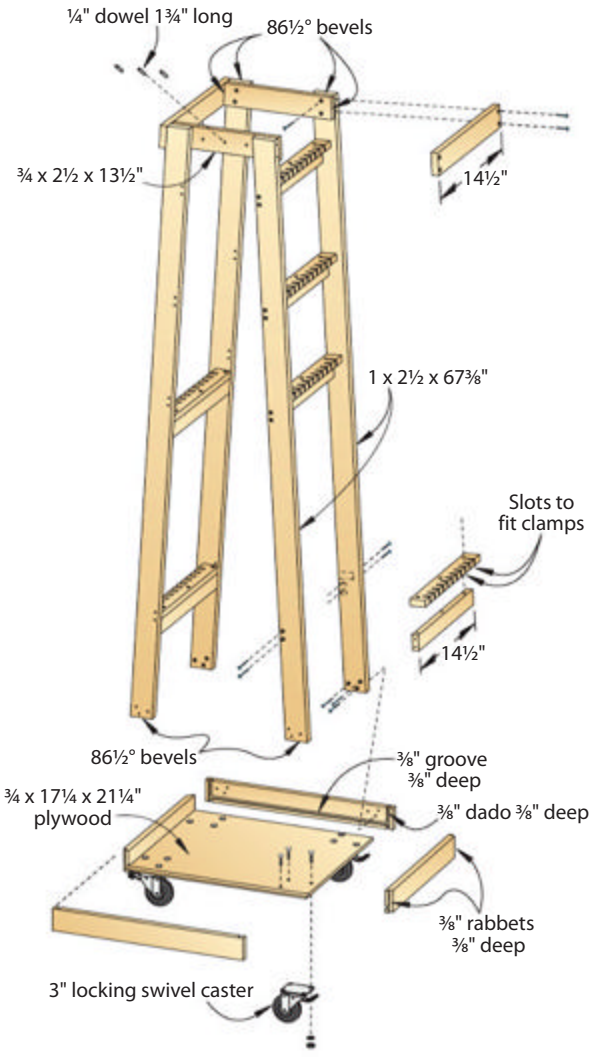
Above: Bobbi made this 26×36×36" router table on 4" casters as part of a class project. She added shop-made stops to the Woodpecker fence. *Right:* A top drawer organizer provides space for a full complement of router bits.

A speed chart beneath Bobbi's router shows the proper rpm for each bit diameter. A JessEm lift raises and lowers the router.

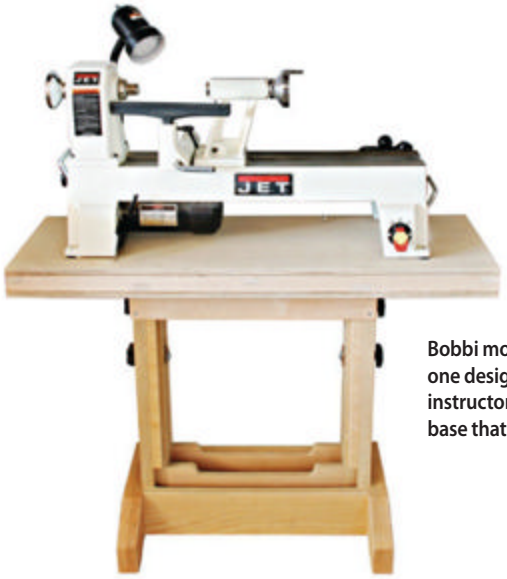
"Aren't these pulls beautiful?" Bobbi asks—as if she didn't know the answer. "My instructor, Carl Stammerjohn, created this option. I still can't walk past my router table without an admiring glance." To form the finger recess, Bobbi secured the birch plywood at an angle in a jig, then pressed the stock into an oscillating spindle sander.

SKINNY RACK PACKS 44 CLAMPS INTO 20⅜"-WIDE SPACE

"I looked at a lot of clamp racks before coming up with this design," Bobbi recalls. "It needed to tuck into a 20⅜"-wide space and clear the garage track. This rolls easily across our epoxy floor—anywhere I want it—and is well balanced. I haven't had any problems with this rack being top-heavy."



Behind the rolling clamp rack, a wall rack holds nine more clamps.



Bobbi modeled her lathe table after one designed by one of her college instructors. The 13×40" top attaches to a base that adjusts from 28½" to 40" high.

Above: The cabinet below the drill press features pinned rabbets on the drawers, and was one of her first projects; the cabinet next to it was a quick build with false fronts screwed to drawer boxes.

Right and *below:* Bobbi's drawer organization draws plenty of "oohs" and "aahs" from shop visitors.

Above: The 21×33×29" plywood cabinet beneath Bobbi's Delta Unisaw has shelves for several tablesaw jigs and fixtures.

Right: When Bobbi built a crosscut sled in her jigs and fixtures class, she added a track and stop for repeat cuts.

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No room for a workbench

"I'd love to have a nice workbench in my shop," Bobbi laments, "but I don't have room—not even if it was mobile. For now, my melamine-coated extension table works fine for assembling projects."

The value of classes

"I would have never gotten into woodworking without taking classes," Bobbi says. "Plus, I've been in some great environments. Everyone from the instructors to classmates are so nice and willing to help each other. I really think woodworkers love to share."

Mike Merzke's 48×48×37¼" table has easy access all around for clamps. The base is a sandwich of two ¾"-thick plywood sheets with a lockable 4" caster on each corner.

do-it-all bench

Hole-y benchtops! This shop fixture fills four functions: serving as a workbench, outfeed support, assembly table, and storage cabinet.

In his 20×20' garage workshop, Mike Merzke must make every square foot count. "I don't have room for both a workbench and outfeed table," Mike says, "so I needed something that serves a lot of needs." He spent several months searching for the ideal multi-purpose table before purchasing plans online for Ron Paulk's Workbench II design (paulkhomes.com).

"This table is much lighter than the last torsion-box workbench I built," Mike says. "The cutouts in all the cross sections and the ¾" holes in the tabletop reduce the weight while still providing support to keep the top flat."

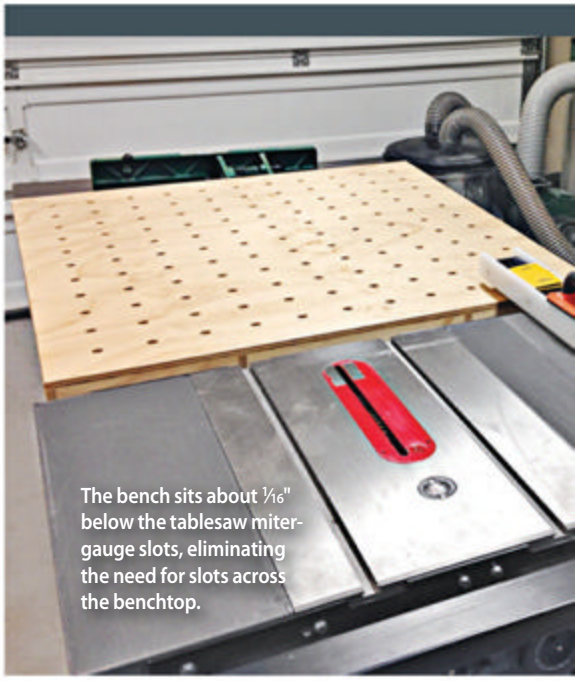
The cutouts and holes also come in handy so he can easily clamp material from either the top or any side of his workbench.

Mike modified the bench size to fit his needs. Because the benchtop is 48" square, he spaced the holes 4" apart.

"I don't own a plunge router, so I bought a drill guide and used a Forstner bit to drill all 121 holes."

With a round-over bit, he then smoothed all exposed edges and cutouts, including the holes.

"Then I designed a base that works for my small shop—drawers on one side and slide-out tool shelves on the other. "The bench rolls on 4" casters, which allows me to snake a 4" hose for the dust collector under the bench."



The bench sits about 1/16" below the tablesaw miter-gauge slots, eliminating the need for slots across the benchtop.

Above: One side of Mike's bench provides much-needed drawer space. Each drawer moves on 18" heavy-duty slides.
Left: In the 2¾"-high top drawer, Mike cradles measuring and marking tools in 2¼"-thick Kaizen foam (fastcap.com). He completed the layout and cutting in about two hours.

Mike stores his surface planer and scrollsaw on 24" slide-out shelves. "Since I only use the planer to mill lumber," Mike says, "I figured I could save some space in the shop and have it put away but at the same time easily accessible on this bench."

Above: For hold-downs, Mike uses 10" Bessey welding clamps (about $45) that fit through the ¾"-diameter holes. He added the replacement clamp pads.
Left: Instead of a vise, Mike relies on a pair of sliding-head clamps to secure stock.

Bill Bélanger chose locally sawn pine for his flooring and knotty cedar for three of the interior walls. "I laid the flooring diagonally," Bill says, "because I wanted something different than everything being square in the shop."

woodsy retreat

In just three years, this woodworking newbie moved from a toolbox to a complete shop. Today, he enjoys an ideal retreat that includes basement storage and a second-story lumber loft. And the main floor? As comfortable as any of us could imagine.

Bill Bélanger was so put off by a contractor's estimate for a custom bathroom mirror frame that he declared to himself, "I don't want to spend that kind of money." But he reasoned that he could build his own workbench—much smarter than building the frame on the floor on his hands and knees—and then build the mirror frame himself.

The frame and workbench became Bill's gateway drugs for a new pastime and a new workshop. In three short years, he has journeyed from a few tools in a two-car garage to a well-equipped 1,200-square-foot backyard retreat that would be the envy of most. Sure, the shop is palatial, but to Bill, it's been a perfect investment: "It's a hobby! It doesn't have to make sense."

Today, he's totally immersed in woodworking, from building birdhouses with grandkids to spreading the gospel of European-made sliding tablesaws. "I didn't know I could have so much fun," Bill declares.

Bill's slipper shop

For a couple of years while starting out, Bill stood at his workbench on the unforgiving concrete garage floor. That experience convinced him that his new shop would have a wood floor. "This is so much more comfortable," Bill says. "Most days I wear slippers in my shop."

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Bill keeps a 1½"-wide bandsaw blade (3 tpi) mounted on this 24" bandsaw *(foreground)*. "I don't particularly like to switch blades a lot," Bill says, "so I also have a 17" bandsaw with a ½"-wide blade."

SHOPSPECS

TYPE: Dedicated 2½-story building with 2-car garage

SIZE: 1,200 sq. ft. with 8' walls on main floor. Lower level, 1,200 sq. ft. for storage and dust collector; upper level, 800 sq. ft. for lumber and finishing.

CONSTRUCTION: 2×6 frame construction on 24" centers. Exterior walls are sheathed with ½" OSB and covered with 2" foam panels and cedar siding.

HEATING AND COOLING: Main floor: 21.5 SEER heat pump; 18k Btu heating/14.5k cooling ductless heat pump with one head. Lower level: 21.5 SEER heat pump; 12k Btu heating/9k cooling ductless heat pump with one head. Radiant heat warms the basement floor that was insulated with 2"-thick foam panels.

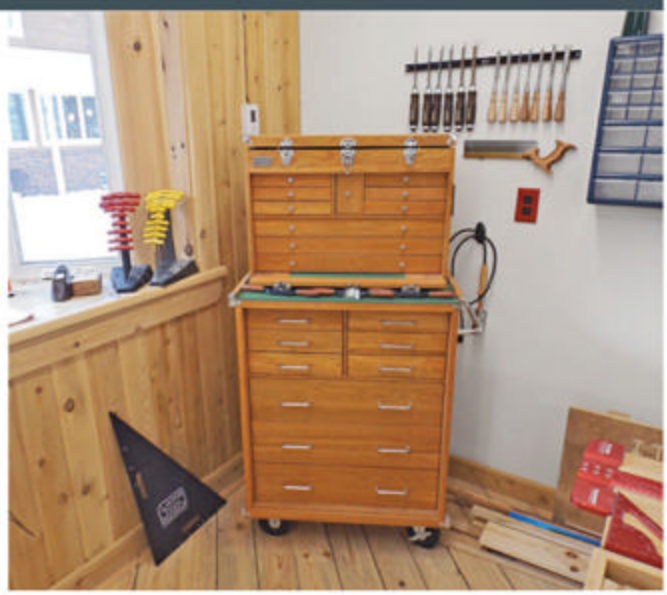
ELECTRICAL: 100-amp service with ten 220- volt outlets and 15 110-volt outlets. Phase Perfect three-phase converter supplies power to the tablesaw.

LIGHTING: 11 4-bulb T5 fluorescent lights

DUST COLLECTION: 5-hp Oneida cyclone connected to 6" ductwork under the shop floor. Four 4" drops located throughout the shop. Ceiling-mounted Jet air cleaner.

AIR COMPRESSOR: Craftsman 3½-hp 60-gallon tank in adjoining garage; three 50' reels

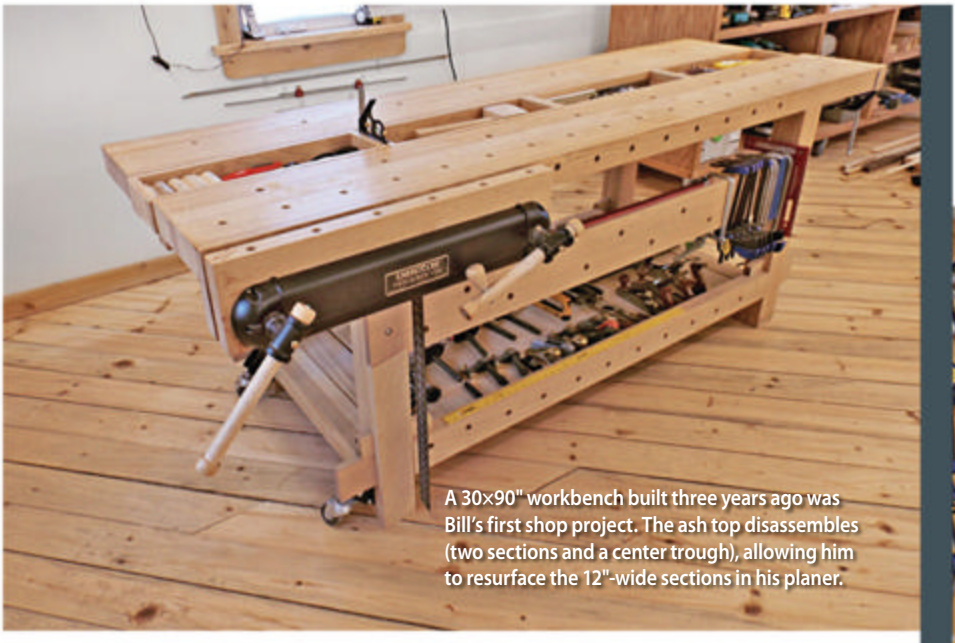
FLOORING AND WALLS: Floor is 5½" tongue-and-groove pine on the main floor and lumber loft. Fiberglass batts provide R38 (ceiling) and R19 (wall) insulation values. Three interior walls lined with tongue-and-groove knotty cedar; ⅝" drywall on fourth wall and ceiling.



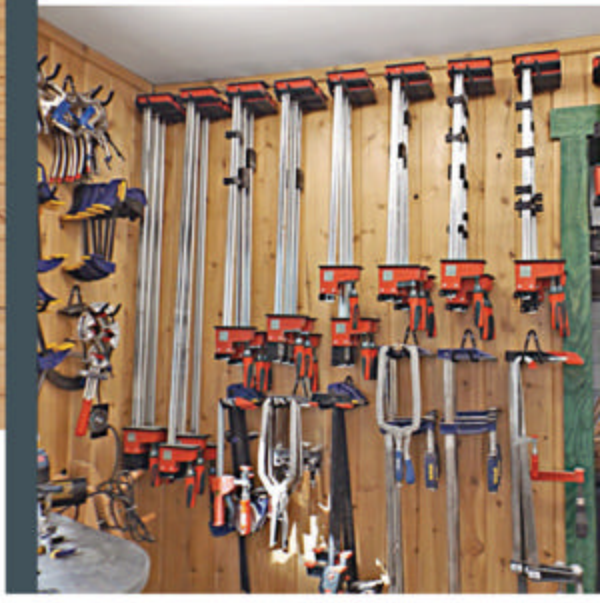
"Except for a few tools I keep in a garage toolbox, this is my go-to cabinet for hand tools," Bill says. He found the 10-drawer oak chest and 26"-wide 9-drawer oak cabinet at grizzly.com.

Outrigger for sliding table

A Felder sliding tablesaw (sometimes called a panel saw) is the heartbeat of Bill's shop. The sliding table moves 10'6" on the infeed and outfeed sides of the table. As shown at *right*, Bill programs the height and tilt of the blade plus the width of the cut from a computer screen. A small blade ahead of the main blades scores the bottom of the panel, eliminating tear-out. For more details about the saw, see woodmagazine.com/felderslider.



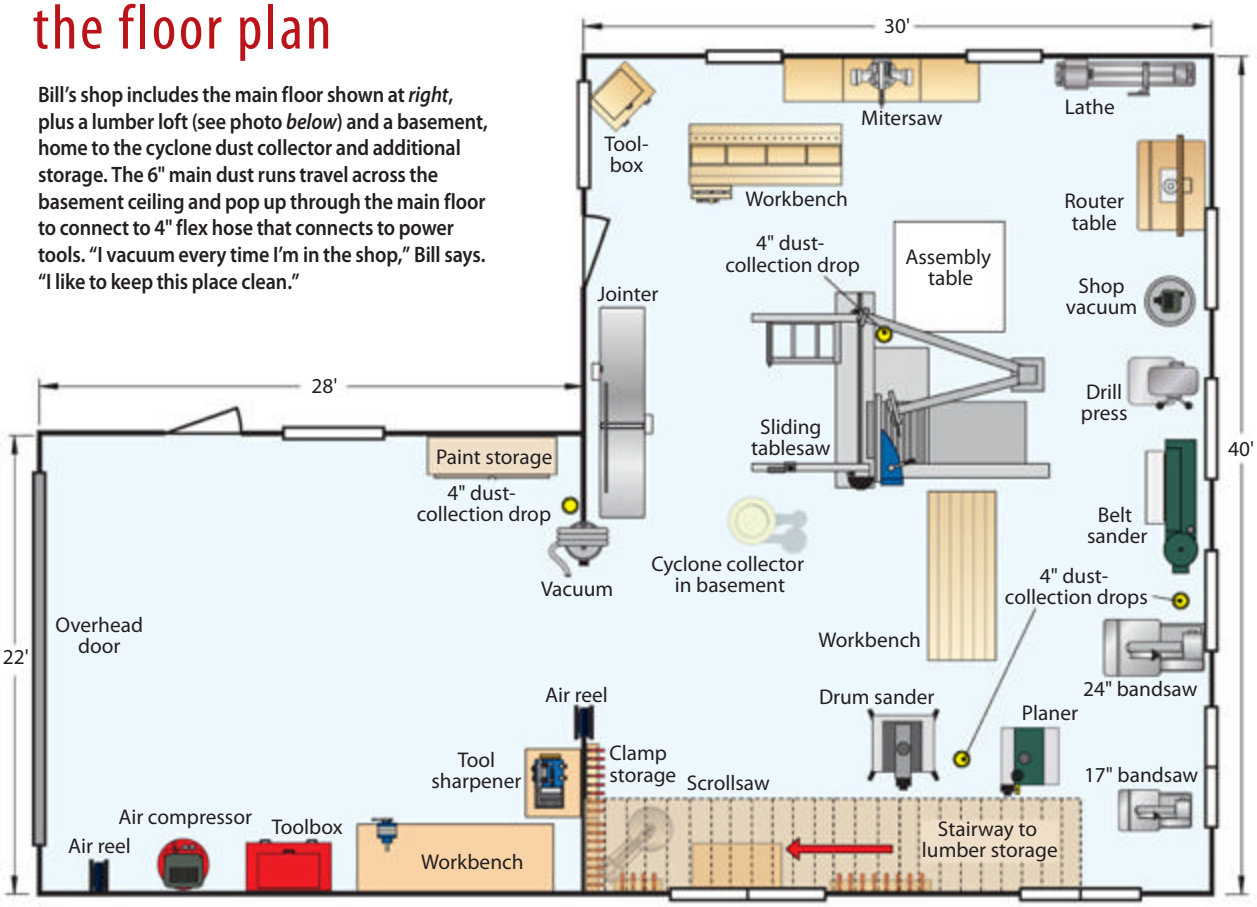
A 30×90" workbench built three years ago was Bill's first shop project. The ash top disassembles (two sections and a center trough), allowing him to resurface the 12"-wide sections in his planer.



Bill organizes most of his clamps on inexpensive hangers (about $4 each) purchased at Lowe's. Each hanger holds three parallel-jaw clamps.

the floor plan

Bill's shop includes the main floor shown at *right*, plus a lumber loft (see photo *below*) and a basement, home to the cyclone dust collector and additional storage. The 6" main dust runs travel across the basement ceiling and pop up through the main floor to connect to 4" flex hose that connects to power tools. "I vacuum every time I'm in the shop," Bill says. "I like to keep this place clean."



Upstairs, Bill stores lumber on two 30'-long racks (softwoods on the right; hardwoods on the left). He does some finishing at the bench near the window.

To lift 4×8' sheet goods onto the saw table, Bill loads the material on the side of this mobile bench, raises the hinged side, and then slides the sheet across the bench and onto the saw.

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With a supply of Maine white pine at hand, Bill glued each 5½"-wide plank to the joists with Liquid Nails, then drove home nails. "I'm glad we used panel adhesive," Bill says, "because there was some moisture still in the lumber. The leftover stock twisted and cupped wildly. I got lucky by taking the extra step to secure the pine. Otherwise, I would have had a mess."

Better than spiral ductwork

Bill's old garage shop included 4" spiral ductwork. When he built this shop, he stepped up to 6" lines from Nordfab Quick-Fit (ductingsystems.com). "It was fast to install," Bill says. "All the fittings are laser welded and have rubber gaskets. I just pushed the pieces together, flipped a clamp, and it was solid. It was easier to cut, too."

Frank Howarth's shop blends in with the mid-century modern homes in his neighborhood.

At a 67"×65" tablesaw island, an 11"-wide leaf separates two Powermatic machines. Frank generally uses the model 66 (yellow cabinet) for crosscuts and the model 72 (behind the 66) for ripcuts. He has started restoring the 16" Oliver 88-D (1947 vintage) to the right of the model 66.

from pool to palace

Dive into the fascinating story of how an architect transformed the footprint of a long-neglected indoor pool into a wow-factor shop.

As an architect, Frank Howarth knows how to design. And given the opportunity to plan his new shop, he worked a lot of function into its form. Filled with industrial-size, decades-old power equipment that he cherishes, his new shop serves as a woodworking haven and video studio as he documents many of his project builds. (More about that later.)

Frank built his shop on the space once occupied by a deteriorating indoor pool. By taking advantage of the hole in the yard, Frank minimized the height of the structure. Although the tallest wall soars 16' inside, the floor rests nearly 3' below the surrounding yard, preserving the view from the house. The below-grade wall also provides some natural cooling.

"The 34" stem wall comes up above grade," Frank says, "and the concrete pads by the doors slope away. So far, no water problems."

The disadvantage, Frank admits, is getting heavy things in and out of the shop. "When I moved in equipment," Frank says, "I rented a skid-steer loader, but a forklift would have been better."

continued on page 70

Frank installed double-pane insulated glass in 24×96" frames he built in his shop from 2×6 fir and cedar trim.

SHOPSPECS

TYPE: Dedicated building

SIZE: 1,247 sq. ft. with 12–16' walls

CONSTRUCTION: 2×6 frame construction spaced 24" OC. Exterior walls are sheathed with ½" OSB. Three sides are covered with cedar lap siding with a rainscreen gap to manage moisture and reduce rot. The fourth side is clad with 12" metal siding similar to the roof. Interior ceilings and walls insulated with batt insulation R38 (ceiling) and R19 (wall). For sound dampening, burlap-covered frames (4×8) with 3" batt insulation cover the ceiling.

HEATING: 40-amp 5,000-watt electric heater

COOLING: Thermal mass of the ground

ELECTRICAL: 200-amp service with five 220-volt outlets and 22 110-volt outlets; 15kv rotary phase converter feeds four 3-phase outlets.

LIGHTING: 24 4' lights each with two T8 2,800-lumen fluorescent bulbs

DUST COLLECTION: 5-hp Clear Vue CV1800 cyclone collector with 180-gallon dust bin connected to 8" ductwork; transitions to four 6" drops and three 6" runs beneath floor. A shop-built 1-hp cleaner also scrubs the air.

AIR COMPRESSOR: Coleman Powermate 5-hp 27-gallon compressor

FLOORING AND WALLS: Concrete slab; 34" concrete stem wall below 9' walls covered with ¾" removable plywood (easy access for wiring). 1"-thick polycarbonate clerestory windows. French cleats on plywood create a storage system.

Daylight streams into Frank's shop through 46 4'-high clerestory windows topping the 43'-long west wall. The clerestory also fills the tapered space between the top of the sidewalls and the sloping ceiling, creating the appearance of a propped lid. "I have always thought of the shop design as a toolbox with the lid slightly open," Frank says.

A cleat-mounted arm supports a camera when Frank shoots videos.

A 36" J. A. Fay & Egan Co. 950 Lightning bandsaw (built in 1948) sits between the turning corner and the larger general woodworking area.

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"I also have a shop-made wooden gantry crane [see photo, *next page*] that is good for larger items. I lifted the 3,000-lb bandsaw off its cart and onto the floor with it."

24" grid saves time and materials

Frank and architect Ben Hufford designed and built the entire shop—studs, rafters, door and window frames—on a 24" grid. "Besides being a clean design," Frank says, "we had few materials to cut and very little waste."

Full 4×8' plywood sheets attach to the studs with screws, providing easy access to the wood frame. "I haven't had problems," Frank says, "but it's comforting to know it's there if I need it."

A different class of equipment

"When you acquire old equipment," Frank says, "you're buying into another class of machinery. A 36" bandsaw like mine would cost about $25,000 new today; I paid $1,000 for this model at a live auction."

In the floor plan on *page 73*, you'll notice four radial-arm saws, each set up for a different task. "I really like the design and form of DeWalt radial-arm saws," Frank says. "It's a little less accurate to cut dadoes with a one, but

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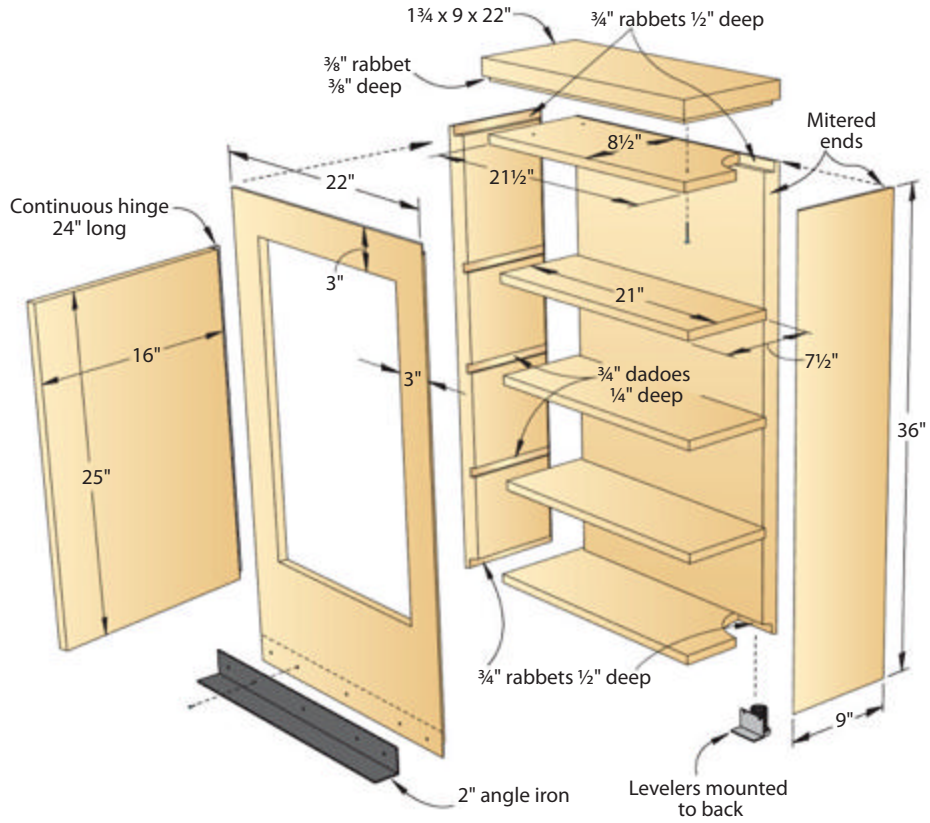
Frank didn't like the appearance of two leveler feet on the front of his shop-made grinder stand, so he replaced them with a piece of 2"-wide angle iron. "This acts as the front foot," he says, "and I can still adjust two rear levelers." He stores sharpening tools on shelves inside the cabinet.

The 2-hp 24"-diameter disc sander was originally used by Boeing employees in Seattle. A 12" C. O. Porter jointer (circa 1910) with new Shelix cutterhead sits nearby. Frank paid $400 for the jointer.

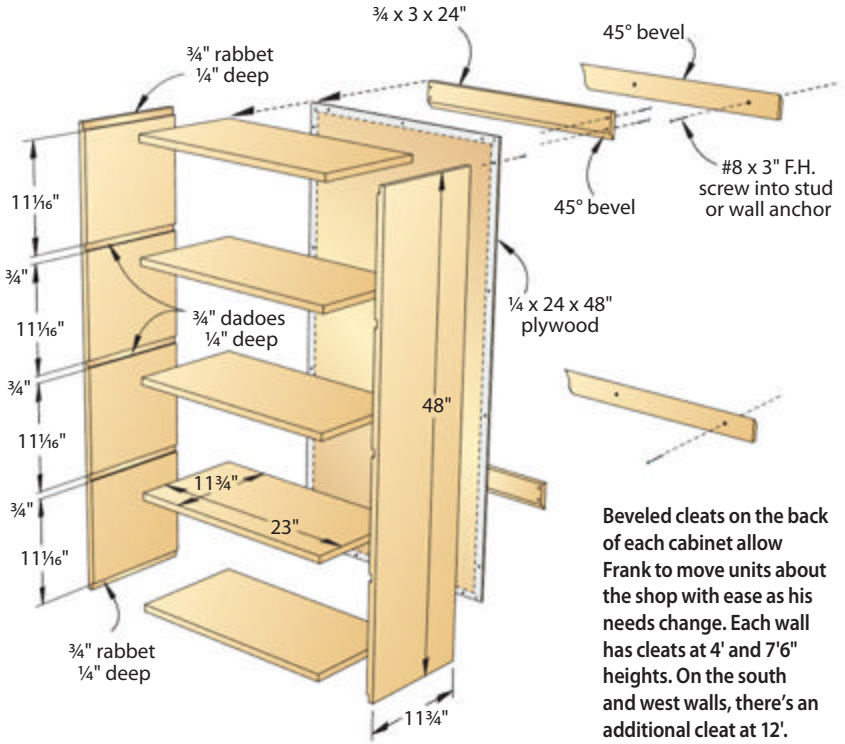
GRINDER CABINET STAYS PUT



Wiring runs in this 12"-wide cavity.

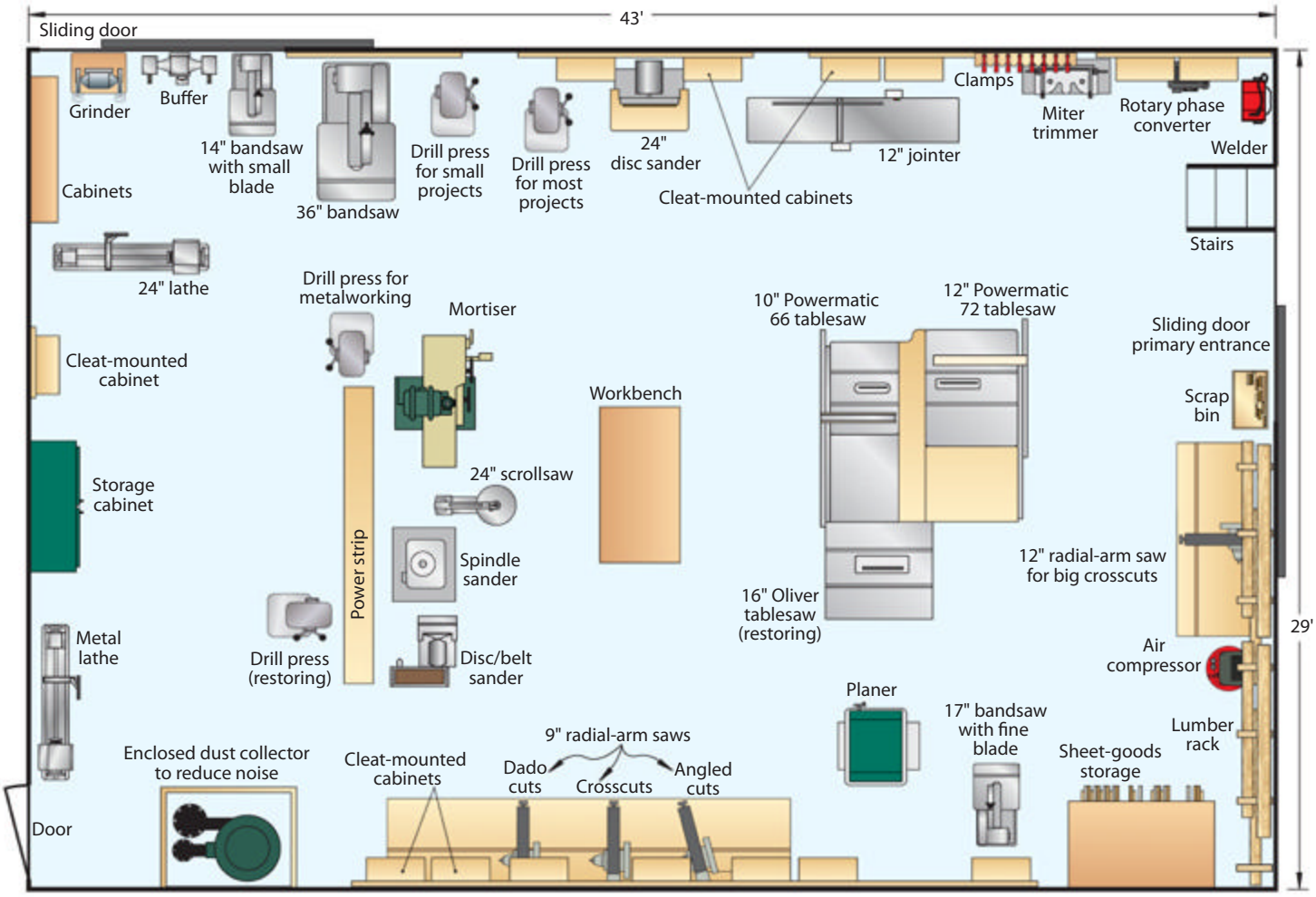
Cabinets and clamps hang from cleats along the west wall. "Everything is out in the open for easy access," Frank says. The 12"-wide strip between the stem wall and windows wraps around the shop and contains all the electrical wiring and outlets.

BASIC DESIGN FOR ALL WALL CABINETS



Beveled cleats on the back of each cabinet allow Frank to move units about the shop with ease as his needs change. Each wall has cleats at 4' and 7'6" heights. On the south and west walls, there's an additional cleat at 12'.

the floor plan



The design and layout of this shop create four work areas: material storage and prep near the sliding door on the *right*, a central area for general woodworking, and two areas near the back of the shop: one for woodturning and one for metalworking.

Frank added 6"-deep doors to wall cabinets *(left and previous page)* to keep out lathe shavings. He paid $5 for the dentist's lamp attached to a nearby French cleat.

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it's so fast! The key to setup is that the saw arm must be absolutely parallel to the table."

Frank tucked 6" runs for the dust-collection system behind the radial-arm station, then buried the PVC in the floor to reach other machines. Although the system runs well with no clogs, he wishes he had transitioned to the floor with elbows at a less-severe angle than the 90° fittings he installed.

Ideal setting for shop-made videos

Frank, an accomplished videographer, has posted fascinating videos documenting his shop build and many projects at his YouTube channel, youtube.com/user/urbanTrash. For his magical stop-motion videos where projects seem to build themselves, Frank repositions auxiliary lights on the French cleats that wrap around the shop walls. (To view even more of his work, see his website, frankmakes.com.)

The sound-deadening ceiling frames Frank built render the shop so acoustically dead (no echoes) that he records his video sound right in the shop. "I stretched burlap over wood frames," Franks says, "much the same way one makes a canvas for painting. Then I put batt insulation behind the burlap, and hung the panels. It's a quiet shop!"

let the sun shine in

When he planned his retirement shop, Ray Rose was determined to avoid working in a dark garage or basement. So he built panels that transformed his garage into the bright spot on the block.

If you ignore the driveway, Ray Rose's garage looks as much like a screen porch as an attached two-car garage. Five Victorian-style custom screen doors march across the front of the 16'-wide garage-door opening. The panels have been so well received that he built a similar set for one of the neighbors. He couldn't expect a better endorsement!

But most important: The north-facing panels flood Ray's workshop year-round in sunlight while acting as a privacy screen from passersby.

Ray built each 38¼"-wide panel from 1⅛"-thick pine. The panels fit within the door frame, allowing the overhead door to operate to provide security for the garage and home when he's not in the shop.

For cold winters, Ray removes the screen panels and installs 16-gauge vinyl storm inserts (the top and bottom sections in each panel) that he secures with mirror clips. "I put in the panels in the fall," Ray says. "The daytime temperature here dips to zero degrees in January, usually for a maximum of five to 10 days. But the inside garage temp usually remains a comfortable 66°F."

He occasionally needs to flip on the 4,500-watt electric garage heater, "but we often simply prop open the service door between the house and garage for a few minutes to warm up the garage."

Ray figures it would take about 20 minutes to remove all five panels—although he hasn't come up with a good reason to do so.

With the natural lighting suiting him to a tee, he began outfitting the remainder of his workshop, adapting many of the mobile bases and organizers from *WOOD Magazine's Idea Shop®5* (woodmagazine.com/is5).

Ray's overhead garage door remains operational, allowing him to secure the garage and home when he leaves for a few hours or a few days.

Ray transformed a salvaged 2¾"-thick shuffleboard table into a 30×74½" workbench top. The middle trough measures 7¼×58⅛"; the end trough, 27×11½". Each 25×20¾×19" drawer unit slides out of the mobile bench that rolls about on 4" casters.

Upgrades to a floor drill press include 1¾" casters and a 24×14×14" removable cabinet. Four ⅜"-diameter pins secure the cabinet to the wooden base. The 14"-deep front shelves hold most drilling accessories; Ray reserves the back of the cabinet for little-used equipment.

Although Ray stores most of his lumber in a basement room, a mobile lumber rack was a welcome addition to the garage shop. To order the plan, see woodmagazine.com/cuttingcenter.

high marks below grade

When it came time to plan and build a dream shop, this woodworker decided to dig down deep.

Steve Smith and his wife, Jackie, spent a couple of years planning a new home in suburban Chicago. During meetings with the architect, homebuilder, and excavator, it became evident that excavating beneath the garage footprint offered an affordable solution for the workshop Steve had always dreamed about.

"I really never had a shop before," Steve recalls. "I had some tools in the garage, but not an actual shop setup. I had to put everything away at the end of the day. It was hard to accomplish a lot."

No more. The wide-open space in his sweet subterranean shop provides plenty of room for tools and workspace. "We actually moved into the house and then I bought equipment," he says. "But by then, I had researched magazines and Internet sites for ideas. The key thing I wanted was a shop layout that would allow me to machine a 16'-long board without rearranging the shop. With my floor plan,

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Steve modified his tablesaw's blade guard to accept a 2" dust hose.

SHOPSPECS

TYPE: Basement beneath 3-car garage plus adjoining basement space

SIZE: 936 sq. ft. with 8'3" walls; 408 sq. ft. adjacent storage

CONSTRUCTION: Exterior walls from Solarcrete (7¼" core of R35 foam sandwiched between steel rebar and concrete). The ceiling (which is also the garage floor) consists of 10"-thick prestressed concrete panels covered with sprayed-on waterproofing, 2" foam insulation board, and 4" of concrete.

HEATING: In-floor radiant tubing. The circulating fluid is heated via a 3-ton heat pump and supplemented with heat from a roof-mounted solar water-heating system. Cooling not required (below grade).

ELECTRICAL: 200-amp service with 20 110-volt duplex outlets and 16 220-volt outlets

LIGHTING: Nine 8' T12 fluorescent fixtures

DUST COLLECTION: 3-hp Oneida Dust Gorilla cyclone connects to 8" ductwork, reduced to 7" in floor; seven 4" and 5" drops to individual machines.

AIR COMPRESSOR: Husky 5-hp 60-gallon vertical compressor. Copper air lines throughout shop; 6 connection valves.

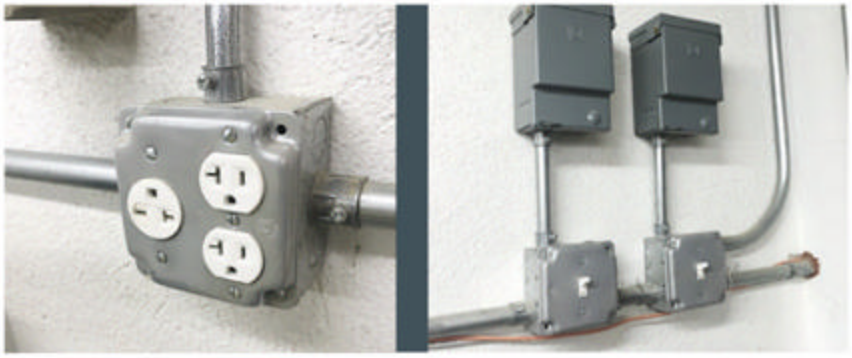
FLOORING AND WALLS: Concrete slab with two troughs for electrical lines and dust-collection ducts

Steve built this 27½×76" workbench from white oak felled on the lot where his house and garage now stand. A nearby sawyer kiln-dried all the lumber, including the 2⅜"-thick oak for the laminated benchtop. Steve added no-slip pads (designed for washing machines) to the feet.

Dust-collection trough

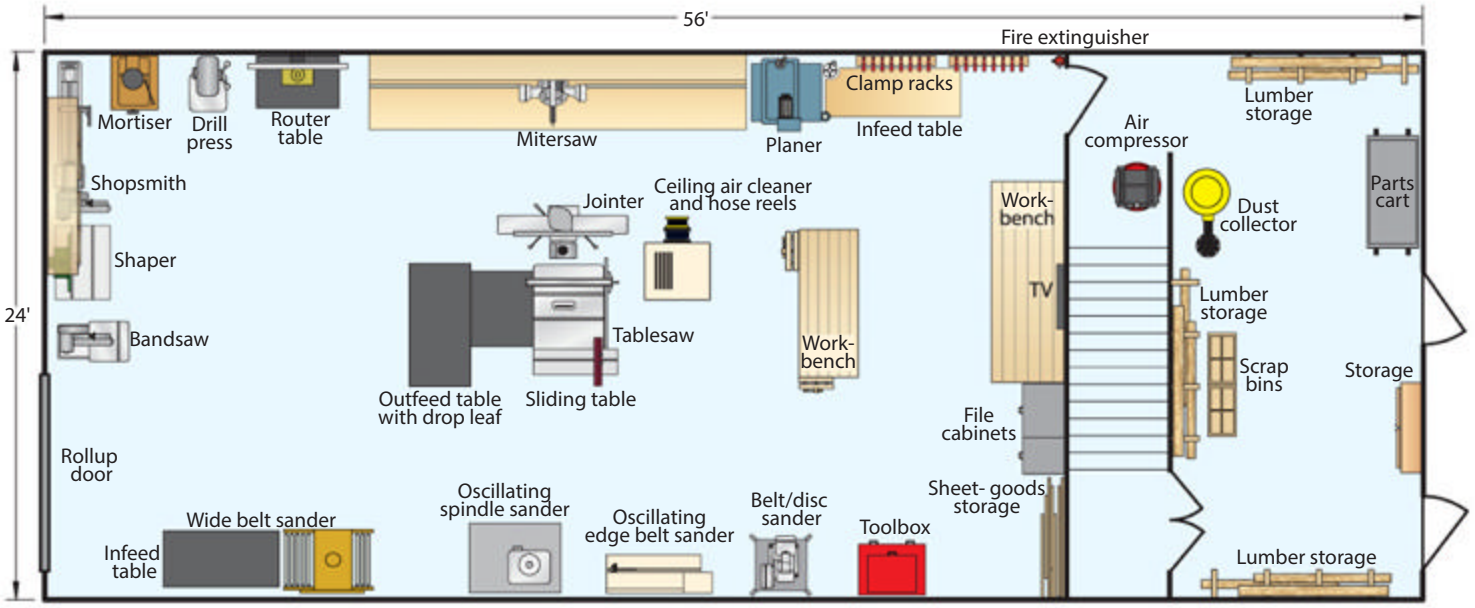
Electrical-service trough

Utility troughs in the concrete floor hide the electrical service and dust-collection ductwork for his tablesaw and 8" jointer. Steve recently added the Grizzly sliding table for crosscuts up to 48". The JessEm stock guides (*right*) mount on a proprietary track adaptable to most tablesaw fences.



Far left: An electrician wired 220- and 110-volt outlets in each fourplex box. The outlets are spaced about 4½' apart around the shop perimeter. *Left:* Kill switches near the shop door allow Steve to turn off power to all outlets when he leaves the shop for the day.

the floor plan



"I had two years to plan this shop. The key thing I wanted was a shop layout that would allow me to machine a 16'-long board without rearranging the shop."

Steve's versatile 32×64" outfeed table rolls about the shop on 4" locking casters. To stretch the utility, he added a 27×45" hinged leaf; the rear rail of the saw table provides a solid support surface for the drop leaf *(above left)*. Steve topped the table with Formica MicroDot laminate to reduce friction.

Steve upgraded to a 5-hp Powermatic 1632 open-end oscillating belt sander featuring an adjustable table that raises and lowers with the thickness of the board. "I wanted to avoid snipe at either end of the stock," Steve says, "so I built the elevating infeed table and jig to support a stack of lumber."

The jig allows the stack to auto-feed through the sander. Steve monitors the infeed and outfeed tables as boards feed through the machine.

Below: A simple crank handle operates the double pedestal mechanism (see drawing on the *next page*) and keeps both ends of the 22×40½" table level.

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I open a couple of basement doors to handle really long stock, which is manageable."

Kill switches a must-have

Because Steve travels on occasion for his job, he wanted the ability to shut down all power to his shop when he was away. He worked with his electrician to add kill switches near the shop entrance. The electrician also suggested pairing up 110- and 220-volt outlets in one utility box (see photo on *page 78).* "That saved labor cost compared to

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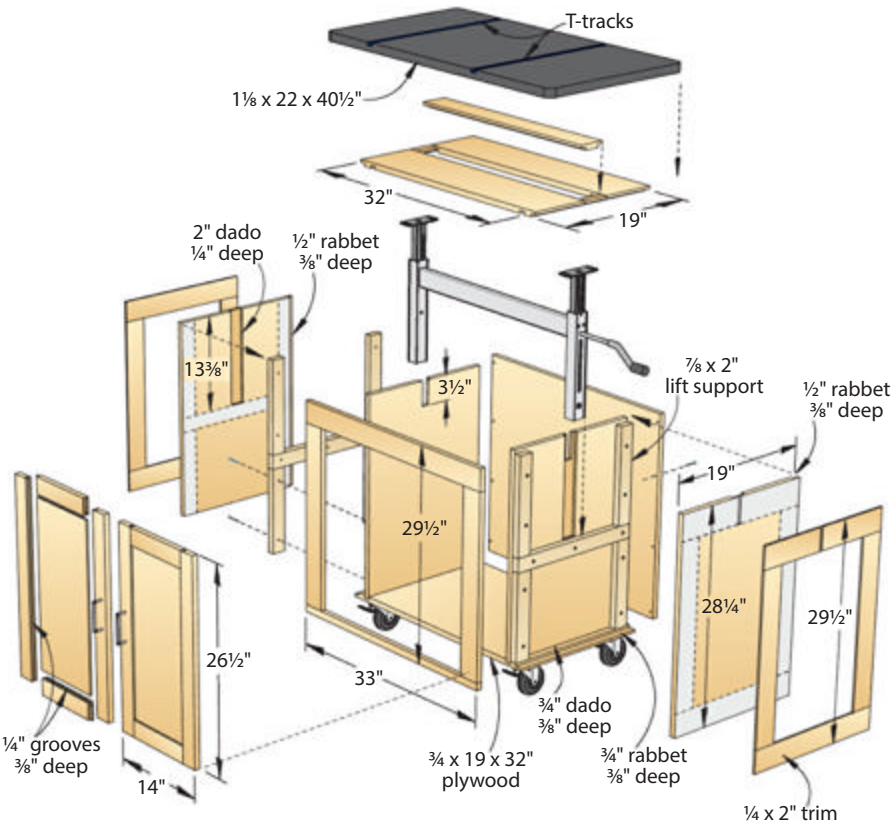
Steve stores sanding belts in five grits—60, 80, 100, 120, and 150—on shelves inside the pedestal cabinet. "I rarely use the 60-grit belt," Steve says, "except when I have a lot of stock to remove with wood that is prone to chipping in the planer. For the most part, I only need to use the 150-grit belt, then follow up with 220 grit on the random-orbit sander."

CRANK UP THIS PROJECT FOR YOUR SHOP



Steve uses a double pedestal hand-crank mechanism (about $100 from tablemechanism.com) to adjust the height of his infeed table. One revolution raises or lowers the height about ⅛". He made the top from 1⅛" MDF topped with plastic laminate and then added two T-tracks for the jig shown on the *previous page*.

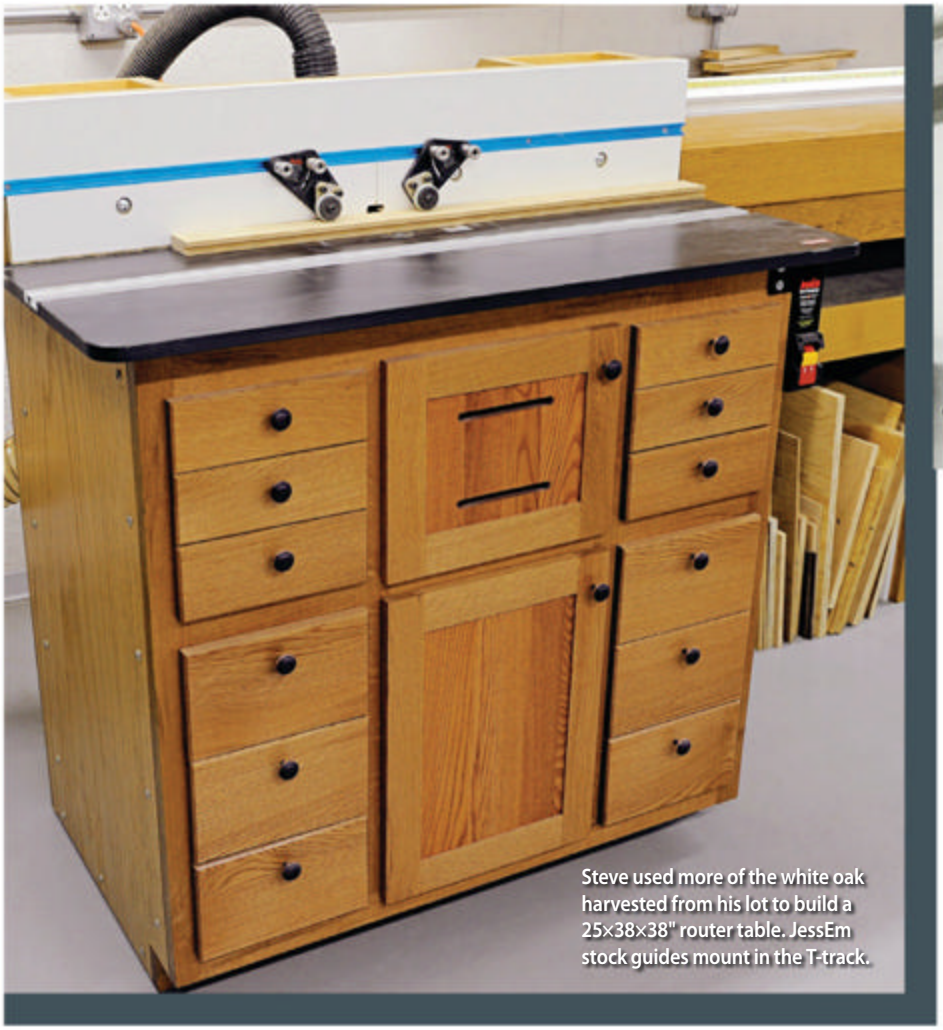
A 4"-wide aluminum guard protects the miter lock from accidental bumps.

This 16'-long bench serves three purposes. The 12"-wide top table provides 8' of support on both sides of the sliding compound mitersaw. The lower level serves as the outfeed table for the 15" Delta planer. See the photos *below right* for the third function, a downdraft table.

In a matter of seconds, Steve lifts off the mitersaw table for access to the downdraft table. Two ¾"-diameter dowel pins at each end register the precise location for the mitersaw table.

Above: L-shape stops help secure stock to the downdraft table during sanding. The ¾"-thick rubberized surface (denray.com) has 5/16 ×1¾" slits.

Left: Lifting off the top of the downdraft table reveals a sloped bottom that connects to a 5" dust port.



Steve used more of the white oak harvested from his lot to build a 25×38×38" router table. JessEm stock guides mount in the T-track.

Switching on a power tool opens an automatic blast gate (ecogate.com) and starts the dust collector. Steve can manually tweak the flow of air through the 5" blast gate connected to the back of the router table.

A wheeled handle— "a stick with two wheels"— elevates the front of the router table off nonslip pads. The wheeled handle and two wheels at the back of the table allow Steve to reposition the base.

Steve's latest addition to his shop: cabinets loaded with three sizes of plastic containers from home centers and discount stores. "I like the translucent plastic tubs," Steve says, "because they make it convenient to see what's inside."

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installing two runs," Steve says. "And, it's a cleaner look."

Blast gates automatically open—usually

Steve installed automatic blast gates on most dust-collection runs, as shown in the photo at *top*. The blast gate senses vibrations and opens whenever he switches on the connected tool.

All well and good—except at his tablesaw, where he also installed a vibration-sensitive blast gate. When Steve upgraded to a new tablesaw, he discovered that the smooth-running SawStop wouldn't activate the gate. He has since reverted to a remote-control blast gate for his saw.

Chris Finnerty finished his alder entry door with teak oil.

a getaway casita

After nine moves through six states in less than 20 years, Chris Finnerty has become an expert at outfitting a new shop space. This one combines everything he's learned.

When we first profiled Chris Finnerty in *America's Best Home Workshops*, he worked out of a well-appointed 22×39' basement shop in his Virginia home. Just about every bench, mobile table, and cabinet he built traced its origins to *WOOD® Magazine's Idea Shop®5*. In addition to three shop-made mobile carts, Chris surrounded himself with cabinets and tool-storage boards hanging from the walls on beveled cleats.

"If I move," Chris said at the time, "I can just take the items off the cleats, unscrew the cleats from the wall, and have a clean wall for better resale."

And that's exactly what happened.

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Rolling up the 9×10' overhead door reveals Chris's shop garage. Here, he can cut down sheet goods for his woodworking projects or work on other hobbies, including his 1963 Corvette and 2007 Harley-Davidson Street Glide.

A driveway of pavers separates Chris Finnerty's shop from his home and primary garage.

The 14" overhang on one side of the 47×56×34½" mobile workbench at ***left*** and ***above*** makes it ideal for clamping and provides plenty of knee space. Chris organized the drawer space for drill/drivers, sandpaper, and measuring and marking tools. The original plan appeared in *WOOD* magazine's *Idea Shop 5*. Find similar plans at woodmagazine.com/shoptools.

SHOPSPECS

TYPE: Dedicated building

SIZE: 912 sq. ft. with 10' walls

CONSTRUCTION: 2×6 frame construction. Exterior walls are sheathed with ½" OSB and covered with 2" foam board and full stucco finish. Interior ceilings and walls insulated with spray-on closed-cell foam, providing R38 (ceiling) and R19 (wall) insulation values.

HEATING AND COOLING: Mitsubishi 4-head, 18 SEER, 42K Btu ductless heat pump with two heads (18K Btu) in the garage and two heads (23K Btu) in the workshop

ELECTRICAL: 200-amp service with two 220-volt outlets and 35 110-volt outlets

LIGHTING: 37 can lights, each with 800-lumen LED bulbs

DUST COLLECTION: 1½-hp Penn State 2-bag collector with separator barrel connected to 4" PVC ductwork in the ceiling. Three 4" drops located throughout the shop. Ceiling-mounted Grizzly air cleaner.

AIR COMPRESSOR: Craftsman 3½-hp 25-gallon tank on 2-stage unit with dedicated air line to 100' reel

FLOORING AND WALLS: Concrete slab with textured 100 percent epoxy throughout. Walls covered with ⅝" drywall in the garage and ½" drywall in the workshop. 9×10' garage door.

A 30½×83×34½" tablesaw/ routing center rolls easily across the 100 percent epoxy floor. Chris based this mobile design on one from *WOOD Magazine's Idea Shop 5*. View the original plan at woodmagazine.com/workcenter.

Chris's 25×64×48" mitersaw station stores mitersaw accessories, tablesaw accessories, and an orbital sander with accessories. The station rolls about the shop on 4" locking casters.

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Soon after Chris's workshop appeared in that issue, he pulled up stakes and headed to Arizona for a new job as a manager in the defense-contracting industry. Back to the drawing board.

Although Chris thinks this move may be his last, he hedged this bet by building this 912-square-foot *casita* (Spanish for small house) to convert to a guesthouse for easier resale. Besides including a tiled bathroom, Chris stubbed in a kitchen, and added plenty of closet space (currently storage for tools). Beneath the tablesaw, a new owner could break out concrete for access to a kitchen drain. Chris tucked his dust-collection ductwork into ceiling space, then placed the bag-style collector and a separator (a repurposed

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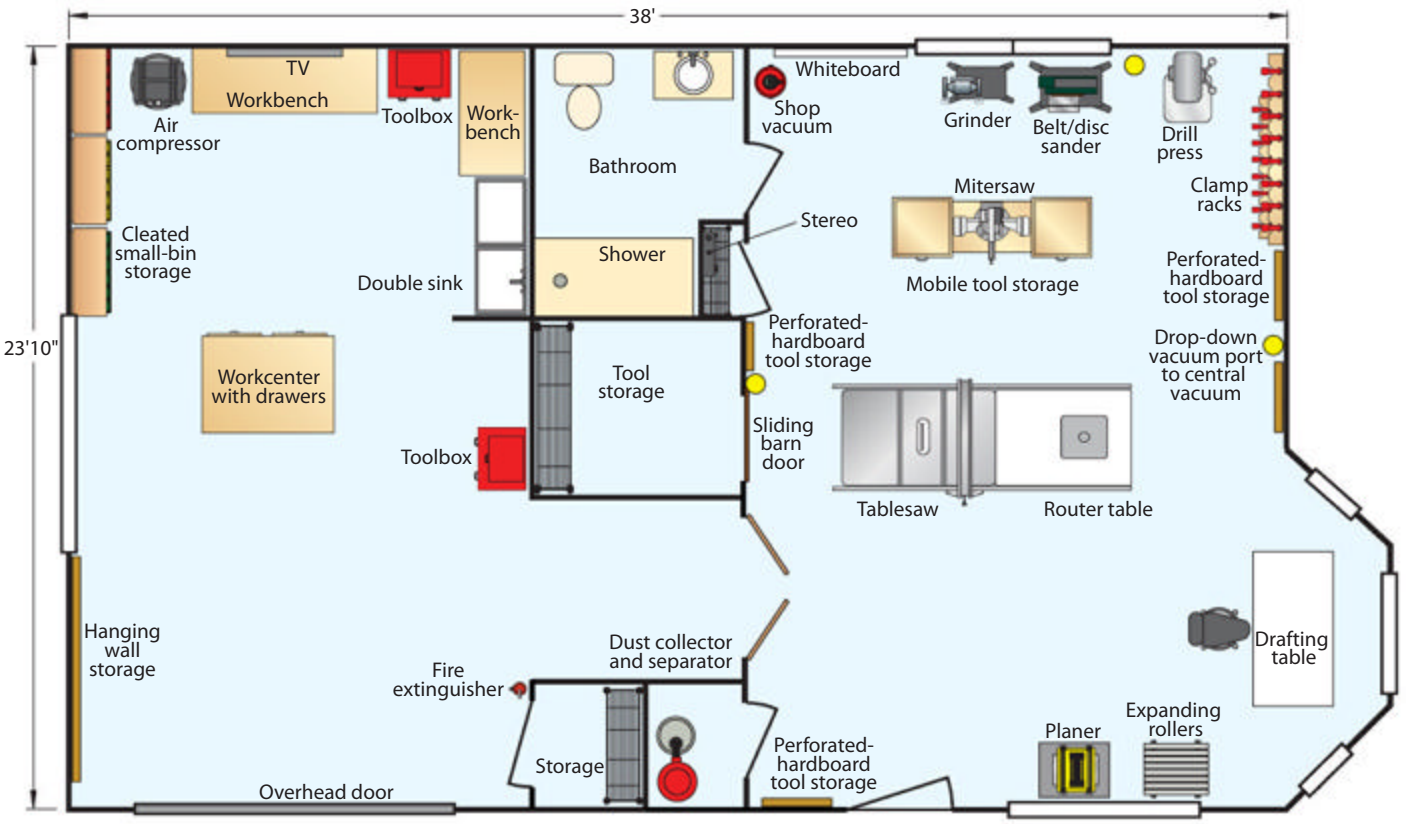
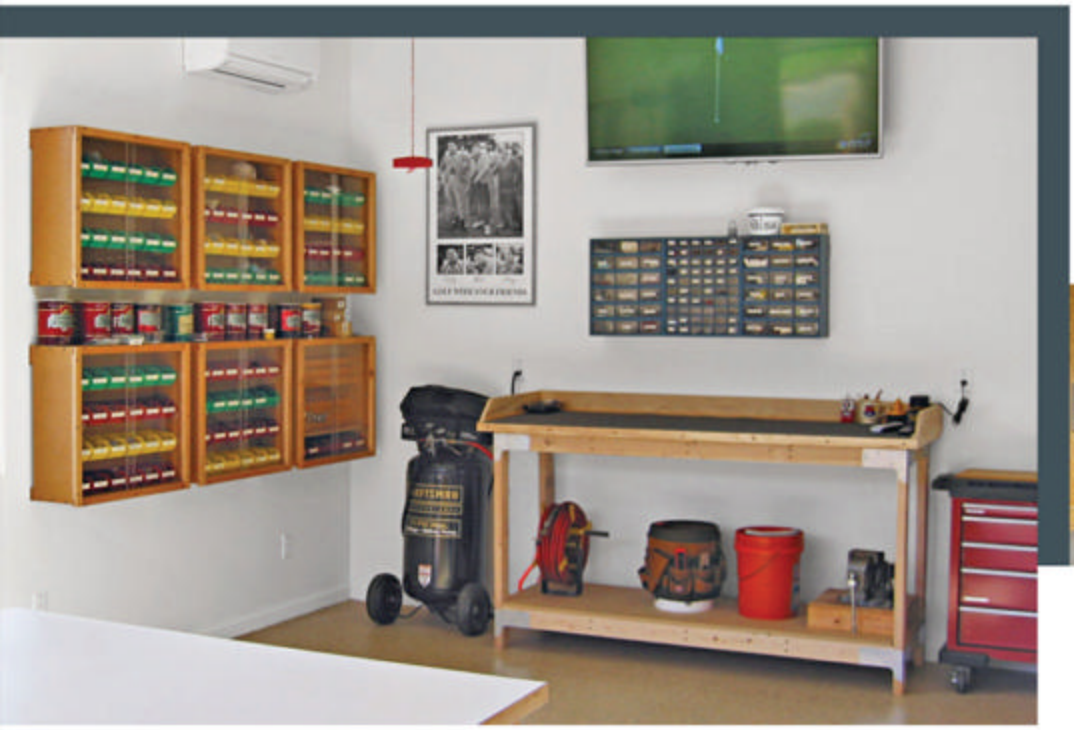
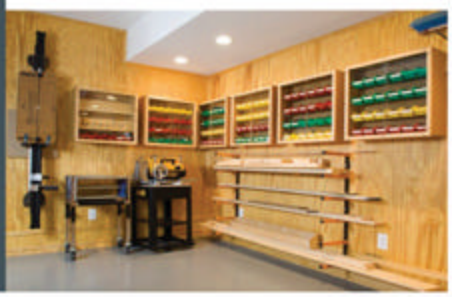
the floor plan





Left: A new addition to Chris's shop is a basic 24×72×40" multipurpose workbench with a 76×28" top. "I probably spent more in Simpson Strong-Tie fasteners for this bench than all the other materials combined," he says. "It's dimensional lumber and a double layer of ¾" MDF for the top. But it's plenty strong! I like the apron around the top from 1×6 pine that keeps stuff from falling off the bench."



Chris lifted six cabinets from hanging cleats in his Virginia basement shop, *above*, and moved them to his new Arizona shop—this time using a different arrangement, *left*. Check out cabinet plans at woodmagazine.com/is5cabinets.

"It's really distracting to work at this drawing table," Chris complains (okay, not really). "I've got a view right up into the Arizona foothills. If this was a home, this bump-out would be a perfect spot for a kitchen table."

On a hall connecting the garage and the shop, Chris displays license plates from six states he has recently called home.

metal trash can) in a closet near the front door of his shop/casita.

There's a sprinkling of casitas in his neighborhood, but none that he knows of outfitted as a shop. "The casita is just 40 feet from the house and on the same driveway," Chris says. "It's super easy to unload material into the shop garage.

He continued, "I consider this my man cave. It's not unusual for me to spend the entire evening in the shop. I've got a TV, a stereo, and a bathroom. There's not much I don't have."

As one might expect, the shop oozes with the organization you'd presume from an engineer. With three 4" dust ports ringing the shop, sawdust doesn't stand a chance. A sliding barn door *(next page, bottom)* keeps dust out of the closet where Chris organizes hardware, fasteners, and other small parts.

Chris's Top Tips for setting up a shop

With a long list of workshop setups under his belt (starting in 1978 with a basic Shopsmith and bench), Chris has plenty of experience organizing a shop. He recommends taking time to jot down the answers to these questions when planning new space for a shop:

1. What do you want to build or repair in your shop?
2. What tools do you own?
3. What tools do you plan to buy?
4. What worksurfaces will you need?
5. What space will be available?

Consider floor space and ceiling height, and placement of access openings, ventilation, electrical power, dust control, lighting, plumbing, and compressed air.

6. Is tool mobility a requirement?
7. Where will you store tools?

Far left: The hallway between the garage and the shop has a ramp required by building code. The ramp also allows Chris to easily bring materials from his truck into the shop. *Near left:* A closet reduces the noise from Chris's dust collector. All the ductwork runs above the ceiling.

Far left: The sliding barn door rolls back for access to tool storage (door open in *right* photo). If new owners converted this casita to traditional housing, the tool room would become a walk-in closet. The space to the right of the sliding door was designed as a linen closet, but currently houses Chris's stereo system.

8. Where will you store lumber?

Chris is especially keen on the flexibility the cleat system provides—whether rearranging shop fixtures to make room for new equipment or moving the entire shop to a new location. "You can build anything to go on the cleat system," he adds.

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changing drivers

Instead of driving a little white ball around a golf course, this recent convert to woodworking picked up a drill/driver and started building Greene & Greene furniture. All it took was mentoring from a golfing buddy.

Bruce Hotchkiss hasn't always had a tidy workshop. When he started reclaiming his garage in 2005, his sole purpose was to bring order to the chaos of forgotten boxes, discards, and a mound of "someone might need this someday" that many families accumulate in short order.

That led to the need for places to store the stuff he wanted to keep, so Bruce convinced his golfing buddy Jim Carothers to help build the first set of cabinets. "Our goal," Bruce recalls, "was to build eight feet of storage and a workbench. I just wasn't ready to spend big bucks for custom cabinets so Jim helped me get started—he taught me how to build a box. But before we were finished, I fell off the deep end. I discovered I liked building stuff.

"After we got a few more cabinets built, I bought a compound mitersaw and began adding crown molding in the house, starting in the basement. If I screwed it up, who would see it?"

Then Bruce built a little chest for a grandson and a jewelry box for his wife, Colleen. He needed a few more tools, especially after Colleen brought home a book on Greene & Greene furniture.

"We both fell in love with the designs," Bruce says, "and I started buying every book and magazine I

continued on page 92

***Above*: After backing two cars onto the driveway, Bruce Hotchkiss wheels woodworking equipment into the open garage space.**

***Left:* A well-lit 30½×117" bench provides planning space for Bruce's Greene & Greene projects.**

***Below*: Bruce hangs circular blades on a 47×41" sliding door. Inside the cabinet are clamps and the electrical panel (hidden from view).**

SHOPSPECS

TYPE: Three-car attached garage

SIZE: 640 sq. ft.

CONSTRUCTION: 2×4 frame construction on 16" centers. Exterior garage walls are sheathed with ½" OSB and covered with house wrap and vinyl.

HEATING AND COOLING: Ceiling-mounted Beacon/Morris natural-gas heater (75,000 Btu)

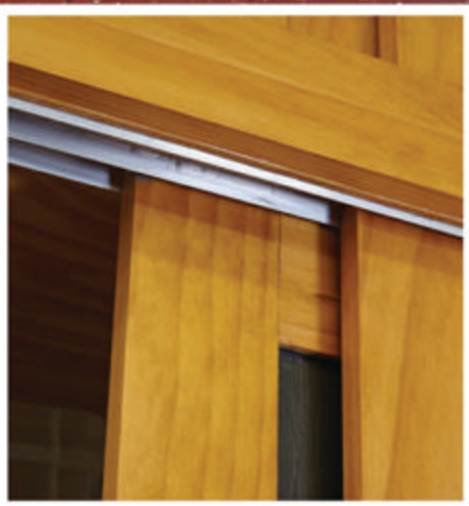
ELECTRICAL: 200-amp service shared with house; three 15-amp circuits dedicated to shop. Six duplex outlets and nine fourplex outlets.

LIGHTING: Four 8' and three 4' T12 fluorescent fixtures; track lighting over the desk/workbench

DUST COLLECTION: 1½-hp Steel City dust collector and Jet AFS 1000B air filter

AIR COMPRESSOR: Portable Porter-Cable 2-hp 6-gallon compressor

FLOORING AND WALLS: Concrete slab covered with 2-part epoxy. Shop walls covered with R19 insulation and ⅝" drywall; R57 ceiling insulation.



This 24"×18'8"×9'5" cabinet provides the lion's share of storage in the Hotchkiss three-car garage. Each shop-made cabinet rests on 12" legs, keeping the cabinet off the floor and making it easy to power-wash or vacuum the entire garage. Bruce and his friend Jim Carothers mounted the 2×4 backs to the wall studs. A 2×6 ledger board rests on top of the concrete curb and provides additional support, as shown in drawings on the *next page*. They used pocket-hole joinery for the cabinets and doors. Three pieces of L-shaped aluminum (available at home centers) create two U-tracks that guide the tops of the doors. Screen-door rollers in the door bottoms ride on ⅛×¾" aluminum strips tapped into saw kerfs.

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could find about it. We even made a trip to the Gamble House in Pasadena, California."

So far, Bruce has built 75 Greene & Greene projects, including a master-bedroom set with a bed frame, two dressers, and nightstands.

"I build in the challenging G&G language and spirit," Bruce says, "but all are my original designs. Best of all, I don't get as frustrated in the shop as I did hitting an out-of-bounds ball."

Shop visitors: Par for the course

When the weather cooperates, Bruce rolls up the garage doors on his shop—an open invitation for neighbors and passersby to drop in. He takes it all in stride—part of his mission to spread the joy of woodworking, he says.

A new suburban development just a few blocks up the street brought a steady parade of subcontractors—as many as three or four pickup loads a week—who stopped by during their lunch break or at day's end. Bruce welcomed all the tradesmen while introducing a new audience to his favorite furniture design.

Squeaky clean

In his working life, Bruce owned a janitorial service and supply company, so it's little surprise he keeps his shop clean and organized. What isn't tucked behind cabinet doors or laid out in drawers is neatly displayed on perforated hardboard where he can find

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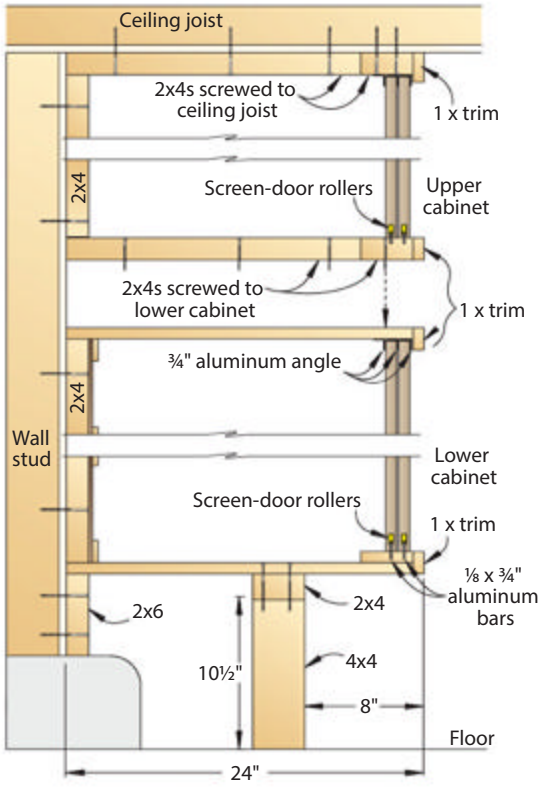
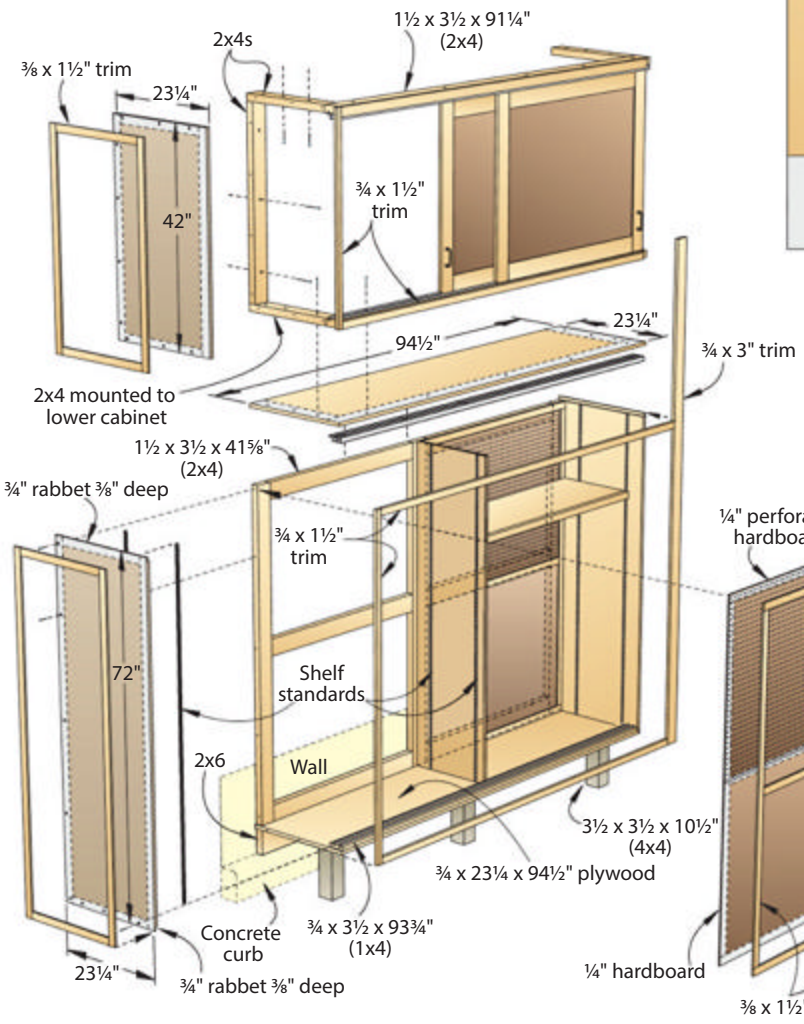
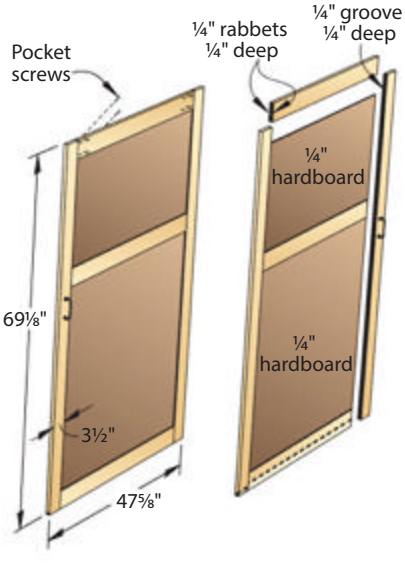
WALL O' CABINETS

Bruce organizes hardware and small parts in plastic bins inside a 47×41" cabinet built with a scaled-down design mirroring the room-height cabinets on the *previous page*.



SIDE SECTION VIEW





Bruce finds plenty of satisfaction in the shop—different pleasures from the golf course. "Designing and building Greene & Greene furniture is challenging and rewarding. But best of all, I don't get as frustrated in the shop as I did hitting an out-of-bounds ball."

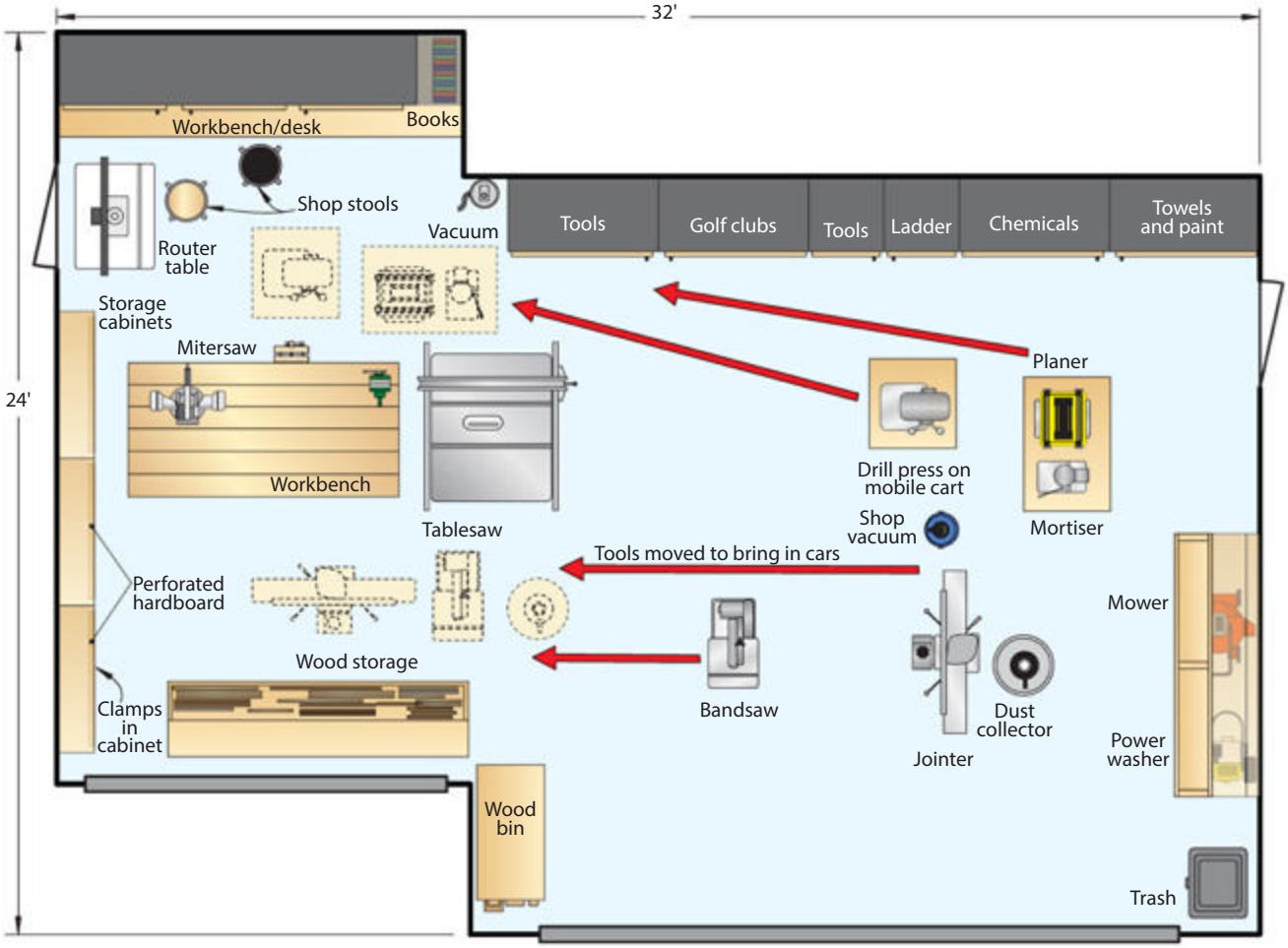
Bruce's 29×49×40" shop-made cart rolls out of the way on 5" locking casters. A drawer and shelf inside the cart provide additional storage for tools and jigs.

A space-saving benchtop drill press on a 26½×37×34" cart makes sense in Bruce's garage, where floor space is at a premium. In the evening, he rolls it near his router table.

Perforated hardboard and adjustable shelf brackets make it easy for Bruce to reorganize shelves when needed.

Even though Bruce has switched from avid golfer and woodworker to golfer and avid woodworker, there's still room for golf equipment in the garage.

the floor plan

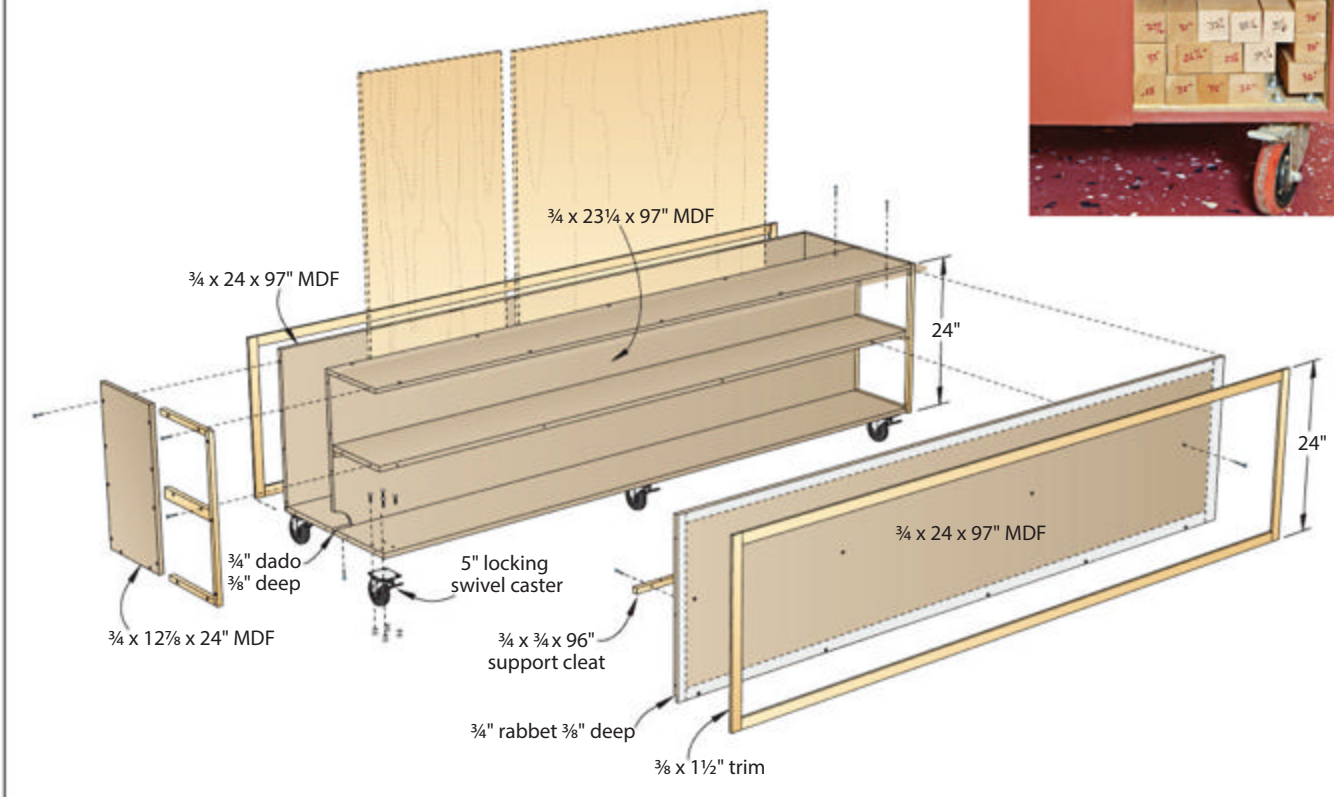


At the end of the day, Bruce rolls his drill press and planer/mortiser stand between the workbench and router table. The bandsaw, jointer, and dust collector tuck between the workbench and Bruce's lumber rack.

***Left* and *above:* When he began planning garage improvements, Bruce was determined to hide as much from view as possible. The 88×30¾" panel in front of his mower and power washer pivots up on a continuous hinge.**

LUMBER STORAGE ON THE ROLL

To open up floor space, Bruce rolls this lumber rack across the garage floor or onto the driveway. Five-inch locking casters (about $17.50 each; item no. 39507 at rockler.com) support the heavy cart. For quick identification, Bruce labels the length of each piece of 1¾"-square stock used for his Greene & Greene projects.



Above: When a project calls for his compound mitersaw, Bruce moves it to any convenient location on his 51½×96" workbench. Two pedestal blocks made from scrap support long stock. To make it easy to slide the equipment across the bench, the saw pedestals, compound mitersaw, and mortiser have 1"-diameter stick-on plastic feet.

Right: Bruce organizes his long clamps on a shelf beneath the workbench.

After a nasty accident (fortunately, just eight stitches), Bruce mounted this permanent safety reminder to his tablesaw.

Bruce added a 4×24×42" torsion box beneath his tablesaw, which allows him to use his 38⅜"-high workbench as an outfeed table. The bench sits ¼" lower than the tablesaw.

continued from page 92

things in the blink of an eye. Even the lawn mower and power washer, shown on *page 95,* have a home tucked (mostly) out of sight.

Tall order for a big guy

Most woodworkers use their tablesaw height as a benchmark for everything in the shop. Bruce, who stands 6'2", worked the setup solution backward. First, he built his workbench to a comfortable 38⅜" height. That meant adding a torsion box beneath his tablesaw, *above,* to raise it ¼" higher than the workbench behind it.

Bruce still plays a few rounds of golf in summer months, but not like he once did—now he's more likely found puttering around his shop.

Ted's mitersaw and mortiser share the same benchtop. He framed his drawers and doors with decorative square pegs in the half-lap corners.

pneumatically yours

Flip a switch and blast gates open and close. Turn a knob and an outfeed table rises into position. It's all engineered by a curious and creative woodworker—with no engineering background.

With all the mechanical magic Ted Kelley built into his shop, you might think his education includes plenty of technical training. It does—just not in the way you might expect. Ted's shop is loaded with fascinating pneumatic lifts around the tablesaw and ingenious pneumatic-powered blast gates. There's even a shop drawer for drill/drivers with chargers set to automatically power off after Ted has flipped off the shop lights (see details on the *next page*).

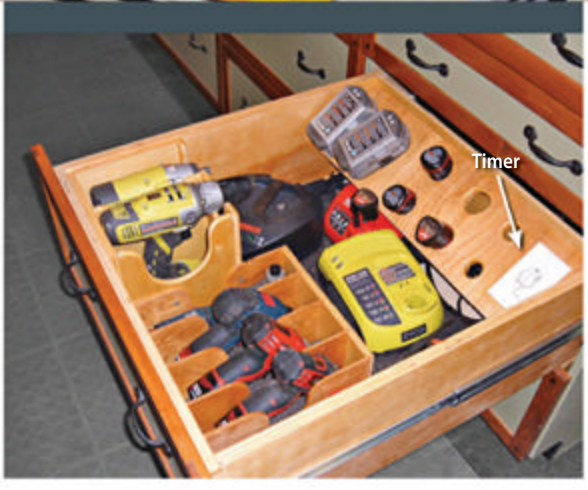
Turns out Ted spent his working career supervising mechanical work for an industrial-gas distributor—with absolutely no engineering background. But while growing up in Alabama, he learned a bit about every trade from his dad. "I can't ever remember a tradesman coming to our house," Ted recalls. "Never saw a plumber, electrician, or roofer at our place. Dad did it all. And some of the time, I was helping out right by his side. Even today, I hate to hire anything done around our house."

So whatever skills weren't ingrained in Ted's DNA, he figured out on his own. Like the flip-over, wall-mounted tandem grinders (*page 102*). Or the massive 33×54" router table loaded with bells and whistles (*page 106*).

Here's a guy who genuinely enjoys a challenge and figuring out how to build it himself.

continued on page 102

Ted paid $50 for a discarded 72"-diameter rip blade from a sawmill. The mill retired the blade after it was reduced to a 48"-diameter crosscut blade after many sharpenings. Ted added the illustration (an enlargement of a wood-carving) and lettering.



Ted's spacious drill/driver drawer includes chargers plugged in to a timer set to turn off the charging units after two hours.

SHOPSPECS

TYPE: 3-car attached garage

SIZE: 780 sq. ft. with 8' walls

CONSTRUCTION: 2×4 frame construction on 16" centers. Exterior walls are sheathed with ½" OSB and covered with veneer brick or concrete-impregnated board.

HEATING AND COOLING: Natural-gas furnace and 1½-ton air conditioner

ELECTRICAL: Shared 200-amp service with house. Six fourplex and 18 duplex 110-volt outlets; four 220-volt outlets

LIGHTING: 20 6"-diameter can lights, each with 75-watt-equivalent CFL bulbs

DUST COLLECTION: 2-hp Grizzly cyclone collector with seven 6" lines to machines

AIR COMPRESSOR: Campbell-Hausfeld 5-hp 60-gallon vertical compressor. Copper and high-pressure rubber hoses throughout the shop.

FLOORING AND WALLS: Concrete slab covered by BigFoot 12"-square rubber tiles. Interior walls and ceiling covered with drywall.

storage up front...

Ted built this overhead blade guard and collector from ½" polycarbonate.

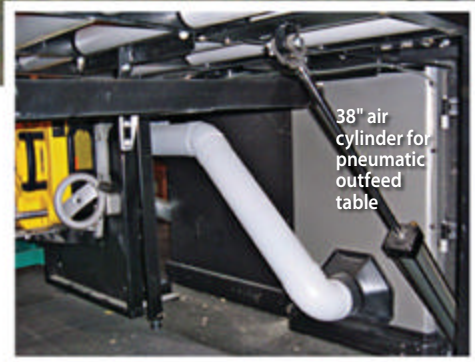
Ted added a 12" extension to the back of his saw table that allows the planer and outfeed tables to fold down against the cabinet. Three legs support the extension.

38" air cylinder for pneumatic planer table (see *next page*)

Behind the tall door of a shop-made cabinet beneath Ted's Delta Unisaw, a pull-out panel provides handy storage. An Incra miter jig *(far left)* occupies one side and an Incra panel-cutting jig *(left)* hangs on the other.

...air-powered gadgets at the rear

With the turn of needle valves, pneumatic controls make easy work of raising and lowering a 30×28" table with Ted's planer attached.



Above: Ted built this fold-down outfeed table with 2"-diameter PVC for the rollers, then turned tapered wooden plugs on the lathe before inserting the plugs and tapered bearings in the ends. Five rods of ½"-diameter cold-rolled steel connect each row of rollers. He later added a pneumatic lift *(left)* similar to that used on his planer.

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Home-grown dust collection

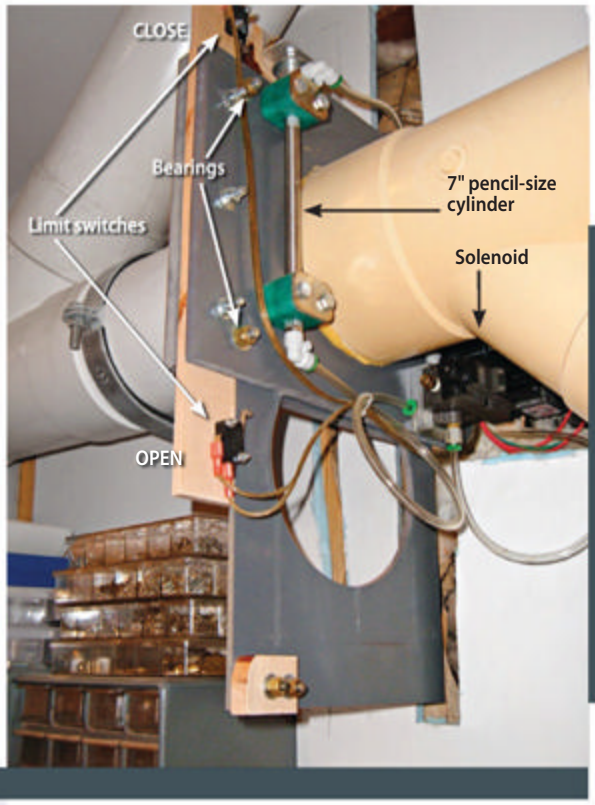
Ted located all but one of his dust-collection runs in the space above the drywall ceiling. "It's fully accessible," Ted says, "just out of the way."

Each blast gate has pneumatic controls, as shown in the photo at *right*. Switches at each workstation supply power to a solenoid on each blast gate.

Floor space is critical

To make the best use of his entire 26×30' garage floor, Ted devised fold-down tables for his outfeed table and his surface planer (see *page 101*). With those two devices, he's gained about 12 square feet with just the twist of a knob. He elevates the tables only when a task demands it.

continued on page 105



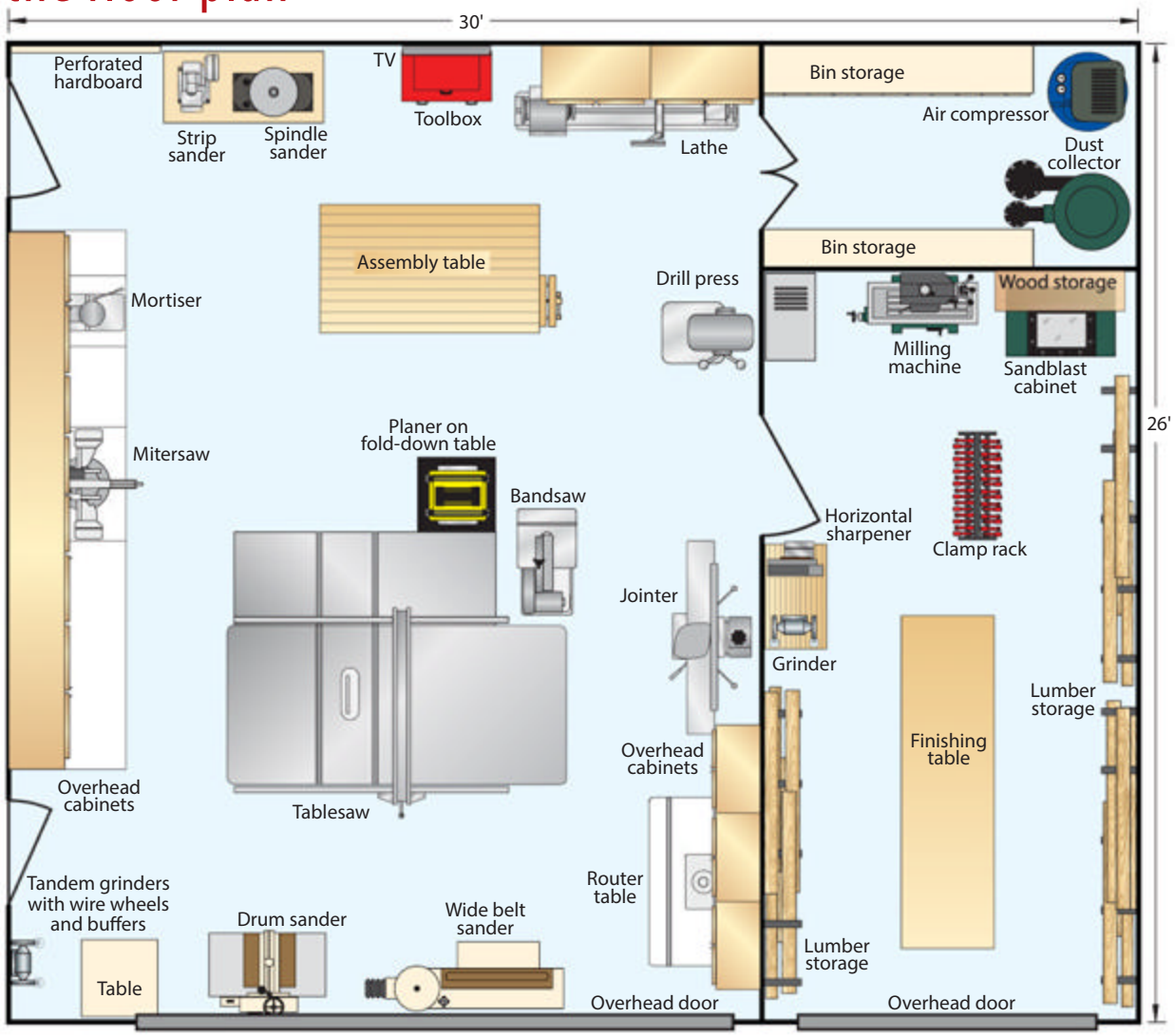
Ted has seven pneumatic-powered, electronically controlled blast gates in his shop. A ¼" rubber tube connects each blast gate to the air supply. Ted can adjust the open-and-close rates by regulating the air discharge.

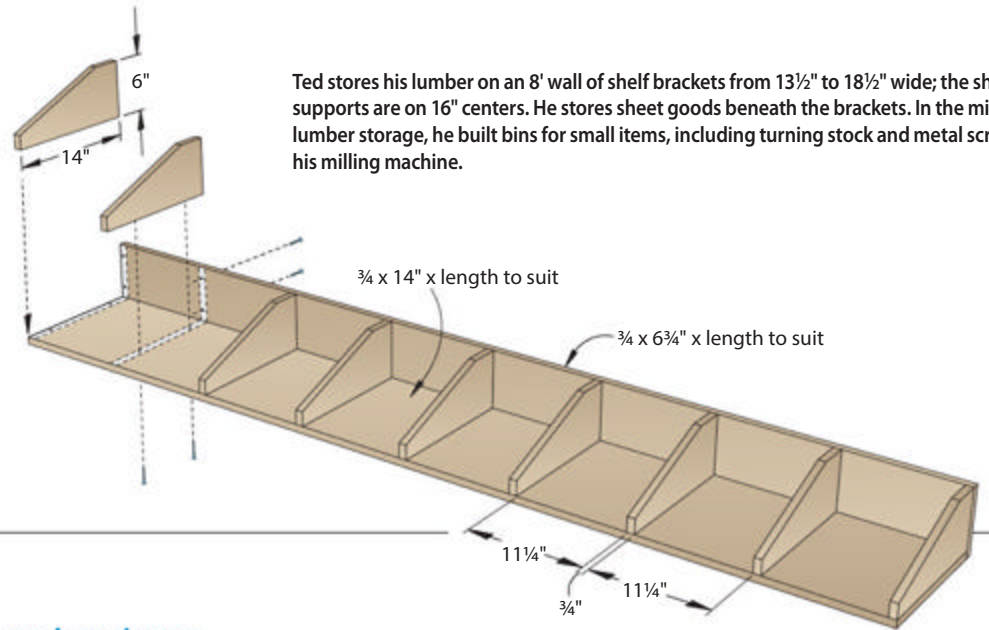
Ted's 4" runs travel from the dust collector and above the ceiling before dropping into the shop.

By loosening one knob in front and pulling out on the wall mount, Ted can flip the grinder on top (coarse-wire wheel and brass-wire wheel) with the second grinder on the bottom (two cotton buffing wheels). To protect the drywall behind the grinders, he added inexpensive coated ⅛" hardboard (sometimes used for shower surrounds) on top of ¾" plywood.

BIN STORAGE EXTENDS PRACTICALITY OF LUMBER STORAGE

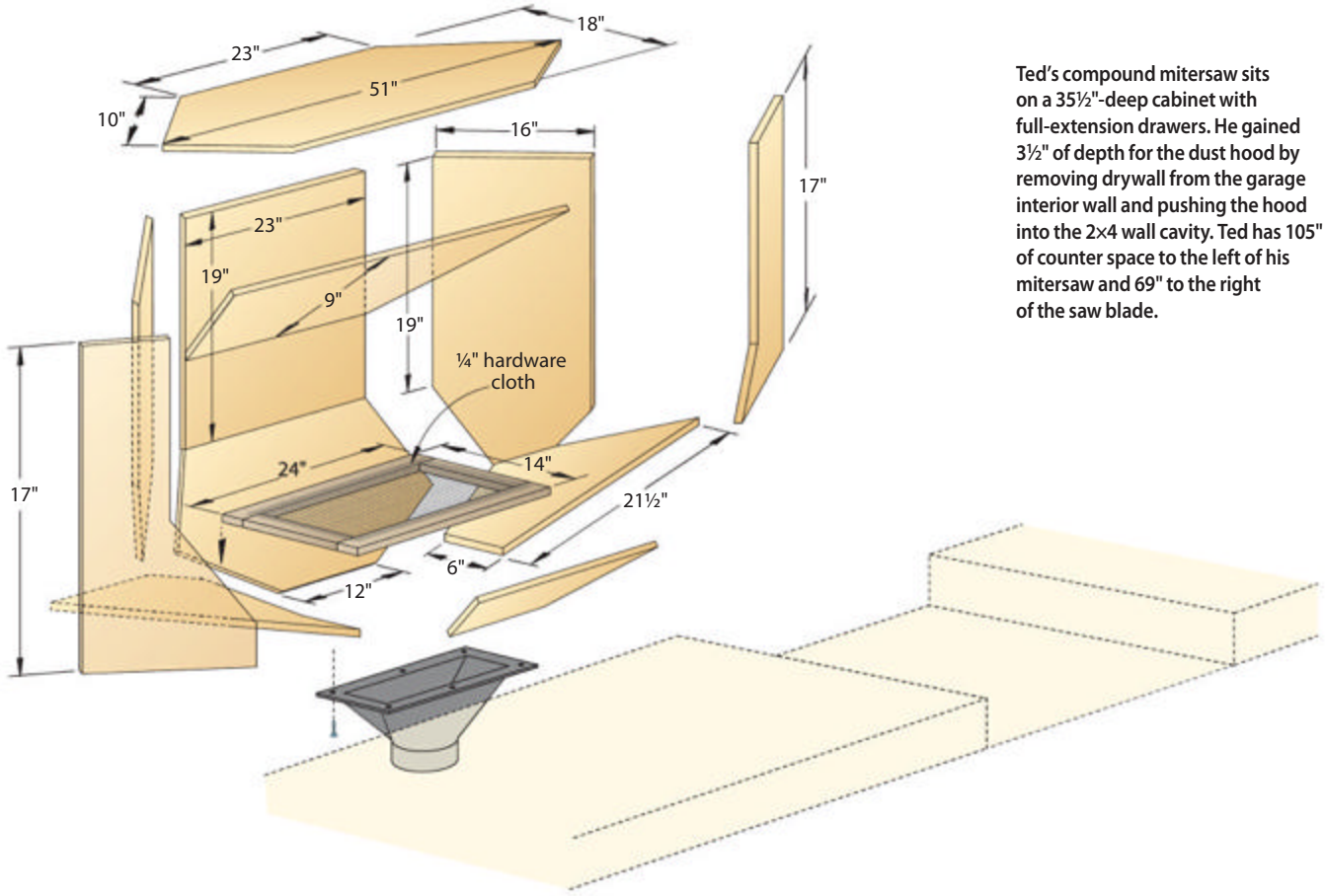
the floor plan



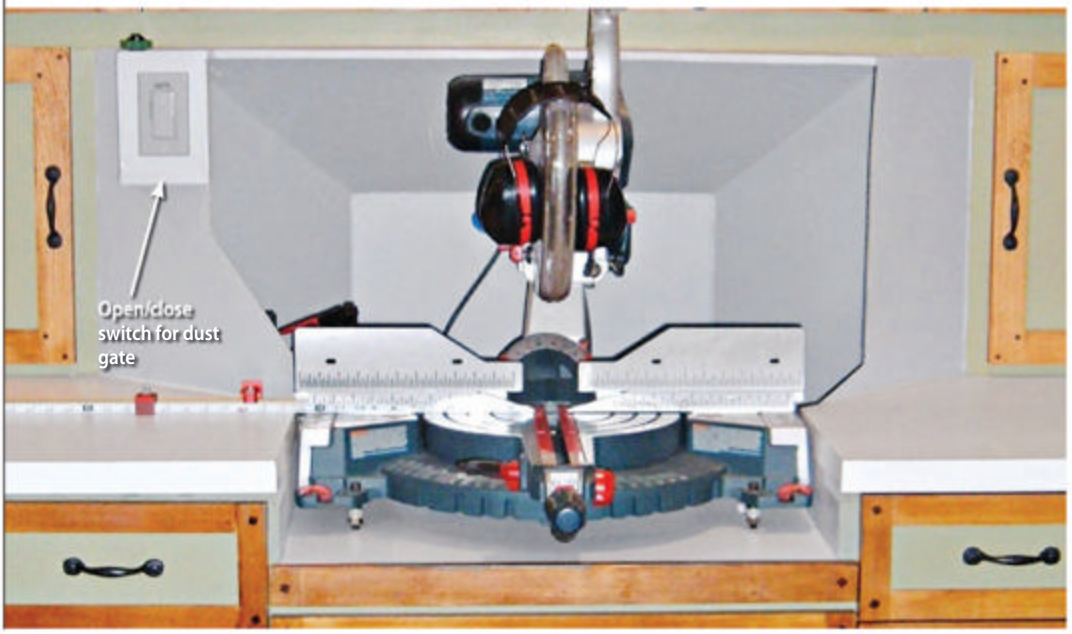


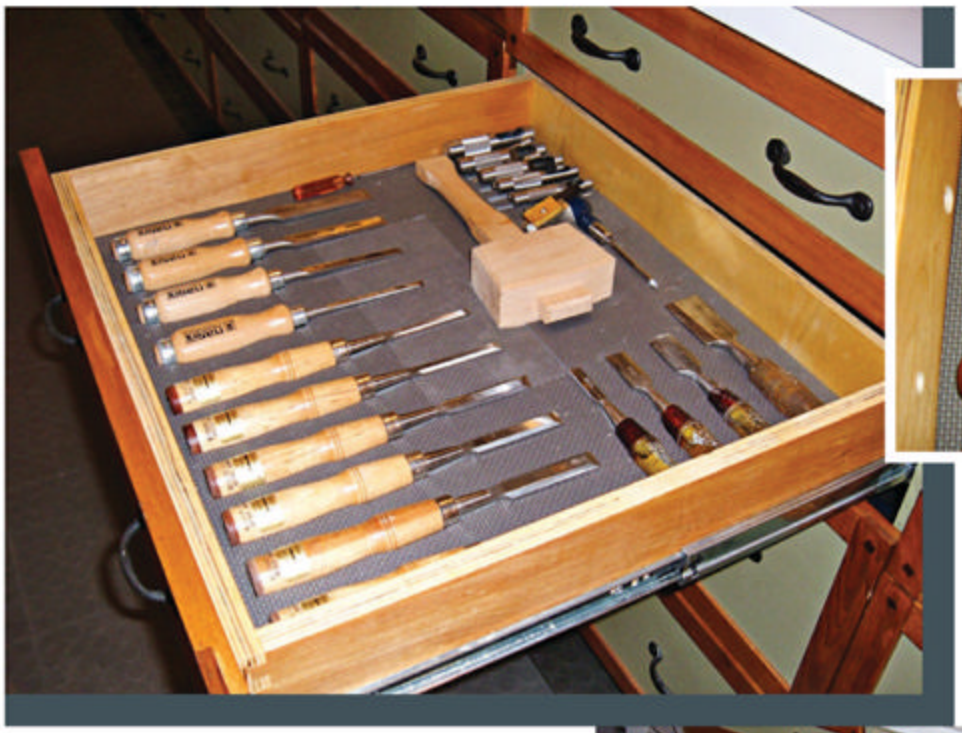
Ted stores his lumber on an 8' wall of shelf brackets from 13½" to 18½" wide; the shelf supports are on 16" centers. He stores sheet goods beneath the brackets. In the middle of the lumber storage, he built bins for small items, including turning stock and metal scrap used at his milling machine.

DUST HOOD IN WALL HELPS MAXIMIZE FLOOR SPACE



Ted's compound mitersaw sits on a 35½"-deep cabinet with full-extension drawers. He gained 3½" of depth for the dust hood by removing drywall from the garage interior wall and pushing the hood into the 2×4 wall cavity. Ted has 105" of counter space to the left of his mitersaw and 69" to the right of the saw blade.





For a drawer of chisels, Ted cut the tool outlines in a ½" sheet of inexpensive foam marketed as exercise mats. The second sheet of foam (below the exercise mat) is ⅛" drawer liner sold at big-box stores. The Stanley bench chisels in the back of the drawer belonged to Ted's dad.

Dividers help Ted keep hammers well organized in a drawer under his mitersaw station. Ted uses full-extension 100-lb drawer glides throughout his shop.

Above left: Each of Ted's measuring and marking tools has an assigned location in a 4¼"-deep drawer.
Left: Ted stores corded and battery-powered reciprocating saws plus corded and cordless circular saws in a 9¼"-deep drawer.
Below: Handsaws are easy to locate in a shop-made rack.

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Here's how he captured another 4.2 square feet: To keep the cabinet of his compound mitersaw from sucking up too much floor space, he pushed the mitersaw hood 3½" into the wall cavity between the wall studs. That's a savings of 3½" over the 14'6" length of cabinets. It all adds up.

As part of the solution, Ted included a custom dust hood (see *previous page*) that drops beneath the mitersaw base.

"Every side slopes," Ted says, "so the hood collects just about all the dust. I mocked up a version with cardboard and duct tape to make sure I got everything right."

Ted outfitted his 33×54" router-table top with an Incra fence. A 3¼-hp variable-speed Porter-Cable router sits below a Woodpecker plate insert and lift.

Router wrenches, adjustment handles, collets, and Woodpecker lock-ring inserts occupy the top left drawer of the router table. The second drawer (closed) holds ¼"-shank router bits; ½"-shank bits reside in the third drawer from the top.

Ted fine-tunes his router performance with a drop-down Wixey digital depth-control indicator and speed control *(left)* hinged to the front of his router table.

Router table: loaded with extras

Ted's first router table—a basic Sears benchtop model—was fine as a starter, but he had bigger plans.

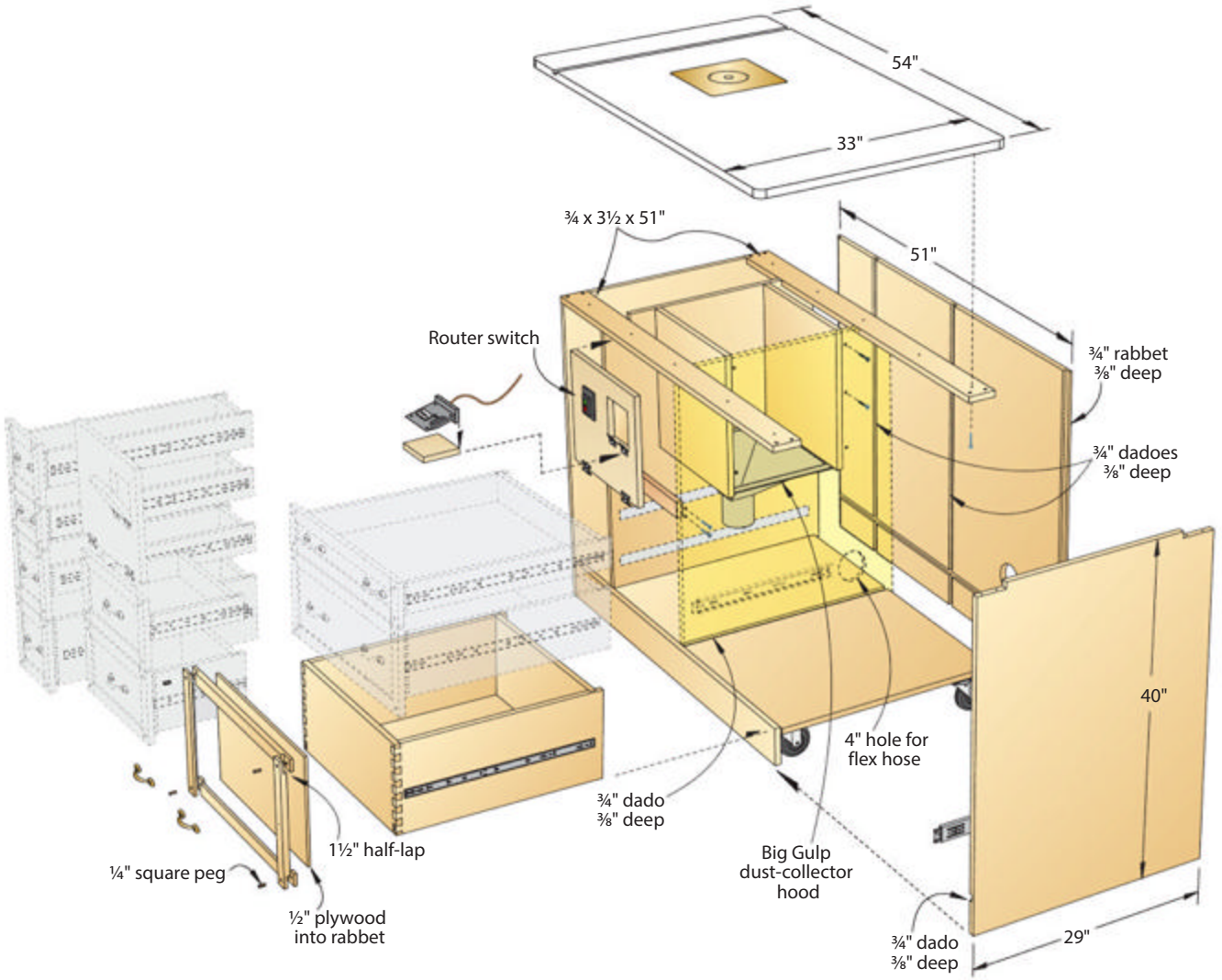
"With this big 33×54" top, I can rout just about anything," Ted says. "I really prefer the router over figuring out how to shim a dado set to get a good, tight fit with plywood—that just takes too much time!

"The setup at the router table is ideal for small parts. Sometimes I'll grab my Incra miter gauge from the tablesaw if it's close work. When I designed this table, I was on a big kick to control dust in the shop. I really liked the Incra fence because it has a 2½" port at one end [not visible] that does a great job."

The insert rings prevent a lot of dust from getting below the table. Whatever dust sneaks past the insert rings is swept away through a large collector hood below the router.

"I lost some sleep over the design," Ted says. " I probably made this 100 times at night while trying to visualize it. But I like the challenge of building something like this."

TRICKED-OUT ROUTER TABLE PUTS THE FUN IN ROUTING



Assembly table with history

The assembly table supported on massive 4×4 legs has a rich Kelley family history spread over 37 years. Before the lower shelf was added, the table was designated as the family's emergency shelter if the tornado sirens blared in their community. Ted has twice removed the solid maple top, ripped it to 12"-wide slabs, and replaned the surface (now 1¾" thick). The table sits on 6" casters and matches the 35" tablesaw height, doubling as a hefty infeed table.

Ted has owned this sturdy 45×72×35" assembly table for decades. How sturdy? The original table didn't have a lower shelf and was the designated tornado shelter in the basement shop of their Alabama home.

LATHE TOOLS CASCADE FROM PURPOSE-BUILT CABINET

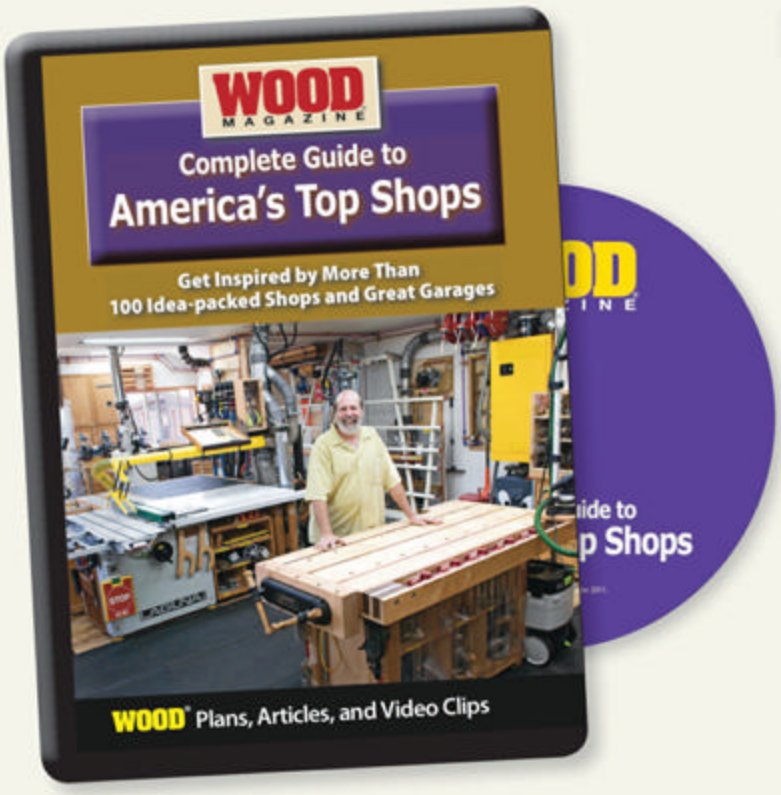
Ted organizes most of his lathe tools behind four glass-panel doors in this cabinet. The lathe-tool handles rest in 2" PVC tubing. Ted used a trim router with a ⅛" round-over bit to add a finishing touch to each PVC liner.

With the cabinet doors open wide, a traditional lid stay folds out about 5", making it easy for Ted to select one of 10 lathe tools. He organizes Morse tapers on the 1½×8×4½" block screwed to the front of the larger rack.

Ted has already started designing his next shop, where he plans to have enough room to justify a separate infeed table—lighter than this behemoth. But will this plain-Jane heirloom be retired? Never.

Ted's next shop won't be so cozy. He'll have plenty of elbow room with 40"-wide aisles, a separate 10×12' finishing room, and a sound-insulated room to isolate the dust-collector motor and air compressor. But all his pneumatic shop helpers will travel to the new shop—Ted had too much fun designing them.

SEE HOW REAL MEN SHOP



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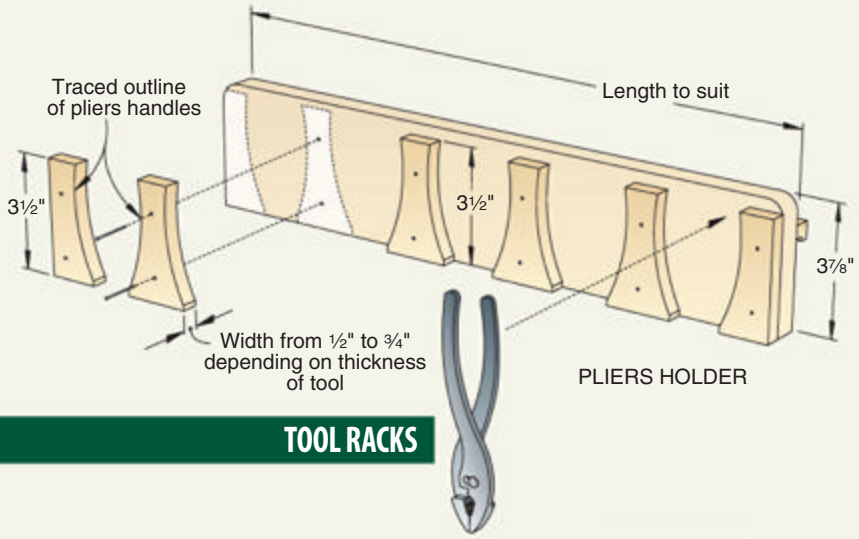

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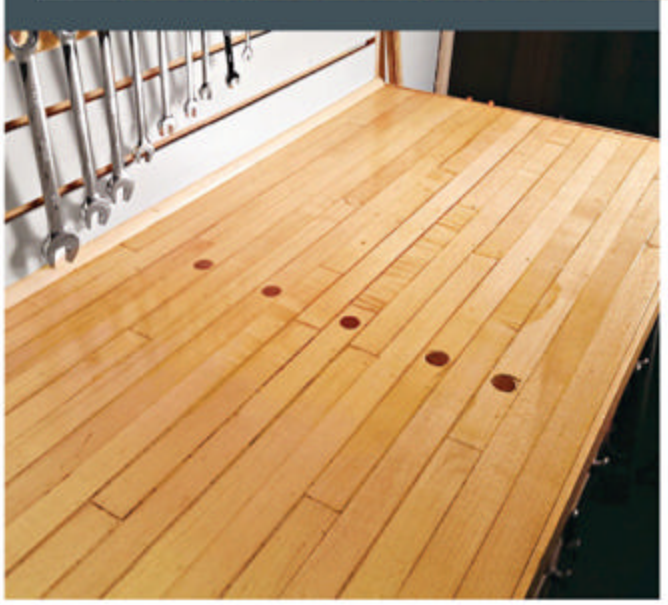
bowled over

A discarded bowling lane provided the motivation to build a new workbench. Then the fun began: taming the 2⅛"-thick maple and building the cabinets.

Thanks to a sharp-eyed nephew who spotted a bowling alley about to close its doors, Karl Skutski has a new 8'10" rock-solid maple workbench in his garage.

Karl split the lane lengthwise with a circular saw, creating sparks and a cloud of smoke while cutting through the nails that secured each maple strip.

Karl learned that contrary to popular belief, bowling lanes are not flat. "I had to add shims to the frame to get the lane to lie flat," Karl says. He protected his new benchtop with 10 coats of sprayed polyurethane, then secured it to the base cabinet with 3" lag bolts.



Karl designed the 10½"-deep upper cabinets and 18½"-deep base cabinets with Excel, then built the face frames from select pine. He planned to add drawers beneath the top cabinets, but the drop-front tool-garage provides better organization. To keep the bits from falling off the drop-down doors, Karl secures the bit holders with hook-and-loop strips, then loops a wire over the top of each bit holder.

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LOT 62502
97181 shown

SAVE $80

$59.99 REG. PRICE $139.99

89370046

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SUPER COUPON!

50" CLAMP AND CUT EDGE GUIDE

PITTSBURGH

LOT 66581

SAVE 40%

$14.99 REG. PRICE $24.99

89359960

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WOW SUPER COUPON!

CENTRAL PNEUMATIC 3 GALLON, 100 PSI OILLESS PANCAKE AIR COMPRESSOR

LOT 61615
60637/95275 shown

SAVE 55%

$39.99 ~~$59.99~~ REG. PRICE $89.99

89361131

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SUPER COUPON!

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

drillmaster

LOT 96289 shown
62340/62546

SAVE 70%

$8.99 REG. PRICE $29.99

89367212

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WOW SUPER COUPON!

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

CENTRAL MACHINERY

LOT 34706

SAVE $120

$229.99 ~~$299.99~~ REG. PRICE $349.99

89377535

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SUPER COUPON!

ALUMINUM OXIDE SANDING SPONGES PACK OF 10

COARSE
LOT 46751

MEDIUM
LOT 46752

FINE
LOT 46753

SAVE NOW

YOUR CHOICE!

$4.49 REG. PRICE $4.99

Lifetime CARBIDE

89366810

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SUPER COUPON!

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

NEW

CHICAGO ELECTRIC POWER TOOLS

LOT 69684 shown
61776/61969/61970

SAVE $165

$134.99 REG. PRICE $299.99

89366890

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WOW SUPER COUPON!

18 GAUGE 2-IN-1 NAILER/STAPLER

CENTRAL PNEUMATIC

SAVE 55%

LOT 61661
68019 shown

WE CARRY A FULL LINE OF FASTENERS

$15.99 ~~$22.99~~ REG. PRICE $35.99

89360470

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SUPER COUPON!

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

PITTSBURGH

- Weighs 77 lbs.

LOT 68049/62326
61282/61253 shown

$79.99 REG. PRICE $169.99

SAVE $90

89366388

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SUPER COUPON!

1/4" TRIM ROUTER

drillmaster

LOT 61626
44914 shown

SAVE 42%

$19.99 REG. PRICE $34.99

89366941

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SUPER COUPON!

CENTRAL MACHINERY 10", 12 SPEED BENCH MOUNT DRILL PRESS

LOT 60237 shown
44836/62408

SAVE $100

$99.99 REG. PRICE $199.99

89373668

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WOW SUPER COUPON!

26", 4 DRAWER TOOL CART

US★GENERAL

SAVE $180

★ WINNER ★ – Truckin' Magazine

- 580 lb. Capacity

LOT 95659 shown
61634/61952

$99.99 ~~$159.99~~ REG. PRICE $279.99

89374874

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More creative solutions from imaginative woodworkers

THE LOWDOWN ON A BENCH THAT RISES TO ANY OCCASION

Because George Adams's 50×88" workbench doubles as a tablesaw outfeed table, he keeps it at a 35¼" height for most projects. But with just a little effort, he can lower the maple benchtop to 27" to serve as an assembly table or elevate it (42" maximum height) when cutting dovetails. The key is a 500-lb-capacity hydraulic lift cart, purchased from Harbor Freight Tools (harborfreight.com; about $160). "I drilled a few ¾" holes in each of the legs for dowel stops," George says. "This allows me to return to predetermined heights for specific tasks."

14 DRAWERS LOADED WITH HARDWARE

For a couple of decades, Gary Kloberdanz has stashed hardware in this 18×21×58" cherry cabinet that now stands beside his workbench. "This originally was built to fill the space in my two-car garage beside the overhead door," Gary says. "The 3"-tall maple drawers feature box joints." A section of an old ruler at the top makes sorting bolts and screws easier.

For more great shop ideas, see
woodmagazine.com/shopplans

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Designed with the perfect combination of power and balance with excellent grip for safe, one-handed operation, the Triton Compact Palm Planer **TCMPL** and Palm Belt Sander **TCMBS** deliver all the features of their conventional-sized cousins and more. A compact body shell is ideal for use in confined areas or for intricate projects. Fitted with comfortable over-moulded grips and dust extraction ports for safe clean working, they make light work of most common sanding and smoothing applications.

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