The Knockdown Shop

A precision shop is set up in less than five minutes using collapsible tables and a salvaged paneled door

BY JOHN CARROLL

Job-site shops are not a new idea. In the past, carpenters often would lug heavy shop tools such as radial-arm saws to the job site as soon as they could be protected from the weather. These temporary shops were—and often still are—left in place for extended periods of time. In the mid-1970s, however, the electric miter saw was introduced and combined portability with the speed and power of a radial-arm saw. The power miter added a level of precision and mobility to a carpenter's tool arsenal that was unknown before that time.

The trend toward job-site precision and portability continued with lightweight tablesaws and routers being used with high-quality guides and collapsible stands. Combined with the power miter saw and biscuit joiner, these tools allowed cabinet-shop accuracy on the job site. To develop the full potential of these job-site tools, I set them up on knockdown benches, but thoughtful placement and tool orientation also contribute to the overall success of the knockdown shop. What really makes the system work is that after spending the day doing anything from framing to custom woodworking, I can break down my shop and pack it up with an efficiency that would make a roustabout proud.

Does a knockdown shop make sense?

Why would you want to set up and tear down your job-site shop every day? Isn't it hard enough just getting the work done? Having the option of packing up shop on a daily basis has several advantages. The first is that you can set up outside (photo p. 109). On many jobs, a large enclosed space that can ac-

SAWHORSES SERVE AS AUXILIARY TABLES





The auxiliary table is used mainly to support the thickness planer and router table. When used with other matching benches, it's handy for supporting larger assemblies, such as countertops.



CROSSCUTTING STATION

This workbench can be assembled quickly by placing a piece of plywood over a salvaged door whose panels were removed and then moving a miter saw into position. Substitute a sliding compound-miter saw to cut wider stock or compound miters. The miter saw can be moved aside easily if the workbench is needed for other tasks, such as cutting plywood or assembling cabinets.

Drawings: Rick Daskam

WOODSHOP WITHOUT WALLS

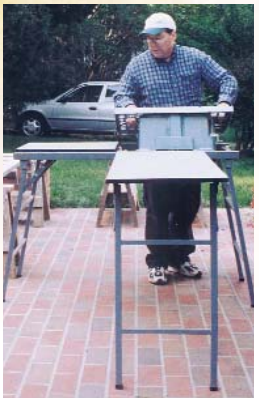
A basic shop that can be set up quickly is essential. Sawhorses and workbench tops that can be left outside throughout the project save setup time. The basic shop is set up in about four minutes, so setting it up makes sense even with only a couple of hours' work to do.



Workflow direction

Each job site will probably have a best location and feed direction for milling long stock. Orient the tools' feed direction and spacing to take advantage of that.

A CONVENIENT TABLESAW



A tablesaw in a portable stand with an upgraded fence and outfeed extension adds safety, stability and accuracy. When possible, orient the tablesaw and miter saw so that when you're cutting, the stock runs in the same direction. Also, be aware of the tablesaw's need for infeed and outfeed space.



SALVAGED DOOR BECOMES A VERSATILE BENCH TOP





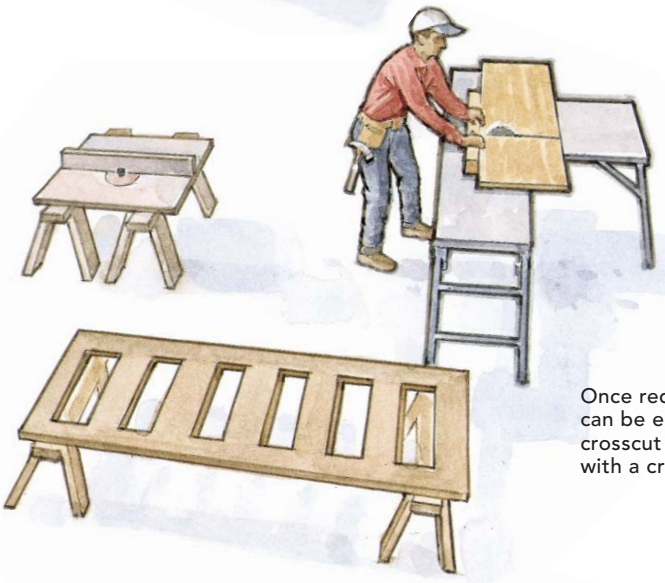
Matching sawhorses support the workbench top, which is an old door with its panels removed. Along with various L-shaped jigs, the open-paneled door facilitates clamping boards on edge and vertical assemblies. Because the old door was salvaged, it's left outside standing on its edge next to the sawhorses at the end of the workday.

FLEXIBLE WORKSTATIONS HELP A SOLO BUILDER

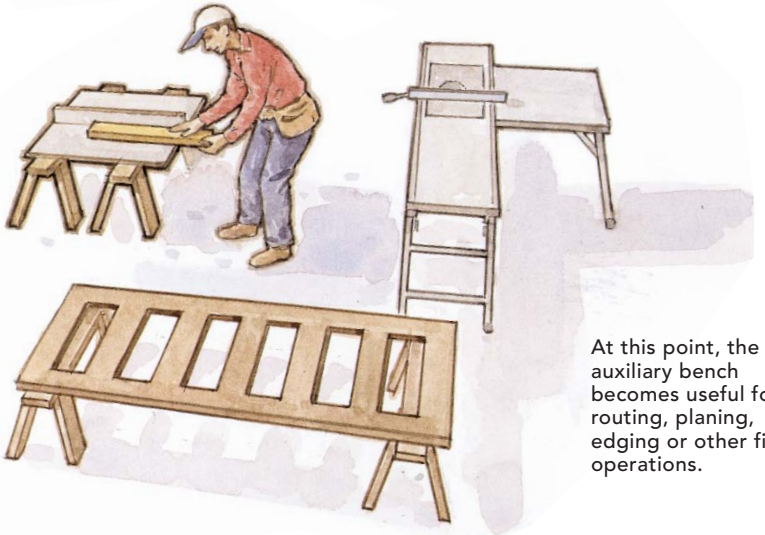
If you're working alone, quick setup and tear-down are important, but moving quickly from one task to another is also important. Multipurpose workstations make this possible.



The workbench offers broad support for sheet goods, which makes reducing plywood to size a lot easier.



Once reduced, plywood can be either ripped or crosscut on the tablesaw with a crosscutting sled.



At this point, the auxiliary bench becomes useful for routing, planing, edging or other finish operations.

commodate working with long stock isn't available. If you have a knockdown shop, you can set it up on a driveway, a porch or any reasonably level surface. And if you're remodeling or adding to an existing house, cutting outdoors reduces indoor dust.

Another advantage of the knockdown shop is that at the end of the day, your tools can be loaded quickly into your truck or job box for added security.

Regardless of the advantages, if the knockdown shop isn't easy to set up and take down, you won't use it. Therefore, it has to be light enough to be set up quickly, but flexible enough to handle some fairly advanced work.

Good organization doesn't happen by itself. After a lot of experimentation, I settled on an efficient method of setting up quickly. I set up my workbench first and then use it to unfold the stands for my tablesaw. This method evolved amid trying to decide if the benefits of using my job-site shop would offset the setup time. I can set up my basic shop in about four minutes, and I set it up even when I have only a couple of hours of work to do. Then, at the end of the day, I pack up my shop and put my tools away in the order that I intend to pull them out the next morning.

Versatile workbench costs nothing

The three basic elements of my knockdown shop are a workbench, a tablesaw and a miter saw. The first of these items, an all-weather workbench, has two endearing qualities: It's free, and it can be left outside for months at a time because it's made of scraps or salvaged material. Using scraps, I built two pairs of matching sawhorses (bottom photos, p. 107). One pair supports the workbench top. The other pair supports an auxiliary plywood worktable, my router table or my planer. To make them more weather-resistant, the sawhorses were assembled with galvanized screws and exterior glue; two of them are now close to ten years old. Making all four horses the same height comes in handy for supporting larger assemblies (photo p. 106), such as countertops. My sawhorses have a flat 2x6 top beam and are 24 in. tall, which is low enough to allow me to reach across a full sheet of plywood.

The other all-weather element of my workbench is an old frame-and-panel door with the panels removed, which I lay across the top of the sawhorses. With the panels removed, the door is easier to handle, and it's easier to secure projects to the workbench because





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clamping can occur between any of the door's rails. More often than not, I cover the door with a piece of plywood and set up my miter saw on it. When I break down the workbench at day's end, I stand the door on edge so that if rain falls, the surface isn't soaked.

The open-paneled door supports sheet goods well when they're being reduced to size. And when the door is used in combination with a variety of L-shaped jigs, it's great for holding materials vertically for assembly as well as holding boards on edge as I plane them. I keep a bucket of 6-in. bar clamps handy for securing pieces as I rout, saw, plane or drill them.

Tablesaw stand supports both the saw and the user

The second basic element of my knockdown shop is a portable tablesaw. My Makita 2708 is fairly light at 37.5 lb. I've invested in a high-quality stand with an upgraded fence and outfeed extension, the Makita Porta-Table Stand (Makita U.S.A.; 714-522-8088; www.makita.com). The high-quality stand costs as much as the saw, but I no longer dance around the job site, attempting to shove large pieces of material through my lightweight tablesaw.

To set up the Porta-Table Stand, I lay it on its top on the workbench and unfold the legs. Then I position the tablesaw stand, bearing in mind that the tablesaw needs clear, open space when I'm ripping long stock. I also try to orient the stand so that whether I'm ripping on the tablesaw or crosscutting on the miter saw, the stock runs in the same direction. The finished assembly is a well-anchored tablesaw with broad support and a first-class fence.

Crosscutting methods

The third element of my basic shop is a crosscutting system. Many days, a 10-in. miter saw is all I need, so I make sure that I have easy access to this workhorse of a tool. I place it on the center of my workbench and move the saw out of the way when I need to use the bench for other tasks. My miter saw is great for cutting 2x4s and 2x6s, but for stock up to 12 in. wide or for compound miters, I use a sliding compound-miter saw.

For material wider than 12 in., I use my circular saw with a high-quality edge guide. I've also built a crosscutting sled for my tablesaw, which I use for making shims and batches of small identical parts. □

ONLINE CONNECTION

Watch John Carroll set up his knockdown shop on our Web site at www.finehomebuilding.com.

John Carroll, a builder in Durham, NC, is the author of *Working Alone* (The Taunton Press, 2001). Photos by Bill Phillips.