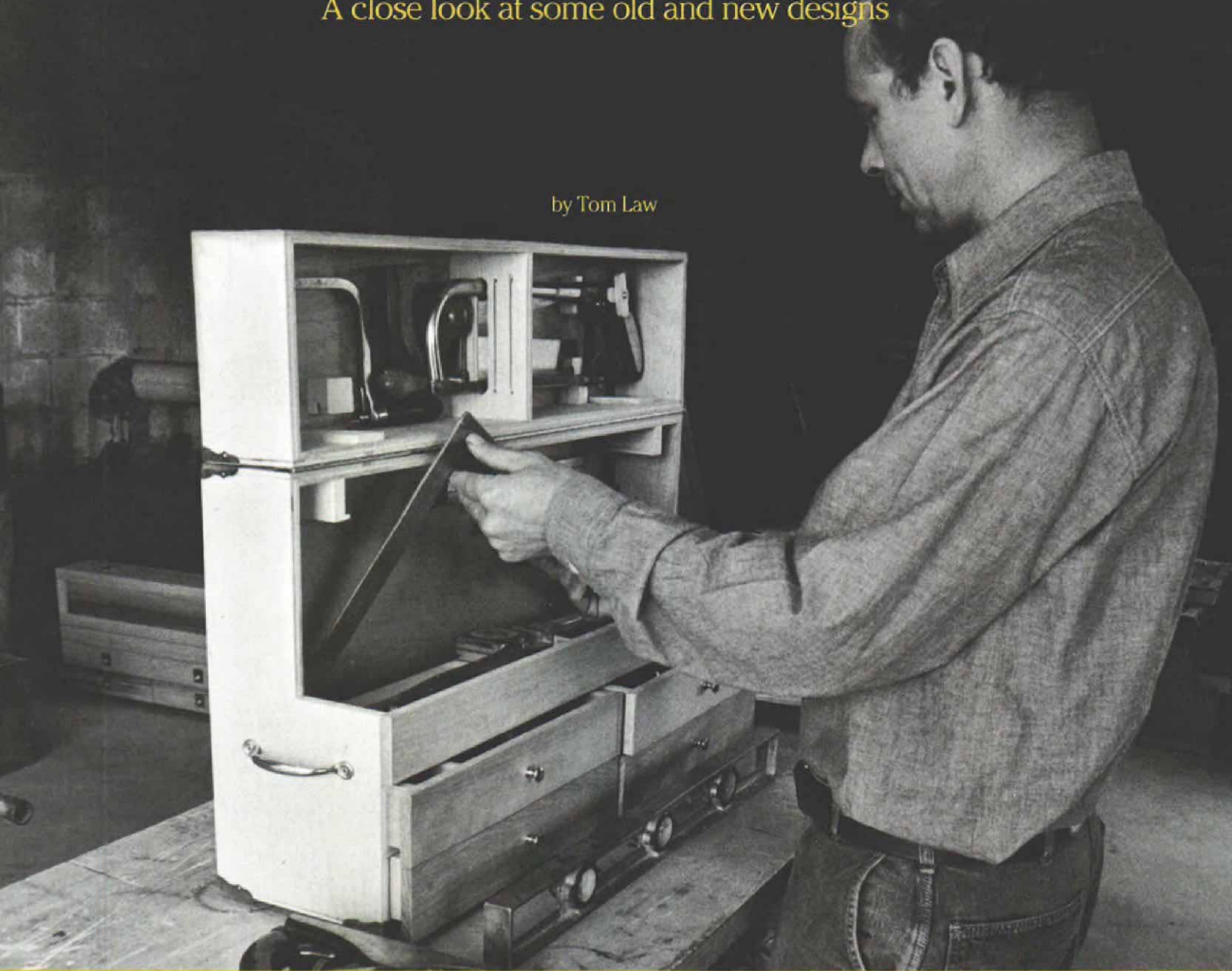


The Carpenter's Toolbox

A close look at some old and new designs

by Tom Law



Over the years I've seen plenty of toolboxes. Most of them are variations on several basic designs that have stood the test of time. Now and again I build a new toolbox, either to replace one that's worn out or because I think I've got a better design.

Before looking at particular toolbox designs, it's important to acknowledge some general design guidelines. The most important requirement of a good toolbox is capacity. It's got to be able to hold all, or at least most, of the tools for a specialized or general job. It has to be spacious and durable without being so unwieldy that you can't move it comfortably from place to place. A toolbox doesn't merely store tools; it protects them when they're not in use. This means that

edge tools like chisels and planes shouldn't be allowed to knock around in the box. Levels, saws and files need similar protection.

Tools should be readily seen, easily accessible when they're needed and conspicuously absent when you're packing up at the end of the day. And last, a good toolbox makes a good impression. If you're on a job with new clients or among unfamiliar carpenters, your toolbox is a resume of sorts. Sure, you can carry your tools in a 5-gal. joint-compound bucket, but chances are your clients or your fellow carpenters will spend a lot of time looking over your shoulder.

The open shoulder box—With today's widespread use of portable power tools, the framing carpenter might get by without an open shoulder box. In the old days, though, these simple toolboxes were standard equipment. Typically

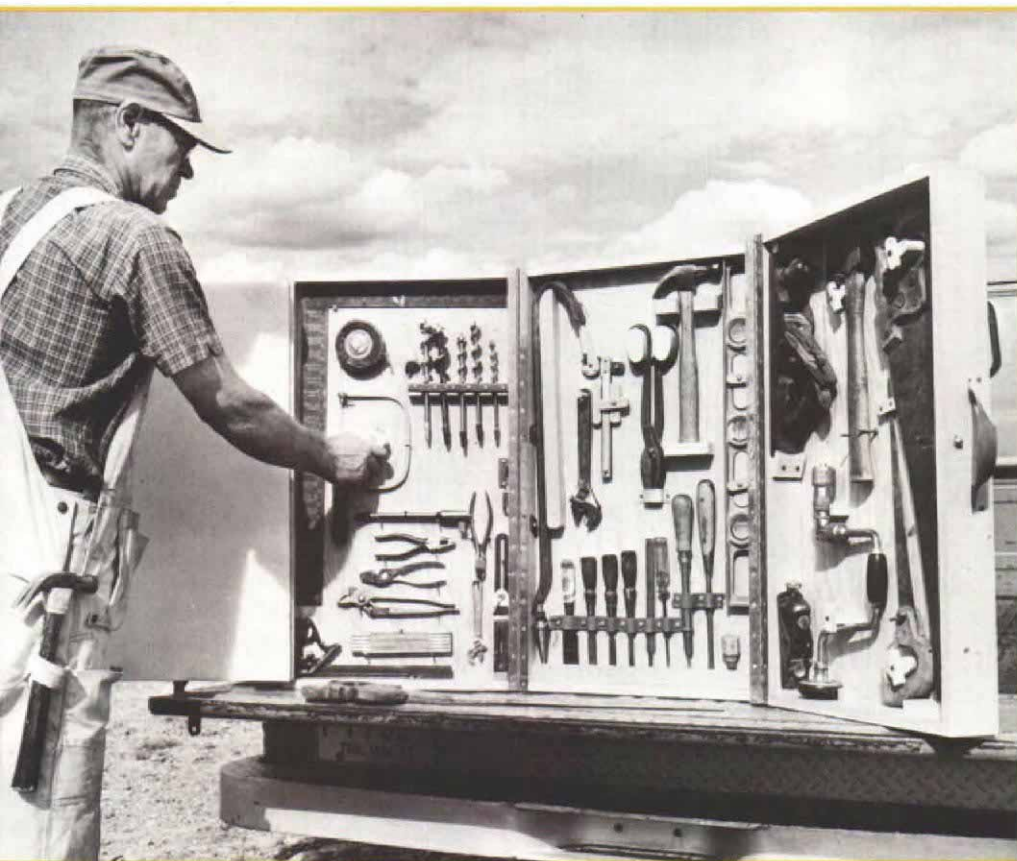
narrow and 2 ft. to 3 ft. long, the open shoulder toolbox has a closet-pole handle that extends the full length of the box. The ends of the box are higher than the sides to keep the handle up out of the way so that tools can be picked up and replaced quickly. These boxes are meant to be moved around a lot, so they've got to be ruggedly built and symmetrically proportioned in case you need to put the thing on your shoulder and climb a ladder. Handsaws, pencils, hammers, a prybar, a level, try and framing squares, a few chisels, a chalkline and a tape measure or folding rule are some of the tools the average shoulder box is meant to hold.

To keep tools from banging into each other, most carpenters build a few compartments into these boxes. Kerfs for handsaw blades can be cut into one end of the box and the saw handles can protrude outside the box, or you can simply

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Long and narrow, the open shoulder box has traditionally been the workhorse toolbox of the framing carpenter. Elaborate versions, like the one shown above, are divided into compartments to keep edge tools or delicate tools like handsaws and levels separate from the jumble of tools below. Portable and rugged, this type of toolbox has two main disadvantages: It offers no protection from sawdust or bad weather, and tools often have to be hunted for.



The cabinet-type toolbox shown above was developed in the 1960s by the Douglas Fir Plywood Association. Its display-case design makes tools easy to find and also makes it obvious what tools are missing at the end of the day. Webbing, metal hooks or brackets and simple wood latches are used to secure different tools. Two disadvantages with this type of toolbox are its tendency to blow over easily and its lack of storage for small items. Photo courtesy American Plywood Association.

make the box long enough to accommodate the full length of the saw. In the better shoulder boxes that I've seen, there is a long compartment for saws on one side. And there are several lower compartments and one or more small, shallow boxes that rest inside the box on top of the lower partitions (photo top left).

Tool cases—The utility of the open shoulder box is compromised by the fact that it offers very little protection from the weather or from sawdust, dirt and other construction debris. Tool cases do. At just about any hardware store or building-materials supplier, you can buy metal tool cases in a variety of sizes. I don't really consider these as carpentry items, though. Most of them are poorly made, and their metal compartments can't be modified easily to fit the tools you want to carry. Wood is a far better material for a carpenter's toolbox.

Wooden tool cases have been made in a number of sizes. The simple ones are about the same size as a shoulder box, but have a hinged top with a handle on it. Handsaws are usually kept in the top. The base is divided into several compartments, and there's usually a shallow lift-out box as well.

To enclose the framing square, you need a box the size of a suitcase. Small cases are usually designed so that the short blade of the square protrudes through a slot in the top of the case.

The APA case—Trade-offs between weight and capacity have always caused problems in toolbox design. In 1960, the National Association of Home Builders conducted a time-and-motion study of carpenters at work. It was discovered that carpenters sometimes spent more time looking for a tool than they did using it. Soon after this fact came to light, the Douglas Fir Plywood Association—now the American Plywood Association—designed a tool cabinet that, when open, resembled a display case of common hand tools (photo bottom left).

The APA tool case actually came in two versions: one that opened as two compartments and one that opened as three. Of course, it was made mostly of plywood. The most impressive thing about these cases was the way that every tool was secured. Chisels were held in brackets or webbing adjusted to individual blade widths; saws were secured with their blades in slots and their handles latched; screwdrivers and pliers were held by brackets or broom clips. With this type of setup, it's virtually impossible to put a tool back in the wrong place. It's also easy to spot a missing tool. Unfortunately, the APA no longer sells plans for either of these toolboxes.

What the APA case demonstrates is the concept of custom-building the toolbox around the tools it's supposed to hold. This isn't a new idea, and in fact many versions of the APA's toolbox design were developed by the Stanley Tool Corporation during the early part of this century. For years, Stanley published a nifty catalog of tool cabinets and cases. Each one contained an array of hand tools that were clamped or latched in place. Yes, the tools came with the box, and at prices that would make a modern carpenter cry.



The author's toolbox, shown open and closed at right and above, combines display-case design for large tools with drawer space for smaller items. The top section swings open on a piano hinge, revealing saws, squares, hammers and planes. The legs of the framing square slide behind the small platform above the drawers. In a good toolbox, the storage space is tailored to the tools. Remaining photos: Top, chisels occupy their own drawer and fit into individual slots to protect honed edges. Center, carrying slots for the level, try square and sliding T-bevel are made from solid wood glued to the back of the box. Bottom, the hacksaw, hacksaw, keyhole saw and coping saw are secured in slots cut in a piece of ½-in. plywood. The two outer slots are for full-size handsaws.



My design—A few years ago I made a cabinet-style toolbox similar to the APA toolbox. It was slightly larger and heavier, so I mounted it on caster wheels. I could roll it around the work-space, and it was nice to be able to see my tools out in front of me. The trouble with this and other cabinet-type boxes is that they blow over easily in a wind, or are just as easily knocked over accidentally. My cabinet's numerous top-plings finally did it in. Rather than glue it together once more, I disassembled it and used the wood and the wheels for other things.

In my next toolbox I tried to combine the best features of the cabinet toolbox with the best features of the case-type toolbox. This hybrid, shown in the photos on this page, seems to work best for me. Its overall dimensions are as follows: 16 in. high; 8 in. wide, 30 in. long. Its top half hinges up, revealing an upper section reserved for saws—two full-size handsaws, a backsaw, a hacksaw, a keyhole saw and a coping saw. The back of the case revealed by the fold-up top is used to hold the level, try square, sliding T-bevel and framing square. The framing square slips behind the small platform above the drawers, where I keep a smooth plane, a block plane, a tape measure, a Yankee screwdriver and a couple of hammers.

The four shallow drawers in the bottom part of this toolbox are important features. One holds nothing else but my set of chisels (photo right, third from bottom). Notches cut into wood spacer strips hold each sharpened edge away from its neighbors.

The other three drawers hold a variety of small items: nail sets, a full drill-bit index, coping and hacksaw blades, pliers, snips, pencils, a utility knife, a compass, an adjustable wrench and several files. What's in the drawers weighs quite a bit more than the tools stored above

them, so the box is bottom heavy, as it should be for stability.

Toolbox construction—Plywood is the best material to use for the body of the case and for drawer sides and bottoms. I built a fancy version of my latest toolbox design using solid hickory and sassafras boards that came from trees on my property. Rather than rabbeted joints and flat sides, this one has dovetails and raised panels. It's more beautiful to look at than my plywood version, but it's also a lot heavier and—I suspect—less durable.

Half-inch birch-faced plywood is what I used for the toolbox shown here. I constructed the top part of the case—down to the tray above the drawers—as a whole and then ripped out the hinged section on my table saw. I had to finish this cutout using a handsaw where the circular-saw blade wouldn't reach.

I used a piano hinge to make the top open. It's easy to mount and distributes the weight in the hinged portion evenly. The handles, corner shields and drawer pulls are either thin-gauge brass or brass-plated steel.

The fixtures in the upper part of the box that hold the larger tools were made from pine scraps and simply glued in place (photo middle right). I cut the handsaw slots in the hinged portion (photo bottom right) on my table saw. The only latch inside the box is the one that holds the hacksaw handle.

Drawer fronts shouldn't be made of plywood because they'll get dinged up too easily. I used maple for my drawer fronts, but almost any hardwood will do. Each front is dadoed to receive its sides and grooved to accept the bottom panel of ¼-in. plywood. I left my plywood box unfinished, but for extra protection you can apply a couple of coats of polyurethane. □

