

Fine Furniture for Tools

Tool chest combines storage and convenience while showing off its maker's skills

by Steven Thomas Bunn



Fit for a showroom—Because the author doesn't have a display of finished furniture, he built this toolbox to advertise his capabilities to drop-in customers. It also offers lots of convenient storage with 20 removable drawers that can be carried to the workbench.

I wanted a toolbox that was both visually striking and had a lot of storage space. Appearance was a prime consideration because as a one-man shop, I can't afford to keep finished work around as showpieces, and piles of wood or half-finished parts are not impressive to a drop-in client who isn't familiar with cabinet-making. I needed a toolbox that, like the journeyman's boxes of old, was an advertisement and demonstration of my capabilities.

I like the European-style toolbox that hangs on the wall with tools hung neatly inside. However, I don't like the large volume of wasted space behind the closed doors. In addition, the sheer

number and weight of tools I possess ruled out a box that could be hung on the wall. I like the out-of-sight storage of drawers, similar to a mechanic's toolbox. I also like the idea of grouping similar tools in a single drawer so that I can pull out a drawer of chisels or gouges, set it on my bench and then go to work. Also, drawers keep sawdust and wood chips from accumulating over my tools.

Incorporating drawers meant the cabinet needed to be relatively deep: I calculated about 17 in. deep to be effective. For both design and practical reasons, I decided to put the tool chest on its own stand, as shown in the photo above. The cabinet and stand offer

exceptional storage capacity for fine hand tools at a height that keeps me from having to reach up or bend down to get to anything. But with some slight modifications of the interior storage arrangements, the tool chest could easily house linens, china or electronic equipment. In fact, my tool chest is an interpretation of the Gate's sewing cabinet shown in *Measured Shop Drawings for American Furniture* by Thomas Moser (Sterling Publishing Co., Inc., N.Y.; 1985).

Building the carcass

The solid panels of the case top, sides, shelves and bottom are all made of $\frac{3}{4}$ -in.-thick stock, as shown in the drawing on p. 63. After preparing the stock, I routed stopped dados into the side panels for the shelves and bottom, guiding the router against a fence. To ensure the dados were aligned, I clamped the sides together with the back edges butted against each other. I positioned the fence, squaring it to the front edge of one of the side panels, and clamped it in place.

After the dados had been routed into the sides, I joined the top and sides of the carcass with through-dovetails and then dry-assembled the joints. Once satisfied with the fit of the dovetails, I cut a rabbet on the inside back edge of the top and sides for the back. The rabbet in the top was stopped at each end and squared up with a chisel. I then reassembled and glued the dovetails. The bottom was sprung into its dados, aligned 1 in. behind the case front to allow for the bottom face frame and screwed into place with glue blocks from underneath, as shown in the drawing.

The shelves were driven in from behind with taps from a dead-blow mallet. The front of the shelves were notched to fit tightly against the case side and hide the dados. I left a $\frac{1}{8}$ -in. gap at the back of all the shelves as a safety measure in case of unequal ex-



Shop or home furniture? This tool chest could be equally at home in the parlor with just minor changes to the interior to accommodate china, silver or even stereo equipment.



Oversized storage holds big items—This two-drawer box slides into place between the shelves to hold long items that don't fit in the smaller drawers.

pansion in the sides and shelves. So if the shelves swell more than the sides, the shelves won't break out the back of the case. Only the bottom was left full depth to provide a place to anchor the board-and-spline back. The interior shelves also stop 3 in. shy of the front to leave room for the tools hung on the inside of each door.

Slide-in drawer dividers

Four vertical drawer dividers slide into dados routed in the two top shelves to form the drawer support system, as shown in the drawing. Before installation, I cut matching dados in all four dividers to make the drawer-guide grooves. I followed Tage Frid's advice in *FWW on The Small Workshop*, pp. 18-19 (The Taunton Press) and made a series of grooves at $1\frac{1}{4}$ -in. intervals. The theory is that you could make drawers in $1\frac{1}{4}$ -in. increments for greater storage flexibility. Using Frid's modular system, you could take out two $1\frac{1}{4}$ -in. drawers and replace them with one $2\frac{1}{2}$ -in. drawer. I've found this doesn't work in the real world. I'm not about to start making new drawers to replace ones that I already have, and changing the drawers around makes finding tools a guessing game. But beyond that, I'm tired of always being asked,

"how come there are more grooves in the dividers than drawers?"

The two outside drawer dividers were installed first. Then I locked the shelves in place with one screw at each end of the shelf, driven through the carcass sides from the outside, as shown in the drawing. The counterbored and plugged screw was centered in the shelf about 1 in. behind the leading edge. The unglued shelf is free to float in its dado behind the locking screw. The two center dividers were added last from the back of the cabinet.

All drawer parts were batched together and cut at the same time. I built the drawers, wherever possible, from wood scrap except

the drawer fronts, where I attempted to cut all three fronts in a row from the same cherry board for grain matching. The drawers were half-blind dovetailed at the front and through-dovetailed at the back, as shown in the drawing.

Before final glue-up, I cut the groove for the drawer bottom in the sides and fronts on the table-saw. The back was trimmed, as shown in the drawing on the facing page, so that the drawer bottom extends past the back and can move with the seasons. Planning the drawer bottom so that just the right amount protrudes lets the bottom act as a stop against the cabinet back when the drawer is closed.

After final fitting of the drawers to their openings, I glued strips to each side. The strips act as drawer runners, and they fit into the grooves cut into the vertical drawer supports.

The two longer drawers below the main drawer section are housed in a separate box, which was an addition that I made later to store tools like rulers and oversized screwdrivers.

Board-and-spline back for seasonal movement

The back is made from seven boards (see the drawing). A 1/8-in.-wide by 1/2-in.-deep groove was cut into both edges of five of the boards and only one edge of the remaining two boards. The two boards with only one groove were glued on their ungrooved long edges to the case-back rabbet. The remaining boards were screwed to the case top and bottom with a 3/16-in. gap between each board. Splines were slid into the grooves from the bottom edge of the case until they butted into the rabbet at the top of the case. These splines float freely in the grooves with enough leeway to allow for seasonal expansion. A small brad was driven through a drilled hole in the center of each spline at the carcass base to keep the splines in place.



Preventing door sag—Legs screwed to the doors' lock stiles help support the heavy tools hung on the doors and prevent the hinge screws from pulling out.



Supporting heavy loads—Corner braces reinforce the mortised-and-tenoned rail-to-leg joint and enable this elegant base to support the heavy tool chest.

Legs support the frame-and-panel doors

Two frame-and-panel doors were made and fitted flush with the front of the case (see *FWW* #107, p. 67). I added a drop-down leg to the back of each door's lock stile to support the weight of the opened doors and the heavy tools stored on them, as shown in the photo on p. 60. The legs are short enough to fold up and stow out of the way so that the doors close freely, as shown in the photo at left. A lock and strike plate were mortised into the lock stiles and a keyhole cut in the face of one door. I had planned to add wooden door knobs to the completed case, but the two plain doors were so striking without them that I never added the knobs. I use the key in the keyhole to open and close the case.

Base puts chest at convenient height

A four-legged base, 28 in. high, was made to hold the chest, so I don't have to bend over to get to my tools. The chest sits on the rails, and cove molding glued to the top edge of the rails hides the joint between the chest and base. The chest is not screwed to the frame; its weight is sufficient to keep it from moving. The legs

were tapered on a bandsaw and cleaned up on the jointer. Corner blocks strengthen the base and add support for the tool chest, as shown in the bottom photo.

I have been using this chest for the past six-and-a-half years and am very pleased with it. The only thing I would change is the excessive number of drawer slide grooves in the drawer dividers. I also have considered replacing the stand with a lower case for storing items like routers and drills. But this one looks just too nice to change. □

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Tool chest and base

All stock is $\frac{3}{4}$ in. thick unless otherwise noted.

