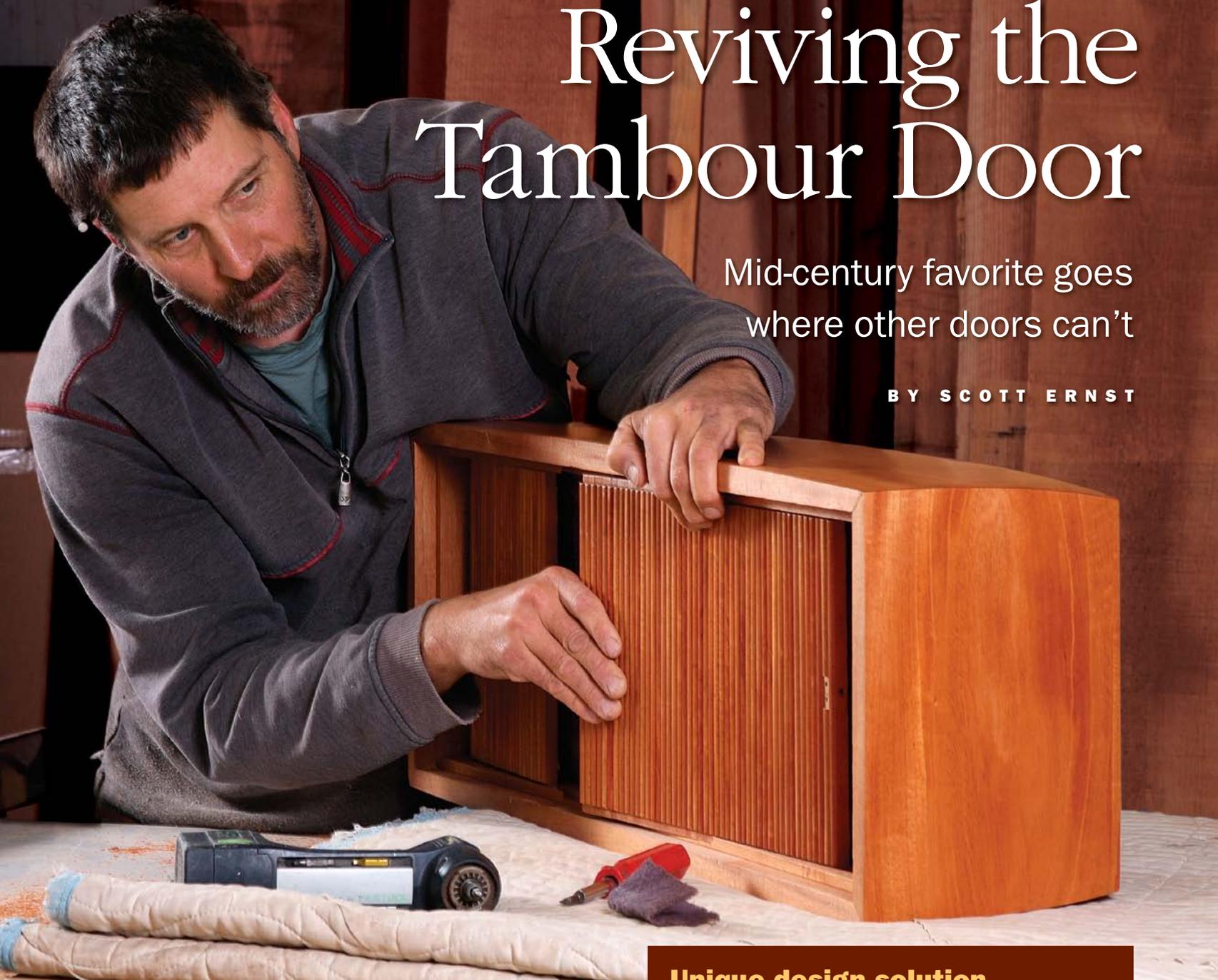


Reviving the Tambour Door

Mid-century favorite goes where other doors can't

BY SCOTT ERNST



Unique design solution

Tambours follow curves and work in spaces where a swinging door won't. And unlike sliding doors, they allow full access to the interior. Also, the fine shadow lines lend a subtle visual variety to a piece.

There are many reasons, functional and aesthetic, to use tambour doors in a cabinet. In the old days when people had gigantic, fat TVs that they didn't want to look at, they hid them in cabinets with pocket doors. Now, people have gigantic, thin TVs that they don't want to look at. They want lower-profile cabinets to hide them in, and often there isn't enough depth to the cabinet to slide in a pocket door.

Tambour doors are a sweet solution, because they slide open, wrapping around the inside of a shallow cabinet, and hide in the back. Tambours are a good option when a door that swings would be in the way. They are also an elegant and easy way to close a bowfront cabinet, since building and fitting curved doors is challenging. They are also a nice design tool. Depending on whether the slats are flat or profiled, solid or veneered, tambours can give your furniture different visual and tactile textures.

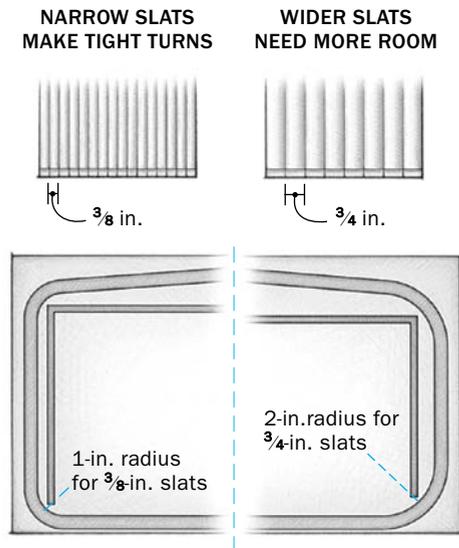


Designing for tambour doors

A case with tambours needs false sides. If the case is shallow or the opening is wide, the tambours will travel past the sides, and a false back is a nice way to hide them.



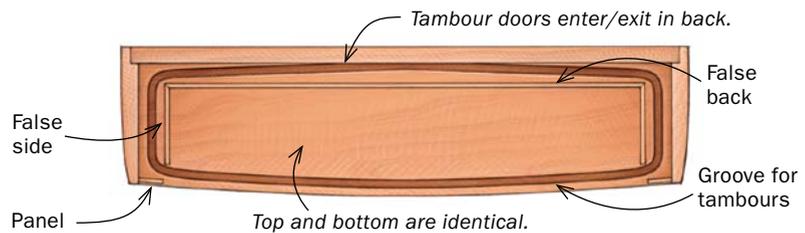
PLAN THE CURVE AND TAMBOURS



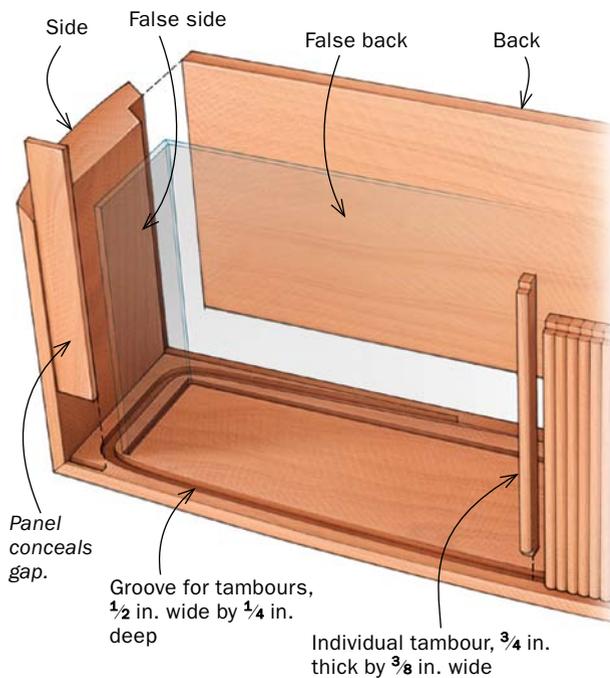
TIP MAKE A TEST TRACK



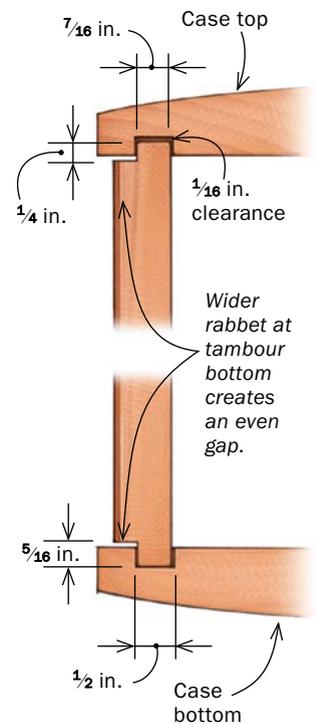
Can it handle the curves? Mock up a section of tambour and a groove to test whether the groove is wide enough, and its curves gentle enough, to avoid binding the doors.



TRACK LAYOUT



CASE CONSTRUCTION



TAMBOUR RABBETS

A tambour door is made from a line of slats set snug against each other. A sheet of artist's canvas glued to the back holds them together and acts as a hinge between the slats. The slats slide in grooves in the top and bottom of the cabinet. When you open the door, they scoot around the corner to hide between the actual side of the cabinet and a false side. Details matter, of course, but tambours are not hard to make.

Design and drawing

I like to design tambour doors in pairs that run in a shared groove and meet in the center of the cabinet opening. Two short doors

are easier to operate and conceal than one long one. Try to avoid extreme proportions. A door that's very tall and narrow tends to cock in its opening and bind up.

The classic tambour has bullnose profiles on its show face, similar to the ones shown here, but you can use other shapes or leave the faces flat. I make the slats between $\frac{3}{8}$ in. and $\frac{3}{4}$ in. wide.

I make a full-scale plan drawing of the cabinet's interior, including all the details such as the false sides and back. I mark centerlines from front to back and side to side. I also mark out the template used to rout the door grooves, drawing a paral-

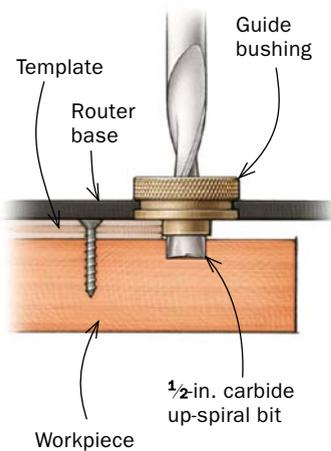
lel line $\frac{1}{16}$ in. inside the groove location. This accounts for the offset created by the router's guide bushing.

Create the path

Mill the case components to dimension and cut the joinery. Then draw centerlines on the inside faces of the top and bottom panels. To create the groove template, tape your drawing and carbon paper on a piece of plywood or MDF and transfer the template outline to the plywood. Transfer the centerlines and locations of the false sides as well. Cut out and fair the template, checking its accuracy against the drawing.

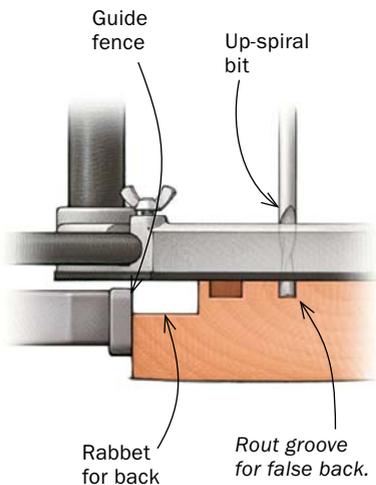
Groove the case for doors and panels

TEMPLATE-ROUT THE TAMBOUR TRACK



Ride the template. Orient the template using centerlines and screw it down to the workpiece. Flip it end-for-end when switching the case top to bottom. Ernst uses a guide bushing and a $\frac{1}{2}$ -in. carbide up-spiral bit.

ROUTER FENCE GUIDES CUTS FOR INTERIOR JOINERY



Ride the fence. To cut the straight slots for the false sides and false back, Ernst uses the router fence to guide the tool.

Pre-finish. Coat the interior portions of the case that will be inaccessible after glue-up. Ernst uses shellac because it dries quickly and provides a good vapor barrier.



Carry the centerlines to the opposite side and label the two sides “top” and “bottom,” for orienting the template to each workpiece.

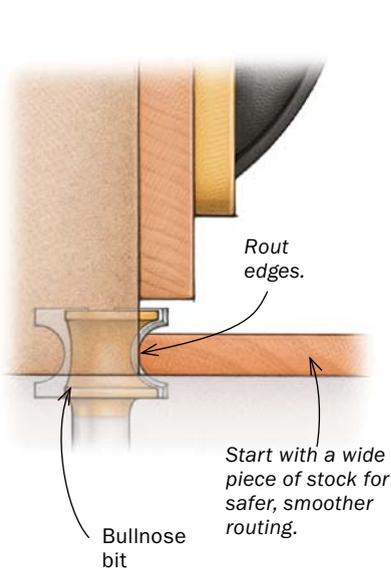
The template is screwed to the workpiece. I locate the screws inside the false sides, where they won't be seen. Putting the top of the template against the top panel, align the centerlines, screw it down, and rout the tambour groove. Repeat the process with the bottom panel, putting the bottom of the template on the panel this time. That way, even if your template isn't perfectly symmetrical, the top and bottom grooves still line up nicely when you're done. With the grooves routed, cut the joinery for the back and the interior case components.

Before glue-up, sand the inside of the grooves with folded P220-grit paper to remove any fuzz that will keep your tambours from running smoothly. Now apply finish to the parts that you won't be able to reach later. I also sand and wax the grooves after finish and before assembly.

Make the slats

To roughly calculate how many feet of slats you need, divide the width of your opening by the width of one slat. Then multiply the result by the height of the opening. Say you have an opening 48 in. wide by 24 in. high and your slats are $\frac{3}{8}$ in. wide. Dividing 48 by 0.375 tells you that you need 128 slats to get your width. If they are 24 in. high, the math says you need 256 ft. of slat material to fill your opening. Now add 15%

Make the tambour slats

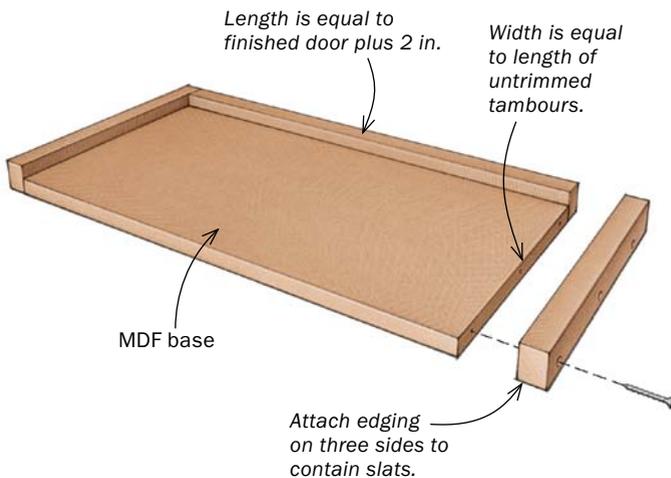


Rout, rip, repeat. Profile both edges of the wide stock and then rip away each edge to the thickness of the slat. Repeat the process until you have enough slats for your door.



JIG DOES TRIPLE DUTY

This simple tray holds the slats for sanding, gluing, and trimming (see p. 72).



Prepare for glue-up. Ernst loads the slats into a shop-built tray, backs facing up. He sets aside any that aren't straight; those will cause gaps in the finished door.

to account for tearout, snipe, poor color, and other defects.

It would be dicey at best to rout a profile on the edge of a thin, narrow slat. Instead, mill up a pile of wide stock in lengths that are multiples of the finished slats, plus a half foot or so. That leaves room to trim any snipe off the ends. Take your wide stock to the router table and profile both edges. Then bring it to the tablesaw and rip off the profiled edges to the depth of the tambour slats. Keep profiling and ripping until you have what you need.

Now it's time to sand. I've tried flap wheels and abrasive brushes for this, but nothing works as fast or as well as simply sitting down for a few hours with some



Secure the slats. A scrap spacer inserted between the tray and last slat holds the assembly snug. Avoid fitting the slats too tightly.



Sanding. With the slats held firmly in place, Ernst uses a random-orbit sander to level and smooth the backs.

Glue the panels



Don't use yellow glue. Carpenter's white glue will stay flexible, allowing the doors to bend more freely. Ernst spreads a thin layer with an old credit card (above) before laying down the artist's canvas (right).



good music and a roll of P150 grit. Once you have those miles of slats sanded, cut them to rough length. I typically leave an extra $\frac{1}{2}$ in. or so.

Glue up the doors

To hold the slats squarely in place while gluing them to the canvas back, I build a simple three-sided tray on a piece of plywood or MDF. Make it nice and square because it determines how square the door is and, consequently, how seamlessly the two doors meet in the middle.

Fill the tray with slats, discarding any that aren't straight. They go in back sides up. Insert a filler strip at the end of the run to snug the slats together. Don't make it too tight or the door won't lay flat after it's glued up.

Draw a line about 1 in. from each end of the slats to mark out for the canvas, then cut the fabric to fit. Attach the canvas with carpenter's white glue. I use a vacuum bag to clamp the canvas to the slats. If you don't have one, use a plywood platen instead. Clamp across it with cauls every 6 in. or so. A layer of closed-cell, $\frac{1}{8}$ -in. packing foam between the platen and slats helps distribute the pressure.

Either way, take the assembly out of clamps before the glue really sets up.



A vacuum bag is best. You can use clamps and broad cauls, but the bag excels at applying even pressure to an uneven surface. Be sure to remove the assembly before the glue sets completely.

Bend the door at each joint to be sure the slats are free from each other. Sometimes a little prying with a chisel is necessary. Then stand up the doors in a barrel shape to let the glue dry completely.

The same jig that held the slats for gluing now serves as a sled on the tablesaw to trim the door to height. After trimming one end of the door, turn it 180° in the jig and cut it to its final length.

Lastly, use a dado set to cut the rabbets that form the tongues at the top and bottom of the door. For the thickness of the

tongue, it's better to be too loose than too tight. To get even reveals at the top and bottom of the door, the rabbet's height is different on the top of the door than on the bottom.

Fit and finish

After all the preparation, you are now ready to slide the doors into your cabinet and see how it looks. But wait—the doors slide like you're pushing a brick! Don't panic. Until both doors and cabinet have finish and wax on them, they are going to

Trim and rabbet



Keep it flexible. After the tambour comes out of the bag, use a chisel or putty knife to gently pry apart any slats that are sticking together. Leave the assembly standing with the slats separated while the glue finishes drying.

drag. Once you get them lubed up, they should run nice and smooth.

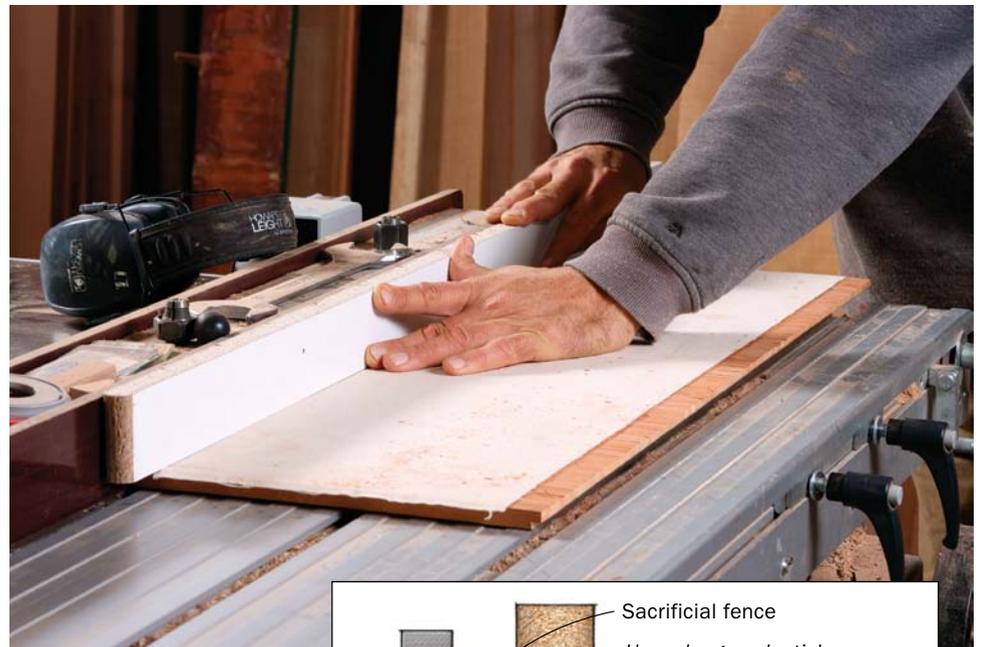
Applying the finish—Arrange the tambour in a cylinder while the finish is going on and drying, so the slats don't stick together. It can be stood up or laid over something cylindrical, like a garbage can on its side. Sprayed finish is the easiest to apply, but you could brush or wipe on a good finish. Avoid waterborne finishes; they raise the grain and you'll have to sand all the slats again. When the finish is dry, use an abrasive pad or steel wool to smooth the grooves and the tongues on the doors, and then wax them.

Personally, I like the look of tambour doors without pulls; but if you are adding pulls, do it after the doors are installed (see bottom left photo, opposite). I use a narrow chisel to create a flat on the slat where the pull will be installed, and drill a pair of screw holes into the slat at the drill press.

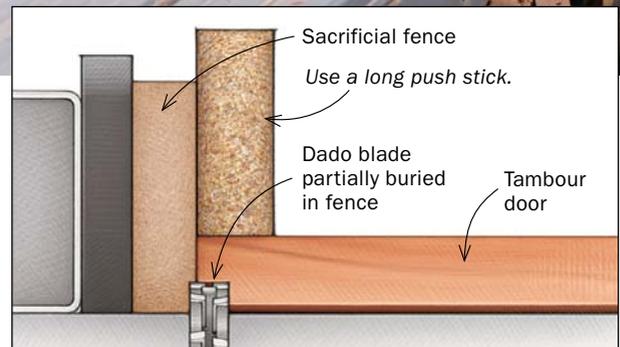
For the stops, make a small block of wood $\frac{1}{4}$ in. thick, as wide as the tambour groove, and as long as the width of two slats. This gets countersunk and screwed in place in the center of the top groove. Then cut off the tongue on the top of each door's first slat, so the two center slats can



Glue-up tray becomes a sled. Run the tray against the fence to trim the door to finished height. Ernst screws a spacer into the tray along the door's length to make it overhang the edge.



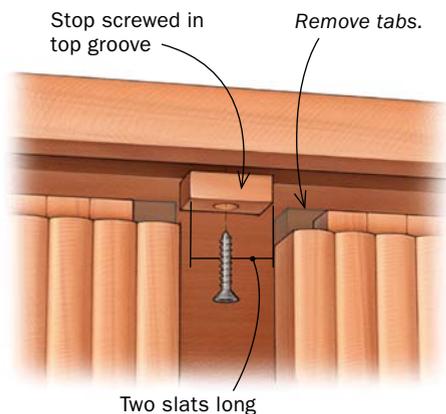
Rabbet the door. Ernst uses a full-length push stick to hold the array firmly to the saw table as he cuts the rabbet with a dado set.



Install the doors

PLACE THE FRONT STOP

The stop fits into the groove at the top of the cabinet and is as long as the width of two slats. This lets the two cutaway slats meet in the middle.



close against each other. To locate the stops in the open position, slide the doors open until there are a few slats exposed in the opening. If the rear of the door is in a bad spot, going around a corner or sticking out the back for instance, slice off a slat or two. Mark the location of the rear of the door and install a stop there.

Once the doors and stops are in the cabinet, you can install the back. I generally use shiplapped planks nailed into the back rabbet, but a frame-and-panel or plywood back works fine as well. □

Scott Ernst builds custom furniture in Glorieta, N.M.

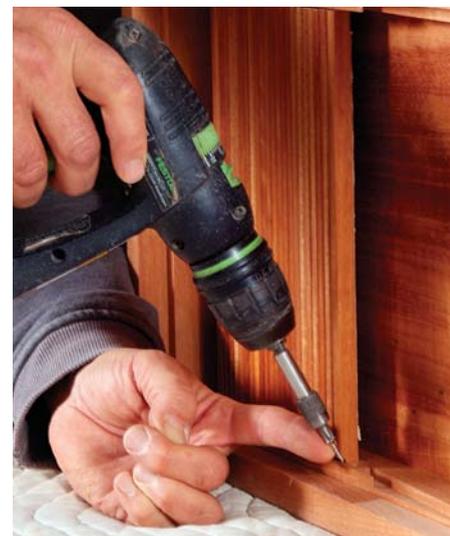


Install the doors and front stop. Slide the doors into the groove from the rear of the case (above). Center the front stop in the top groove and screw it in place (left).

ADD THE HANDLE AND REAR STOP



Pulls are optional. If you do add them, they go on after the doors are installed. Ernst attaches the last two or three slats together with a trim-head screw to keep them from twisting.



Set the range of travel. Ernst positions the door for installing the rear stop (left), ensuring that the door will stop before the pull bangs into the side of the opening. Then he screws the rear stop in place in the groove at the rear of the cabinet (right).