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DVD STORAGE CASE



DVD STORAGE CASE

Organize your collection of DVDs in style with this easy-to-build, versatile storage case.



▲ *The storage case works just as well vertically. After standing it on end, just give the drawers a quarter turn, and then slide them back in place.*

It doesn't take long to build up a rather sizable collection of DVDs. But the challenge is keeping them all organized and neatly stored. That's just one of the reasons I like the DVD storage case you see in the photo above. Another reason is that it's easy to build. The few simple joints you need to make can all be done at the router table.

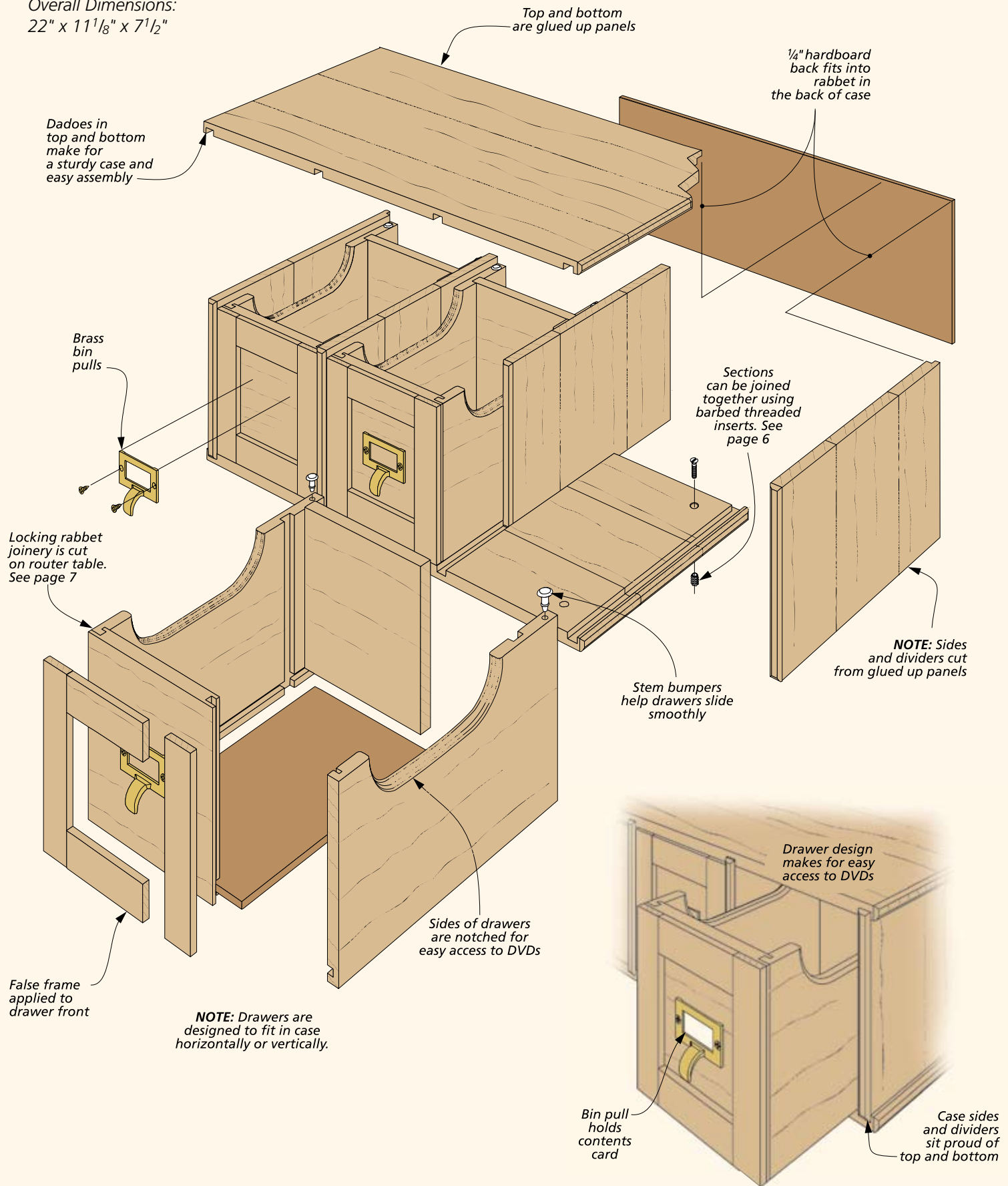
The final thing that makes this project unique is the design of

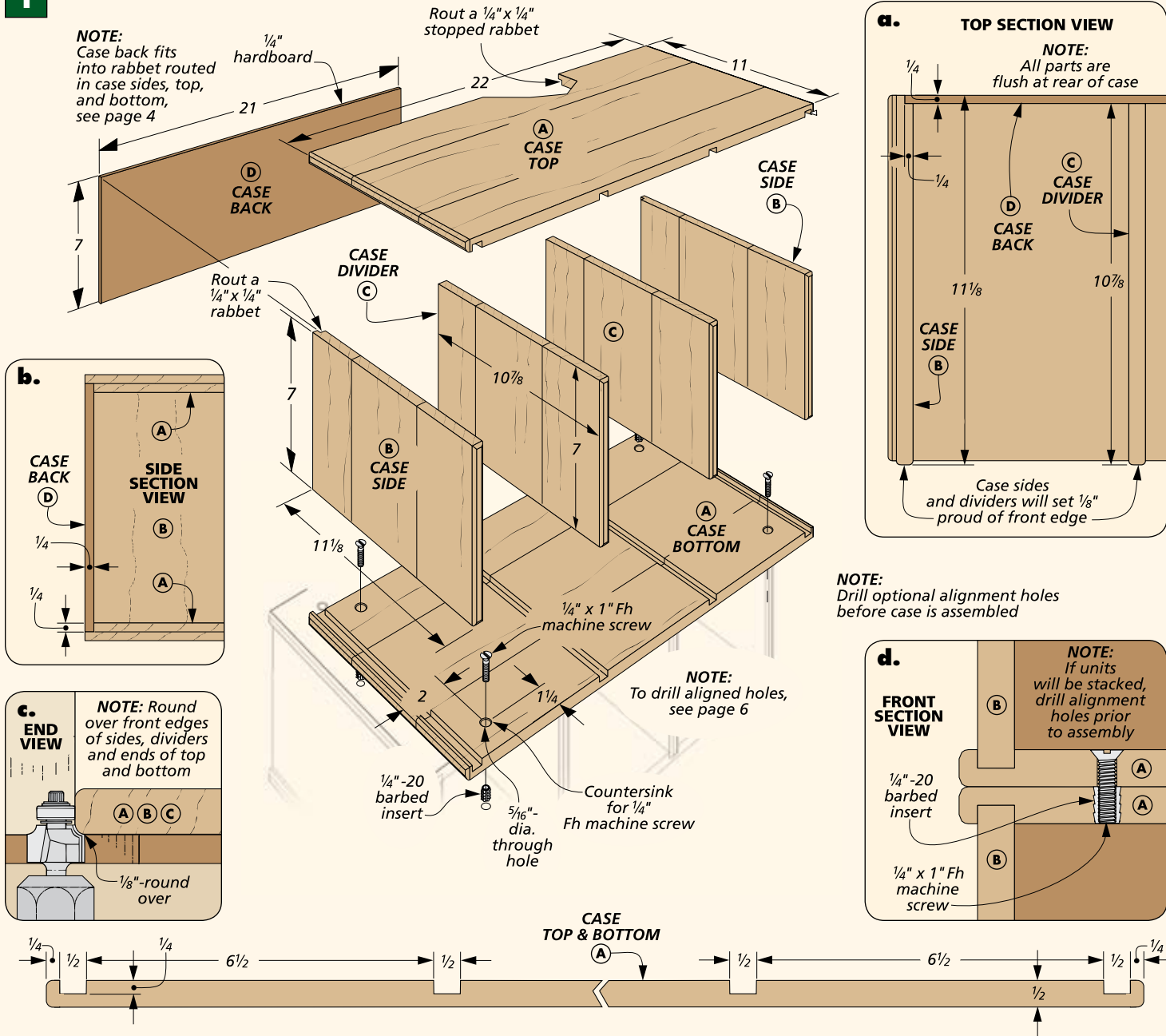
the case. You can set the case horizontally (photo above) and stack a couple together so they'll look like an old library card catalog. Or stand a single case on end (photo at left) where it resembles a miniature filing cabinet.

Regardless of its position, the drawers slip in place smoothly. And your collection stays organized so you'll always be able to find the DVD you're looking for.

Construction Details

Overall Dimensions:
22" x 11¹/₈" x 7¹/₂"





Making the Case

As you can see in the drawing above, the storage case is nothing more than a box with a couple of dividers. The key to making the box is creating perfectly square openings so that the drawers will fit the case whether it's sitting horizontally or vertically.

To do this, I started by cutting the top and bottom to final size and then headed to the router table. The router is the best choice for making the dados that the sides and dividers of the case will fit into.

Since you'll see the dado at the front of the case, a straight bit will cut a smooth, clean bottom and

create a tight-fitting joint. The next page shows you how this is done.

STOPPED RABBETS. While you're at the router table, you'll want to rout a rabbet along the back edge of both the top and bottom. It's sized to accept the back of the case (detail 'b'). Just be sure to start and stop the rabbet without routing through the ends of the top and bottom.

At this point, you can set the top and bottom aside and work on the case sides and dividers. What's important to note here is that the sides are a 1/4" wider. This allows for a rabbet along the back edge to hold the back of the case (detail 'a'). And

both the sides and dividers are sized to project slightly (1/8") past the front edge of the top and bottom.

You're just about ready to assemble the case. But first you'll need to ease the sharp edges by routing or sanding a small roundover on the front edges of the sides and dividers, as well as on the ends of the top and bottom. This is shown in detail 'c' and on page 4.

Finally, if you're building more than one case, detail 'd' and page 6 show you the steps to take to join them together. Once that's complete, you can glue up the case and install the hardboard back.

As I mentioned earlier, I used dados to join the case sides and dividers to the top and bottom. Since this joint will be “front and center,” it’s very important to cut perfectly smooth, flat, and chipout-free dados. To do this, I used my router table and a 1/2" straight bit, as in the photo at right.

ROUTING THE DADOS. The key to making the drawer compartments of the case identical in size is cutting evenly spaced and matched dados in both the top and bottom.

All it takes is a couple of simple steps, like you see in Fig. 1 at right. Start by routing the dados for the dividers. To do this, position the fence so it’s 7/4" away from the bit. Then set the router bit to cut 1/4" deep.

To prevent chipout as you complete the cut, use a backer board to push the workpiece over the bit, like you see at right. After completing the first cut, simply rotate the workpiece end for end and rout the dado for the second divider. Then, repeat the process on the bottom of the case.

The next step is to rout the dados at the ends. What’s important here is to reset the fence so that after routing the two dados, the spacing between all of them is identical. In my case, I reset the fence 1/4" from the bit.

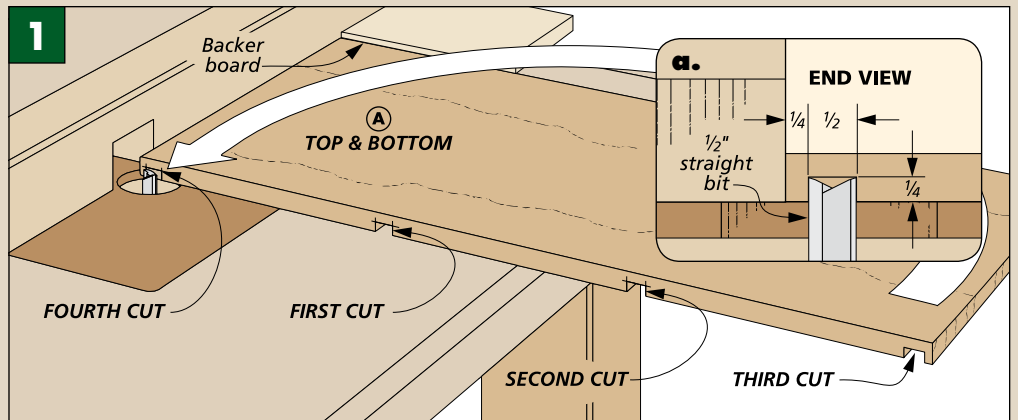
ROUTING STOPPED RABBETS. You’ll also need to make a couple of rabbets to hold the back of the case. If you look closely, you’ll notice that the rabbets are “stopped.” That’s so they aren’t visible on the sides of the case. To make these cuts, you’ll want to switch to a 1/4" straight bit.

To match the depth of cut, you can use one of the dados you just routed as a setup gauge, as shown in Fig. 2. I found it easiest to align the workpiece over the bit and then “drop” it down to begin the cut (Fig. 3). Just be sure to stop the cut when you reach the dado that’s at the end of the workpiece.

Finally, rout or sand a roundover to ease the edges (Figs. 4 and 5).

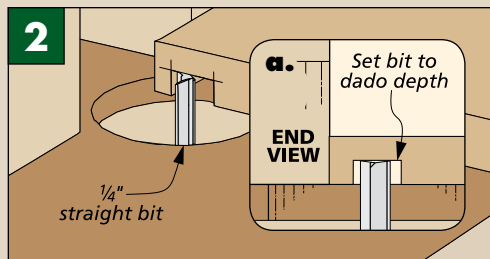


The router table and a 1/2" straight bit is all it takes to make smooth, flat-bottomed dados. A simple backer board prevents chipout at the end of the cut.

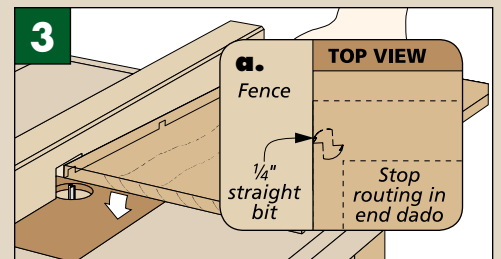


The first step in cutting the dados is to set the fence to cut the dados for the dividers. After you rout one dado, flip the workpiece end for

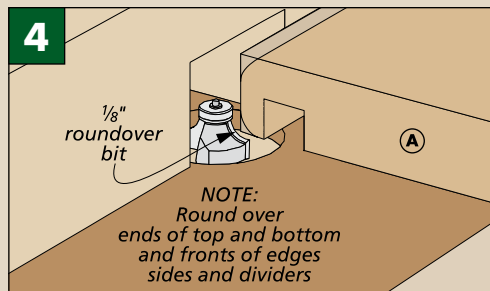
end and make a second pass. Then you can reset the fence to space the dados evenly, as shown in detail ‘a,’ and rout the dados for the sides.



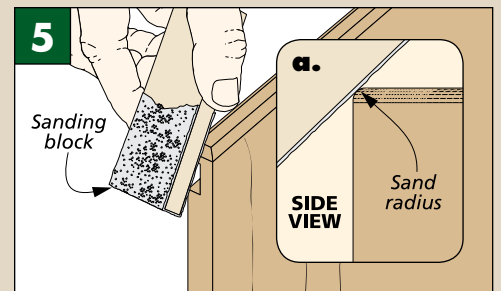
After installing a 1/4" bit in the router, you can use one of the dados you just routed as a setup gauge for setting the depth of cut for the rabbet.



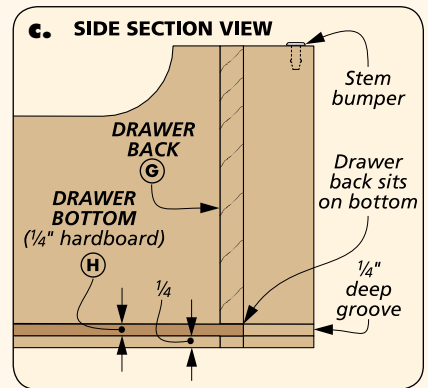
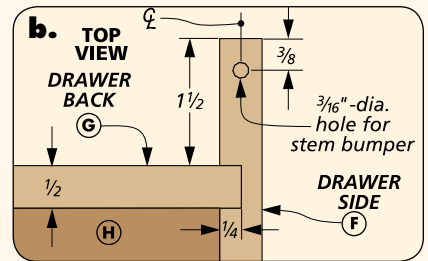
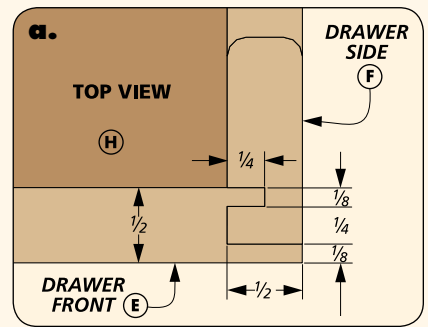
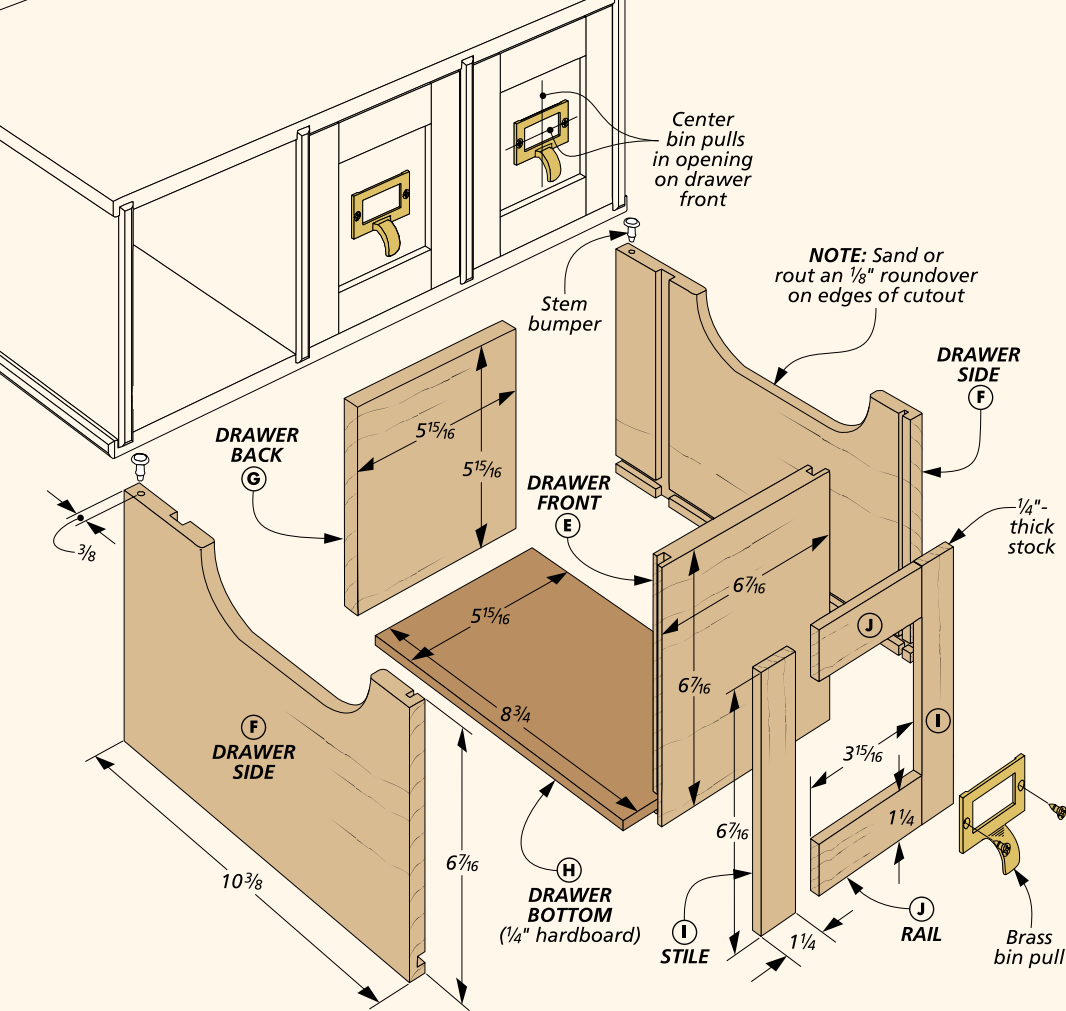
Reset the fence and rout the rabbet along the back edge of the top and bottom. Stop the cut when you reach the end dado (detail ‘a’).



After routing the dados and rabbets, switch to a 1/8" roundover bit to soften the ends of the case top, bottom, sides, and dividers.



It’s almost impossible to rout a roundover on the small ends of each piece. So it’s best to switch to fine sandpaper and a sanding block.



Two-Way Drawers

With the case complete, you're ready to turn your attention to the drawers. The challenge is to build the drawers so they fit well in the openings in the case — whether the case is set horizontally or vertically.

DRAWER DETAILS. The drawers are built to have a small $\frac{1}{16}$ " clearance side to side and top to bottom. And if you take a quick look at the drawing above, you can see how the back of the drawer is recessed just a bit. This way you can pull out the drawer and easily access the DVDs

without the drawer falling out of the case. Finally, to “dress up” the fronts of the drawers, I added a miniature hardwood face frame.

FRONTS & SIDES. Since the front of the drawer determines the overall fit, I started by cutting the drawer fronts to fit the opening, allowing enough for the $\frac{1}{16}$ " clearance.

While I was at it, I cut the side pieces to the same width and trimmed them to final length. Then, to make it easy to reach a DVD inside the drawer, I made a cutout along

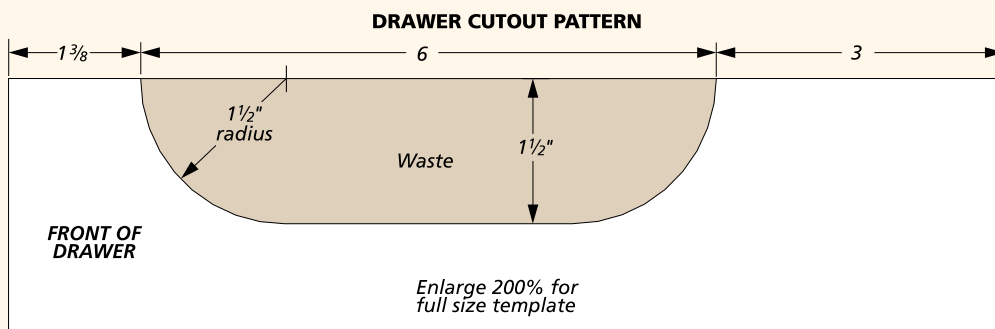
the top edge of each side, as in the drawing above and pattern below.

ROUTING A LOCKING RABBET JOINT. To join the fronts and sides, I used a locking rabbet joint, as shown in detail ‘a.’ You can find the details about this technique on page 7.

ADDING THE BACK & BOTTOM. Once you have the locking rabbet joints cut, you're ready to add the back and bottom. The back fits into dados cut in each side piece (detail ‘b’) and the bottom fits into grooves cut in the front and sides (detail ‘c’). After cutting the drawer bottom and back to size, you can glue the drawer.

FINISH IT OFF. To give each drawer a finished look, I created a face frame by gluing thin strips of hardwood on the drawer fronts (see drawing). Finally, I added some plastic bumpers and a brass bin pull.

Now all that's left to do is round up your DVD collection, organize them the way you want, and then slip them into place.



SHOP NOTES

Stacking DVD Cases

If you decide to make more than one of these DVD storage cases, you'll probably want to be able to stack the cases on top of each other. To connect the cases but still allow them to be taken apart later for a different configuration, I installed machine screws and matching threaded inserts, as shown in the drawings at right.

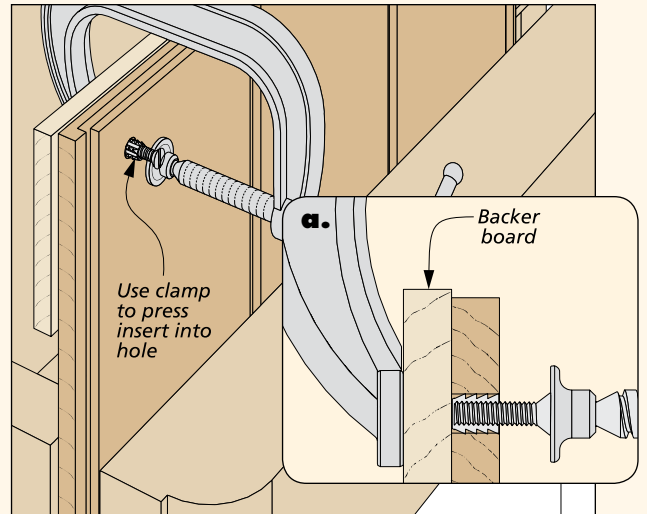
DRILLING THE HOLES. If you take a look at details 'a' and 'b' below, you'll see that countersunk holes are drilled in the bottom of the upper case for the machine screws. Then larger holes are drilled in the top of the case below for the inserts.

The trick is to make sure that the insert holes in the lower case line up perfectly with the screw holes in the upper case. To do this, I set up a fence and a stop block on my drill press, and used this setup to drill all the holes, as shown in the drawing below. Note: You'll have to flip the workpiece over.

Once the holes are drilled, you can install the inserts. The inserts I used are threaded on the inside only — to match the threads of the machine screws. The outside of each insert is covered with little barbs. As the insert is driven into its hole, the barbs dig into the wood and prevent the insert from being pulled out.

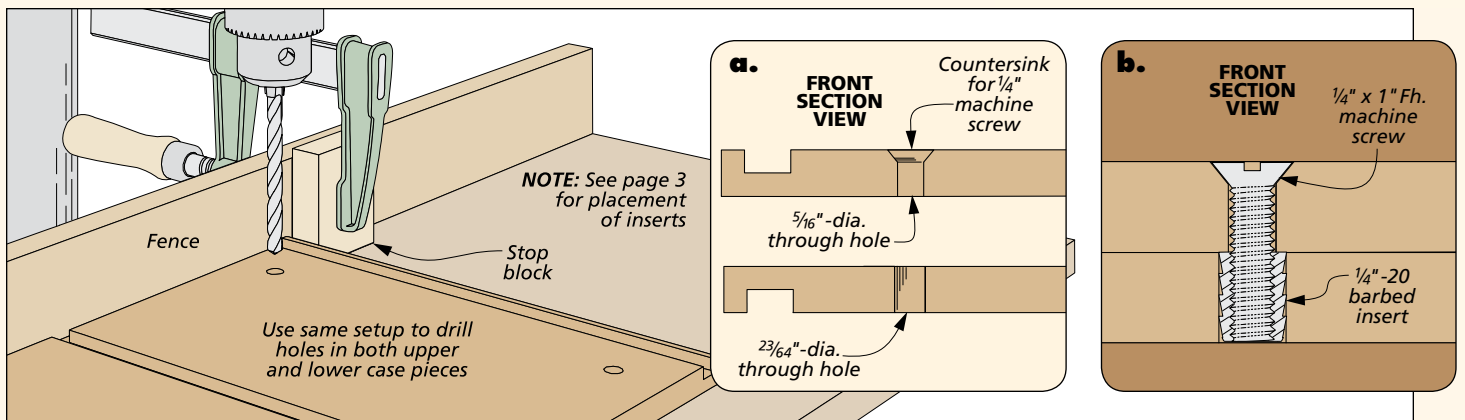
INSTALLING THE INSERTS. When installing the inserts, my first instinct was to hammer them into the holes. But I quickly realized that this might damage the workpiece (or the insert). So instead, I decided to press each insert into its hole.

The answer was a simple C-clamp. I first threaded a machine screw into each insert to act as a driving ram. Then I used the C-clamp to gently press the inserts into the holes, as you see in the drawing (upper right). A backer board prevented the head of the C-clamp from marring the wood.



Installing Inserts. The inserts are pressed into the holes using a C-clamp and a machine screw. A backer board prevents the clamp head from marring the workpiece.

Barbs on the outside of these inserts prevent them from being pulled out of their holes once they're installed.



WOODWORKING TECHNIQUE

Locking Rabbet

Even though the drawers of the DVD case are small, they'll certainly get a lot of wear and tear. So to make sure the drawers stand the test of time, I used a locking rabbet joint to attach the front to the sides.

START WITH A CENTERED GROOVE. Detail 'a' on page 5 shows you what an assembled locking rabbet joint looks like. This may look challenging at first. But you can make this joint with a few simple steps.

The first thing you'll need to do is cut a centered groove on each end of the drawer front. You can see how I did this in the photo and Fig. 1 at right. But there are a few things I should point out.

First, I used a $\frac{1}{4}$ " straight bit and set the bit to cut the full depth. Then, using an auxiliary table, you can cut the groove in two passes.

To do this, you'll want to be sure you have the fence set to center the groove perfectly. This is where some test pieces can really help you out. By making a few practice cuts and then adjusting the fence, you'll be able to quickly center the groove.

I wanted to be sure I made a clean cut at both ends of the groove. So I used a backer board to support the workpiece. This eliminates the chance of any chipout as the router bit exits the end of the workpiece.

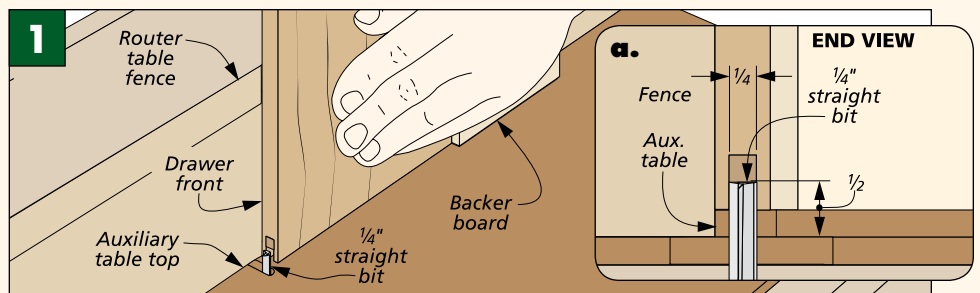
Now, you can go ahead and make the cuts on all the drawer fronts.

TRIMMING THE TONGUE. After making the grooves, you'll need to trim away part of the drawer front to create a tongue. This tongue fits the dado you'll be cutting in the side of the drawer. In Fig. 2 at right, you can see how I used a $\frac{1}{4}$ " straight bit to trim the tongue to final length.

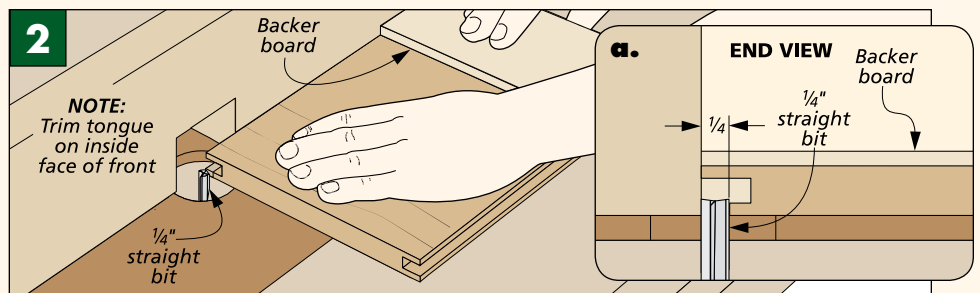
COMPLETING THE JOINT. All that's left to complete the locking rabbet joint is to cut a narrow dado in each drawer side to mate with the tongue. For this you'll need to switch to an $\frac{1}{8}$ " straight bit. Again, Fig. 3 at right covers the setup you'll need to get the fit of the tongue just right. **W**



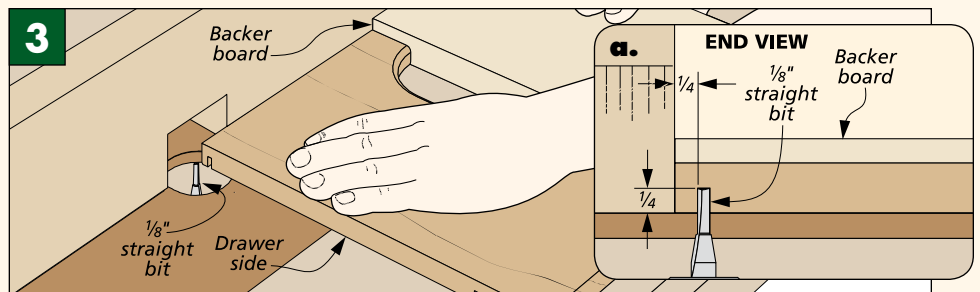
The router table and a couple of small straight bits make quick work of cutting a locking rabbet joint.



To cut a centered groove in the ends of the drawer front, use a $\frac{1}{4}$ " straight bit and set the depth to make a full $\frac{1}{2}$ " deep cut. Next, add an auxiliary table and adjust the fence. Make one pass, and then remove the auxiliary table. Then make a second pass.



Next, you'll need to trim the end of the drawer front to create a small tongue. To do this in a single pass, I used the $\frac{1}{4}$ " straight bit already installed in my router and the setup shown in detail 'a.' Here again, a backer board prevents the back edge from chipping out.



All that's left to complete the locking rabbet joint is to cut a narrow dado in each side piece to fit the tongue on the drawer front. For this you'll need to install a $\frac{1}{8}$ " straight bit and make a single pass. Detail 'a' shows you the setup you'll need for doing this.