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DRILL PRESS TABLE



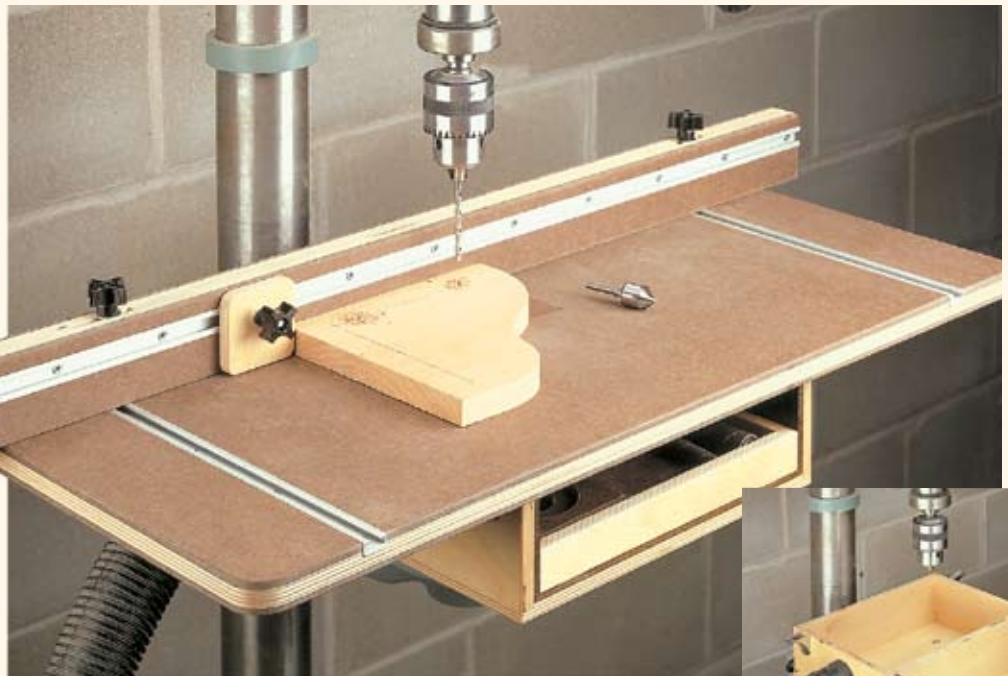
DRILL PRESS TABLE

A large worksurface and adjustable fence make this an outstanding drill press table.

The tables that come with most drill presses might be fine for metalworking. But for woodworking, they just don't cut it. To start with, they're usually way too small. The only provision for attaching a fence is a few diagonal slots in the table, which makes adjusting the fence a chore. And even though most drill press tables have a small hole in the center for drill bit clearance, the hole usually isn't large enough to accommodate sanding drums or really big bits. So what's the solution? Building your own table.

This table is designed to do several things. First, it provides a large, flat worksurface for drilling, see photo at right. Second, it has a fence that's easy to adjust and lock in place. The fence rides in a pair of T-tracks and is held down with a couple flange bolts and threaded knobs. Another T-track mounted in the face of the fence allows you to add a stop block, as you can see in the left photo below.

If these were the only features this drill press table had, it would still be a project worth building. But there's even more to it. In addition



to drilling, my drill press gets used for sanding operations quite often. So the top of this table is fitted with a removable insert to accommodate sanding drums (middle photo below). But that's not all. Since sanding can create a lot of dust, the table is designed with a port for hooking it up to a dust collector or shop vacuum

(inset photo at right).

Finally, there's a handy storage tray at the front of the drill press table for holding small items like drill bits, a chuck key, or the sanding inserts mentioned earlier (right photo below).

SIZE. This drill press table is sized to fit a 15" *Delta* drill press.



T-Track. Both the fence and the stop block ride in aluminum T-track. Flange bolts and star knobs are used to lock them in place.

Sanding Drum Inserts. Replaceable inserts can be interchanged quickly for various diameters of sanding drums.

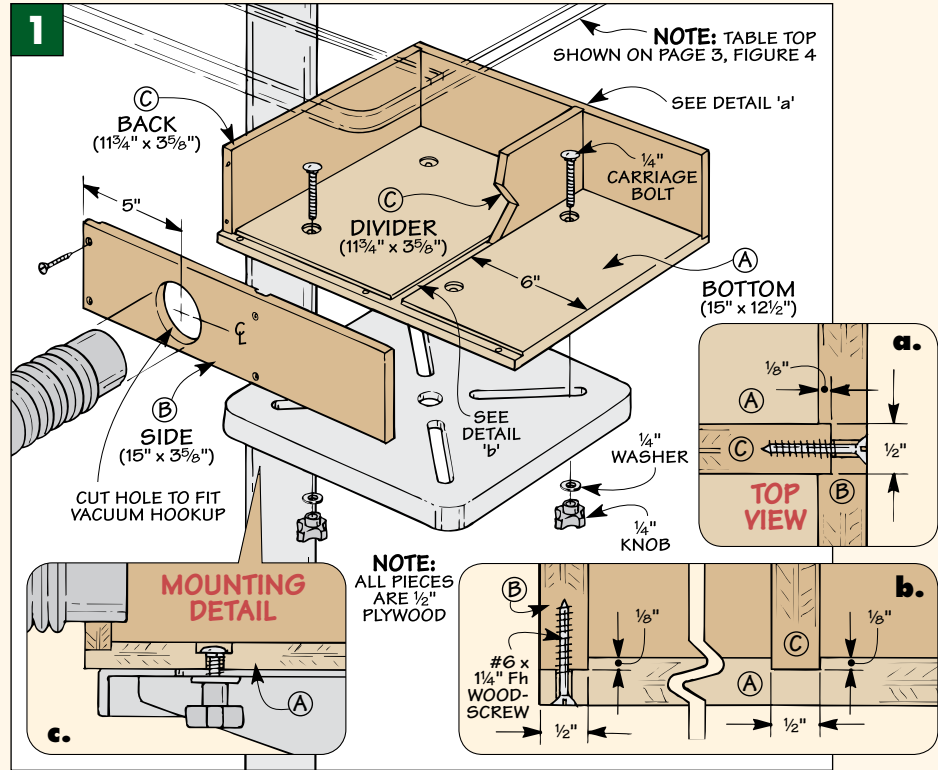
Storage Tray. A small, pull-out tray provides a convenient place for storing a chuck key, drill bits, and sanding drums.

It should also work with most other 15" (or smaller) drill presses, but you may have to change the location of the mounting holes or the opening in the top of the table.

BASE

If you take a look at Figure 1, you can see that this drill press table is really just a large worksurface that sits on a shallow plywood box. This box forms the base of the table. A divider inside the base creates two compartments — one serves as a chamber for dust collection and the other is a storage area to hold the tray that will be added later.

To make the base, start by cutting the bottom (A) to size from a piece of 1/2" plywood. (I used Baltic birch.) This piece will be fastened to your drill press table with carriage bolts and star knobs when



the base is finished. To lay out the holes for the bolts, I set the bottom panel on the drill press table so it was centered side to side and overhanging the back by 1/8". Then, working from underneath the table, trace the location of the slotted openings

on the bottom, just as you see in Figure 2. Once these openings are marked out, you can drill the counterbored holes for the carriage bolts that will be used to attach the table (Figure 3). To provide clearance for tightening and loosening the star knobs, I located the holes for the carriage bolts about an inch away from the ends of the slots in the drill press table.

The other parts of the base are also cut from 1/2" plywood. You'll need two sides (B) and two back/divider pieces (C). After cutting these to size, go ahead and cut the rabbets and dados that are used to join all the pieces, as shown in Figures 1a and 1b.

DUST COLLECTION HOSE. Before assembling the base, I drilled a large hole in one of the sides for a dust collector hose. Once this is done, the base can be assembled with glue and a few woodscrews. Then to ease the sharp edges, a small round-over is routed on the outer edges (except around the top, which will be covered later).

When the base is complete, you can mount it to your drill press with some carriage bolts, washers, and star knobs, see Figures 1 and 1c.

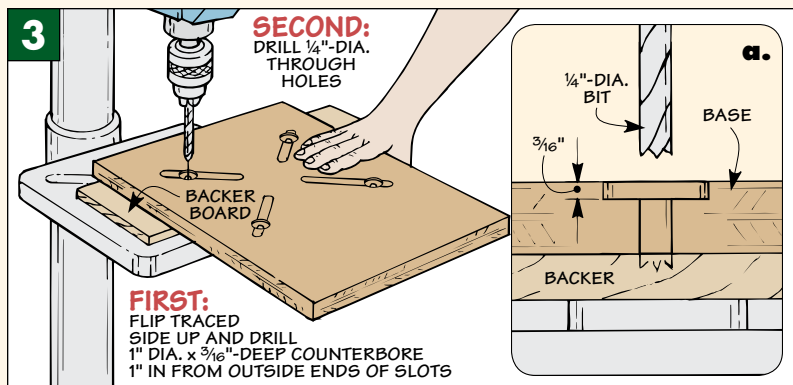
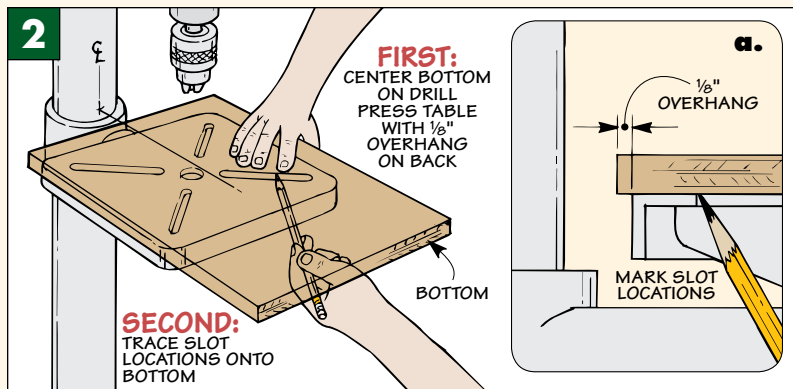


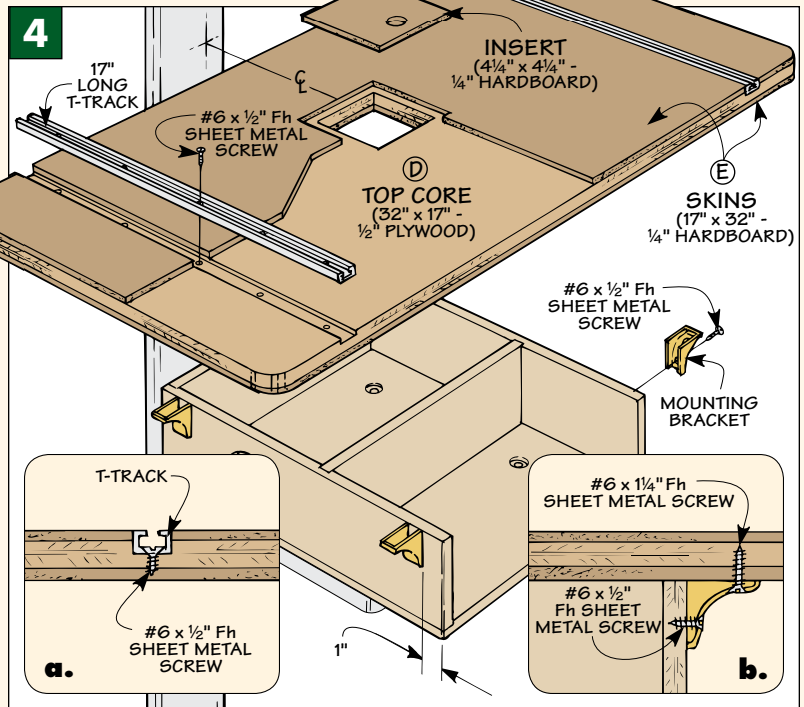
Table Assembly

At this point, you can turn your attention to making the table assembly. The main purpose of the table is to provide a wide, flat surface to support your workpiece while drilling. In order to get that flat surface, I decided to sandwich a piece of plywood between two layers of $\frac{1}{4}$ " hardboard, as shown in Figure 4. The plywood provides strength, while the hardboard provides a smooth, long-lasting worksurface.

To make the top, start by cutting the top core (D) to finished size from a piece of $\frac{1}{2}$ " plywood. After laying out the roundovers on the corners, trim each corner with a band saw or jig saw and sand the edge smooth. Now you're ready to laminate the core with the hardboard skins.

Instead of trying to match up the hardboard skins (E) exactly with the plywood panel, I cut them about $\frac{1}{2}$ " longer and wider. They'll get trimmed to size later after they're glued to the core.

Contact adhesive is used to attach the skins to the top. And to prevent the pieces from accidentally getting stuck together while



▲ **T-Track Hardware.** A flange bolt, washer, and star knob are all you need to clamp the fence and stop block to the T-track.

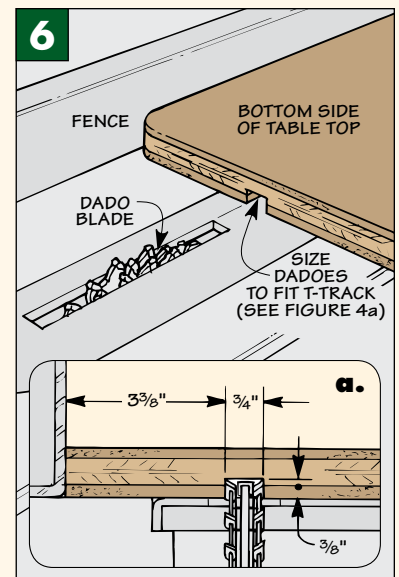
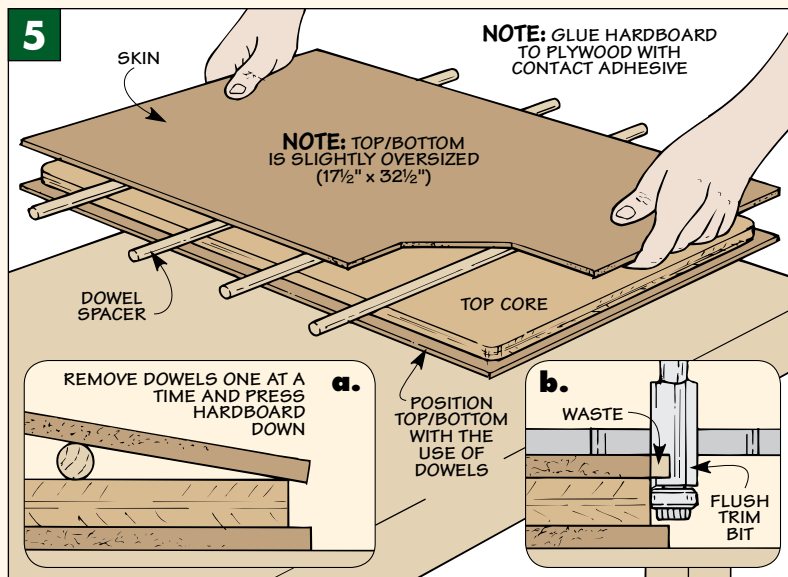
positioning them, I used some hardwood dowels as spacers, like you see in Figure 5. Simply place the dowels on top of the plywood core.

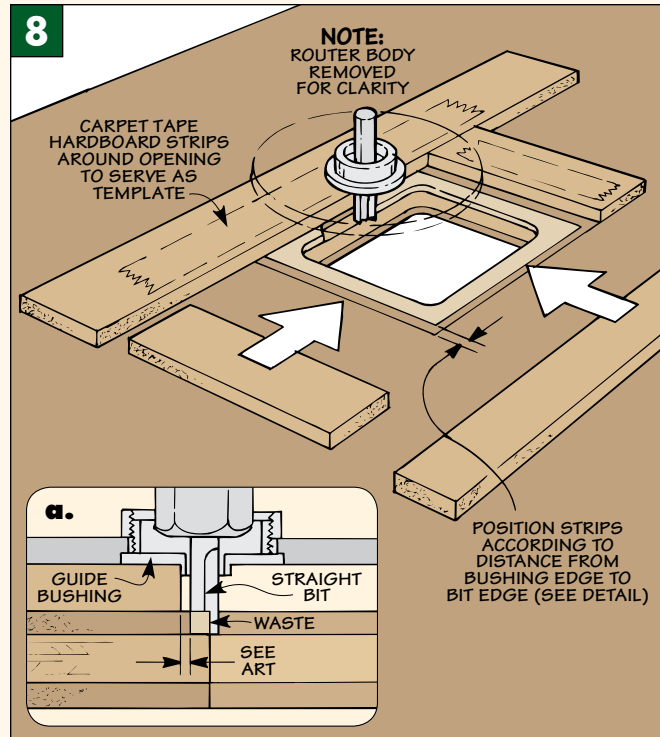
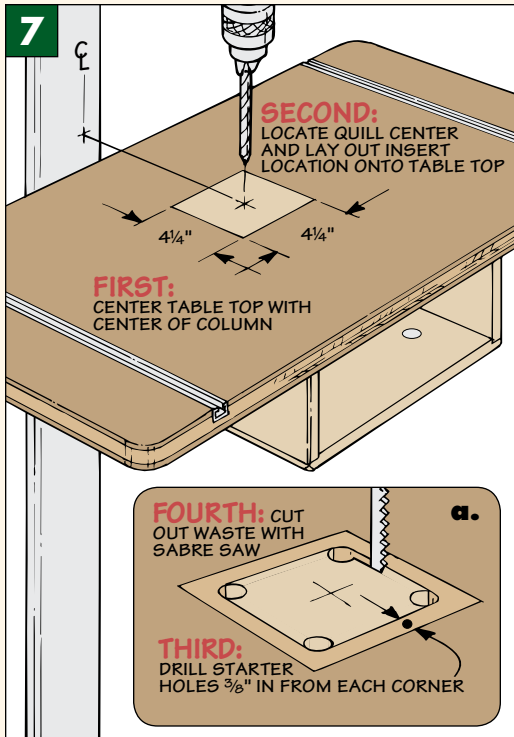
Once you have the hardboard skin positioned over the plywood, remove the dowels one by one, pressing the hardboard down as you go, as shown in Figure 5a. After laminating one side of the plywood with hardboard, turn the top over and laminate the other side.

When both skins have been glued to the plywood core, you can trim the edges of the hardboard flush

with the plywood. A quick way to do this is with a router and a flush trim bit, as shown in Figure 5b.

T-TRACK SLOTS. Although the fence for this drill press table won't be added until later, now is a good time to cut the slots for the aluminum T-track that will be used to mount the fence. As you can see in Figure 6, these slots are cut on the table saw, using a dado blade. The slots are sized to hold the aluminum T-track. After making the slots, the T-track can be cut to length and screwed in place. Shop Note: The T-track





can be cut on the table saw with a carbide-tipped saw blade.

INSERT OPENING. The last step to completing the top is to make the opening for the sanding drum insert plates. This opening is recessed to create a ledge for a replaceable insert plate.

To locate the opening on the top, center the top on the base and chuck up a drill bit to mark the center of

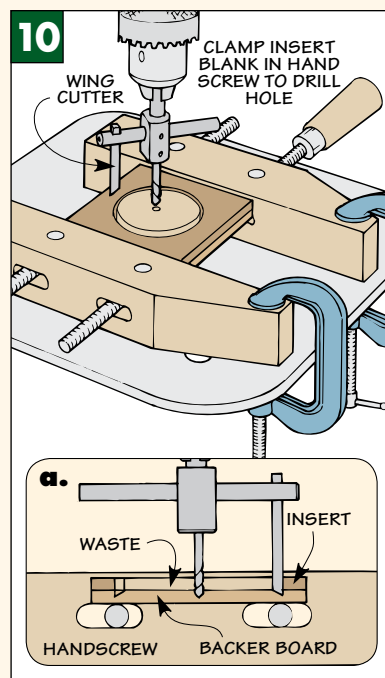
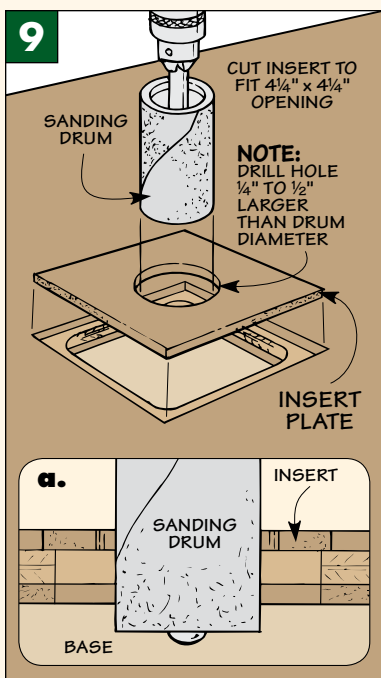
the opening, as you see in Figure 7. After laying out the opening around this centerpoint, drill a hole in each corner of the opening area, $\frac{3}{8}$ " in from the edge. Then cut out the waste between the holes with a sabre saw (Figure 7a).

To create the ledge for the insert plate to rest on, I used a router along with a straight bit and guide

bushing. Scraps of hardboard are taped down around the opening to serve as a template. Then the ledge is routed (Figure 8). The router bit can't reach all the way into the corners of the opening. So you'll have to come back with a chisel to square them up. Once this is done, the top can be screwed to the base using the mounting brackets that are shown in Figures 4 and 4b.

INSERT PLATES. The insert plates are nothing more than square pieces of $\frac{1}{4}$ " hardboard cut to fit in the opening in the top. For drilling, I made up several blank inserts, each with a small fingerhole for easy removal. This way I have replacements on hand as they get chewed up. Then for my sanding drums, I made an assortment of inserts with various sizes of holes (see photo at right).

A wing cutter works well for drilling the larger holes in the inserts. The trick is to safely hold onto the insert while drilling the hole. Here's where a wooden hand screw clamped to your drill press comes in handy, as you can see in Figure 10. A backer board cut to the same size as the insert prevents tearout.



▲ **Hardboard Inserts.** You can customize the sizes of the openings in the inserts to match your sanding drums.



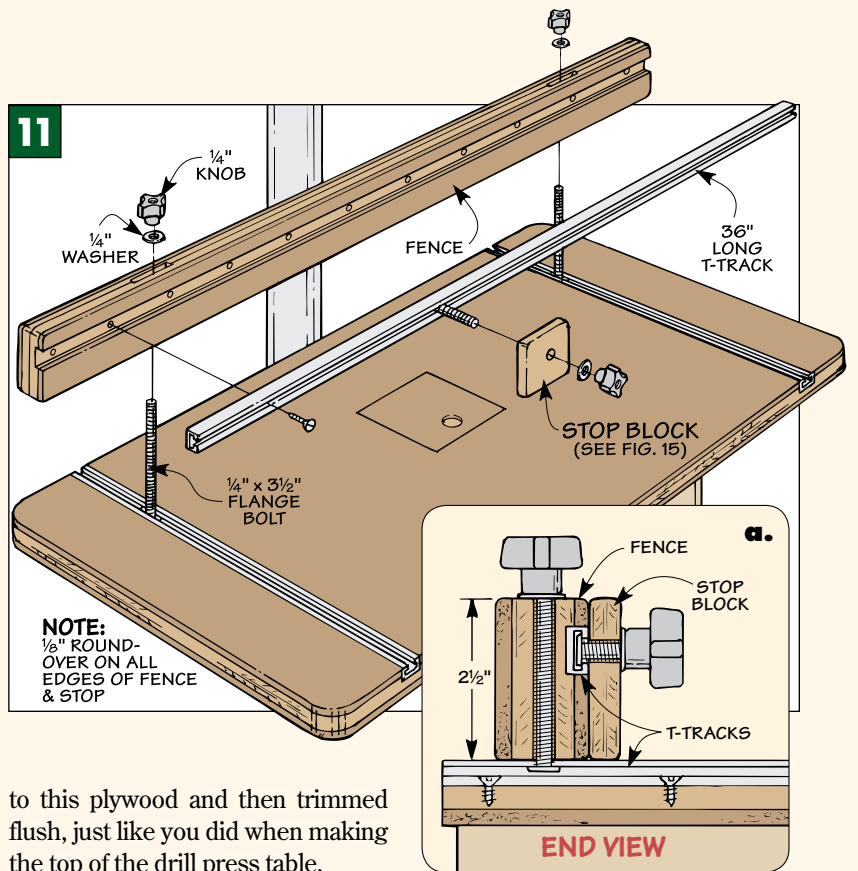
Fence & Stop

The last parts to add to the top of the drill press table are the fence and sliding stop block. These two items work together. The fence rides in the T-track that's mounted in the top of the table, and the stop block rides in a separate T-track that's mounted in the front face of the fence (Figure 11).

The fence is made up of two layers of $\frac{1}{2}$ " plywood that are sandwiched between two layers of $\frac{1}{4}$ " hardboard. This creates a fence that is thick enough and strong enough to resist flexing or bowing in use. But there's another reason for this laminated construction. It allows you to create a pair of slots in the fence for the mounting bolts without having to do any drilling or mortising. I'll explain this in a little more detail later.

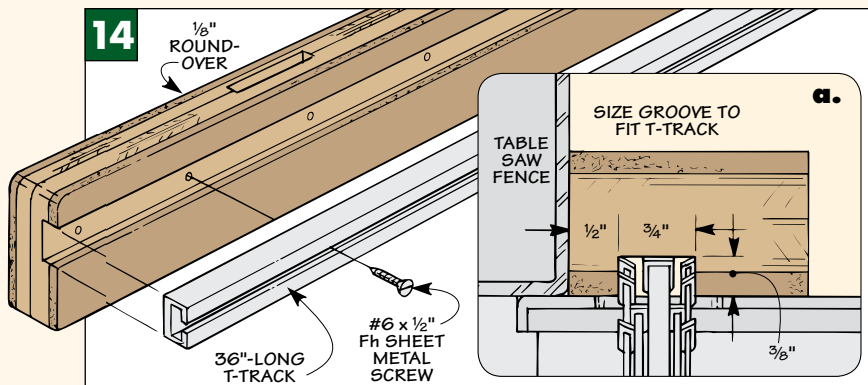
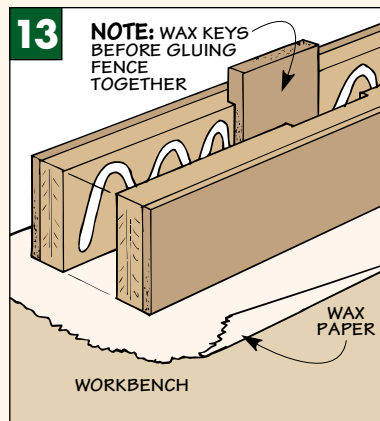
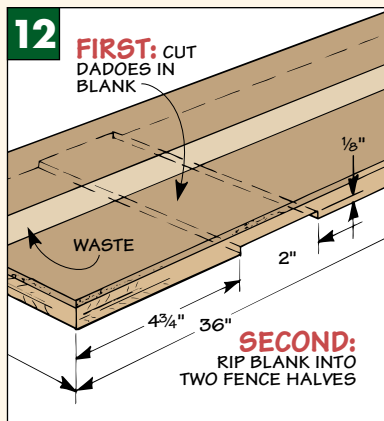
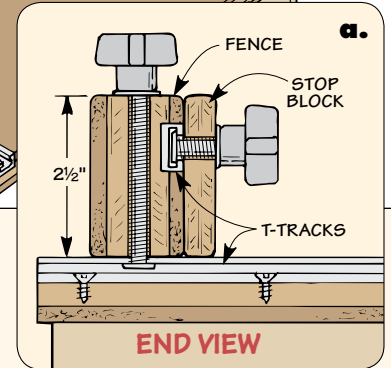
The fence blank (F) starts out as a 6"-wide piece of $\frac{1}{2}$ " plywood. A layer of $\frac{1}{4}$ " hardboard is glued

▲ **Fence.** Loosening a couple of knobs allows you to adjust the fence quickly or remove it entirely.



to this plywood and then trimmed flush, just like you did when making the top of the drill press table.

To create the slots in the fence, a pair of dados are cut across the face of the fence blank, as shown in Figure 12. (These are cut on the plywood side of the blank.) Once this is done, a pair of $2\frac{1}{2}$ "-wide strips are ripped from the blank. These will be



the two halves of the fence.

KEYS. The next step is to glue the two strips together to create the fence. The trick here is to keep the dados in the strips perfectly aligned during the glue-up process. To help with this, I cut a couple of "keys" out of some scrap wood to fit in the dados, as shown in Figure 13. These keys keep the pieces aligned while the glue dries. And to prevent the keys from accidentally becoming glued in place, I rubbed them thoroughly with wax before inserting them.

After the glue has dried, you can cut a groove in one face of the fence for the T-track. This is cut with a dado blade, just like you cut the slots in the table (Figures 14 and 14a). Before screwing the T-track in place, I routed a $\frac{1}{8}$ " roundover on all the edges and corners of the fence. Then the fence is mounted to the table with a couple of flange bolts, washers, and plastic knobs (Figure 11).

STOP BLOCK. The stop block (G) couldn't be much simpler. It's just a block of $\frac{1}{2}$ " plywood with a $\frac{5}{16}$ "-diameter hole in it. The hole is for a flange bolt that is used to attach the stop block to the fence, just like you see in Figure 15. Like the fence, the

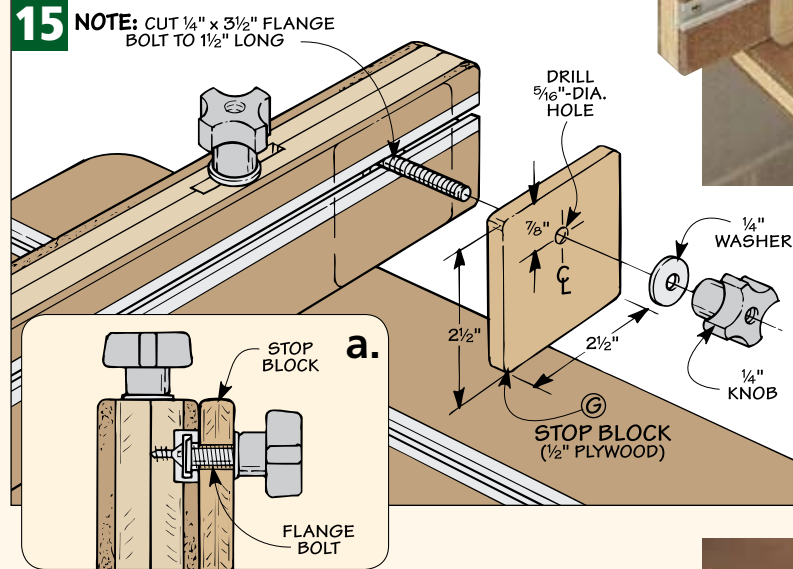
edges and corners of the stop block are slightly rounded over. But this time, I just used a sanding block to make the roundovers. It's a lot easier (and safer) than trying to rout them on such a small workpiece.

Before mounting the stop block, there's just one more detail to take care of. Using a hack saw, I cut down the flange bolt used to mount the stop block, so the bolt wouldn't stick out of the knob too far. Now just add a washer and star knob and you're finished, except for the storage tray.

Storage Tray

The storage tray is really an optional part of the drill press table — the table will be just as useful without it. But I found it to be the perfect place for storing the stop block and sanding inserts, as well as a chuck key or a few drill bits. This tray slides into the front of the base of the drill press table.

To make the tray, start by cutting a piece of $\frac{1}{4}$ " hardboard to size for the tray bottom (H). The sides of the tray are just $\frac{1}{2}$ " plywood glued to the top of the tray bottom, as shown in Figure 16. You'll need two identical pieces for the tray front and back (I), as well as a pair of tray ends (J). When cutting



▲ **Stop Block.** An adjustable stop block comes in handy for drilling identical holes in multiple pieces.

these pieces, note that the tray front and back are $\frac{1}{2}$ " shorter than the width of the tray bottom. This is to create a lip on each side of the tray which will slide into a couple of guides in the base.

The front and back pieces are rabbeted to hold the tray ends (Figure 16a). After these rabbets are cut, the front, back, and ends can be glued together and then to the bottom of the tray. Once the glue is dry, you can round over the edges of the tray slightly with some sandpaper.

TRAY GUIDES. Grooves in the base

of the drill press table allow the tray to slide. These grooves are created by adding a pair of hardboard tray guides (K) to the inside walls of the tray compartment, see Figure 16b. And they're cut $\frac{1}{4}$ " shorter than the height of the compartment. This way, when they're glued in place flush with the top edge of the sides of the base, they create a groove on each side of the compartment for the tray to slide in.



▲ **Storage Tray.** A shallow tray slides neatly into the base of the drill press table.

