

Side-Hung Drawer Slides

Hardwood guides install with relative ease and make for durable, smooth-gliding, sure-stopping drawers



Drawer guide,
attached to case side

Groove in
drawer side

EASY TO INSTALL

Wooden guides are mounted to the case sides and mate with grooves in the drawer sides. The guides support the drawer in the open and closed positions, and also serve as the drawer stops.



BY MARK EDMUNDSON

Over the years I've constructed all sorts of drawer systems, from traditional drawer pockets consisting of rails, kickers, and runners, to elaborate center-hung guides. But nothing beats the simplicity and adjustability of side-hung guides. With this system, wooden guides are mounted to the case sides or table aprons and mate with grooves in the drawer sides. The guides support the drawer as it is opened and closed, and they also serve as the kickers (to prevent tipping) and drawer stops.

You will find side-hung drawers on everything from utility cabinets to elegant chests of drawers to tables—and for good reason. Without the need for the rails of a traditional drawer pocket, side-hung guides allow you to design a bank of drawers with a clean, uninterrupted façade. They also allow for deeper drawer boxes.

Most important, however, is the straightforward installation. Side-hung guides make it easy to achieve perfectly fitting drawers in a chest or table, and will provide smooth-gliding service for many years.

Side-hung guides simplify a chest of drawers

Fitting drawers is an exercise in trial and error. Too tight a fit, and the drawer will jam when the weather is moist; too sloppy a fit, and the drawer will bind and slide roughly in the opening. Using side-hung guides does not exempt you from building a cabinet with a straight and smooth drawer pocket, but it does simplify the process of hanging a bank of drawers.

Make the guides as thick as possible—When sizing the guides for a chest of drawers, consider how much weight the drawers will carry. In general, drawers that carry a lot of weight need beefier guides. A rule of thumb is to make the guides about $\frac{3}{4}$ in. to 1 in. wide and as thick as possible without compromising drawer strength. Also, because of the abuse the guides must endure, make them of a hard-wearing wood, such as teak or ash. Teak is ideal because its oily nature makes for smooth-gliding action.

Side-hung guides have a couple of key requirements when it comes to the drawer construction. First, the sides must be thick enough to allow for the grooves that mate with the guides. Generally,

No web frame required. Side-hung guides simplify table construction because they eliminate the need for rails and kickers to support the drawer. In tables, the guides must be a bit wider than they are thick so they can clear the inside of the legs.





Cut the grooves first

Installing a bank of drawers that ride on side-hung guides is simplicity itself. Build the case and drawers, cut grooves in the drawer sides to house the guides, and mill up the guides. Then install the guides in the case, one pair at a time, using a plywood spacer for accuracy (see pp. 56-57).

Cut the drawer back $\frac{1}{4}$ in. shorter in height than the sides and front so it clears the stop block during routing (see photos, right).

Chamfer the opening of the groove to make it easier to engage the guide.

Elongate screw holes toward the back to allow for movement in a solid-wood case side.

Stop the groove $1\frac{1}{2}$ in. from the drawer joinery— $\frac{1}{2}$ in. is the minimum.

LOCATE GUIDES IN OR NEAR THE CENTER OF THE DRAWER SIDES

When fitting the guides to the drawer grooves, make them a hair thicker than necessary. Plane them down later to get a perfect-fitting drawer. Leave at least $\frac{1}{4}$ in. of material between the bottom of the groove and the inside of the drawer.

Leave $\frac{1}{32}$ -in. gap on bottom.

Case side

$\frac{1}{16}$ -in. reveal, maximum

$\frac{1}{4}$ in., minimum

Guide

Drawer side



Take light cuts and hold the drawer firmly. A $\frac{1}{2}$ -in.-thick MDF strip clamped to the tabletop (above) prevents the drawer from jumping away from the fence. The stop block clears the lower-cut drawer back but hits the front (right).



for strength there should be at least ¼ in. of wood remaining between the bottom of the groove and the inside of the drawer. Also, cutting the drawer back about ¼ in. shorter in height than the sides and the front allows you to plow the grooves in both sides with only one stop setup.

Cut matching stopped grooves in the drawer sides—To make things go smoothly when building a bank of drawers, create a story stick out of scrapwood that shows all of the drawer heights, the reveal between each drawer, and the guide/groove locations. If all the drawers are the same size, you can use the same router setups for all the cuts. For drawers of different heights, you'll have to adjust the fence and stop, as needed.

Start by transferring the groove location from the story stick to each drawer side. Mark the top and bottom of the groove as well as the depth (the thickness of the guide). If the drawers are all the same size, you don't need to transfer this location over to every drawer.

Next, chuck a straight bit in the router. Ideally, you should use a bit with the same diameter as the width of the groove. If

that's not possible, set up the fence to cut one side of the groove. After cutting to depth, readjust the fence in or out to plow the rest of the waste.

To ensure the same length groove and stopping point for the drawer, I devised a stop-block setup that works for the cuts on both sides of the drawer (see photos, facing page). I typically stop the groove 1½ in. from the front of the drawer. There's no hard-and-fast rule here, but to avoid compromising the joinery at the drawer front, you should clear it by at least ½ in.

The stop can be made from scrap about ½ in. thick and wide enough to be clamped to the router-table fence. To determine the length of the block, measure the distance from the front edge of the drawer to the stopping point of the groove. Subtract the thickness of the drawer front, multiply that number by two, then add the diameter of the bit. For example, if you are using a ¾-in.-dia. bit and want the groove to stop 1½ in. from the edge of a drawer front that's ¾ in. thick, make the stop block 2¼ in. long.

Mark the center of the stop block, align it with the center of the router bit, and clamp it in place. To keep the drawer from wandering

Then mill the guides to fit

Begin by planing the guides a hair thicker than the depth of the groove before cutting them to width and length. Check their fit in the drawer grooves. Leaving the guides slightly proud of the sides will allow you to plane them down later to get a perfect-fitting drawer.



1 *Tight, but not too tight. The guides should ride in the grooves smoothly with very little slop top and bottom.*



2 *Smooth the edges and chamfer the tips. Sand lightly and chamfer the tips of the guides to make installation easier.*



3 *Drill pilot holes for the screws. In solid-wood construction, be sure to elongate the holes toward the back to allow for wood movement in the case sides. For safest practice, clamp the workpiece so that it won't lift up.*

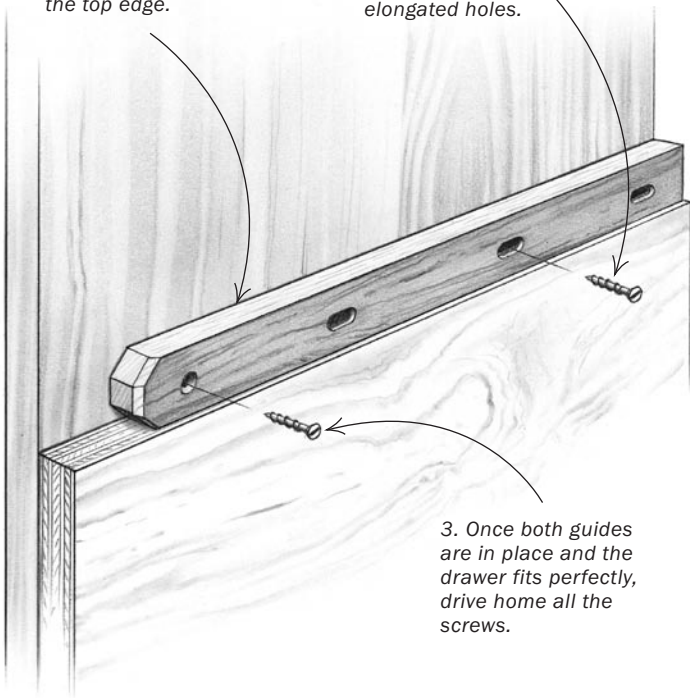
A spacer makes installation easy

A ½-in.-thick plywood spacer ensures that pairs of guides align perfectly. For accuracy, mark the front edge of the spacer near the bottom and keep that edge toward the front for each pair of guides. Work from the top down.

1. Clamp the plywood spacer inside the case and lay the guide on the top edge.

2. Adjust the guide laterally, then drive screws only in the elongated holes.

3. Once both guides are in place and the drawer fits perfectly, drive home all the screws.



1

Clamp the spacer to one side. Place the guide on the spacer and use a square to set it back the correct distance from the case front (to set the square, measure from the drawer front to the groove).

away from the fence, create a channel for it by adding a long strip of plywood or medium-density fiberboard (MDF) clamped to the router table. Leave about ⅛ in. of clearance between the strip and the drawer so the drawer slides smoothly without jamming.

Now you're ready to rout. For a smooth finish, take light passes, gradually raising the bit to final height. The stop block will clear the drawer back but will hit the front. Don't ram the stop block and knock it out of alignment; allow the drawer front to just kiss the block. Cut one side, flip the drawer, then cut the other side, running the same reference surface against the fence. One of these cuts will be a climb cut, which will want to pull the workpiece into the bit. A light cut and the channel will help with control.

Smooth grooves mean smooth drawer action, so clean up rough spots along the edges, lightly sand all surfaces, and ease the edges with fine sandpaper. To make it easier for the drawer to engage the guides, use a chisel to chamfer the back of each groove.

After the grooves have been routed in the drawer sides, check them against the story stick to see that nothing has changed and then mill up the guides and fit them to the grooves.

Use a spacer to help with alignment and installation—

The story stick will tell you where to install the guides, but it won't help you keep pairs level front to back and parallel to one

another. To help with that, I make a spacer out of ½-in.-thick plywood, cut to a length that's just shy of the case opening. To use the spacer, first transfer the location of the bottom of the top guides from the story stick to the spacer. Then rip the spacer to that width on the tablesaw.

Slide the spacer into the carcass opening, clamp it against one side, and mark the front of the spacer. Place the guide on top of the spacer in its correct location, then screw it in place through the elongated holes only. Now clamp the spacer to the other side of the cabinet, keeping the front edge toward the front of the carcass. Install the opposite guide and test-fit the top drawer. If the drawer stops too far in or too far out of the case opening, you can easily loosen the screws in the guides and slide them in or out to correct the problem. When the drawer fits perfectly, drive home the rest of the screws in the guides.

Rip the spacer to width so that it reaches the bottom of the next set of guides, and follow the same procedure. Work your way down the cabinet until all the guides are installed.

Table-mounted guides have a different setup

In tables, side-hung guides share many of the same design principles as those used in a chest of drawers, but the anatomy and



2 **Screw the guide in place.** Drive screws only in the elongated holes for now. This makes it easy to adjust the guide in or out later when you're fitting the drawer. Slide the spacer to the other side of the case and repeat.



3 **Test the fit as you go.** If the reveal is not right, remove the drawer, loosen the screws, and slide the guides forward or backward as needed. If the fit is too tight, carefully plane or sand the guides.



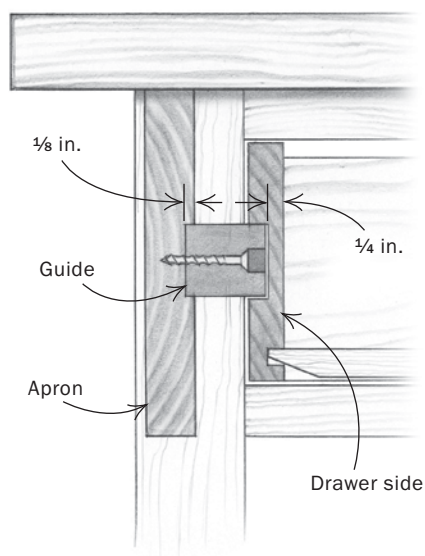
4 **Rip and repeat.** After the top drawer has been fitted, repeat the installation process for the drawers below. Cut the spacer to the proper width, install the guides, and test-fit the drawer.



Side-hung drawers in a table

MAKE GUIDES WIDER TO REACH PAST LEGS

Side-hung guides in a table eliminate the need to build a web frame, so there are fewer parts to mill up and fit. The guides typically are wider than they are thick so that they can clear the inside of the legs. The guide should project $\frac{1}{4}$ in. beyond the inside of the leg.



construction of table-mounted guides are a bit different. When incorporated into a table, side-hung guides typically are a bit wider than they are thick so that they can clear the inside of the legs. To add strength and to make registering and aligning the guides easier, I house the guides in shallow grooves in the table aprons. I also attach the guides with glue and screws (see drawing, left).

Cut and fit the guides before cutting the drawer grooves—

When installing side-hung guides in a table, first build the drawer and fit it to the opening. Next, cut and fit the guides and chamfer the tips where they will engage the grooves in the drawer sides. Install the guides, but don't glue or screw them in place yet.

Because you are cutting the grooves in the drawer sides to fit the guides, it's important that the router-table settings be spot-on. To set the fence the correct distance from the bit, measure from the bottom of the top rail to the top of the guide. For the stop-block setting, measure from the front of the leg to the tip of the guide (for more on setting up the stop block, see p. 54). Test the setup on a scrap piece the same width and thickness as your drawer sides. Once you have perfected the settings, go ahead and rout the grooves in the drawer sides.

After cleaning up the grooves, test the fit of the drawer. If the fit is too tight, remove the guides and plane them to height or width as needed. One important thing to keep in mind: If you need to plane down the height of the guide, be sure that you do not remove material from the area that engages the groove in the table apron; doing so could ruin the fit of guide to groove. When you have the drawer running true and smoothly, glue and screw the guides in place. □

Mark Edmundson is a furniture maker in Sandpoint, Idaho.



Long-lasting connection. In a table, the guides are wider to reach past the legs. They can be glued and screwed and even set into grooves in the aprons.

Smooth-gliding drawers in no time. If the fit is too tight, simply remove the guides and plane or sand them down, but do not touch the area that engages the groove in the table apron.

