When it comes to building drawers for a shop cabinet, or any drawer that will be carrying a lot of weight, I incorporate metal drawer slides into the design. Their solid construction guarantees a smooth rolling drawer regardless of changes in temperature or humidity.

Metal slides can reliably handle loads up to 100 lbs. without binding or sticking. And they’re available in several different designs, with options for partial or full extension (and even beyond). Metal slides are also pretty easy to install and even allow you a little “wiggle room” to adjust for a perfect fit.

**Slide Selection.** With so many different styles on the market, however, you’ll need to determine which style is best suited for your project before you begin. The good news is that most metal drawer slides require 1⁄2” clearance on each side for installation. That makes it easy to figure drawer sizes and openings. And they can accommodate either face-frame or frameless cabinet design.

On the next few pages you’ll see a few of the choices available. You can find ordering information in Sources on page 51.

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**Ball Bearing Slide**
- Stainless steel ball bearings guarantee smooth travel and durability
- Vertical adjustment slot

**Euro-style Slide**
- Durable epoxy paint finish
- Fixed part attaches to cabinet
- Nylon wheels limit applications to light loads

**Lip mounts on bottom of drawer**
Euro-Style. For drawers that won’t be supporting a lot of weight, the epoxy-painted, Euro-style slide is an inexpensive answer. At $5 - 6 a pair, they may be all you need.

Chances are you already have some of these in your house. They’re the standard, two-piece slide used on kitchen drawers. Euro-style slides are popular not only for their low cost, but also for ease of installation. As you can see in the illustration below and the photo on the opposite page, they have a lip on the edge, making alignment with the drawer bottom automatic. To top it off, they’re available in a variety of colors.

Nylon Wheels. The downside of this type of slide is that it travels on nylon wheels. And while they’re advertised to handle loads up to 75 lbs., they won’t have a very long life under that load. Another limitation of the Euro-style slide is that it only offers 3/4 travel. That is, it only opens far enough to expose part of the inside of the drawer.

Ball Bearing Slides. For some applications, a 3/4-travel slide may be enough. But the problem comes when the drawer needs to support a lot of weight, like those in most cabinets in a shop. In that case, I turn to side-mounted, ball bearing slides. Commonly available in zinc-plated steel, black, or white enamel paint finishes, these slides are about twice the cost of the Euro-style slides. But the steel ball bearings can handle a load up to 100 lbs. for many years to come.

Full-Extension. Let’s face it, most of the time a 3/4-travel slide just isn’t enough. Usually, you want to be able to see the contents of the entire drawer. And a full-extension slide allows you to do just that. This is possible because the slide is a three-piece assembly that telescopes out to the full length of the drawer. You can compare that design to the Euro-style slide in the illustrations below. Stainless steel ball bearings make for smooth travel and ensure solid performance over the years. You can expect to pay $12-15 for a pair.

Over Travel. For some applications a full-extension slide doesn’t go quite far enough. For example, if you have a cabinet with a top that extends past the front face of the cabinet (like with a typical countertop), a full-extension slide still won’t pull out far enough to get to the very back of the drawer. Over-travel slides solve this problem by extending past the front of the cabinet. They only offer an extra inch of travel, but that may make a difference for some applications. For example, file drawers often feature an over-travel slide. They can handle the weight and offer access to the very last file.

Once again, the construction here is a three-piece steel body with steel ball bearings. And they’re priced between $17-20 per set.

After you’ve chosen the right slide, you’re halfway home. On the following pages, I’ll show you an easy technique for installing them.

Design Differences. The Euro-style slide (left) uses a nylon wheel rolling on the cabinet-side track. The ball bearing slides (right) support the weight of the drawer on a set of stainless steel bearings.

Disconnect. A simple plastic lever is used to remove the drawer from the cabinet.
Installing metal drawer slides can seem a bit intimidating. The box on the next page shows a couple of commercially available jigs to help you out, but I’ve found a simple shop method that eliminates complicated measuring for each drawer slide. For this I like to use the drawers themselves to mark the position. The idea is to use an MDF spacer to install the slide accurately, and keep both sides level. The photos below show this procedure on a frameless cabinet, but it works for face frame cabinets as well. I’ll discuss the differences a little later.

**Getting Started.** The first step is to install the slides on the drawers. For convenience, I usually place them on the lower edge of the drawer. Here, I use the slotted horizontal holes to attach the slide. Using these holes allows me to make small adjustments as needed. Then, I assemble the slide so both pieces are attached to the drawer. Now, with the cabinet turned on its back, I put each of the drawers in position, as shown in the photo above. The drawers simply rest on the back of the cabinet.

**Mark the Location.** Once the drawers are in the proper place, I mark the bottom of each of the slides on the side of the cabinet, using a square. Once that’s complete, I remove the drawers and cut a spacer to the length of the mark for the top drawer.

**Using Spacers.** After clamping the spacer in position for the top drawer, you can use it to support the slide while you attach it to the cabinet side, as shown in the left photo below. For this, I use the slotted vertical holes. Now, using the same spacer, you can attach the slide to the opposite side. Once both slides are in place, insert the drawer and test it for a smooth-rolling fit. You can then make small adjustments both horizontally (on the drawer piece) and vertically (on the cabinet piece) to fit the drawer.

**SHOP TIP**

Adding false fronts to drawers is an easy way to conceal the slides. To make sure the fronts are properly aligned, first lay them out using thin shims to maintain even spacing. Use some carpet tape to temporarily attach the fronts to the drawers. Then permanently attach them with screws from the inside.
Slide Installation: Handy Jigs

For every installation task in the shop, it seems like there’s a jig to help you. Drawer-slide installation is no exception. The two jigs shown at right both do the same job, but in very different ways. To use either jig, however, you’ll first need to determine the placement of the slide and mark a centerline.

The Kreg Jig. The Kreg jig holds the cabinet portion of the drawer slide in place with a magnet. With the slide attached, you simply clamp the flat face square to the cabinet, as shown in the top photo at right. Then, all you need to do is add the screws. (The jig is designed to allow access to the holes in the slide.) The nice thing about this jig is that it’s easy to use and it will work with most types of metal drawer slide hardware.

Rockler’s Jig-It for Accuride slides features an acrylic panel that’s marked for positioning slides of the most commonly used lengths. After aligning the guide, you use a self-centering bit to drill pilot holes based on the length of the slide. With the holes in place, it’s a simple matter to position the hardware and add the screws.

Cut the Spacer. The next step is to transfer the mark for the next drawer to your spacer (middle photo). Using that mark, you can cut it to the correct size and repeat the installation process for the rest of the drawer slides (right photo).

Face Frame Cabinets. The procedures up to this point have all used a frameless cabinet. And the same techniques can also be used with face frame cabinets. But there are a couple of different options for mounting the slides.

Face Frame Hardware. One way to add slides to face frame cabinets is to buy a mounting bracket to match the slide. The bracket attaches to the back of the cabinet and allows you to align the slide to match the overhang of the frame. The front part of the slide attaches directly to the inside of the frame, like you see in the photo at right.

Shop-Made Supports. There’s also an easy, shop-made solution. All you really need to do is plane a piece of stock to match the overhang of the frame. Then you can use it as a support by attaching it directly to the cabinet side. Once it’s in place, you can follow the same procedure I outlined earlier to position and mount the slide hardware to the support.

False Fronts. If you’re going to add false fronts to the drawers, now is the time. You’ll find a handy tip for aligning them on the bottom of opposite page. Now you can enjoy the easy operation that only a metal drawer slide can provide.

Face Frame Solutions. A hardware kit is one way to mount a drawer slide. (top). Another is a support attached to the side of the cabinet (bottom).
Getting the Light Right

Good shop lighting makes for accurate work without straining your eyes.

For me, good lighting is one of the most important tools in my shop. It helps you avoid eye strain and makes it easier to work more accurately. Even more importantly, good lighting makes working in the shop a whole lot safer.

To get all these benefits, there are a few things you’ll need to consider. The first of these is selecting the best light source to use.

**FLUORESCENT LIGHTS**

For most woodworkers, fluorescent fixtures are a common choice. They’re relatively easy to install, inexpensive to operate, and provide good light over a sizable area. However, some of the drawbacks to this type of lighting are that the lights can sometimes be slow to start, make a humming noise, or flicker a bit. But most of these problems can be solved with a few simple steps. The box at left can help you troubleshoot some of these common problems.

But even the best fluorescent system can’t give you the light you need if it’s not able to focus the light correctly. So you’ll want to be sure you use the right fixture.

**Brighten the Shop.** Choosing a fixture that’s best suited to your needs has a lot to do with the room you’re working in. So the first thing you’ll need to do is take a good look at your work area.

I always try to make sure the light falls onto my work area and doesn’t get absorbed by the walls, ceiling, and other materials in the shop. The best way to do this is to have a flat surface behind the fixture and then paint the surface a light color, preferably white. You’ll also find painting the walls a light color improves the lighting.

**Reflectors.** It’s always tempting to buy the inexpensive fixtures without reflectors, like in the inset photo on the next page. These kind of fixtures rely on the ceiling to reflect the light back down. So the only time you’ll want to use this...
type of fixture is when your ceiling is flat and light in color.

In my shop, I have an open ceiling with exposed joists. So I chose to use a fixture that has reflectors, like the one you see in the top photo at right. These reflectors bounce the light down toward the work surface. You’ll also want to use these fixtures if your ceiling surface is dark or the fixtures are suspended from the ceiling.

**LOCATING THE LIGHT**

If your workbench is against the wall, it’s always a good idea to try to position the fixture directly over the work surface. That way the light is not behind you causing shadows.

**Distance From The Wall.**

There’s a simple rule of thumb I like to use for locating a fixture over a workbench. And it requires taking only one measurement. I just measure the distance from my benchtop to the fixture (see illustration on opposite page). Then I simply divide that distance by three (1/3 the distance). This tells me how far away from the wall to mount the fixture.

The ceiling in my shop is eight feet high and the distance from my bench to the fixture is five feet. So I mounted the fixture on the ceiling a distance of 20” away from the wall.

**More Than One Fixture.**

In most shops, one fixture won’t be enough to supply adequate light. You’ll need to install a number of fixtures to evenly light the space. So the next thing you’ll need to determine is the farthest distance you can space the fixtures apart.

**How Far Apart?**

Again, I return to my initial measurement of the workbench to the fixture. Then you can simply multiply that distance by 1 1/2 to find the maximum distance to leave between fixtures.

That means if the distance from the workbench to the fixture is five feet, the farthest apart my fixtures could be is 7 1/2 feet (5 x 1 1/2 = 7 1/2). If possible, I like to place them a little closer together because this lights the room even better. I also try to line up the fixtures so they run the length of the entire room.

Now that you know how far apart to space them, it’s easy to figure out how many rows of fixtures you’ll need to cover the room. Just determine the number of additional fixtures you’ll need in each row. You’ll find fluorescent fixtures come in 4’ & 8’ lengths and they’re designed to be wired together in a series. So it’s easy to put together a long string of light fixtures.

There’s one final thing you’ll need to think about if you’re going to be using fluorescent lighting. And that’s to make sure the fixture you’re using is also right for the environment that exists in your workshop. This means making sure you get the right ballast. The box below has the information needed to help you with this.

As you can see, properly lighting your shop requires the same kind of preparation and setup as installing a new power tool. You’ll want the right fixture positioned in the just the right place.
Aside from the table saw, I don’t think there’s a more important “tool” in my shop than my workbench. Sometimes I use it during each step of construction on a project and other times only for layout or assembly. But it’s pretty safe to say that every project that comes out of my shop passes across my workbench at some point. And that’s why deciding where to put your workbench is something that deserves a little thought, particularly if you have a small shop.

**TWO CHOICES**
When you get right down to it, there are really only two choices when it comes to locating a workbench — either against the wall or out in the middle of the shop. Which of these locations you choose has a lot to do with the way you use your workbench.

**AGAINST THE WALL.** For many woodworkers, a workbench serves as a “staging area” for setting out parts while using the table saw or other pieces of shop equipment. For woodworkers like this, accessibility to the workbench may not be as important as having the bench close to your major power tools. If this is the case, you may be able to locate the bench against a wall. Take a look at the sample floor plan drawing at left to get an idea of some of the benefits of locating your workbench against a wall.

**FRONT & CENTER.** On the other hand, some woodworkers see their workbenches as more than just shop furniture. It’s a tool in itself. It can be used to hold a workpiece while sawing, planing, or working on joinery. If you use hand tools regularly or do a lot of hand-cut joinery, you may want to give your workbench a place right in the center of the shop. This way, you can have easy access to the bench from all four sides, which is great advantage when it comes to assembling a project. The sample floor plan on the opposite page shows some of the advantages of this type of layout.
OTHER FACTORS

Regardless of whether you decide to place your bench against a wall or in the middle of the shop, there are some other factors you’ll need to consider as well. To get the most out of your workbench, you have to think about things like lighting, electrical outlets, and tool storage.

LIGHTING. Adequate lighting is probably one of the biggest considerations when it comes to choosing where to put your bench. It’s hard to beat natural light, which is why I like to locate my bench near a window if possible. If the window is behind the bench or to one side, you don’t have to worry about creating shadows across your work.

Of course, if your shop is in a basement, or if you do most of your woodworking in the evening, you’ll need artificial lighting. As with natural lighting, you want to make sure that the lights are located so that you don’t create shadows across your work as you stand at the bench. This may mean that you’ll have to add some additional overhead light fixtures or make use of lamps for task lighting.

POWER. I do a lot of sanding and routing at my bench, so having a few electrical outlets handy is important. If you’re choosing a place along the wall for your bench, you can make life a lot easier if you select a spot near an outlet. This way, you won’t have to walk across the shop every time you want to plug in a tool.

If you plan on locating your bench in the middle of the shop, finding a spot near an outlet is more of a problem. Unless you want to do some rewiring, you will probably have to rely on extension cords. These can be suspended overhead to keep them out of the way.

TOOL STORAGE. Unless your bench has built-in storage in the base, another major factor when selecting a bench location is where to keep your tools. A common arrangement in many shops is to position the workbench against a wall and then mount a tool cabinet on the wall right above the bench. This is convenient because all your tools are within easy reach. But the downside is that the tool cabinet can get in the way. And if you have a deep workbench (over 24"), it can be a stretch to reach a hanging tool cabinet.

With a bench located in the center of the shop, your tool storage options are even more limited. You can store tools in a wall cabinet, or you can build a short tool cabinet to place next to your bench.

Although choosing a location for your workbench is one of the most important decisions you’ll make when setting up your shop, the good news is that it’s not a permanent one. If the first location doesn’t work out, you can always rearrange things and try a different spot.