

**SURFACE-MOUNT
LOCKSET**



**HALF-MORTISE
LOCKSET**



**FULL-MORTISE
LOCKSET**

How much of the lockset are you willing to see?

Locksets are available in three types—full mortise, half mortise and surface mount. Choosing a lockset depends on how much work you're willing to do and how much of the lockset you're willing to see. As the name implies, surface-mount locksets simply are secured to the face of the work. If you want a more refined look, choose a full- or half-mortise lockset. In addition to cutting the keyhole, you'll have to cut a stepped mortise to accept the body of the lockset. But the finished job will have the elegance to fit with the rest of the piece.

Choosing and Installing a Lockset

Simple steps for securing boxes, doors and desk lids

BY LONNIE BIRD

Years ago, locksets were installed on most case pieces. Books, papers and other important documents were secured inside secretaries, while expensive tea and spices were housed in specially made, diminutive chests complete with tiny drawers and locking doors. Although most of us today are not as concerned about keeping our spices under lock and key, a carefully fitted lockset still can add a touch of class to a fine piece of furniture. And installing a lockset is not an intimidating task.

But when selecting a lockset for your project, you'll be faced with a wide variety of lockset styles and sizes. Flipping through a period hardware catalog, you'll see options ranging from basic surface locksets that simply screw onto doors or drawers to full-mortise locksets that are concealed. Half-mortise locksets are the most commonly used by furniture makers.

Lonnie Bird teaches woodworking from his shop in Dandridge, Tenn. For a list of classes, e-mail him at lonniebird@earthlink.com.

They are mortised into the furniture but are visible only on the inside of the piece. Half-mortise locksets fall into three broad categories—locksets for doors and drawers, chest or box locksets, and desk-lid locksets (see the photos at right).

Locksets for doors and drawers are usually interchangeable because the lockset body has two keyholes 90° apart that allow you to mount the lockset either horizontally for a drawer or vertically for a door.

Chest locksets come supplied with a back plate that mounts to the lid. Hooks on the keeper engage with the lock to keep the box lid secure. These locksets are available in a wide range of sizes, from tiny locksets for tea caddies to large locksets for blanket chests.

Desk-lid locksets have an angled back plate that conforms to the angled rabbet on the front edge of the lid. Of all the lockset types, desk-lid locksets are the most visible, so they are available with a cast back plate. Although you can opt for a less expensive, stamped back plate, it doesn't have the handmade look of the old desk-lid locksets.

After selecting the type of lockset but before settling on a size, it is best to select an escutcheon because its size and position on the case often dictate the lockset size. The escutcheon is a decorative surround that protects the keyhole from wear and lends clues to the period in which the piece was made. You can purchase escutcheons in a wide variety of styles, or you can make your own. They can be an elaborate, handworked brass plate or a simple inlay diamond of contrasting wood.

The escutcheon can be mounted slightly offset toward the outer edge of the stile or it can be mounted dead center. I prefer to offset the escutcheon when the stile is very wide because I think it looks lost in the middle. With the escutcheon chosen, you can now determine the appropriate lockset size. Usually the most critical dimension is the distance from the back edge of the lockset to the selvage—the post on which the key rotates.

When placing your hardware order, remember to specify whether the door is hinged on the right- or left-hand side. For example, a door that hinges on the right requires a left-hand lockset. However, not all hardware manufacturers use the same system, so be sure to ask.

For more on installing surface-mount, half and full-mortise locksets, see pp. 82-85.

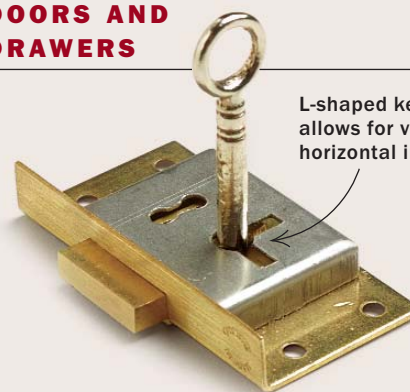


The lockset installed on this door is typical of those found on most 18th-century doors and drawers. It is mortised into the back of the door. A mortise in the opposing door or case captures the bolt.

What type of furniture is it for?

Locksets come in different designs based on their use. Square locksets have simple bar bolts and can be installed on either doors or drawers, whereas box and chest locks engage two hooks that hang down from a plate mortised into the lid. And because desk lids are cut at an angle, they require locksets with an angled back plate.

DOORS AND DRAWERS



L-shaped keyhole allows for vertical or horizontal installation.

BOXES AND CHESTS



Back plate is mounted to the box lid.

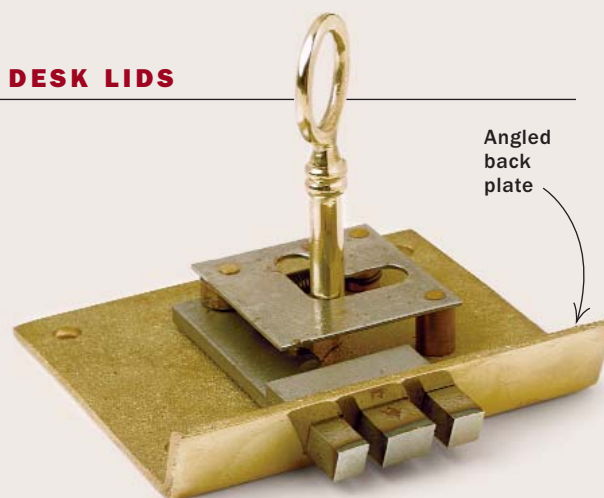


Locksets for small boxes are no different from those used on blanket chests. The lockset is mortised into the box, and two hooks in the mating back plate in the lid seat themselves in the lockset.



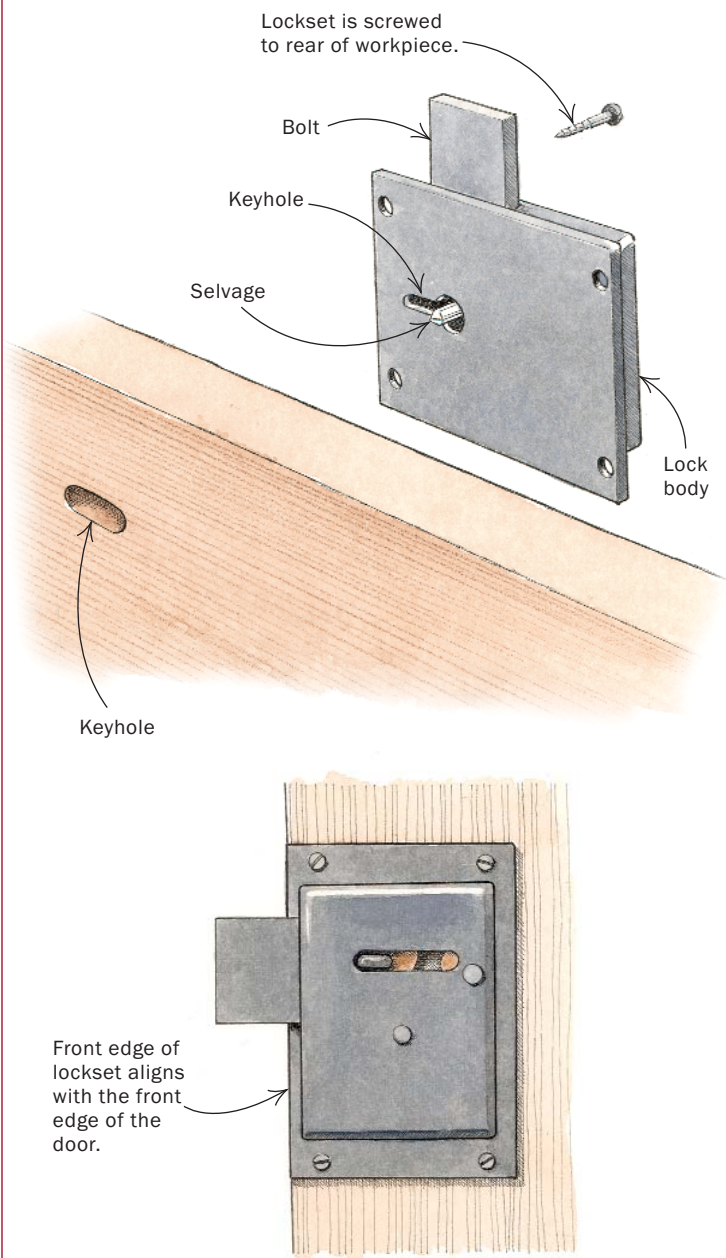
When a slant-front desk lid closes, the rabbet on its edge is angled to meet the case piece. The angle of the desk lid must match the angle on the back plate of the lockset.

DESK LIDS



Angled back plate

SURFACE-MOUNT LOCKSETS INSTALL EASILY



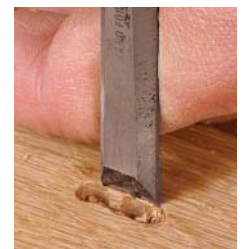
Surface-mount locksets call for less fuss than either full- or half-mortise locksets. Although surface mount probably is not the first choice for fine furniture, there are many jobs that don't warrant the time it takes to install a mortised lockset.

Surface-mount locksets simply are screwed to the inside surface of the door. As with other types of locksets, a surface-mount lockset is sized according to the distance from the selvage to the edge of the lock. I select a size that will properly position the keyhole with the escutcheon that I'm using.

Lay out and cut the keyhole first, then position the lock and mark the screw locations. Now you can simply fasten the lockset in place.



Lay out the keyhole. Set a combination square against the lockset and align the blade with the center of the keyhole. Then place the square against the edge of the stile and transfer the measurement.

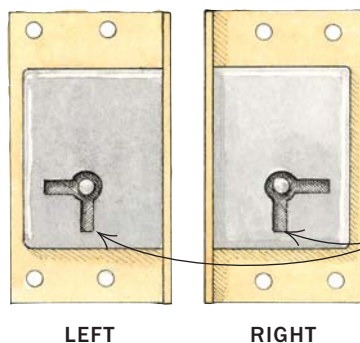
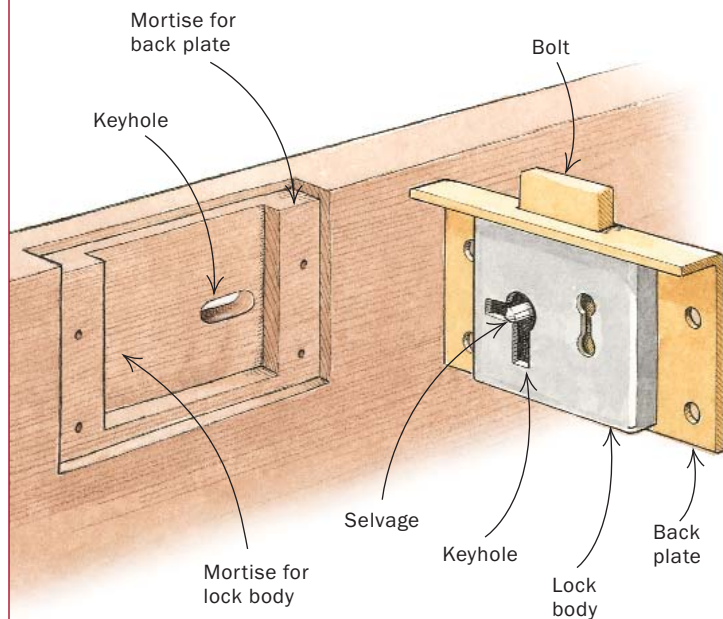


Measure twice, drill twice. Drill holes aligning with the top and bottom of the keyhole. Then remove the waste between these two holes.



Attach the lockset. To secure the lockset, set it in place on the workpiece, then mark and drill for the screws.

HALF-MORTISE LOCKSETS REQUIRE A STEPPED MORTISE



Locksets are available with keyhole orientations specifically designed for left- or right-handed doors.

Begin layout by marking the location of the selvage on the door stile. On upper doors, the lockset typically is placed slightly below center; on lower doors, it's slightly above. This positions the lockset for an easy reach. Now mark the height and the distance from the edge of the stile to the selvage. If the door, drawer or lid is lipped, as on the door shown in the photos, remember to add the lip dimension.

Next, lay out the mortise for the body of the lockset. To make fitting easier, add $\frac{1}{32}$ in. on all sides. This small tolerance allows you to adjust the selvage placement easily.

Once the selvage and body have been laid out, you're ready to cut the mortises for them. (The back-plate mortise will be cut after the body of the lockset is in place.) Drill a row of two or three holes just large enough to accept the key. Remove the waste between the holes with light chisel cuts.

Cut the mortise for the body using a straight bit in a laminate trimmer or router. To keep the lockset from bottoming out, set the bit depth slightly greater than the combined thickness

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1. CUT THE MORTISE FOR THE LOCK BODY



First, lay out the mortise. Begin by laying out the height of the body—the thicker portion—of the lockset.



Determine the depth. With a straight bit in a router or laminate trimmer, set the bit's depth to match the overall thickness of the lockset.



Cut first by machine. A router or laminate trimmer makes quick work of removing the bulk of the waste. Use a chisel to square up the round corners left by the router.

2. CUT THE MORTISE FOR THE BACK PLATE

Locate the back plate. Once the body fits smoothly into the mortise, lay out the mortise for the top and bottom of the back plate. Marking with a knife ensures against tearout.



Quick mortises by machine. Set to the correct depth, a laminate trimmer quickly cuts the recess for the back plate. Rout close to the line and finish with a chisel.



Mark out along the edge. With the back plate in place, mark out the depth of the lockset along the rabbeted edge.



This mortise is quicker to cut by hand. A chisel easily pares away the mortise along the door's edge.



of the body and the back plate. The lockset will then hang from the back plate and be unaffected by wood movement. As you rout this mortise, cut right up to the layout lines.

MORTISE FOR THE BACK PLATE

Before marking the location of the back plate, position the lockset so that the keyhole in the body aligns with the keyhole in the door stile. To mark the back plate accurately, scribe along the edges with an X-Acto knife. Using a laminate trimmer, set the bit depth to equal the back-plate thickness and rout close to the layout lines. Complete the edges of the mortise with a chisel. The chisel's edge will slip easily into the incision made by the X-Acto knife.

Once the lockset fits snug within the mortise, use steel screws to hold it in place temporarily. The steel screws will cut smoothly into the wood without shearing. After the piece is finished, replace the steel screws with the brass ones that came with the lockset.

CUT THE BOLT MORTISE

The last step is to cut a mortise for the bolt into the casework. In double doors, the mortise is cut into the stile of the mating door. To mark the location, extend the bolt and close the door until the bolt rests on the case; then mark the location and chisel the mortise. The key should turn smoothly as the bolt extends from the lockset, but if it's tight, that usually means the bolt is binding on the keyhole. A small shaving with a sharp chisel will fix the problem.



Check the fit. Once the mortise is complete, check the fit and make sure the keyhole lines up. If necessary, tweak the fit with a chisel.

FULL-MORTISE LOCKSETS ARE CONCEALED



Lay out the width and length of the deep mortise. Locate the body of the lockset along the door stile or drawer front, then center it on the stile to mark out the mortise. A drill makes quick work of hogging out the waste, and a chisel cleans up the mortise.



Cut the shallow mortise. To inset the face of the lockset, drop the body of the lock in the mortise and mark out the face with a knife. After chiseling the outline, pare out the waste.

Full-mortise locksets were common on 18th-century furniture. Of the three types of locksets, the full mortise is the most time-consuming to install. But certain pieces of furniture would look sloppy with anything less, so it is worth taking the extra time to install this type of lockset on reproductions; high-end contemporary work also is elevated by installing full-mortise locksets. Installing one means only a few more steps than installing a half-mortise lockset.

Once again, first lay out the keyhole location, drill the top and bottom of the opening and chisel out the waste. Next, lay out and cut the mortise for the body of the lock. You can cut the mortise with a hollow-chisel mortiser or with a router, or you simply can drill it out and square the mortise with a chisel.

Now slide the lock into the mortise and outline the back plate with an X-Acto or sharp marking knife. Remove the lockset and cut the shallow back-plate mortise using a chisel. Finally, slide the lockset into the mortise and check the fit. The back plate should be flush, and the key should rotate smoothly.



Check the fit. Before installing the escutcheon or screwing the lockset in place, set the lock into the mortise and check the fit of the key in the keyhole. Adjust the size of the keyhole, if necessary.

Selecting an escutcheon

Remember, choose the escutcheon first, then choose a lockset to fit. Escutcheons, decorative keyhole surrounds, are available in a wide variety of sizes and styles. The size and style you choose should be in keeping with the rest of the furniture piece.



VENEER ESCUTCHEON

Diamond or oval patterns can be cut from veneer and let into a mortise surrounding the keyhole.

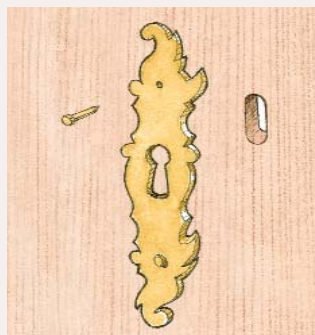


PLATE ESCUTCHEON

Simple or intricate pieces of hardware simply can be nailed into place over the keyhole.



INSET ESCUTCHEON

Another classic option is to inset a brass keyhole into the cutout for the key.