Woodsmith PLANS

DOVETAIL KEYS

TOTAL SUCCESS
SHOP TESTED
GUARANTEED
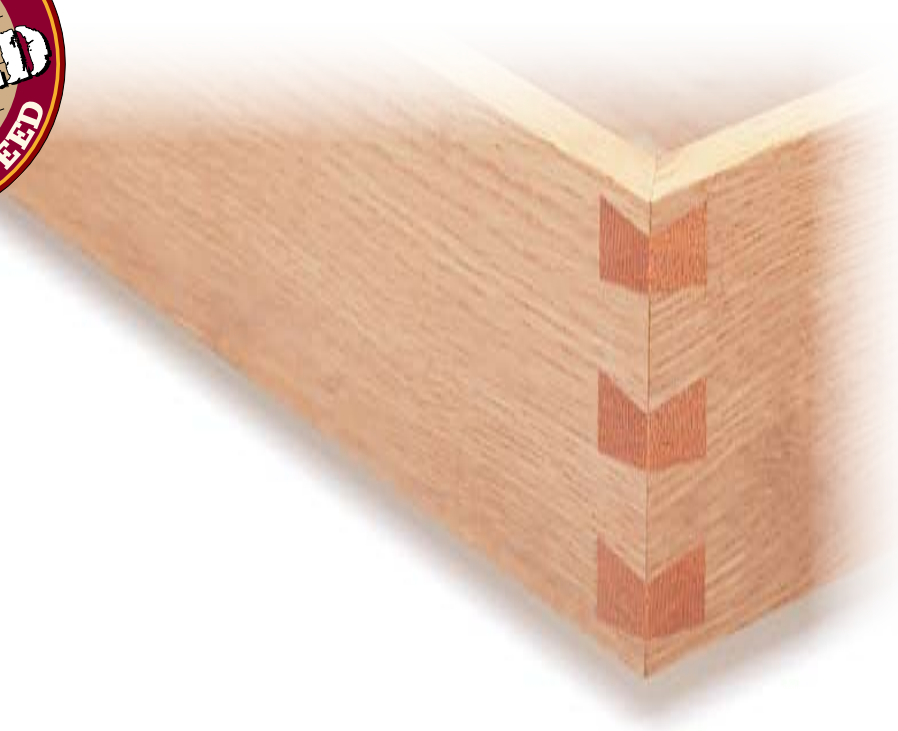
DOVETAIL KEYS

If you take a quick glance at the upper right photo, it may appear that the box is held together with traditional dovetail joints.

But a closer look will reveal that the pieces are actually mitered. You'll also notice that there are dovetail-shaped "keys" (splines) running across the miter.

STRENGTH. One big advantage of these keys is that they help strengthen the miter joint. That's because they're glued into slots that are routed across the miter (photo at left). This creates a stronger glue joint than the end grain surfaces of the mitered pieces.

CONTRAST. In addition to providing extra strength, the wood keys also produce a striking contrast just like traditional dovetail joints. The mahogany keys pictured above contrast with the oak sides of the case.

SLOTS & KEYS. Although adding dovetail keys to a box looks like it might be complicated, that's really not the case. Basically, it's just a simple, two-part process.

First, the slots are routed across the miter joints using a dovetail bit and a "cradle" to hold the box steady, refer to page 2. Second, the keys are cut to fit the slots.

SLOTS

Routing the slots for the dovetail keys is easy. The trick is getting the slots in one corner to align with those in the others.

CLEATS. The best way to do this is by "fencing" the box in the jig with two cleats. By preventing the box from shifting as you rout the slots, the cleats ensure a uniform look.

To position the cleats, you just need to lay out the location of the slots on one of the corners of the box.

Since the project shown in the illustrations required an odd number of slots, I centered one mark on the corner (Step 1). The two outside slots will be routed using the same setup, so a single mark takes care of both.

ROUT SLOTS. Once the cleats are attached, it's just a matter of routing the center slot in each corner (Step 2).

Before you rout the remaining slots, it's important for you to reposition the cleats. This is where the second layout mark comes in handy, as shown in Step 3.

After reattaching the cleats, you won't have to move them again. Just rout all of the slots near one edge (Step 4). Then flip the box around to rout the remaining slots.
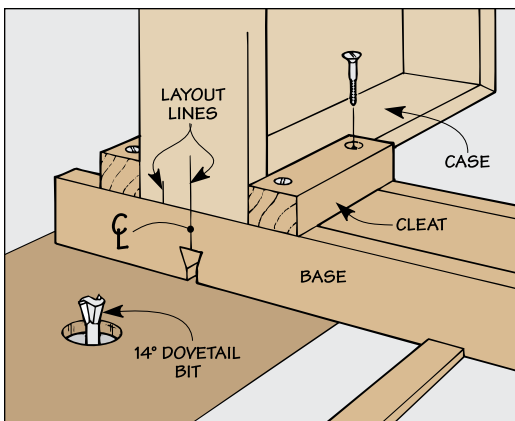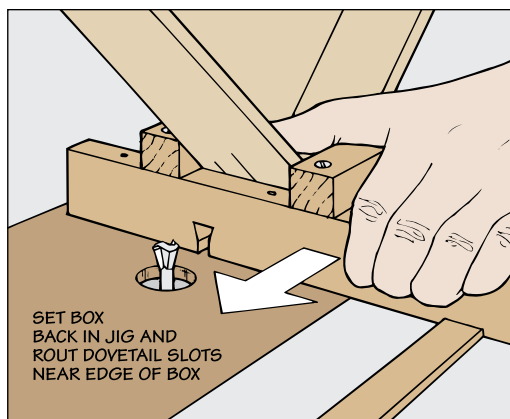

1 To locate the cleats, align the center mark on the box with the middle of the slot in the base. Then screw the cleats in place.
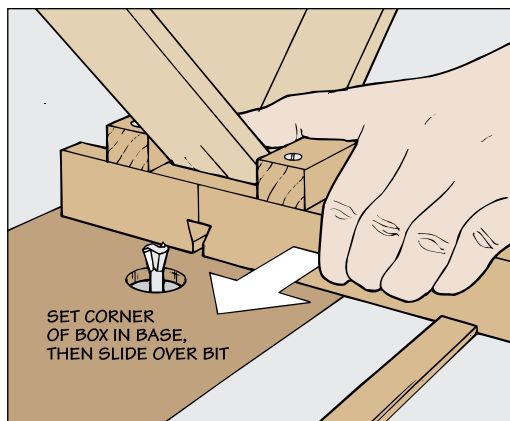
2 Now rout each center slot by fitting the corner of the box down into the V-groove and sliding the jig across the bit.
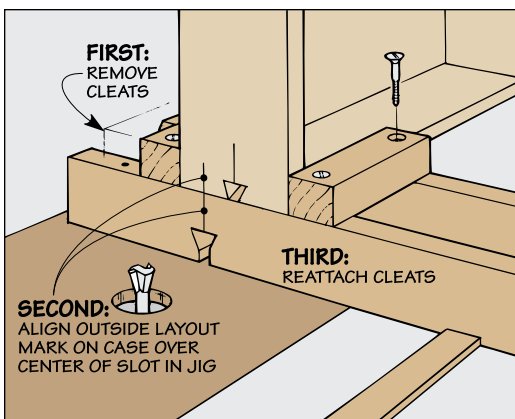
3 To reposition the cleats, align the outside layout mark with the center of the slot in the base. Then simply reattach the cleats.

4 After routing the bottom slot in each corner, there's no need to move the cleats. Turn the box around to rout the last slots.

KEYS

Once the slots are completed, it's just a matter of adding the dovetail keys. You can make the keys with the same dovetail bit you used to rout the slots. Since the dovetail keys are quite small, it's best to start with a long, extra-wide blank.

The goal is to rout dovetail-shaped strips that fit tightly in the slot, as shown in Step 1. To do this, just make a series of passes, checking the fit frequently.

The strip should feel like it's almost too tight. At that point, rip the strips from the blank (Step 2) and cut them into keys.

Before gluing the keys into the slots (Step 3), check the fit again. You may have to sand one side lightly to get a perfect fit.
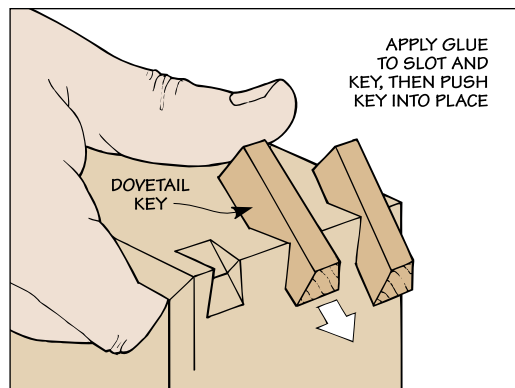
After the glue dries, finishing up is a simple matter of removing the excess waste (Step 4).
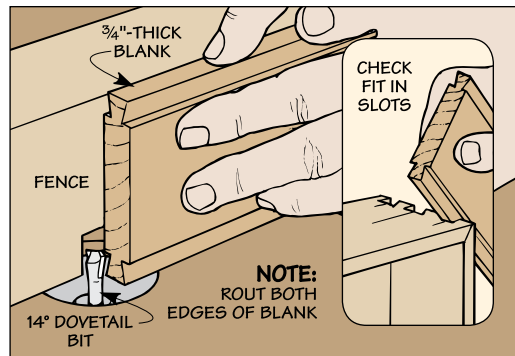
1 *After raising the bit $1/16$" higher than the depth of the slot, rout dovetail shaped strips on the blank that fit tightly in the slots.*
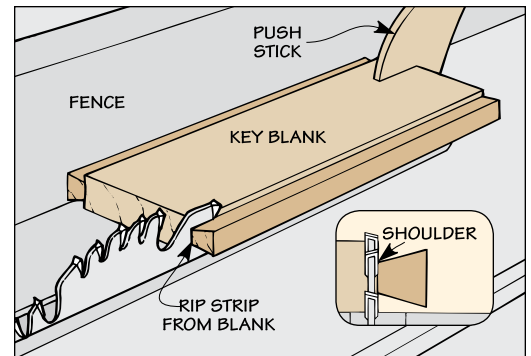
2 *To rip the strips from the blank, position the fence on the table saw so the blade cuts to the waste side of the shoulder.*

3 *After cutting the strips into short pieces, apply glue to the key and the slot. Then, push the key all the way through the slot.*
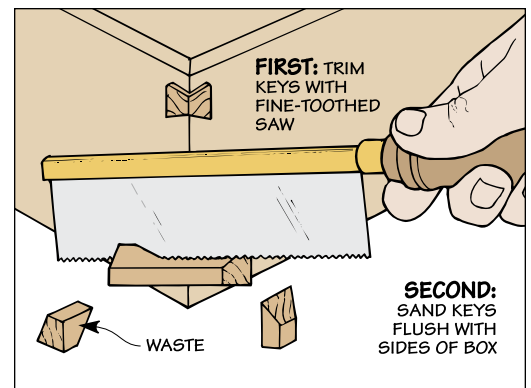
4 *Once the glue dries, trim off the waste with a hand saw and sand the keys flush with the sides of the box.*

SLIDING "CRADLE"

It's easy to rout a slot for a dovetail key in the mitered corner of a box. The hard part is holding the box at the proper angle.

That's where this sliding "cradle" comes in. The corner of the box rests in a V-shaped groove in the base (drawing). And a runner guides the base in the miter slot of the router table. To keep the box from shifting, you'll need two cleats. These are attached later, refer to text.

One thing to be aware of is that the base raises the corner of the box above the router table, as shown in detail 'a.' So to rout the slot, you'll need to raise the dovetail bit high enough that part of the shank is exposed.

In order to clear a "path" for this part of the shank, rout a slot in the base with a straight bit first (Step 1). Then complete the slot with a dovetail bit (Step 2).