

outfitting the Vises

Vises can make or break a workbench. But you don't need to worry about that with this workbench. The vises you see here are rock-solid and will handle the most demanding tasks with ease.

COMPLETING THE TAIL VISE

At first glance, the tail vise at right looks like a solid block of wood. But what's interesting is what you don't see. And that's the metal hardware on the "inside."

In Figures 13 and 14, you can see that the key pieces of hardware are the mounting plate attached to the front apron and the two guide plates that sandwich it. As you turn the handle, these plates guide the assembly smoothly as it travels back and forth.

For the most part, the rest of the parts of the vise assembly keep the plates spaced correctly. The secret to adding them is to trial fit everything as you go along. So you'll



need to disassemble and then reassemble the tail vise a few times.

Mounting the Plate. The first thing you'll need to do is attach the tail vise mounting plate (Figure 13). This plate fits into the recess in the front apron and is screwed in place so the top edge extends just above the bottom edge of the apron groove, as in the End View at left.

Once the plate is in place, the next step is to size the tail vise top and attach the metal guide plate of the tail vise. What you're looking for here is to end up with the tail vise top flush with the top of the bench when the guide plate is hooked over

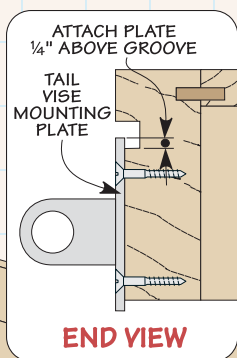
the mounting plate (Figure 13a). And there shouldn't be any gap between the apron on the bench and the edge of the tail vise top.

To help locate everything accurately, I clamped the two pieces together and test fit it to the bench. Once you have the tail vise top sized and the guide plate located, you can screw them together.

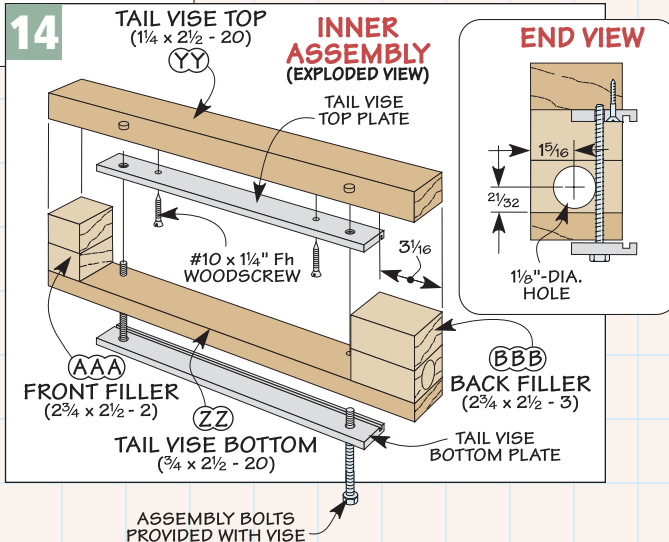
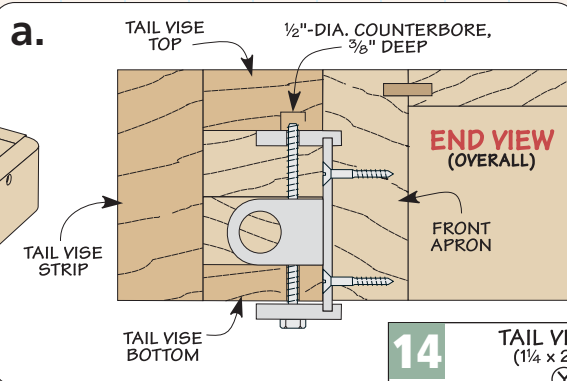
Note: You'll also need to drill a couple counterbores in the tail vise top for the ends of the bolts used to clamp the lower guide plate in place, as in Figure 14. You can use the guide plate to locate them.

At this point, the critical "assembly" of the vise is over. All that's left to do now is add the two filler blocks and the tail vise bottom. Here again, test fitting will help you size the blocks and bottom piece for a smooth sliding fit.

Add the Bench Dog Strip. Now you're ready to add the tail vise strip that holds the bench dogs. As before, page 15 covers everything



13 OVERVIEW



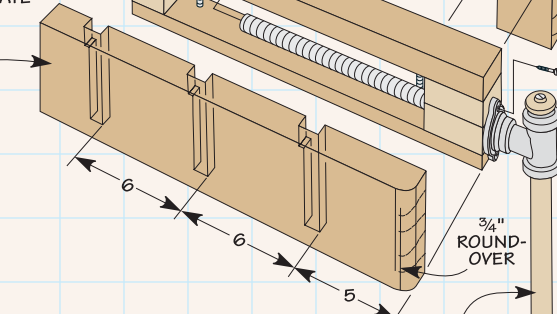
#10 x 1/4" Fh WOODSCREW

INNER ASSEMBLY (SEE FIG. 14)

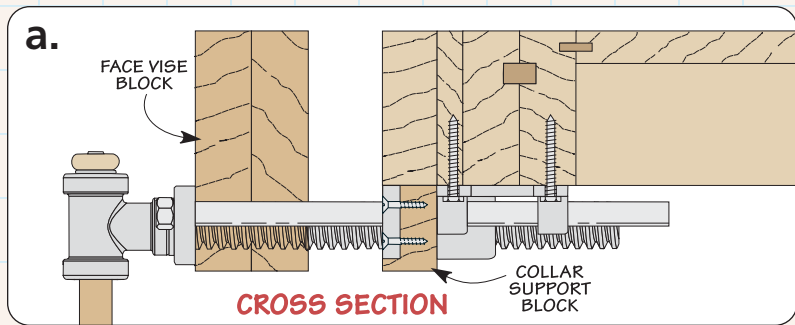
PINCH BLOCK (1 3/4 x 4 3/4 - 3)

3/4" ROUND-OVER

CCC TAIL VISE STRIP (1 3/4 x 4 3/4 - 20)



3/4" ROUND-OVER
VISE HANDLE



you need to know. Once the dog holes are complete, glue the strip to the tail vise assembly.

To complete the tail vise, I added a “pinch” block to the inside face of the vise. This gives the mounting collar and handle for the vise a “centered” look and covers the end of the vise hardware (Figure 13). Finally, add the handle to the vise. You can make your own or buy one (see sources on page 51).

ADDING THE FACE VISE

All that’s left to complete the bench is to add a face vise. The nice thing is, there are only two parts to make — a face vise block and a collar support strip, as shown in Figure 15.

Like the tail vise, you’ll need to disassemble and reassemble the vise a few times. Plus, drilling slightly oversized holes (detailed in the drawings) helps avoid any alignment problems.

Mounting the Vise. The first step is to disassemble the vise and bolt the mounting plate to the bottom of the bench (Figures 15a and 15b).

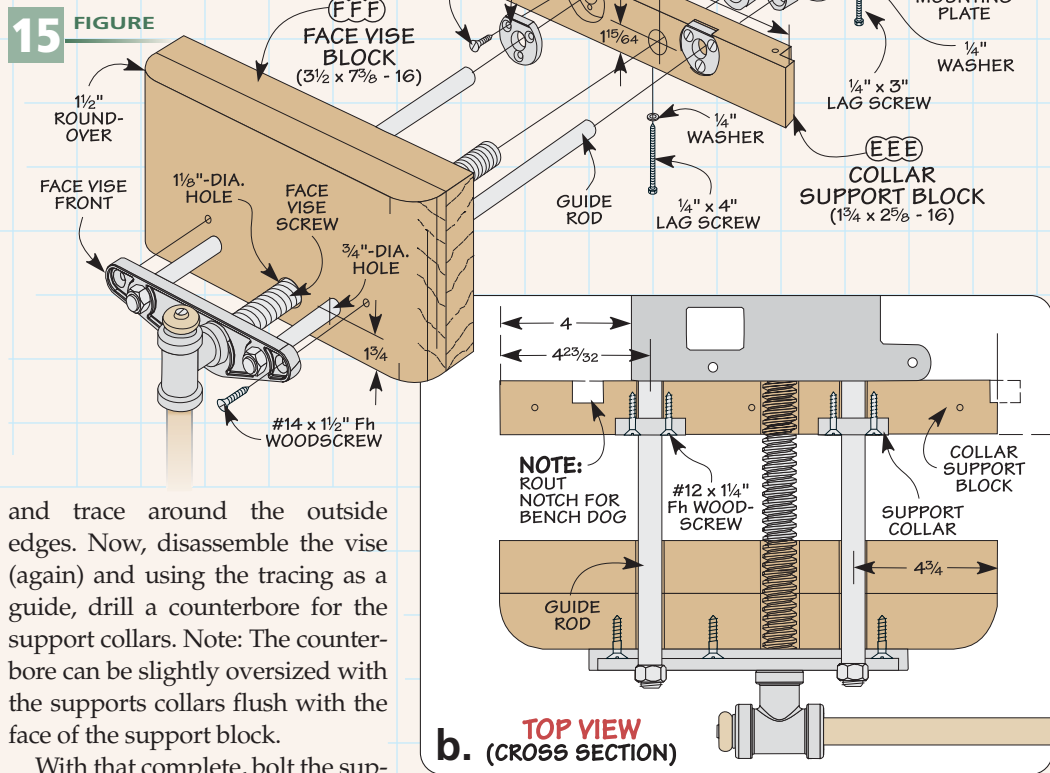
The next step is to make the support block for the metal collars that provide extra support for the guide rods (Figure 15). Note: You’ll need to cut a couple notches where the strip covers the bench dog holes.

After drilling a pair of oversized holes in the collar support block for the guide rods and screw, bolt the block to the bench, as in Figure 15.

Now, slide the support collars onto the shafts and assemble the vise by feeding the rods through the collar support block, into the vise mounting plate.

The next step is to slide the support collars up to the support block

15 FIGURE



and trace around the outside edges. Now, disassemble the vise (again) and using the tracing as a guide, drill a counterbore for the support collars. Note: The counterbore can be slightly oversized with the supports collars flush with the face of the support block.

With that complete, bolt the support strip back in place and reassemble the vise. Then, slide the collars into the counterbores and screw them in place.

All that’s left to do now is make the face vise block (Figure 15). After gluing up the block and rounding the edges, drill a set of holes for the guide rods and threaded shaft. These holes should align with the holes in the support block. And be sure to locate the holes so the block ends up flush with the left end and top edge of the bench.

After slipping the face vise block over the rods and shaft, tighten the vise to “clamp” the block to the bench. Then simply screw the block in place, as shown in Figure 15b. Then all that’s left to do is add a handle to the vise and start working at your new bench. 🛠️

