

Impossible Dovetail Slide

by Michael Ward

This slide seems to be a physical impossibility: a block of wood with four interlocking dovetail joints holding it together. But if you know how it is constructed, it really is a unique slide that will baffle anyone who doesn't know how it's made.

Before you begin working on your slide, take a minute to review woodshop safety: Be sure to read, understand and follow all the instructions that come with your power tools, and be sure to wear safety glasses.

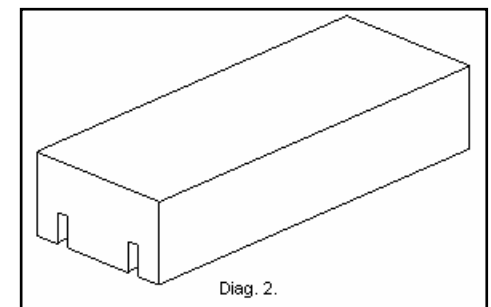
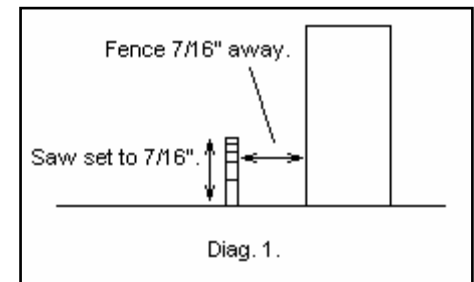
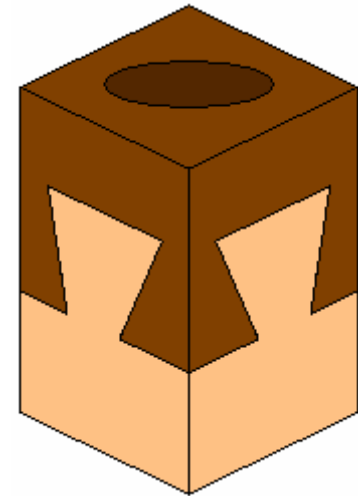
To make this slide you will need access to a table saw, a table mounted router, a 1/2" dovetail bit, and a drill press with a 3/4" drill bit. A disk sander is helpful, but not necessary.

You will also need two pieces of contrasting wood, such as walnut and maple, or walnut and ash, or some other combination of contrasting hardwoods.

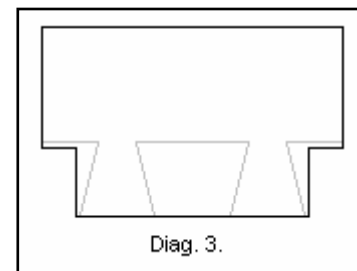
Start by cutting the blocks of wood to the following dimensions: the darker upper piece is 1-1/8" thick by 2" wide by 9" long. (The extra length is so that you can safely handle the blocks of wood on the table saw and table router. You also get several slides from the same block.) The lighter bottom piece is 1-1/4" thick by 2" wide by 9" long.

With your blocks of wood cut to the proper size, set up your table saw with the blade set to a height of 7/16" and position the rip fence 7/16" away from the blade. See Diag. 1.

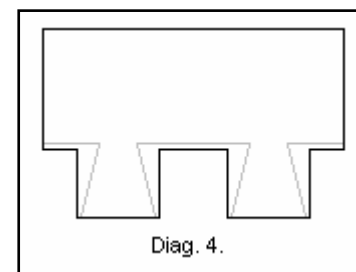
Run the upper block through the table saw along each long edge and cut a groove. Use push blocks and hold-downs for safety. The upper block should look like Diag. 2. Set the upper block aside for now.



Set up the table saw fence 1-3/4" away from the blade, leaving the height of the blade at 7/16". Run the bottom piece through along each long edge. Move the fence away from the blade slightly and make another pass along each long edge. Continue until the end of the bottom block looks like Diag. 3.

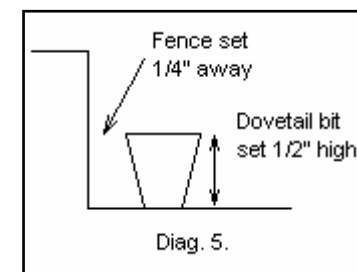


Reset the fence to 1-1/16" away from the blade, and make another pass along each long edge. Move the fence to 1 inch away from the blade, and make a final 2 passes along the long edges. The bottom block should now look like Diag. 4.

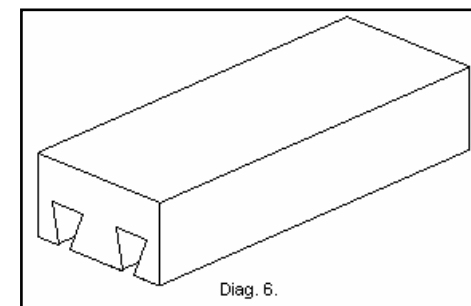


Now move to the table router. Adjust the height of the dovetail bit to exactly 1/2". These dimensions are critical for the slide to fit together properly and to have nice tight dovetail joints, so measure carefully, and use test scraps of wood to test your setup before cutting your finish pieces.

Set the fence of your table router to 1/4" away from the top edge of the dovetail bit. See Diag 5.

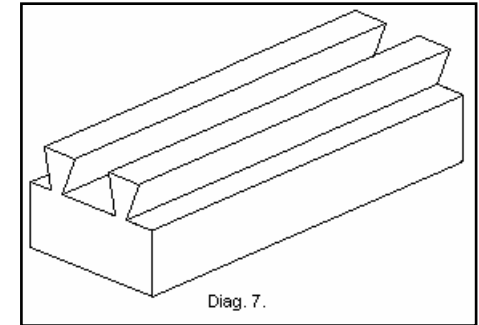


Using holddowns and pusher blocks, carefully and slowly push the upper block through the router along each long edge. Your upper block will then look like Diag. 6. Set the upper block aside.



Reposition the fence $5/8$ " away from the fence and slowly push the bottom block through the router along each long edge.

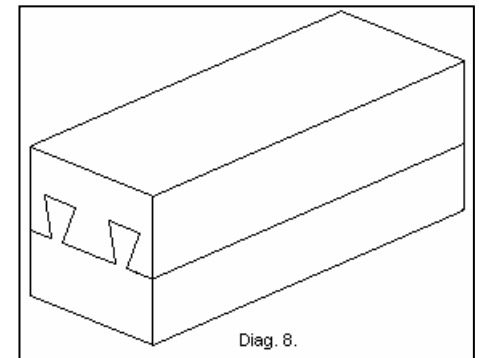
Reposition the fence to $1-5/8$ " and again, slowly push the bottom block through the router along each long edge. Your bottom block should now look like Diag. 7.



The upper and lower blocks should now be able to slide together. See Diag. 8.

With the two blocks together, cross-cut them on the table saw into 2" lengths. Each 2" length will make one slide, and you should end up with four blanks.

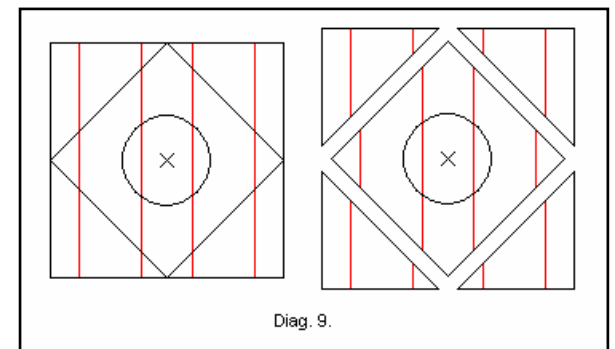
On the top of each blank, mark the center point and the mid-point of each side. Join the mid-points with a line. Cut each corner off carefully. You are handling small pieces of wood here, so watch out for your fingers on the table saw. Better yet, use a hand saw or band saw to cut off the corners. See Diag. 9.



Use a disk sander or sandpaper on a flat surface to sand each face down to the lines.

After the faces are sanded, and the block is square, clamp the block and drill a $3/4$ " hole down through the top.

After the hole has been drilled, round all the edges nicely, and finish sand the slide.



Disassemble the slide and apply 2 light coats of glossy clear finish, sanding lightly between coats.

I put my initials and the date on the inside of the bottom piece. Reassemble the slide, and you're all set to amaze your friends. -MW

