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Tilting Table for the Drill Press

In this plan you will be getting:

- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.

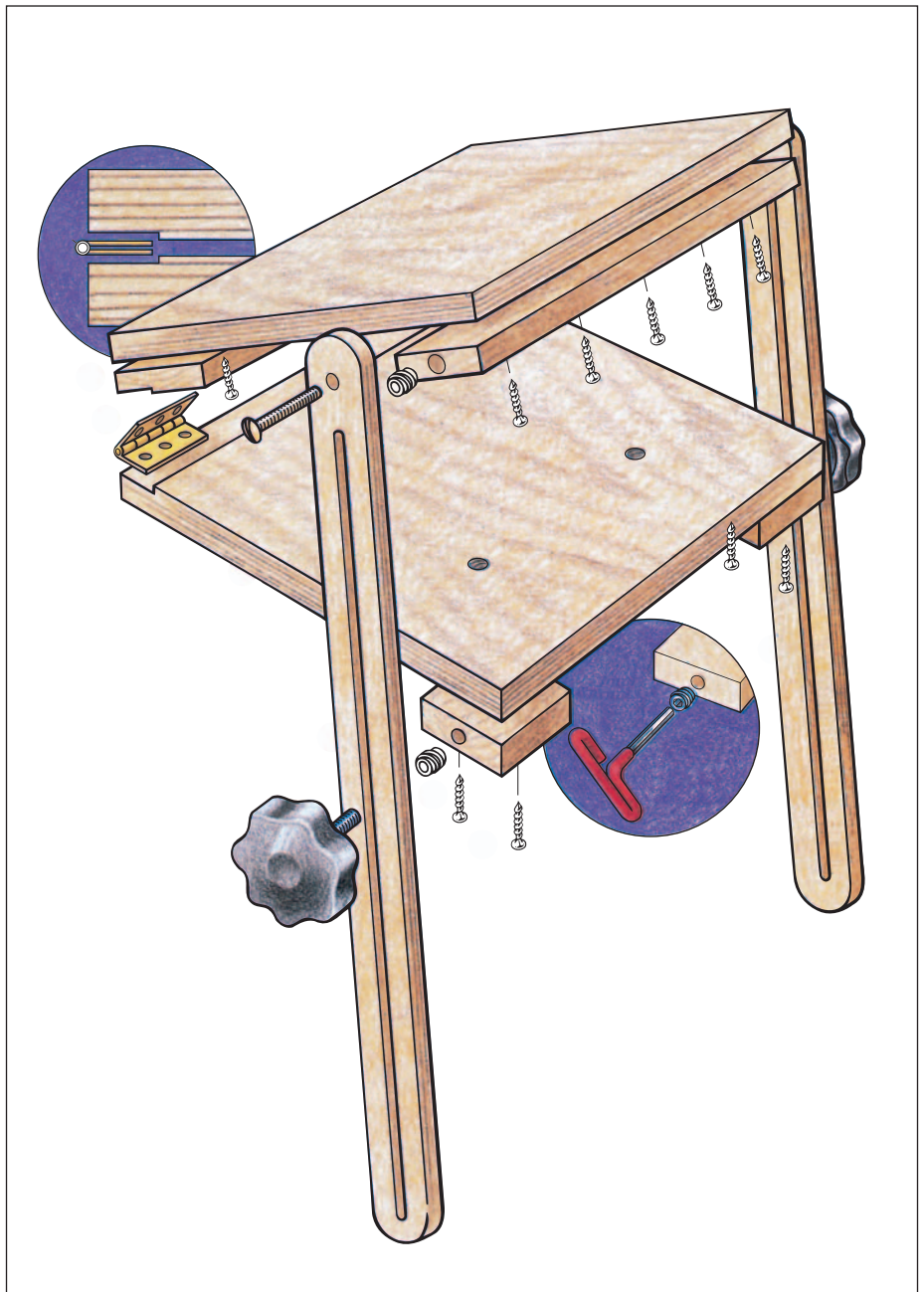


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Tilting Table for the Drill Press

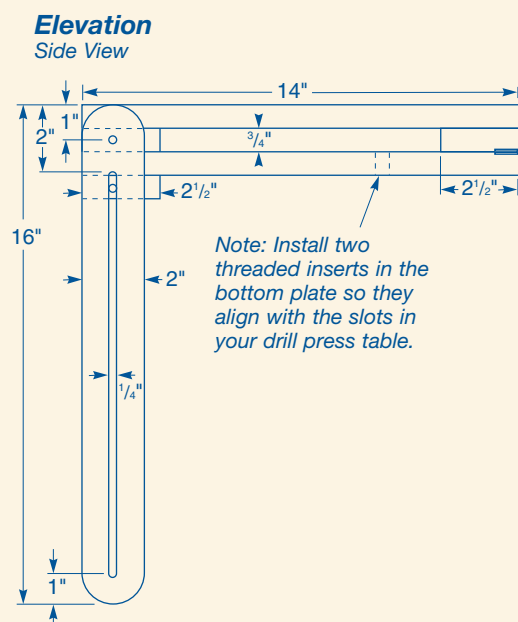
Most of the time, we drill holes that are perpendicular to the drill press table. But as soon as you start making chairs, all conventions are off and angled holes are quite common. Making these accurately on a drill press is a hassle, unless you have an easy, reliable way to tilt the table. Our jig makes the process a cinch, and your table never tips.

Ever tried drilling angled holes with a standard drill press? Tilting the table can be a real pain. But with this home-made tilting jig your results will improve immediately. Clamp it right to your drill press table without any table adjust-

ment required, and add fences or stops to get accurate, repeatable borings in projects like the Windsor chair seat shown here (see page 60). With a little scrap wood and hardware, you can build this essential shop jig in an after-

noon. Start by cutting all the parts to size, according to the *Material List* below. Trim a shallow rabbet on the lower plate (pieces 1) and one support strip (pieces 2) to house the hinges (pieces 5). Attach the screw blocks

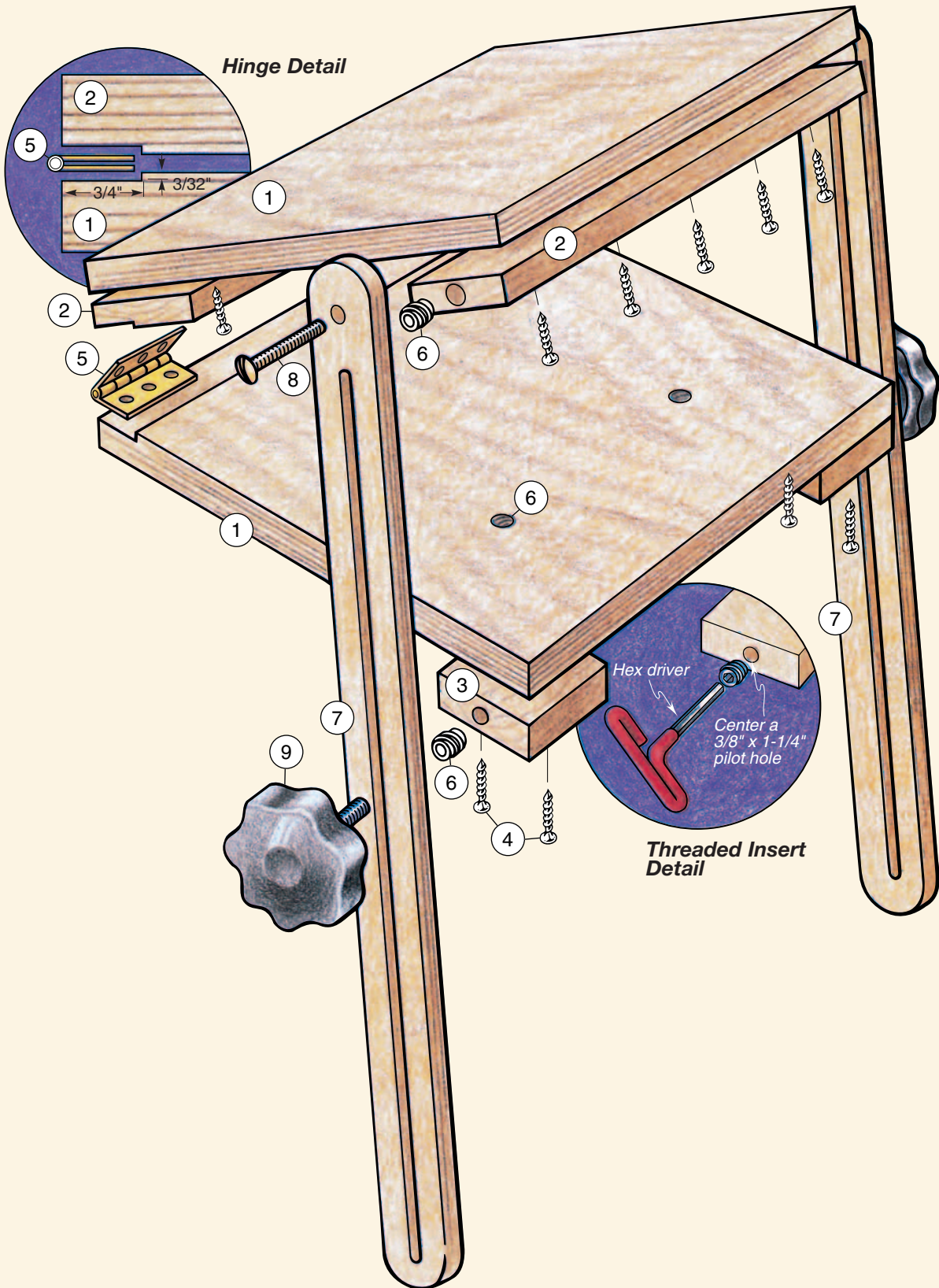
Technical Drawings



MATERIAL LIST – Tilting Table

	T x W x L
1 Plates (2)	3/4" x 14" x 14" (Plywood)
2 Support Strips (2)	3/4" x 2 1/2" x 14" (Hardwood)
3 Screw Blocks (2)	3/4" x 2 1/2" x 2" (Hardwood)
4 Screws (14)	#8-1 1/4" Zinc-coated
5 Hinges (1 pr.)	1 3/8" x 2" Brass Butt Hinge
6 Threaded Inserts (6)	1/4"-20 (For end grain)
7 Adjusters (2)	1/2" x 2" x 16" (Plywood)
8 Pivot Bolts (2)	1/4"-20 x 1 1/2"
9 Knobs (4)	Handle with 1/4"-20 Bolt

Tilting Table Exploded View



(pieces 3) and support strips to the plates with screws (pieces 4), then fasten the hinges in place.

Next, drill pilot holes for threaded inserts (pieces 6) in the ends of the blocks, strips and lower plate, and screw in all the inserts. The last construction step is to make the adjuster arms. Drill the pivot holes first, then lay out the elongated screw slots. Drill holes at the ends of the slots and rout out the waste in between with a 1/4" straight bit. Round the corners of the adjusters on a belt sander to complete them. Use pivot bolts (pieces 8) and threaded knobs (pieces 9) to attach the adjusters. Now bolt the table in place through the inserts in the bottom plate and you're all set to go. Drilling angled holes is now a breeze!



Step 1: Cut stock to size and rabbet the lower plate and one strip to accommodate the hinges (see Hinge Detail, page 59). Secure the hardwood to the plates with screws and install the hinges.



Step 2: Drill pilot holes for the threaded inserts in the ends of the strips, screw blocks and in the bottom plate. Wax the inserts and install them with a hex driver.



Step 3: Cut plywood for the adjusters and lay out the pivot hole and slot on each one (see the Elevation Drawing on page 58). Drill the 1/4" pivot holes.



Step 4: Rout the slots in shallow passes with a 1/4" straight bit after marking the bit's cutting area on the fence. Use the marks as guides for starting and stopping the cuts.



Step 5: Secure your belt sander in a vise and shape the ends of the adjusters. Use a palm sander to smooth the jig's surfaces and ease all the corners. Apply a coat of sanding sealer.



Step 6: Bolt the adjusters to the upper plate assembly and clamp them to the screw blocks with knobs. Use the remaining two knobs to secure the jig to your drill press table.

ANILINE DYE TIPS

Aniline dyes provide a simple way to color tight-grained woods effectively or blotch-prone woods evenly. They're also a great choice for enhancing the chatoyance of highly figured wood. Aniline dye power can be mixed with alcohol or distilled water, depending on the formulation. Water-based dye is often the better choice, because it resists fading in sunlight better than alcohol-based dye. If you've never used water-based aniline dye before, here are 10 important tips to keep in mind:

1. Using a sponge and some warm water, gently wet all the surfaces just enough to raise the grain before applying the dye. Then sand lightly with 220-grit paper, just enough to take all the fuzz off.

2. Keep aniline dye away from mortises and tenons. You don't want it to seep into the joint and build up, where it may bleed out into the wood later, altering and darkening the color.

3. Mix the powdered dye in warm water according to the manufacturer's instructions. Let the mixture set for an hour to let the dye totally dissolve before you apply it.

4. Aniline dyes have an almost indefinite shelf life—if you store them in airtight containers.

5. Add a little liquid dish soap—about one teaspoon for each quart of water—to your dye mixture. The soap helps break the surface tension of the water, allowing the dye to fill in all the grain. This is especially helpful when dyeing oak.



Drive several nails up through a piece of scrap to support your workpiece while it dries.



6. Mix and store your dye in plastic or glass containers. Don't use steel containers because they'll rust, changing the color of the dye.

7. Use a foam brush to apply aniline dye. And wear rubber gloves—aniline dyes will stain your hands.

8. Before you stain your project, figure out how you're going to set the pieces down after wiping off the surfaces. One option is to rest workpieces on some scrap pieces of wood. Or, set parts on the points of nails pounded through scrap, as shown at left.

9. After you've applied the dye with a foam brush, use a soft, clean, lint-free cotton cloth to wipe the dye off with the grain. Be sure to wipe off any fingerprints after you have set the piece down to dry (it takes about an hour to dry).

10. If you apply aniline dye before assembling your project, wear thin rubber gloves during the assembly process. Any water—including sweat—that touches the dyed but unfinished surfaces will leave a spot on the wood.