

cnc Toolbox

Using precision-cut parts made with a CNC router, all you need for assembly is a little glue.



■ This toolbox is designed from the ground up to be cut with a CNC router. The sides and bottom have tabs on their edges to fit into blind mortises in the front, back, and sides. The back and top have a series of recesses on the inside for the individual pieces that form the knuckles of the hinge. The latches and handle assembly are integrated into the top. The top is also engraved with the *ShopNotes* logo. And to finish it off, decorative pocket cuts were made on the outside of the toolbox.

CNC Files Online. The design files for the toolbox and the *ShopBot* part files used to cut the pieces are available as a downloadable *Online Extra* at *ShopNotes.com*. If you don't own a *ShopBot*, you can use the design files to create the toolpaths and instructions for your specific CNC machine. We've also exported the files in AI, DXF, EPS, and SVG formats.

Cutting the Plywood Parts. The drawings on the next page show the basics of how the toolbox is put together. The tricky part is accurately registering the

two-sided parts when flipping them over to cut the opposite side. You can use the cut marks in the spoilboard as a reference or simply mark the position with a pencil before removing the parts.

There's another thing I want to mention. The width of the blind mortises is sized to match the thickness of the plywood so that the tabs on the mating parts form a friction fit. We used $\frac{3}{8}$ " Baltic birch, but if you use another material, you may need to adjust the mortise width accordingly.

Assembly. Putting together the toolbox is pretty straightforward. I started with the bottom, sides, front, and back. I applied a thin film of glue to the tabs before clamping the parts.

You'll notice that the top and handle are both made up of two layers. When gluing up the handle, making sure the edges are flush. Before gluing the layers of the top together, you'll need to add the handle, handle pins, latches, and thumb slides.

The pins and latch plates are trapped in the grooves cut on the inside faces. Again, just keep the edges flush as you apply clamps.

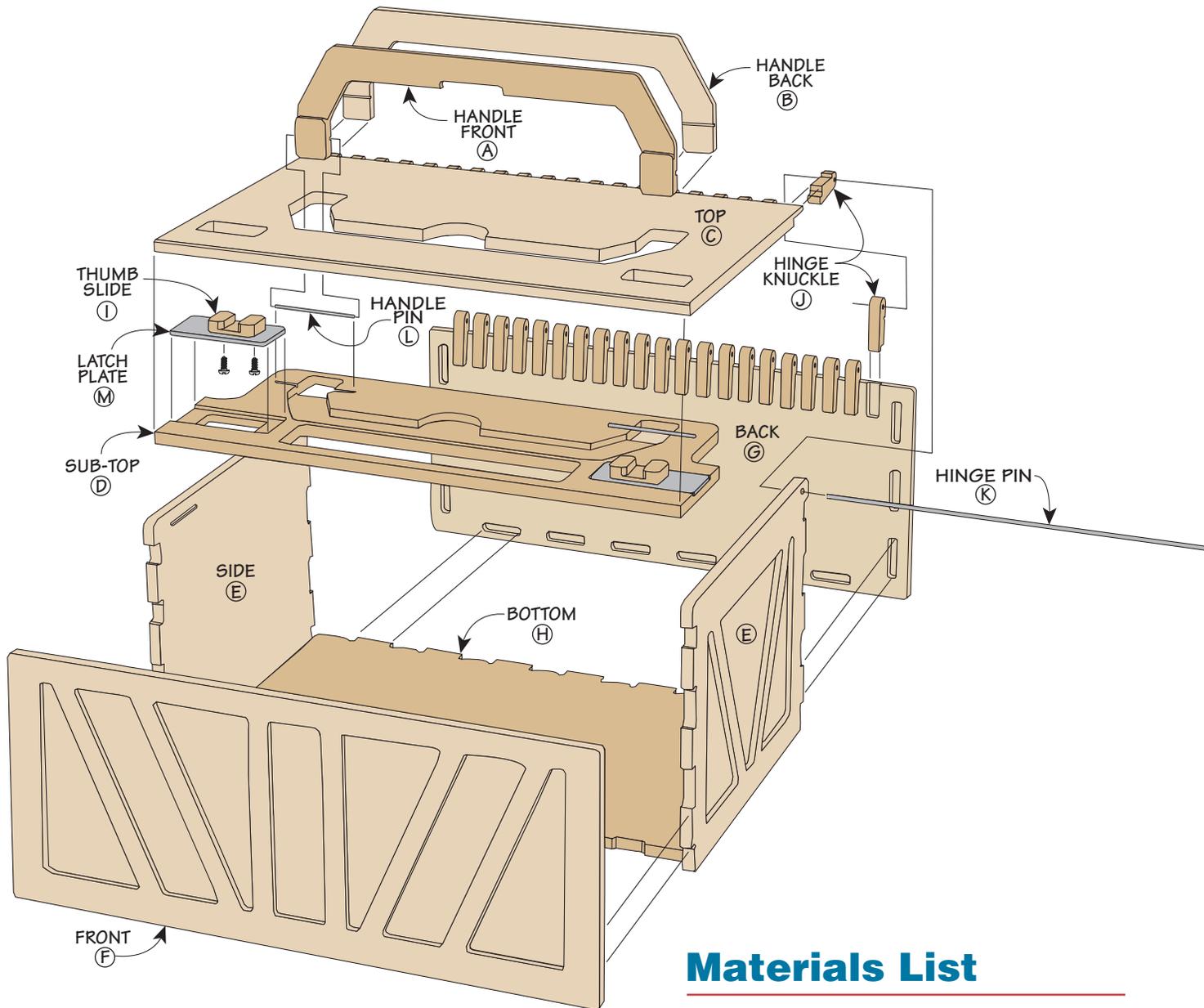
Long Hinge. You might think that aligning all of the hinge knuckles would be tricky. But the beauty of having the recesses made with a CNC router is that they're all identical. Just make sure each knuckle is fully seated in the recess after applying the glue.

After the glue dries, you can align the hinge knuckles on the top with those on the back and start feeding in the hinge pin. You may need to coax it with a few gentle taps of a small hammer.

Finish. To finish the toolbox, I sprayed on a couple coats of lacquer. Once that dries, you can fill the toolbox with your favorite hand tools and accessories. 🛠️

Exploded View Details

OVERALL DIMENSIONS: 10³/₄"W x 18"L x 8¹/₂"H



Materials List

A	Handle Front (1)	3 ¹ / ₂ x 12 - 3/8 Ply.
B	Handle Back (1)	3 ¹ / ₂ x 12 - 3/8 Ply.
C	Top (1)	10 x 16 ¹ / ₂ - 3/8 Ply.
D	Sub-Top (1)	6 ³ / ₈ x 16 ¹ / ₂ - 3/8 Ply.
E	Sides (2)	8 ¹ / ₂ x 10 ³ / ₄ - 3/8 Ply.
F	Front (1)	7 ³ / ₄ x 18 - 3/8 Ply.
G	Back (1)	7 ³ / ₄ x 18 - 3/8 Ply.
H	Bottom (1)	10 ¹ / ₂ x 17 - 3/8 Ply.
I	Thumb Slides (2)	1 ⁵ / ₁₆ x 1 ¹ / ₂ - 3/8 Ply.
J	Hinge Knuckles (47)	5/8 x 1 ²⁷ / ₃₂ - 3/8 Ply.
K	Hinge Pin (1)	1/8-dia. x 17 Steel Rod
L	Handle Pins (2)	1/8-dia. x 2 ⁵ / ₈ Steel Rod
M	Latch Plates (2)	1 ¹ / ₂ x 3 - 1/8 Alum.

• (4) #8 x 3/8" Ph Sheet Metal Screws

