

# WOODWORKER'S WJOURNAL

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## Premium Plan

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In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

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<http://adobe.com/reader>.

## Mortising Machine Stand



# Mortising Machine Stand

By Chris Marshall

*This easy-to-build custom base unit gives your mortiser the crowning touches it deserves: task lighting, pullout workpiece supports, better access and drawer storage.*





*The author used just two lifting handles, but four (two per side) would be useful if you have a heavy mortiser needing two people to carry it. Use a Forstner bit, then a jigsaw to create the cutouts.*



*Install the drawer slide hardware before assembling the sides, divider and back panel on the base. The roller tracks would be much harder to install after you've undertaken the assembly.*

**B**enchtop mortisers sure beat chisels and mallets, but their features can be a bit underwhelming. For one, their bases are low on a benchtop, making it tough to see what you're doing without bending over. Most models lack side supports to keep long workpieces from tipping off. They're ungainly to move around the shop, too. Grab the wrong spot when lifting the tool, and that feed handle can crack you in the kisser like you're stepping on a rake. If you lift from the base casting instead, the edges can be sharp and painful. Either way, it's not pleasant.

Well, friends, take heart: this project is designed to give your mortiser a helping hand. It features a pair of pullout support arms that extend the machine's "wingspan" up to about 4 ft. The drawer box raises the tool almost 9" off the bench for easier viewing when mortising, and a task light brings layout lines into sharper relief. Two drawers give you room for mortiser chisels and much more. Cutout handles offer comfortable lifting points, too. It's the souped-up base your mortiser really needs.

### Assembling the Carcass

Baltic birch or other cabinet grade plywood are good options for the carcass parts of this project. Start by cutting your base (piece 1) to size and laying out the corner radii and handle cutouts according to the *Drawings* on page 4. Trim the corners round with a jigsaw or band saw. Bore two 1 1/4"-diameter through holes for the ends of each handle, then connect them by sawing away the waste in between. Head to your drum or spindle sander to smooth the curves and cutouts. Remove the remaining sharp edges with a 1/4" roundover bit in your router.

Follow the *Material List* dimensions on the next page to cut the top, sides, divider and back panel (pieces 2 through 5) to size.

Finish-sand your carcass parts now, then screw the drawer slides (pieces 6) to the inside faces of the side panels and to both faces of the center divider. Be careful to position these roller tracks 3/4" back from the front edges of the panels in order to make room for the inset drawer faces. Once the slide hardware is in place, attach the back panel to the divider with countersunk screws, add the side panels so they cover the ends of the back

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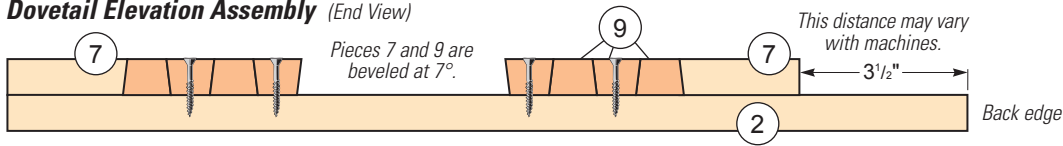


*The author made a simple ripping jig to secure each dovetail extension strip for cutting its second beveled edge. Toggle clamps make for quick changeovers and keep fingers a safe distance from the blade.*

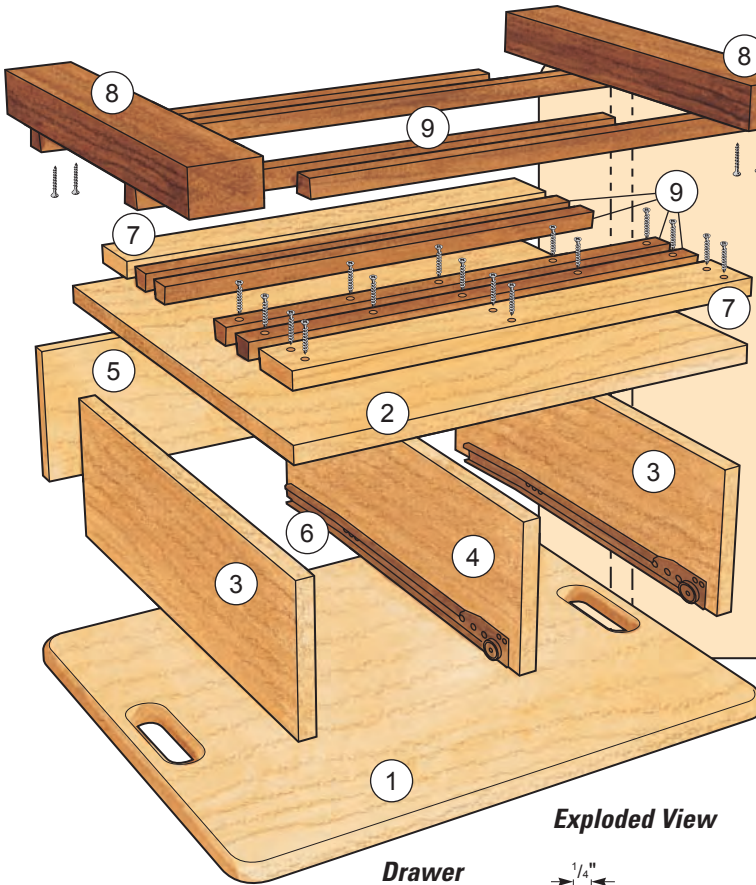
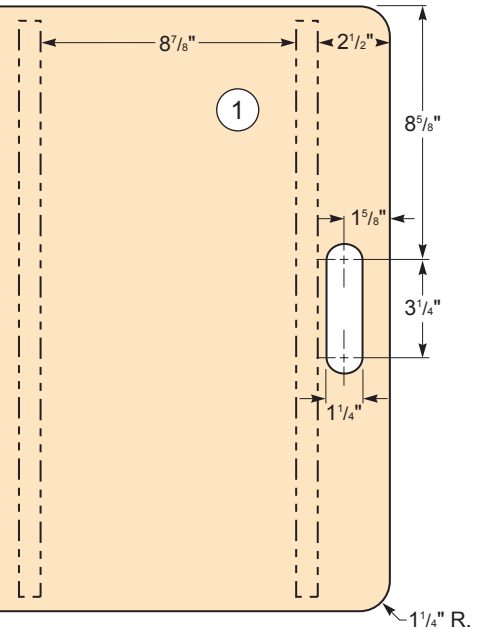


*Arrange two groups of four dovetailed extensions against the machine bases with their bevels alternating and engaged. Fasten four strips to the carcass top to create "tracks" for the other four strips that slide.*

### Dovetail Elevation Assembly (End View)

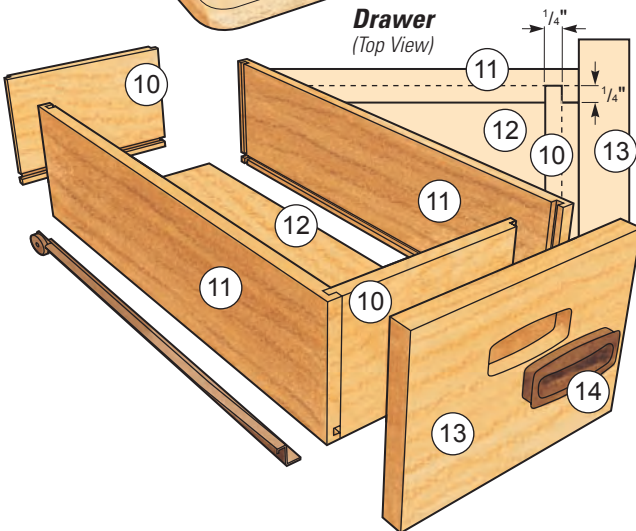


### Base (Top View)



### Exploded View

### Drawer (Top View)



## MATERIAL LIST

	T x W x L
1 Base (1)	3/4" x 20 1/2" x 25"
2 Top (1)	3/4" x 20" x 20"
3 Sides (2)	3/4" x 6 1/2" x 20"
4 Divider (1)	3/4" x 6 1/2" x 19 1/4"
5 Back (1)	3/4" x 6 1/2" x 18 1/2"
6 Drawer Slides (2 pr.)	18" Low profile
7 Machine Bases (2)	3/4" x 2 1/2" x 20"
8 Workpiece Supports* (2)	1 3/4" x 2 3/4" x 16 1/2"
9 Dovetail Extensions (8)	3/4" x 1" x 20"
10 Drawer Fronts, Backs (4)	1/2" x 5" x 7 1/2"
11 Drawer Sides (4)	1/2" x 5" x 18"
12 Drawer Bottoms (2)	1/4" x 7 1/2" x 17 1/2"
13 Drawer Faces (2)	3/4" x 6 1/2" x 8 7/8"
14 Drawer Pulls (2)	Wood/Recessed

\* Adjust the thickness of these pieces to match your mortiser's base casting thickness, as this may vary with the model.

## Mortising Machine Stand Hard-to-Find Hardware

The following supplies are available from Woodworker's Journal.  
 Recessed walnut drawer pulls (2) #22285 .... \$9.99 each  
 18" brown drawer slides (2) #34942 ..... \$7.99 pair  
 24" snake light (1) #20174 ..... \$47.99 each

To purchase products online, visit [www.woodworkersjournal.com](http://www.woodworkersjournal.com) and click on the "Store" tab. Or, call 800-610-0883 (code WJ1321).

panel, and fasten this whole subassembly to the base with more screws. Center it between the handle cutouts and square it up carefully first. Fasten the top panel in place. The last step of this stage is to make and attach two plywood machine bases (pieces 7) to the top: they serve as spacers under the machine that allow the dovetailed support extensions to slide freely in and out. Notice in the *Drawings* above that the "inside" edge of each machine base piece is beveled at 7° to match the dovetailed extensions. Fasten the front base strip flush with the carcass's front edge; the rear base is inset 3/2" or where needed to suit the size of your mortiser's base casting.



**The drawer box corners are assembled with simple rabbet-and-dado joints cut with a 1/4"-wide dado blade on the table saw (see inset). Grooves along the full length of the box parts capture the bottom panels.**



**Pockets for recessed pulls in the drawer faces are easy to make: trace the pull shape, remove most of the waste with a Forstner bit, then refine the shape with a trim router outfitted with a small straight or spiral bit.**

## Making the Sliding Arms

Each sliding arm consists of a thick workpiece support (piece 8) that matches the height of your mortiser's base casting. Mine is 1 3/4"; yours might be different, so adjust the part thickness if necessary. These attach to pairs of dovetail extensions (pieces 9). Four more dovetail extensions fasten to the carcass top and serve as tracks for the arms to slide in and out. The *Exploded View Drawing* makes this part arrangement more clear.

Prepare the two workpiece supports by laminating thinner stock or from single pieces of thicker material. The safest way to bevel-rip the dovetailed edges of the eight extension strips is as follows: start with 20"-long sticks of 1 1/2" or wider stock, and bevel-rip one edge of each to 7°. Then, make a simple sled-style ripping jig as shown in the center right photo on page 3 to rip the second dovetailed edges safely. Mount several toggle clamps to the jig to keep your fingers out of harm's way. Fashion the top piece of your jig with a 7° bevel along one edge that forms a complementary fit with the beveled edges of the strips.

Once they're sawn and sanded smooth, set two groups of four dovetail extensions against the machine bases with all of their bevels interlocking. Now, counting the dovetail extensions from the front of the project, fasten the second, fourth, fifth and seventh strips to the carcass top with 1/4" countersunk screws. The remaining loose strips should slide with a bit of friction but not force between the fixed dovetailed "tracks." Attach one workpiece support to the ends of the first and sixth sliding extensions; position it so its front end is flush with the front of the drawer box. Align and screw the other workpiece support to the third and eighth extensions. Two or three screws per joint will secure these arm parts.

## Adding Drawers and Finishing Touches

The drawer boxes for this project couldn't be more straightforward in construction: 1/4" x 1/4" rabbet tongues on the ends of the drawer fronts and backs (pieces 10) fit into corresponding dadoes cut in the drawer sides (pieces 11) to form simple corner joints. Next, cut 1/4" grooves along the bottom inside faces of all of these parts to fit the drawer bottoms (pieces 12). Sand the box parts up to 180-grit, and glue them

together. When the glue cures, install the remaining drawer slide hardware and test the action of the drawer boxes in their openings. Now cut two drawer faces (pieces 13) from some leftover project plywood to fit the drawer box openings. Size them to leave 1/16" of clearance all around. I installed the recessed drawer pulls (pieces 14) by tracing their shape onto the drawer faces, boring out most of the waste with a large Forstner bit and then cleaning up the rest of the waste with a trim router. Finish-sand the drawer faces, and glue the pulls into place. Mount the faces to the drawer boxes with screws.

All that's left to do on this custom shop project is to apply a durable topcoat, bolt your mortiser to the machine bases and add a task light in back. I hope you'll agree that this shop-built stand will help you get the best from your benchtop mortiser.

*Chris Marshall is a senior editor of Woodworker's Journal.*

