Contemporary Desk

An elegant approach to design and joinery

BY MICHAEL ROBBINS

Photo: Michael Pekovich

I designed the first incarnation of this desk for a close friend who needed a simple, elegant station for sketching and designing in his small apartment. Over the past six years, I've built the desk a number of times for others and the design has evolved. Its original chunky, square base was replaced with a slender version with turned legs; and the sides, or end caps, of the desk case are now shaped to flowing curves instead of angles. What has remained the same is its light weight and airy utility—a pared-down, minimalist approach to a place to sit and think and put ideas down on paper.

Begin with the base

I break the building of the desk into two parts, the desk case and the base. Here I'll begin with the base, although it's perfectly fine to build it the other way around. The base consists of a flat frame with the legs tenoned into it. Building it is straightforward. Start with the bridle joints securing the corners of the frame. I cut them on the tablesaw with a tenoning jig.

After gluing up the frame, I drill stepped mortises through it at the corners for the leg tenons. The stepped mortises provide additional strength and a cleaner visual line. To create the correct leg rake and splay, I do the drilling with the drill-press table angled 4° and the frame rotated so it is 45° to the centerline of the slope.
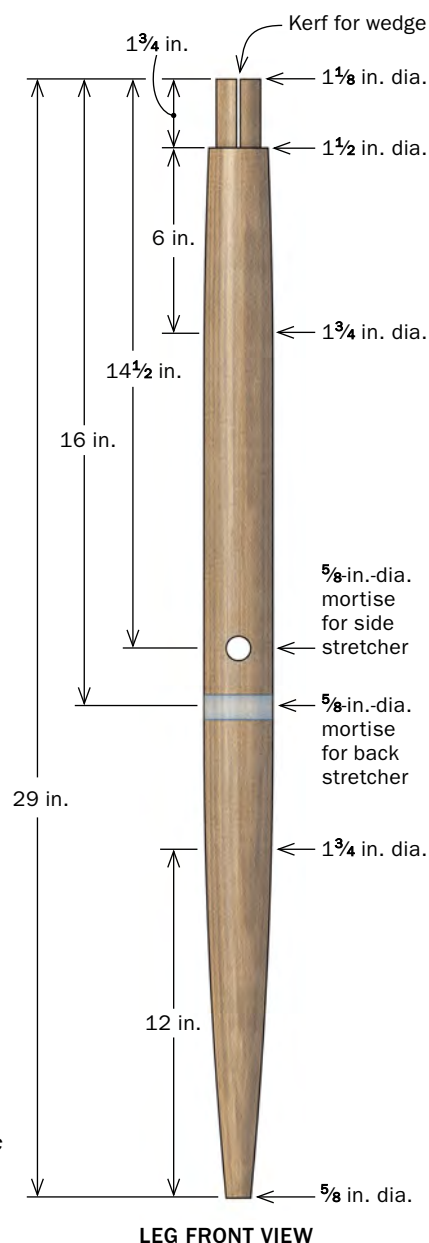
I turn the legs out of 1¾-in.-square stock and then fit the tenons to the stepped mortises. I turn three stretchers to join into the legs, two on the sides and one long stretcher joining into the back legs. Then I drill the mortises in the legs using a cradle on the drill press. All

Turn and kerf. *After turning the legs and stretchers, prepare the leg tenons for wedging by kerfing them on the bandsaw.*

Mortising tips. *To be sure the mortises in the rear leg for the side and rear stretchers are perpendicular to each other, Robbins slips a rule into the wedge kerf in the leg tenon and attaches a magnetic level to it. He then drills one mortise when the rule is vertical, the other when it's horizontal. While making the holes, the drill-press table is angled 3° to account for the rake and splay of the leg.*

Kerf for wedge

1¾ in.

1⅛ in. dia.

1½ in. dia.

6 in.

1¾ in. dia.

14½ in.

16 in.

⅝-in.-dia. mortise for side stretcher

⅝-in.-dia. mortise for back stretcher

29 in.

1¾ in. dia.

12 in.

⅝ in. dia.

LEG FRONT VIEW

Drawer side, ½ in. thick by 4 in. wide by 5¾ in. long

Drawer back, ½ in. thick by 4 in. wide by 14¾ in. long

Knob, ½ in. dia. by 1⅜ in. long

Drawer front, ½ in. thick by 4 in. wide by 14¾ in. long, faced with 10- to 12-oz.-thick leather (15¾ in. long)

Gallery top, 1 in. thick by 7 in. wide by 48 in. long

Drawer bottom, Masonite, ¼ in. thick by 5¼ in. wide by 15¼ in. long, faced with 10- to 12-oz.-thick leather

1½-in.-dia. hole for cable access

⁵⁄₁₆ in. dia.

½ in. dia.

Tenon, ¼ in. dia.

KNOB DETAIL

⅞ in.

Dado, ¼ in. wide by ¼ in. deep

Desktop, plywood, ¾ in. thick by 17 in. wide by 48 in. long

Drawer divider, ¼ in. thick by 4½ in. wide by 6¼ in. long

Back, ½ in. thick by 4½ in. wide by 48 in. long

Solid lip, ¾ in. thick by 1 in. wide by 48 in. long

Groove, ½ in. wide by ¼ in. deep

Blotter leather, 10 to 12 oz. thick by 17 in. wide by 48 in. long

End cap, 1 in. thick by 6½ in. wide by 26 in. long

1¼ in. dia. hole on center 2 in. from the front edge makes it possible to push the blotter up for repair or replacement.

Gallery bottom, 1¼ in. thick by 8 in. wide by 48 in. long

Tabletop fastener, 14-ga. ROKSTBFAST-20, rokhardware.com

Frame front/back, 1¾ in. thick by 2¼ in. wide by 48 in. long

Domino 8 by 40 or equiv. slip tenons

Blotter backer, Masonite, ¼ in. thick by 17 in. wide by 48 in. long

Rear stretcher, 1½ in. dia. by 49¹⁄₁₆ in. long

2¼ in.

⁹⁄₁₆ in.

Frame side rail, 1¾ in. thick by 2¼ in. wide by 24 in. long

Wedge

Through-mortise, 1⅛ in. dia.

⅝ in.

Shallow mortise, 1½ in. dia. by ¼ in. deep

⁹⁄₁₆ in.

Side stretcher, 1⅜ in. dia. by 25 in. long

FRAME DETAIL

Leg, 1¾ in. dia. by 29 in. long

50 in.

7¾ in.

26 in.

15⅞ in.

15¾ in.

15⅞ in.

4 in.

6½ in.

29½ in. to top of writing surface

3°

1¼ in.

35 in.

3°

29⅝ in.

28½ in.

FRONT VIEW

SIDE VIEW

Stepped mortise adds strength. *After gluing the bridle-jointed frame, use Forstner bits to cut the stepped mortise from the bottom of the frame. Cut the wider shallow mortise first. Angle the drill-press table to 4° with the frame turned 45° to the slope to create the compound angle. The assembled base will have a 3° splay when viewed from the front or side.*

Assemble the base. *After gluing the legs to the stretchers, glue the leg/ stretcher assembly to the frame and wedge all the leg tenons.*

Join plywood to solid wood. Prepare the gallery bottom by cutting a groove for the back and a chamfer along the top front edge (above). Then edge-glue the solid gallery bottom to the back of the plywood desktop (right).

Create a drawer pocket. Using a template and a router with a straight bit, cut dadoes in the gallery bottom and top for the drawer dividers.

the tenons, once fitted, are kerfed on the bandsaw to accept wedges during glue-up.

Build the case

The design of the desk case is a little unusual. Often on writing desks the gallery at the back is a separate unit that rests on the desktop. Here the gallery is glued to the back edge of the desktop and both are fitted between the end caps of the desk case. After the desk case is assembled, I fit a leather blotter over the desktop to serve as the writing surface.

I start the case by edge-gluing the solid gallery bottom to the plywood desktop. To prepare the gallery bottom for glue-up, I groove it to accept the back, and then cut a ¼-in.-wide chamfer along its top front edge. I also bore a 1½-in.-dia. hole through it near one end as a pass-through for cables; I round over the perimeter of the hole on both sides with a ¼-in. router bit.

Cut the plywood desktop to final width but leave it slightly longer than final length. Then edge-glue the plywood to the solid wood using Dominos or biscuits for alignment. When

Mark and cut Domino mortises. *Dry-fit and clamp the case parts, and mark the mortise locations. Then cut the mortises.*

the glue has cured, cut the two-part panel to final length. At the same time cut the gallery top and the Masonite backer for the leather blotter to the same length.

Next it's time to make the two end caps. I bandsawed the curves to rough shape, then used a shopmade plywood pattern of the curve for final shaping. The pattern can be used with a shaper, router table, or a handheld router. Sand these parts up through the grits and set them aside.

Finish up the case

Two dividers create the drawer pocket in the gallery. Cut dadoes for them in the gallery top and bottom with a router and a straight bit. Use a straight-edge router guide to locate the dadoes. Cut the dividers to size next. They are sloped 15° off vertical at the front, and the front edge gets a ¼-in. roundover.

Once these parts are made, lay out the Domino joinery. Dry-fit the desk case and clamp it together. Then make the registration marks, disassemble, and cut the mortises. I prefinish parts that have tough-to-reach areas and try to glue up very neatly so that there is no squeeze-out. If there is any, I clean it up with a clean, damp rag, sometimes using a small toothbrush to get into corners. Now that the desk case is assembled, I attach it to the base with table clips.

I build the drawer with exposed ¼-in. dowel joinery. This provides a
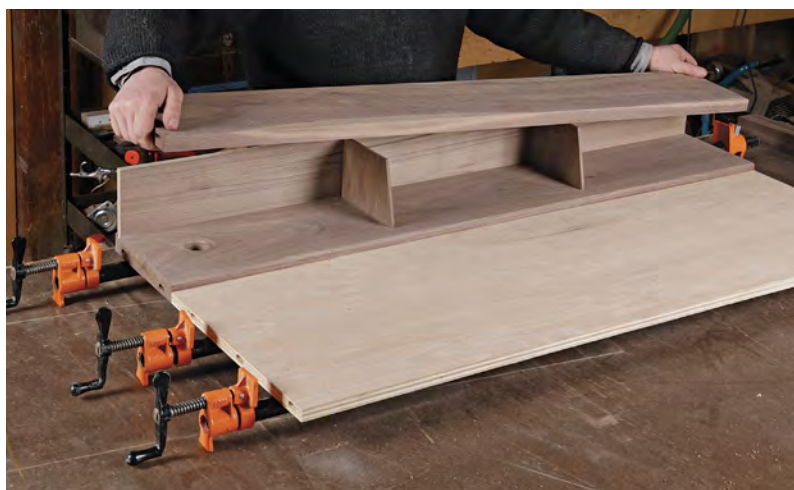
Final assembly. After setting the gallery back and drawer dividers in place, fit the gallery top (left). Then add the end caps (below).

Glue leather to a backer. *After cutting the Masonite backer to length so it just fits between the end caps (but leaving it oversize in width), apply contact cement and glue the leather to the backer.*

Mark the depth of the leather blotter. *Press-fit the blotter in the desk, and mark the depth on the bottom of the Masonite while it's in place.*

nice visual detail on the side of the drawer and is a perfectly strong joint for a drawer of this size. The drawer bottom, like the blotter, is a sandwich of leather over ¼-in. Masonite.

Leather is laminated to the front face of the drawer as well. Once you've trimmed the leather flush to the edges of the drawer front, use a brad-point bit to drill a centered ¼-in. hole through the front for the turned wooden pull.

A leather blotter adds to the design and utility

With the desk nearly done, it's time to add the leather blotter. First drill a hole through the desktop toward the front edge so that in the future the blot-

Cut the blotter to depth. *With the leather glued to the Masonite backer, sandwich the leather with another piece of loose Masonite, and rip to final width.*

Add a lip. *Cut a solid-wood lip for the front of the desk. It will obscure the edges of the plywood and the blotter. Remove the blotter to glue on the lip, then reinstall the blotter.*

ter can be easily removed for repair or replacement with the push of a finger from below. The backer should be oversize in the other dimension so that when pushed against the gallery it overhangs the front of the desktop by an inch or more. Cut the leather to exactly the length of the Masonite

backer and glue it down with contact cement, rolling it to smooth out any bumps and to maximize adhesion. Then, at the tablesaw, using a second piece of Masonite on top to produce a clean cut, rip the blotter to width so it's a perfect fit to the front edge of the desktop.

Press-fit the blotter into place, carefully smoothing corners and edges with a bone tool to create a seamless, attractive writing surface.

Last, remove the blotter and glue a solid-wood lip to the front edge of the desktop. It should extend above the plywood just enough to hide

the edge of the leather when the blotter is reinstalled. After a final sanding, the desk is ready for finish. I use Osmo Polyx-Oil. □

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Michael Robbins builds furniture in a former garment factory in Philmont, N.Y., and has a storefront showroom in nearby Germantown.