

# Smart

Krenov's genius didn't stop at furniture

BY ANISSA KAPSALES

A few years ago, after moving into a small apartment, I needed a desk—and fast. I had a big slab of planed, live-edge walnut that would make a perfect top—but what to put it on? Then I spied the two sawhorses I made while studying at the College of the Redwoods, in the furniture-making program founded by James Krenov.

Turns out, the horses balanced the mass of the slab perfectly. And their spare, elegant, and well-proportioned design actually made for a nice-looking desk that got tons of compliments from woodworkers and non-woodworkers alike.

But don't let the good looks fool you. These are real workhorses, designed to be versatile and durable—holding up



## No one-trick pony

**Tall and lean.** The vertical design lets you work close to bench height. It also lets the horses stand very close together without creating a gauntlet of splayed legs.



**Hold it up and hold it fast.** The design creates a convenient clamping surface, with the top stretcher acting as a caul.

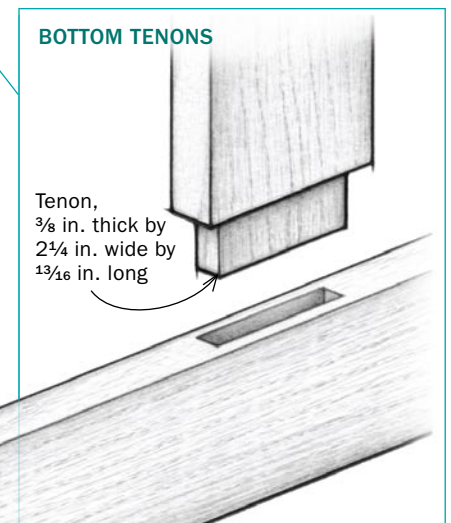
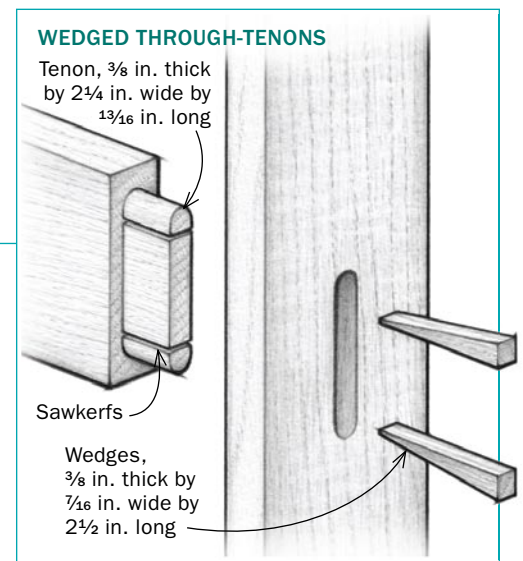
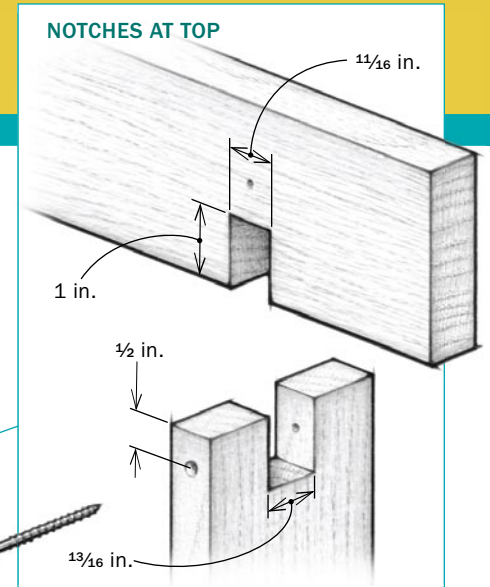
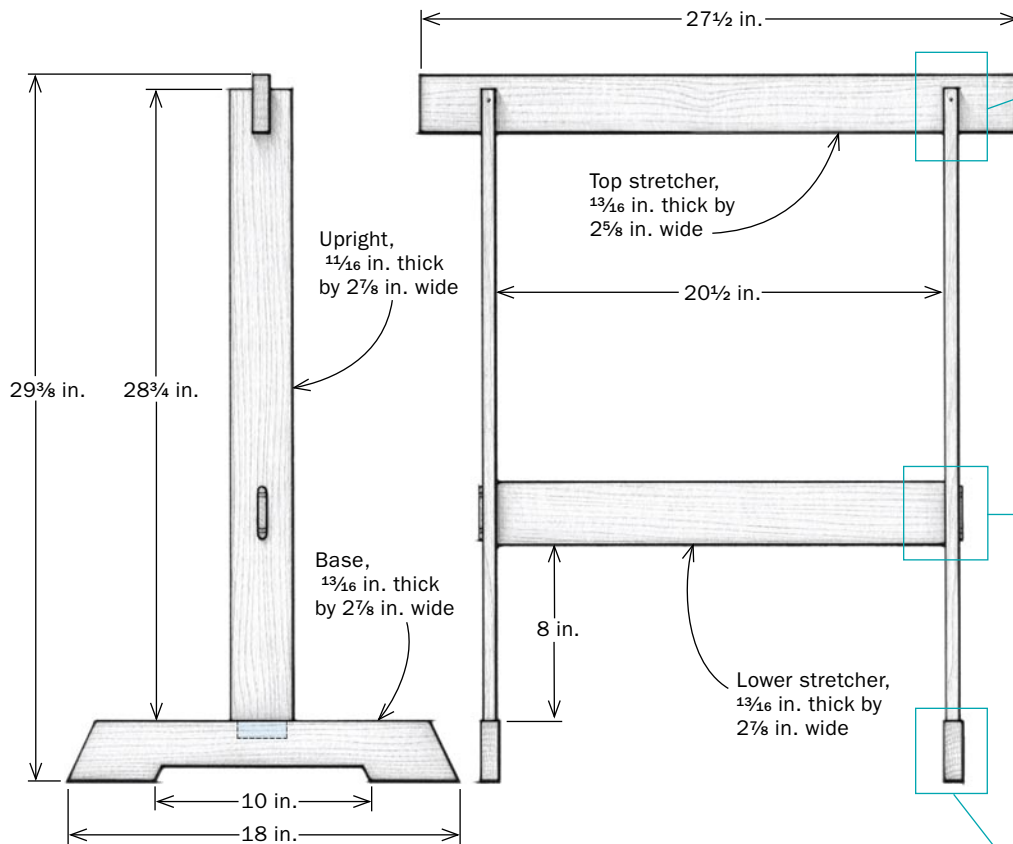


**Beasts of burden.** The lower stretchers provide an additional rack for lumber storage either long-term or during work.

# Sawhorses

## ELEGANTLY SIMPLE

Made popular by legendary teacher James Krenov, this horse is made from just six pieces of stock, simply joined. Choose an inexpensive but durable hardwood such as ash, hickory, or red oak.



that desk is probably the lightest duty my horses have seen yet. And with straightforward mortise-and-tenon joinery, the horses also are easy to build. The basic design was developed by Krenov, but students add their own flair, as I have to the feet and joinery. I encourage you to do the same.

### Why these are better

Every woodworker needs a stout pair of sawhorses. They're great for rough-milling lumber and assembling projects—and can even be used as a sturdy base for a temporary worktable. But these horses are different from the standard types, made of 2x4s with splayed legs. Those clunky designs can be hard to use and don't store very easily.

These horses are light and have a small footprint. They are easy to move and the long feet give the horses a wide stance that resists tipping. The upright design lets you position them close together for small glue-ups or veneer pressing jobs. Traditional sawhorses with splayed legs won't cozy up as easily. This nesting ability is also great for stowing the horses when you're done with them.

Despite their sleek profile, these horses can support hundreds of pounds. I often pile a big stack of lumber on top of them for storage or milling. I attribute this strength to the solid mortise-and-tenon joinery and an overall design that carries

# How to make a wedged through-tenon

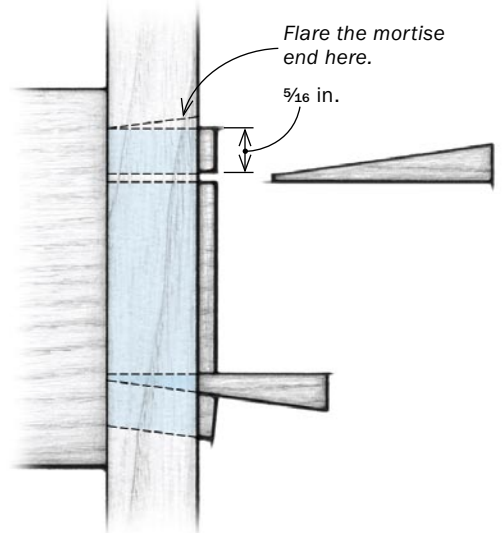
## ROUT THE MORTISES



**A plunge router makes it simple.** Rout all the mortises. For the through-mortises, use a backer board to prevent blowout. Take shallow passes using an edge guide and a spiral upcutting bit.



### ADD SOME FLARE



**Room to spread.** These through-tenons are wedged for strength and a decorative touch. Flare the mortise ends with a rounded file so the tenons can spread as you drive the wedges home.

stresses downward instead of out so the joints aren't pushed apart.

The stretchers not only add strength and stability, but they also are functional. The lower stretcher can hold clamps and lumber. The top stretcher is notched into the uprights and screwed in place without glue. It's easy to remove and replace when it gets worn. This top stretcher also can act as a caul during a glue-up.

### Building a pair is a half-day's work

The beauty of these horses is their simplicity, and the materials and construction reflect that. They will get knocked around and loaded heavily, so choose materials accordingly. Avoid softer woods like poplar or pine. Hardwoods will last longer, but these are just workhorses, so consider your wallet, too. Ash, red oak, and hickory are low-cost options.

**Mortises and tenons first**—After milling the lumber, mark the upright mortises in the bases and cut them using a plunge router and edge guide with a spiral upcutting bit. Cut the through-mortises in the uprights for the lower stretcher the same way, but use a backer board underneath to prevent any blowout on the other side and to protect the surface you are routing on.

This joint is wedged, so I flare the mortises slightly, top and bottom, with a rounded file to accommodate the wedges.

Now cut the tenons on the bottom of the uprights and the ends of the lower stretcher. Cut the shoulders on the tablesaw using a stop on the crosscut sled, and cut the

cheeks with an over-the-fence tenoning jig, also on the tablesaw. Then chisel and file the tenons round to match the mortises.

### Fitting the top, shaping the bottom

The notched top stretcher sits in corresponding notches in the uprights and gets screwed in place through the uprights, making it easy to replace when it gets worn. The distance between the inside shoulders of the notches should match the length of the lower stretcher from shoulder to shoulder.

Cut the notches in the upper stretcher using a crosscut sled on the tablesaw. Because there are only four narrow notches, I don't bother with a dado blade; instead, I make a series of cuts between stops. I do the same for the uprights, using a tall fence on the sled. I hit the two outside edges of the notch first and move the fence incrementally to waste away the middle area.

The shaped base pieces are the design element that changes most from maker to maker, ranging from curves to angles or straight lumber. My bases have just an angled cut (done on the miter saw) on each end and a shallow cutout with the same angle on the bottom (cut freehand on the bandsaw and cleaned up with a scraper). Whatever the shape, this cutout on the bottom is important because it creates four feet instead of just two long planks that sit



**TIP**

#### A STABLE PLATFORM FOR ROUTING

When routing the mortises in the base pieces, gang them together to prevent the router from tipping.

## SAW THE TENONS



**Start tenons on the table saw.** Use a crosscut sled with a stop to cut the shoulders and nibble away the ends (above). A tenoning jig (right) makes quick work of the cheeks.



**Finish them at the bench.** Use a chisel and file (top) to shape the tenon ends to match the routed mortises. A pair of handsawn kerfs (above) will make room for the wedges.

on the floor. Without the center area cut out, the horses are likely to wobble.

**Final details**—Before glue-up, use a file or block plane to break the sharp edges, and use a handsaw to cut kerfs in the tenons that will hold the wedges. Drill and counterbore the top of the upright for the screw that will secure the top stretcher. Now dry-fit the assembly. Mark and trim the through-tenons on the lower stretcher so they protrude about  $\frac{1}{8}$  in.

**Glue-up is easy**—Glue the uprights into the bases. Once they are dry, glue the lower stretcher into the two uprights. When this assembly is in clamps, glue and tap the wedges (I used cherry) into place before the glue sets up in the mortise. After the glue dries, trim and file the wedge flush on the end of the tenon. Screw the top stretcher in place, and you're ready to put the horses to work. □

*Anissa Kapsales is an associate editor.*

**Wedges complete the glue-up.** The wedges' taper should roughly match the flare you filed into the mortises. Put a dab of glue on the wedges and be sure to drive them completely home in the kerf.

