

## 12 tools every furniture maker needs

BY MICHAEL PEKOVICH



### THE BIG 12

- Coping saw
- Smoothing plane
- Combination square
- Bevel gauge
- Marking knife
- Dovetail saw
- Card scraper
- Marking gauge
- Spokeshave
- Shoulder plane
- Block plane
- Chisel set

I started out as a power-tool guy, but I've learned that even if you have every conceivable machine, you still need hand tools to produce your best work.

So now I use machines for the heavy lifting of milling and dimensioning lumber, and for joints that are never seen, like rabbets, dados, mortises, and tenons.

I save my hand tools for where they really make a difference: layout, cutting dovetails and fitting joints, and surface prep. As a result, I don't need every hand tool ever made. In fact, there are only about a dozen essential ones. You probably already have some

of them, and the rest you can pick up over time. And it's well worth the effort, because using them will help you to make better furniture, period.

In addition to these tools, you'll also need a sturdy workbench, but you don't need to spend a fortune on a massive bench or spend months making one. Go to [FineWoodworking.com/extras](http://FineWoodworking.com/extras) for an easy-to-make bench that will get you up and running in no time and give you a chance to put your hand tools to work.

### Online Extra

For more hand-tool news and tips, visit the Handwork blog at [FineWoodworking.com/extras](http://FineWoodworking.com/extras).

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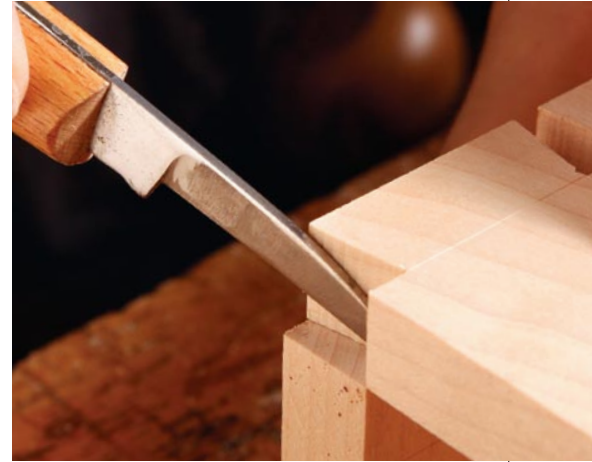
# Tools for layout

Accurate layout is an essential part of making fine furniture, and it's just as important for power-tool work as it is for handwork. That's because regardless of the tools you're using, you need precisely located and square joints. If you're just starting out in woodworking, these should be the first hand tools you buy.



## MARKING GAUGE

Marking gauges excel at cutting a line parallel to the edge of a board, which is vital for laying out accurate tenons, mortises, and the baseline for dovetails. A cut line is better than a pencil line because it provides a precise location and line for starting a chisel or handsaw. Gauges with a knife or cutting wheel cut cleaner lines than pin gauges, but wheel gauges are easier to find. I recommend one like the Veritas standard wheel gauge for your first.



## MARKING KNIFE

You also need a sharp marking knife. I've owned and used many different types, but the one I reach for time and again is a chip-carving knife. I like the blade's double bevel, which lets me mark on either side of the blade. And the bevels extend the entire height of the blade (the cross-section is triangular) so I can rest the blade against the side of the workpiece and strike a line exactly adjacent to it. The blade also is long, thin, and stiff, so it fits in tight places without flexing.

## COMBINATION SQUARE

A combination square is indispensable for penciling or knifing a line at 45° and 90°. It's important to get a good one, like those made by Starrett, because it will be accurate out of the box and it will stay that way. The 12-in.

model is a workhorse, long enough to mark wide boards or across multiple pieces at once. It's a good one to get first, but I've found a second, 6-in. version is just as handy. Because of its small size, it fits better in your hand and is easier to use when laying out joints in tight places and across end grain.



## BEVEL GAUGE

Because it has a pivoting blade that can be locked into any angle, a bevel gauge is useful for transferring angles from plans to workpieces and setting table saw blade angles. However, you'll probably use it first to lay out dovetails, a task it is perfect for. When buying a bevel gauge, look for two things: First, the blade should lock down tightly, so it doesn't move accidentally. Second, the nut used to lock it down shouldn't get in the way of using the gauge (a frequent problem with the wing nut used on some gauges).





Dovetails are the hallmark of craftsmanship, and the effort to cut them by hand is well worth it. However, even if you use power tools to cut all of your joinery, hand tools are still the best way to fine-tune the fit. For hand-cut dovetails and tight-fitting tenons, I recommend a dovetail saw, a coping saw, a set of chisels, and a shoulder plane.

## DOVETAIL SAW

You have two options for a dovetail saw: a Western backsaw or a Japanese pullsaw (dozuki). Japanese saws are a good place to start, because even the inexpensive ones are very sharp straight from the box. However, after 25 years of making furniture and using both



types of saw, I can tell you that the pistol grip of Western backsaws positions your hand and arm for straighter cuts, so you will get more consistent and accurate results than from a dozuki. But don't feel bad about buying the dozuki first. You'll find plenty of uses for it, like cutting small parts and flush-trimming pegs.

## COPING SAW

There is no need to be precious about getting rid of the waste between pins and tails, so I use a coping saw to do it before paring to the baseline with a chisel. You will save a huge amount of time compared to chopping away all of the waste with a chisel.

In addition to cutting fast, coping saws also turn on a dime—perfect for maneuvering between pins or tails—and the cheap, replaceable blades mean you can always have a sharp one ready.



## CHISELS

Start with at least four:  $\frac{1}{4}$  in.,  $\frac{3}{8}$  in.,  $\frac{1}{2}$  in. and  $\frac{3}{4}$  in. The six-chisel Irwin Blue Chip set is a great value, with a  $\frac{5}{8}$ -in. and a 1-in. chisel in addition to the other four. Steer away from chisels sized in millimeters; the first set I bought was metric and that was a mistake. Although their widths approximated their U.S. equivalents, they were far enough off to prove frustrating when squaring up mortises or cleaning out grooves made with fractional bits. After you have the basic set, add a wide chisel ( $1\frac{1}{2}$  in. to 2 in.) for paring and chamfering in tight spots.



## SHOULDER PLANE

Regardless of how you cut joinery, you should have a shoulder plane, because nothing is better for fine-tuning joints for a perfect fit. What makes this plane unique is that the blade extends the full width of the sole, so you can plane right into a corner. If you try to plane a tenon cheek with a block plane, you'll end up with a tapered tenon. Shoulder planes come in a range of widths from  $\frac{1}{2}$  in. to  $1\frac{1}{4}$  in. wide, but I find a wider plane is more versatile, handling broad tenon cheeks as well as narrow shoulders. It also has a ton of mass, which helps it stay flat on its sole and move with force when making cross-grain cuts.



## Tools for shaping and smoothing

A good finish starts with good surface preparation, and hand tools are the fastest way to remove machine marks and tearout. The flat surfaces and crisp chamfers that handplanes create are impossible to replicate with a sander. A smoother and a block plane are the two planes to have. Add a card scraper to work really difficult grain, and a spokeshave for cleaning up curved surfaces.



### BLOCK PLANE

For chamfering edges, leveling joints, and smoothing end grain, the block plane is indispensable. It also is perfect for paring the end grain on dovetails. Block planes are available in standard and low-angle models. I recommend a low-angle plane with an adjustable throat. This allows you to take a fine cut with a small mouth, which helps to prevent tearout.

### SMOOTHING PLANE

At last we come to that most iconic hand tool, the bench plane. I fared well for many years using only sanders to smooth surfaces, though today I couldn't imagine being without a plane. You can go from machine marks to a glass-smooth surface in just a few swipes. It's that rare instance in woodworking where the most enjoyable path is also the most efficient, and the results are superior to sanding. The size to start with is a No. 4. If you mill all your lumber with machines, you don't really need the flattening ability of a longer plane. The easiest path to making shavings is to buy a good-quality new plane—Lie-Nielsen and Veritas are proven products. An old plane, like a venerable Stanley Bailey, offers good quality at an initial savings, but requires some tune-up work and probably a new replacement blade. Regardless of the plane you buy, it has to be razor sharp. Even the most expensive plane is nothing but a paperweight if it's dull.



### CARD SCRAPER

On woods with tricky grain, like tiger maple, or when you've got a small bit of tearout on an otherwise clean board, there's no tool like a card scraper. Unlike a handplane, a scraper has no risk of tearout. Even when I handplane a surface, I'll often follow up with a card scraper to remove any imperfections.



### SPOKESHAVE

The spokeshave is probably the most overlooked tool in the shop. This odd-looking tool is actually a short-soled handplane with handles on the side, rather than in front of and behind the blade. Nothing is faster at smoothing bandsawn curves. The tool is available with a flat or curved sole, but I recommend the flat sole, as it works well even on concave surfaces.

