Pencils have always been vital to woodworkers, but so are marking gauges for precision results. Marking gauges are indispensable for joinery work such as cutting dovetails and mortise-and-tenon joints. Among the first topics I cover in my classes on how to use hand tools are marking/layout techniques. Learning how to use marking gauges pays dividends in the form of clean, precise cuts and good joinery. Here is how you can make your marking gauge work smarter for you.

**Types of Marking Gauges**
Marking gauges come in different styles of cutting tips: a wheel cutter, knife or pin. Typically wheel cutters make clean lines both with and across the grain, and are easy to use when going around a corner. Gauges with a knife scribe are useful for laying out lines across the grain and end grain without tearing wood fibres, while pin gauges are best for making lines with the grain. Before examining how these tools should be used, let’s look at when a marking gauge is superior to a pencil as a layout tool.

**The Marking Gauge as a Precision Tool**
A gentle but visible line marked by a point, knife or disc cutter is less than 1/64" (approximately 0.4mm) thick, offering greater precision than the smallest pencil line of 1/50" (0.5mm). A scribed line also cannot be erased by accident. It is a great tool for repeating dimension lines. More important, a scribed line allows the edge of a tool to register in the line and make a precise cut or transfer, as in the case when a woodworker needs to transfer a line from one face to an adjoining edge with a marking knife.
With a striking knife and a square, you can accurately transfer a scribed line to all other trued faces or edges on a workpiece.

One more example is that we can make a gauge line on the face to mark the width of a workpiece. After darkening the line, plane down to the line, checking the progress not only by sight, but also by the feel of the line.

**Using Marking Gauges**
In general, hold the marking gauge with a light grip and let the sharp edge or point cut the line. Set the point or knife just long enough to mark; apply lateral pressure to keep the fence against the wood. Ride the gauge on the whole edge and not just the corner of the piece, a common source of error leading to inaccuracy. Practise making a firm pass to create a deep enough line, but remember that the objective is to gauge and not gouge. I also prefer to scribe in one pass rather than two to avoid inadvertently making two lines due to slight movement in the gauge during the second pass. If you need a hard grip to force a line, the tool is dull and needs sharpening.
For better control, position the knife or pin so that it protrudes just deep enough to scribe the desired line.

The fence is not riding against the full edge of the piece, causing inaccuracy in the marking.

Pins tend to tear fibres, leaving a fuzzy or ragged line. Avoid the beginner’s mistake: do not hold the gauge with the pin perpendicular to the surface. Instead, rotate the gauge slightly away from you and push the pin in a trailing manner. (If you pull, tilt the tool toward you and trail.) Some woodworkers, Paul Sellers for example, re-drill the hole for the pin at a slight angle for better visibility and trailing effect.

Diagram not to scale

Instead of using a conical point, Tage Frid filed a flat bevel on the spur, which does not leave a large V-profile typical of lines marked by a point. Derek Cohen, a woodworker and prolific writer in Australia, ground an HSS rod in a similar manner into a spur for his shop-made marking gauge.
If you need to mark a line to a precise point (to lay out a hinge recess, for example), author Robert Wearing offers a nice trick: stab the stop point on the line firmly with the spur and scribe the line till the spur drops into the small hole.

Make a small pinhole on the line and stop marking when the point drops into the hole.
Knife Gauge
Also called a cutting gauge, a gauge with a knife slices the wood, leaving a crisp line. You pull it like a pin gauge in a trailing fashion. The cutter’s bevel should face the waste side; however, if the bevel is oriented towards the fence, the gauge often pulls itself to the stock. I learned a fence adjustment trick from a retired woodworker: slide the fence close to its final position and tighten the thumbscrew only lightly. Then gently tap either end of the stem on a hard surface to fine tune the fence setting before securing the screw.

Normally, I can get a clean line across the grain with just one pass of the knife gauge. Occasionally, to keep the knife from following the grain, I would make a light pass and then make a second, deeper layout line.

Scribing one clean line is preferred to scoring a line in two or more passes
Wheel gauge
Of all the gauges, a wheel gauge has the shortest learning curve. You can use a wheel gauge with pull or push strokes. Sometimes, the cutting disc may follow the grain, such as, for example, when the grain lines approach the reference edge. The remedy is to work the gauge in the opposite direction. For gauging a line far from the reference side with the stem extended, I use a three-finger grip. I place my index finger on the stem to steady the travel, with my thumb and middle finger behind the fence as I draw or push the tool.

*Place the index finger over the extended stem to guide the cut*
A Woodworker’s Guide to Marking Gauges

The Marking Gauge Is Not Just for Gauging
In addition to its function as a marking tool, you can use a marking gauge for many other tasks. For instance, you can find the center of an edge by making marks from both sides of the stock and locating the middle when the marks meet. With practice, you can split thin veneers into string inlay with a knife gauge. Sometimes, I can clean a dovetail shoulder accurately with a marking gauge. Finally, a wheel gauge is a useful transfer tool. It can be used for transferring the depth of a mortise to mark the tenon’s length, as shown in the diagram below.

Some believe that a woodworker is only as good as his or her scribing tool. Whichever way you see it, you’ll find a marking gauge an indispensable tool once you’ve learned how to use it.

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Further Reading


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