Choosing Marking Tools

Marking, mortise and combination gauges come in myriad styles and prices

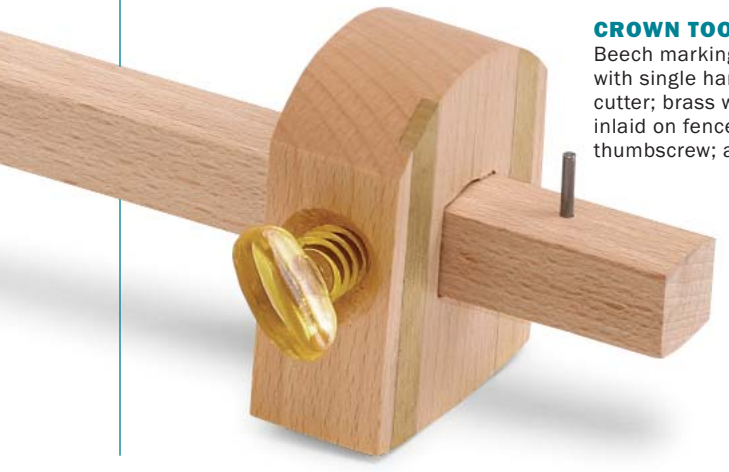
BY SCOTT GIBSON

Marking, mortise and combination gauges are simple layout tools designed to cut shallow reference lines into wood, parallel to an edge. While a pencil line might be too thick or easily smudged, an incised line is clean and precise.

Look through a woodworking catalog for a marking, mortise or combination gauge, and you'll likely find that choices abound, from basic all-wood tools to elegantly crafted versions complete with inlaid brass wear strips. To get a better idea of what's out there, I surveyed a few of the most commonly available gauges, from makers such as Bridge City Tool Works, Colen Clenton, Crown Tools, Glen-Drake Toolworks, Marples, Starrett, Veritas and Woodjoy. I also looked at a couple of Japanese-style gauges.

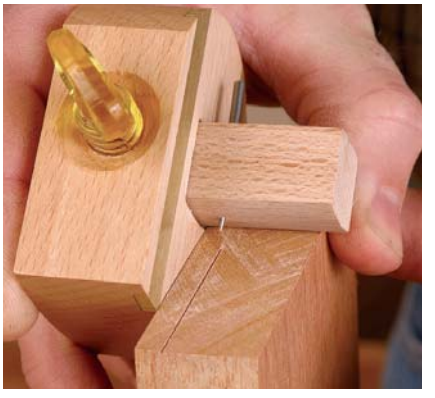
Gauges are simple tools

A typical gauge has two main parts: a beam and a fence. Depending on the type of gauge, the beam may have one, two or three steel cutters. The fence slides along the beam to adjust the dis-



CROWN TOOLS
Beech marking gauge with single hardened-steel cutter; brass wear strips inlaid on fence; plastic thumbscrew; about $12.

MARKING GAUGES: PIN STYLE



All marking gauges have a single cutter for scribing one line at a time. Pin-style gauges have a cylindrical cutter with the end tapered to a point much like a pencil. This tapered point works well when cutting end grain or parallel to the grain but not so well across the grain.

Photos, except where noted: Rodney Diaz; this page (top and bottom right): Tom Begnal

A knife-style gauge cuts a clean line parallel to the grain, across the grain or on end grain.

tance from the cutter to the fence. The gauge is held in one hand with the fence bearing against the edge of a workpiece; then the cutter is drawn across the surface of the wood to scribe a line.

What differentiates marking, mortise and combination gauges from one another is the number and type of cutters each employs. Marking gauges have a single cutter for scribing one line at a time. Mortise gauges have two cutters and are used mostly for marking parallel lines to establish the width of a mortise. Combination gauges typically have three cutters: a single cutter on one side of the beam for use as a marking gauge and an additional pair on the other side of the beam for laying out mortises.

Many of the gauges with wood fences have inlaid wear strips made from brass. The strips make the tools look nicer, but as a practical matter, they aren't necessary. My Marples, more than 25 years old, has no brass in the fence and shows only negligible wear.

Marking gauges come in three styles

Marking gauges can be found in a variety of shapes and sizes. They include pin-cutter marking gauges, knife-cutter marking gauges (also called cutting gauges) and wheeled-cutter marking gauges.

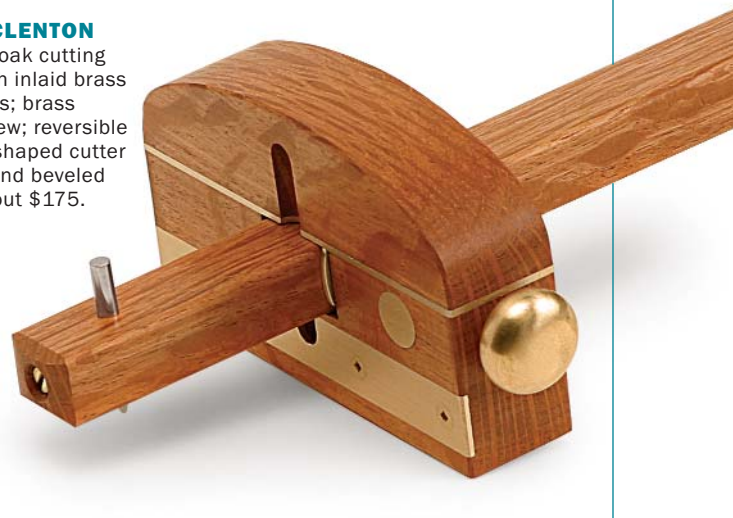
Pin cutters—A marking gauge with a round, pinlike cutter sharpened to a pencil point at one end is best suited for making a line parallel to the grain or across end grain. Cross-grain cuts tend to be ragged. If a pin-cutter gauge is going to be used to scribe a line across the grain—for a dovetail baseline, for example, or to scribe the shoulder of a tenon—the cutter should be filed to a knife edge so that it cuts a deep, crisp line (see the story on p. 82).

I looked at a beech model made by Crown Tools of Sheffield, England (Crown gauges are available in most woodworking catalogs), with brass wear strips and a plastic thumbscrew. Although it was not the fanciest of the tools here, it appeared to be a very serviceable gauge. And at $12, it won't break the bank.

Knife cutters—Traditionally called a cutting gauge, this tool is a close relative of the pin-cutter marking gauge. But instead of using a pinlike cutter, a knife-cutter marking gauge uses a cutter that resembles a knife blade. Thanks to the knife edge, it can mark a line parallel to the grain, across the grain or on end grain.

Colen Clenton of Australia makes a beautiful knife-cutter marking gauge (available through The Tool Shop; www.uktoolshop.com) or the Museum of Woodworking Tools (800-426-4613;

COLEN CLENTON
Rose she-oak cutting gauge with inlaid brass wear strips; brass thumbscrew; reversible crescent-shaped cutter with flat and beveled sides; about $175.



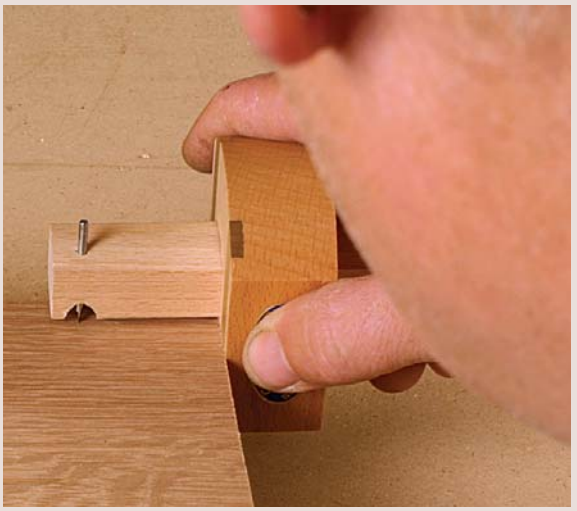
CROWN TOOLS
Rosewood cutting gauge with a single hardened-steel cutter; brass wear strips inlaid on fence; brass thumbscrew; about $22.

STARRETT NO. 29B
Has a hardened-steel fence; tempered-steel square blade; steel beam graduated in 64ths of an inch; about $65.

WOODJOY
Brazilian cherry cutting gauge with reversible brass fence for both straight and curved work; hardened-steel blade; brass thumbscrew; about $48.

Photo, this page (top left): Tom Begnal

Two modifications to improve your mark



Seeing is believing. *When it's important to start or stop a line at an exact spot, you need to be able to see the cutter. Thanks to the angled hole and shaped recess, the pin-cutter on this marking gauge is considerably easier to see.*

EXPOSE THE CUTTER

When using a pin-style marking gauge, it's just about impossible to see the cutter because the beam of the tool blocks the line of sight. That can be a nuisance, especially when it's important for the line to start or stop at a precise point. But English furniture maker David Charlesworth doesn't have that problem. He has made a quick modification to all of his pin-style gauges to open the field of vision.

Charlesworth favors the Stanley No. 5061 (now discontinued) because the thumbscrew locks the beam on the diagonal. But his method can be adapted to any gauge with a wood beam.

Charlesworth starts by drilling a new hole in the beam to change the angle of the cutter. The hole, drilled about 20° off vertical, is 0.004 in. to 0.006 in. smaller than the diameter of the cutter to ensure a snug friction fit.

Then he removes the part of the beam where the cutter emerges, using a chisel, a round file and sandpaper. The result is a tear-shaped recess that exposes the end of the cutter, making it easier to see where a gauged line starts and stops.

Change the angle of the cutter. *The first step to an easier-to-see cutter is drilling a new hole for the cutter, angled about 20° off vertical.*

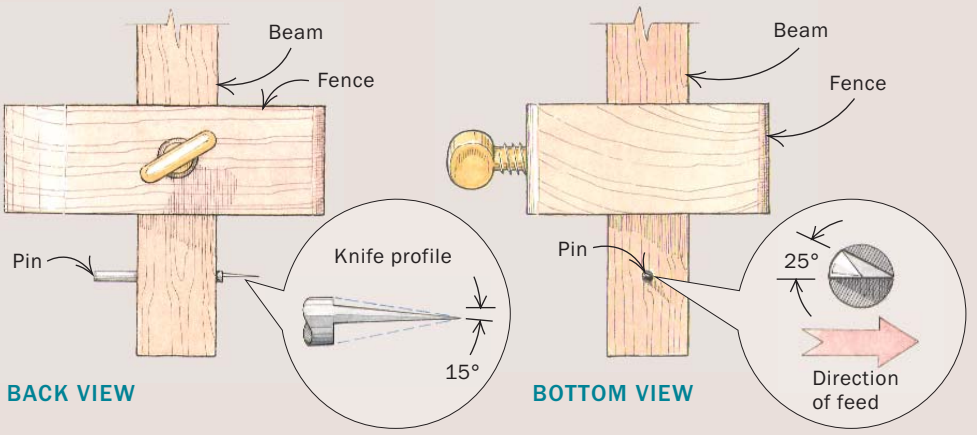
Cut a simple, tear-shaped recess. *Open up some daylight on the beam using a chisel and round file. Clean up rough edges with sandpaper.*

SHARPEN THE CUTTER

Pin-style marking gauges typically have a cylindrical steel cutter with the end tapered to a point. A tapered point works well when cutting a line parallel to the grain or on end grain, but when a line is scribed across the grain, the point tears a ragged line in the wood. The solution is to file the cutter to a knife point. With the cutter between the file and the fence, file a flat surface on the cutter in approximately the same plane as the fence. Then, working on the area of the cutter opposite the flat, use the file to apply the knife edge. Viewed from below, the file should cut about a 25° taper, an angle that steers the fence toward the wood. At the same time, hold the file to 15° and taper the cutter toward the end.

Sharp as a knife. *When filed to a knife edge, the cutter scribes clean lines not only parallel to the grain but also across it.*

Cylindrical cutter makes a ragged cross-grain line. *The tapered point in a pin-cutter marking gauge tears the wood when scribed across the grain.*



Watch it on the web

For more on tuning and using marking tools, go to www.finewoodworking.com.

Photos, this page: Tom Begnal; drawings: Heather Lambert

MARKING GAUGES: WHEEL STYLE

A wheel-style marking gauge has several advantages over pin- and knife-style marking gauges. In particular, the disc-shaped cutter is fully visible as it incises a line, and it creates a clean cut no matter the grain direction.

VERITAS
Steel beam graduated in 16ths of an inch; brass fence and thumbscrew; about $27.

BRIDGE CITY TOOL WORKS
Brass beam with inlaid steel rule; thumbscrew and fence are brass and Juara wood; about $130.

GLEN-DRAKE TOOLWORKS (TITE-MARK)
Steel beam (7 in. long) and thumbscrews with brass fence; $79.
Steel beam (9 in. long) and thumbscrews with brass fence; $89.

www.toolsforworkingwood.com). The hardwood beam and fence are softly polished, and the machining on the brass wear strip is flawless. A nearly 4-in.-long fence offers plenty of bearing surface.

Crown Tools makes one from rosewood with brass wear strips, a brass thumbscrew and a brass wedge that secures the cutter.

Starrett's version, the 29B scratch gauge available from Grainger (888-361-8649; www.grainger.com), is an elegant tool. Graduations on the beam are crisply inscribed, and the thumbscrew clamps down on a split bushing inside the fence instead of bearing directly on the beam. On the downside, the fence is the smallest of all the tools I tested. As a result, when the fence approaches the edge of the board, it can inadvertently pivot, creating a wobble at the end of the incised line. Also, out of the box, the square cutter was too dull for woodworking, so I had to hone it to an edge before use. Given its size, the job wasn't easy. A better solution is to replace it with a cutter made for a Tite-Mark.

The Woodjoy (508-669-5245; www.woodjoytools.com) version is a handsome tool made of Brazilian cherry with a brass fence. Unlike any of the other gauges, the Woodjoy's fence is reversible. One side of the fence is flat for straight cuts, and the other side has two bearing surfaces for cutting a line parallel to a curved surface (as long as the curve radius is greater than about 1½ in.).

Wheeled cutters—The so-called wheeled-cutter marking gauges have several advantages over pin- and knife-cutter marking gauges—and a couple of shortcomings.

***Wheel sharpener.** With the beam on end, the cutter on a Tite-Mark gauge is sharpened easily on a fine-grit stone.*

On the plus side, the disc-shaped cutter is fully visible as it incises a line in a workpiece. The hardened-steel cutter is very sharp, easy to hone and can be adjusted quickly to expose a new cutting edge. And because the wheel is beveled, it draws the fence tightly against the workpiece. Unlike any of the gauges with knife edges, a wheeled-cutter marking gauge can be used in either direction, thereby keeping both right-handers and left-handers happy. Also, it effectively cuts across the grain, with the grain and on end grain.

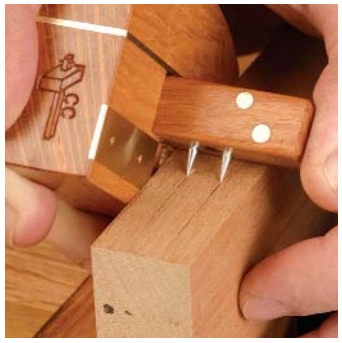
On the downside, the fence of a wheeled-cutter marking gauge is relatively small. Also, with the exception of the Tite-Mark from Glen-Drake Toolworks (707-961-1569; www.glen-drake.com), these gauges have only a single cutter, not a pair. Without the two-cutter option, they cannot mark both sides of a mortise at the same time.

Among the various wheeled-cutter marking gauges I looked at, I especially liked the Tite-Mark gauge. It has a cutting wheel that can be honed easily without removing it from the tool, and a micro-adjust feature.

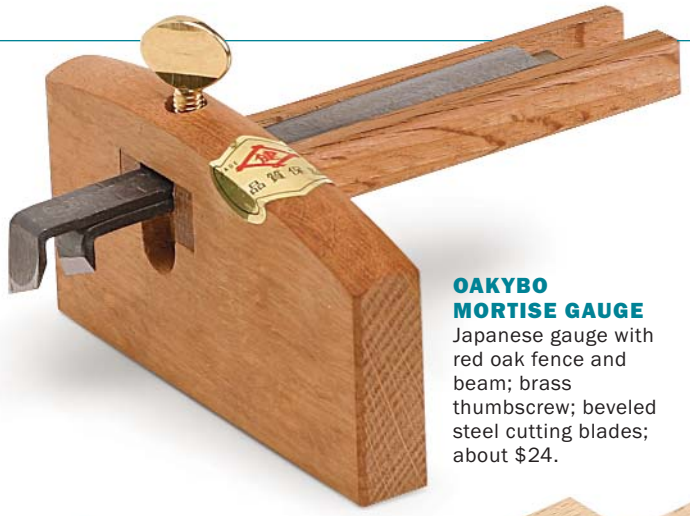
Veritas makes a wheeled-cutter gauge, too. Unlike the beam on the Tite-Mark, the beam on the Veritas is graduated. The fence slides on the beam with a smooth friction fit, a feature I liked. But there is no micro-adjust feature, and because the wheel cutter is held in place with a round-headed screw, the cutter must be removed from the tool for sharpening. The Veritas is available through Lee Valley Tools (800-871-8158; www.leevalley.com). The wheeled-cutter

Photo, this page (top left): Tom Begnal

MORTISE AND COMBINATION GAUGES



A mortise gauge (left) has two cutters for scribing parallel lines. Similar in design to a pin-style marking gauge, a mortise gauge employs a second cutter that can be adjusted to scribe mortises of various widths. A combination gauge (right) has two cutters on one side of the beam for scribing parallel lines and a single cutter on the other side for use as a marking gauge. The Japanese combos take a slightly different approach by allowing the removal of one of the cutters for marking single lines.



OAKYBO MORTISE GAUGE
Japanese gauge with red oak fence and beam; brass thumbscrew; beveled steel cutting blades; about $24.

OAKYBO COMBINATION GAUGE
Japanese combination gauge with white oak fence and reversible beams; beveled steel cutting blades; brass thumbscrew; about $25.

COLEN CLENTON
Rose she-oak mortise gauge with two hardened-steel pins; inlaid brass wear strips; brass thumbscrew; adjustable cutter can be recessed in fence for scribing single lines; about $245.

gauge from Bridge City Tool Works (model MG-3; 800-253-3332; www.bridgecitytools.com) is a sweet tool. The semicircular fence is longer than that on other wheeled-cutter gauges, about 2⅛ in., and it features Juara wood sandwiched between brass facings.

Mortise gauges

A traditional mortise gauge has two cutters that can be adjusted independently so that both edges of a mortise can be marked at the same time. They have become harder to find because most retailers prefer to offer combination gauges.

Like the Clenton marking gauge, the company's mortise gauge is gorgeous. The finish is silky smooth, and the adjustment mechanism worked perfectly.

The Tite-Mark gauge can be outfitted with two adjustable cutters that slide onto the beam, allowing the gauge to scribe a pair of lines. It's also available in a slightly longer version (9 in. vs. 7 in.), making it better suited for two-handed use. Add four cutters to the Tite-Mark, and you can scribe double tenons. As a mortise gauge, though, it's not the most convenient to use because each cutter is secured by tightening a setscrew with an Allen wrench.

Combination gauges

A combination gauge blends the features of both the marking gauge and the mortise gauge, so you get two tools for not much more than the price of one. Most combination gauges are made in the style of the traditional gauges. But some Japanese-style gauges also work effectively as combination tools.

Traditional combination gauges—Traditional combination gauges have three pin-style cutters—one on one side of the beam and a pair on the other. The single cutter and the outermost cutter on the other side are both fixed. A second cutter for marking mortises is attached to a brass strip that slides in a groove in the beam.

The paired cutters, used to mark mortises, don't have to be sharpened to a knife edge because they are drawn either with the grain or across end grain.

I looked at two traditional combination gauges from Crown Tools, one with an adjustment knob at the end of the beam and

Photos, this page (top left): Tom Begnal

CROWN TOOLS
Rosewood combination gauge with mechanical adjustment knob; brass wear strips inlaid on fence; about $38.

MARPLES
Beech combination gauge with standard sliding adjustment; plastic thumbscrew; about $12 (also available in rosewood and brass).

one with a standard sliding adjustment (not shown). The knobbed version makes it easier to get an accurate cutter adjustment for a mortise. But because the machining was poor on both gauges, the brass bar that adjusts the position of one of the mortising cutters was tight and difficult to move smoothly.

Marples makes a variety of combination gauges available through the Museum of Woodworking Tools (for contact information, see p. 81). Prices range from about $12 for the beech model (shown above) up to $55 for a fancy rosewood version.

Japanese combination gauges—I looked at two gauges made by Oakybo and available from Japan Woodworker (800-537-7820; www.japanwoodworker.com). One, made of white oak, is sold as a combination gauge. The other, made of red oak, is called a mortise gauge. But each one can make either single or double cuts.

Although not as stylish as the Clenton gauges, these tools have some advantages over traditional combination gauges. For one thing, they both have long fences—5¼ in. for the combination gauge; 4⅛ in. for the mortise gauge.

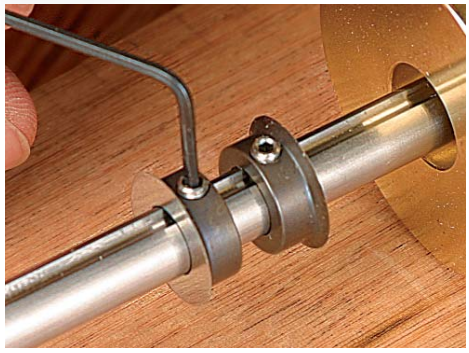
The combination gauge uses twin beams, each with a knife-edged cutter driven through a slot and held in place by friction. Hardware appears to be zinc-coated steel, and the tips of the cutters are roughly 1 in. apart. Once the setscrew in the side of the fence had been loosened, there was a lot of play in the beams, which made it awkward for me to set up the tool for laying out a mortise. There is no recess in the fence for one of the cutters, so to use the tool as a marking gauge, one beam must be reversed so that the cutter is out of the way. But because the beams are reversible, the gauge can scribe a line on either side of the fence.

The mortise gauge has two beveled knife-edged cutters that share a slot on the beam and can be adjusted independently of one another. This tool was simple, light in the hand and appealing. One of the cutters can be withdrawn into the face of the fence so that the tool can be used as a marking gauge. Because the cutters are exposed, it's easy to start and stop a line where you want.

A few of my favorite gauges

If I were in the market, I'd probably buy two of these tools. One would be the Tite-Mark marking gauge or the Starrett gauge. The other would be either the Clenton mortise gauge (if I could raise the cash) or the red-oak Oakybo.

GLEN-DRAKE TOOLWORKS (TITE-MARK)
Can be outfitted with a pair of mortise blades that are independently adjustable and are locked with setscrews; about $113 as shown with two blades and a 9-in. beam. Add an additional set of blades to scribe double mortises. Blades are about $24 a pair.



The Tite-Mark has an easy-to-see cutter that sliced cleanly, regardless of the grain direction. The Starrett simply felt comfortable to use, while the quality of the Clenton was unmatched. And I liked the red-oak Japanese mortise gauge for its simplicity and sharp cutters.

If finish and appearance as well as performance are important considerations, I'd recommend buying a Clenton or a Bridge City tool. The Clenton mortise gauge was superb, with the look and feel of a tool made to the highest standards. The only disadvantage with the Clenton gauge other than price is that the cutter is harder to see than the cutter on a wheel gauge. □

Scott Gibson lives in Maine, where he works as a writer, editor and furniture maker.