

The Indispensable



Laying out rafters

Modern versions of this compact framing-layout tool strive to improve on the iconic original

BY JUSTIN FINK

don't know a single carpenter, if hard-pressed to scale back to carrying just a handful of tools—the ones considered too important to be beyond immediate reach—who wouldn't include a rafter square. That's probably why, when Albert Swanson showed up to work one day in 1925 with his invention, later patented as the Speed Square, his fellow carpenters all wanted to buy one.

Nearly 100 years later, the Swanson Speed Square is still sold today (and is nearly identical to the original), but it also has heavy competition from other brands, with each new product looking to improve on the earlier versions.

What follows here is by no means a comprehensive survey of the dozens of available rafter squares—some of which are gimmicky, or just copycats of the Speed Square—but it will give you a cross section of product options. You'll get a sense of which modern versions of the tool include useful innovations, and whether they might be worth considering. □

Justin Fink is *FHB's* builder-at-large. Photos by Melinda Sonido, except where noted.

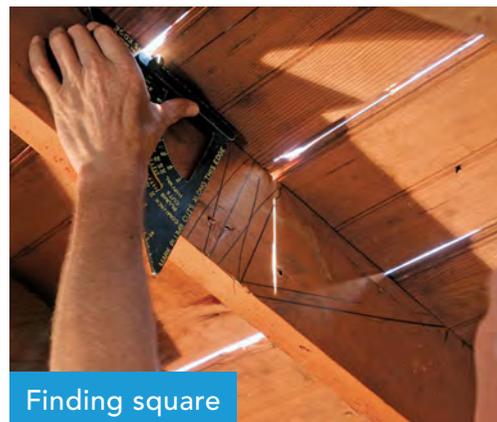
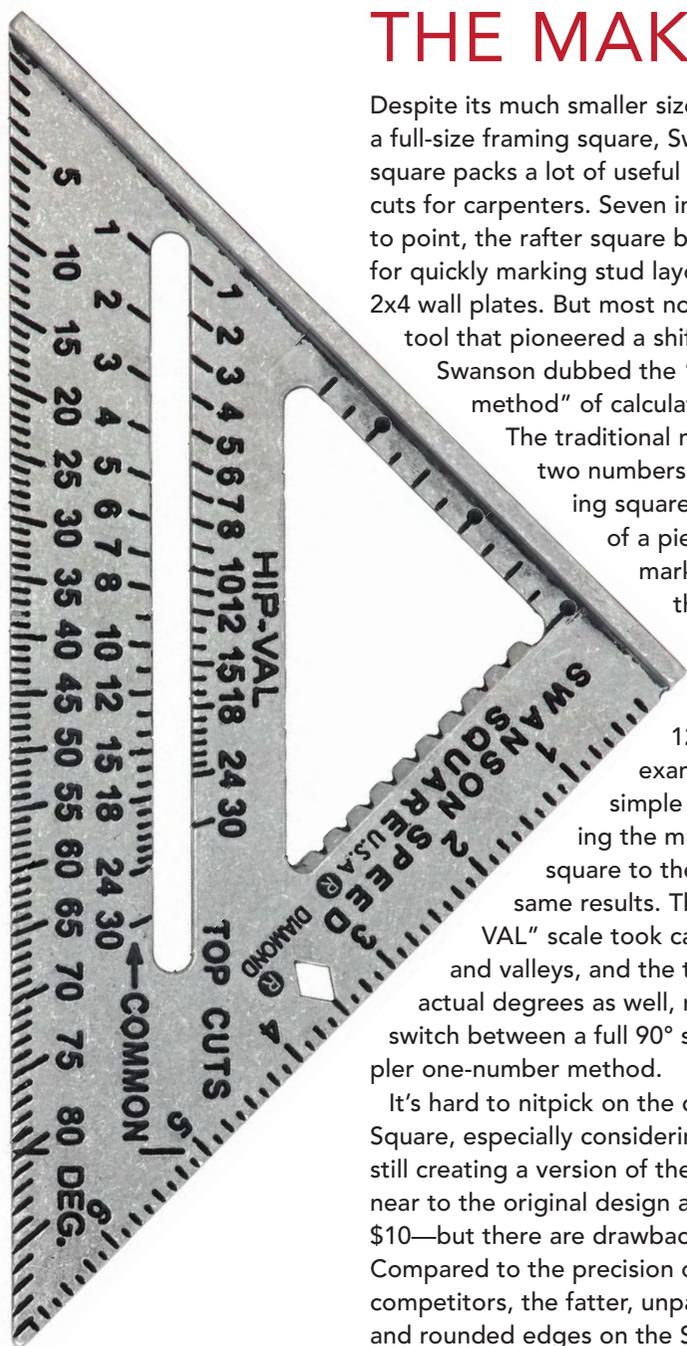
Rafter Square

A CENTURY IN THE MAKING

Despite its much smaller size compared to a full-size framing square, Swanson's rafter square packs a lot of useful no-math short-cuts for carpenters. Seven inches from heel to point, the rafter square became the go-to for quickly marking stud layouts on pairs of 2x4 wall plates. But most notably, this was the tool that pioneered a shift toward what Swanson dubbed the "one number method" of calculating roof pitch.

The traditional method of aligning two numbers on a steel framing square along the edge of a piece of lumber for marking the cuts at the top and bottom of a rafter—the "8" and "12" marks for an 8-in-12-pitch roof, for example—became a simple matter of pivoting the much smaller rafter square to the "8" to get the same results. The included "HIP-VAL" scale took care of marking hips and valleys, and the tool included the actual degrees as well, making it easy to switch between a full 90° scale and the simpler one-number method.

It's hard to nitpick on the classic Speed Square, especially considering the company is still creating a version of the tool that's very near to the original design and sells for about \$10—but there are drawbacks to this square. Compared to the precision of modern laser-cut competitors, the fatter, unpainted markings and rounded edges on the Speed Square are clumsy. It's not a major hurdle in framing work (the tool's original purpose), but for other more detailed layout tasks, the lack of precision makes accurate marking more of a gamble.



Finding square



Guiding saw cuts



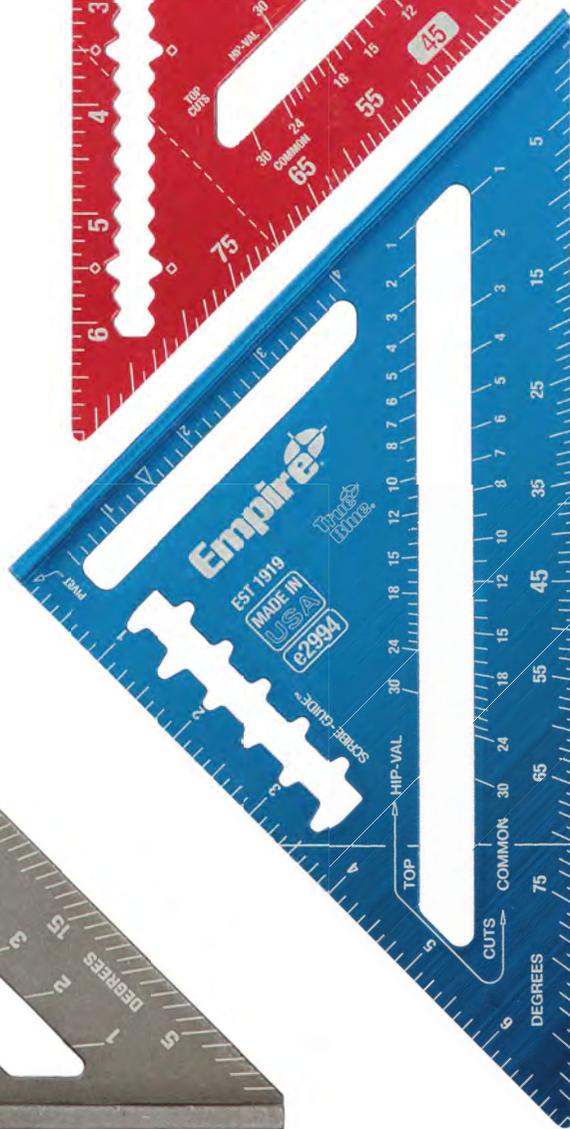
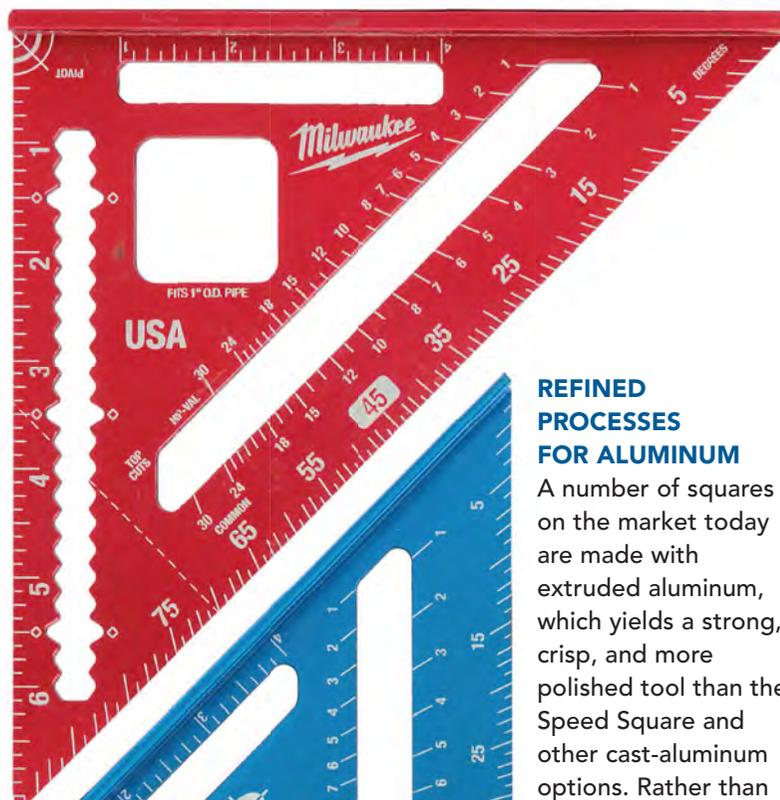
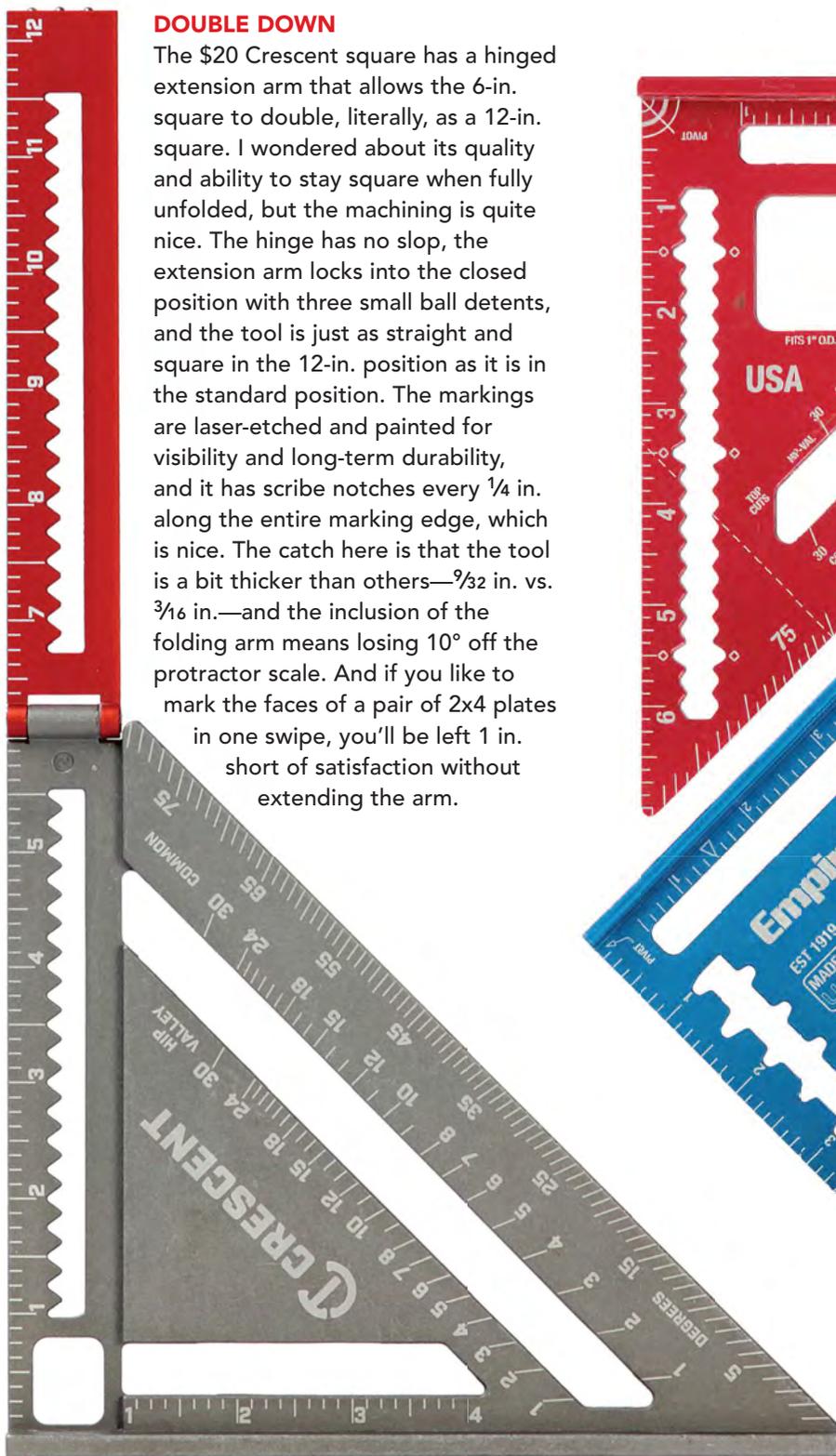
Finding flush

BUILDING ON THE ORIGINAL

While many builders have never needed more than the original Speed Square to get the job done, there are other squares available ranging in price from a few to a few hundred dollars. The reasons to choose one of these options include the ability to extend the length of the square, to make more precise marks, to find angles more easily, and to not sweat the damage a task might do to the tool.

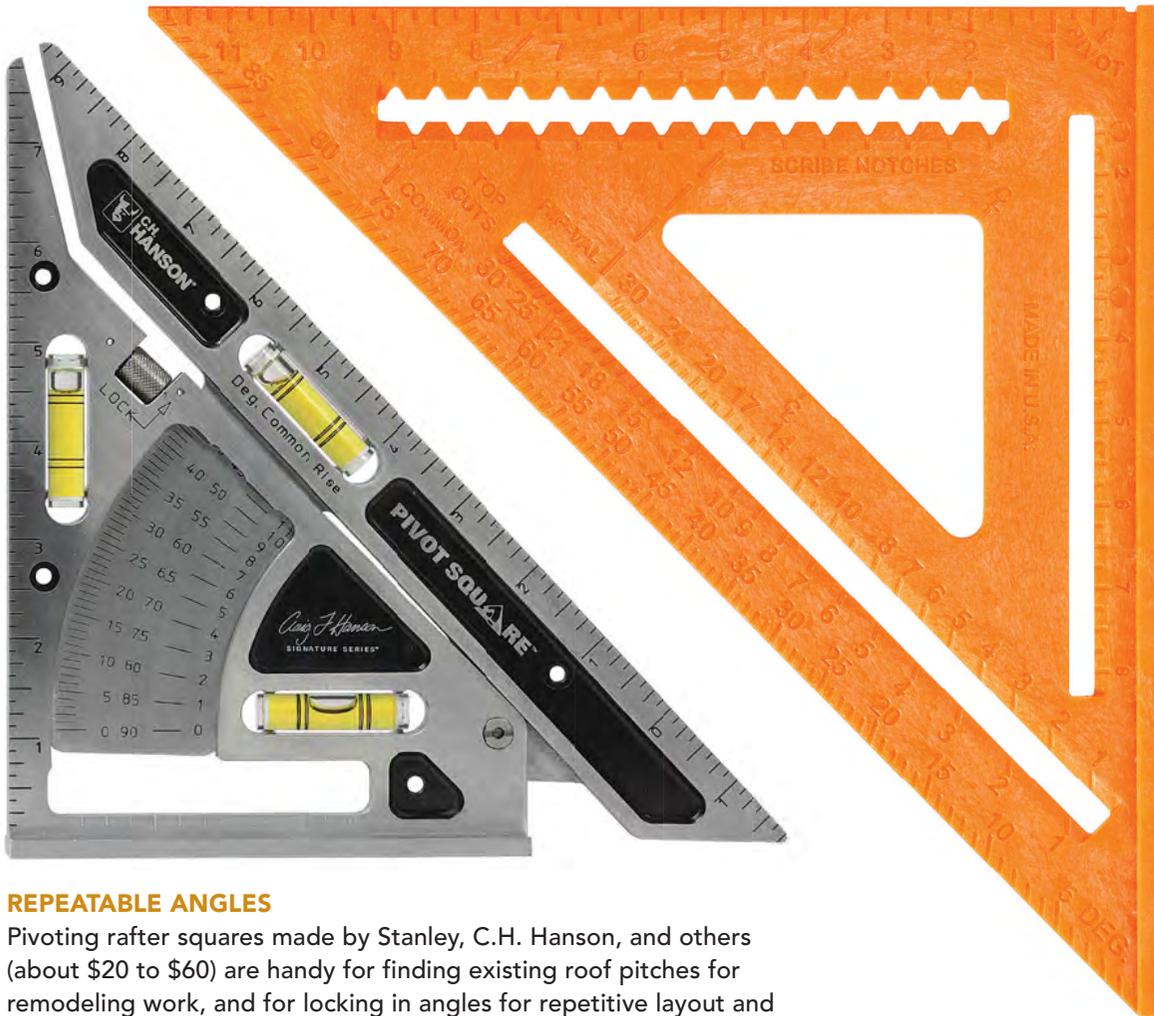
DOUBLE DOWN

The \$20 Crescent square has a hinged extension arm that allows the 6-in. square to double, literally, as a 12-in. square. I wondered about its quality and ability to stay square when fully unfolded, but the machining is quite nice. The hinge has no slop, the extension arm locks into the closed position with three small ball detents, and the tool is just as straight and square in the 12-in. position as it is in the standard position. The markings are laser-etched and painted for visibility and long-term durability, and it has scribe notches every $\frac{1}{4}$ in. along the entire marking edge, which is nice. The catch here is that the tool is a bit thicker than others— $\frac{9}{32}$ in. vs. $\frac{3}{16}$ in.—and the inclusion of the folding arm means losing 10° off the protractor scale. And if you like to mark the faces of a pair of 2x4 plates in one swipe, you'll be left 1 in. short of satisfaction without extending the arm.



REFINED PROCESSES FOR ALUMINUM

A number of squares on the market today are made with extruded aluminum, which yields a strong, crisp, and more polished tool than the Speed Square and other cast-aluminum options. Rather than cast into the surface of the tool, the markings are laser-cut and highlighted in a contrasting color for easier readability. Beware of sharp edges—at the points of the square, but also along the sides—which can slice up a tool-bag pocket in short order. These extruded aluminum squares range in price depending on bells and whistles, but start at just a few dollars more than the original Speed Square.

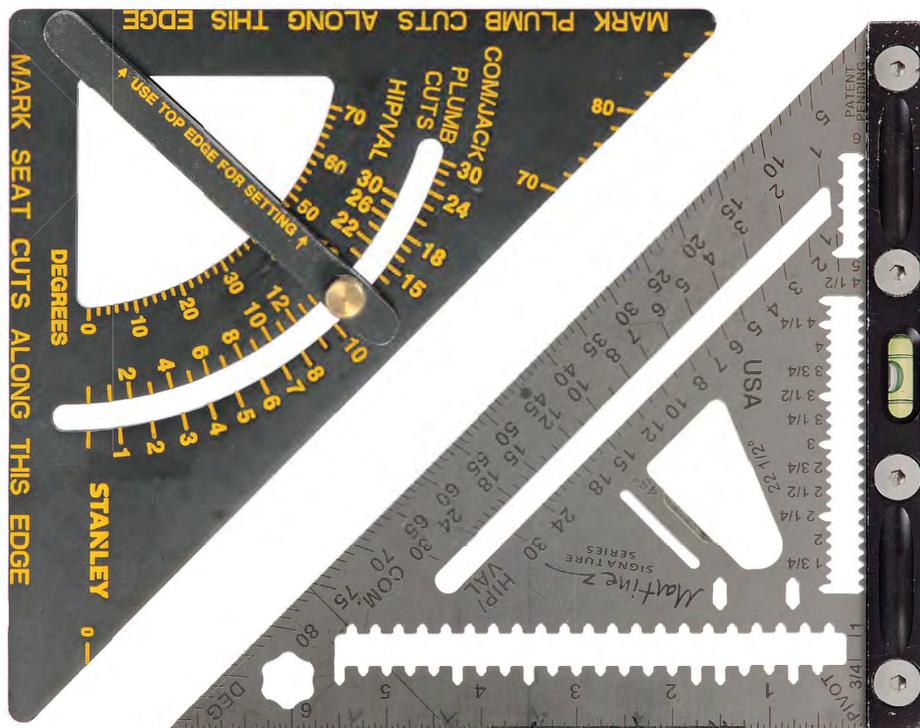


PLASTIC HAS A PLACE

In a market dominated by aluminum rafter squares, the plastic options are easy to dismiss as amateurish and disposable. But for as little as \$3 apiece, they're worth having around for less conventional uses, such as fastening to a layout jig or cutting template, or making tablesaw crosscut guides—but I like them because I can push the blade of a sharp utility knife into the edge and make long scoring cuts in drywall without my blade drifting.

REPEATABLE ANGLES

Pivoting rafter squares made by Stanley, C.H. Hanson, and others (about \$20 to \$60) are handy for finding existing roof pitches for remodeling work, and for locking in angles for repetitive layout and cutting tasks. The trade-off with these specialist squares is that they aren't as well-suited to the standard uses of a rafter square—they are either thicker or heavier, and more clumsy to operate.



AS MUCH ART AS IT IS FUNCTION

Framer-turned-toolmaker Mark Martinez invented the titanium-handle framing hammer many years ago, and has since expanded his product offerings to include, among other things, a rafter square. Somewhat of a boutique tool maker, Martinez prides himself on limited runs of ultra-high-quality building tools made in the United States, and they come with hefty price tags. Shown here is the Rapid Square—while this \$280 version is not currently available, variants based on it are. Those willing to pay the high price are rewarded with a square that's jam-packed with useful features. Worth mentioning are the deep scribe indents at 1/8-in. increments, a bubble level for finding existing roof pitches, and cutouts for quickly marking 22 1/2° angles. The use of titanium doesn't matter much in terms of weight when compared to other squares, but it all but guarantees long-term durability.