Squares

If the angle ain’t right, it’s wrong.

By Craig Bentzley

Most woodworkers claim to know the importance of “flat, straight, and square,” but I’m surprised by those (including myself) who don’t always abide by it. Repeat after me: A square that is a degree off from 90° isn’t square. That degree (or more) will multiply with each part and procedure, leading to time-consuming fixes and ill-fitting joints.

Over the years, I’ve discarded my fair share of shoddy squares that weren’t up to the job. After many trial-and-error purchases, I’ve settled on a few proven performers that I now depend on for laying out joints, setting up machinery, and checking assemblies. Note that, although many of my selections aren’t expensive, a few are quite pricey. But this isn’t a place to pinch pennies; buy the best squares you can afford. They will save you time and spare you headaches.

**Starrett 12” Combination Square**

As the name suggests, the angled head combines the functionality of standard (90°) and miter (45°) squares. Entire articles have been written about the things you can do with this tool. I use mine every day for laying out joints, checking crosscuts and miters, and squaring jointer fences and tablesaw blades.

A high-quality combination square is one of the smartest investments a woodworker can make. (With a little TLC, it will serve several generations of woodworkers.) Some squares are sold with optional center-finder and protractor heads, but I recommend buying only the standard head with a 12” blade. When you can, supplement it with the 24” blade, which will help you lay out stock up to 21¾” wide. It will also serve as a reliable shop rule and straightedge.

**Starrett 4” Double Square**

Sometimes less is just right. When laying out joints, measuring mortise depths, and checking jointed edges for square, I prefer using this 4” double square. Like its bigger brother, the machined head can be used without the blade for checking setups on smaller machines and tight spots. I also like how it tucks into my shop apron’s front pocket.

**2” Engineer’s Square**

An engineer’s square isn’t as versatile as some other models, but the simple design—a fixed blade and head—makes accuracy inexpensive. Until you can afford a double square, you can use an engineer’s square for most of the same tasks. I now keep this square at my sharpening station for checking the edges of plane irons and chisels when grinding. (A three-piece set of engineer’s squares might seem like a bargain, but I suggest saving your money for a 4” double square instead.)
Draftsman’s Triangles

Don’t discount the usefulness of these simple plastic triangles. Despite their low price, they’re very accurate. I use mine for those setups that might damage a more expensive square, such as squaring the tables on my sanders.

Drafting triangles are available in various sizes and colors. The best quality triangles (found in art supply stores) have milled edges. I have several sizes and use them all quite often.

Assembly Squares

While some squares require careful handling, others are designed to be tough enough to help correct out-of-square assemblies and can even hold their own as clamping cauls. Consider the carpenter’s (or “speed”) square. The embossed ruler scale and protractor markings are too coarse for furnituremaking, but the body is well suited for checking large cases and frames. The triangle shape that protects the square from jobsite mishaps gives it the strength to double as a clamping caul. Buy a pair of 6” and 12” squares.

Jevons’ 3D squares are pricier, but the 6”-long legs sport machined faces and wide flanges designed for clamp purchase. In addition to assembling cases, I use a pair as a “third hand” when installing hinges on drop-front furniture and to support the pin board on the tail board while transferring the pin locations when laying out hand-cut dovetails.

Photos: Jim Osborn
Framing Square and Square Fence
Carpenters rely on framing squares for laying out stairs and rafters, but the tool is equally useful in the workshop. Its value will prove itself when working with wide boards and sheet goods. As with combination squares, you get what you pay for. The best squares have machined edges and etched or embossed markings. (Note: A good square can sometimes get knocked out of whack. To learn how to reset your square to 90°, see my tip on p. XX)
If you already own a good square, treat yourself to a fence. The aluminum bar locks onto either edge to provide a positive stop. I find the solid registration very helpful when laying out cuts on sheet goods.

Framing Square
The Home Depot, #674-842, $6.96

Drywall Square
A drywall square may rank last on this list in terms of precision, but this inexpensive tool is accurate enough for rough layout of sheet goods. It can also serve as an impromptu T-square when making full-scale layouts on paper.

Tip Alert
To test the accuracy of a square, hold the body against the edge of a straight board and draw a line along the edge of the blade. Now flip the blade over and draw a second line. The two lines should be parallel.

Veritas Square Fence
Lee Valley Tools, #05N54.01, $23.50

48” Drywall T-square
The Home Depot, #963-186, $12.94
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