



A variety of lengths is useful. The top straightedge, with full-length parallel sides and attached gauge blocks, is used primarily for straightening plates and detecting bowed studs in framing. The next one with tapered

ends is 6½ ft. long to fit easily into door openings. It is used primarily for straightening jambs. The bottom two are shorter, and they are used most often to straighten and to level the heads of wide door jambs.

Making and Using Straightedges

These easily constructed tools help with building tasks from framing to finish

by Tom Law

A carpenter once asked me, “What’s this funny piece of wood?”

“A straightedge,” I told him.

“What do you do with it?” he asked.

A better question, however, is what would I do without it?

When I’m framing, I use a straightedge (photo above) for making layout lines in pencil instead of using a chalkline. Pencil lines are finer and can withstand the rain and the scuffing that can obliterate chalklines. A straightedge also is helpful when I’m straightening wall plates, checking stud alignment and plumbing walls. On occasion, I have used a straightedge as a cutting guide for my circular saw.

When I’m installing trim, my straightedge will warn me about bowed studs in finished walls (bottom left photo, facing page), corners that flare out and dips and bumps in floors. This tool is a must when I lay out and set kitchen cabinets. A line drawn with a sharp pencil and a straightedge on a finished wall is much neater and more precise than a snapped chalkline. A straightedge can make aligning cabinet tops and fronts a snap, especially when the cabinets are not continuous, as in the case of a dishwasher void. I also use a straightedge to transfer plumb layout lines from floor to ceiling. If the straightedge is too short, I just slide my level up the edge that needs to be extended, and then I make my mark. Door hanging is another task in which the straightedge

is essential, but I’ll discuss that in greater detail later in the article.

Making a straightedge in the shop—A common sight on the job is an 8-ft. strip of plywood used as a rip guide for a circular saw. Quite often, this same strip gets pressed into service as a straightedge. Although plywood may be adequate in a pinch, it’s generally too thin, too flexible and too likely to delaminate to make a good, durable straightedge.

Making a tough, reliable straightedge is not difficult. I begin with clear, straight-grained wood: White pine, poplar, redwood, Western red cedar and fir are all woods commonly found in house construction and are all good for making straightedges. Furniture-grade woods such as walnut or mahogany also work well. Knots, wavy grain and pithy wood all make it difficult to create and maintain a perfect edge on a piece of wood. So wood with any of these defects should be avoided for straightedges.

Although the lengths and widths of my straightedges vary, I make all of them out of 5/4 stock at least 4¼ in. wide. I chose 5/4 because it is more stable than 1-in. stock and because it feels most comfortable in my hand. After sawing the stock to the proper length and width, I straighten the edge with either a jointer plane or an electric jointer. After the edge is planed, it is important to check the straightedge for square (top left photo,

facing page). The straightedge itself can be tested against a known straight or flat surface, such as the factory edge of ¾-in. plywood, or by placing it flat against a wall and making a pencil line along its length (center left photo, facing page). No matter how you turn the straightedge, end for end or side for side, it will always line up perfectly along the pencil line if the edge is straight.

I add a hand-hold slot about 1¼ in. wide and 18 in. long and usually ease the edges of the slot with a block plane and a chisel. This slot not only makes the straightedge easier to handle but also gives me a place to clamp my level. Finally, I put a 1-in. dia. hole in the end to hang up the straightedge when I’m not using it. Standing it on end could cause it to warp or bend.

After I make a straightedge, I stabilize the wood by sealing it against moisture. Any kind of clear sealer, such as varnish or tung oil, works fine. One of the cheapest and most effective sealers I use is ordinary paste wax. An oil-based primer also is fine, but I would not recommend a heavy oil paint. It has a tendency to build up on square edges, making them untrue and making any future adjustment to the straightedge a lot rougher on your tools.

Different lengths for different applications—Over the years I’ve made straightedges for many different purposes. For framing and for setting kitchen cabinets, I made a straightedge

8 ft. long with full-length parallel sides. This configuration lets me slide my level along either side of the straightedge. I also have a 6½ footer with tapered ends for door hanging. The tapered shape is more traditional, and the tapered ends make the tool lighter, easier to get in and out of tight spaces and more foolproof because I only have to worry about keeping one edge true. Shorter straightedges of 5 ft. or 6 ft. come in handy when I'm setting the heads of wider openings, such as French doors or sliders.

The big advantage of a straightedge is that it increases the effectiveness of the level. For example, a 2-ft. level clamped to an 8-ft. straightedge and placed against a stud will read along its full 8-ft. length. When using a straightedge in this manner, it is best to attach wooden gauge blocks of equal thickness to the top and to the bottom of one edge (photo top right). These blocks usually are attached to the straightedge with countersunk screws, but in a pinch I have fastened them on with masking tape. The gauge blocks touch only at the top and at the bottom. Any variations in between are spanned instead of interfering with the straightedge.

A basic necessity for door hanging—Earlier, I listed many examples of how straightedges come in handy. For door hanging the straightedge is indispensable. In a previous article (*FHB* #26, pp. 26-32), I described one method for installing doors using a plumb bob and a straightedge, but it's just as quick to use a 6½-ft. straightedge with full-length parallel sides and gauge blocks. I prepare the door jamb the same way. I insert a spreader at the bottom of the jambs; the spreader is the exact length of the distance between the jambs at the head.

With the door jamb in place, I get the header close to level. Then with my level clamped to the straightedge, I shim the top and the bottom of one jamb perfectly plumb and nail it off. With the spreader in place, the other jamb should be automatically plumb, and shims can be inserted top and bottom to snug it in the opening. At this point the header should be leveled, and the second jamb should be nailed top and bottom.

Next I straighten the jambs by setting the flat side of straightedge against the jamb and shimming between it and the framing. I have another straightedge that I keep especially for straightening door jambs (photo bottom right). I made this one with tapered ends, making it lighter and easier to get in and out of the door opening. I begin the taper 19 in. from the end, just below my knee height, so that I can hold the straightedge with my knee, leaving both my hands free to insert and adjust the shims.

I also use a straightedge to see if an existing door jamb or frame is straight and plumb. Subtle discrepancies that will affect the door's functioning can be found and corrected. In addition, a straightedge will show me what needs to be done to prepare the walls surrounding the opening prior to installing a new door. □

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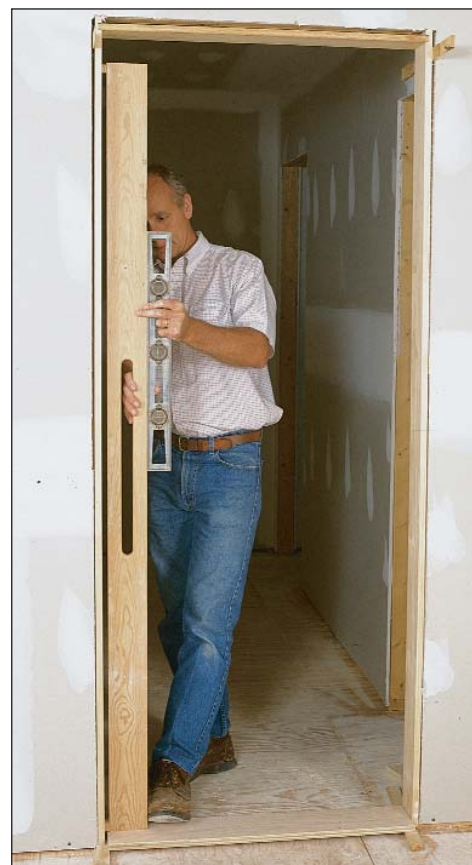
A straightedge must be square as well as straight. After truing the edge with a jointer plane, the author checks for square before applying a wax finish.



Checking the straightedge. Draw a line on a wall on one side of a straightedge; then flip the straightedge and hold it to the line. If the edge is straight, it will line up with the pencil mark.



A straightedge can find a bowed stud. The straightedge alerts the author to this potential problem, which can be fixed before it interferes with a kitchen-cabinet installation.



Gauge blocks help to plumb the jamb. Gauge blocks of equal thickness are attached to both ends of the straightedge. The blocks allow the straightedge to span the jamb and to give an accurate plumb reading without interference from jamb irregularities.



The tapered edge of this straightedge fits the author's knee height. The taper on this 6½-ft. straightedge begins 19 in. from the end so that the author can hold it against a door jamb with his knee while he inserts shims.