

# Choosing a Tablesaw

*Buy the saw that fits your needs and your budget*

by Robert M. Vaughan

In many small shops, no tool is more important than the tablesaw. Whether you're looking for your first 10-in. tablesaw or satisfying an upgrade itch, you're more likely to get the saw you want if you start by defining your needs—and your budget. By knowing where to look and what to look for, you'll stand a good chance of buying the right one.

For cutting 3/4-in.-thick pine, almost any saw will do. But if you're ripping 2-in. hardwood, the more power you can get, the better. So the first step is to analyze the type of material you usually work with.

If you work with a lot of plywood, bolt-on table wings and an outfeed table will be very helpful. And a hefty saw with a long, sturdy rip fence will make working with heavy panels easier.

Also, consider your skill level. An accomplished woodworker can do good work on almost any machine. If something goes wrong, a beginner may have trouble figuring out if the problems are due to a lack of craftsmanship or the machine. Starting out on a good machine shortens the woodworking learning curve, assuming the saw has been set up correctly.

Shop size also will factor into your decision. Do you have space for a machine in the middle of the floor? Or will you need

to push it off to the side when not in use? For the truly tiny shop, a small, lightweight machine that can be stored under a workbench might be just the ticket.

## Where to look for new machines

I strongly recommend seeing the machine before making any buying decisions. Hardware stores and home centers are good places to find medium-to-low range machines. Higher-quality machines are sometimes found at home centers and large hardware stores but more likely at industrial distributors. The biggest problem with looking at any new machine on a showroom floor is that you may not be able to try it out.

One way to get around this problem is to finagle an invitation to someone's shop. A manufacturer or distributor may know a customer who is willing to show off his equipment. Once in the shop, you should be able to see firsthand where the machine throws dust, how loud it is and how convenient the controls and switches are. Be sure to ask the owner about the saw's weak points as well as its strengths.

## Weigh mail orders carefully

I'd rather buy a new tool from a local dealer than from a mail-order company. For



*There's a saw for every budget, as shown in this display of saws at Lowe's, a Roanoke, Va., store. To get the right saw, define your needs first. After that, it's easy to find a saw with the right combination of power, quality and precision.*

one thing, I get to see the tool before I buy it. I also want to help keep local retailers in business. A local dealer may help set up a new tool or at least provide advice if I run into trouble. And if I don't like the tool, it's a whole lot easier dealing with a local retailer than a mail-order company hundreds or thousands of miles away. A mail-order house will sell you a machine, but the company sure can't service it.

But there are advantages to buying mail order, too. Mail-order prices are often (but not always) lower. Your choice of brands is likely to be much wider. If you shop locally, you may have to settle for a tool that isn't your first choice. With so many mail-order houses to choose from, buying by mail means you get exactly what you want. If you do shop by mail, though, make sure parts will be available.

### How to look at a tablesaw

A pocket flashlight, a nickel (yes, a nickel), a tape measure and a piece of string are helpful when looking at tablesaws. The flashlight will help you investigate the guts of the machine. Check out the gauge of the sheet metal, thickness of the cast iron (you don't want thin, tinny parts) and overall heft of the machine. Shake anything you can grab: the motor, the drive belt, the trunnions, even the blade. (Make sure the saw's unplugged, and take care not to cut yourself on the sharp teeth.) Parts that rattle easily may fall off later or indicate the saw isn't well-made. Listen to the machine when it's running. Are there vibrations, rattles or other suspicious sounds?

Vibration in a tablesaw can cause ragged cuts and can contribute to operator fatigue. If you are able to test the saw before buying it, check for vibration by balancing that nickel on the saw's table, with the machine running but no blade attached. If the nickel doesn't fall over, good. If the nickel won't stay up, look at a different saw.

Measure the machine's footprint, including anything that sticks out, such as switch boxes or motors, to see if the saw will fit your allocated space. Check to see that the miter-gauge slots are parallel. Pay particular attention to this detail on less expensive machines.

The string is used as a gross check of the tabletop's flatness. Stretch the string across the top in several places, and look for any dips or humps.

### What you get for your money

To better define what a buyer might expect to get for his money, I've divided tablesaws into five different classes based on price. Class A saws range from \$1,500 to \$2,000

and include saws such as Delta's Unisaw, the Powermatic 66 and the General 350, as shown in the photo below. These 10-in. saws set the standards by which all other saws are judged. The class B saws cost between \$1,000 and \$1,500 and are stripped versions of Class A saws. The \$500 to \$1,000 Class C saws are the contractor-type saws, as shown in the bottom right photo on p. 76, and the Taiwanese versions of Class A saws, as shown in the top photo on p. 76. The \$300 to \$500 Class D saws are mostly lightweight saws or imported contractor saws (see the bottom left photo on p. 76). Under \$300 buys hobby- or home-owner-grade machines.

#### **Class A tablesaws: \$1,500 to \$2,000—**

The strength and purity of the highly refined cast iron and steel used in these saws

help make them the smoothest running and most durable 10-in. saws on the market. Standard equipment includes a \$300 fence, a \$300 motor, a \$60 miter gauge and often a \$150 magnetic starter.

But the internal framework is the real strength of these machines, as shown in the bottom left photo on p. 77. The trunnion brackets are large and strong. The worm gears and machined teeth are large and made from high-quality metal. Hand wheels are large and easy to use. The enclosed base of a Class A saw houses the motor, which reduces the machine's footprint and makes dust collection a lot easier.

Service and tune-up on a Class A saw is easiest of all 10-in. tablesaws. By removing only three or four bolts, the table can be taken off to expose the internal workings of the saw for bearing or belt changes, lubrication and cleaning. Parts are readily available and will continue to be available. And there are lots of after-market accessories made for these saws. Because of their desirability, these saws maintain a high resale value.

Though Class A saws are powerful, smooth and accurate, they aren't perfect. Two-inch oak still bogs things down unless a rip blade is used. The power these

Starting out  
on a good machine  
will shorten  
the woodworking  
learning curve.



**Top-quality saws cost between \$1,500 and \$2,000.** These saws, what the author describes as Class A machines, have solid cast-iron tables and extension wings and a full-length fence. These heavy-duty, smooth-running machines form the backbone of many small professional and serious amateur woodworking shops.



saws use will require a separate circuit. Because they're so heavy, a roll-around base is helpful if the saw will be moved frequently. And, because of their power, kickbacks tend to be a little more forceful.

**Class B tablesaws: \$1,000 to \$1,500—**

Stripped-down versions of Class A saws, these saws often have lower-powered motors (1½ hp or 2 hp instead of 3 hp, for example), inexpensive electrical controls or short fences. On the low end of this price range, you'll find some saws with Class C contractor-saw inner workings dressed up like Class A saws, complete with fence and accessories.

Parts and service for Class B tablesaws are the same as the Class A saws, and resale values, while not quite as good, are still relatively high.

**Class C tablesaws: \$500 to \$1,000—**

This is probably the most popular price range of tablesaws found in nonprofessional shops because of the balance between quality and price. At the upper end are the Taiwan-made copies of the Class A saws and at the lower range, the lighter saws made from high-quality cast iron and steel, such as the Delta contractor's saw.

I've heard mixed reviews from owners of the half-priced copies of Class A ma-



*Imports mimic high-end machines. Imported imitations of more expensive machines offer woodworkers many big-machine advantages for less than \$1,000, but expect some compromises in quality.*

chines. Schools or professional shops probably won't be completely satisfied with a saw in this price range. Nonprofessional woodworkers don't seem to be as sensitive to the consequences of quality compromises because they don't use their saws as much. The problems usually start with the motor or motor controls.

The internal workings of these saws are similar to those in better grades but aren't up to the same standards, as the price clearly reflects. The fences on these ma-

chines seem to be satisfactory but, again, not of the same caliber as more expensive saws. Parts and service records are spotty, with some importers better than others. Predictably, the resale value of these Taiwanese machines isn't as strong as it is with more expensive saws.

The internal components of the contractor-type saws are somewhat lightweight, as shown in the top photo on the facing page. But the full-sized table, combined with a low price, has made this saw a hobbyist's favorite for years.

The lightweight design, though plenty strong because of the quality of the metal, transmits more vibration than the Class A saws, particularly when using a dado set or a molding head. The motor is suspended out the back of the machine, and the long-drive belt contributes to the vibration. The suspended motor also may interfere with an outfeed table, and without an outfeed table, cutoffs drop on the motor and could get wedged in or damage some of the mechanical components.

The bottoms and backs of these saws are open, thus presenting a challenge when hooking up a dust collector. Motors, usually 1½ hp, and electricals on these machines are adequate.

The tabletop is full-sized, so most of the accessories that fit the Class A machines al-

*Contractor's saws are one of the most popular options for the home shop (right). Also found in many professional shops, the contractor-type saw usually sells for \$500 to \$1,000.*



*Imported copies of the contractor-type saws appeal to occasional woodworkers (above). Saws like these are available for \$300 to \$500.*



so will fit contractor-type saws. And parts are readily available. Servicing the machine is a bit of a pain because everything bolts to the bottom of the tabletop and requires flipping the machine upside down for some precision blade adjustments. The standard fence works quite well when adjusted properly. The resale value of these machines remains good.

**Class D tablesaws: \$300 to \$500**—This group is the most popular for entry-level purchases. In this group are Taiwan-made copies of contractor-type saws and direct-drive, motorized saws.

The Taiwanese contractor-saw copies have all the inherent problems of the relatively lightweight contractor-type saws plus a few new problems. The motors and switches don't have the same longevity as those on the better-made machines. Many of the motors are advertised as totally enclosed, fan cooled (TEFC), but they aren't, as removal of the fan cover and fan quickly shows.

Bearings can be another problem with Taiwanese saws in general. Sawdust contamination of the shielded or open bearings found in most Taiwanese saws can result in premature bearing failure.

Another type of saw in this class are Class E saws with minor upgrades, such as



*Working parts of mid-range contractor's saws are lighter than top-of-the-line saws and transmit more vibration. But the parts of these Class C saws are plenty strong due to quality cast iron and steel.*

better tables and fences. Expect a lot of soft aluminum extrusions on these models. Handwheels and handles are generally made of plastic. These parts are more susceptible to breakage than those on better-quality machines. The face surfaces of fences and miter gauges often are not as flat, straight or perpendicular to the table surface as they are on higher-quality saws.

Service is spotty, and many parts are difficult, if not impossible, to install, such as brushes and tiny cogged internal drive

belts. Resale value on these machines is not as good as previous classes.

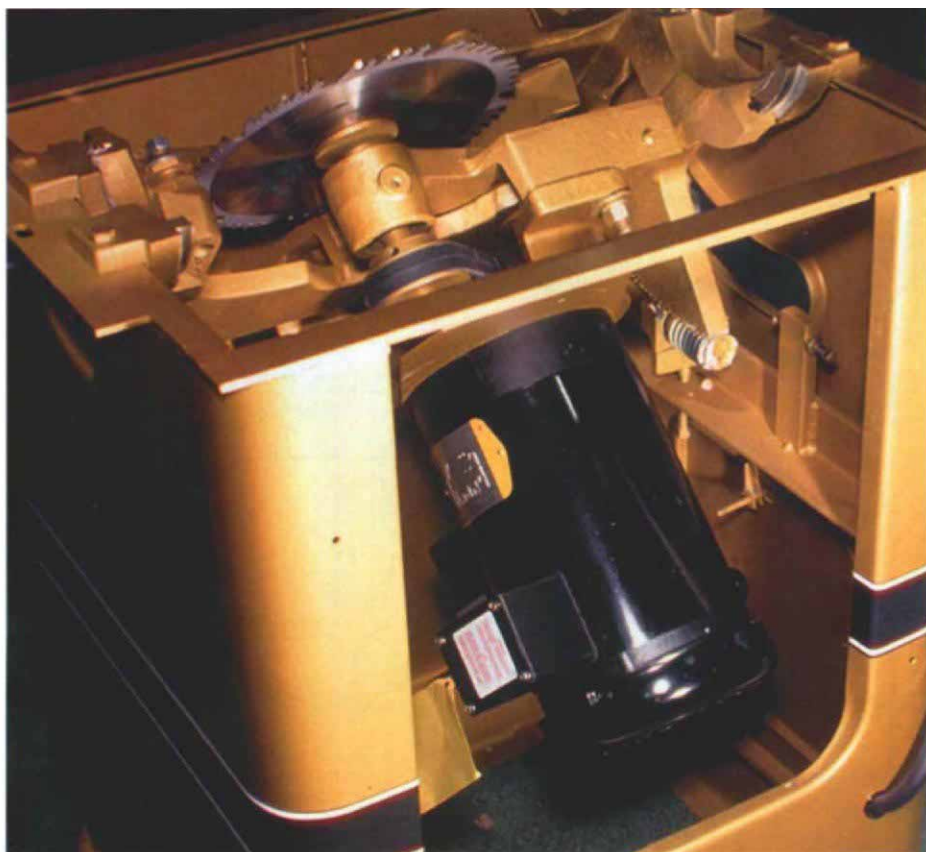
**Class E tablesaws: under \$300**—These saws are least-suited for the beginning furnituremaker. The beginner often blames himself for imprecise work that is directly attributable to the saw. These saws are usually small, benchtop models that are light enough to be portable.

The tilt and raise mechanisms are usually lightweight, as shown in the bottom right photo below, and get sticky and imprecise with the introduction of sawdust and use. The accessories usually are flimsy. These saws generally are considered disposable because of the expense and difficulty involved in major repairs.

### Buying a used machine

A second-hand tablesaw may be the ticket if you are looking for a Class A machine at a Class C price. This option will challenge your scavenging talents and your mechanical abilities, but you'll learn a lot about tablesaws. And you can end up with a machine that you'll never outgrow. But that's the subject of another article. □

*Robert Vaughan is a contributing editor to Fine Woodworking. He rehabilitates woodworking machines in Roanoke, Va.*



*Internal framework is real strength of top-of-the-line saws (left). Heavy-duty trunnions, gears and bearings make for easy adjustments and vibration-free operation in saws costing \$1,500 to \$2,000.*



*Lightweight tilt and raise mechanisms are typical of low-end saws (above). Less powerful, direct-drive motors also are common in these Class E saws.*