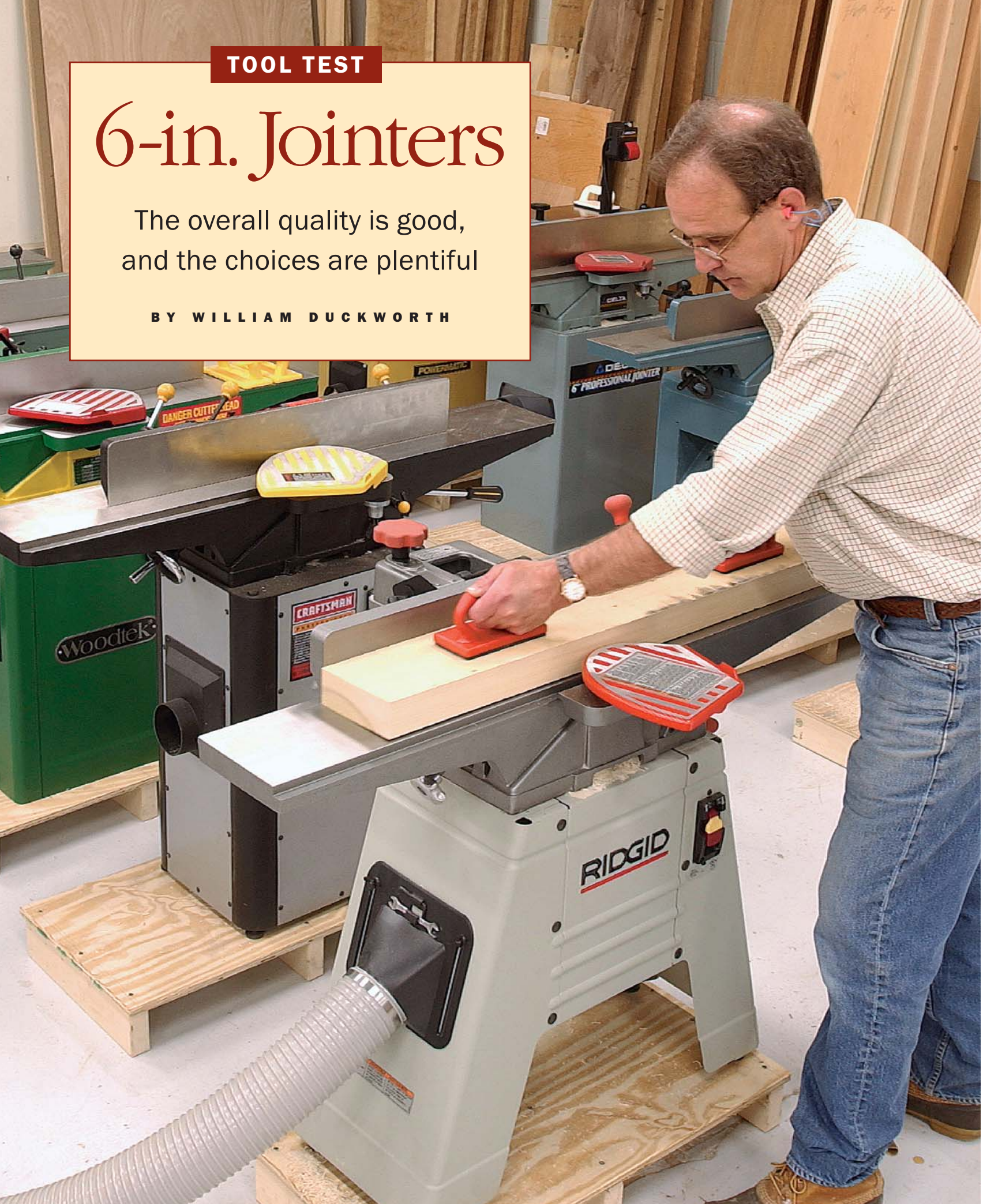


TOOL TEST

6-in. Jointers

The overall quality is good,
and the choices are plentiful

BY WILLIAM DUCKWORTH



Of all the kinds of electrically powered equipment made for processing wood, the jointer is perhaps the most misunderstood and underutilized machine. Saws rip and crosscut wood, and planers bring it down to the right thickness, but I've met plenty of woodworkers who don't own a jointer. "Why would I need one, and what does it do?" they sometimes ask. The answers to those questions are even simpler than this most basic of machines. If you're serious about building furniture or cabinets—and even if the end product is full of curves—you need to start with lumber that has at least one straight edge and one flat face. That's what jointers do. They also square up and clean up lumber edges that are rough or fuzzy from being cut on the tablesaw, and cut rabbets, too.

When buying a jointer, bigger is better in terms of the size of the knives and the length of the table beds. You can successfully joint a board that is about twice as long as the bed of the machine. The scope of lumber lengths that you can process with a 4-in. machine is limited because the beds are so short. Eight-inch (and larger) machines are great, but the price skyrockets with any machine bigger than a 6-in. version. In general, a 6-in. machine is a good starter size. Most of the 11 machines I looked at sell for less than \$500, with one costing as little as \$300.

Among the machines I examined, eight were made in Taiwan; three others were made in the People's Republic of China. The only significant differences between these machines can be found in the fence designs and the mechanisms by which you raise and



Are they flat? Shop manager John White checked the grinding job on infeed and outfeed tables with a straightedge and feeler gauges and used a machinist's level to measure the diagonal twist. Most of the measurements fell well within accepted tolerances.

lower the infeed and outfeed tables. All of the machines required some assembly and cleanup. The metal surfaces come coated with a rust-preventive goop that comes off easily with liberal applications of kerosene or lubricating and penetrating oil, such as WD-40.

Tables should be flat

With a jointer, you want infeed and outfeed tables that are both flat and coplanar to one another, meaning that the tables run parallel from one end of the machine to the other. How flat should a join-

BRIDGEWOOD BW-6R

(800) 235-2100; www.wilkemach.com

Price: \$399



Table width:
7¼ in.

Table length:
45¾ in.

Weight: 205 lbs.

Motor: 1 hp

The Bridgewood came with a good step-by-step instruction manual, complete with decent photos of the actual machine that was delivered, which was not the case with all of the machines I reviewed. The grinding on the tables was extremely flat, but the fence was not as flat.

DELTA 37-195

(800) 438-2486; www.deltawoodworking.com

Price: \$509



Table width:
7½ in.

Table length:
46¾ in.

Weight: 220 lbs.

Motor: 1 hp

The switch mounted above the table is more convenient and safer than having to bend over and reach down to turn it on and off. The rack-and-pinion fence was a joy to use, though the one on this machine came from the factory marred by a nib on the toothed column. The nib limited the travel of the fence halfway in both directions, so I had to take it apart and file down the nib to make the fence work properly.

ADJUSTING THE TABLE HEIGHT

Wheels or levers. Most brands use either a wheel or a lever to raise and lower the tables. Wheels on all of the machines, except the Jet, are mounted on the sides, under the tables.



The Powermatic lever is unique. It offers the ability to make both coarse and fine adjustments on the infeed table by pushing the lever up and down or by twisting its handle.

ter table be? One dealer told me that the company's quality-control engineers allow gaps in the ground table surfaces up to six-thousandths of an inch (which is slightly more than the thickness of the cover of this magazine) in the length and three-thousandths of an inch in the width.

Fine Woodworking shop manager John White took precise measurements, using a 3-ft. Starrett machinist's straightedge and feeler gauges to check the grinding on all of the table surfaces: end to end, side to side and diagonally across each of the tables. All but one of the machines tested positively within the length tolerances listed above, and most width measurements were up to snuff. Also, the measurements to check parallelism between tables were within those accepted tolerances.

The Powermatic had an infeed table that was in fairly good shape and an outfeed table that was way out of whack. Because the box and the Styrofoam packing inside were broken when I unpacked that machine, I suspected that it was damaged during shipping. As a double-check, I went to a woodworking-supply store and measured the Powermatic floor model on display. The grinding job on that machine was well within manufacturing tolerances. Bottom line—are the tables on these jointers flat? They're not perfect, but they are flat enough to do the job they're supposed to do.

Table adjustments are made via levers or handwheels

To function properly, the surface of the outfeed table needs to be flush with the top arc of the knife cut and perfectly parallel to the full width of the knife cut, as well as the surface of the infeed table. An outfeed table set too high will result in jointed edges that are tapered and crowned; a table set too low will result in chatter during the cut and some ugly snipe on the tail end of the board. Usually, you can make any necessary adjustments in the alignment of

GENERAL INTERNATIONAL 80-1X0L M1

(819) 472-1161; www.general.ca

Price: \$519



Table width:
7¼ in.

Table length:
55½ in.
(with two
extensions)

Weight: 218 lbs.

Motor: 1 hp

With the instructions for assembly and setup covering less than a page, the owner's manual for the General was written under the assumption that the buyer is mechanically adept (as most woodworkers are). The two table extensions (included) add 9½ in. to the overall table length, and the tapered base with a wide footprint makes this machine more stable than most.

GRIZZLY G1182ZX

(800) 523-4777; www.grizzlyindustrial.com

Price: \$475



Table width:
7¼ in.

Table length:
46½ in.

Weight: 226 lbs.

Motor: 1 hp

The Grizzly machine is the only one reviewed that features a magnetic switch, a device more often found only on industrial-level equipment. The switch is mounted high for better access. The ground surface of the tables was well within accepted tolerances. I had to adjust the factory settings on the knives to get them parallel to the tables. After that, this machine made smooth, fine cuts.

JET JJ-6CSX

(800) 274-6848; www.jettools.com

Price: \$499



Table width:
7¼ in.

Table length:
45¾ in.

Weight: 214 lbs.

Motor: 1 hp

The Jet machine came with the best instruction manual of the bunch—well written, organized and photographed, and printed on coated paper for clearer images. The adjustment wheels are mounted on the front of the machine, rather than on the sides, under the tables. The outfeed table on this machine had a 0.007-in. twist from one end to the other, more than on most of the other machines. The Jet was the only brand that came with a small can of touch-up paint.

POWERMATIC 54A

(800) 274-6848; www.jettools.com

Price: \$749



Table width:
7¼ in.

Table length:
66⅝ in.

Weight: 304 lbs.

Motor: 1 hp

The extralong table is the dominant feature of this machine, making it possible to straighten and flatten boards that are 3 ft. to 4 ft. longer than what you can mill with the other machines in this survey. That extra length also translates to extra weight—this machine is one-third heavier than the others—and a heavier machine is a more stable machine.

the knives to the outfeed table by raising or lowering the knives with the jack screws found in the cutterheads of all of these machines, except the Reliant.

You adjust the height of tables by raising or lowering them on dovetailed ways, or tracks, that have been milled into the cast bed of the machine. Once you have the tables where they belong, the gib screws fasten the tables tightly to the jointer bed and are secured with a locknut. You can tweak the settings of the tables on the bed by adding very thin, soft metal shims (see “Jointer Tune-up” by John White in *FWW* #142, pp. 38-43). Brass and aluminum both work as shims in the dovetailed ways, but you should not have to do this to a new machine.

Some, but not all, of the dealers offer the consumer a choice in the table-adjustment mechanisms: You can use either a wheel or a lever to raise and lower tables. Opposing camps within the wood-working community will argue the merits of either with great passion. Those who prefer the wheel swear by its superior incremental accuracy. I prefer the levers: They’re quick and easy to use, and I find them plenty accurate when making small adjustments. The wheels and levers on these machines all worked fine. The lever system on the Powermatic jointer is notably more sophisticated from an engineering standpoint because it offers the ability to make both coarse and fine adjustments.

One weak link I found in the three mainland-Chinese machines—Delta, Sears and Yorkcraft—was that the threads of the locknuts that secure the outfeed tables to the bed of the machine were either stripped or bound too tightly, making it difficult to adjust the height of the outfeed tables. Badly threaded screws can be

RELIANT DD39C

(800) 877-7899; www.woodworkerswarehouse.com

Price: \$299



Table width:
7¼ in.

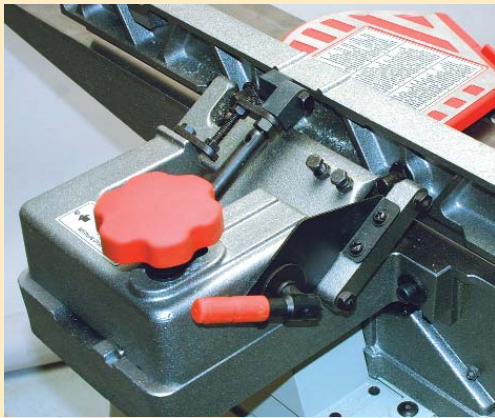
Table length:
45¾ in.

Weight: 189 lbs.

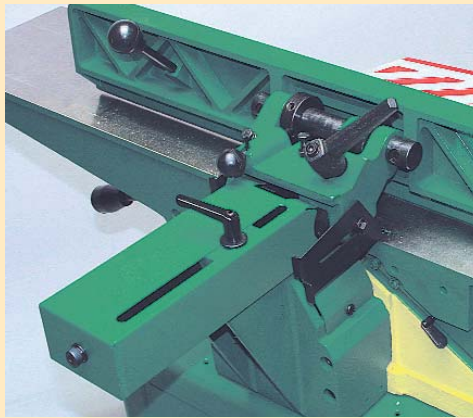
Motor: 1 hp

The Reliant is the least expensive of all of the jointers surveyed. But it is the only machine that does not have jack screws in the cutterhead, which makes knife adjustments more cumbersome. After fiddling with the factory setting of the knives to the outfeed table, I got consistently clean and accurate cuts with this machine.

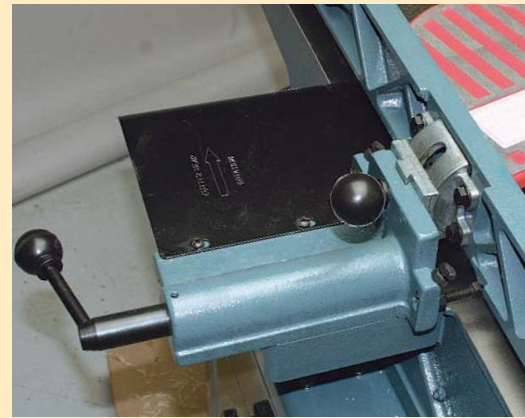
FOUR DIFFERENT FENCE DESIGNS



A cast-iron fence with dual pivot points. This sturdy design can be found on the Bridgewood, General, Grizzly, Jet, Powermatic and Ridgid jointers. The fence is easy to move in and out, and you can adjust the positive stops for different angles.



Woodtek fence is different. The design of the fence on the Woodtek jointer is unique to that machine. It is a sort of sliding T-shaped setup, and it works reasonably well as long as you use both hands to move it.



This one's not easy to use. On both the Sears and Reliant jointers, the dovetail casting on which the fence pivots does not provide for smooth adjustments and is difficult to raise and lower.

replaced or repaired with a tap and die (but you don't want to have to perform a machinist's duty on a new piece of equipment).

Fence design is a significant purchase factor

When you're faced with choosing which of these machines to buy, the fence design (other than the price) is the only significant variant that is likely to make or break a purchase decision. All of the fence designs have positive stops for 90°- and 45°-bevel settings, and with most of them you can tilt the fence in either direction. This perplexes me. I've used the bevel setting on my own jointer many times, but only with the fence set at an oblique angle to the

cutterhead, tilting away from the knives. I cannot fathom, for safety reasons, why anyone would ever set a jointer fence to an acute angle, tilting toward the cutterhead. Trying to hold a workpiece tight to the fence, with your fingers out of view and close to the knives, seems to me an accident waiting to happen.

Among these 11 machines, you can choose from four different fence designs (see the photos above). A heavy cast-iron fence with dual pivot points is easy to adjust. Because of its beefy construction, it likely will hold up well with repeated use. A couple of fences pivot on a dovetailed casting, but they are difficult to raise and lower. The sliding T-shaped fence on the Woodtek jointer

RIDGID JP0610

(800) 474-3443; www.ridgidwoodworking.com

Price: \$449



Table width:
7¼ in.

Table length:
45¾ in.

Weight: 210 lbs.

Motor: 1 hp

The Emerson Electric Co., maker of Ridgid woodworking machines, consistently goes one step further toward making the whole package more user-friendly. Here are some examples: organized parts trays, an adjustable dust chute that slides out of the way, a magnifying glass on the depth-of-cut gauge and soft, rubberized coatings on all handles and levers. The tapered base with a wide footprint makes this machine more stable, but the partially open base also means that it's a little noisier than machines with enclosed motors.

SEARS 21706

(800) 407-4567; www.sears.com

Price: \$400



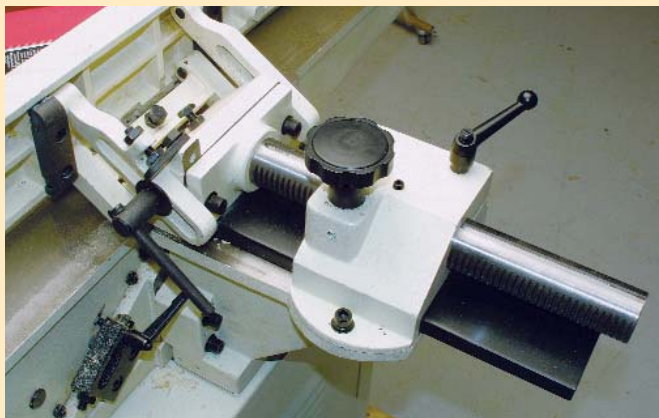
Table width:
7½ in.

Table length:
46¾ in.

Weight: 210 lbs.

Motor: 1 hp

The Sears manual, illustrated clearly with drawings, is a good step-by-step introduction to assembling and using the machine. I had to ream out most of the five dozen or so holes in the base panels to make them line up with the threaded holes in the legs. The table surfaces were ground notably flat, and the sharp knives left a surface that felt smooth as glass. This machine features a handy little storage shelf on the infeed side of the base for the push blocks. Adjusting the fence was a less-than-smooth operation.



User-friendly rack-and-pinion design. The rack-and-pinion fence found on the Delta and Yorkcraft jointers works very well. Adjustments are quick and easy to make, and you can move the fence in and out with one hand if you happen to be holding a workpiece in the other.

works reasonably well as long as you have the use of both hands to move it. Among all of the fences, though, the rack-and-pinion type is my favorite. Adjustments are quick and easy to make, and you can move the fence in and out with one hand.

Which one should you buy?

The good news is that the overall quality of these machines was respectable. They were ruggedly built, for the most part, within acceptable tolerances for working wood.

But like it or not, the market forces controlling this global economy have limited your choices. Not so long ago, you could still

buy a Delta jointer made in Mississippi, a Powermatic made in Tennessee or a General made in Quebec—not so anymore, at least with 6-in. jointers. All of these machines were made either in Taiwan or the People's Republic of China. However, I'm convinced that the manufacturers in Asia have improved the quality of their products over what they were making 10 years ago. It's worth noting that several of the brand-name dealers represented here have inspectors at the manufacturing facilities who oversee quality control.

If money were no object, and I wanted to buy a 6-in. jointer, I'd be drawn toward the Powermatic. The fit and finish of the machine were impressive, and the bed—fully 20 in. longer than those on most of these machines—allows you to joint longer boards. Granted, I found some real problems with the tables on the first one I looked at, but I'm convinced that most of those problems were caused by shipping damages and were not the fault of the manufacturer. Lesson learned: If a machine shows up at your shop door with obvious damage to the container, refuse it or call the dealer for advice on how to solve the problem.

Among those machines in the midrange of prices, I liked the Ridgid. The numerous small improvements the manufacturer has made to detail this machine as more user-friendly—from the rubberized handles for a better grip to the magnifying glass for a better view of the depth-of-cut scale—add up to a well-appointed and well-built tool.

If I were buying a machine on a tightly limited budget, I'd go for the Yorkcraft, the bargain brand sold by Wilke. It's about \$70 less expensive than Wilke's Bridgewood jointer, it has a larger fence that would make edge-jointing wide boards or glued-up panels an easier task, and I love that rack-and-pinion design. □

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WOODTEK 924-028

(800) 645-9292; www.woodworker.com

Price: \$429



Table width:
7¼ in.

Table length:
45¾ in.

Weight: 204 lbs.

Motor: 1 hp

This machine was easy to put together, but the photos in the instruction manual were of a different model with an open stand. The fence on this machine is different from all of the others: It consists of a hexagonal bar held captive in pillow blocks with two Allen screws and a threaded handle. The gib screws were adjusted well at the factory, making it easy to raise and lower both the infeed and outfeed tables.

YORKCRAFT YC-6J

(800) 235-2100; www.wilkemach.com

Price: \$329



Table width:
7½ in.

Table length:
46¾ in.

Weight: 231 lbs.

Motor: 1 hp

Except for the switch location, the Yorkcraft is essentially the same machine as the Delta, including the rack-and-pinion fence that was a breeze to adjust. The table surfaces were fairly flat, and the factory settings that align the knives to the outfeed table were very good.