

TOOL REVIEW

PUZZLING



Out Jigsaws

Found in most woodworking shops, these versatile tools have grown more sophisticated as the years have gone by. Here's a look at what the latest class has to offer.

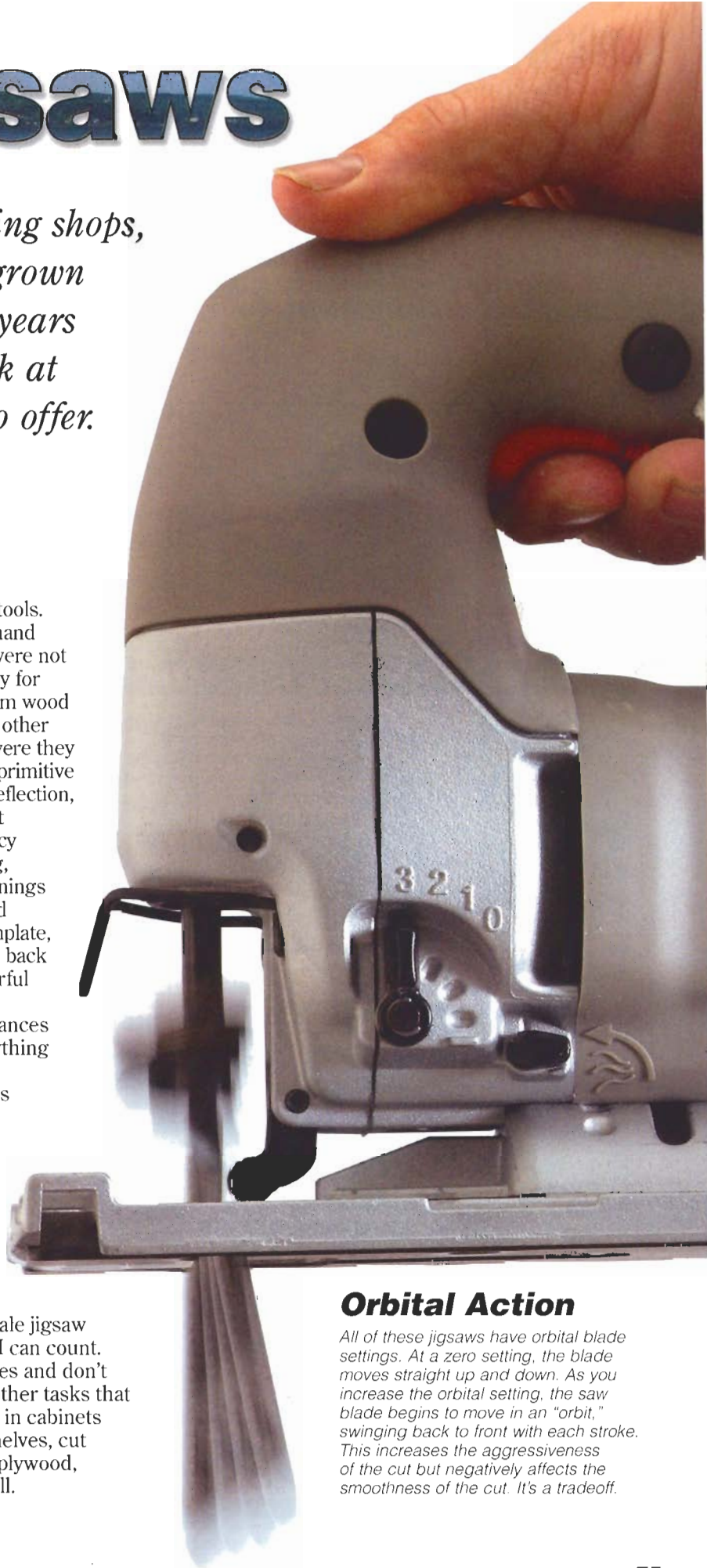
By Rob Johnstone

The first jigsaws I ever used were very basic tools. Not remarkably powerful, they numbed your hand with vibration if you used them at length and were not particularly accurate. But they were very handy for a variety of tasks. You could cut everything from wood to drywall, conduit to cardboard, and a host of other material. Woodworkers used them often, but were they really a woodworking tool? If so, how so? The primitive early models suffered from significant blade deflection, which increased dramatically as the blades lost sharpness. Their previously mentioned accuracy challenges relegated their use to rough cutting, notching and — their best trick — cutting openings in the middle of panels, an operation you would usually follow up with a router guided by a template, if dead-on accuracy was required. (Remember, back in the day, handheld routers were not as powerful or sophisticated as they are today, either.)

But, as the decades passed, all sorts of advances in manufacturing technology improved everything from motor windings and gear cutting, to circuitry and bearings, and even the materials the jigsaws were made from. These quality advances improved the performance of handheld jigsaws by a remarkable factor.

At Home in The Woodshop

The result is that jigsaws have become the real deal in woodshops today. For example, while I have several stationary power tools in my shop, but one that I still don't own is a band saw. I have used my upscale jigsaw as a "poor man's band saw" more times than I can count. I reach for my jigsaw to cut complicated curves and don't skip a beat. (Obviously, it won't resaw or do other tasks that a good band saw will do.) I cut out vent holes in cabinets that hold electronics, notch out corners on shelves, cut dowels and a host of other tasks. Hardwood, plywood, hardboard and melamine are no problem at all.



Orbital Action

All of these jigsaws have orbital blade settings. At a zero setting, the blade moves straight up and down. As you increase the orbital setting, the saw blade begins to move in an "orbit," swinging back to front with each stroke. This increases the aggressiveness of the cut but negatively affects the smoothness of the cut. It's a tradeoff.

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The Hilti has a cool dust collector unit. It's powered by an armature that connects to the motor via an entry hole at the back of the saw.

Bosch

These superior tools deliver some of the most advanced features in the category.



1590EVSK D-handle 1591EVSK Barrel Grip

6.4 Amps
500 - 2,800 Strokes per minute
1" Stroke length
Toolless blade change
13' Power cord
Price 1590EVSK: \$199.00
Price 1591EVSK: \$179.00
Phone: 877-267-2499
www.boschtools.com

Porter-Cable

Speed control and variable-speed trigger. Nice toolless base plate adjustment.



543 D-handle

6 Amps
500 - 3,100 Strokes per minute
1" Stroke length
Toolless blade change
10' Power cord
Price: \$159.00
Phone: 800-321-9443
www.porter-cable.com

Metabo

Solid German engineering: a very good quality tool.



STEB135 Plus D-handle STE135 Plus Barrel Grip

6.1 Amps
1,000 - 3,000 Strokes per minute
1" Stroke length
Toolless blade change
13' Power cord
Price: \$189.00 for either model
Phone: 800-638-2264
www.metabousa.com

RIDGID

The R3120 is made by Metabo for RIDGID with a couple of additional features.



R3120 D-handle

6 Amps
1,000 - 3,000 Strokes per minute
1" Stroke length
Toolless blade change
11.5' Power cord
Price: \$139.00
Phone: 800-474-3443
www.ridgid.com

And it's also handy for related tasks that find their way into woodshops. Cutting plastic, sheet and tubes, cutting metal, ceramic and pipes or conduit ... in other words, it's a workshop workhorse.

The Saws

Bosch 1590EVSK: Bosch has a history of and a reputation for building great jigsaws and did not disappoint with this model. Their saw was powerful and cut very well. It had the fewest chips per inch when cutting melamine of all the saws in this test. Bosch's Precision Control™ blade system squeezes the saw blade between two articulated “pinchers,” minimizing blade deflection. It's a very nice feature. In its barrel grip configuration I found the grip bulky ... even for my large hand. The Bosch is one of the winners in this review. I found little to concern me and much to please me.

Porter-Cable 543: When I first looked at this saw, I thought it a bit on the basic side of things. After I cut with the tool, I changed my description to “understated.” The saw fit my hand well and even the switch was comfortable. It had the fastest strokes per minute of any

Ergonomics: What does it matter?

Currently, a lot is being said about the idea that woodworking tools, which are designed predominantly for men, may not be a good fit for women. But what is the deal? A saw is a saw, right? True, but is a hand a hand? Look at my hand compared to WJ reporter LiLi Jackson's hand below. LiLi is a good woodworker, smarter than I am and in much better shape than my 49-year-old self.

But when it comes to pushing these saws around, she is at a disadvantage with many of the models I reviewed in this test. Below are two images of the Hilti jig saw. It's a good machine and very powerful. But look at how differently our hands interact with the handle: the comparison is dramatic proof of an unintended bias. LiLi found the Festool D-handle saw to be the best fit to her hand of all these saws.

— Rob Johnstone



Ergonomics: The applied science of equipment design, as for the workplace, intended to maximize productivity by reducing operator fatigue and discomfort. Also called biotechnology, human engineering, human factors engineering. (dictionary.com)



While the author's ham-handed mitt has no trouble grasping the saw's handle, the smaller female hand is at a disadvantage in this case.

of the high quality saws. Its orbital action was aggressive, and the combination of a variable-speed trigger and speed control was a big positive in my opinion. The toolless base adjustment is a good idea but a little clumsy in actual use. Still, it's better than searching the shop for an Allen wrench.

MetaboSTEB135 Plus:

A German tool of very good quality. The size of this saw is significant ... it's a brute. The dust collection on the saw was very good, and its tube connected equally well to the Festool vacuum as it did to the Porter-Cable tool vac, a nice touch. I did not like that the plastic blade guard/dust cover had to be removed when you changed blades; it is likely to get lost at some point. But when it comes to cutting, this saw is the real deal: accurate and smooth with low vibrations, a real pleasure.

At \$189.00, it is 50 dollars more than the RIDGID saw, which you will learn shortly is its clone, making it a hard sell in my book, despite its great quality.

RIDGID R3120: Made for TTI by Metabo, with just a few changes in details, it is nearly identical to the STEB135 Plus reviewed above. It has the very handy RIDGID power cord with the lighted tool icon in the plug. The cord also has a Velcro[®] wrap which I liked. Curiously, there is a different dust collection tube provided which only fit the P-C tool vac and not the Festool. And even more unusual to my mind were the orbital settings on the RIDGID and the Metabo offerings. They have five settings; all the other saws have four. This gives the five-setting tools a kind of *Spinal Tap*-like advantage of one extra setting, for when you need that little extra "orbit," but I could perceive no real difference or advantage to the extra setting.

Makita

The diode lights are a nice touch, as is the barrel grip's small diameter.



4040FTC D-handle 4341FTC Barrel Grip

6.3 Amps
800 - 2,800 Strokes per minute
1" Stroke length
Toolless blade change
8' Power cord
D-handle price: \$149.00
Barrel grip price: \$159.00
Phone: 800-462-5482
www.makitausa.com

DeWalt

A no-nonsense saw with speed control and variable-speed trigger.



DW317K D-handle

5.5 Amps
0 - 3,100 Strokes per minute
1" Stroke length
Toolless blade change
8' Power cord
Price: \$99.00
Phone: 800-433-9258
www.dewalt.com

Hilti

The most powerful saw in this test. Well-made, but large.



WJS 850-ET D-handle

8.4 Amps
900 - 3,000 Strokes per minute
1" Stroke length
Toolless blade change
12' Power cord
Price: \$239.00
Phone: 800-879-8000
www.us.hilti.com

Hitachi

A very sound tool that cuts accurately ... a good value.



CJ120V D-handle

5.8 Amps
850 - 3,200 Strokes per minute
1" Stroke length
Toolless blade change
8' Power cord
Price: \$139.00
Phone: 800-829-4752
www.hitachi-koki.com

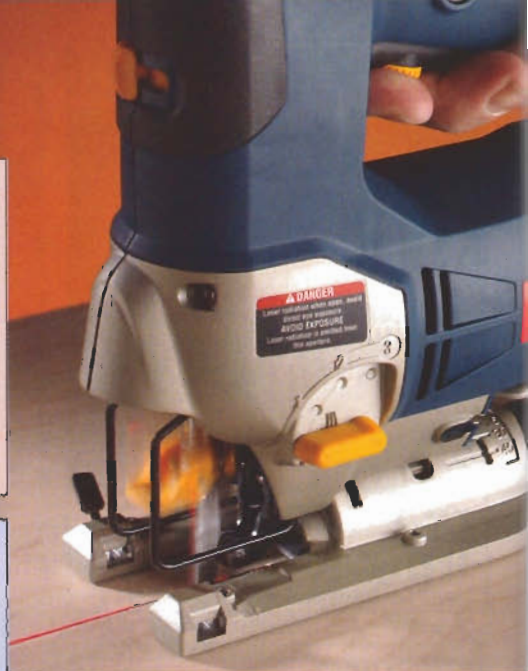
Ryobi

Ryobi sells this saw with a very complete package of accessories.



JS550LK D-handle

5.8 Amps
0 - 3,200 Strokes Per Minute
1" Stroke length
Toolless blade change
9' Power cord
Price: \$69.00
Phone: 800-525-2579
www.ryobitools.com



Ryobi's ambitious offering includes a laser for better aligning your cut. The author found the laser to be quite useful and effective.

The RIDGID saw is a great value at \$139.00. It is a nice tool with good features.

Makita 4040FTC: This tool cuts very accurately, aided by a diode light and a nicely designed splinter guard with a little "V" cut in it to align the blade to your scribed line. The saw is powerful and smooth.

While I put the D-handle through all of the tests, the barrel grip version has a nice small diameter barrel that is easy to grip. This saw had no dust extraction and was shipped with no Allen wrench to adjust the base. I found its toolless blade change to be well done.

DeWalt DW317K: When I think of DeWalt tools, I don't often think of them as a bargain: good value, yes; bargain, nope. This saw puts DeWalt's value-packed quality into a surprisingly affordable package.

At 5.5 amps it is not the biggest kid on the block, but it does have sufficient power to cut accurately. Unique to the DeWalt was a funky "spin-around" base plate that had the splinter guard function built into it. I did have some challenges with the blade deflecting as I cut curves and pushed it hard. Still, at \$99.00 it is a lot of saw for the money.

Hilti WJS 850-ET: This newcomer is supersized in every way. Lots of features, lots of power, good dust extraction ... even without a vacuum attached (see

Testing the Saws

I assembled a large group of saws for this review. Where a manufacturer had both a D-handle and a barrel grip, I had both shipped to me. Because every manufacturer in this test had a D-handle, I chose to test those extensively and do a quick comparison with the barrel grip to see if there were major ways the two models differed. I gathered all the details about each saw that I could come up with and put them in a large spreadsheet to give me a feature-to-feature blow-by-blow.

To keep the test fair, the same brand of blades was used with every saw.

If you'd like to see the spreadsheet, it's available online at our web site (www.woodworkersjournal.com). Then I simply put the saws through a series of cuts and operations similar to those that I would use in my shop:

- a plunge cut in 1/2" Baltic birch,
- a cross cut and a curved cut (to a pre-marked line) in a 2" x 12" piece of pine lumber,
- several blade changes,
- curved (to a pre-marked line) and straight cuts in 3/4" birch plywood and melamine,
- attached and observed dust collection where possible,
- curved and straight cuts in 3/4" and 1/2" hardwood,
- evaluated the feel of the saw (ergonomics) and the level of vibration in the various materials.

I used the same saw blades in each saw for each type of cut, opting for a fresh blade for every slice. I chose Bosch blades as they represent the best quality that I am aware of in jigsaw blades technology. When I cut melamine, I used the T101AO. For plywood and hardwood, I went with the T101BR. To test cutting in the dimension lumber, I chose the Progressor™ T234X. If a saw performed poorly on any cut, I repeated the cut with a different blade of the same type.

— Rob Johnstone

Buying a substandard saw blade will negatively affect your jigsaw's performance. Good quality blades, like the Bosch brand above ... and in my coat ... really do make a difference.



(photo page 76) and a big price. I liked much about this saw: it cuts well and effortlessly and does not vibrate excessively. I did find the saw blade to be set back a bit far for my taste. It meant I needed to bend my head around to see where I was cutting. All in all, a nice tool and a good option for the person who loves power.

Hitachi CJ120V: While not a category winner in any specific area, I found this saw to be a very good little tool. It cut accurately and very smoothly. It cut melamine with very few chipouts per inch. Alas, the dust extraction tube did not fit any of the vacuum hoses I had handy, but the universal joint-maker (duct tape) solved that problem.

Ryobi JS550LK: Ryobi outfitted this saw with a great package of extras and features. It has a laser which actually aids in aligning your cut; it scrolls, has dust collection, and an edge guide is included as well. While this is a good entry-level saw, it does not cut as accurately as most of the other saws in this test. But for its price and packaging, this saw is one of the winners of the group.

Grizzly G8994Z: This saw is the most basic saw in the test. While its cutting quality is about the same as the Ryobi reviewed above, it has none of the slick features. In fact, its screwdriver-based blade changing system is evocative of the 1980s. It is the least expensive saw reviewed in this article.

Festool PSB300 EQ: A certain feel goes along with quality, and this Festool saw has it in spades.

Of course, if you chose to purchase the Grizzly rather than the Festool, you'd have two extra \$100.00 bills in your pocket. But the saying "you get what you pay for" could not be more aptly modeled.

Ergonomically superior and obviously well-engineered, these tools are at the top of the class in every way. From storage to dust

“This gives the five-setting tools [Metabo and RIDGID] a Spinal Tap-like advantage of one extra setting, for when you need that little extra orbit.”



Festool's "Plug It" detachable cord is just one of many features included standard with the saw. This is a tool with no weaknesses.

Grizzly

The least expensive saw in the test. A basic saw at best.



G8994Z D-handle

5 Amps
0 - 3,100 Strokes per minute
1" Stroke length
Screwdriver blade change
7' Power cord
Price: \$59.95
Phone: 800-523-4777
www.grizzly.com

Festool

There was no better tool in this test. Ergonomically superior.



PSB300 EQ D-handle PS300 EQ Barrel Grip

720 watts (6 Amps)
1,000 - 2,900 Strokes per minute
1" Stroke length
Toolless blade change
13' Power cord
D-handle price: \$260.00
Barrel grip price: \$260.00
Phone: 888-337-8600
www.festoolusa.com

Milwaukee

The diameter of the barrel grip tool was pleasingly small.



6266-22 D-handle 6276-21 Barrel Grip

6.2 Amps
500-3,000 Strokes per minute
1" Stroke length
Toolless blade change
14.5' Power cord
D-handle price: \$139.00
Barrel grip price: \$169.00
Phone: 800-729-3878
www.milwaukeetool.com

Freud

The FJ85 was the first jigsaw to employ electronic feedback circuits.



FJ85 D-Handle

6 Amps
500-3,000 Strokes per minute
1" Stroke length
Toolless blade change
7' Power cord
Price: \$109.00
Phone: 800-334-4107
www.freudtools.com

extraction, they present excellence. Accurate, sturdy and sleek, the Festool is the best saw in the test. **Milwaukee 6266-22:** Many good features are found on this tool. At the most practical level, its power cord is the longest in the test. Hey, it counts plenty with me. While the vibration seemed to be on the high side for this test, the barrel grip diameter on the 6276-21 was small and easy to grasp. This saw also has a toolless base adjustment lever and a blade guide wheel that grabs a lot of blade. The saw cuts well and powerfully. I would like to see some rubber overmolding on the handle. This saw fell just an eyelash below the top two saws.

Freud FJ85: Better known for their excellent bits, blades and cutters, Freud's FJ85 has made its mark in shops around the country. With its electronic feedback circuitry and six amps of power, you don't need to worry about bogging down as you cut. If I had my preference, I would move the blade forward a mite ... it's too far back to see easily. I liked the sliding blade cover and their dust collection. At \$109.00, the FJ85 is a very good value.

Conclusion:

With all these saws to choose from, picking one saw to recommend was difficult. As I've already stated, in my opinion the best saw I tested is the Festool PSB 300 EQ. It is simply a great tool, even better if you own other Festool equipment and can take advantage of their systems. And, if price is no object,

Your Call ... Quality, Price or Value?



there's no question: buy the Festool. But price is a legitimate variable in this equation and the Bosch 1590EVSK is a superior tool. The Robert Bosch company spent a significant amount of time and effort in the design of this model, and it shows. And for nearly \$100.00 less, I have to say that this saw is great quality at a great price. And that makes it hard to beat, even for an ultra-quality freak like myself. The DeWalt DW317K is my price winner. At \$99.00, you get DeWalt quality at a bargain basement price. It is not at the quality level that the Bosch is,

but it is a powerful lot of saw for the money. And, finally, I have to give the Ryobi JA550LK high points for putting out an ambitious

While the author found the Festool offering to be the best saw in absolute qualities, he also identified the Bosch unit as a truly superior saw at a more affordable price.

saw with a useful laser. Sometimes bells and whistles lack sound and fury, but Ryobi did well with these extra features. It suffers from less than perfect sawing performance, but as a \$69.00 entry-level tool, it's more than adequate.

There you have it: those are my conclusions. But remember, if you are thinking of buying a saw, don't overlook the

importance of putting your hands on the tools and giving them a test drive if you can. In the end, you are the person the saw must please.

