

Tool Test

Recip Saws

The best models cut fast, vibrate less, and make blade changes easy

by Dave Haines



As a remodeler, I rely on reciprocating saws nearly every day, so when *JLC* contacted me about testing these versatile tools, I jumped at the chance. Rather than try to compare every professional-duty saw on the market, I narrowed the field to the most powerful corded models from eight major manufacturers: Bosch's RS20, DeWalt's DW311K, Hilti's WSR 1400-PE, Hitachi's CR13VBY, Makita's JR3070CT, Milwaukee's 6523-21, Porter-Cable's 9748, and Ridgid's R3020.



All photos by Bill Schloo

First Impressions

All of these saws have orbital cutting action, and all but the Milwaukee, Ridgid, and Hilti models have a conventional D-shaped handle. The Milwaukee and Ridgid saws have rotating rear handles, which make the tool more comfortable

when you're working in contorted positions; while useful, I didn't see this feature as a must-have. The Hilti has an extended rear handle, which is great for grasping with a gloved hand but makes the tool 3½ inches longer than any of the other saws.



Figure 1. Bosch's blade clamp (top) is the best of the bunch. You simply push the blade in until it clicks. Rotating the metal collar a quarter-turn ejects the blade automatically, reducing the risk of burning your fingers on a hot blade. With no tab or lever, the round collars on the Porter-Cable, DeWalt, and Milwaukee saws (above) were tough to grip.

Blade Clamps

Although all the saws feature toolless blade clamps, their design and ease of use varied. My favorite clamp is Bosch's: You just push in the blade until it clicks. A quarter-turn of the release mechanism ejects the blade. The Bosch is the only model that pushes the blade out automatically — a nice feature when the blade is hot.

My second-favorite blade clamp is Makita's. It's similar to the Bosch clamp, but with no auto-eject: You insert the blade until it clicks and remove it with an eighth-turn of the tabbed release.

Hilti's blade clamp requires a quarter-turn for both release and insertion. It was easier to use than several others but wasn't a standout.

The Ridgid and Hitachi both have simple levers for inserting and releasing the blade. The Ridgid lever is on the saw body; it works pretty well, except that the blade sticks slightly if you pull the release lever too far. The Hitachi lever is on the blade clamp itself, and works fine, as levers go.

The hardest releases to operate are the knurled knobs on the Porter-Cable, DeWalt, and Milwaukee saws. Each requires a half-turn for insertion and a quarter-turn for release. But even though they're a little hard to grasp, they're still an improvement over the hex-key clamps of the past (see Figure 1).

While not a huge problem, it's worth noting that the blade releases on the Hitachi, Milwaukee, DeWalt, and Porter-Cable saws aren't accessible when the blade is at the bottom of the stroke. When it stops there, you have to push it back up or bump the trigger to get at the clamp. I encountered a bigger problem with the Milwaukee and Ridgid saws: The Lenox demolition blades I prefer wouldn't lock in the clamps until I filed the corners of the blade tang (Figure 2, page 3).

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Vibration Control

The Makita, Hitachi, Milwaukee, and Hilti saws all have vibration-dampening technology built into their drive trains. I couldn't discern any difference between the vibration levels of these four saws, but by the end of my first day of testing it was easy to feel the difference between the saws with dampening technology and those without it.

Based on my testing, it was obvious to me that the tools with vibration control were less taxing to use. This can prevent injury and increase productivity — especially if you use the saw for several hours at a stretch.

Cases and Other Features

A sturdy, roomy case is a must. All of the saws come with a storage case with room for extra blades. Makita's case is metal, Ridgid's is a soft-sided bag, and the others are plastic. With the exception of Ridgid's bag and Hilti's square version, the cases were approximately the same size and shape (Figure 3). Note that you have to remove the blade before stowing the Hilti or Milwaukee saws.

Though easy to overlook, the small LED headlights on the Bosch saw are a nice feature; they really boost visibility in the dark spaces where you're likely to use a recip saw. The Bosch is also the only tool in the test with a rafter hook, which is handy when you need to set the saw down within reach.

The Milwaukee model — the Super Sawzall — has a quick-connect cord; Bosch has eliminated the cord altogether and instead includes a male plug so you can run an extension directly into the tool. The Ridgid saw includes a Velcro strap for cord management and a plug that lights up when the tool is powered.

The Hilti saw has two unique features,
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Figure 2. Lenox demolition blades — the author's preference — won't fit in the blade clamps on the Ridgid and Milwaukee saws until the corners where the blade body meets the tang are filed. The process doesn't take long, but it's an inconvenience.



Figure 3. With the exception of Ridgid's bag and Hilti's square container, the cases are roughly the same shape and size. All provide plenty of room for an assortment of blades.

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Bosch RS20
boschtools.com



DeWalt DW311K
dewalt.com



Hilti WSR 1400-PE
hilti.com



Hitachi CR13VBY
hitachipowertools.com

Specs

Manufacturer	Bosch	DeWalt	Hilti	Hitachi
Model	RS20	DW311K	WSR 1400-PE	CR13VBY
Weight	8.4 lb.	9 lb.	9.9 lb.	9.7 lb.
Length	18"	18"	22 ⁵ / ₈ "	18 ¹ / ₄ "
Stroke	1 ¹ / ₄ "	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₄ "
Strokes Per Minute	0-2,800	0-2,700	0-2,700	0-3,000
Case	plastic	plastic	plastic	plastic
Street Price	\$150	\$158	\$308	\$120
Comments	Excellent blade clamp; direct-connect cord; rafter hook	Slow cutting; mediocre blade clamp	Anti-vibration; oversized handle and trigger; good for gloves	Good blade clamp; anti-vibration

Time Tests

2x10 Header Cutting Speed, Average Time in Seconds

	Bosch	DeWalt	Hilti	Hitachi
Nonorbital	34.49	54.17	33.17	35.48
Orbital	28.87	48.79	28.64	35.19

Metal Cutting Speed, Time in Seconds

	Bosch	DeWalt	Hilti	Hitachi
Nonorbital	6.06	9.86	7.27	7.30
Orbital	11.66	9.80	6.54	13.20

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chart continued from page 4



Makita JR3070CT
makita.com



Milwaukee 6523-21
milwaukeetool.com



Porter-Cable 9748
portercable.com



Ridgid R3020
ridgid.com

Specs

Manufacturer	Makita	Milwaukee	Porter-Cable	Ridgid
Model	JR3070CT	6523-21	9748	R3020
Weight	9.7 lb.	10 lb.	9.3 lb.	8.8 lb.
Length	19 1/8"	19"	18 1/4"	20 1/2"
Stroke	1 1/4"	1 1/4"	1 1/8"	1 1/4"
Strokes Per Minute	0-2,800	0-3,000	0-2,600	0-2,800
Case	metal	plastic	plastic	bag
Street Price	\$178	\$170	\$154	\$150
Comments	Very good blade clamp; anti-vibration; metal case	Anti-vibration; rotating rear handle; quick-change cord	Mediocre blade clamp; slow cutting	Light-up cord with wrap; rotating rear handle

Time Tests

2x10 Header Cutting Speed, Average Time in Seconds

	Makita	Milwaukee	Porter-Cable	Ridgid
Nonorbital	28.39	25.58	42.42	29.28
Orbital	18.30	22.12	34.99	25.90

Metal Cutting Speed, Time in Seconds

	Makita	Milwaukee	Porter-Cable	Ridgid
Nonorbital	5.86	4.60	7.06	9.06
Orbital	3.29	5.87	5.80	6.02

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both extra options: a D-shaped auxiliary handle and an aggressively toothed shoe. While the auxiliary handle doesn't seem that useful, the toothed shoe might be helpful during some types of demolition.

Figure 4. To simulate cutting out an old window opening, the author made test cuts on a 2x10 header with a 2x4 plate and plywood sheathing on one side.



Figure 5. To test metal cutting ability, the author made cuts through a steel form pin in both standard and orbital cutting modes.



Testing

In addition to using the saws on all my projects for several weeks, I did some more objective cutting tests.

For the first one, I nailed together a header from some salvaged 2x10s. I

included 1/2-inch OSB sheathing on one side (Figure 4). I made six cuts with each saw — three in the straight-cutting mode and three more in orbital mode — and then averaged the times. I used a new 4-inch Lenox demolition blade in each saw. In straight mode, the Milwaukee came in first, with the Makita second (see specs chart, previous page). In orbital mode, the Makita finished first, the Milwaukee second.

To test metal cutting, I screwed 3/4-inch metal curb stakes to a sawhorse and made a pair of cuts, one in each mode (Figure 5). In straight mode, the Milwaukee came in first, again followed by the Makita. In orbital mode, the Makita finished first, followed by the Porter-Cable.

Overall Favorites

I picked my favorites based on three factors: how well the saws cut, their overall balance, and how easy it is to change blades. The Makita is my top pick for its speed, balance, comfort of use, and excellent blade clamp. If the company added a spring assist to the clamp, like that on the Bosch, this would be the perfect saw.

My next favorite was the Bosch; though slower than some saws, it has great features like the LED headlamps, auto-ejecting blade clamp, and rafter hook.

My third pick is the Hitachi: Its blade release works well, it's well-balanced, and the anti-vibration feature keeps it from jumping around a lot.

In general I liked the Milwaukee, too, but its blade release is among the toughest to use. It needs tabs to grip or, better yet, a clamp similar to Makita's and Bosch's. With a better blade clamp, it would have been my second choice.

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