

Cordless Saw UPDATE

Cordless circular saws have been around for awhile now. Initially introduced as trim saws, improvements in motors and blades have made them more versatile. And with the emergence of 18-volt batteries, some cordless circular saws are rapidly outgrowing the “punch list and trim” category.

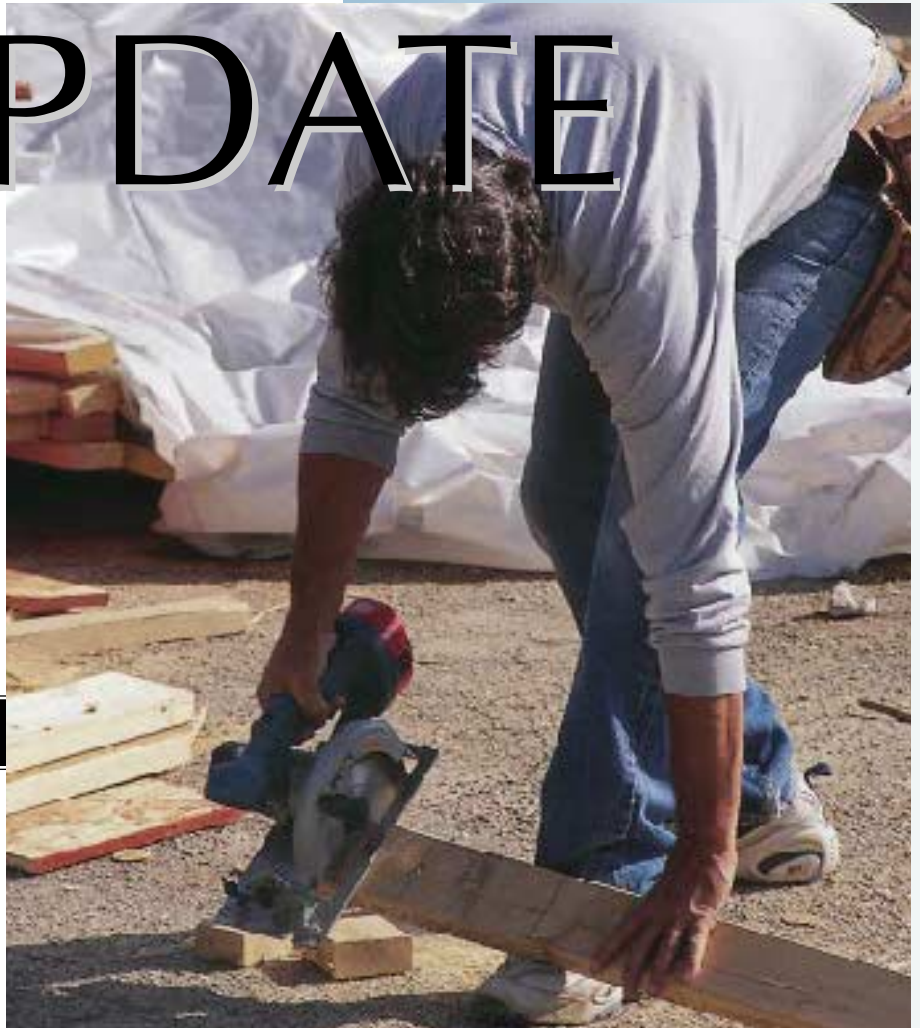
by Dave Crosby

We took a close look at a few of the popular models currently available, both to compare the usual criteria (weight, price, rpm, and so forth), and to gauge performance at various tasks (see chart, page 3). Then we sent the saws out to work with the crew at Prull and Associates, in Santa Fe, N.M. William Prull is a high-end custom builder with a reputation for quality work and his crew are long-time professionals, so if these saws weren't up to the job I'd hear about it. The crew took this opportunity to try them out at all the usual tasks, plus a few you'd never guess a cordless saw could do.

CORDLESS SAWS ON THE JOB

All of these saws will work well enough as trim saws for the occasional cut where you don't want to pull a cord or use a handsaw. Each of them will cut 2-by material at 90 degrees, but at 45 degrees, some will and some won't. Each saw can be adjusted to true up the base plate (shoe), and each carrying case includes room for an extra battery and extra blade storage. Because these saws work on fairly tight margins, you'll really notice a dull blade, so keep spares handy. All of the saws came with an adjustable rip fence, except the Ryobi (available as an accessory).

Safety. Carpenters who don't consider these saws to be as dangerous as a full-size corded circ saw are making a big mistake. Put a blade spinning at between 2,600 and 4,200 rpm on a smaller, lighter saw and the chances



Powerful batteries
and light weight make
these saws handy for
many small jobs, but
don't throw away
your AC model yet



DeWalt DW930 12V



DeWalt DW935 14.4V



DeWalt DW936 18V



Ryobi R10631 18V

of its kicking back go up, not down. It also makes sense to remove a cordless saw's battery any time you would normally unplug a corded saw — to change blades, for example.

Crosscutting. As soon as you realize that these saws can cut 2-by material, you start thinking of new uses. For example, wouldn't it be great if you could get enough runtime from one battery to cut all of your truss tails without dragging a cord around? So I checked each saw for how many crosscuts it could make through a 2x4 (results are in the chart).

Ripping. When you have just a few sheets of sheathing to rip, or if you have to cut a hole in the sheathing and you're a long way from power, these saws could be real time savers. As one of the crew suggested, they could be ideal for going back and trimming the sheathing out of rough openings. Here I checked to see how many 8-foot rips through $7/16$ OSB each saw could make. Some of the saws quickly died down to an unreasonably slow cutting speed, so I stopped their tests at that point.

Speed. Unless a cordless saw is a whole lot faster than a handsaw, it's going to be hard to justify the price. To get a sense of each saw's cutting speed, I staged a "crosscut drag race," timing them through a crosscut on a 2x10, compared with a Skil wormdrive with a 24-tooth blade and a Rockwell sidewinder with a 20-tooth blade. As the chart shows, most saws performed better than expected.

Feel. This is subjective, but there's a lot to be said for balance, grip, adjustments, and overall ease of use. I've included the crew's comments, but the best test is to try the saws out yourself.

HOW THEY RATED

DeWalt Industrial Tool

These are trim saws, and as long as you don't expect more than that, you won't be disappointed. For siding, soffit, trim, cabinet installation, and other finish work, these saws will come in handy.

For heavier cutting, though, we found these saws were marginal at best. With $5\frac{3}{8}$ -inch blades, they will cut through 2-by dimensional lumber at 90 degrees, but not at 45 degrees. They don't really have the constitution for framing lumber or sheathing, although they'll do the job if you only need to make an occasional cut.

Opinions about these saws varied from "it wanders in the cut under load, has poor balance, and lacks power," to "it's a pleasure to use on small, out-of-position cuts, especially overhead." The main point of agreement was that while these saws function well enough for trim, they have clear limits.

All three models appear to be the same saw set up to run on different voltages, with corresponding differences in power and runtime. DeWalt takes a "systems approach" to cordless tools, acknowledging that its customers make intentional decisions about which voltage range works best for their needs. So if you have already invested in DeWalt cordless tools, whatever voltage you've adopted, there's a trim saw that will work for you.

Ryobi America

This saw is actually part of a "job-site kit" that also includes a cordless drill, a charger, and two batteries. The saw we tested is clearly a trim saw. The relatively high rpm doesn't seem to contribute much to the quality or speed of the cut. The front handle and controls are comfortable and the scale across front of the shoe could come in handy at times, but there was nothing about this saw that said "professional duty."

It's a serviceable tool, however, and at \$289 for the whole kit, including the drill, it's not a bad buy.

Hitachi Power Tools

For quality of cut, runtime, and general ease of use, this saw exceeded everyone's expectations for a cordless tool. Balance is centered, and with the blade on the right it feels a lot like any other good sidewinder, minus the cord. Stability through the cut is excellent, and the view of the cut line is unusually good for a sidewinder.

Wormdrives rule west of the Rockies, so it was not surprising that this saw met with some skepticism from Prull's crew at first. As it turned out, though, everyone who used it liked it — even the guys who couldn't imagine using a sidewinder ended up with a favorable opinion of this saw. More than one carpenter joked about this saw being “enough to convert me to sidewinders.”

C.J. Martin, a construction supervisor at Prull & Associates, evaluated this saw as “...a tool that I enjoyed using — it's a real precise tool, by far the superior machine.” He found it accurate enough to use for joinery on beams, and noted that it was also a great saw for soffit and fascia work up on the third level of staging.

Not only did it make more 2x4 crosscuts on one charge than any other saw tested, the Hitachi also astonished us by cutting through a 2x10 exactly as fast as a Delta Rockwell 12-amp sidewinder with a 20T blade. The light that comes on every time you squeeze the safety actually works, and turned out to be a convenience — whatever power it uses must be negligible. The cast shoe, held on with roll pins, looks like it might be more difficult to change than most, although it's hard to say if you'd ever need to. The cut-line indicator on the



Hitachi C6DC 18V

Cordless Saw Specs

Saw Model	DeWalt 12V DW930	DeWalt 14.4V DW935	DeWalt 18V DW936	Hitachi 18V C6DC	Makita 14V 5630D	Makita 18V 5620D	Ryobi 18V R10631
Blade Size (in.)	5 ³ / ₈	5 ³ / ₈	5 ³ / ₈	6 ¹ / ₂	6 ¹ / ₂	6 ¹ / ₂	5 ¹ / ₂
Weight (lbs.)	6.5	6.8	7.5	7.6	7.1	7.5	9.6
Volts	12	14.4	18	18	14.4	18	18
RPM	2,500	3,000	3,200	3,400	2,600	2,600	4,200
Blade Side	Left	Left	Left	Right	Left	Left	Left
Blade Teeth	16	16	16	40	24	24	18
Brake	no	no	no	yes	yes	yes	no
Bevel Range	0-50	0-50	0-50	0-45+	0-50	0-50	0-50
Depth of cut @ 90	1 ⁵ / ₈	1 ⁵ / ₈	1 ⁵ / ₈	2 ¹ / ₄	2 ¹ / ₈	2 ¹ / ₈	1 ⁹ / ₁₆
Depth of cut @ 45	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ¹ / ₁₆	1 ⁹ / ₁₆	1 ¹ / ₂	1 ¹ / ₂	1 ¹ / ₈
No. of crosscuts*	25/32	66/87	87/121	169/181	65/88	168/175**	38/140
Crosscut drag race ++	5.4 sec.	3.6 sec.	2.9 sec.	2.6 sec.	2.5 sec.	3.8 sec.	3.2 sec.
No. 8' rips in 7/16OSB*	n/a	n/a	6/6	15/20	16/19	24/25	6/6
Kit price	\$219	\$239	\$259	\$253	\$265	\$279	\$289
Extra battery price	\$49	\$54	\$79	\$93	\$55 (\$75 NiMH)	\$70 (\$85 NiMH)	\$58
Battery Ah	1.7	1.7	2	2	2 (2.2 NiMH)	2 (2.2 NiMH)	1.7

* Note: First number is number of cuts made before noticeable decrease in performance. Second number is total number of cuts.

** These cuts were made with a NiMH battery. 133/152 cuts were made with a NiCad battery.

++ Benchmarks: 2.0 sec., Skil wormdrive, 24T blade
2.6 sec., Rockwell sidewinder, 20T blade



Makita 5620D 18V

shoe (called a “guide-piece” in the manual) is adjustable. There is a hole at the back of the handle that would be useful for attaching a hook or a lanyard to prevent drops from heights.

At first, the unusual accuracy, the 40-tooth blade, the balance, and the overall quality said “finish saw.” But when the concrete form crew needed a last-minute adjustment to the forms and the guy on the concrete truck wanted something made up out of OSB for his chute, the Hitachi handled both tasks with ease.

Note that the Hitachi 14.4-volt battery will also run this tool, but with a corresponding decrease in power and runtime.

Makita USA

With the blade on the left side, a noticeable forward balance, and plenty of power under load, the 18-volt Makita invites favorable comparison to a worm-drive. More than one carpenter who tried this saw didn’t want to give it back. Clearly more than a trim saw, this is an excellent tool for remote locations — and as a friend pointed out, anything past the end of your cord is a remote location. It won’t replace your AC circular saw, but it will cut more than 150 2x4s or two dozen 8-foot ribs through OSB without a power cord to be seen.

We tested the 18-volt model with both the 2.0Ah NiCad battery and the 2.2Ah NiMH battery. The NiMH battery gave about a 15% increase in cross-

More New Cordless Saws

Just when you thought 18-volt cordless tools were pushing the limit, there’s more. Among the new saws introduced at the National Hardware Show in August was Bosch’s 24-volt, 6½-inch blade-left cordless saw, which includes a dust port for vacuum attachment. This saw comes as part of a kit that includes a drill/driver, a flashlight, two 24-volt batteries, and a charger. It should be available in mid-November for about \$489.

DeWalt has also introduced a circular saw as part of its new line of 24-volt tools. The 6½-inch 4,000-rpm DW007K has an electric brake, and will take a 2⅞-inch cut at 90 degrees or 1⅝ inch at 45 degrees. The saw is priced around \$300. For an additional \$150, there is an AC/DC converter available (same size and weight as the battery), so you can plug this saw in if you like. When you hit the end of your cord, you can replace the converter with a battery and keep on going.

Porter-Cable now has a line of 19.2-volt tools, which includes the Model 9845 Saw Boss. The Saw Boss has a left-side blade, a 1⅞-inch depth of cut at 45 degrees, and a dust port that can direct sawdust away from the line of cut or into an accessory dust collection bag. This could be a real advantage at punch-list time. The 2,600-rpm 470-watt motor has rare earth magnets, long-life brushes, and steel gearing. The Model 9845 kit includes the Saw Boss, a charger with diagnostics, two 19.2-volt batteries, an 18-tooth carbide blade, and a plastic carrying case. We couldn’t get a saw in time to review for this article, but did get to spend a few minutes with it at the show. The balance and overall “feel” was excellent, and we look forward to giving it a workout. The kit should be available now for about \$299.



cut capacity, which is actually more than I would have expected. (NiMH technology is one of the hottest topics in cordless tools these days — see *Notebook*, 10/99 — and we're all waiting to see how NiMH batteries will work out over the long run.)

Many framers routinely prop dimensional lumber up on one foot and “drop” the saw through the cut. Because of its forward balance, the Makita performs this maneuver easily and comfortably (see photo, page 1). It handles 2-by stock easily and has plenty of power for ripping that last run of sheathing, or installing an access panel or skylight. Take a spare battery with you and you might forget about pulling a cord up onto the roof.

The 18-volt model cut more linear feet of 7/16 OSB than any other saw tested, and with the NiMH battery, it was comparable to the Hitachi on 2x4 crosscuts. Brake action was quick, and overall construction looked sound. External brush holder caps make for fast change-outs, and the shoe could be replaced in minutes if it were to be damaged, both nice features. Two of the shoe-mount screws came loose (one actually fell out), so a little Loctite 222 (the purple low-strength formula — don't use the red or blue) might be helpful here. If you took care of this as soon as you unpacked the saw you'd probably never have a problem. Scales across the front of the shoe and down the left side could be handy.

The 14.4-volt model has predictably less runtime. The unusually fast 2x10 cut times shown in the chart may be the result of a difference in wood density, since this saw was tested on a different 2x10 than the rest. In any case, this was an average taken from five cuts, and very impressive for a 14.4-volt saw. The bevel scale took some getting used to on this model, so it's worth checking with a 45-degree triangle as you set it up for the first time. As with any 6 1/2-inch saw, you're going to need every bit of blade you can get to make a 45-degree cut through 2-by material.

The Makita 18-volt was the hands-down favorite of Mark Hopkins, construction supervisor at Prull & Associates. He pointed out that the left-side blade offers a clear view of the cut line, and the combination of forward balance and overall good performance make it easy to work with for a variety of tasks. Mark also noted that the controls for depth of cut and angle adjustment are well-placed and easy to use, as is the trigger safety button. The smooth table makes this saw an especially good choice for finish work. For those more accustomed to sidewinders, Makita has just introduced the Model 5621DWA, with the blade on the right side.

THE VERDICT

Both the Hitachi and the Makita are surprisingly versatile and capable saws. They are clearly different from each other, so the choice will be a matter of personal preference.

As improved as they are, cordless saws still have their limitations. Ripping dimensional lumber is still a bit much to ask, as is cutting through thicker-sized hardwood. Everyone who used these saws wanted more runtime out of the battery, too, and you can bet the manufacturers are all working on that.

For most purposes, however, these saws are nice to have around — just don't expect them to do any more than what they were designed for. Although it stretches the imagination, be ready for higher voltages and greater capacity. There are even cordless saws coming out that are designed specifically for fiber-cement siding and metal cutting. We'll keep you posted.



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Sources of Supply

Bosch Power Tools

4300 West Peterson Ave.
Chicago, IL 60646
877/267-2499
www.boschtools.com

DeWalt Industrial Tool

626 Hanover Pike
Hampstead, MD 21074
800/433-9258
www.dewalt.com

Hitachi Power Tools

3950 Steve Reynolds Blvd.
Norcross, GA 30093
800/546-1666
www.hitachi.com

Makita USA

14930 Northam St.
LaMirada, CA 90638
800/462-5482
www.makitatools.com

Porter-Cable Corp.

P.O. Box 2468
Jackson, TN 38302
800/487-8665
www.porter-cable.com

Ryobi America

1424 Pearman Dairy Rd.
Anderson, SC 29625
800/525-2579
www.ryobi.com