Tool Test

18v Cordless Circular Saws

Modern cordless saws cut fast and run for a long time

BY DOUG MAHONEY

When I first started as a carpenter 15 years ago, cordless circular saws had weak cutting ability and short run-times. Now with the rise of lithium-ion (Li-ion) technology, 4.0-amp-hour (Ah) batteries, and brushless motors, the newest saws are superior to their predecessors.

I recently tested eight 6½-in. 18v models from all the major manufacturers. I looked only at saws that could cut through 2x stock at a 45° bevel, and I focused exclusively on 18v saws because they are the most popular. When possible, I ordered saw kits, which include at least one battery (sometimes two) and a case. Many of these saws are also sold as bare tools, and these are identified in the individual specs. This is important because most builders and many DIYers already have multiple 18v batteries for their other cordless tools, so a nice cordless saw doesn't have to be a huge investment.

The primary strengths of a cordless saw are fast setup and total mobility. When the saw isn't tethered to an outlet, climbing staging to trim a rafter tail becomes a quick task—and with one less extension cord kicking around, it's also a safer one. This "grab and go" mentality is only enhanced by the fact that, on average, cordless saws weigh a pound or two less than comparable corded saws. I especially like them for exterior work, where outlets can be hard to find.

As a carpenter, I always regarded the older nickel-cadmium circular saws as novelty items. Now the latest Li-ion saws are starting to encroach on the capabilities of their corded cousins. More power, longer battery life, and more durable construction mean these new tools can be used in place of corded saws, not just alongside of them. □

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Photo this page: Patrick McCombe. Product photos: Rodney Diaz.

How we tested

To get a sense of how the tools would perform on the job site, I ran tests for power and run-time. To gauge the overall strength of each saw, I timed 10 crosscuts through a 2x12. To level the playing field, I equipped each saw with a new 6½-in. Irwin Marathon 20-tooth blade ($14) before testing. Because large dimensional lumber is commonly used for stair stringers, headers, and rafters, this type of cutting ability should be within the strike zone of a good saw. To test run-time, I charged all of the batteries fully, used each saw to cut 1-in. strips from a sheet of ¾-in. A/C plywood, and totaled the amount of linear feet cut before the battery went dead. I ran both tests twice and used the better of the two numbers to rank the eight saws.

In addition to the structured tests, I used the saws around the job site and the shop for cutting everything from lauan plywood to PVC trim. Most of the time was spent making rip cuts and crosscuts in all kinds of dimensional lumber. While doing this, I paid close attention to the ergonomics, the ease of adjustments, and the success or failure of all the other features.

AUTHOR'S BEST OVERALL CHOICE

Milwaukee M18 Fuel 2730-22

PRICE $399 with two 4.0-Ah batteries, a charger, and a duffel; also available with one battery (2730-21, $299) or as a bare tool (2730-20, $199)

WEIGHT 8 lb. 9 oz.

MAX BEVEL 50°

MAX DEPTH 2 3⁄16 in.

RPM 5000

LIGHT LED

10 CUTS THROUGH 2x12 34 seconds (1st)

LINEAR FT. OF PLYWOOD 159 (1st)

FEATURES This is the only saw in the test with a brushless motor, which apparently made all the difference. The M18 Fuel cut with the ease of a corded saw, and the battery held up for almost 40 cuts across ¾-in. plywood before finally running out. With this kind of power, Milwaukee has designed a saw that's ready for any job site. Features include a magnesium baseplate and blade guard for durability, LED lights that illuminate the cutline, and a well-designed rafter hook. It was one of the heaviest saws tested, but it's well balanced, and the handle is very comfortable with or without gloves. The saw can get closer to vertical surfaces because its brushless motor is more compact than a regular motor. The design makes the Fuel at least 1 in. narrower than most of the other saws.

FLAWS The narrow baseplate makes the saw a little less stable than the others, and the depth-of-cut gauge faces the handle, which makes it somewhat difficult to read. These are just minor quibbles, though; there's hardly anything to complain about with this saw.

BOTTOM LINE If you're looking for corded power in a cordless saw, there's no question that this is the one to get. Its good ergonomics, stellar run-time, and terrific cutting performance make it the best overall.

AUTHOR'S BEST VALUE CHOICE

DeWalt DCS391M1

PRICE $229 with one 4.0-Ah battery, a charger, and a case; also available as a bare tool (DCS391B, $111)

WEIGHT 8 lb. 5 oz.

MAX BEVEL 50°

MAX DEPTH 2 1⁄4 in.

RPM 5250

LIGHT None

10 CUTS THROUGH 2x12 42 seconds (2nd)

LINEAR FT. OF PLYWOOD 142 (3rd)

FEATURES The DeWalt is an excellent combination of comfort and power. It's not the lightest saw I tested, but because of its perfect balance, it felt like it. In addition, its fast-spinning motor produces very little vibration, which leads to smoother cuts.

FLAWS The only ergonomic oversight is that the handle rides on the top of the saw rather than behind it, so when the saw is set to make shallow cuts, the tool is more difficult to push. Also, the indicator line on the depth-of-cut gauge is small and tough to see, and the location of the battery-fuel gauge requires flipping the tool over in order to read it.

BOTTOM LINE The DeWalt has ample power and sports-car handling, and it's the most comfortable saw I tested. It also costs $70 less than the single-battery Milwaukee Fuel kit.

Bosch CCS180

PRICE $150 with case; a 4.0-Ah battery with charger sells for $100

WEIGHT 8 lb. 5 oz.

MAX BEVEL 50°

MAX DEPTH 2 in.

RPM 3900

LIGHT None

10 CUTS THROUGH 2x12 48 seconds (4th)

LINEAR FT. OF PLYWOOD 147 (2nd)

FEATURES The Bosch is a big saw with big cutting power. The motor is smooth and produced the least amount of vibration when compared to the rest of the saws. Its large baseplate gives the tool great stability. The depth-of-cut gauge is easy to read and allows you to adjust the depth without having to twist and turn the tool to see the setting.

FLAWS Before weighing the saws, I was convinced that the Bosch would be the heaviest by a long shot. It turns out that both Milwaukee saws weigh more, but because the Bosch is unbalanced and the ergonomics are poor, it feels like a much heavier tool. On the more comfortable saws, the handle gets thinner at the bottom, but the Bosch's gets thicker, making it awkward to grip, especially while wearing gloves. The safety switch is also tricky to use because it's a button that you have to press into the tool and not a paddle that you press down. This saw is also missing a battery-fuel gauge.

BOTTOM LINE This is a quality saw, but it's big and bulky compared to the rest. The poor design of the handle and safety switch makes the tool particularly frustrating to use.

Hitachi C18DSLP4

PRICE $130 (bare tool), tested with a 3.0-Ah battery ($72) and a charger ($40)

WEIGHT 7 lb. 10 oz.

MAX BEVEL 50°

MAX DEPTH 2¼ in.

RPM 3400

LIGHT Incandescent

10 CUTS THROUGH 2x12 90 seconds (8th)

LINEAR FT. OF PLYWOOD 75 (7th)

FEATURES The Hitachi is comfortable to hold and comes with a rip fence. Because it's so light, it's easy to use for extended periods of time.

FLAWS I found a number of red flags in the durability department. The thin metal baseplate looks like it's one small drop away from being bent, and the rail for the depth-of-cut adjustment sits behind the blade, fully exposed and begging to be damaged. While all of the other tools use a hex wrench for changing out the blade, the Hitachi uses a T-handle nut driver that's too big for on-board storage. I like that the saw has a light, but it didn't work very well.

BOTTOM LINE This saw ranked last in the power test and next-to-last in the run-time test, and it suffers further from weak overall construction.

Makita XSS01

PRICE $340 with two 3.0-Ah batteries, a charger, and a case; also available as a bare tool ($165)

WEIGHT 7 lb. 12 oz.

MAX BEVEL 50°

MAX DEPTH 2¼ in.

RPM 3700

LIGHT LED

10 CUTS THROUGH 2x12 66 seconds (5th)

LINEAR FT. OF PLYWOOD 71 (8th)

FEATURES The Makita is a solid little tool with a good feel. The bright LED lights up the cutline, and the handle is nearly as comfortable as the DeWalt's. I like the easy lever adjustments, and the connection between the body of the tool and the baseplate is nice and solid. The Makita fell toward the middle of the pack in power, but it didn't bind up while cutting the 2x12.

FLAWS This saw was at the bottom of our battery test, and it could use a better depth-of-cut gauge. In use, it has enough vibration to affect the quality of cuts.

BOTTOM LINE The high-quality look and feel of the Makita isn't enough to offset its last-place finish in the run-time test and fifth-place performance in the power test.

FEATURES I like how the baseplate of the M18 has straight and 45° kerf marks at the front and rear of the blade. It also has rulers along the side and front that are useful for quick repetitive cuts. Because it is the only saw where the locking lever for the depth-of-cut tightens on the upswing, there is no chance for it to ever get in the way of the baseplate even if it loosens over time. The M18 comes with a rip fence, and like the Fuel, it has a sturdy and lightweight magnesium blade guard.

FLAWS The M18 was the heaviest saw tested and the only one to break the 9-lb. mark. Even with the nice handle and balanced weight, there's no denying that this is a heavy tool. I also expected the battery life to be a little better.

BOTTOM LINE There are a lot of nice features on this tool, but other saws have more power and stamina.

Milwaukee M18 2630-22

PRICE $350 with two 3.0-Ah batteries, a charger, and a duffel; also available as a bare tool (2630-20, $119)

WEIGHT 9 lb. 3 oz.

MAX BEVEL 50°

MAX DEPTH 2⅛ in.

RPM 3500

LIGHT None

10 CUTS THROUGH 2x12 44 seconds (3rd)

LINEAR FT. OF PLYWOOD 113 (5th)

Porter-Cable PCC660B

PRICE $60 (bare tool), tested with a 4.0-Ah battery ($89) and a charger ($40)

WEIGHT 7 lb. 7 oz.

MAX BEVEL 50°

MAX DEPTH 2⅛ in.

RPM 4000

LIGHT None

10 CUTS THROUGH 2x12 75 seconds (7th)

LINEAR FT. OF PLYWOOD 115 (4th)

FEATURES The Porter-Cable is a light little saw that could be used all day with hardly any wear and tear on the arm. One unique feature is that the depth-of-cut gauge is on the blade guard. This took some getting used to, but in the end, I preferred it to having the markings on the slide rail. The front kerf notch on the Porter-Cable is deep, allowing for easy cut alignment, but it's ⅛ in. off from the actual path of the blade.

FLAWS The locking lever for the depth-of-cut adjustment is poorly calibrated, so for cuts deeper than 1½ in., the lever extends below the baseplate. It's also not a very powerful saw and bound up often in the 2x12. It scored toward the bottom for battery life. The thin metal baseplate seems delicate, and the saw had the most vibration of those tested. Changing the blade is also difficult because there's very little clearance between the blade and the guard.

BOTTOM LINE Although the Porter-Cable is the least expensive saw tested, I think it's worth upgrading to a better performer.

FEATURES The Ridgid is overflowing with smart features. Because its blade is positioned to the right, it offers the best line of sight for right-handed users. The clear visibility is enhanced by the bright on-board LED and the air diverter, which blows sawdust off the cutline. The front handle is particularly comfortable, and the detents on the bevel adjustment make it especially easy to dial in common angles. The bevel adjustment is a large paddle that can be handled easily while wearing gloves.

FLAWS While the design features are great, the Ridgid could use more power. It bound up a few times while cutting through the 2x12. Oddly, the depth-of-cut guide is hidden behind the battery pack.

BOTTOM LINE If you have to buy a charger and a battery, the Ridgid is more expensive than the better performing DeWalt. But if you already have Ridgid batteries and a charger, $100 gets you a nice saw.

Ridgid X4 R8651B

PRICE $99 (bare tool), tested with a 4.0-Ah battery ($119) and a charger ($50)

WEIGHT 7 lb. 14 oz.

MAX BEVEL 50°

MAX DEPTH 2⅛ in.

RPM 5000

LIGHT LED

10 CUTS THROUGH 2x12 68 seconds (6th)

LINEAR FT. OF PLYWOOD 107 (6th)