

Testing 14.4-Volt Cordless Drills

by David Frane



I recently tested 14.4-volt drills from the two companies currently selling them. DeWalt introduced the first one more than a year ago. And early this year Sears started selling its model 315.27194 — a 14.4-volt drill made to Craftsman specs by Ryobi. I took both of these with me to the job, and after a few weeks, I lent them to the guys in a busy cabinet shop. Here's how they compared.

Volts vs. Amps

Ten years ago I bought my first cordless electric drill. It was a 7.2-volt AEG and could go 0 to 600 rpm. It was state of the art, but not for long. Other companies followed suit with 8.4-, 9.6-, and 12-volt tools. Right now, state of the art is 14.4 volts, but by the time you read this, DeWalt will have introduced an 18-volt cordless drill. Does this mean it's time to retire your old lower-voltage drill? The answer depends on what you think higher voltage is going to do for you.

Most people assume that the power of a cordless tool is determined by its voltage rating. But this isn't quite true.

If you looked inside the power pack of a cordless tool, you'd see a number of battery cells wired in series. Voltage is determined by the number of cells wired together. Each cell is rated at 1.2 volts,



DeWalt introduced the 14.4-volt cordless drill more than a year ago. While it's designed with only slightly more torque than the 12-volt version, it runs noticeably longer between battery charges.

so a 9.6-volt drill has 8 cells, a 12-volt has 10, and a 14.4-volt has 12.

But voltage is only part of the equation. A low-voltage motor can produce the same power as a high-voltage one if it draws enough current (amps). This is because a motor's power output, or wattage, equals amps x volts. So tool-makers can also increase power by using motors that draw more amps.

To me, a cordless drill is a lot like a truck. The electric motor is an engine and the reduction gears are the transmission. The battery pack is really just a gas tank. The size of the gas tank has little to do with the speed and power of a truck, but it has a lot to do with how far the truck can go before it runs out of gas. The same is true of cordless tools. The real advantage of higher-voltage battery packs is that they can hold more energy, letting you work longer without recharging.

Torque Ratings

If you believe the numbers on the spec sheets, DeWalt's 14.4-volt drill is almost twice as powerful as Craftsman's. But DeWalt and Ryobi use different methods to measure torque, so their ratings don't let you make an apples-to-apples comparison. I used both 14.4-volt drills for finish carpentry and didn't notice any great difference. Had I needed to drill a lot of large holes, like a plumber or an electrician would, power would have been more of an issue.

My friends in the cabinet shop decided that the simplest way to find out which drill was more powerful was to make them "arm-wrestle." They connected them to opposite ends of the same driver bit, locked the clutches, and turned them on. The DeWalt forced the Craftsman to turn backward — but just barely.

Both drills will do a lot of work on a single charge. I used them for jobs like installing cabinets and assembling fire-place mantles. This involved dri-

ving 1¹/₄ to 3-inch screws into or through MDF, plywood, poplar, and framing stock. I also drilled a lot of 3³/₄-inch starter holes for electrical-box cutouts in hardwood trim. Both drills could do this kind of work for two or three days before they needed to be recharged. Driving long screws wasn't a problem for either one. Screw threads would strip out or the heads would snap off before the drills would bog down.

Both drills have high and low speed ranges, and top out at 1,400 rpm. This is about the same as most corded drills, so unlike older cordless models, these tools are actually good for drilling holes.

A one-hour charger is standard equipment with both drills. Craftsman's drill comes with a spare battery, but DeWalt's doesn't. DeWalt sells an optional 15-minute charger, but you'd do better to spring for a spare battery. About a year ago, I bought a 12-volt Panasonic drill and paid extra for the 15-minute charger. The drill came with two batteries, and under normal working conditions, I've never managed to run one down in less than an hour. The same is true for the battery packs in the 14.4-volt drill.

Suitable Size

One drawback of moving up to a 14.4-volt drill is that it's probably larger and heavier than your old cordless. The DeWalt weighs 5 pounds and the Craftsman, 4¹/₂. By comparison, my old AEG only weighs 3 pounds, and my Panasonic, 3¹/₂. Although it's heavier, the DeWalt is visibly smaller than the Craftsman. This makes it easier to maneuver in tight spots.

The guys in the cabinet shop preferred the feel and balance of the DeWalt drill. At low speeds, the Craftsman's motor emits a high-pitch sound that some of them found annoying. I liked the Craftsman because it weighs less than the DeWalt and has a nicer clutch. The Craftsman clutch settings are tight and finely graduated; DeWalt's seem sloppy in comparison. Both drills' clutches work over a wide range of torque settings, but neither goes quite low enough to install plastic cover plates without cracking them. ■
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