



Tool Test

18v Li-Ion Hammer Drills

Three testers, three sets of tools, one common task: Evaluate the flagship drill from each major tool brand

Would you buy a pair of work boots without trying them on first? Would you just pick them up, look at the tread, feel the toe, and make a decision? No. You would lace them up and see how they feel. Shopping for power tools is the same way.

The trouble is that it's pretty hard to form a meaningful opinion about a power tool when it's strapped down to a store display. Even if the tool—say a cordless drill—can be picked up, it's unlikely that the batteries are charged. Even if the batteries have juice, how much can you really tell by pulling the trigger and letting the empty chuck spin?

The value of a tool review is that the tester becomes the eyes and ears of the market, offering buyers what they can't evaluate on their own: a tool's real-world performance.

When we set out to test 18v Li-ion hammer drill-drivers for this review, we wondered if there was a way to pack more value into the article. But what's better than an unbiased, real-world evaluation of the seven top-of-the-line drill-drivers on the market? How about three unbiased, real-world evaluations? (For more on drill-drivers, see "How It Works" on pp. 16-17.) □

THREE TESTERS, THREE OPINIONS

We armed three of our most analytical testers with their own sets of seven drills to evaluate over a three-month period.

Each tester—Justin Fink, Andy Beasley, and Kit Camp—was instructed to use the tools in the course of their daily building and remodeling projects, and to set up any head-to-head tests that they believed were representative of real-world demands. To keep things interesting, we forbade communication among the testers until all the reviews were complete.

The following pages hold the results of our test. In some cases, all three testers agreed on the value or functionality of a certain feature. Other times, they disagreed. In the end, we found that the isolated opinions presented an interesting overall look at each model.



Justin Fink: As senior editor in charge of tool testing for *Fine Homebuilding* and a remodeling contractor, I balanced my testing between site work and shop evaluations.

I first put the drills to work on everything from drilling holes through rough framing to mixing thinset and joint compound and boring into a stone slab. Back in the shop, repetitive drilling, torque tests, and a thorough evaluation of the finer functional and ergonomic details of each model rounded out my results.



Andy Beasley: I'm a longtime tool reviewer and woodworker who also happens to live in an old house that demands frequent recourse to serious power tools. I began my testing

with quantitative shop tests that rated clutch torque, battery endurance and hammer-drill performance. I then added a hefty dose of reality by boring into wet lumber and concrete, and doing delicate work inside dimly lit cabinets.



Kit Camp: Because I'm a licensed finish carpenter and cabinetmaker who also builds custom furniture in a small shop, I split my testing time between job-site tasks and more directly comparative tests in the shop. On the job,

I drilled pocket holes, bored for locksets, drove all kinds of screws, and generally used the tools in place of the drill and impact driver I own. In the shop, I drilled holes of all sizes with power in mind, drove rows of screws with finesse in mind, and used the tools in deliberately awkward positions to look at ergonomics, weight, and balance.

BEASLEY The Bosch is a big, rugged tool with better-than-average performance. It has the fastest motor and tied the Milwaukee 2611 for the greatest torque. It's also the largest drill, but the comfortable handle keeps it from feeling too bulky. All controls work well, but the mode selector is on the clutch collar, which means you can't alternate between drilling and driving without changing the torque setting each time. While drilling inside a cramped cabinet, I found the unshielded work light annoying. The charger was the speediest; it restored an exhausted battery in only 27 minutes.



BOSCH 17618

www.boschtools.com

WEIGHT 6 lb.

TORQUE 650 in.-lb.

COST \$290



FINK This drill runs more quietly and smoothly than any other in the review, inspiring confidence in the internal engineering. It was second fastest in my drilling tests and has excellent trigger control. The speed-selector switch—which clarifies the usual “1” and “2” with “High Torque” and “High Speed”—is the most intuitive of the group. Rather than a three-position mode-selector switch, the collar simply allows the tool be toggled in and out of hammer-drilling mode. Unfortunately, the clutch position is lost each time the tool is used for drilling, and being labeled only in intervals of five makes a sweet spot even harder to replicate.

CAMP The Bosch is a smooth-running, powerful drill. I appreciate the LED light and the fairly sensitive clutch settings. In my tests, the tool had less raw power than the Makita or the DeWalt. The battery life was slightly better, however, and the tool is coupled with a fairly quick charger. I'm not a fan of the canted handle style on this and a few other drills, which puts my arm at an unfamiliar angle when working. The grip is also a bit larger than I prefer, and the tool feels heavy in use. That said, the handle padding is good—no annoying burrs to rub my hand raw.

DEWALT DCD970

www.dewalt.com

WEIGHT 5.8 lb.

TORQUE N/A; DeWalt measures power in unit watts out, or UWO

COST \$300

CAMP This drill is a powerhouse.

The battery life was top of the heap in my tests, and it was the only model able to run a 1-in. auger bit through the edge of a 2x6 while set in the high-speed position. The chuck feels solid, the clutch is sensitive, and the tool's ergonomics worked well for my hands. Both the drill and charger are backward compatible, a nice feature if you have an existing stable of tools that you would like to keep using.



BEASLEY This workhorse earned average marks for endurance and hammer-drilling, but its clutch torque was the best in my testing, sinking screws the other drills couldn't budge. The DeWalt is the only tool with three speed settings, but I found myself satisfied with just the upper and lower settings. The charger is relatively fast, but you'd better brush up on your Morse code to interpret the five messages indicated by a single red light. The battery-to-tool attachment is extremely stiff, and the rounded battery bottom makes the drill less stable when set down.

FINK The DeWalt is the only model with three speed settings, but if there is a difference between "2" and "3," it was not apparent in my testing. Ergonomically, the drill is well balanced for its slightly heavier weight, but the stick-style battery pack makes the lower portion of the handle a bit wider than most. This drill's unique self-tightening chuck supposedly boasts twice the holding power, which I liked, but it's a bit crude in terms of comfort and is hard to grip when the auxiliary handle is in place. Still, this tool is solid and was one of the strongest performers in every drilling application.



HITACHI DV18DL

www.hitachipowertools.com

WEIGHT 5.8 lb.

TORQUE 570 in.-lb.

COST \$225

BEASLEY The Hitachi showed above-average endurance and clutch torque, and the battery charger is backward compatible. That, however, is where the good news ends on this model. Designed to accommodate the battery and not the human hand, the handle is thicker at the bottom than at the top; it's wearying to use. The mode selector and clutch are combined on a single collar, which means the torque setting is lost each time you switch between drilling and driving. I also found the large gap between the chuck and the clutch collar to be a magnet for dirt and debris.

CAMP This is one of the few drills without a mode selector, which I quickly came to view as an oversight. Low-range power was good. The grip is too large to be comfortable, and its rubber coating has numerous burrs, which quickly irritated my hand. The tool has an adjustable belt hook, but it felt insecure—not something I'd feel comfortable about when climbing up a ladder. The batteries charge quickly, the double bit holder is a nice touch, and the tool has a light that switches on separately from the trigger, which is also nice.



FINK This tool performed below average in terms of drilling speed, but it is smooth and powerful, and is the most comfortable for extended use. It is one of only two drills to include a belt hook and the only model with a depth gauge, a great feature when drilling into concrete. The chuck on my model was slightly off center, a problem that was hard to ignore when using a long drill bit. The position of the mode-selector switch reduces the chances of accidentally changing modes, but I had trouble setting the stiff switch to the middle position; I often overshot to the extreme left or right instead.

MAKITA BHP454

www.makita.com

WEIGHT 5.4 lb.

TORQUE 560 in.-lb.

COST \$300

BEASLEY Finishing at or near the bottom of every competitive test, this drill lacks the punch of the top tools. Still, it's a pleasure to use. The handle is easy to grip, and the auxiliary handle is the best of the bunch. Besides its below-average performance, the Makita's greatest weakness is the mode selector, which too often got stuck in "drive" mode. This problem is acknowledged in the manual, but that doesn't make it any less frustrating. The charger is the best I tested: Fast, fan-cooled, and easy to interpret, it even reports when a battery is above or below 80% charge.



FINK This tool is a disappointment. It was roughly four times slower than competitive averages when drilling into concrete, was barely able to drill a 1½-in.-dia. hole in pressure-treated lumber without stalling, and had a motor that whined and ground during even light-duty testing. These results indicate that I most likely received a lemon, but performance aside, the Hitachi isn't comfortable to use, either. The stick-style battery forces the grip to be wider at the base; I have large hands and still found it uncomfortable. The auxiliary handle is also the only one that I couldn't tighten enough to stay put under pressure.

CAMP The Makita is my second-favorite tool in this review, but I admit to being a bit scared by its power when used in the low-speed/high-torque setting. An auger bit bound up during my testing, and the powerful tool spun my entire sawhorse around twice. The auxiliary handle is a must. I found the tool comfortable to use because the grip tapers nicely toward the bottom of the handle. The belt clip was functional and secure, and I found the pair of LED lights to be the best of the bunch. The lights are bright, and they stay on for a few seconds after the trigger is released.

BEASLEY The smallest drill tested, this Milwaukee is 1½ in. shorter than the Bosch. The tapered rubber handle, compact size, superior controls, and big-drill performance make this my favorite tool. It finished first in hammer-drilling and second in overall endurance. But I am disappointed with the measly torque available at the top end of the clutch range; it was the first tool to “clutch out” when faced with high-torque driving. The charger is the slowest, but the battery fuel gauge is an outstanding, best-in-show feature that I refer to constantly. The excellent five-year warranty is second only to Ridgid.

MILWAUKEE 2602

www.milwaukeetool.com

WEIGHT 5 lb.

TORQUE 550 in.-lb.

COST \$250



“The 2602 is not only lighter and more compact than the rest, but managed to take the pole position in every drilling test.”

CAMP There is little to put this drill behind its larger brother. Low-range power tests were a tie game, and although it didn't do as well in the high-speed test, it still left some larger drills in the dust. The tool has smooth power delivery, a nice chuck, a great LED light, and a comfortable, relatively slim handle. A good clutch range and sensitive trigger make this drill ideal for delicate work, and the light weight makes it a good all-day choice. This is my favorite, edging just a hair ahead of its larger sibling and the Makita.

FINK The size and weight of this drill broke all my preconceived notions about hammer-drills being heavy and ergonomically clumsy. The 2602 is not only lighter and more compact than any other model in this review, but also managed to take the pole position in every drilling test. I admit to being disappointed by the lack of onboard bit storage and the conspicuous lack of an auxiliary handle, especially because the tool is designed to accept the same handle as the 2611. Also, I accidentally switched the tool between drilling and driving modes on occasion due to the position of the mode selector. Still, this is my favorite tool of the bunch.

MILWAUKEE 2611

www.milwaukeetool.com

WEIGHT 6.4 lb.

TORQUE 650 in.-lb.

COST \$350



FINK Sharing many of the same features as its new baby brother (model 2602), this drill packs an arm-twisting amount of torque and bores large holes through wet lumber with ease. The bold red-on-black numbers make the clutch collar and speed-selector switch great for use in low-light situations. The battery pack's onboard fuel gauge is an invaluable feature that is hard to live without once you get used to having it, especially because Li-ion batteries give no warning that they are about to run out of juice.

BEASLEY Although larger and heavier than the Milwaukee 2602, this drill has many of the same strengths: a superb handle that's easy to grip, top performance in the hammer-drilling mode, a solid warranty, and the only battery with a charge-level fuel gauge. Additionally, the 2611 has the highest total torque (tied with the Bosch) and—unlike the 2602—includes an auxiliary handle as standard equipment. Unfortunately, it also shares its sibling's anemic clutch torque and slow battery charger. Both Milwaukee drills use the same battery, but this model is not as efficient; it shows markedly less endurance than the smaller 2602.



CAMP I really like this drill. The motor accelerates and decelerates smoothly, and is powerful when put to task. The chuck is secure for heavy-duty drilling, and the clutch is sensitive enough for finish work. The LED lights are adequately bright, but I wish they stayed on a bit longer after the trigger is released. The tool has a compact feel, and the handle is small enough in diameter to be comfortable for long use, even when used in my less dominant left hand. Although certainly not necessary, I also like the fuel gauge on the battery.

FINK The battery pack on the Ridgid is fairly large, which adds to the tool's overall weight and bulkiness. The tool performed slightly below average on drilling and hammer-drilling speed, but otherwise had no major signs of inadequacy. The only departure on this tool is that the auxiliary handle attaches below the barrel of the drill, which feels a bit odd to me. But this handle position allows for the mode-selector switch to be set into the side of the barrel, which I appreciated for its easy accessibility when I needed it, and the reduced possibility that I would unintentionally shift modes during use.

RIDGID R861150

www.ridgid.com

WEIGHT 6.2 lb.

TORQUE 565 in.-lb.

COST \$280



BEASLEY The Ridgid was my endurance champ during testing. Most of the drills bored about 110 holes with a 1-in. auger bit before exhausting their batteries, but the Ridgid exhausted me with 151 holes. A solid tool, it turned in average results during the remaining tests. The side-mounted mode selector is an innovative idea, but I sometimes moved it inadvertently when rotating the clutch collar with gloved hands. The auxiliary handle—with its separate attachment bolt—is the least useful of the group. Both the drill and the charger are backward compatible. The warranty on this tool is the best: lifetime on the drill and battery.

CAMP The Ridgid is a solid performer—not a standout in any category, but certainly not a slouch, either. The drill is smooth in use, and tight in terms of quality and engineering. The grip is a bit fat, though, and the tool feels a bit on the chunky side in general, especially compared with the smaller models in this review. The LED light is bright, and the clutch settings are good. I'm also a big fan of Ridgid's cloth tool bags, which take up a minimal amount of space while still leaving room for some accessories.