

Impact Drivers

Three testers conduct isolated reviews of each brand's 18v cordless tool



BY JUSTIN FINK, PAUL JOHNSON, AND BRIAN MCCARTHY

It's easy to see why this tool has become so popular: The simple percussive action of an impact driver translates into more torque than you can get with the rotational power of a cordless drill. This means that the bit, be it a driver bit or a drill bit, does its job with more speed and more power. Early impact drivers were mostly workhorses meant to provide exactly that, but many of today's models have been designed to provide more finesse. The balance of these traits is where the purchasing decision gets complicated, because it's completely dependent on how you use the tool. Many users are striving to find the right balance between these extremes, but most lean one way or the other.

This variation in the performance traits of impact drivers sets the stage for this three-person review. After all, what better way to assess the needs of a wide audience of buyers than to compare the feedback of three testers?

Narrowing the field

This is a big category of tools, so we narrowed it based on a few criteria. First, we chose to focus only on 18v Li-ion cordless models. A variation on that subcategory is offered by the DeWalt and the Porter-Cable tools, both under the same parent company, which are listed as "20v Max." Another comes from Panasonic, whose tool is also compatible with the company's 14v Li-ion platform.

Despite the industry's slow transition toward brushless motors, we chose to focus this review on tools with conventional brushed motors (see "How It Works," *FHB* #226 and at FineHomebuilding.com/extras), with one exception: a brushless Panasonic driver. Feedback from our readers and information from other sources indicated that Panasonic, though lesser known, is a worthwhile contender in the impact-driver category. For that reason, we felt justified in adding it to this test despite it's being a brushless model.

Many, but not all, of these tools are available with either a compact battery (typically 1.5 amp hours, or Ah) or a larger battery (typically 3.0 Ah). Amp-hour ratings identify only the run-time of the tool between charges, not the power output.

BOSCH 25618

WITH 1.5-Ah BATTERY \$200 WITH 3.0-Ah BATTERY \$270

FINK The one word I'd use to describe this tool is *smooth*. The trigger control, hum of the motor, and grip comfort were all superb. It did feel a bit large and clumsy to me, however, perhaps because of its upward-angled body. Also, it would seem that the interbrand competition to create the impact driver with the shortest body length left this tool with a nasty side effect: a chuck collar that's too short to grab comfortably.

JOHNSON I've used Bosch impact drivers for years and always thought they were the best, so I was surprised to find that this tool was only average in heavy-duty testing and for driving long wood screws. Under less strenuous use, however, I still found using the Bosch to be a pleasure. It was comparatively quiet and comfortable enough for all-day use, and its soft-start feature was the best of the bunch in preventing cam outs when working in difficult positions. Although Bosch tools have slowly been transitioning to include batteries with charge indicators, this model doesn't include them.

McCARTHY On the small side, this lightweight driver was comfortable to work with. Excellent control of the tool at the trigger made it a versatile unit capable of wearing multiple hats. Battery packs are sleek in design and attach easily to the tool without much thought. The downsides are a smallish hook that I often had trouble attaching to my belt, and the small chuck, which wasn't very glove-friendly. This tool came in a case that hit the sweet spot for me: room for some peripherals, but not too large.

BOTTOM LINE

All about finesse, this driver is a good choice for those with heavy trigger fingers.



DEWALT DCF885

WITH 1.5-Ah BATTERY \$200 WITH 3.0-Ah BATTERY \$260

FINK This tool was my hands-down favorite. It has plenty of power and excellent slow-speed control, and I hardly ever stopped to swap batteries. I found the thin grip to be the most comfortable of the group, and the trio of LED lights mounted around the chuck really floods the work area with light. The battery-release button, similar to that on the Makita models, is simple and effective. My only quibble is that some of the extraneous rubber bumpers on the tool have started to peel off.

JOHNSON The DeWalt is a no-nonsense solid performer on every level. It has enough versatility to let you drive 3-in. screws one after another, then switch to attaching finicky cabinet-door hardware without sacrificing control. The area in front of the chuck is illuminated from all sides, eliminating the shadows that are created by the lights on all of the other drivers. Moreover, the LEDs stay lit for 10 seconds after the trigger is released, which is handy for working in dark spaces. Aside from producing a bit of a "clacky" sound when impacting, this is a smooth-operating driver, is fairly quiet, and has a comfortable grip.

McCARTHY This tool hit the sweet spot for me: It has lots of power, yet the sensitive trigger means that the tool always feels under control. The chuck is large enough to be operated with gloved hands and also allows for easy one-handed bit insertion. The batteries have push-button charge indicators, the belt hook is adequate, and the LEDs do a great job of putting the light just where you need it, and in ample quantity. This driver didn't do any one thing better than the others, but it was the one tool that seemed to do everything well.

BOTTOM LINE

With a near-perfect balance of power and finesse, this driver sets a high bar.



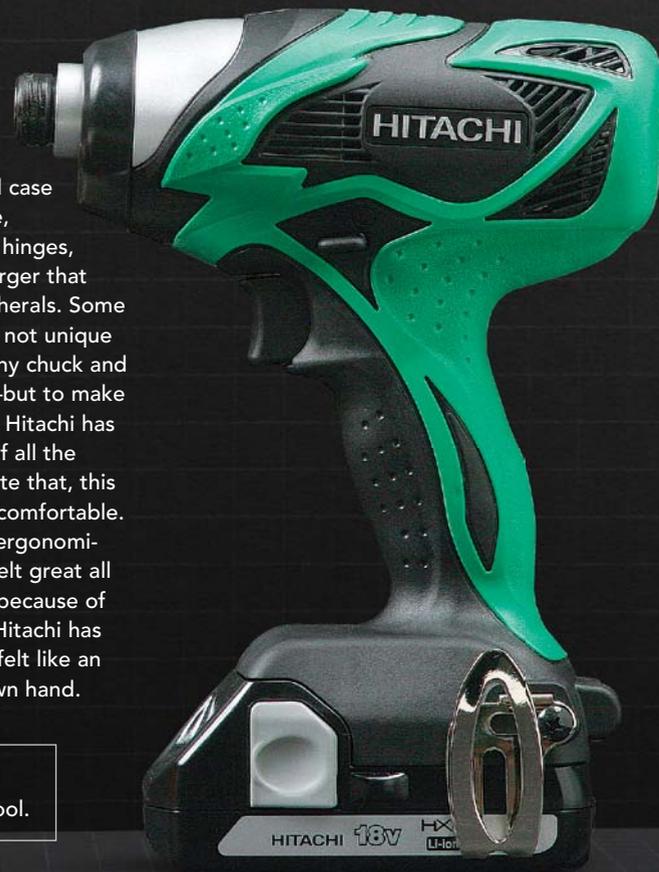
HITACHI WH18DSAL

WITH 1.5-Ah BATTERY \$155 WITH 3.0-Ah BATTERY n/a

FINK The Hitachi looks outdated compared to the others in this test, but it still hung with the gang in several respects. It has excellent trigger sensitivity and very good control at slow speeds, making it an ideal choice for delicate work. It feels light and comfortable in the hand. The chin light is a big improvement over the old Hitachi belt-clip/light design, but the battery-release buttons on this tool were easily the worst I encountered.

JOHNSON This driver pleasantly surprised me; in the past, I've found Hitachi's cordless drills to be lacking in power and comfort. It performed right in the middle of the pack for heavy-duty testing and didn't have any trouble keeping up with general day-to-day use. Even though it has the longest body, it is weighted comfortably and has a fairly ergonomic handle that was easy to grip for long periods of time. I found it nearly impossible to remove the battery without wrestling with it with both hands, and I found the single indicator on the charging station—which blinks both when there is no battery docked and when a docked battery is fully charged—rather infuriating.

McCARTHY This tool came with an appropriately sized case with ample storage, good design, solid hinges, and a compact charger that left room for peripherals. Some faults I found were not unique to this model—a tiny chuck and a small belt hook—but to make matters worse, the Hitachi has the longest body of all the tools tested. Despite that, this tool was the most comfortable. The grip is thin, is ergonomically shaped, and felt great all day long. Perhaps because of its long body, the Hitachi has great balance and felt like an extension of my own hand.



BOTTOM LINE

Light, comfortable, and inexpensive proves a powerful combination for this simple tool.

REAL-WORLD FEEDBACK



The testers were 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.

These pages hold the results of our test. In some cases, all three testers agreed on the value or functionality of a certain feature. At other times, they disagreed. In the end, we found that the

isolated opinions presented a complementary and comprehensive overall look at each model.

In addition to his duties as tool editor for *Fine Homebuilding*, **JUSTIN FINK** is a remodeling contractor whose projects range from frame to finish, with a healthy bias toward custom trimwork and cabinetry. This is where his activity was concentrated, so the comfort and finesse of these tools were the most critical focuses of his testing.

HOW WE TESTED

MAKITA LXDT04

WITH 1.5-Ah BATTERY \$175 WITH 3.0-Ah BATTERY \$260

FINK The percussive noise from this lightweight compact tool seemed easier on my ears than the noise produced by the other tools. As an odd contrast to that, though, the motor on the driver I tested had an unpleasant whine and a lack of power when operated at slow speeds. I found the release buttons on Makita's battery packs to be among the easiest to operate quickly. Although it's not a fault of the driver itself, Makita's fan-cooled charger was noisy and made the whole room smell like plastic.

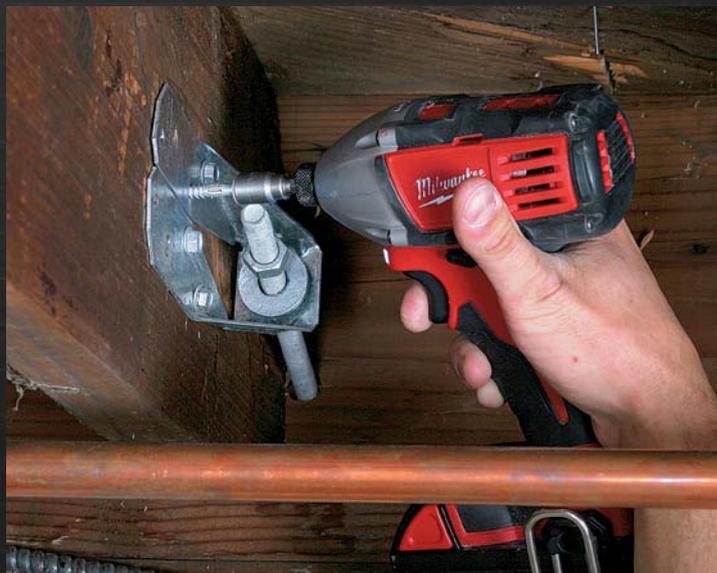
JOHNSON With good balance and the smallest body of the bunch, the Makita quickly became one of my favorites. Even though it tied for the longest time required to sink a 1/2-in. lag screw into a glulam beam, it still had more than enough power for most tasks. It had plenty of finesse for driving small hardware screws and starting larger screws in high-torque situations, even without a soft-start feature. I have no complaints about the batteries themselves, but the charger was a bit loud. Also, many users may find its various signals and musical tones to be obnoxious.

McCARTHY My crew already has three Makita impact drivers, so I obviously think they are good tools. Still, I tried to assess this driver as if it were new to me, and I continue to think it stacks right up there with the best of them. The body length is short, making it feel compact and efficient, and its power seemed to be consistently in the middle of the pack. I realized, though, that it lacks the sensitive trigger control found on the DeWalt and Hitachi drivers. If surplus storage is your thing, then you'll love the grossly oversize case that comes with this tool, which is designed to accommodate Makita's 18v drill-driver as well.



BOTTOM LINE

Compact without sacrificing function, this model is a rock-solid value.



As a general contractor, carpenter, and part-time furniture maker and cabinetmaker, **PAUL JOHNSON** wears many hats. He used these impact drivers on a variety of tasks, from the delicate work of attaching cabinet hardware and fastening drywall to repetitive production-style jobs such as driving boxes' worth of 1/2-in. to 4-in. wood screws. He rounded out his testing with a series of bench tests that assessed the speed and torque thresholds of each tool.



BRIAN McCARTHY is a carpenter who focuses on framing and exterior trim for both new houses and remodels. Along with his crew of five, Brian put these impact drivers through a wide variety of tasks, ranging from attaching historical windowsills, installing hundreds of hidden deck fasteners, sinking masonry screws into brick walls, and installing a dozen exterior doors. Because of the variety of work he and his crew perform, a combination of power and control was what mattered most to him.

MILWAUKEE 2650

WITH 1.5-Ah BATTERY \$225 WITH 3.0-Ah BATTERY \$280

FINK This tool is built like a brick and inspires confidence in terms of long-term durability. It has lots of raw driving power and no shortage of torque, but at times—especially at the slow speeds required for delicate work—it felt difficult to control. I found the stubby chuck collar on this driver to be among the most difficult to operate, and those with smaller hands might have trouble with the fairly thick handle. The smooth, tubular-metal belt hook was far and away the best of any impact driver.

JOHNSON This tool is a speed demon that often left the nearest competitor several seconds behind in the timed screw-driving test. I found this driver just too powerful for some tasks, though, and I cammed out the heads of more screws with the Milwaukee than with any other driver. I also was surprised to find that I wasn't able to sink the ½-in. lag screws fully in my torque testing. This tool also has the biggest body of the bunch and felt the heaviest after extended use. For amenities, it has a nice, bright LED light, a charge display on its batteries, and a case that seems indestructible.

MCCARTHY The case that comes with this tool is ideal: It's big enough to hold the tool and some accessories without requiring an engineering schematic, but small enough to be tucked away in a corner of the truck. Compared to the batteries of the other drivers, the larger of the two Milwaukee batteries is pretty boxy. This tool appeared to have the most power of the group, making short work of everything I could throw at it, but the trade-off was very little control at the trigger. While I'd gladly lend it to the excavator to pull some lug nuts, I'd keep it as far away from delicate hardware as possible.

BOTTOM LINE

This tool offers a hefty dose of speed and power, but if you're prone to cam outs, look elsewhere.



PANASONIC EY75A1

WITH 1.5-Ah BATTERY n/a WITH 4.2-Ah BATTERY \$470

FINK This driver has the most seamless body design of the tools tested. With hardly a raised seam in the housing or bump when transitioning to the rubber grip, the Panasonic makes me think of the fuselage of a jet. This was the only model in this test with a brushless motor and a selectable speed setting. I didn't like Panasonic's design for the LED light: Not only does its location make it fairly ineffective, but the push button needed to turn it on and off just about guaranteed that I'll never bother with it.

JOHNSON Even though I found a few things to be quirky with the Panasonic driver, it was a pretty solid winner for me. Combining the finesse of the Bosch and Makita drivers with the power of the Milwaukee, it never slowed down no matter what the type of testing and usage. A button controls three levels of torque, from low to high, to protect more-delicate fasteners and worksurfaces; however, the tool is so responsive that I hardly ever bothered changing the setting. Despite having the largest battery of the bunch, the tool itself was comfortable to use for long periods of time.

MCCARTHY The battery on this tool felt large and boxy (4.2 Ah compared to the more common 3.0 Ah in this category), and it was a bit cumbersome to attach at first. Once I got used to lining up a pair of arrows on the battery and the tool, I found that no other tool allowed for faster, smoother battery changes. The belt hook is nice and wide and is set at a convenient angle, making for easy "no look" grabs. Selectable power levels set this tool apart from the others, and its overall trigger sensitivity and control were excellent. My only annoyance with this tool was the separate on/off switch for the worklight.

BOTTOM LINE

Priced to compete with other high-end selectable-speed brushless models, the Panasonic offers a good balance of guts and responsiveness, all wrapped up in a sleek, comfy design.



PORTER-CABLE PCCK640LB

WITH 1.5-Ah BATTERY \$170 WITH 3.0-Ah BATTERY n/a

FINK I typically don't get wrapped up in the appearance of tools, but I thought the Porter-Cable looked cool right from the first glance. I was worried that all the over-molded rubber on the grip would be uncomfortable after a long day of use, but it never bothered me in the least. In terms of features, I found the battery gauge simple and effective, but the belt hook a bit too small and the battery release too stiff. Trigger control wasn't the best, but the pair of magnetic, sidewinder-style bit mounts should become the standard for every drill-driver and impact driver.

JOHNSON The knobby, industrial styling of this driver made me think of a tool built out of Lego blocks; unfortunately, it was almost as uncomfortable. The segmented rubber grips didn't add any comfort to the already wide handle, and the forward/reverse lever is situated in such a way that it pressed against my finger while in use. In most tests, this tool's performance was average, although it tied with the Panasonic for being able to fully drive a 6-in. lag screw into a glulam beam in just 20 seconds. I also liked the one-handed bit changes and the two magnetic bit holders.

McCARTHY The case for this tool appears to be well built and rugged, but it's tiny. If you expect to keep a set of bits in the case, you will not be pleased. The tool itself was very popular with my crew. It has plenty of power for running large fasteners and excellent control at the trigger for delicate work. The chuck is large enough to lend itself to easy bit changes with gloved hands, and I love that it allows for one-handed bit insertion. The tool is balanced well, making it feel lighter than it actually is. This is a comfortable tool to use and an all-around good performer.



BOTTOM LINE

From a best-value point of view, the Porter-Cable is a strong contender. The lack of a large-battery option, though, will mean more trips to the charger.

RIDGID X4

WITH 1.5-Ah BATTERY \$260 WITH 3.0-Ah BATTERY n/a, battery available for \$100

FINK This tool has one of the most easily graspable chuck collars of the tools tested, but it forcefully ejects the bit from the chuck—a feature I appreciate with a blazing-hot jigsaw blade but don't understand on an impact driver. The grip is longer than on other models, making it harder to apply downward hand pressure to a fastener. I also found the location of the paddle switch for the light to be annoying, and the pinch buttons for the battery release to be awkward. I couldn't help but feel a little robbed that this tool is priced similar to others but includes just one battery.

JOHNSON I wasn't overly impressed with the Ridgid. In addition to being a bit of a slowpoke in my lag- and long-screw driving tests, it was the only driver to come with just one battery instead of two, which meant downtime during recharges. The LED lights are activated by a low-profile, grip-mounted trigger, a feature I alternately liked and didn't. I found myself overly conscious of it during hard use, worried that I would squeeze the switch too hard and break it. I also found it hard to press both battery-release buttons when wearing gloves, even thin ones.

McCARTHY I like the soft-sided zippered case that the Ridgid came in. Unless you need to stack your miter saw on top of it, the case provides adequate protection in a supercompact package. I also liked the belt hook, the one-handed bit insertion, and the on-board battery-level indicator on this tool. I didn't like the lack of control at the trigger, which required too much finesse to avoid overdriving fasteners in certain situations. I also found that this tool made the most racket of the drivers tested.



BOTTOM LINE

On the verge of forgettable, this driver barely makes the grade and denies you a second battery.