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TOOLS

OF THE TRADE

Milwaukee M18 Fuel Drill/Driver Combo Kit

BY JAKE LEWANDOWSKI

The team at Great Lakes Builders recently had the opportunity to try out Milwaukee's new M18 Fuel 1/2-inch hammer drill (model 2906-20) and 1/4-inch hex impact driver (model 2957-20), which come packaged as a combo kit (3696-22) with two batteries, a charger, and a blow-molded case. Not a shock: These tools are winners.

HAMMER DRILL

The 1/2-inch hammer drill was an unexpected favorite with the crew, mainly because of its compact size, ergonomics, and fit and finish. Two things that stood out immediately were the knurling on the all-metal chuck and the positive mechanical feeling of the detents when engaging the clutch. I thought that out of the box, the settings for the trigger and the work light were just about perfect, but with the One Key system, you can fine-tune the settings for functions such as the trigger ramp-up speed, the brightness and duration of the work light, and the maximum rpm.

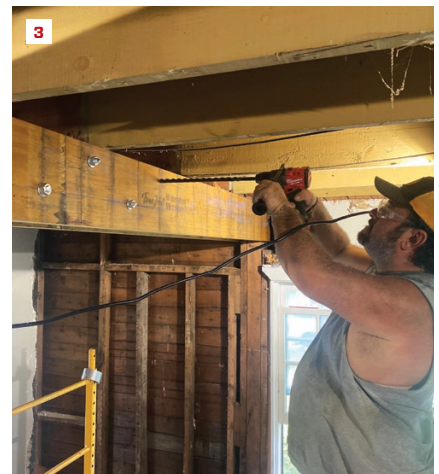
Another great feature is the auto stop function, which prevents over-rotation when the drill binds up. With 1,400 inch-pounds of torque, this is an important safety feature. Again, with the One Key system, you can customize the auto stop control mode with low-, medium-, and high-sensitivity settings.

When equipped with the included M18 Redlithium XC5.0-Ah battery, the drill had excellent runtime.

HEX IMPACT DRIVER

Milwaukee says that this 1/4-inch impact driver is the fastest and most powerful in its class, with 2,000 inch-pounds of torque, and I can't argue with that claim. It has a three-LED work light that does an excellent job of illuminating the work. Bit insertion and removal was a breeze and absolutely top-notch, and we had zero problems driving any of the structural fasteners that we use day in and day out. Runtime (with the 5.0-Ah battery) was also excellent. Like the hammer drill, the impact driver is equipped with the One Key system, so you can dial-in the settings for just about all of the tool's functions.

Ultimately, I really liked this impact driver. However, the crew didn't feel that the additional power it offered was enough to convince them to switch battery platforms. In addition, we often prefer to use oil pulse or hydraulic impact drivers, which are significantly quieter (but not as powerful) as standard impact drivers. We spend a lot of our time driving fasteners inside joist bays, which tend to amplify the sound generated by an already-noisy tool. Quieter tools make a huge difference when you're working in



Milwaukee's M18 Fuel drill/driver combo kit (3696-22) includes a 1/2-inch hammer drill and a 1/4-inch hex impact driver (1). With 1,400 inch-pounds of torque, the drill has the power to bore big holes through heavy timber and dense engineered lumber (2, 3), and an effective and adjustable clutch to stop the drill quickly if the bit gets bound up.

Photos by Jake Lewandowski

framing cavities; for example, when you're retrofitting joist hangers and driving hundreds of 1½-inch and 2½-inch #9 and #10 SDS screws.

CONCLUSION

The M18 Fuel ½-inch hammer drill and ¼-inch hex impact driver are great tools, and I don't think you could go wrong with either one of them, especially if you are already on the Milwaukee M18 platform. With the power and features mentioned above, the combo kit is a great choice, considering that it comes with two 5.0-Ah batteries. But I think it could be even better if you paired this kit with an oil pulse or hydraulic impact (Milwaukee's M18 Fuel Surge model 2760-20, for example) and some right-angle accessories, along with a good assortment of extensions and bits. That combination would be a moneymaker, while making for a safer—and quieter—jobsite. You'd have a heavy-hitting hammer drill that has a great auxiliary handle and auto stop technology in a compact size, a low-torque, low-decibel impact when loud noises are a concern, along with a beast of an impact with enough power to drive the largest of fasteners when you're in open-air conditions. With the combo kit +one, you would easily be able to fasten or drill almost anything.

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Milwaukee's compact and powerful M18 Fuel impact driver features 2,000 inch-pounds of torque (4).

Rockler Portable Drill Guide

BY JOHN CARROLL

In his classic treatise *The Nature and Art of Workmanship*, David Pye makes the distinction between “workmanship of risk” and “workmanship of certainty.” In my work in residential carpentry and masonry, I usually practice workmanship of risk when I drill holes. I use a portable drill and rely on my eye to get the holes reasonably square to the surface.

In a cabinet shop or a machine shop, where more precision is needed, fabricators usually practice workmanship of certainty. By using a drill press, which holds the drill rigidly in place, they can drill holes that are precisely located and square to the surface. If they want to drill holes at any angle other than 90 degrees, they can rotate the table of the drill press to that angle. They can also adjust a stop on the drill press to regulate the depth of the holes they drill. Once they get their drill press set up, furthermore, they can quickly drill additional holes the same depth, the same angle, and the same distance from the fence of the table.

Although I seldom require the kind of precision that a drill press delivers, I occasionally need more precision than I can get drilling freehand and by eye. Like most experienced builders, I've developed a few techniques to improve my accuracy with a portable drill. For example, setting a block of wood with a perpendicular line drawn

on it next to the hole I'm drilling provides a reference to follow as I drill freehand, while taping the drill bit at the required measurement helps me get the holes to the right depth.

These measures help, but they are still in the realm of workmanship of risk. Although the block serves as a guide, I'm still drilling freehand and by eye. The tape doesn't serve as a stop; it's a visual guide, and it usually starts to deteriorate after a few holes.

Because of these shortcomings, I recently invested in a Rockler Portable Drill Guide. While I researched a number of portable guides, I chose this model because it's larger and seemed to be of better quality than the others I looked at. Rockler also provides a very good (and convincing) demonstration of its drill guide on its website.

Features. The Portable Drill Guide has many of the features of a drill press (1, 2). The base can be locked in at any angle from 0 to 60 degrees, readable via a protractor scale on the base. There is an integral depth stop that restricts the depth of the holes bored. The base has strategically placed countersunk holes, which make it easy to attach a fence with screws. It comes with two pins that can be threaded into the base in order to center the drill on a narrow workpiece or the edge of a door. There's also a V-groove on the base that allows the guide to be used to drill round material.

It would be fair to call the Rockler drill guide a “poor man’s drill press,” and I think a lot of people buy it because they want to reduce the risk of drilling freehand without investing in a drill press. It’s also a good choice for people who don’t have the space for a drill press.

For me, though, the most important feature of the drill guide is its portability. When building and remodeling, we often can’t bring the material we’re working on to a stationary tool because the material we’re using either is too large or is already installed. We don’t run a 3-foot door through a table saw, for example. Instead, we bring a hand-held circular saw to the door. If we want to reduce the risk of a bad cut, we set up a straightedge or a track to guide the saw. Bringing a portable tool to the workpiece and managing to get controlled and precise results is a valuable combination for builders.

Accuracy. The Rockler drill guide does just that. On a recent project, I needed to drill a pair of $\frac{5}{8}$ -inch-diameter holes horizontally for galvanized bolts that would serve a structural function. The 6-inch-long bolts had to run straight through a 4x4 post and a 2x10 ledger with a small margin for error; if I veered off-center, either I would miss the end of the piece I was attaching, or I would end up in the end of a ledger coming from the other direction. So I used the drill guide as I bored these holes. I started by using a long $\frac{1}{4}$ -inch bit to drill a pilot hole (3), then switched to a $\frac{5}{8}$ -inch-diameter bit to finish this boring task. The results were excellent (4).

Lessons learned. The Rockler Portable Drill Guide has served me well when I’ve needed more precision than I could get drilling freehand. I did need to climb up a learning curve as I worked, however. The first thing I learned is that you need to lubricate the tubular guides. Rockler recommends (and offers on its website) Boeshield T-9 Waterproof Lubricant. If you invest in the Rockler drill guide, you should definitely purchase a container of the Boeshield, too.

The second thing I learned is that you need a sharp drill bit with a brad point or centering screw. After indenting the center of the layout with a center punch, I used my brad point to line up the drill. This step keeps the drill bit from wandering slightly off course.

The third thing I learned is that you have to continuously clear the drill bit when drilling into wet, treated lumber. Doing this requires that you raise the drill frequently to clear the drill bit of wet wood shavings. Despite the drill guide’s versatility and precision, it is not a heavy-duty drill press capable of hogging through very hard or wet wood with a large, dull drill bit (remember, the shaft that connects the drill to the $\frac{1}{2}$ -inch Jacobs chuck is only $\frac{1}{4}$ inch in diameter). But if you work within this guide’s limitations, you will be able to drill clean and accurate holes at any angle through virtually any material, bringing a degree of certainty to your workmanship. Price: \$200. rockler.com

John Carroll, author of Working Alone, is a builder who lives and works in Durham, N.C.



The Rockler portable drill guide has a $\frac{1}{2}$ -inch Jacobs chuck with a $\frac{1}{4}$ -inch hex shank on top that works easily with most drills (1, 2). To accurately drill $\frac{5}{8}$ -inch-diameter holes through a 4x4 post and 2x10 ledger, the author first drilled $\frac{1}{4}$ -inch-diameter pilot holes (3), then switched to a $\frac{5}{8}$ -inch-diameter bit to finish the holes (4).

Photos by Matthew Navey