

Aftermarket Battery Packs

by Patrick McCombe

Sooner or later, you'll notice that your cordless tool's battery pack doesn't last as long as it once did. And if you're replacing one pack, it probably means that replacing the spare can't be far off. The prospect of investing \$150 (or more) in a couple of new batteries may lead you to seriously consider starting over with a new tool.

Battery Center Incorporated (BCI, Norcross, Ga.; 800/225-5577, www.batterycenter.com) originally sold nickel-cadmium (NiCad) battery packs for emergency lighting fixtures, commonly used in commercial and industrial buildings. But about six months ago, the company began targeting the vast industrial tool market, making NiCad and nickel-metal-hydride (NiMH) battery packs to fit cordless tools from virtually all manufacturers. When I heard about the generic packs and their approximately one-third lower cost, I couldn't wait to give them a try.

Does It Work?

A less costly, aftermarket battery pack wouldn't mean much to me if it didn't perform as well as the pack originally supplied with the tool. To see if BCI's packs would perform as promised, I tested their run time and durability against two Makita battery packs, a 14.4-volt pack with a 2.2-amp-hour rating, and an 18-volt pack with a 2.6-amp-hour rating. I use those two batteries, purchased with my Makita drills, nearly every day and have become totally familiar with their performance. If the replacement batteries performed differently, I'd notice.

Makita is one of only a few manufacturers that use NiMH batteries in their cordless tools, so I assumed that BCI would substitute NiCad replacement batteries. But the company stocks a direct NiMH match for

Makita's, so I ordered one 14.4-volt and one 18-volt pack. The BCI packs look similar to Makita's, but the plastic housing appears to be of a different composition. And the BCI packs have a 2.4-amp-hour rating. After draining my 14.4-volt Makita pack, I put it and its BCI counterpart on identical chargers and started them simultaneously, to compare charging times.

Run-Time Testing

The batteries were ready within seconds of each other, in about an hour. My first run-time test involved driving 3-inch drywall screws into a pressure-treated 4x4. Using the Makita battery, I was able to drive 139 screws with my 14.4-volt drill spinning in low gear. I stopped the count when I noticed a decrease in torque. After giving the drill an hour to cool down, I switched to the BCI pack, which was harder to

get into the drill, requiring a firm squeeze to lock it into the housing. The pack subsequently loosened up a little but still didn't work as smoothly as Makita's. Tedious insertion and release aside, the BCI pack performed on par with its Makita counterpart — notably, it drove exactly the same number of screws.

For the second test, I used my 18-volt drill to put as many holes as possible through the other end of my 8-foot 4x4. Using a brand-new, 5/8-inch Irwin Speedbore spade bit for each trial, I drilled continuously until the packs were spent. The results were similar. The Makita pack powered through 62 holes to the BCI pack's 55. The slight difference in numbers wasn't surprising considering the BCI pack's slightly lower amp-hour rating. Interestingly, the 18-volt BCI pack slid smoothly into the housing. It locked in and



The frozen battery test showed the limitations of BCI's plastic housing. After two hours in the freezer, a six-foot drop cracked the plastic on the first trial and sent a release button flying (left). After five trials, the Makita battery sustained an impact scar, but no critical damage, from the test (right).

Battery Test Data

	14.4v BCI	14.4v Makita	18v BCI	18v Makita
Chemistry	NiMH	NiMH	NiMH	NiMH
Amp-hour rating	2.4	2.2	2.4	2.6
3" screws in 4" PT	139	139		
5/8" holes in 4" PT			55	62
Drop test	passed	passed	passed	passed
Freeze 'n' drop	failed	passed		
Street price	\$53	\$80	\$66	\$89

Toolbox

released as readily as the Makita battery and charged in about the same amount of time.

Don't Try This at Home

While the BCI batteries showed similar run and charging times to my Makita packs, performance doesn't mean much without the ability to withstand the day-to-day abuse of a job site. To test their durability, I used a typical benchmark for testing power tools: a drop from six feet onto hard concrete. The test is meant to simulate a typical fall from a stepladder. Most industrial tools are designed to handle this kind of impact.

I removed the packs from the drills, oriented them consistently, and dropped them, one at a time, onto a concrete floor. Given the price of a battery pack, I had to close my eyes as I let them fall, but both survived their five tumbles without apparent damage.

As a final test, I wanted to see how the plastic housings would hold up in cold winter temperatures. An overnight stay in the truck this time of year can turn some soft plastics temporarily brittle. I put both the Makita and the BCI 14.4-volt packs in a freezer for two hours, then repeated the drop test. The frozen BCI housing cracked on first impact, sending a release button flying. The Makita battery sustained its five impacts without damage.



Would I Buy One?

The BCI batteries performed well in both run-time tests, passed the standard drop test, and cost about one-third less than the comparable Makita units. But I live in northern Vermont, so the cracked housing from the second drop test was enough to steer me away from them. Those who work in warmer areas and don't worry about frozen plastic might be well served by the significantly less expensive BCI batteries. My hope is that BCI will upgrade its plastic, and that the newly created competition will bring down the prices on all cordless battery packs.

Third Hand by Jeremy Hess

I frequently work alone and am always on the lookout for tools and techniques that make things go a little easier. Recently, I had some crown molding to install and decided to give Fast Cap's telescopic 3rd Hand a try (FastCap, Bellingham, Wash.; 888/443-3748, www.fastcap.com).

Supporting a piece of crown by yourself is a challenge. I've used a number of aids, including site-built supports, blocks tacked to the wall, and stepladders, but the 3rd Hand works better and faster than any of them. Swiveling rubber pads on both ends of the tool's adjustable metal pole stick firmly to slippery tile and vinyl flooring, allow-




A precise ratcheting adjustment (left) and swiveling rubber foot with a good grip (above) make the 3rd Hand versatile and easy to use. The pole has a 70-pound capacity and extends to 10 feet.



The shorter, 14- to 22-inch version of the tool worked great for supporting pieces of crown above the kitchen cabinets. It has the same capacity and rubber feet of the larger model.

ing it to be placed at fairly radical angles without sliding. The mechanism for elevating and tensioning the pole works like the plunger on a caulking gun, enabling the user to hold a piece of crown or other object securely and precisely. By pinching the hook of my tape between the top pad and the ceiling, I could pull measurements from the opposite corner.

With a piece cut and ready to install, I placed my stepladder at the center of the wall and held the crown up to the ceiling. Then I placed the 3rd Hand's top pad against the crown and ratcheted it up, almost snug to the ceiling, enabling me to fit one end into position, tack it, and then nail the other corner. Using this method, I could measure and nail a 15-foot piece of crown against a 9-foot ceiling.

The manufacturer also makes a smaller version for tasks like hanging wall cabinets. With a load capacity of 70 pounds, the 3rd Hand can be used to support wall cabinets or ledger boards or to hang drywall. With a few more poles and a sheet of plastic, it can become a dust barrier for tasks like demolition and drywall sanding. At \$50 for the 4- to 10-foot pole and \$25 for the 14- to 22-inch pole, it's cheaper and probably more reliable than a live helper. If you find yourself frequently working solo, you should consider getting one. 

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