

## FIELD RESEARCH

# Tough Enough?

## Putting Cordless Drills To The Test

by Wayne Dolnick

In the business of sound and video installation, we've all had our share of working with the tools of the trade—sound meters, volt meters and design programs. But equally crucial to our everyday existence are tools used in a multitude of industries, like wire strippers and crimpers. Selecting the latter type of tools can be as complex a task as any system design. Time and time again, we hear about the “great” new crimper and the \$100 must-have, all-in-one tool. But what we don't hear is whether these tools will make money or drain resources. If you have a shop with three guys in the field, and two of them are wasting valuable time fiddling with inadequate or broken tools, then you know what I mean.

This is why it's so important to make the right choice about one tool in particular. You know, the one that you use on *every* job site for the mundane tasks of hanging brackets, flying speakers, assembling racks of gear and punching holes: cordless power drills. Yes, we're talking about those marvels of invention that you praise when they work and curse when you have to wait two hours to charge a battery.

In this field review, we will examine various models of 9.6-, 12-, 14.4- and 18-volt cordless drills, along with the big bad boys, the hammer drills, which rival or surpass



anything wired out there today. Hopefully with these insights, you'll be able to avoid the desperation experienced when a drill breaks on a job site.

Today the selection of battery powered drills is quite extensive, with at least six models from at least six manufacturers in at least four different voltages, with two different chuck sizes and a wide range of accessories. On-site or in-house, when the tool dies or the battery explodes and you say, “Get me whatever is on sale in a 9.6 volt,” you are making the wrong choice, and it will cost you more in the long-run. Choosing the appropriate voltage and torque for your needs is paramount to efficiency and is cost-effective. Next comes the ergonomic feel of a drill, and how durable it is, followed by power needed, time in use and type of job typically performed.

We chose three brands of drills that are readily available, commercially accepted in the trade, and performed well in our tests: Bosch, a German firm, and Delta and Porter Cable, both of which are U.S. operations. Bosch drills examined for this test all were built in Switzerland, with batteries from the Far East, while Delta and Porter Cable drills were constructed mostly in the Far East.

For the test, I evaluated feel, weight, balance, battery charge times, torque and overall comfort in performing specific tasks. I used various mod-

els on three separate job sites and in purpose-designed field testing.

First, I assisted in the installation of structured cable throughout a section of a New York Courthouse's very old lathed walls. My tools of choice for the task were hammer drills. First up was a **Porter Cable 978** with 23 torque settings plus hammer. Hand feel was very



nice, if a tad heavy, with supplied adjustable, replaceable hand grips.

The chucks of today are very different & much better than what you might be used to. The Porter Cable 978 chuck was about 2.5 inches out from the body of what seems to be a high-tensile machined metal, but the real beauty is in the locking action. No more rope burns, just insert, twist and lock. This is true for all models reviewed here from Porter Cable and Bosch.

Next came the **Bosch 13614**, with 16 torque settings plus hammer. The courthouse walls were no match for these two 14.4V beauties, as they both made mincemeat out of the lath-

ing. Strength like that requires control, and both of these units have a “brake,” which allows for precise and immediate stoppage of motion.

On this test, both seemed equally matched in strength, with hand grip comfort going to Porter and trigger grip and control going to Bosch. Both units include optional second-hand control arm for hammer use, and the Bosch has user-replaceable brushes for the motor. Both drills worked extremely fast and saved valuable time on a Saturday.

For my second test, I installed a new LCD projector. This time I would be drilling into reinforced concrete approximately 15 years of age. First up was the 14.4V **Bosch 32614**, a 3/8-inch chuck version without a hammer fea-

ture using the same battery as the 13614. Oh, the beauty of balance! This unit is perfect for racking gear, driving screws and overall use. Working overhead in this case, the difficulty of vertical drilling became apparent after the first inch or so of concrete. So out came models 978 and 13614 again. First up was the Porter Cable, which worked admirably up to the point of the bit failing and my shoulder yelling “Stop.” I then installed an industrial hammer drill bit from Bosch Industrial, which made the next hole a 30-second breeze. Switching then to the Bosch 13614, we noticed what seemed to be more torque, as both remaining holes of

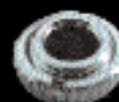
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## TORTURE (REAL-LIFE) TESTS

In addition to the three installation tests, a torture test was also devised—drilling into cinder blocks and 4-inch-thick birch posts, all under the watchful eye of a stopwatch. Conditions were 50 degrees Fahrenheit in mild humidity, with every unit fully charged 48 hours prior. Bits were 3/8-inch Bosch Industrial bits, carbide-tipped cement and solid carbide general use. All tests were repeated three times in order to deduce an average result.



### BOSCH 33614 BRUTE TOUGH

**SPECS:** 14.4V, serviceable motor, internally reinforced steel collar, low speed 0-450, high speed 0-1500, 400 inches/pound, bit clip, tool clip, removeable bit box  
**COMMENTS:** Single-sleeve 1/2-inch chuck makes for multi-use product where impact drilling is not paramount  
**TEST RESULTS:** 9.2 seconds through cinder block and 5.3 seconds through 4-inch post

### BOSCH 32614 COMPACT TOUGH

**SPECS:** 14.4V, 3/8-inch chuck, 16 settings  
**COMMENTS:** Comfortable weight and feel make for great multi-purpose tool; slightly wobbly under heavy pressure; good torque & brake control; small, but powerful, allows for work in tight racks  
**TEST RESULTS:** 19.3 seconds through cinder block

### BOSCH 13614 BRUTE TOUGH

**SPECS:** 14.4V, serviceable motor, 16 settings plus hammer, low speed 0-450, high

speed 0-1500, up to 18,000 RPM, 1/2-inch single sleeve, carbide jawed replaceable chuck  
**COMMENTS:** Great heavy-duty alternative to wired when impact drilling is needed as well as portability; powerful  
**TEST RESULTS:** 5 seconds through cinder block in hammer mode, under 5 seconds through 4-inch post

### DELTA CL144

**SPECS:** 14.4V, bubble level, two bit holders and 23 settings, low speed 0-330, high speed 0-1100  
**COMMENTS:** Perfect for racking screws in a shop; lightweight, easy to handle, but lacks self-locking chuck  
**TEST RESULTS:** 19.7 seconds through 4-inch post.

### PORTER CABLE 9878

**SPECS:** 14.4V, Self-centering jaws, two bit holders, 420 inches/pound, low speed 0-450, high speed 0-1400  
**COMMENTS:** Great for heavy-duty jobs where racking is still important  
**TEST RESULTS:** 10 seconds through 4-inch post; more than 30 seconds through cinder block [first use of bits]

about 3 inches in depth drilled out in just over 20 seconds.

The third task was done from the vantage point of an observer. I loaned

the two beasts of the group to an electrician installing a box in what turned out to be very stubborn, hard and crumbly concrete. Of course this never

happens to AV installers when flying speakers somewhere in a stadium or hundred year-old church, trying to drill a 3/8-inch hole and getting 9/16 of an inch! Must have been that wobbly chuck right? Wrong.

Six holes were drilled, in the same building where a certain wired drill of unmentioned industrial variety was used throughout the job prior. First used was a **Bosch 13618** loaded with 18V of 2.4Ah power, 16 torque settings plus hammer, and enough torque to rival anything with a wire attached to a 15-amp line. From the start, the drill has the same industrial feel and build of the model 13614, but this time the battery comes from Japan. A full metal, internal collar adds to the durability, especially when the tool is accidentally dropped on its chuck. As in the 13614, there is a built-in tool clip on the back of the unit and brushes are again user-replaceable (although not advised). Balance and feel are

excellent, and based on the comments from both the master electrician and his apprentice, function was excellent.

Next came the big-boy **Porter Cable 987**, which has a whopping 2.4Ah battery in a 19.2V wrapper with 470inch/pounds of torque. Hand feel and balance is excellent, and this model also includes various hand grips to allow for different hand sizes. Especially helpful on all models of the hammer varieties reviewed here are the reversible left or right hand grips.

➤ **Bosch...** [www.boschtools.com](http://www.boschtools.com)

➤ **Delta...** [www.delta.com](http://www.delta.com)

➤ **Porter Cable...**

[www.portercable.com](http://www.portercable.com)

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## THE BASICS

### PORTER CABLE 966

**SPECS:** 12V, 385 inches/pound torque, low speed 0-450, high speed 0-1300, locking steel ratcheting 1/2-inch chuck  
**COMMENTS:** A great all around tool; if maximum racking gear is more important than drilling, and small size is important, this is a contender

### DELTA CL180

**SPECS:** 18V, low speed 0-350, high speed 0-1300, keyless 1/2-inch chuck, bubble level, 24 torque settings, OSHA approved  
**COMMENTS:** Powerful yet economical

### DELTA CL096

**SPECS:** 9.6V drill/driver, 3/8-inch chuck, 23 torque settings, 0-550 speed-sensitive trigger, bit holder, bubble level  
**COMMENTS:** At 3.2 pounds, this is a perfect addition to anyone's trade-show kit

### BOSCH 33618

**SPECS:** 18V, 475 inches/pound of torque, low speed 0-400, high speed 0-1300, 1/2-inch chuck, 16 clutch stops plus hammer, internal steel-reinforced collar, adjustable arm, tool clip  
**COMMENTS:** Power to spare in a well-balanced tool

### BOSCH 32618 COMPACT TOUGH

**SPECS:** 3/8-inch single sleeve, one-handed chuck, 310 inches/pound of torque, with speed to 1,300 RPM, 16 clutch stops  
**COMMENTS:** Good for situations where power is required in tight quarters