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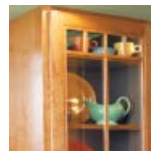
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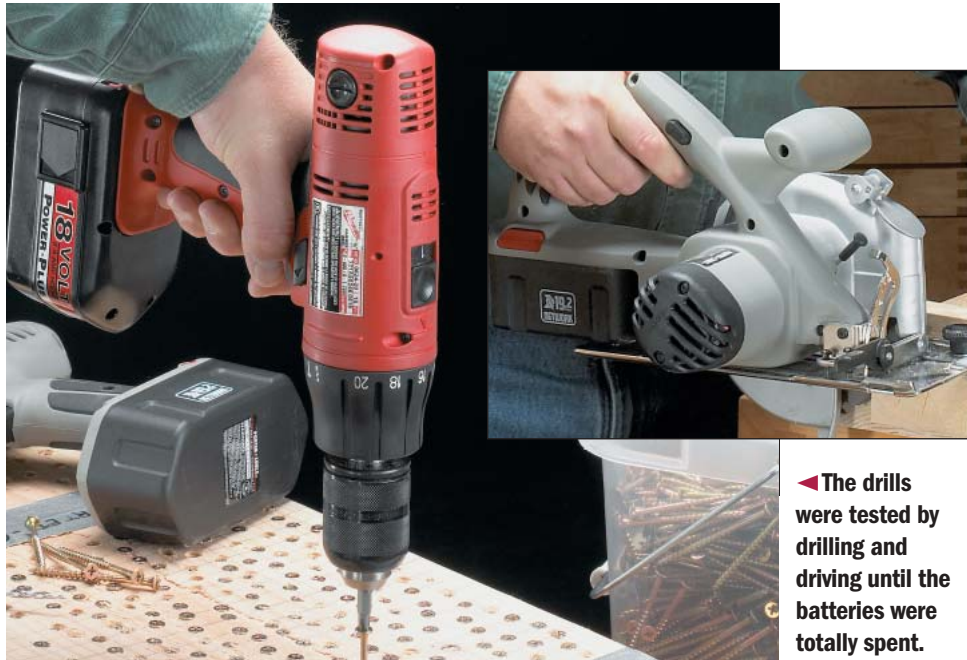
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Tool Test: 18-Volt Cordless Combo Kits

APRIL 2003



◀ The saws were rated by the number of 2x4 cuts possible on a single charge.

◀ The drills were tested by drilling and driving until the batteries were totally spent.

Eight Popular Combo Kits are Put to the Test

One are the days when cordless tools were underpowered and overpriced. Today's stock of cordless tools boast greater power than ever before, have batteries with much longer run times, and are priced to fit any budget.

That said, don't think for a minute that all cordless tools are created

equal. A quick comparison of prices and you'll see that, if on no other count, there's a vast disparity among these tools. The goal of this test, then, was to determine *why* the tools cover such a wide-range of price tags.

The most obvious answer is that higher-priced tools are built to meet the demands of professional builders

who rely on their tools for their livelihood. The lower-priced tools are aimed more at the occasional user, such as a do-it-yourself homeowner or woodworker.

We grouped the eight manufacturers in this test accordingly, with five of them being compared and evaluated as Pro Grade tools and the

remaining three falling into the Consumer Grade category.

We subjected two 18-volt tools (circular saw and drill) from each manufacturer to a series of trials (described in *How We Tested* at right).

These trials illustrated quite definitively the differences in the two classes of tools. It also revealed some interesting differences among tools within the same category.

In general, we found that you get what you pay for, which isn't to say that you should rush out and buy the most expensive cordless tools you can find. Instead, take a look at the way we tested these tools. Read the descriptions of each manufacturer's product. Then compare that to the way you're going to be using the tools to make the best choice for your particular needs.

If you plan to run them every day all day, pay the higher price for the Pro Grade tools. On the other hand, if you're more of a weekend project builder, you'll find that the best of the Consumer Grade tools will likely meet or exceed your need for power and run time.

APPLES TO APPLES

One important note when comparing the prices of these tools. Each manufacturer packages the tools a little differently. So be sure you know exactly what's included in a kit before comparing it to another. Most of these tools are available in two-piece kits (just the saw and drill) while others are only available in larger kits. So it's important to know exactly which tools you're buying and at what price.

UNCOMMON KITS

As more and more tools are adapted for battery power, manufacturers are packaging them in kits that are more task specific. This allows you to buy specialized tools that are better suited to your particular needs.

A couple of our favorite specialty kits are shown on page 8 along with expanded coverage of the complete kits from Ryobi and Black & Decker that were part of this test.

HOW WE TESTED



▲ To gauge the sustained power of the drills, we bored 1"-dia. holes until the batteries failed.



▲ We compared the clutches on the drills by driving a screw at each setting.



▲ The first step in testing tools is to condition the batteries. This was done by cycling each battery through five charges and five discharges.



▲ The crosscut test was performed twice with each saw to ensure accurate results and allow for differences in stock. A crosscut sled guaranteed uniform cuts.

Cordless Combination Kit Performance Test Results

Manufacturer & Model	Drill		Saw
	Pilot Holes/Screws	1" Auger Holes	2x4 Cutoffs
Milwaukee 0902-28	200/190	43	139
Bosch 93618DC	150/149	37	98
Makita DK1016DL	200/200	38	136
Porter-Cable 9884CS	180/180	33	112
DeWalt DW988KS2	150/142	29	148
Ryobi HP518MK2	130/130	22	72
Black & Decker	10/108	N/A	62
Skil 5884-04	110/109	N/A	38



It would've been an easy choice to name Milwaukee's cordless tools as the best of the Professional Grade kits based purely on the numbers. Take a look at the chart on page 2 and you can see that these tools are near the top of the performance curve in every single test we conducted.

But there's much more to these tools than the cold hard statistics. And it was those characteristics, along with the impressive performance of the tools, that gave Milwaukee top honors.

DRILL/DRIVER

Grabbing hold of the Milwaukee drill for the first time, we immediately noticed two things about this tool. First of all, it's heavier than the

other drills in the test. Second, this drill has a noticeably narrower grip that allows you to get your hand firmly around the tool.

Our first thought was that the weight might make the drill tiring to use. But after drilling and driving 200 screws, we felt this was the most comfortable drill to use for an extended period of time.

That has a lot to do with the near-perfect balance of the drill. Plus the narrow grip allows a much more comfortable hold on the tool. We experienced less forearm and wrist strain with this drill than any other we tested.

The best feature of this drill, though, is the chuck. It's an all-steel, single-sleeve ratcheting chuck — which is a wordy way of saying that you can tighten a drill bit securely with just one hand (Fig. 1).



▲ We opted for the canvas contractor's bag with this kit — we'll never go back to plastic cases.



▲ The large chuck and the ratcheting action make for easy bit installation, even with gloves on.



▲ The substantial fence of this edge guide keeps the Milwaukee circular saw on track during long cuts.

At a Glance:

Combo Kit	Price:	\$360
	Voltage:	18
	Batteries:	2
	Amp Hours:	2.4
	Charger:	1-hour
Drill	Warranty:	Limited lifetime
	Torque:	495 in. lbs.
	Clutch:	20 positions
	Chuck Capacity:	1/2"
Saw	Blade Diameter:	6 1/2"
	Blade Type:	24T, carbide-tipped
	RPM:	3,200
	Capacity @ 90°:	2 1/8"
	Max. Bevel:	50°

Virtues: Powerful. Long battery life. Comfortable to use.
Vices: Heavy.
Verdict: These tools are superior by nearly every measure.
www.MilwaukeeTools.com
 262-781-3600

CIRCULAR SAW

We found this saw to be finest in terms of overall construction and finish. This was best demonstrated when we tested the metal bases for flexing. The Milwaukee showed almost no give — which goes a long way toward making a clean, straight cut.

And speaking of straight cuts, this saw also had our favorite edge guide (Fig. 2). The wide face of the guide is a sturdy platform that holds the saw true through long rip cuts.

Other highlights for this tool are the magnesium shoe and blade guard, which are beefy, but lightweight, and a trigger/safety switch combination that's easy to operate with one hand, lefty or righty.

Our opinion of this set is that it was built with no compromises. Milwaukee seems intent on living up to their "nothing but heavy-duty" claim without getting caught up in the "lightest and smallest" race. And that's working out just fine, as far as we're concerned.

BOSCH 93618DC

PROFESSIONAL GRADE

At a Glance:

Combo Kit	Price:	\$399
	Voltage:	18
	Batteries:	2
	Amp Hours:	2.4
	Charger:	1-hour
Drill	Warranty:	3 Years
	Torque:	500 in. lbs.
	Clutch:	16 positions
Saw	Chuck Capacity:	1/2"
	Blade Diameter:	6 1/2"
	Blade Type:	18T, carbide-tipped
	RPM:	3,600
	Cut Capacity @ 90°:	2 1/8"
	Max. Bevel:	50°

Virtues: Rugged construction. Fast saw speed.

Vices: Awkward spindle lock.

Verdict: Tough tools with admirable performance.

www.BoschTools.com
800-267-2499

We couldn't bring ourselves to drop the Bosch drill from 46 feet in the air (as Bosch does on their web site), but we're still convinced that this may be the toughest drill on the market. That's thanks to a reinforced collar around the chuck and a flexible exterior housing.

Of course, you don't buy 'em to drop 'em, so it's the performance that really counts.

DRILL/DRIVER

This drill finished in the middle of the pack in terms of screws driven and holes drilled, but earned its number two spot with solid construction, good ergonomics, and a very effective clutch.

CIRCULAR SAW

The saw came up a bit short in the number of cuts, but with Bosch's rapid charger (one of the fastest going) we don't see it as a real hand-



icap. Plus, we liked the fact that this saw runs at 3,600 rpm, giving it one of the highest blade speeds in the group. That makes for quick, clean cuts. The depth scale on this saw is also the best of the bunch (see photo at right).

One knock against this saw is the spindle lock. It works fine, but its location is awkward. Overall, these are outstanding tools that will take abuse better than most.



▲ A well-placed, accurate depth scale is a bonus on Bosch's saw.

MAKITA DK1016DL

PROFESSIONAL GRADE

At a Glance:

Combo Kit	Price:	\$479
	Voltage:	18
	Batteries:	2
	Amp Hours:	2.6
	Charger:	1-hour
Drill	Warranty:	1 year
	Torque:	404 in. lbs.
	Clutch:	18 positions
Saw	Chuck Capacity:	1/2"
	Blade Diameter:	6 1/2"
	Blade Type:	24T, carbide-tipped
	RPM:	2,600
	Cut Capacity @ 90°:	2 1/8"
	Max. Bevel:	50°

Virtues: Accurate. Compact. Affordable. Excellent controls.

Vices: Mushy depth stop.

Verdict: The right saw in the right size at the right price.

www.Makita.com
800-462-5482

These cordless tools have everything we've come to expect from Makita: they're compact and lightweight, have user-friendly controls, and excellent performance.

Even the battery charger distinguished itself. It's very easy to glance at the Makita charger and know the exact status of the battery (Photo below). Some other chargers require a bit of deciphering.

DRILL/DRIVER

This drill wore us out by driving 200 screws into pre-drilled holes. And the size and shape of the drill proved quite comfortable during the test.

One improvement that would be welcome is a single-sleeve chuck.

CIRCULAR SAW

The circular saw finished an impressive third place in the number of cuts on a single battery charge. But even



more impressive was the quality of cuts we got from this powerhouse. The cuts were generally straighter and smoother than those made by most other saws in the test.

We also found the saw to be smooth running and easy to use. The controls are smartly located, and the base proved to be flat with only the slightest amount of flex.

As a whole, these are superior tools that are a pleasure to use.



▲ Makita's charger was the easiest to read and understand.

PORTER CABLE 9884CS

PROFESSIONAL GRADE



▲ Dust-free cutting thanks to PC's nozzle and your vac hose.

Porter-Cable's tools differ from the others in this test in that they use 19.2-volt batteries instead of the 18-volt packs on all the others. That means there is one more 1.2-volt cell in the Porter-Cable batteries. Quite honestly, we didn't see any increase in performance as a result.

DRILL/DRIVER

Porter-Cable's drill put up pretty respectable numbers in all the test categories. Nonetheless, we felt the

drill could benefit from a single-sleeve chuck, a thinner handle that allows a better grip on the tool, and a battery that's not so awkward to remove.

CIRCULAR SAW

It was the saw that really made this kit a favorite for us. We were more than satisfied with the number of cuts we were able to get from a single charge. But more than that, we were impressed with some of the details of the saw.

Dust collection, as an example, is outstanding thanks to a nozzle that mounts in the blade guard (*Photo, left*).

Other notable features include an extended tip on the blade guard that moves the guard even on odd-shaped workpieces and adjustable stops for fine-tuning the shoe to 45° and 90°.

All in all, these are burly tools with average performance numbers and a few nice features.

At a Glance:

Combo Kit	Price:	\$340
	Voltage:	19.2
Drill	Batteries:	2
	Amp Hours:	2.0
Saw	Charger:	1-hour
	Warranty:	1 year
Saw	Torque:	390 in. lbs.
	Clutch:	20 positions
	Chuck Capacity:	1/2"
	Blade Diameter:	6"
	Blade Type:	18T, carbide-tipped
	RPM:	2,600
Saw	Cut Capacity @ 90°:	2"
	Bevel:	45°

Virtues: Excellent dust control on saw. Adequate battery life.
Vices: Two-sleeve chuck. Thick handles.
Verdict: A good kit that lacks a few niceties. Pay more for the 9984 kit with the single-sleeve chuck.

www.Porter-Cable.com
 800-487-8665

DEWALT DW988KS2

PROFESSIONAL GRADE



▲ DeWalt's third speed is perfect for hammer-drilling masonry.

DeWalt's cordless drill put up respectable numbers in the tests, and the saw produced the highest number of cuts on a single charge. There were just a couple of quirks that cost this kit a higher position.

DRILL/DRIVER

One real high point for this drill is a three-position gear box. Position 1 is for low-speed, high-torque jobs such as driving large screws. Position

2 is a high-speed, low-torque setting perfect for typical drilling applications. The corker is position 3, which cranks the top speed of the drill up to 2,000 rpm.

This third speed is suited for drilling masonry in the hammer-drill mode (*Photo, below*).

Where this drill suffered was in the sensitivity of the clutch. In the lower gears, where the clutch is most useful, we were unable to fine-tune the clutch.

CIRCULAR SAW

Based on 2x4 cuts on a single charge, there's no better saw in this group. So if that's your priority, this is your saw.

On the downside, we noticed more flex in the shoe of this saw than on the other Pro Grade tools.

All in all, these are high performance tools with a couple of compromises you may have to consider.

At a Glance:

Combo Kit	Price:	\$390
	Voltage:	18
Drill	Batteries:	2
	Amp Hours:	2.4
Saw	Charger:	1-hour
	Warranty:	1 year
Saw	Torque:	450 in. lbs.
	Clutch:	18 positions
	Chuck Capacity:	1/2"
	Blade Diameter:	6 1/2"
	Blade Type:	24T, carbide-tipped
	RPM:	3,700
Saw	Cut Capacity @ 90°:	2 1/4"
	Max. Bevel:	50°

Virtues: Tools are compact. Both tools are high speed.
Vices: Poor clutch control on drill. Moderate flex in saw base.
Verdict: Excellent tools with a couple of minor faults.

www.DeWalt.com
 800-433-9258

RYOBI HP518MK2

CONSUMER GRADE

Ryobi's tools perform very near the levels of the higher-priced Pro Grade tools. In addition, we found some features on the drill that made it all the easier to give this kit our Top Value Award.

At a Glance:

Combo Kit	Price:	\$199
	Voltage:	18
	Batteries:	2
	Amp Hours:	1.5
	Charger:	1-hour
Drill	Warranty:	2 years
	Torque:	Not published
	Clutch:	24 positions
Saw	Chuck Capacity:	1/2"
	Blade Diameter:	5 1/2"
	Blade Type:	18T, carbide-tipped
	RPM:	4,200
	Cut Capacity:	1 9/16"
	Max. Bevel:	50°

Virtues: Solid performance in both tools. User-friendly features on drill. High blade speed on saw.

Vices: At this price, none.

Verdict: Performance and features well beyond the price.

www.RyobiTools.com
800-525-2579

DRILL/DRIVER

Drilling and driving 130 screws put this drill nearly on par with the much pricier tools from other manufacturers. Now add to that the two levels (one of which is removable) and the magnetic tray for holding hardware, and this drill becomes an unequalled bargain.

We were also impressed with the quality of the clutch on this drill. Each setting resulted in a different depth of set, allowing for fine-tuning the drill for most applications.

CIRCULAR SAW

The circular saw in this kit speeds along at a blistering 4,200 rpm, the fastest blade speed in this test — the result of which are fast, clean cuts. Surprisingly, the higher speed didn't seem to drain the battery any faster.

Considering that these tools are part of a five-piece kit that sells for half as much as the pro-grade tools, but still delivers pro-like numbers, this is an excellent choice for any do-it-yourselfer. Take a look at page 8 to see the complete kit.



◀ A magnetic tray sure beats holding all those screws in your mouth.



◀ Vertical or horizontal, levels on the drill keep you pointed true.

BLACK & DECKER

CONSUMER GRADE

At a Glance:

Combo Kit	Price:	\$199
	Voltage:	18
	Batteries:	2
	Amp Hours:	1.2
	Charger:	3-hour
Drill	Warranty:	1 year
	Torque:	280 in. lbs.
	Clutch:	Infinite
Saw	Chuck Capacity:	3/8"
	Blade Diameter:	5 3/8"
	Blade Type:	16T, carbide-tipped
	RPM:	2,200
	Cut Capacity:	1 9/16"
	Max. Bevel:	50°

Verdict: A few nice features, but save this kit for light duty.

www.BlackandDecker.com
800-544-6986

Black & Decker's tools impressed us with their features more than their performance. The batteries, for instance, are the easiest to remove from the tools. They literally spring on and off. But each tool had other unique features.

DRILL/DRIVER

The removable chuck on this drill speeds changes between drilling and driving and is quite handy. And the large controls make it easy to operate the drill with gloves on.

CIRCULAR SAW

A sight window on the saw that offers a bird's-eye view of the cut is another feature we really liked.



Performance numbers from these tools were a bit low, even considering the low cost of the kit.

Our big gripe is the charger that takes three to six hours to charge a battery and offers no indicator to tell when the battery is ready.

SKIL 5884-04

CONSUMER GRADE



► A 7¹/₄" circular saw makes this a one-of-a-kind combination kit.

Skil was nice enough to let us test a prototype of this kit, which includes the only full-size (7¹/₄" cordless circular saw currently available.

The kit should be on store shelves by the time you read this.

DRILL/DRIVER

This drill put up numbers comparable to the other Consumer Grade tools and has a few features, such as a removable level and magnetic tray, that we appreciate. The clutch is a bit limited with only six positions, but functioned well in all six settings.

CIRCULAR SAW

We like the extra capacity the 7¹/₄" circular saw offers, but would like to see a bit more run time out of a single battery charge.

Nonetheless, this is a one-of-a-kind kit at a reasonable price. Just be sure to keep a spare battery charged if you plan to use the saw for very long.

At a Glance:

Combo Kit	Price:	\$159
	Voltage:	18
Drill	Batteries:	2
	Amp Hours:	1.4
Saw	Charger:	1-hour
	Warranty:	2 years
	Torque:	300 in. lbs.
	Clutch:	6 positions
	Chuck Capacity:	3/8"
	Blade Diameter:	7 ¹ / ₄ "
	Blade Type:	18T, carbide-tipped
	RPM:	3,600
	Cut Capacity:	2 ⁷ / ₁₆ "
	Max Bevel:	45°
Verdict: A unique kit at a low price. Expect short run time. www.Skil.com 877-754-5999		

FINAL RECOMMENDATIONS

EDITOR'S CHOICE

Milwaukee lives up to their boast of "nothing but heavy-duty" and delivers cordless tools that are ruggedly built and perform as well as any and better than most.

Both the drill and the saw in this kit set standards for power, comfort, and fit and finish. This is the "no-compromise" kit for the demanding user.

Surprisingly, this is also one of the more moderately priced kits, making it a solid investment.

TOP VALUE

Any savvy tool buyer knows that as prices go down, expectations should lower accordingly. But apparently no one mentioned this to Ryobi. Their incredibly affordable cordless kit includes five essential tools. And the two that we tested performed well above their bargain price and delivered results not too much less than tools costing hundreds of dollars more.

This kit is a real boon for the budget-conscious tool buyer.



Combo Kit Report Card	DRILL					SAW										COMBO KIT		
	Performance	Chuck	Clutch	Ergonomics	Battery Charge	Performance	Depth Scale	Bevel Scale	Blade Lock	Alignment Marks	Depth Adjustment	Base Deflection	Fit & Finish	Ergonomics	Battery Changing	Changer	Accessories	GPA
MILWAUKEE 0902-28	A	A+	A+	A+	B	A	A+	A+	A	A+	A+	A	A+	A	B	A	A+	A-
BOSCH 93618DC	B	B	A+	C	B	B-	A	B	B	A-	A+	A	A	B+	B	B	B-	B+
MAKITA DK1016DL	A+	B	A+	A	C	A	n/a	A+	A	A-	A	A-	A+	B	C	A+	B	B+
PORTER-CABLE 9884CS	B+	B	A+	B	B	B	B	B	A	B-	A	B-	B	B+	B	A-	B	B
DeWalt DW988KS2	C+	A	B-	A	B	A+	n/a	A	A	A-	B+	B-	B	B	B	A	B-	B
RYOBI HP518MK2	C	C	A+	B	B	C-	B+	A	A	A-	A	C	B	A-	B	C	B	B
BLACK & DECKER	C-	C	A	B+	A+	D	B	B	n/a	n/a	B	C	C	C	A+	D	C	C
SKIL 5884-04	C-	C	C	C	C	D-	A	C	n/a	A	A	D	C	B-	C	B	D	C

Larger Combo Kits

Super size your combination kit and you'll save even more money. Here's a quick look at a couple of the big kits you might find worthwhile.

▼ The Black & Decker tools we evaluated in this test can be purchased individually, or in the set shown here, which includes the drill and circ saw as well as a flashlight and reciprocating saw. Buying this kit and only paying for two batteries and one charger actually saves you about half of what it would cost to buy the tools individually.



▲ For the most part, Ryobi's cordless tools are available only in kits. The kit we took the tools from for this test includes a reciprocating saw, flashlight, and hand vacuum. The vacuum is a unique part of this kit that comes in real handy around the house for cleaning up after small projects like hanging pictures or installing door hardware.

Specialized Combo Kits

More tools are being adapted to battery power everyday. And with each new tool, manufacturers are finding more useful ways to package them.

▼ The Bosch 93618DJP kit includes an 18-volt drill, jig saw, and planer (\$500). This is an excellent combination for door installation and other finish type jobs. We tested these tools the old-fashioned way — we put them to work. The planer surprised us with its quality of cuts and long run time. And when we inadvertently damaged one of the carbide knives, changing it was a snap.



▲ Porter-Cable's 9884RJS drill, router, jig saw package (\$600) is a cabinet installer's dream kit. And deck builders will like the convenience these cordless tools offer, as well. Rounding over the edge of a deck board that's been ripped is exactly the type of work this router is suited to. And the jig saw is ideal for cutting boards to fit around a post.