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### by Tom

## CORDED **POWER TOOLS** REV UP WITH MORE POWER, BETTER CONTROL AND NEW SAFETY FEATURES

he beat goes on: even while cordless innovations are snagging all the headlines. traditional corded tools continue to set new standards for power, ergonomics, noise and dust reduction and all-around job site invincibility. Here are the best new products from eight leading manufacturers.

#### DEWALT

Although the big news at this year's DEWALT Experience press event was all about its cordless products and new FLEXVOLT battery platform, the company did bring out some new corded tools too.

Notable among these are three new 4.5-inch small angle grinders with brake feature. These units.

models, DWE4222N\*, DWE4222 and DWE4224, all also feature DEWALT'S new Lanyard Ready Connection, which allows users to utilize a lanyard to tether the grinder to rigid structures at job sites, and a brake system that stops the wheel 50 percent faster on average than DWE402 model with a DW4541



grinder with improvements in key areas of durability, performance, ergonomics and ease of use," says Sean Kelly, group product manager.

Key improvements include the Lanyard Ready Connection, the

improved brake system, a Dust Ejection System that has been taken to a new level of design and functionality, an E-Clutch that activates in less than a tenth of a second when a wheel pinch/stall event is detected, and a new motor design.

DEWALT's latest

4.5-inch small angle

improved braking system, a new dust ejec-

tion system and the

new Lanyard Ready

Connection so users

can tether the tools to

structures at job sites for added safety.

grinders boast an

"A new motor platform has been developed which yields 40 percent more copper than the motor on the D28402. This upgrades the new grinder to 11 amps and adds another 200 max watts of output power. Average temperature rises have also been reduced compared to the D28402, and the body circumference is still smaller than competitors' models," Kelly adds.

Overall tool durability is enhanced by a newly redesigned and patented Dust Ejection System, which filters debris from the air, allowing mostly clean air to pass across the motor for longer motor life. And this new design does not require power from the motor, which allows the motor to be protected without compromising performance.

The new grinders are also designed to be easier to use. A patent pending feature, the One-Touch quard, allows the quard to be adjusted in a single, fluid motion.

"The new 4.5-inch small angle grinders also refuse to trade off ergonomics in two ways," says Kelly. "The 194mm body circumference remains smaller than competitive models and our new motor design alone produces 35 percent less average temperature rise on the gear case and a 30 percent cooler average temp rise on the field case compared to previous DEWALT models."

#### **SKILSAW**

Increased power and durability are key features that pros continue to demand from every tool. Unfortunately, not all tools can deliver on both at the same time and compromises are made. Users have recognized this and even built customized solutions to improve power, speed or durability, all to be more efficient.

With this in mind, SKILSAW Power Tools introduced the firstever 10-inch Worm Drive table saw. Similar to SKILSAW worm drive circular saws, instead of helical gearing, the SKILSAW table saw is built with

SKILSAW's torquey Worm Drive technology now enables its 15amp, 10-inch Portable Worm Drive table saw with soft-start to rip through 4x8 sheets of plywood or 4x material with ease.

Weighing just 26.2 pounds, the two-inch SDS-Max Bosch RH1255VC claims the best power-to-weight ratio in its class with 14.1 foot/pounds of impact energy. Comfort features include Constant Response circuitry for smooth starts and control.

Worm Drive gearing for more torque and power.

The SKILSAW 10-inch Portable Worm Drive Table Saw, model SPT70WT-22, features a unique Dual-Field Motor to keep the motor running cool, extending the overall tool life. Large cuts can be managed more easily with the saw's ability to rip full sheets of plywood in half with 25 inches of cutting capacity. And with a cut depth of 3 1/2 inches, cutting 4x material is quicker than ever.

"We've worked closely with carpenters, framers, general contractors and custom builders to ensure the Worm Drive Table Saw is engineered to help them work more efficiently," says Roger Amrol, president of SKILSAW Power Tools. "With a cut capacity able to rip full sheets of plywood and the performance benefits of Worm Drive gearing, this saw will tackle wood cutting jobs with ease. And with SKILSAW's great heritage of pioneering the Worm Drive in circular saws, we're proud to offer the first-ever portable table saw with the same innovative technology."

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#### BOSCH

High-powered tools on the job site are becoming more technologically advanced than ever before and the Bosch RH1255VC two-inch SDS-Max rotary hammer is no exception. This tool is packed with innovations like Turbo Power, Constant Response circuitry and Vario-Lock positioning. The RH1255VC raises the bar for rotary hammers while weighing less than 27 pounds.

"Designing the Bosch RH1255VC rotary hammer was all about incorporating both technology and power," says Mike lezzi, product manager, corded products, Robert

Bosch Tool Corporation. "We incorporated as many Bosch product innovations as possible to benefit the user while still making this one of



the lightest and most powerful rotary hammers on the market today."

The hammer's variable speed dial provides two drilling speeds and allows the user to match speed to application. The Vario-Lock positioning feature allows users to rotate and lock the chisel with precision.

Weighing just 26.2 pounds, the RH1255VC claims the best powerto-weight ratio in its class, delivering 14.1 foot/pounds of impact energy, an impressive feat for such a lightweight two-inch SDS-Max tool. The increased capacity is a product of the Turbo Power feature, which gives the tool more torgue and boosts speed in hammer mode.

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offers the user smoother starts, more precise hole placements and constant speed under load. The Bosch RH1255VC provides the best results on the job with tool and accessory optimization thanks to its industry-standard SDS-Max two-inch chuck. The SDS-Max Bit System provides tool-free bit chang-

es with automatic bit locking and

maximum impact-energy transfer.

#### **FESTOOL**

"For a contractor to be competitive today, it's important that value is considered at every step of the construction process," says Leo Zirkler, vice president of marketing, Festool USA. "Contractors should be asking what they can do better while working faster and more effectively. Value is especially important when considering what power tools to buy and use. The Festool power tools system is at the heart of our product design and is specifically structured to help contractors work more efficiently."

"What's important to understand, however, is that even one Festool tool can increase efficiency and provide more value. Each tool is manufactured with a range of unique,

Festool's unique CONTURO porrtable edge banding system delivers "shop quality" edge banding virtually anywhere. It can also route edges flush or up to 45 degrees.

To handle that much power, 'market-first' features that bring more the rotary hammer also features value not only to the tool itself, but Vibration Control technology. This to the actual processes and applicaoffers a mass-damper control in the tions for which it is designed. A great hammer mechanism and isolation example of this approach to power tool design and utility is our technology in the handle, which CONTURO Edge Bander." further reduces vibration levels at the user's hands. That additional control and comfort is increased with

CONTURO makes it as easy to apply edge banding on the job site as it is in the shop – and it can do so at incredible value. Users gain the benefits of a dedicated edge banding machine without the cost associated with stationary equipment.

CONTURO is not only less expensive than a stationary edge bander, its portability and sleek, hand-held design make it capable of edge banding almost anything and anywhere, including curves and circles, inside corners and tight radii.

CONTURO and the entire Festool power tool line allow the user to get an expanded range of results from one tool along with job site results that are "in-shop" quality. That means, from sawing/cutting and edge banding, to sanding, drilling and

dust extraction, users can get results that

Hitachi's newest AC brushless impact wrenches and rotary hammers deliver long tool life and have an internal inverter circuit which enables the tools to be safely run by gas generators.

were formerly only attributed to using either a group of portable tools or to using large, non-portable, stationary machines.

#### **HITACHI POWER TOOLS**

In the corded power tool category, companies are constantly working to produce the next great product. Some products are true innovations. Recently, Hitachi introduced a new line of AC brushless tools, including two new impact wrenches and five new rotary hammers.

"Brushless motor technology is well known in the cordless industry to be more efficient, smaller, lighter, and it helps provide longer run times with today's battery technology," says Chris Harris, product manager, Hitachi Power Tools. "Hitachi's AC brushless motor technology provides some of the same benefits (smaller,

lighter, more efficient) to corded tool market, but there are many other benefits as well, such as no carbon brush replacement. This means less down time for routine maintenance."

Hitachi's AC brushless tools also contain an internal inverter circuit, which allows these tools to be powered by a standard gasoline generator. They also maintain voltage better on extension cords.





Hitachi has also incorporates AHB (Aluminum Housing Body) technology in many of these tools. AHB consists of a durable aluminum outer housing combined with a glass reinforced polyamide resin inner core. The aluminum body provides durability and protection from job site hazards and a rigid, consistent structure for the internal components. This allows the rotor bearings to be seated in the aluminum housing, thus reducing wear and out-of-alignment vibration.

The glass reinforced polyamide resin protects the internal electrical components and reduces the risk of electrical shock.

"Hitachi is on the forefront of technology with innovative ideas to solve end-user problems, protect the work force and increase productivity," Harris adds. "UVP (User Vibration Protection) technology on select AC Brushless and other corded tools combines vibration-reducing handles and internal counter weights to reduce the vibration generated from these tools. UVP technology from Hitachi makes work more comfortable for the operator and also helps reduce vibration related injuries."

#### LACKMOND PRODUCTS

Lackmond Products, based in Marietta, Georgia, is a leading manufacturer and marketer of diamond and carbide tools and equipment for the tile, stone and construction markets. Lackmond has been serving professional construction and plant maintenance markets for over 20 years,

Lackmond's 7-amp Beast Tile/Stone Drilling System weighs just 5.2 pounds. The 9.4-pound 5-inch Beast circular saw can cut 1 1/4 inches deep at 90 degrees and 15/16 inches deep at 45 degrees.

with seven warehouses in the United States and locations in Canada and Latin America.

"Lackmond Products' Beast Tile/ Stone Drilling System comes with a drilling machine, water tank and bit template," says Ted Skaff, Lackmond's vice president of marketing. "The machine is designed with a powerful variable-speed, sevenamp motor which ranges from 3,000 to 10,000 rpm."

Lackmond's Beast drilling system is designed to be used with Lackmond's Beast core bits, which are designed for tile and stone applications. When used with Lackmond's Beast core bits, this system executes precise chip-free holes in tile and stone.

The Beast drilling machine weighs 5.2 pounds and comes with a durable plastic case for easy storage and a one-year warranty.

Lackmond's Beast 5-inch Tile/ Stone Saw can use both standard and concave blades and can be used wet or dry. Its powerful 12-amp. 13,500-rpm variable-speed motor can cut 1 1/4 inches deep at 90 degrees and 15/16 inch deep at 45 degrees. The saw has an integrated plunge cut feature and its strong rip fence ensures accurate rip cuts over long tiles. It weighs 9.4 pounds and also carries a one-year warranty. CONTINUED ON PAGE 62

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#### **BUILT WITH POWER BLAST TECHNOLOGY™ TO LAST LONGER.**



\*vs. previous generation LENOX reciprocating saw blades. ©2016 LENOX. All Rights Reserved.

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#### **MAKITA USA**

"The biggest force in corded power tools is – cordless!" proclaims J. Carlos Quintana, senior product manager, cordless, for Makita USA. "Make no mistake: in select corded tool categories,



Makita Anti-Vibration Technology (AVT), an internal counterbalance system, significantly reduces vibration in select corded concrete hammers and even a corded recipro saw, without compromise in performance.

Makita recently created vibration reduction for corded grinders with SJS II, a leaf-spring-and-cam gear-drive mechanism engineered to reduce vibration. And in the corded miter saw category, Makita Deep and eXact Cutting Technology (DXT) is setting new benchmarks in capacity with an innovative directdrive gear system.

But at the same time, the major trend in corded tools is increasing the ability of contractors to unplug them and use a cordless tool instead.

"The trend to unplug the cord is driven by battery and motor

technology, and Makita is a leading innovator in both fields," Quintana says. "The combination of efficient brushless motors, the industry's fastest-charging high-amp-hour batteries, and the ability to run two batteries on higher amp-draw tools like saws and rotary hammers has created more capacity, more efficiency and the industry's highest output of watt hours. This means more opportunities to unplug the cord while remaining in one 18-volt battery platform."

When contractors search for a cordless replacement for a corded tool, voltage is only part of the story. Watt hours, the product of amp hours and voltage, measures the amount of work performed by the tool and is a better performance indicator.

For example, a Makita 18V 5.0-Ah battery has 90 watt hours  $(18V \times 5.0 = 90)$ . Apply this simple formula to the new 18V X2 LXT (36V) Recipro saw, powered by two 5.0-Ah batteries, and users get a full 180 watt hours. The result is corded performance, but with the same fast-charging 18V batteries that are strongly preferred for core tools like drills and impact drivers - something that anyone who ever used a 36V battery-powered drill will appreciate.

#### Two key drivers in tion and improved dust extraction, and users get both with Makita's 5-inch SJS II High-Power Angle Grinder with Tuck Point Guard.

#### WALTER SURFACE **TECHNOLOGIES**

When it comes to portable power tools, everyone tries to optimize their products for the right application at hand. Metalworking and MRO shops constantly look for ways to maximize productivity, and to reduce job times and labor costs, all while keeping the comfort and safety of their employees in mind.

In the same way, manufacturers must build small electric motors and add power to their tools, while focusing on the final ergonomic and comfort aspects for users, which demands a lot of engineering.

"This year, Walter redesigned its line of corded grinders and has classified them based on application,

size, versatility, productivity and maximum safety," begins Stéphane Drainville, product manager, tooling and power tools. "We've also introduced a new grinder, the Pro 5, which can almost double the productivity compared to a regular 5-inch grinder.

There is nothing comparable on the market for removal rates or cutting times, especially when paired with our abrasives. In fact, all of our grinders are designed to extend the life of our abrasives to offer even more cost savings."

Each new corded grinder features the Quick-R release, which lets the user change grinding and cut-off

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wheels in seconds without keys or wrenches.

Walter has also added a new stabilizer feature to its Mini-Plus allin-one grinder and to its maximum productivity grinders. This Stabilizer reduces vibrations and increases the life of the tool and its grinding or sanding disc. New Walter power grinders also feature an exclusive built-in safety clutch system to prevent the wheel from exploding if jammed while in operation.

"We also have a line of grinders built for maximum safety without compromising on performance," Drainville says. "These include a non-locking paddle-switch, and Soft Start, which ensures a progressive rpm increase. The most important new feature is a mechanical brake

Walter's Mini-Plus all-purpose grinder with Stabilizer reduces vibration and increases tool life by up to 30 percent and disc life by up to 200 percent. It also features DYNAMAX rpm monitoring and Powerguard overload protection.

system that will stop the tool from spinning in less than two seconds! This brake will engage as soon as the paddle switch is released.

"Our maximum productivity grinders are built to withstand heavy-duty applications and for long periods of use. Their DYNAMAX electronics

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- trusted by professionals
  - available in corded & cordless







corded tool design are vibration reduc-

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ensure that rpms remain constant even under heavy load. Our sanders and polishers also feature DYNAMAX and Variable DIALSPEED, so users can adjust the speed for maximum performance and tool life. Variablespeed grinders are far more comfortable, safer to use and have a lot more torque inside." 😋



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