

## Battery Tester For DeWalt 18-Volt Cordless Batteries

Anyone who uses DeWalt 18-volt cordless tools will like this new digital battery tester put together by Elam Stoltzfus of Kirkwood, Penn. The unit attaches to the posts on any DeWalt 18-volt battery and shows the voltage in big, brightly lit numbers on top.

"It tells you exactly how much voltage is left in the battery. As far as I know there isn't anything like it on the market," says Stoltzfus.

He says DeWalt's 20-volt cordless batteries come with 3 built-in indicator lights that show you when the battery is running low, but they don't show you the actual voltage. "The company's 18-volt cordless tools don't even have the indicator lights," says Stoltzfus. "So if you have multiple batteries laying around and don't know if they're charged or not, you have to install them in the tool to find out."

Stoltzfus bought a 12/24-volt meter and a plastic adapter with 2 metal prongs on it. He soldered the volt meter leads to the metal prongs and then glued the adapter onto the bottom of the volt meter.

"Everything is molded and sealed inside the tester," says Stoltzfus.

"I came up with the idea because we're Amish, and we started using modified DeWalt 18-volt LED lights in our house instead of propane-operated lights. The lights we buy come with a fluorescent bulb tube, which we replace with an adapter that lets us screw in the LED bulb.

"We might have 4 or 5 batteries on hand as



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backups for the lights at any time. The lights come with an automatic shut-off when the battery runs low. With the voltage tester we can quickly find out which batteries need to be charged."

The battery tester sells for \$35, with free shipping anywhere in the U.S. (Pennsylvania residents have to pay a 6 percent sales tax.)

Contact: FARM SHOW Followup, Elam L. Stoltzfus, 5465 Street Rd., Kirkwood, Penn. 17536 (ph 717 529-0173).



John Gass figured out how to convert an old commercial dishwasher into a sandblasting cabinet.

## Sandblaster Cabinet Made From Old Dishwasher

"I build or fix a lot of things in my shop, so when a friend asked me if I wanted an old commercial dishwasher that he was throwing away, I jumped at the chance," says retired Illinois steam fitter John Gass. "Within a few days I figured out how to make it into a real nice sandblasting cabinet."

The 30-in. high and wide dishwasher cabinet opened with double doors on 2 sides and had racks on 2 sides that pulled out to load and unload dishes. Gass built a 4-legged stand to position the washer 2 ft. above the floor. Then he re-worked one of the inside racks so it holds small parts that he's sandblasting. He completely removed the opposite rack so that side had a flat wall. About 10 in. from the bottom of the empty sidewall he cut 2 round openings and added protective rings with gloves on the inside. That provides access so he can reach inside to hold the spray gun with one hand and use his other hand to hold the parts he's working on. His hands are protected with heavy-duty rubber gloves and his arms with welding leathers that he sews to the top of the gloves.

Gass cut an 18 by 18-in. opening above the hand access ports so he can see what he's

working on inside the cabinet. The opening is covered with 1/4-in. safety glass that he can replace if it gets fogged over or pitted. He put a light fixture in one of the top inside corners and for ventilation he ran an old vacuum cleaner hose through the top and hooked it to a shop vacuum. Gass removed the washing mechanism from the floor of the machine and installed a 1-in. dia. drain.

"As far as sandblasting cabinets go, this is about the strongest one I've ever seen," Gass says. "Even some of the heavier-duty models that you can buy have sides that are flexible. The sides of my dishwasher/blaster are completely solid."

Gass uses the sandblaster a couple times a week to clean parts for cash registers that he's restoring or removing chrome from pot bellied stoves that he's fixing. He uses silica sand on some parts and soda ash for others. Most of the sandblasting he does requires 160 to 170 lbs. of air pressure which he gets from a commercial compressor in his shop.

Contact: FARM SHOW Followup, John Gass, 153 Frog Hill Road, Franklin, Ill. 62638 (ph 217 370-8902; Jbgass50@gmail.com).

## "Swing-Out" Shop Exhaust System

Kerry Kligora, Mineral Point, Wis., does a lot of welding in his shop. To help get rid of the welding fumes, he installed a "swing-out" vacuum exhaust system that he built out of pvc pipe and the air pump from an old Jacuzzi hot tub.

"It allows me to vacuum as close to the welding area as possible, and swings out of the way against a wall when I don't need it," says Kligora.

The exhaust system sets about 7 ft. above the shop floor on a wall above the working area. It consists of 2-in. dia. pvc pipe and elbows that hook up to a 1 hp, 110-volt air pump from a Jacuzzi hot tub. A 3 1/2-in. dia., accordion-style vent tube (the air induction tube off a car) hangs down from the end of a horizontal 5-ft. length of pvc pipe. The pipe is supported by a cable and pivots 180 degrees on a male and female threaded coupler.

"It's really handy to use. I swing the pipe out from the wall whenever I need it, which allows me to extend the vent tube as close to the welding area as possible," says Kligora. "The cable is tight when I'm using the system, but sags otherwise so I screwed a shelf bracket to the wall to support the vent tube.

"The air pump pulls plenty of air through the 15 ft. of piping and gets rid of 80 percent of the fumes. If I want, I can wire up the vent tube at an angle and suck fumes just 3 to 4 in. from the welding area so it doesn't get too hot. I can also put the vent tube over or near the exhaust stack on skid loaders and tractors while working on them in the shop.

"I came up with the idea because I want to keep my shop doors shut while I do welding work during the winter. I don't like to turn on the shop's main exhaust fan because too much hot air is lost. The vent tube only sucks a small amount of air from the immediate area where I'm welding. It could be a little wider, so I plan to fashion a bigger hood from lightweight plastic that will help gather the exhaust from a wider area. The vent tube



"Swing-out" vacuum exhaust system is built out of pvc pipe and the air pump from an old Jacuzzi hot tub.

extends 4 1/2 ft. down, but I can reach up and push it in for storage so it's only 18 in. long."

The pump is screwed to a piece of plywood that's screwed to the wall. Kligora attached the pvc tube to the pump by drilling pilot holes into a flange on the pump, and then screwing the tube on with three 1-in. sheet metal screws.

"The pump rotates at 3,200 rpm's and pushes about 800 cu. ft. per min., so it has a lot more suction than you'd think for such a small pump. You can often find such pumps free on Craigslist," says Kligora.

He already had the air pump, which had a cracked housing. "I had everything else I needed except for one or 2 pvc fittings," he notes.

Contact: FARM SHOW Followup, Kerry Kligora, 2138 County Rd. E, Mineral Point, Wis. 53565 (ph 608 553-2062; Kerry.kligora@gmail.com).



Wires are inserted into handle of screwdriver and then twisted together for a tight connection.

## "Whiz Twister" Twists Electrical Wires Together

Invented by a retired electrician, the new Whiz Twister combines a screwdriver with a wire twisting drive tool. The twisting mechanism is inside the handle.

"It makes twisting electrical wires together a much easier and faster job, producing safe and secure connections. It works great for all your wire twisting needs," says Merle Robinson.

The Whiz Twister is designed to twist or untwist up to four no. 12 electrical wires, and can accommodate wire sizes ranging from 10 to 18 ga.

To twist the wires you first strip about 3/4 in. of insulation off the wires, then insert the wires into holes in the handle and turn. "Steps" in the twisting mechanism accommodate different size wires.

Once the wires have been twisted together into one wire, you can remove it and then twist on a plastic connector cap.

"It makes a nice, tight twist and works great for everything from electrical wire for houses to electric fence wire," says Robinson. "It really comes in handy when you're doing remodeling and electrical work. It works faster than a pliers and also doesn't scar the wires like pliers can."

The Whiz Twister is available in 2 models. Model WT100 comes with a magnetic bit holder, 1/4-in. nut driver, and interchangeable multiple size bits. It retails for \$30. Model WT83593 is a Phillips screwdriver without a magnetic bit holder or nut driver. It retails for \$20. Both models can also be used to twist 14, 12, and 10-ga. electric fence wire. They can't be used to twist phone or speaker wire.

Contact: FARM SHOW Followup, Merle Robinson, P.O. Box 538, Hesston, Kansas 67062 (ph 620 327-5115 or 620 327-7440; mwrwhiz@cox.net; www.whiztwister.com).