

Expert Rebuilds NiCad Batteries

"Like most guys with battery-powered tools, I had a bunch of NiCad batteries go bad, and I got tired of sales people telling me I should throw the old ones away and buy new ones," says retired Michigan insurance man Steve Fredricks. "I decided to see if I could rebuild them myself, so I took a few of my batteries apart, figured out by trial and error which cells were bad, repaired them, and they worked fine. I worked on a few others for friends and before I knew it, I had a business going."

Now Fredricks, his son Luke, and 2 employees rebuild about 200 to 300 NiCad batteries a month for customers all over the country. Their rebuilding fee is about half what new batteries cost and better yet, their rebuilt products typically last about 40 percent longer than the originals.

"The reason our rebuilt ones last longer is that we put in all new cells, not just replace a bad one or two. We also put in new contacts and a new thermister - that tiny radial bead thermostat protection device that lets a battery sit in a charger without melting down," says Fredricks.

When he started rebuilding batteries he was doing the work himself with one impulse welding machine. Now he has two welders and buys high quality supplies from a battery rebuilding company. "I was retired from insurance and figured if I could do 20 units a month I could cover my costs and make some money. Today the business has grown beyond my expectations."

Fredricks says a lot of their customers are farmers and handymen who know their's value in rebuilding something, especially if it makes the product as good or better than new, and they're very happy to pay for that service. Great Lakes works on any brand of batteries from 3 to 24 volts, and everything in between. They sell aftermarket lithium batteries, but don't rebuild them because



Rebuilt NiCad batteries cost about half what new batteries cost and last about 40 percent longer than the originals, says Steve Fredricks.

they're still patent protected. Fredricks says NiCad users should expect to get 300 to 500 charges from a battery if they care for it properly. "Never put a hot battery in a cold charger, and pull the battery from the charger as soon as it's done charging," he says. "Don't throw the battery on a hard surface or drop it."

The company charges \$35 to rebuild a 1 to 12-volt battery, \$45 for a 13 to 18-volt and \$50 for a 19.2-volt. Fredricks says they typically send back rebuilt batteries within a week and include an invoice with the returned products. "You might say we're old fashioned," says Fredricks, "but that's the way I started the business, because people trusted me to do the work and I trusted them to pay. We'll take credit cards, but then we charge a fee to cover our transaction costs."

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Metal Cleaning Rings Made For Deere Drill

North Dakota grain farmer Gene Sickler says that when he needed to replace the worn down rubber cleaning rings on the closing wheels of his 1850 Deere seeder, he thought that \$25 each for the OEM parts was too steep, so he came up with "a better idea".

Sickler had his local machine shop cut identical half-moon steel pieces about 1 in. wide in the same radius as the outside of the closing wheels. "Their CNC equipment cut those pieces out of 3/8-in. steel with a nice straight edge," Sickler says. "I mated two of them together to form a perfect circle on the outside edge of each closing wheel."

To attach the metal edges to the wheels, he took the rims apart, flipped the rubber the opposite direction, then spot welded the two half-moon pieces onto the metal wheel to create a new and perfectly circular cleaning edge.

After each piece was welded in place, Sickler smoothed the outside edge of each metal ring so it wouldn't create excess wear on the disk opener. "Now I've got durable metal cleaning rings for \$9 apiece that should last a lot longer than the rubber ones," Sickler says.

Sickler's metal cleaning edges allow the wheels on his 42-ft. wide drill to run the same depth as the rubber edges, and they do a better job of cleaning. "I left a few of the rubber ones on that weren't completely worn and the metal seems to do a nicer job and



Gene Sickler attached custom-built metal edges to the closing wheels on his 42-ft. wide grain drill. He says they saved money and do a better job of cleaning.

doesn't collect any soil in tacky conditions," Sickler says.

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Induction Heating Device Loosens Stubborn Nuts And Bolts

Auto repair specialist Tom Gough says the induction heat device he invented releases stubborn bearings and pulleys, or corroded parts, without the dangers of an open flame. His Mini-Ductor uses "invisible heat" from high frequency magnetic fields to heat metal objects so they can be safely removed.

Gough says his device is much safer than the open flame from an oxy acetylene torch, which can easily ignite flammable grease or melt parts near the immovable fastener. An auto repair specialist for many years, he invented the device because of many frustrating hours removing stubborn fasteners with torches, big wrenches and power tools.

Gough's Mini-Ductor is a small hand-held tool with a non-slip grenade grip and trigger switch. Pulling the trigger heats a coil that can turn a rusted nut red hot in 15 seconds. Gough says it's fast, safe and easy on workers who deal with removing stubborn parts.

The Mini-Ductor comes with 8 interchangeable coils from 4 to 10 in. long and a 23-in. long U-form coil that can be molded around a socket to fit large or small



Mini-Ductor tool heats up nuts or bolts so they can be safely removed, without the dangers of an open flame.

fasteners. The device also has mini pads that heat metal to melt adhesives.

The Mini-Ductor is priced at \$447 online and is also available through authorized warehouses and jobbers. Used models may also be available online.

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Roll-Around Shop Crane Converted To 3-Pt. Model

Ethan Rice, Spring Hill, Kansas, converted a Harbor Freight floor shop crane to a 3-pt. mounted crane.

"That makes it easy to use outside the shop, when needed. I left the crane's wheels in place so when the unit is detached, I can still roll it around on a cement floor," says Rice.

"The crane came with tiny cast iron caster wheels, and if I needed to use it on dirt or gravel it wasn't very handy. I paid only about \$100 for the crane. It comes in handy to pick up tote boxes, logs, big rocks, and other heavy objects."

He welded a length of 4-in. channel iron vertically to the base of the crane that runs all the way to the top, then welded on short lengths of channel iron to form a 3-pt. hitch.

"I borrowed the idea from a neighbor and like how it turned out," says Rice. "I originally built it to lift a Jeep Cherokee by the front cross member and set it off to the side so I could replace the front axle. The tractor's 3-pt. cylinders have a lot more lifting power than the cylinder on the crane's original hand-operated jack, so any time I use



Rice welded a length of channel iron to the back of the lift and then welded on short pieces on either side to form a 3-pt. hitch.

the crane to lift something heavy I first pump the jack a couple of times with the load on to make sure I don't overload the crane and accidentally bend it."

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Cart Makes Lawn Tool Storage Easy

"It works great for storing the mower deck, snowblower, and landscaping blade on my riding mower, as well as my leaf blower and other accessories," says Cal Miner about the hospital medication cart he converted into a multi-purpose storage cart.

Miner bought the cart at an auction for \$10. Made from tubular steel, it measures 6 ft. long by 3 ft. wide and came with curved tubular uprights at each end and a cabinet on top. It originally rode on 4 small wheels, but he replaced them with welded-on, 8-in. caster wheels.

Miner uses the cart to store a 4-ft. wide snowblower that mounts on front of his Deere garden tractor, as well as the tractor's 5-ft. wide mower deck and a front-mounted landscaping blade. There's also room to store the mower's bag and fan housing, as well as his vacuum leaf blower and other small accessories.

"It takes up less space in my garage than storing the items individually, and moving anything on wheels is always easier than



Miner bought a hospital cart for \$10 and modified it to hold his snowblower, mower deck, and other tools.

lifting and carrying. I keep all the light stuff up high and the heavy stuff down below," notes Miner.

He drilled holes into the unit's lower shelf to attach the deck. "I just roll the deck under the cart and then use J-bolts to attach it to the floor," says Miner. Other tools are held in place by bungee cords.

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