

Reuben Swarey, Henry, Tenn. swareyfarm@emypeople.net: "The 15-speed powershift transmission on my Deere 4960 tractor slipped whenever I pulled a heavy implement down the road in high gear. The dealer thought the clutch was worn out so he replaced it at a cost of about \$8,000. The tractor then ran okay for about 1 1/2 years, but then the transmission started slipping again. The same problem happened on another one of my 60 Series tractors.

"Then a mechanic friend in Pennsylvania gave me some advice. He said powershift transmissions have a hydraulic valve that releases power to the transmission. When you push in the clutch the valve opens, and when you release the clutch it goes against a small aluminum stop that closes the valve. However, over time the valve wears against the housing and oil leaks out, which causes the clutch to lose pressure.

"He recommends using a 3 1/2-in. hand grinder to grind about 3/8 in. off the stop, which will allow the valve to close farther and increase the clutch pressure. I tried the idea on my 4960, and the transmission stopped slipping immediately."

Carlen Busenitz, Whitewater, Kan.: "The stamped steel radiator fan pulley on our Gleaner R62 combine broke, causing the engine to quickly overheat and wearing a hole through the engine's timing cover. We tried various ideas to solve the problem, including replacing the fan hub bearings and the fan itself, and also replacing the harmonic balancer and pulley. Nothing worked. Replacing the fan pulley and timing cover became a frustrating annual event.

"After replacing the fan pulley 3 or 4 times we found a solution. Case combines use the same Cummins 8.3-liter engine found on Gleaner combines, and have the same fan pulley problem. However, Case makes a heavier built replacement pulley that can be used instead of the Cummins pulley, so we installed one. Problem solved."

Charlie Kunau, Bellevue, Iowa: "I recently watched a YouTube video about extending the life of batteries by using

Epsom Salts as the electrolyte. Through trial and error, I've found that increasing the amount of Epsom Salts to 18.2 oz. per gallon of water produces the best charging results. The key is to make repeated rinses with clear water when flushing the battery. This idea has saved me the cost of buying a new battery that would only get occasional use anyway."

Ryan Kremer, Mount Blanchard, Ohio: "I used a 5-gal. bucket and some rebar to make a chainsaw chain and supply-carrying tote. It keeps my saw chains and other items organized and easy to find.

"I cut two sections of rebar and wired them together perpendicular to each other to form an X that lays across the top of the bucket. I cut four slots into the top around the perimeter of the bucket, and the four arms of the X slide down into them. The chains hang from the arms."



Warren Schatz, Ipswich, S. Dak.: "I use silicone grease to lubricate anything that's exposed and would normally collect dirt, because silicone grease doesn't attract dirt. Works great on battery terminals, wheel studs, and so forth."

Mark Hoover, Leitchfield, Ky.: "Any time you drill large holes in steel or hard metal or have to machine steel on a lathe, you create a lot of extreme heat. And unless you work at a very slow speed, that heat can ruin drill bits and saw teeth. Adding cutting oil can help, but you have to use a lot of it which creates fumes and smoke. Also, the oil can clog up saw teeth.

"Instead, I started using an air hose with a blowgun nozzle to dissipate the heat. Works like magic. Drill bits and saw teeth will instantly start to cut faster and smoother, and the metal stays cool and clean."

James Olson, Velva, N. Dak.: "I used 'automatic transmission stop leak' in my radiator to stop a leak in my water pump. It worked."



Money-Saving Repairs & Maintenance Shortcuts

Have you come up with any unusual money-saving repair methods for fixing farm equipment? What maintenance shortcuts have you found? Have you had any equipment recalled by the factory? Name a particularly tough mechanical problem you've had with a piece of equipment and how you solved it.

These are a few of the questions we asked randomly selected FARM SHOW readers. If you have a repair tip, maintenance shortcut, or other mechanical experience you'd like to share, send details to: FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or email us at: editor@farmshow.com.

Mark Newhall, Editor

Ethan Schwoeppe, Huntingburg, Ind.:

"Old disk blades make great pedestal mount bases for shop tools. For example, I made a bench grinder stand by welding a 3-ft. long pipe onto a 20-in. broken disk blade, then welding a scrap steel bracket on top of the pipe and bolting the bench grinder to it. The disk blade had a crack in it, which I welded shut. Now I can access the bench grinder from anywhere in my shop. Commercial floor pedestals for shop tools are available, but they're not free."



"I use a small fridge that my daughter once had in her dorm room to hold welding rods. It is not plugged in and serves only as a storage cabinet. A droplight inside provides the heat, controlled by a dimmer switch outside. I check the temperature inside with a multimeter equipped with a thermocouple. Welding rods keep nicely with no humidity damage to the coating. I keep it at 98 degrees which is cool enough to keep from damaging the plastic interior."

Don Raucstadt, Seligman, Mo.: "I used a brake drum off a semi truck axle to make a solid base for a free-standing vise. I welded steel plates to both ends of channel iron uprights and bolted the bottom plate to the brake drum. It's heavy and stable but I can easily roll it around to move it."



Clint Reynolds, Clarksville, Tenn.: "I got tired of untangling tie-down straps and battery cables that I keep in my truck toolbox. So I cut the corner out of some

Doug McAlexander, Cedar Grove, Tenn.: "Two-stroke engines require a special tool to adjust the carburetor needle, but you don't need the tool. Take the needle out and use a hacksaw to cut a slot in the top of it. Then put the needle back in and use a screw driver to adjust."

Roy Philipot, Scott, Ohio: "When applying caulk or silicone, coat your rubber gloves with liquid hand soap. You can use your finger to smooth the caulk, and it won't stick to the gloves."

Bob Payne, Coldwater, Miss.: "Due to uneven ground, our woven wire fencing needs a lot of little Z bends to tighten it up. Making the bends with pliers wears out your hands fast. So I used an angle grinder to cut notches in one socket of a 4-way lug wrench. Makes tweaking with Z bends really easy.



Drum Crusher Flattens Steel Barrels

Miles Brett was hired for maintenance and trouble shooting at a Calgary, Alberta, business with a yard filled with thousands of steel 55-gal. drums which used to hold rubberized asphalt crack filler. Brett had to come up with a solution to get rid of them.

"I had previously built a log splitter for personal use," Brett says. "I decided to build a barrel crusher using the same concept, except it's vertical and larger in scale. It's equipped with a 5-in. dia. hydraulic cylinder that exerts more than 44,000 lbs. of downward pressure."

That's enough to crush even the thickest steel drums made in the 1920s.

Brett built the crusher using materials he had on hand plus purchased parts including an 8-hp. gas motor for the hydraulic fluid. Early on he realized he needed a strong base that wouldn't bow, and the professional welder he hired beefed it up with 3/4 by 4-in. steel plate on the front and back with 1 1/2-in. square steel bars across.

When finished, the crusher could flatten a barrel in under a minute. Brett stacked about 50 of them on pallets and hauled them to a metal recycler that picked them up with a magnet and paid about \$100/pickup load. Getting paid for the metal was a bonus, preferable to paying drum recyclers to take them.

A video of it can be seen on YouTube: Miles Brett Crushing Drums.



Custom-built drum crusher uses a 5-in. dia. hydraulic cylinder to flatten 55-gal. steel barrels.

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