

Ralph Stevens, South Berwick, Maine: "I bumped up the mileage on my big 1994 Buick Roadmaster station wagon from 17 to 25 mpg by making a few simple changes. I installed Pulstar spark plugs (www.pulstar.com) and Granatelli spark plug wires (www.summitracing.com). I also installed a K&N air filter (www.knfilters.com) and a larger diameter exhaust system. Those changes really boosted mileage on this big gas guzzler with a 350 cu. in. engine."

Glenn Allen, Mt. Vernon, Ohio: "I had to remove a pulley from a driveshaft to replace a bearing on a driveshaft of a manure spreader. There was nothing to pull on so I welded a short piece of keystick to the hub for the pulley to grab onto."

"When I had to take the transmission out of my Versatile tractor, the dealer said we would have to pull it up and out the door of the cab. Instead, I dug a hole in the barnyard and parked the tractor over it to drop the transmission down. Took only about 10 min. once the shafts and lines were disconnected."

Harold Hart, Hale, Mo.: "If you get a small tear or rust hole in a gas tank, there's no need to drain the tank right away. Just rub a bar of soap over the leak and it'll seal it up temporarily."

"To anchor bolts in concrete, drill a hole larger than the bolt you're using and pour sulphur heated to liquid form in around the bolt."

Stephan Rodamaker, Janesville, Iowa: "On my 2005 Deere 2210 tractor, there's no access to the U-joints from the engine to the hydrostatic drive unit. So I cut a tidy hole in the floor at the rear with a grinder. Use a needle nose grease head for the joints. The yoke didn't have a zerk so I spray motorcycle lube onto it. I use Amsoil spray which doesn't fling off."

Doug McAlexander, Cedar Grove, Tenn.: "To remove stuck wheels from the rear of a riding mower, I drilled two holes in the wheel an equal distance apart. Then

I removed the wheel with an engine balancer puller."

Ralph Blackford, Oak View, Calif.: "I mounted a vise on an old truck brake drum. Makes moving the vise easy and it's heavy so you don't have to bolt it down."

"To carry my outboard motor around for maintenance, I modified a 2-wheel dolly to hold it. After working on the motor, I can simply wheel it back down to the boat."

"A friend gave me a 36-in. dia. storm drain street cover. I made a welding and cutting table out of it by adding 3 legs. Works great."

Ronald E. Friedrich, Kenyon, Minn.: "I have an older trouble light with a metal cage. When the regular bulb blew out recently I decided to try a new CFL bulb. It gives out good light and, best of all, the metal shield stays cool. No more burnt arms."

John W. Collins, Sherburne, N.Y.: "I had to rebuild the bucket on my T-340 crawler when the welded frame broke apart. I bought some 3/8-in. thick plate steel and drilled 1/2-in. dia. pilot holes in it with my small drill press and then proceeded to use the tailstock hand screw on my lathe to drill the holes out to a larger size. It took just a few minutes to open up all the holes. Lots of power and I didn't have to track down a larger drill press."

Bert Bitter, Black Earth, Wis.: "Many of us have gas-powered weed whips that only run a short time. About 90 percent of time it's an easy fix. The manufacturers run the gas line through the side of the plastic gas tank by drilling a hole smaller than the outer diameter of the gas line. The gas line slowly gets pinched and chokes off the flow of gas to the carb."

"The solution to the problem is to pull the gas line out and drill a hole in the tank at least one drill size larger. Then soak the gas line in boiling water for a few minutes to relax the pinched section. Reassemble and all should be well. I bought a pallet of 37 returned Sears weed whips and was able to repair 30 of them with this trick."

Truett Bell, Pattison, Texas: "Two



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

years ago I bought a set of Bad Dog Tools drill bits after seeing them demonstrated at a wood working show. The first one I used broke after just a revolution or two. I checked the other 14 bits and only two of them had straight shanks. The rest were so out of alignment that they were useless. I got no response from the company when I contacted them."

Richard Faber, Tiffin, Ohio: "To anyone interested in how to charge small 12-volt lead acid batteries when you only have a larger 12-volt, 10-amp charger, here's what you do. Hook a 12-volt light bulb – such as a no. 1157 taillight bulb – in series with the charger and you'll have a 2.1 amp charger. As the battery takes a charge, the bulb will go dim and dimmer as it is being charged so there's no worry of overcharging if left on too long."

Jerry Smith, Ionia County, Mich.: "Like many of your subscribers in rural areas, I have suffered through a power outage or two. A few years ago, several of my appliances were damaged by a voltage surge. Trying to fix them myself, I learned about a common electronic component called an M.O.V. (metal oxide varistor). These are usually a small blue or green disk with two wires soldered to the circuit board. They are in practically every modern appliance for surge protection. They are usually soldered in near the power supply of a circuit board just after the fuse and connect from line voltage to the ground. At line voltage no electricity goes through the M.O.V. but at higher voltage, almost all the electricity goes through to ground and blows a fuse on the circuit board. Often you can visually spot a blackened crack in the M.O.V. The M.O.V. isn't necessary for the component to work, so if you find a damaged M.O.V., cut it out. Then replace any blown fuses and try to turn the appliance on. If it works, the M.O.V. was the problem. Then go to your local electronics supply store and buy a new one to solder in to replace the old one. I have replaced several at about \$2 each."

Larry Goodman, Ionia, Mich.: "The company I work for was going to dispose of a steam cleaner that had been sitting around for years because the pump was worn out. However, the water coil and burner were in



good shape. I plumbed in a 4-ft. hydraulic hose from the tank from the heater to the washer. Now I have 3,000 psi of hot water (approximately 150°) all for a few dollars. Works great to clean grease off equipment."

Steven Troyer, Millersburg, Ohio: "My grandpa converted a freon tank into this portable air tank. He attached a quick



coupler that's used to fill the tank with air. Then he screwed two male coupler ends together to fill it from a supply air hose. Works great for airing up low tires in the field or operating small air tools.



When converting you have to be certain to eliminate all gas inside the tank. You shouldn't put over 125 psi in a converted tank like this.

"Grandpa also made this sanding attachment for his 1/4-in. air drill that

"Tumbler" Dresses Up Metalwork

When blacksmith Brian Johnson finishes a custom metalworking job, he likes to soften edges and polish the steel. His homemade parts tumbler filled with waste from a metal punch press does just that.

"It gives the pieces I make a nice burnished appearance before I clear coat them," he says. "I made some pot and pan hangers out of steel strap and square stock for clients recently. The tumbler took the sharp edges off and added eye appeal."

The tumbler drum, which rotates at about 42 rpm's, is fashioned from a 30-lb. propane tank. Johnson cut one end off – after first purging all gas from the tank – and remounted it with hinges and a latch. It rides on steel bearings mounted at the ends of four arms made from square tubing. A fifth bearing mounted to a rear arm rides against the tapered end of the barrel.

"That fifth bearing helps to keep the tumbler from walking as it rotates," says Johnson. "I covered the bearings with rubber hose material. I think that along with the drive belt, it helps hold down the noise."

Power to rotate the tumbler is supplied by a 1/2 hp electric motor. A worm drive gear reducer transfers the power with more than enough torque to the drive belt.

"I picked up a 20-in. pressed steel pulley and cut out a hole roughly the size of the tank," says Johnson. "I pounded it in place over the tank and it fit tight. I've never had to weld it or secure it in any way."

A 3/4-in. belt runs from the pulley on the gear reduction pulley and around the tank pulley. Belt tension is maintained automatically.



Fashioned from a 30-lb. propane tank, homemade parts "tumbler" takes the sharp edges off custom metalwork.

"I mounted the motor and the gear reduction case on a steel plate and hinged one end of it to the frame," says Johnson. "The weight is enough to keep the belt tight."

The tumbler is a lot lighter than it looks, thanks to the square tubing frame. Johnson says it weighs about 90 lbs. when empty. He estimates he has about \$100 in it. Most parts, aside from the previously unused motor, came from an area scrap dealer. That included the perfectly good gear reduction unit that he got for scrap iron price.

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