

Donald Jaster, Bruce, Wis.: In the last issue of FARM SHOW a reader proposed using wire nuts to connect trailer pig tails and lights to make replacement easier. I heartily disagree. Wire nuts should not be used in an outside environment. Compared to the number of times such repairs are needed, the troubles they will cause will be greater. At minimum, if you use wire nuts or scotch locks, fill the end with silicone to keep moisture out.

"My rules for installing trailer lights: 1. To connect 2 wires, twist together, solder, and cover with shrink tubing. 2. For more than 2 wires, twist together, solder, and coat with silicone. 3. Always run a wire ground from all lights and/or brakes to the white wire on the pig tail. Remember, all light current flows back through the common wire so it should be 1 or 2 wire sizes bigger than the hot wires. Brakes need a separate ground return. 4. On the tow vehicle, run a ground wire back to the engine from the light connector. Don't depend on the tow vehicle frame for ground integrity. Rust is everywhere."

Melvin Doyle, Plummer, Idaho: "I have trouble breaking axle housings on my 350 hp. Versatile. It's a model 700 with a big Detroit diesel. So far the only solution I've come up with to prevent this problem is to baby it on rough ground."

Dale Bowen, Southington, Ohio: "I own a Bad Boy 60-in. zero-turn mower which has worked fine for many years. But lately I was having trouble moving the throttle control until the engine warmed up. That's because the plastic jacket on the cable was too close to the hot engine. After the machine cooled down, the plastic would stick to the wire. I fixed the problem by removing the cable from the mower, cutting off the plastic jacket where it comes close to the engine, and spray painting that part of the bare cable with high temperature paint, then reinstalling it. Problem solved and I didn't have to buy a new cable."

Roger Stephens, Roundup, Mont.: "I broke the overflow nipple on the radiator of my 1989 S-10 Blazer so I drilled out the hole to the diameter of a 357 Magnum shell casing. I drilled out the primer hole on the casing to 1/4 in. and installed the casing from the inside of the fill hole with RTV sealer. This saved me from having to buy a new radiator."

Daryl Bridenbaugh, Pandora, Ohio: "I change hydraulic and transmission fluid in my large ground-working tractors every year. Since the oil stays very clean, I leave the oil in buckets overnight and then pour

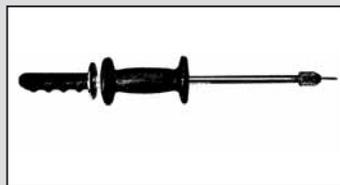
it back into the machines. I leave the last 2 in. of oil in the buckets, which is where any fillings have settled. Then I add some fresh oil with additives to top off.

"I use synthetic oil in all my cars, trucks and tractors because they crank and start easier in the winter and I also get better fuel economy, which helps pay the extra cost."

John T. Hayes Jr., Iron City, Tenn.: "I had to change the starter on my Deere 6300 tractor but you need a special wrench that Deere sells for \$100. I made my own by cutting off a box end wrench and welding a rod to it. Cost me just \$2."

"I also made my own belt guides for my Deere 535 baler. Deere wanted \$14 each. I made mine for less than \$1 each. Painted them Deere green and they look like they came from the factory."

William Watner, St. Marys, Kansas: "I came up with a method for pulling rubber-lipped oil seals out of vehicle components, like a rear main seal or a pinion seal on a differential."



"I took a screw with aggressive threads, like a sheet metal screw, and welded it to the end of a slide hammer. To pull a seal, I sharpen a small diameter punch to a sharp point and use it to poke a small hole into the metal part of the oil seal. Then I thread the screw on the tip of the slide hammer into the hole, making sure there are no clearance issues behind the seal. Once the screw is threaded in securely, I use the slide hammer to pull the seal out. It's a very quick and easy method."

Ken Haag, Unionville, Mich.: "I added power steering to my Deere 1020. To do it, I had to remove a steel ball bearing pressed into the transmission case. It was deep. I used a small chisel to get enough clearance to weld a nut onto it and used a slide hammer to remove it. Worked great."

"I have a bucket truck fitted with an Onan generator that would not stay running. It would start for a few seconds and then shut off. The circuit board that controls it has a relay that is energized by the voltage output of the generator but the 'seal in' contacts had failed. They were opening after a few seconds. I solved the problem by just

FARM SHOW

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

'jumping' around them with wire, saving a few hundred bucks."

Jesse Barley, Tyrone, Penn.: "I'm 6 ft., 2 in. tall so most workbenches are so low I have to lean over to work on things. So I made my workbench 44 in. tall. It's much more comfortable to use now."

"I also mounted a 4-ft. LED shop light on a pivot so I can swing it from the workbench over to my drill press so I have good light wherever I need it."

Steve Belcher, Russell, Penn.: "My father-in-law showed me the great benefits of using Never-Seez compound on equipment. Anytime something breaks down around here, all the nuts and bolts are given a nice light coating of Never-Seez before I reassemble. If the equipment breaks again, there's no fighting rusted nuts and bolts. Makes the repair much easier. I use it on everything."

Elton Wylie, Hamilton, Texas: "The hydraulic filter on my Mahindra 4025 tractor would not fit. I had to trim down the oil filter boss (where the filter screws on) carefully with a Dremel tool to get the filter on. The engineer who designed this fitting should be fired."

Gary Swenson, Yankton, S. Dak.: "With multiple vehicles and pickups, it sometimes gets confusing how many quarts of oil go into each vehicle. I use a black magic marker and write the amount, brand and weight under the hood."



I use large pieces of heavy cardboard from refrigerator or stove packing boxes. It's easy to slide around on them and they keep oil off the concrete. When I'm finished and pull the cardboard out, the oil pan and tools come out with it. I can fold the cardboard up easily and tuck it away."

Steve Mead, Hesston, Kan.: "We installed a service pit 5 ft. deep about 20 years ago. It's covered by aluminum boards. We use it for changing oil and other repairs. The first oil change cost about \$1,000. The second was \$500. Eventually, it was paid for."

Eugene Mitchell, Gladys, Va.: "I save time by color coding wrenches with color tape, using the same color on all wrenches and sockets of the same size. For instance, I use yellow tape on all 1/2-wrenches, and other colors on other sizes."

"Here's a way to always get about 40 miles to the gallon running errands into town. Plan your trips! If you drive half as many miles to get the same amount of work done, you go from 20 mpg to 40 mpg."

Doug McAlexander, Cedar Grove, Tenn.: "I have a riding mower with 12 by 8.5 rear wheels that fit tightly on the axle and are held on by keys that keep the axle from turning inside the wheel. One of the wheels got loose when the keyway was worn down so the only thing holding it on was a snap ring at the end of the axle. There wasn't enough room to tap a set screw in the 2 or 3-in. space between the rim and hub, so I removed the tubeless tire from the rim. Then, with the aid of a large vise to hold the wheel, I drilled a 5/16-in. hole through the rim and hub, 180 degrees from the keyway. I drilled the hole as far out as possible on the hub."

"I put a nut on a 5/16-in. bolt and inserted it through the holes in the wheel and hub. Then I braze welded the nut to the hub



"This is just a handy hint. I have one car that's very low to the ground so when I drive up on the ramps, the front end rubs on the ramps. So now I lay a piece of 2 by 12 in front of each ramp to gain a bit of height before the wheels go onto the ramps."

"I don't like using a creeper to change oil on vehicles. They get caught in cracks and tangled up in extension cords. Instead,

Reinforcement For Sprayer Mounting Arms

"I bought a 40-gal. capacity, 3-pt. hitch sprayer for my utility tractor and where the pins connected to the hitch the metal didn't seem very strong. I made a simple reinforcement that solved the problem," says Illinois farmer Russ Dormire.

Dormire's solution was to support the connecting pins on both sides of the hitch with old pieces of no. 55 roller chain. Says Dormire, "I cut 2 pieces of chain to wrap around the mounting pins and the frame of the 3-pt., allowing about 8 extra lengths on each one. Then I bolted the chain together with a 3/8-in. bolt with washers on both ends. When I tightened the nut, the chain snugged up and supported the mounting pin so there wasn't so much pressure on the sprayer arms. I've filled the tank several times since then and used it around my yard and along field edges and in the grove and it seems to hold real well."



Ross Dormire used pieces of roller chain to reinforce the connecting pins on both sides of the hitch on his 3-pt. mounted sprayer.

Contact: FARM SHOW Followup, Ross Dormire, 971 895 E Street, Mt. Sterling, Ill. 62353 (ph 217 773-3574).