

**John Benoit, Bourbonnais, Ill.:** "FARM SHOW recently published a story on how to remove rust using a solution of washing soda (like Arm & Hammer) and water. I've found this method also works for removing hardened grass clippings from lawn mower blades.

"I mix one cup of soda with 5 gal. of warm water in a square plastic tub. I let the blade soak overnight. The next day I use a wire brush on the clippings and they come right off. Then I sharpen the blades and coat them with vegetable oil to keep grass from building up again."

**Lyle Moege, Hurley, S. Dak.:** "For years I had trouble starting my Deere 3010 gas tractor. Then on the recommendation of someone at our local NAPA store I installed a new semi truck battery. It has a tremendous 900 amps of cold cranking power and solved the problem immediately.

"It was a straight swap-out – a 12-volt battery for a 12-volt battery. However, the semi truck battery is much bigger and weighs a ton. To handle the weight I had to build an angle iron support bracket. In the past, starting the tractor was always a craphoot and I often ended up using jumper cables. It didn't matter if the weather was cold or not.

"I paid only \$20 to \$30 more for the semi truck battery than I would have for a Deere replacement battery. It was the best money I ever spent on this tractor."

**Rodney Earl Claggett, East View, Ky.:** "A lot of the scrapers on my Deere 13-ft. disk are gone which causes the disk to clog up, especially behind the wheels. I made my own inexpensive 'scrapers' using small chains. I ran them from the frame to the center of each disk. It keeps mud from building up and was a lot cheaper than new scrapers."

**Steve Reeves, Benton, Ky.:** "I use the teeth on my 21 hp Kubota backhoe to cut through tree roots. On big roots I use the teeth like a knife blade to shave the root down until it's thin enough that I can pull it out. However, after a lot of use the teeth started coming loose. The teeth wiggled to either side, which made it difficult to keep them from sliding off the roots.

"I got tired of having to retighten the bolts all the time so I made a U-shaped weld around each tooth, making sure I welded right up next to the tooth but not into it. The weld keeps the tooth from wiggling from

side to side, yet if a tooth ever breaks I can still loosen the bolt and slide it out.

"Eventually the teeth get dull and don't do a good job of cutting through the roots. Then I use a hard surface welding rod and build the teeth back up with new metal. I use a grinder on the tooth until it's razor sharp again.

"I have problems with arthritis, which makes it difficult to lay on a shop floor and work on equipment. To solve the problem I use a motorcycle hoist. It lets me raise the equipment to working height and then sit in a computer chair and roll around the machine as needed. The air lift operates off a compressor and is foot-operated. It has a capacity of up to 1,500 lbs. so I can use it to lift riding mowers, rototillers, pressure washers, and so forth. I bought the lift at Harbor Freight for \$479 (ph 800 444-3353; www.harborfreight.com)."

**Trevor Bruntlett, Chelan, Wash.:** "Recently I bought a 2002 lawn tractor used and soon discovered someone had put something in the fuel tank that gummed up the entire fuel system. The plunger for the carburetor's fuel metering system broke, and unfortunately I couldn't get new parts. I solved the problem by installing the plunger out of a 15-year-old Briggs & Stratton 12 hp engine that I already had. Now the tractor runs great.

"The 12 hp engine in my Sears Craftsman lawn tractor had only 25 lbs. of compression which made it hard to start and kept it from running well. I replaced the 12 hp engine with a much smaller 3 1/2 hp engine off an old push mower. I use the tractor mainly to pull small trailers and to move snow with a 4-ft. wide front-mounted blade. Most of the power used by the 12 hp engine went to driving the mower blades, so even just a 3 1/2 hp engine provides enough power for what I need.

"I burn wood and used oil at the same time in my barrel stove to heat my 24 by 36-ft. shop. I start the fire with wood and paper and once the fire gets going good I add about two quarts of oil. It's a good way to get rid of used oil, and it reduces the amount of wood I use to heat the shop. I add oil every time I reload the stove. I just open the front door and throw in a pail full of oil. The wood burns hot enough that it vaporizes the oil and burns it off without creating a lot of smoke like you get when burning

## Ford Pickup Repowered With Nissan Engine

"I rebuilt the 2.3-liter engine in my 1983 Ford Ranger pickup but it only worked for 18 months. So I decided to replace it with the engine out of a 1981 Nissan pickup," says Frank Dyck of La Crete, Alta.

"I was quite satisfied with the results. With the Ford engine I constantly had problems with the head and valves. The Nissan engine doesn't provide quite as much heat in the winter as the Ford, but it's much more reliable. Also, it gets about five miles more per gallon than the Ford."


He bought the Nissan pickup equipped with a manual transmission from a neighbor for \$300. Its 2.2-liter, 140 cu. in., 100 hp engine was still in good condition. He pulled out the Ford's engine, power train and radiator and slipped in the Nissan components. The Nissan's transmission shift lever was located 6 in. farther back than the Ford's so he had to cut out a new shifter hole in the floor. The engine mount on the driver's side bolted right in, but the other side needed a 3/4-in. thick spacer to keep the oil pan off the cross member. The transmission rear mount needed an adapter plate

to reach the rear cross member.

He removed the Ford's original coil system and installed the Nissan's twin coil ignition system. "All I had to do was connect the ignition 'live' wire from the Ford to the Nissan system. The Nissan engine has two coils and two spark plugs per cylinder. I also installed the Nissan's boost deceleration control device which hooks up to the carburetor. It kicks in when you take your foot off the gas to decelerate."

He had to drill a hole near the top of the gas tank so he could install a fitting for the fuel return line. There wasn't room for the Ford power steering pump, which would have interfered with the Nissan engine's distributor, so he removed it. "I don't have power steering now, but I could get it by mounting a power steering pump off a Nissan 4-WD truck. But then I'd need to use the electric fuel pump from the truck as well," says Dyck.

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# 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

just straight oil. My shop doesn't have any insulation, but the shop stays comfortably warm even when it's 20 degrees above zero outside."

**Gilbert F. Conn, Pittsburgh, Penn.:** "A case-hardened bolt broke off on my tractor's water pump and I wasn't able to drill it out, so I used a Dremel tool and four small grinding stones to do the job. The grindstones I used are 3/8 in. in dia. and pointed at one end. I would grind out a little of the bolt and then use an air gun to blow out the material. I wore out four grindstones before I was able to drill out all of the bolt. Then I rethreaded the hole and applied Loktite. The job took two hours, but it saved me from having to buy a new engine block.

"The steering wheel on my 1948 Deere A tractor was all chewed up and had deep cracks around the wheel's three spokes. I

keep going through and soon started plugging up. I had to stop often and pull out the hay.

"I didn't want to spend the money on a new baler so we had to try something else. My grandson coated the rollers with a non-slip liner, the kind used on truck beds, and it has totally solved the problem. The coating is starting to wear out now so we plan to apply another coat before next summer. The baler's bottom roller is made of steel and the top one rubber. Only the steel roller was worn but my grandson painted both rollers anyway. I don't know if the bed liner had any effect on the rubber roller. I didn't start having this problem until recently because in the past we made mostly silage bales, and the wet hay went through the rollers without slipping."



used Billy Mays Mighty Putty to build the wheel back up to its original condition, even making molded grips for my fingers (ph 800 967-2312; www.mightyputty.com). Then I bought a leather steering wheel cover at Wal-Mart and put it on over the wheel. It saved me the \$70 cost of a new steering wheel and took only about one hour to do the job. The steering wheel looks like new again.

"I often use my New Holland 555E backhoe, which is equipped with an extend-a-hoe, to lift machinery off the ground for easier maintenance or repair work. I can easily flip the machine over in mid-air. The backhoe can lift up to 30 ft. high."

**L. Putnam Foley, Bulger, Penn.:** "I had problems with hay plugging up in my 1992 New Holland 848 round baler due to worn rollers. I was able to get the bale started, but the rollers were so slippery the hay wouldn't



**Andy Sewell, North Yorkshire, England:** "I use empty 2-liter milk containers to store small parts. I wash the container out and let it dry, then cut out the top. The containers store neatly on shelves, and you can use a Sharpie pen to write on the bottom. This idea works so well that I haven't thrown out a milk container in two years."

**Jim Rist, Granbury, Texas:** "I own a 2007 Kawasaki Mule 3010 utility vehicle with only about 400 hours, but already the fuel pump on it has quit working. A new fuel pump costs \$279, and I couldn't expect it to last any longer.

"To solve the problem I bought a 12-volt fuel pump made by Airtex at a local auto parts store. The Airtex fuel pump was in the same psi range (2.5 - 4.0 psi) as the factory fuel pump (3.0 psi). I paid \$68 for it, and it works great."