

He “Cleaned Up” His Own Brake Rotors

“I recently cleaned up the rotors on the disc brakes on my 1978 Ford F-150 4-WD pickup. I used a 4 1/2-in. angle grinder and a belt sander without removing the rotors from the wheels,” says Ken Burtard, Theresa, Wis.

Burtard uses the pickup for plowing snow and other odd jobs around his farm, and says he usually drives slowly. However, after time the brake rotors get very rusty.

“Under slow driving conditions, drum brakes can go for several years without getting too rusty, but not disc brakes. The rust that forms is very abrasive and will eventually wear out the brake pads,” says Burtard.

He jacks up the front end and then unlocks the hub on each wheel so the rotors are free to spin. He also removes the brake caliper and brake pads so he can get at both sides of each rotor.

“Spinning the rotor fast makes it easier to grind or sand uniformly all the way around the rotor, without grinding too much metal off one spot,” says Burtard. “I’ve found that with some assistance, a belt sander or angle grinder usually has enough traction to get the rotors spinning. I use the angle grinder first to remove most of the rust and then finish up with the belt sander.”

“As I work I turn the vehicle’s steering wheel as needed so I can access both sides of the rotor. Once the rotor begins to spin, I adjust the angle of the sander or grinder so that it’s always working against the grain of the metal. I always use safety glasses, and I wear a damp wash towel around my head in order to keep dust out of my nose and eyes.”

Burtard says that after he’s done grinding and/or sanding the rotors, he puts some oil



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on them to help keep them from rusting as quickly.

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He Dunks Tires In Rain Water To Check For Leaks

“I needed an easier way to check for leaks in my car and truck tires, so I modified a 250-gal. home heating oil tank. I fill it with rain water that drains off an eave trough on my shed’s roof. Works great,” says Kenneth Burtard, Theresa, Wis.

The converted home heating oil tank is located next to the shed just below a downspout. It’s mounted on some wooden pallets, making it easy to move around with a skid loader and also eliminating the need to bend over.

Burtard removed the tank’s legs and then laid it on its side and cut a big U-shape opening in the top. He folded the cut piece of metal back to form a backsplash and bolted it to the shed wall. “I’ve used this idea for several years and it works surprisingly well. I’ve even modified some tanks for friends,” says Burtard. “The tank fills automatically whenever it rains, all summer long. I built it because I don’t like to spend money at a tire shop if I don’t have to. A lot of tire shops nowadays don’t bother dunking tires in water any more to find leaks, and instead just squirt

soapy water onto the tire. Then if they can’t see any bubbles they say you need a new tire.

“Placing a tire under water makes it easy to see where the air leak is because bubbles will start coming out right away. I can immediately tell whether it’s a leaky valve stem or core or a bent wheel rim or a staple in the tire tread. If the leak is in a small wheelbarrow tire, sometimes I just add a little drained motor oil to plug the leak. I also use drained motor oil on rusty or corroded aluminum rims. The oil keeps the aluminum from corroding. I clean the rim and then smother it with the oil, which softens up the rubber and makes a nice seal.”

Burtard says he usually keeps the tank a little more than half full of water. He made an overflow adjustment device by installing a 90-degree elbow and a 12-in. length of straight pipe in the tank’s oil drain hole. “This way when I dump a tire into the water it overflows behind the tank and not onto my feet,” he says.

He plans to use a vehicle’s rack and pinion steering system to push the tire down into



Ken Burtard uses a 250-gal. home heating oil tank to check for leaks in his car and truck tires. He fills it with rain water that drains off shed roof.

the water, eliminating the need to push the tire down by hand for bubble inspection. “It’s hard to hold the tire steady while you’re looking at the water to look for bubbles, especially if it’s a big tire,” says Burtard. “I’ll add a steering wheel to the pinion and also weld a big steel plate to the end of a pipe

that I’ll attach to the pinion. Cranking on the steering wheel will push the tire down into the water.”

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Photo shows Horning’s electric start kit for Deere 830 and 8820 tractors. All kits are sandblasted and painted.

Electric Start Kit For Deere 2-Cyl. Tractors

Lamar Horning recently contacted FARM SHOW about the new kits he sells that convert Deere 2-cyl. engines equipped with a pony motor to electric start.

Three kits are available: one for Deere’s 70, 720, and 730 models; one for 80, 820, and 830 models; and one for the Model R.

“The trouble with those old pony motors is that they’re expensive to repair, providing you can even find someone willing to work on them,” says Horning. “Some companies offer aftermarket kits for 2-cyl. tractors, but they include only the starter motor and mounting bracket and none of the other parts you need. You can’t always find those parts at salvage yards, and if they are available they’re very

expensive.”

Kits range in price from \$1,165 to \$1,595.

“Those prices may seem high, but my kits include everything needed and shipping is included,” says Horning. “You save a lot of money compared to what you’ll have to pay at a salvage yard for all the components you need.”

“I work at a steel fabrication shop so I’m able to build all the parts I need except for the starter and alternator, which helps keep my cost down.”

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Pressurized Tank Helps Lubricate Overhauled Engines

Kentucky mechanic Philip Showalter has overhauled engines since the mid 1980’s and he says a device he came up with helps pre-lube an engine for easier starting after an overhaul.

“For years after overhauls I’d put an engine back together, fill it with oil, and turn the crankshaft manually before starting it. That worked okay, but I was never quite sure that all the parts were coated before starting it with the engine starter. Any part that might not have been lubricated could be subject to friction, and that’s definitely not good for the engine,” notes Showalter.

To remedy that issue, Showalter designed a simple pressurized lubricating system that he made from a 10 gallon air tank and a few fittings. The device uses 40 lbs. of air pressure to distribute a small amount of oil into an overhauled engine through the oil port. He says it’s quick and efficient and, after slowly hand turning the engine while the line is attached, the engine parts are all thoroughly lubricated.

Showalter made two simple modifications to a new 10 gallon air tank to make his device. First he replaced the air nozzle head

with a screw-on fitting that connects to the engine port, where the engine oil pressure gauge is attached. Then he cut a 1-in. hole in the top of the air tank and welded in a 4-in. piece of pipe. The pipe serves as a filler spout so he can add a quart or two of oil to the tank to pre-lube an engine. A cap screw seals the opening after the oil is poured in. To use the device, he pressurizes the tank through the normal air hose fitting, then inverts the tank gradually to force oil and air into the overhauled engine. The air tank valve is used to regulate air and oil flow into the engine.

Showalter says if anyone is building a device like this, it’s important to put clean oil into a new tank 3 times and completely blow it out so the tank is free of any small metal or dirt particles. “A person certainly doesn’t want any of those particles in a newly overhauled engine,” Showalter says.

Showalter has used the pre-lube device on tractor and truck engines from 25 hp. on up to high horsepower V-8’s, and also diesel engines.

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