

that I always buy service manuals for my tractors. They save time and more than a few trips to the dealer. Electrical wiring diagrams are especially helpful.

"My shop makes repair work easier. It's fitted with lots of plug-ins, a large engine hoist, a 5-ton floor jack, a hydraulic press, welders, and it's heated for winter work."

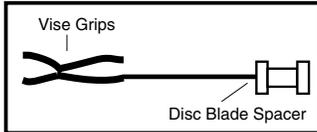
Marshall Forren, Marshall, Ill.: "I store nails, screws, nuts and bolts in coffee cans with plastic lids. I write on top what's inside. The lids keep moisture out and the writing makes it easy to know what's inside."

"To save money, I use the best sickle sections out of old sickles to replace broken ones in the new sickle on my mower."

David M. Munson, Jr., Paris, Tex.: "I put a grease pit in my shop that works great and saves time. The shop also has 18 ft. of clearance and has four doors. The smallest door is 14 ft. wide and the largest is 28 ft. wide. I also have a handy rolling workbench so I can bring all the tools right over by the job."

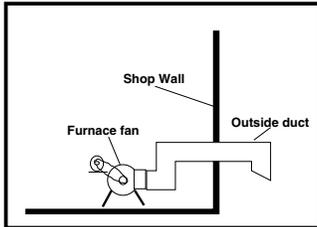
Lanny Hecker, Faucett, Mo.: "We put two pits in the floor of our shop to make it easier to service the bottom of vehicles. Much easier than jacking them up and using a creeper."

"I came up with a handy device to check brake lights on cars and trucks when work-



ing alone. I welded a rod with a disk blade spacer on it for weight to a pair of vise grips. When I clamp it to the brake pedal it's heavy enough to hold it down."

Paul Dean, Bolton, Ontario: "When welding inside buildings, heat and fumes can be easy to remove from the welding area by



installing an old furnace fan and venting it to the outside of the building. Easy to do and cheap.

"The sweep assemblies on my IH vibra-

shank chisel plow have a habit of breaking. To repair damaged units and strengthen others, I've found that welding a bead around the end of each assembly will solve the problem.

Mark Busscher, Zeeland, Mich.: "After reading in FARM SHOW about a farmer's overhead hoist, I copied the idea in my shop. I put two chain hoists on rollers. The first mounts on a 54-ft. I-beam and the other's on a 12-ft. I-beam that pivots across the shop. Very handy."

Bayard E. Young, Elkwood, Va.: "This is a simple idea but it works well. I use wide mouth plastic peanut butter jars to hold nuts, bolts and miscellaneous parts. You can see what's inside and unlike glass jars, they won't break if you drop them."

Ruth & Sylvester Riehle, Sunman, Ind.: "Parts and repairs for older Massey Ferguson combines are costly and time consuming. We have bought several used junk combines at auctions and now have many replacement gears and bearings and belts readily available."

Maurice Tack, Valier, Montana: "I put Vermeer converging wheels on our Deere 510 round baler. They work well and were cheaper than Deere wheels."

Kenneth Roberts, Quannah, Texas: "Changing the last stage fuel filter on my 930 Case diesel tractor is difficult, as is checking and filling the power steering reservoir. I solved the problem by cutting a door in the hood, with hinges and a latch."

Mark E. Hansen, Sherman, Ill.: "I cut the bottoms off detergent bottles and turn them upside down to use as funnels with handles. Helps when adding hydraulic fluid to my Deere 2740 tractor."

"The wood decks on hay wagons wears out rapidly. I replaced mine with 1 1/4-in. thick treated deck wood that's strong and should last over 20 years. It's cheap in the long run because of the longer wear."

Matt Biggs, Chesterton, Ind.: "I made a handy bead breaker for all types of farm tires by welding a 15-in. curved chisel plow point to a used hydraulic cylinder. Then I mounted an air chuck in the end of the hydraulic cylinder so I can use air pressure to break beads. The tool mounts on the wall of my shed. It works great."

Donald L. Stobaugh, Jennings, Ohio: "The stabilizer bars on my Ford 8N, 800, and 3000 tractors fasten under the rear axle. The problem is that regardless of the type of pin used to secure them, they catch on brush or weeds and get lost. Then the bar drops off, sticks in the ground, bends, or gets

Portable Bead Breaker

This portable bead breaker uses hydraulic jack pressure to press the tire off the bead lip.

"It easily handles even the toughest tires," says inventor Bob Sagen, noting that it'll work on anything from car to tractor tires.

The "Bead Jacker" has a pair of jaws that go between the tire and rim, and a lock-down handle equipped with a plunger. Pushing the handle back forces the plunger against the rim which in turn forces the jaws under the rim. Once the handle is pushed all the way down it overcenters to lock the plunger in place so it can't come off.

"The jack is at a right angle to the work area so the tire is pushed exactly straight down with the jack," says Sagen. "The plunger is equipped with an adjustable bolt for adapting the unit to different size



wheels."

Comes with an 8-in., 2-ton hydraulic jack. Sells for \$159.95.

Contact: FARM SHOW Followup, Pro-Chassis, Inc., County Road 34 East, Box 211, Arthur, N. Dak. 58006 (ph 701 967-8386).

New Machine Flushes Sludge From Engines

When you change the dirty oil in your tractor or combine's engine, you probably think the job is done.

Not Kevin Lea of Lubbock, Texas. He's come up with a new, self-contained "engine flusher" that's designed to be used after dirty oil is removed but before new oil is added. Called "Tractor Flush", the just-introduced machine uses air pressure to inject a cleaning solution into the engine to remove sludge that coats the inside even after dirty oil is removed. The machine can also be used to clean transmissions and hydraulic systems.

"It can add years to the life of an engine or transmission," says Lea, who showed his innovative new system to the public for the first time at the recent Texas Farmer-Stockman show near Lubbock. "It removes over 84% of wear metals and other harmful contaminants that a normal oil change misses and keeps it from being recirculated throughout the engine after new oil is added. It's designed mainly for preventative maintenance and will reduce the need for overhauls. However, if an overhaul is necessary the job will be much

easier if you flush the engine out first.

"Sludge can form inside an engine no matter how new it is or often you change the oil. Removing it reduces the engine's operating temperature and increases oil pressure, resulting in increased horsepower and improved fuel efficiency."

The "Tractor Flush" unit is equipped with hose adapters that attach to the vehicle's oil filter port and also to the oil drain hole. It's equipped with controls for a variety of pressure settings and for various soaking-circulating cycles. The cleaning solution is continuously filtered. Dirty solution goes directly into the waste oil for recycling.

Lea says he plans to sell the machine for about \$10,000. "If you have three or more tractors it'll pay for itself in extended tractor life. Several farmers could buy a unit together, or you could earn extra income off the farm by offering it as a service. It's light enough that two people can put it in the back of a pickup."

Contact: FARM SHOW Followup, Kevin Lea, 4200 Boston, Suite 19, Lubbock, Texas 79413 (ph 806 797-0177).

caught under your implement.

I solved the problem by using a medium-sized padlock. Since I started doing this I haven't lost another stabilizer bar. I keep the key on a ring on the tractor."

Albert P. Weiss, Faith, S.Dak.: "To remove oil filters without getting oil all over your hands, punch a small hole in the bottom of the filter to drain it out into a pail."

Richard Bowman, Chambersburg, Penn.: "I used Pyro-Putty to fill a long 3/8-in. wide crack in the exhaust manifold on an old 855 Hercules engine. I think the repair is now stronger than the rest of the manifold. The putty stays in there even when the engine backfires. It's easy to use. You just work it into the crack and let the heat of the engine cure it. Works on headers, manifolds, mufflers, catalytic converters, and more." Contact: Aremco Products, Inc., P.O. Box 429, Ossining, N.Y. 10562 (ph 914 762-0685).

O.J. Thompson, Grand Junction, Iowa: "I've had trouble with my pressure water system in that it waterlogs. My plumber inserted a rubber bladder in the pressure tank but it burst and got into the water lines and I had to dig up the lines. Since then I have repeatedly had to drain the tank and use compressed air for pressure. I've thought of putting an insulated tank up on stilts or maybe a float device in the tank to fill it to the correct level. Any solutions out there?" (ph 515 738-2525).

William C. Reeks, Cromwell, Kent.: "Here are two grease gun ideas that work for me. I wire a small plastic pill bottle to the handle of my gun where I can slip the nozzle of the gun when not in use. Keeps the tip clean."

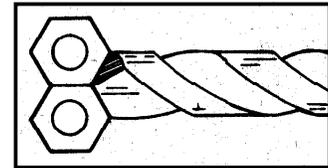
The other idea is the way I converted a hand grease gun to a foot-pumped grease gun. I added extra hose to the gun, mounted it on a board with U-bolts, and made a toe stirrup out of heavy wire to mount on the handle."

J.S. Adams, Cross Plains, Texas: "To protect air valves on impact tools from dirt, I use plastic hydraulic valve covers. Saves many hours of cleaning out dirt and prevents damage."

Kenneth Koenen, Burlington, Wis.: "The rear teeth on our Brillion Culti-Mulcher always acted like a rake, plugging

up with residue. To solve the problem, we mounted Danish tines on the rear bar. They do the job yet let trash flow through. That's the only modification but it worked."

Klaus Nielsen, Dunwoody, Ga.: The trickiest part of trying to sharpen a metal drill bit is trying to get the 118-degree tip



angle so the drill will run true. Klaus recently pointed out in an article in Woodshop News that you can vary the angle slightly to 120 degrees by using two standard machine nuts as a guide. Just grind the tip down to fit the angle of the two nuts and it'll work fine, he notes.

Wayne Bates, Emmet, Neb.: "Here's a handy shop tool I put together years ago. I mounted an older style post vise (the type many shop men now call obsolete because they prefer swivel-type bench vises) on a fairly heavy engine flywheel. I can roll this around anywhere in my shop. I mainly use it to hold things when welding."

Ronald H. McConnell, Brookville, Penn.: He saves money by making many of his own replacement parts. "Years ago I set up a complete machine shop and taught myself to use the machine tools. It's amazing how cheaply a part can be fabricated compared to what dealers charge. My other shop advice is to use lots of air-powered tools and get a big MIG welder. They make all repairs quicker and easier."

Joe Thomas, Mattson, Miss.: "When we bent a driveshaft on a mower-conditioner, we decided to repair it rather than replace it. The shaft is hollow. We cut out the bent part and found a pipe in our scrap pile that just fit over the outside of the shaft. We then drove the two cut shafts inside the pipe and spot welded the shaft to the pipe. It works as good as new now."

Jack Griffith, Arlington, Texas: "When I got a welder, I knew I would need a heavy-

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