

tem goes at once - requiring costly replacement. After a plug burns out it often swells on the end which makes it difficult to remove from the head. If the tip breaks off you may even have to remove the head to retrieve the tip.

"After I got tired of repairing the system I started spraying ether into the air intake. I came up with a system that lets me inject ether from the cab. It requires only 25 in. of 1/8-in. diameter copper tubing. Using a 1/4-in. bit, I drilled a hole through the firewall about 2 in. to the left of the throttle cable hole.

"I super glued a plastic tube to the nozzle on an 8-oz. can of ether on the floor in front of the 4-WD selector lever. The tube sprays into the copper tubing. The copper tubing protrudes into the bottom of the air cleaner housing inside the air filter.

"When used properly this starting aid will provide faster starts, less wear on the starter, less battery drain, and longer battery and alternator life compared to glow plugs and be much less expensive to maintain. Under no circumstances should both ether and glow plugs be used at the same time, so if you decide to convert you must disconnect any working plugs or disconnect the entire system.

"The same idea would also probably work on Ford pickups equipped with 6.9 and 7.3-liter diesel engines."

**Alan MacLean, Kingston, Ontario:** "Large holes can be bored on a lathe without having to use a time-consuming face plate mounting. A 1 1/2-in. long piece of pipe, faced square, and with an inside diameter slightly larger than the outside diameter of the desired hole is accurately positioned on the plate. Attach to the plate with 3 1/2-in. long welds positioned 120 degrees apart. Put the pipe in a 3-jaw universal chuck and bore the hole. Use a disc grinder to carefully remove the tach welds."

**Lynn Smith, Salmon, Idaho:** "I found a quick, failproof way to hook up the hydraulic hoses on our Farmhand loader when-



ever we want to attach the bucket to the loader. The loader has four hoses - two on each side of the tractor - that operate hydraulic cylinders. The hoses had threaded ends so it took some time to hook them up. One hose attaches to a male connector and the other to a female connector. It's easy to get them mixed up.

"I solved the problem by putting Pioneer quick-coupler ends on the hoses which makes the job go fast. I put male and female ends on the hoses, alternating ends on the hoses so there's only one way to hook up. Takes all the guesswork out of hooking up the hoses."

**Harvey Lorton, Greenfield, Ill.:** "My sons, Dan and Gary, and I make the most of a 10 by 12-ft. storage area we have above

the office of our 40 by 50-ft. shop with a handy elevator we built to get up to it.

"It'll hold two people who weigh 200 lbs. apiece, with plenty of capacity left over to handle parts and equipment. It'll hold probably 600 lbs. altogether.

"It consists of a 3-ft. sq. lift platform with an angle iron frame with 2-in. boards bolted



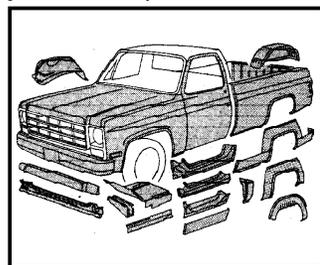
on. It slides up and down on a frame made from two 15-ft. lengths of T-beam secured to the wall. Angle iron is fitted to the inside of the T-beam flanges to serve as a track for the lift to ride in. Two sealed ball bearings mount underneath the platform on either side to run in the angle iron, while two more sealed ball bearings mount on top to run on the back side of the T-beams.

"A big 50-tooth sprocket off an old auger and a smaller 7-tooth dia. sprocket below it serve as the gear reduction drive for a 1-in. dia. cross shaft at top of the frame. Spools attached to both ends of the shaft wind 1/8-in. winch cable to raise and lower the lift.

"The elevator is powered by a 3/4 hp electric motor that drives the big pulley. The elevator is equipped with a spring-loaded brake that applies or releases pressure on the pulley with a solenoid wired into the electric motor.

"The elevator is operated from a waste-high, push-button control arm. Power cable is wound around a pulley attached to the upper T-beam and a weighted pulley below it so it raises and lowers with the lift without tangling."

**Ron Stelmarski, Chesterland, Ohio:** "We sell high quality rust replacement patch parts for domestic and foreign trucks, pickups and automobiles. We use only galvaneel, zinc over baked metal, to ensure that our parts will virtually never rust. As an ex-



ample, we have tremendous demand for rocker panels and cab corners for 1973 through 1987 Chevy pickups. Rocker panels retail for \$20 and cab corners for \$12 plus S&H. We have over 100,000 parts available for immediate delivery. Send \$5 (refundable with order) for illustrated catalogue with instructions on installing our parts."

Contact: FARM SHOW Followup.

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## Low-Cost Portable Light Stand

Jerome Thiemann used an old car brake rotor, a 5-ft. long steel pipe threaded at both ends, and a "pony pipe" clamp to make a low-cost portable light stand.

"It works so nice that I can hardly believe it. I can quickly move the light up or down anywhere on the pipe just by squeezing the spring-loaded jaw on the bottom half of the clamp," says Thiemann.

The car brake rotor serves as the base for the pipe. He welded a 3-in. sq., 3/16-in. thick metal plate across the hole at the middle of the rotor, then welded a short 3/4-in. dia. pipe coupling to the plate. He welded a metal plate to the pipe clamp to hold the light.

"The brake rotor is light enough that I can easily carry it yet is heavy enough to keep the light stand from tipping over."



## Handy "Crusher" For Used Oil Filters

You can crush used oil filters to a fraction of their original size with this new "economy crusher", says Bagley Equipment, Lodi, Calif.

It consists of a 6-ton, manually-operated hydraulic bottle jack that mounts on top of a 16-gal. steel drum. You place the filter inside the crusher housing on top of the barrel and then pump the hand jack. Oil from the filter is deposited into the drum. It takes 10 to 35 seconds to crush the filter. Crushes filters up to 6 in. in diameter. Sells for \$350 plus S&H.

A 10-ton air-over-hydraulic crusher is available for larger truck filters up to 12 in. tall. Sells for \$1,095 plus S&H.

Contact: FARM SHOW Followup, Bagley Equipment, 2370 Maggio Circle No. 4, Lodi, Calif. 95240 (ph 209 367-4800; fax 5424).



## Magnetic "Socket Inserts"

New magnetic "socket inserts" hold nuts and bolts tight inside the socket, making it easier to reach out-of-the-way locations. The "Brocket" socket insert is a yellow plastic insert with a round magnet imbedded in the middle of it. Fits 6-point hex sockets and 12-point sockets and can be used on both standard and deep sockets.

A set of inserts in nine different sizes sells for \$12.95 plus \$1.50 S&H. Metric sizes 10 to 19 also available at the same price.



Contact: FARM SHOW Followup, Vasichek Enterprises, LLC, Box 197, 121 1st St. West, Michigan, N. Dak. 58259 (ph and fax 701 259-2288).

## Cold-Treating: New Way To Make Steel Harder

Heat-treating is a common way to make wear surfaces last longer. But have you ever heard of "cold treating"?

A California company says it can make steel parts last up to 5 times longer by subjecting them to temperatures of 300° below zero, using a computer-controlled liquid nitrogen freeze chamber.

The process causes a chemical reaction on parts that have already been heat-treated conventionally.

"We're successfully using it on gears, cams, bearings, pistons, drill bits and many other high wear parts. What's more, we're currently testing the process on combine sickle bars, tillage sweeps and other farm equipment parts," says Rob Brechman of Breco Cryogenic Services, Clovis, Calif.

Among other things, the process causes fine carbide particles to fill in tiny voids in metal, resulting in longer wear life, he explains.

"You can substantially reduce machine downtime related to tool and wear part replacement," he notes.

Price begins at about \$1.50 apiece for steel tooling and wear parts weighing 0 to 4 oz. and runs through \$440 for treating complete 3 and 4-cyl. engines. Minimum order of \$50.

Contact: FARM SHOW Followup, Breco Cryogenic Services, 6387 East Silaxo, Clovis, Calif. 93611 (ph/fax 209 322-1710).