

## Money-Saving Repairs & Maintenance Shortcuts

(Continued from previous page)

Hydraulic hoses run from the pump to the motor.

"I bought the pulley new and spent about \$25 on belts. I already had the Charlin hydraulic motor. My total cost was only about \$75. Now I can steer the tractor with just one finger, even with a load on it."

**W.A. Gibbs, Elmwood, Tenn.:** "I built this simple but easy-to-use puller using a 6-ton hydraulic jack. It's amazingly handy to use.

"It consists of two 3/8-in. dia. all-thread bolts, which serve as spacers, connected



together by a 1-ft. length of 3/8-in. thick flat stock. The all-thread bolts are bolted to a bearing separator. I used the system recently to remove a worn-out sealed bearing on a lawn mower deck. I turned the deck upside down, then clamped the bearing separator to the bearing housing and placed the jack on top of the deck's shaft. To remove the bearing, I simply raise the jack to apply hydraulic pressure and push the shaft out.

"I also made a pair of long spacer arms that I use with the same setup. I recently used them to remove a hydraulic pump from my bull dozer when I had to rebuild the automatic transmission on it. The pump was down inside the transmission case and there was no way to get down in there and get hold of two bolts that keep the pump in place. I bolted the spacer arms to the pump. Then I placed a piece of wood across the top of the transmission case and set the jack on top of it."

**Curtis Heinen, C&D Developments, Box 269, Craik, Sask., Canada S0G 0V0 (ph 306 734-2728):** "Our new Grease Saver is an easy-to-use grease gun attachment that

holds any standard grease needle firmly in place, making it easy to lubricate bearings. It consists of a specially-designed sleeve that fits over a standard needle. You insert the needle into the grease gun fitting, slide the sleeve over the needle, and then use an allen screw on the sleeve to lock the needle in place. The easy-lock design prevents grease from pushing past the fitting so the grease gets to your bearings, not on your hands. The needle can be held in place with one hand, making it easy to operate the grease gun. Sells for \$19.95 (Canadian) including S&H."

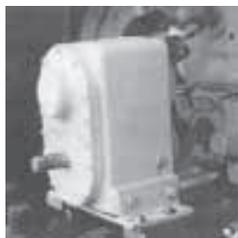


**TeamWork Ag & Industrial Ltd., Box 399, Ogema, Sask., Canada S0C 1Y0 (ph 306 459-2704):** "Our new Autostep makes it easy to work under the hood on pickups and trucks. It consists of a metal frame and platform that simply slips over one of the vehicle's front tires. The platform measures



8 1/2 by 32 in. The unit can be used on any vehicle with a maximum 16-in. dia. wheel. Folds up to 6 in. for easy storage. Sells for \$84.95 plus S&H."

**Rodono Industries, Ltd., Rt. 1, Clive, Alberta, Canada T0C 0Y0 (ph 403 784-3864; fax 403 784-2402):** "Our new pto speed reducer is designed to allow larger tractors with 1,000 rpm pto's to run equipment at 540 rpm's. It requires 800 rpm's on the input shaft to provide 540 rpm's on the output shaft. This enables a large tractor



to run at less than full engine speed while operating the 540 machine at full rpm's.

"The speed reducer uses a double chain coupler on the input shaft to simplify the alignment. Input couplers are available in either 1 3/4 or 1 3/8-in. dia. splines. The output shaft is 1 3/8-in. diameter.

"The gearbox is a high horsepower unit that weighs 195 lbs. so it needs to be rigidly mounted to the tractor. To simplify mounting, the gearbox is supplied with an attached steel base plate that can be drilled or welded as needed. The gearbox can also be special ordered for use as a speed increaser. Sells for \$1,800 (Canadian) plus S&H."

**Smith Tool, 2505 S. Custer, Wichita, Kansas 67212 (ph 316 942-8632; fax 316 942-7738; Website: www.smithtool info.com):** "Our new two-in-one Rivet Tool is designed to remove and replace both standard round-head and countersunk rivets. It allows you to replace sickle sections right on the machine. A two-way reversible anvil insert allows the tool to replace both types of rivets quickly and easily. The unit comes with a variety of parts including riveter screw, riveter sleeve, anvil, punch sleeve, and punch.



"It's the ideal tool for anyone who has several machines with varying sickle section fasteners. The narrow body design fits all sickles including new double tooth sections. The tool comes complete with all parts and instructions.

"Sells for \$69.42 plus S&H."



**David Conlee packed his entire shop into a 66-passenger school bus that he can take anywhere.**

### First Class Portable Shop

One of the worst things about not living where you farm is not having easy and quick access to a good farm shop, says David Conlee, Moro, Ore., who farms rented land spread out across 25 miles.

He eliminated the problem by packing his entire shop into a 66-passenger school bus that he can take anywhere.

Behind the driver's seat down the right side of the bus, there's a valve grinder and a glass bead machine that he uses to clean and polish parts. Next are four big rollaway toolboxes full of hand tools. Beyond the toolboxes is a 25-ton hydraulic press that's powered by a hand pump. Toward the rear of the bus, he mounted a set of oxygen and acetylene tanks and hoses, with an anvil right in front of them. Finally, in the back corner next to the anvil and gas welder is a welding table.

Across the aisle from the welding table, Conlee mounted a combination 9-kW generator and 350-amp electric welder, powered by a gasoline engine that's vented out the side of the bus. He mounted the generator/welder up high in the back corner to make space underneath it for a 210-amp wire welder.

"The rear emergency door gives me easy access to the welding area," he says. And anything that he can't lift through the door, he can pick up and swing through with a hand-cranked cherry picker mounted on the rear bumper. "It was built to go on a service truck, but I modified it slightly to make it fit and work the way I wanted it to," he says.

Next to the generator, he installed a power panel and a power inverter from an old recreational vehicle. "If I have access to a 220-volt outlet, I can plug in the entire bus and run my tools off that, rather than the generator. The inverter keeps the batteries charged up while we're plugged in," he says.

Moving forward from the welder, there's a 2 hp grinder on a pedestal and then a floor model drill press. In front of these, located right over the wheel well, is a 5-hp electric-powered air compressor with a 20-gal. horizontal tank.

"This particular bus has an emergency door on left hand side, too. In front of the compressor, just behind the emergency door, is my metal band saw. If I have to, I can swing the saw around and run the stock I'm cutting out through the door," he says.

In front of the door is a combination metal lathe and milling machine. "It's a full-sized machine," he says. "The lathe will swing 12



**Hand-cranked cherry picker mounts on bus's rear bumper, allowing Conlee to lift objects through rear emergency door.**

in. and has a 36-in. bed."

Ahead of the lathe/mill, he put what he intended to be a reading area. "I put in a seat from the left side and one from the right side, so they're facing each other and then put a table between them. By the table, I installed a lighted magnifying lens on a telescoping arm, thinking I could use that to read manuals and directions with my tired old eyes," he says. The reading table has become more of a low workbench, where he can work on small parts while sitting down.

The bus came with a roof ventilation fan that works great for exhausting gases when Conlee's welding inside the bus. He wired the bus with outlets every 6 ft. He also installed a refrigerator for keeping food and drinks cool.

"The bus has a 26 by 7 1/2-ft. useable area, with about 6 ft. 3 in. of headroom at the center. I spent quite a bit of time laying it out so everything would work without running into something else. I would set the tools in place, then go home, and sleep on it. The next day, I would bolt it down, or move it to a different location I thought might be better," he says.

Conlee says it's important to make sure everything is bolted down securely, too, so it stays put when you're headed out over rough ground or have to make sudden stop.

Conlee paid \$1,900 for the 1987 bus. It has an International 392 gasoline engine in it with a 5-speed transmission. Conlee added a two-speed rear end salvaged from another old bus, in order to gear it down to a slower speed for driving across farm fields.

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