

**John Hoegl, Lloydminster, Sask.:** "We installed a hand-operated winch on the left side of our two Deere 8820 combines so we can raise or lower the straw chopper by simply turning a crank. We lower the chopper whenever we want to drop the straw into a windrow for baling. A cable runs from the winch up over a pulley mounted on top of the combine and down to the chopper drum. We cut a hole on top of the combine to make room for the cable. We also made this modification to our Deere 7720.

"When using our Deere 535 auto-wrap round baler we had a problem getting enough twine wraps on the left side of the bale, especially when we had to bale dry straw. It would compress, allowing the twine to slide off the bale. We solved the problem by converting the baler's automatic cut-off control to a manual twine knife control that lets us wrap twine around the bale as many times as we want. We bolted a chain link onto the end of the twine arm and tied a rope to the link that leads up to the tractor cab. We also turned the plate that engages the knife sideways so that the knife can't cut twine until the operator pulls on the rope. It lets us reduce the number of wraps across the center of the bale and wrap extra twine on one end. It works great and also reduces the amount of twine normally needed by about one third."

**Tim Beirnes, Cambridge, Ontario:** "The wagon hitch on my Massey-Ferguson 124 baler was built too light and often broke. The hitch was made up of a 2-in. dia. steel pipe that slid inside a 2 1/4-in. (inside dia.) light wall sleeve and was pinned to it. I threw the sleeve away and replaced it with a cold-rolled 2 1/2-in. sq., 1/4-in. wall tube which solved the problem. I drilled a hole in the sq. tube to match. I made this conversion on three different Massey-Ferguson balers.

"We broke a knuckle on the baler's pto shaft on a Saturday night. A new yoke would have cost about \$100 and my dealer was closed for business on Sunday. I solved the problem by borrowing the pto shaft off an old manure spreader. I shortened the shaft to the right length. Then I cut off the machined part of the knuckle on the baler pto shaft and welded it to the heavier knuckle on the spreader shaft. Eight years and 30,000 bales a year later it still works beautifully."

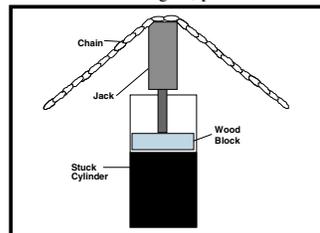
**Bruce Gamble, La Feria, Texas:** "I've found a relatively inexpensive way to re-

pair worn knuckle joints on any Deere MFWD tractor. The problem is, the seals on the double U-joints that couple the two parts of the axle together cut grooves in the yokes as they wear. Replacing the yokes is neither an easy nor cheap chore. I take the knuckle joint and turn the yoke down in my lathe. I then install a stainless steel bushing I make out of pipe to bring the yoke back to correct size. This repair will work on any Deere tractor with MFWD. Cost is \$150 per side, compared with anywhere from \$300 to \$1,200 per side to replace them depending on the model of tractor."

**Roger Baldwin, Rock Rapids, Iowa:** Back in the early 1960's, before the advent of portable AC welders, Roger built a DC welder from a 32-volt generator out of a surplus WW II airplane.

"I ordered one from a surplus depot after seeing an ad in a magazine about making such a welder," says the retired Lyon County extension agent. "The generator had a short shaft with a spline on one end. I found a driveshaft with spline that matched it at an auto junk yard. I shortened that shaft and welded a knuckle onto it so it would match the pto shaft on our early 1940's Allis Chalmers B. I wired welding cables into the outlets where the generator's wires had been. I mounted the welder on a two-wheel trailer I pulled behind the tractor to keep the two shafts from vibrating apart. Then I just started the tractor and instantly had a welder. It worked beautifully."

**James C. Perley, Little Sioux, Iowa:** "To unstuck pistons on an IH tractor, we put a chain around the engine, poured oil in the



cylinders and put a round, wood block in one cylinder. Using the chain as a brace, we used a jack to push the wood against the piston until it came loose."

**Dale E. Nielson, Chapman, Neb.:** "We've had good luck using a new-style plastic welder to repair cracks in plastic ir-

## Modified 6-Cylinder Engine Uses 3 Cylinders To Compress Air

If you've ever thought of turning an old engine into a high-volume air compressor, you'll be interested in the way Clayton, Ill., farmer David Buss modified a 1961 Ford car engine to compress air.

Buss left three of the cylinders intact so they run normally, but then modified the other three cylinders to compress air.

He first blocked off the intake manifold on the compressor end of the engine so it wouldn't draw in gas. He next removed a frost plug from the compressor end to let in air. He installed an air cleaner off an old lawnmower in the frost plug port.

He replaced the spark plugs on the "compressor cylinders" with commercial check valves to keep pressure from backfeeding into the cylinders.

The engine starts and runs normally on the three remaining unmodified cylinders," Buss says. "It develops up to 170 psi's, more than enough power to operate air tools. It really works well."



He mounted the air compressor on a home-built 5 by 7-ft. trailer that's also fitted with a Lincoln welder and an acetylene torch.

Total cost of the project was \$700, including \$27 apiece for the check valves.

Contact: FARM SHOW Followup, David Buss, R.R. 2, Box 27, Clayton, Ill. 62324 (ph 217 894-6417 or 7070).

**FARM SHOW**

## 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 farm 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.*

*Mark Newhall, Editor*

## Urethane Sprockets For Rock Pickers & More

"Conventional steel sprockets last maybe 400 hours. Our polyurethane sprockets are proven to last easily twice as long," says Dick Sydor, a sales representative for PCO, a Marshfield, Wis., manufacturer. "Another advantage is they'll increase life of belted chains on the equipment. Our new Harvesthane urethane sprockets are made for rock pickers as well as sugar beet, potato, carrot and onion harvesters."

They're available in a wide variety of sizes and are competitively priced from \$40 to \$80 apiece for most standard sizes. Contact: FARM SHOW Followup,



Dick Sydor, PCO, 2515 West Arnold, Marshfield, Wis. 54449 (ph 715 387-6303, ext. 22; fax 389-1926).

rigation pipe. Seems to work well." (Fouillard Farm Supplies Ltd., Box 524, White City, Sask., Canada S0G 5B0)

**Chris Palmer, Enumclaw, Wash.:** "I couldn't unbolt a tie rod off the steering arm on my Massey 65. My 3/4-in. Craftsman expandable wrench broke but my Stanley Proto wrench took it off with a 3-ft. piece of pipe on it. The Proto is expensive (\$300 for a 12-piece set) but if it won't break in the field, it's worth it.

"My best maintenance tip is to clean, clean, clean. If you keep your equipment clean, problems will show up easier - like oil leaks, cracks, and so on.

"One of our handiest shop tools is an old bearing press we bought for \$10. It helps push all kinds of bushings, bearings and bolts in and out."

**Allen Reimer, Capron, Ill.:** "We had a problem. Our cattle needed more vitamins. We mounted an insecticide-type Gandy attachment on the elevator that runs from the silo to the belt feeder. As the elevator runs, vitamins are dropped on the silage. We simply ran a chain from the elevator drive to the Gandy unit. Works great."

**Andy R. Hodges, Galax, Va.:** "One tough maintenance job I've got is putting bearings on the rollers of a New Holland Haybine. It's extremely tough and time-consuming. I made it easier by using a torch to cut the old bearings off the shaft.

"The electric power window on my 1985

Ford LTD would not work. A new motor would have cost \$85. When I took the panel off the door I found that the plastic rollers were broken. I installed four steel balls in place of the plastic and the window works now. I saved the \$85."

**John Cernius, Climax, Mich.:** "I break beads on tractor tires by using down pressure from my backhoe stabilizer arm. The bucket is positioned to hold the wheel flat on the ground and the stabilizer is used to unseat the bead. It's safe and quick."

**Tom Graham, Henderson, Minn.:** "Instead of removing the straw chopper on Massey Ferguson 300, 410 and 510 combines when switching from corn to beans, I remove the front two bolts and hinge the chopper down on the back two bolts, then put a brace made of flat or angle iron between the mounting holes on the combine chopper.

"I've discovered that auto salvage yards that wreck late model cars have used anti-freeze available. I bought a 55-gal. drum for \$25 and use it in all my older cars, truck and farm machinery. Works as good as new."

**Don Booth, Leoville, Sask.:** "I had a problem with erratic operation of the Powershift on my 1986 Case-IH 4494 tractor. The dealer couldn't fix it and the company service rep was no help either. I finally found the problem myself - bad electrical connections. One thing that helped is