



“Reversed Tractor” Works Great For Moving Manure, Snow

“It works great for scooping manure and snow because of the outstanding traction and visibility,” says Steven Olson, Volga, S. Dak., who reversed a 1948 International “M” tractor and installed a Dual 250 loader on it facing backward.

Olson turned the steering wheel and seat around and repositioned the clutch and brakes. He flipped the tractor’s ring gear over and moved the shifting rails to provide five forward gears in reverse. To make room for the repositioned shifter he installed a 2-hole top plate removed from an International 400 tractor. He runs a hydraulic pump off the crankshaft to power the loader and to provide power steering. He removed the tractor’s narrow front wheels and replaced them with the rear axle and wheels from a 1958

Deere 55 combine.

“It has more traction for loader work and it’s easy to maneuver because of the power steering and because the weight is over the drive wheels,” says Olson. “The big rear tires don’t sink into soft ground like small front tires do when using a front-end loader. I sit up close to the loader so I can see the bucket better.”

The steering wheel is fastened to a hand pump removed from a Massey 510 combine. The pump diverts oil to a steering cylinder removed from a New Holland TR70 combine. Olson spent \$400 to modify the tractor.

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Add-On Cushion Valve Protects Hydraulic Motors And Cylinders

Bob Zimmerman, Oak Bluff, Manitoba, installs a 2-line Gresen cushion valve in front of hydraulic motors and cylinders to protect them from hydraulic motor failure caused by sudden shock loads.

“Original hydraulic systems usually work alright until something unusual happens, such as when you jam the combine reel on a clump of dirt,” says Zimmerman. “Last year’s short grain crop really caused some operators a lot of grief. Every time the reel stopped suddenly, the surge load instantly overloaded the hydraulic motor. The result often was a broken hydraulic motor.”

Zimmerman says the Gresen valves are available at most hydraulic supply stores. He buys his out of an auto supply catalog. “The valve shouldn’t be set too much higher than your peak operating pressure, so if you’re in doubt, just tee in a pressure gauge to check the normal operating pressure. You can order a valve preset at any pressure up to 3,500 psi.”

The cushion valve is equipped with dual ball/spring relief valves, and the strength of the spring determines the relief point. Regular fittings are used to connect the valve into the feed lines. The two lines into the motor are connected to one side of the cushion valve, then two new short lines are used to connect the valve to the motor. There’s no “in” or “out” side to the valve so it’s a straight connection. The valve can be located in-line or mounted on the frame near the motor. “When the motor stops suddenly, the instant pressure peak in the ‘in’ line will push the relief valve open, allowing oil to bypass the other line,” says Zimmerman. “There’s no cavitation in the system - oil moves over to the other

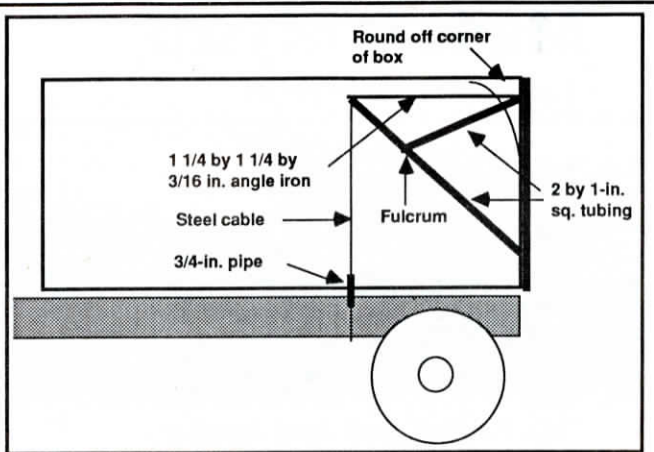


side without creating a void or open space with air bubbles. You can also buy a cushion valve with adjustable valves for extra fine tuning or to supply different relief pressures on the lines.”

Zimmerman originally bought the cushion valve to control violent pressure surges in the hydraulic cylinder that swings combine-unloading augers in and out. “Farmers like the speed at which the auger swings out, but don’t like the violent stop at the end of travel,” says Zimmerman. “With a dual cushion valve ‘in’ line mounted just ahead of the swing cylinder and set just above working pressure, the instant overload blows over to the other side of the cylinder. In this case, we’re protecting the auger more than the cylinder. It’s easy to install as you don’t have to modify any parts of the main hydraulic system.”

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Self-Opening Truck Gate

“Anyone with a farm shop and a welder can make this “no hydraulics” self-opening truck gate. I’ve used it for 10 years with no problems,” says R.E. Mitchell, Chilliwack, British Columbia.

The automatic door works great for silage-hauling trucks and wagons with hydraulic dump. When the truck box is raised to dump, the door opens up. It shuts itself again when the box is lowered. No hydraulics or other power is required.

Two lengths of 1 by 2-in. sq. tubing fasten to each side of the door. The two pieces to form a “Y” at a fulcrum point about 2/3’s of the way up the side of the truck’s 6-ft. sides. A steel cable, anchored below the truck bed on the frame, pulls down on the end of the “Y”, lifting the door up and over the top of the box. A length of 1 1/4-in. angle iron serves as a stabilizer, running from the top corner of the door to the end of the “Y”.

The fulcrum is a 3/4-in. dia. pin welded to the side of the truck box. A piece of heavy-wall pipe welded into the “Y” fits over the pin.

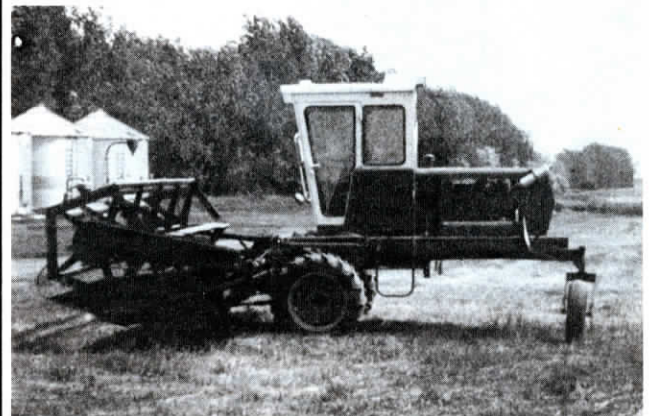
Mitchell had to drill a hole through the



angle iron that runs around the outside of the truck bed in order to run the cable directly down to the truck frame. He welded a short piece of 3/4-in. pipe into the hole to thread the cable through.

He also had to “round off” the upper back corner of the sides of the truck to make way for the door as it raises. He put a 1 by 3-ft. piece of draper cloth over the opening to keep silage from falling out.

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Combine Cab Mounted On Swather

“We’ve been mounting IH combine cabs on Versatile swathers since 1972. It works great,” says Lawson Jones, Webster, N. Dak., who recently put a IH 915 cab on a Versatile 400.

“It’s a nice cab with more visibility and better construction than most cabs built for swathers. The best thing about them is that they’re easy to find and reasonably priced at salvage yards around the country. Most of them have air conditioning included. You can purchase an extra pulley to bolt onto the flywheel from Ford

to drive the air conditioner compressor.

“We first came up with the idea because of health and safety reasons. I made the first conversion back in 1972. The cab is the right dimension front to back. You need to add two angle irons to the cab sides by the operator platform area. The last time I made the conversion, two of us performed the task in a single morning.”

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