

He Made His Own Aeration Tillage Tool

An Iowa farmer who didn't want to spend the money for a commercially-built aerator built his own 15-ft. tillage tool from scratch.

Lynn Petersen, of Elk Horn, used the springs off old semi trucks to make 8-in. long triangular-shaped teeth that he welded onto a series of steel rotors.

"It works as good as commercial models that sell for \$8,000 to \$10,000. I spent less than \$2,000," says Petersen, who built the rig four years ago with help from his son Kevin and neighbor Eric Juelsgaard.

He used 4-in. sq. steel tubing to build the frame, rectangular steel tubing to build the front hitch, and steel pipe to build a rear hitch so he can pull a harrow behind it in the spring. There are four 8-in. dia., 1/2-in. thick steel drums that mount on two gangs. Each drum is supported by a pair of 1 1/2-in. dia. steel shafts that rotate on heavy-duty greasable bearings mounted on vertical steel bars. The outside end of each gang is supported by a vertical steel plate that's free to slide forward or backward at the end of the frame. The plate is held in place by a hitch pin that mounts in one of four holes at the top of the frame. To adjust the angle of each gang Petersen simply pulls the pin out and slides the plate forward or backward.



To make the teeth he cut the suspension springs off old semi trucks and sharpened them to a point, then made a jig to weld them onto the rotor at an angle. There are four rows of teeth arranged in spiral fashion. He bolted a pair of 1,150-lb. weights on top of the frame. The rig's lift assist wheels and 5-in. dia. hydraulic cylinder are off an old Deere disk.

"It works better than the disk I had been using and is much more versatile because I can also use it to aerate my alfalfa fields," says Petersen. "It leaves more residue on top of the soil than a disk and doesn't compact the soil which helps with water intake. It also works more oxygen into the soil than a disk. It's painted Caterpillar yellow and has black weights so it looks like it was factory-made. The teeth are very hard and wear good. I use an International 1066 150-hp tractor to pull it, and it has all it can handle.



I go at about 6 to 7 mph.

"I use it mostly in the fall on corn stalks or soybean stubble. I set the gangs at the maximum angle in order to stir up as much soil as possible and mix it in with the stalks. It doesn't cut up the stalks as much as a disk which is good on our steep slopes. I also use it in the spring and pull a home-built 3-section harrow behind it in order to seal up the soil and conserve moisture. On alfalfa ground I set the gangs straight so the teeth just poke holes into the soil. The teeth aren't removeable like on commercial models, but

when they wear out I can simply cut them off and make new ones.

"I designed the hitch with a built-in 3-pt. so I can remove the hitch and mount the unit on a 3-pt. I adjust the top link to keep the rig level. The hitch is long enough to keep the dual wheels on my tractor from interfering on turns."

For more information, contact: FARM SHOW Followup, Lynn G. Petersen, 2404 St. F-58, Elk Horn, Iowa 51531 (ph 712 764-6892).



Old Trucks Converted To Low-Cost Gravity Wagons

Agriservices Associates, managed by Herbert Blaser, Belleville, Wis., converted old trucks into pull-type gravity wagons by mounting conventional gravity wagon boxes on the shortened-up frames of junked-out single axle trucks.

They have three "truck wagons" and one pup trailer. The biggest wagon has a tandem rear axle and is equipped with a 500 bu. box. The pup trailer holds slightly more than 200 bu.

"They didn't cost much to build and actually work better than commercial gravity box wagons," says Blaser, who notes that most of the work was done by his brother-in-law Richard Christen.

Christen used a couple of 2-ton Ford trucks. He stripped each truck of everything but the chassis, which he cut to match the length of the box he planned to use. He bolted a new Killbros. Mfg. box onto each chassis and mounted a hitch made from steel pipe on the front axle.

"The truck suspension and tires provide these wagons with several benefits over conventional gravity box wagons equipped with flotation tires," says Christen. "The rear axle is equipped with duals which help

stabilize the wagon, and having springs on both axles allows the wagon to flex over rough ground for a smoother ride. Commercial wagon running gears sell for \$5,000 to \$10,000 and aren't even equipped with heavy duty springs. Truck tires are built heavier than flotation tires so they'll last longer, and you can pull a "truck wagon" at greater highway speeds. Flotation tires often blow out when pulled at highway speeds, and replacing them is expensive."

The wagons have the original truck brakes on all four wheels. A hydraulic cylinder on front of the truck frame is used to operate the brakes. One end of the cylinder is hooked up to the tractor's remote outlets and the other end to the truck's brake lines. Extending the cylinder forces brake fluid into the truck brakes. "Hydraulic fluid would ruin the seals in the truck brakes. The cylinder keeps the tractor's hydraulic fluid and truck brake fluid separate," says Christen.

All the wagons have hitches on back allowing them to be hooked together in any combination.

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Pull-Type Dump Wagon

"I built it because I didn't want to tie up my pickup. It works great," says E.J. Tippen, Kennett, Mo., about the pull-type dump wagon he built to haul dirt for his commercial building business.

Tippen mounted a used 'EZ Dumper' hydraulic dump box - originally designed to mount in a pickup - onto a used Deere wagon running gear. He bolted 4 by 4's on top of the running gear and positioned the unit to clear the rear tires. He mounted a hydraulic pump and 12-volt battery on front of the unit. The battery is wired up to a starter motor that drives the hydraulic pump, which then pumps fluid into the hoist cylinder.

"It works good and cost only a little over \$4,000 to build," says Tippen. "The dump body was bent so I had to repair it, and I had to replace all the seals on the running gear at \$20 apiece. I also put new 6.50 by 16, 6-ply tires on the running gear. The first time I used it the 2-in. angle iron framework that's designed to set in the truck bed bowed. I reinforced it by welding a 10-in. high length of channel iron onto each side of the frame. I dump the load by inserting a key into an ignition switch wired to the starter motor and turning it, then hold it there until the bed is all the way up.



"I don't know how much dirt it'll hold but the hoist has a 6,000-lb. lift capacity and hasn't failed yet. I use my 1994 Chevrolet pickup equipped with a 6-cyl. gas engine to pull it. I mounted a commercial shock hitch onto the pickup's receiver hitch in order to prevent possible damage caused by jerking the heavy load."

Tippen says he's willing to sell the unit for about \$3,600.

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