

He Made His Own Pasture Pipeline Plow

Rancher Wayne Hagen farms and also operates a manufacturing company so when he saw a need in the ranching community last year, he decided to fill it.

Hagen designed a pasture pipeline plow and then rented it out to local ranchers and pasture managers who were being forced to pump water to livestock over longer distances.

His tractor-mounted plow cuts up to 2 ft. into the ground as its reel lays in pvc water pipe from a spool. A maximum of 2-in. dia. pipe can be used, but Hagen says 1 1/2-in. pipe, which comes in 6,200-ft. rolls, was the most common choice. At the time, it cost between 42 and 45 cents/ft., but he says it's probably now closer to the 50-cent mark.

"I made the plow's 3-in. wide beam from three pieces of 1 by 8-in. flat iron laminated together. On the rest of the plow, I mainly used 3/4-in. to 1-in. thick steel," he says. "The

heavy construction allows it to cut through all types of tough ground."

In some of the harshest conditions last year, he says one farmer's two-wheel drive tractor was spinning, so he switched to a 150 hp 4-WD and the plow held up.

This year, Hagen continues to see demand for his plow, as many ranchers in his area are switching to cross-fencing for intensive grazing, and need to get water to all of the smaller pastures.

"I've been charging \$200 for the first day and the first half mile - after that it's five cents a foot, plus the cost of the pipe," he says. "I try to keep the price as reasonable as I can."

Hagen will also build units if there's enough interest.

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Tractor-mounted pasture plow cuts up to 2 ft. into ground to lay in pvc water pipe. The 1 1/2-in. pipe Hagen uses comes in 6,200-ft. rolls.

Deere Garden Tractor "Powered Up" Into Compact Tractor

Imagine the work you could do with a Deere 318 garden tractor fitted with a 1,000-lb. capacity dirt bucket. Jim Kaczmarek, owner of Jim's Repair in Hastings, Minn., imagined it first and then built one.

Kaczmarek has long been making a name for himself and for his business with garden tractor repowering. When he went to work on the 318, he sort of got carried away.

"It does the work of a bigger front-end loader," he says. "I can easily pick up machinery to bring into the shop. The flotation tires are great for going into softer dirt, mud and snow."

Kaczmarek replaced the original 18 hp Onan engine with one of his favorite engines, the Briggs and Stratton 23 hp Vanguard.

"I've been installing Vanguard engines since 1988," he says. "I've put them in all kinds of old makes and models and sold them all over the U.S."

What makes his Vanguards so popular and versatile are the adapter plates he has developed for a multitude of garden tractors, including most of the John Deere 120 series to the 430's and even the newer 425's and 445's. He also has plates for a number of Case, Allis, Deutz-Allis, AGCO Allis, Simplicity, Massey Ferguson and others, including old Minneapolis Moline and Oliver garden tractors.

"The older garden tractors were hard core units that'll run for years if you put a new engine in," says Kaczmarek.

Once Kaczmarek put the Vanguard in his 318, he decided to take advantage of the extra power. He added 31 by 15.50 by 15 over-sized tires to the rear, each filled with 200

lbs. of liquid. Bigger tires (400 by 12) were put on the front to level the tractor off. Trailer hubs and wheels were cut down to fit the Deere front wheel bearings.

After adding a Johnson Workhorse loader, he replaced the bucket with an extra large one for snow and dirt. Headlights first installed on the roll bars were moved to the large upper part of the bucket.

"The lights shine anywhere you steer the tractor and tilt the bucket, and they don't break because they are up and mostly out of the way," says Kaczmarek.

A 110-amp alternator hooked on the pto clutch gives him auxiliary power. Jumper cables are permanently hung on the tractor and tied into the heavy-duty battery he installed.

"We can jump start any vehicle with it," says Kaczmarek. "There's a switch to turn power to the cables on and off and an amber warning light to remind us power is on."

He added 14 42-lb. Deere suitcase weights to a rear bracket for a total of 988 lbs. on back, including tire fluid. Every pound is needed to counter the 1,000-lb. capacity bucket.

Installing a rear end and transmission from a Deere 430 diesel gave him posi-lock rear end and a two-speed behind the hydrostatic. "We disassembled the hydrostatic and hopped it up," he says. "With the big tires and the two-speed shifting on the high side, we can travel at 18 to 20 mph."

Of course the 4-gpm oil pump wasn't going to move the loader far or fast. Kaczmarek replaced it with a 22-gpm oil pump with two-



Deere 318 garden tractor is fitted with a Johnson Workhorse loader and an extra large, 1,000-lb. capacity bucket for snow and dirt. Note headlights at upper part of bucket.

stage pump. He also added an extra large front-end-loader oil filter and replaced the two lever controls with a single, larger volume control valve that drops, tilts and raises the loader fast, which Kaczmarek appreciates.

"I use the heck out of it around the shop and farm," he says. "It gets daily use. I couldn't be without it."

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A 110-amp alternator, hooked on the pto clutch, provides auxiliary power.

Drive-Through Gate For ATV's

James Middleton of England got tired of having to get on and off his ATV to open gates, so he had a local machine shop build a simple drive-through gate that he designed. Livestock won't touch it, yet his ATV can pass through without stopping.

"I wanted a gate that I could drive through without getting off the ATV and that would close automatically behind me. I can drive through from either side," says Middleton.

The gate consists of a metal frame with an open top and a gate that hinges at the bottom. The gate has vertical rails on it. A rope attached to one end of the gate goes up to a pulley at the top of the metal frame and then down to a concrete weight.

Middleton drives up to the gate and pushes it over with the ATV. As the gate goes down, the rope and pulley lift the weight up. The gate is tall enough that it's held down by the front wheels and then the rear wheels. Once the ATV has passed through, the weight pulls the gate back into full upright position.

He spent a lot of time getting the balance right between the weight of the gate and the concrete weight. Getting the balance right means the gate rises quickly, but not too quickly. A latch can be used to lock the gate upright if he's not going to use it for a while.

Middleton has made eight different gates on his farm, some wide enough to drive a tractor through.



"It lets me drive through without getting off the ATV and closes automatically behind me," says James Middleton about his drive-through gate for ATV's.