



Water collection box “dams” the water in shallow streams, then pipes it to a cattle tank.

## “Stream Box” Pipes Water To Cattle Tanks

A water collection box designed for shallow streams has piped spring water to a tank for Steve Carey’s cattle for 15 years. It works great for him and keeps the U.S. Forest Service happy.

“The main benefit is that it gets the cattle off the creek bottoms,” Carey says. In Boulder, Mont., that’s important because ranchers are required to count cattle tracks in creeks, as the Forest Service encourages ranchers to keep livestock out of the water.

Carey’s father, Tom, came up with the design, and now Carey makes and sells the 14-gauge steel units to customers who need water for livestock or want to pipe water to their cabins.

The 34 by 6-in. front end acts like a small dam. It’s submerged and held in place by the sides of the creek or with rocks. Water flows over it and through a 10 by 24-in. screen into a box underneath that flows into a 1 1/4-in. pipe connected to a waterline going to a tank downstream.

As water flows into the galvanized screen’s 1/4-in. holes, leaves and other debris flow over the top and head downstream.

Since they started using the units, Carey says, his cattle typically only go in the creek to cross it to get to the water tank.



Water flows over built-in dam, through screen, and into box and pipe underneath.

“The cattle are used to drinking out of a tank at the ranch and seem to prefer it,” he says.

While intended for livestock, some customers use the collection box to pipe water from creeks and springs to their cabins, he adds.

Carey says the best locations are in hilly or mountainous areas with good gravity flow. And, he adds, it should be checked at least once a month.

He sells the 35-lb. collection boxes for \$130 plus about \$40 for shipping and handling.

Contact: FARM SHOW Followup, Steve Carey, 2235 Hwy. 69, Boulder, Mont. 59632 (ph 406 468-2922; [scranch@gmx.us](mailto:scranch@gmx.us)).

## Simple Winch-Powered Garden Tractor Loader

“I looked around for a front-end loader for my 2000 Huskee garden tractor but couldn’t find anything. So I built my own,” says Bob Evans, Harrison, Ark.

The dump bucket can be raised up to 52 in. high – enough to load a pickup bed. The bucket measures 42 in. wide, 12 in. deep, and 12 in. high. A 12-volt electric winch that hooks up directly to the tractor’s battery operates the bucket.

Hand-operated controls on one side of the tractor dump the bucket, and controls on the other side pull the bucket back into position. A 2-button control box is used to operate the winch.

The loader frame is made from 1-in. sq., 1/8-in. thick tubing and attaches to the tractor’s frame with 6 bolts. Evans used 2-in. wide, 3/8-in. thick strap iron to build a U-shaped mounting base on each side of the tractor. The base supports uprights that attach to the loader arms.

The bucket itself is made from 1/8-in. thick steel while the cutting blade is made from 3/4-in. flat strap that’s 1/8 in. thick.

“It’s fun to operate and easy to handle,” says Evans. “The bucket has a capacity of just 100 lbs. so it isn’t designed for heavy work, but it comes in handy for a variety of jobs that would otherwise have to be performed by a large tractor. Some examples are to remove snow from driveways, to scrape and spread gravel on the driveway, and to load a pickup or trailer.

“The loader can be attached or detached in 3 to 4 min., which is important because I don’t like to cut grass with the loader on as it bounces around a lot. The loader’s mounting brackets don’t interfere with a belly-mounted mower, so I don’t have to remove the mower to use the loader.”

Before Evans built the loader he used 1/8-in. thick by 1-in. wide plywood strips to work out the design. “I didn’t cut any steel until I had everything working right,” he says.

Contact: FARM SHOW Followup, Bob Evans, 6337 Whispering Pine Rd., Harrison, Ark. 72601 (ph 870 743-0555; [bobevans@windstream.net](mailto:bobevans@windstream.net)).

## Riding Mower Converted To “Shaft Steering”

After a few years of use, the steering gear on Robert Pruyne’s “K Grow” MTD garden tractor became worn and sloppy, making it hard to steer. So the Athens, Penn., man removed the steering wheel and column and converted the mower to a push/pull shaft steer system. He removed the pitman shaft and gear sector, as well as the steering gear, from their original location and remounted them outside, above the footrest.

“To steer I just pull or push a shaft that comes up out of the tractor’s left footrest,” says Pruyne. “I installed a cup holder where the steering column used to be.”

According to Pruyne, the nylon bushing in the steering mechanism wore badly, which allowed the pitman shaft to become sloppy where it goes through a hole in the steering bracket. That affected the gear sector on the pitman shaft, as well as the steering gear. Eventually they became so worn they started slipping and became impossible to turn.

So, Pruyne welded the gear sector and steering shaft gear together solid. Then he cut a 1/2-in. wide by 6-in. long slot in the footrest and inserted the pitman arm down through the footrest, with the gear sector and steering shaft mounted above it. He also drilled 4 holes in the footrest to secure the steering bracket to the footrest. After that it was a simple matter to re-attach the tractor’s left front steering linkage to the pitman arm below the footrest. He also slid a length of pipe over the steering shaft to make it easier to reach.

“It works just like the original steering system, except that instead of turning a steering wheel I’m pushing and pulling on a steering lever,” says Pruyne. “To turn left I pull back and to turn right I push forward.”

Pruyne has made a similar modification to a Sears Craftsman mower with the help of son-in-law Tom Walters, who operates Tom’s Truck Repair in Milan, Penn.

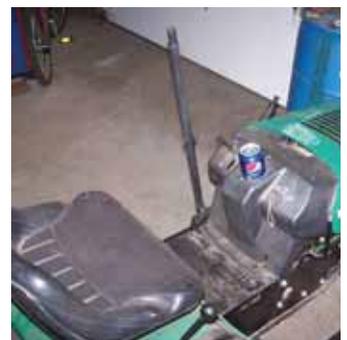
Contact: FARM SHOW Followup, Robert Pruyne, 593 Roundtop Rd., Athens, Penn. 18810 (ph 570 888-0778; [rpruyne@stny.rr.com](mailto:rpruyne@stny.rr.com)).



To steer his MTD garden tractor, Robert Pruyne just pulls or pushes a shaft that comes up out of tractor’s left footrest.



He removed the pitman shaft and gear sector, as well as the steering gear, and remounted them outside above the footrest.



He installed a cup holder where the tractor’s steering column used to be.



Home-built bucket is raised and lowered by a 12-volt electric winch that’s operated by a 2-button remote control.



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