

DIY Cruise Control For Tractor Steering

The Wheelman autosteering system is like cruise control on a car, but for steering. Once you engage it, the tractor steers itself back and forth in the field. Grab the steering wheel, and it shuts off until you re-engage. Best of all, it's low cost and installation is easy.

"We wanted to make autosteering affordable and do-it-yourself," says Doug Marinaro, Ag Junction. "The introductory price of \$3,495 has everything you need except a smartphone or tablet. It takes less than an hour to install with simple tools."

Marinaro notes that many farmers are still unaware of the benefits of autosteering, such as increased productivity and reduced stress. The USDA estimates it saves farmers \$15 per acre per year. Autosteer makes every pass count for the full width of the implement. Many farmers assume the technology doesn't apply to their equipment or is only available through a dealer.

"It can appear the only way to get the benefits of autosteer is to buy a large, new tractor or get an expensive retrofit on a recent model, larger tractor," says Marinaro. "That's not true anymore."

Unlike other autosteer systems, the Wheelman system can be installed on nearly any tractor, from old to new, large to small. It fits 350 different makes and models with more being added. It doesn't even require power steering.

Installation is as easy as removing the steering wheel and sliding the Wheelman bracket into place around the steering column. It houses a small and very strong electric motor that steers the tractor when engaged. A dashboard that includes a light bar for manual control and observation in

autosteer mode attaches to the bracket. It also displays buttons for identifying the A and B points that establish the initial path that will be replicated by autosteer.

"Wheelman is designed so you don't even have to bend over to install components," says Marinaro. "Simply sit down in the seat and go to work."

A GPS receiver and a new steering wheel are included with the Wheelman bracket and dashboard. Once they are all installed, the Wheelman is calibrated with the aid of a smartphone, tablet or other digital device. At that point, the operator can input field name, implement width and other information using their device.

Once the base A=B contour line is established at either end of a field, the controller in Wheelman automatically establishes and displays parallel lines of implement width across the field.

"Watching the light bar, the operator can steer the tractor to any line, engage autosteer, and the tractor will steer itself across the field," says Marinaro. "The farmer can concentrate on monitoring the implement."

The entire system is designed for ease of installation, ease of use and ease of updating. A Wi-Fi chip in the controller and Ag Junction's Whirl software let it communicate with almost any digital device with the Whirl app.

Information entered and data gathered are transmitted automatically to the device and from there to the Cloud. It can be accessed on the device or later on a desktop computer. When software needs to be updated, the device automatically takes care of it. If hardware needs to be replaced, the dashboard



Autosteer bracket slides into place around tractor's steering column and contains a small electric motor to steer tractor. A dashboard with light bar attaches to bracket.

is simply unhooked and later replaced.

"If there is a problem in the field, our support center can see what the Wheelman is doing and suggest solutions," says Marinaro. "Eventually our support center will be able to proactively monitor and diagnose problems."

For those not yet ready for autosteer, Ag Junction offers Ranger, a low cost light bar based guidance system. It is all-inclusive and can be installed in minutes. Priced at only \$995, it can be used to define a field perimeter, establish an A=B line and parallel lines based on implement width. While Wheelman steers the tractor, Ranger advises you to adjust steering left or right manually

to stay within 4 to 6 in. of the line.

Wheelman and Ranger are only available direct from Ag Junction via the company's website. Currently a 1974 JD 4320 is the oldest tractor with an installed Wheelman. Marinaro is confident that will soon change.

"We are challenging FARM SHOW readers to install it on still older tractors," says Marinaro. "We expect guys will build their own kits with Wheelman components."

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Homemade Mini Baler Fits Small Farm Needs

During a hay shortage caused by drought, Caleb Howerton of Springfield, Mo., decided to cut as much of his own hay as possible from his 6 acres. With a farm that small he couldn't justify a full-size baler. So he built a mini hand baler to make use of the grass growing in his yard, and other areas around the farm not grazed by livestock.

Using scrap 2 by 4's along with bolts, hinges and barrel latches, he built a slatted box measuring 18 in. sq. by 3 ft. long. The box has a 4-ft. tongue at the base to stand on for balance while the operator compresses the bales, using a hand-operated compressing arm. The compressing arm operates with bolts through holes in the 2 by 4's, allowing a 16 by 16 by 2-in. plate to be levered down

into the box on top of the cut grass.

When the grass is ready to bale, twine is laid inside the box and up over the sides. Hay is then added and pressed until the baler is full. Once full, the back twine ends are brought over the top and the bale is compressed while the twine is tied together. The bale is then removed through a hinged door on front.

Caleb hand cuts his hay with a scythe. His mini baler makes a 1/2 to 3/4-size bale, but he says a full-size model could be built the same way.

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Howerton uses his homemade mini baler to make use of grass growing in areas around his farm not grazed by livestock. Hand-operated compressing arm compresses bale.

Pto-Operated Winder Wraps Up Wire Fast

Anyone who has a lot of fence to take down will be interested in this 3-pt. mounted, pto-operated wire winder put together by West Virginia farmer Richard Zigler.

The wire winder mounts on a home-built steel frame made using leaf springs off an old truck. It consists of a pto shaft, a gear reduction, a metal pipe, and an old car wheel rim that contains the wire. No new parts were used.

"It holds up to a 3/4 mile or more of smooth electric wire, which makes fencing an easy job," says Zigler. "We run a cow calf operation and put up temporary fence around our corn fields after harvest so the cows can glean the corn."

He mounted the reduction gear on the frame and bolted the pto shaft to the input side. A 2-in. dia. steel pipe is bolted onto the output side and has a steel plate welded onto

the other end. Five long bolts welded onto the plate serve as studs and run through the wheel rim. Metal uprights welded onto both sides of the rim contain the wire.

"It has plenty of power to pull wire in from long distances. It's unbelievable how well it works," says Zigler. "It works best to have 2 people operate it, one on the tractor to operate the pto and the other to guide the wire evenly on the rim. That way if the wire knots, the pto can be shut down right away. Once the rim is full it can be quickly replaced with another one."

The pto shaft came off an old manure spreader. Zigler got the reduction gear from a local feedmill that went out of business. "The reduction gear slows down the pto shaft's speed by about 75 percent, which makes the winder safer to operate," he says. "A horizontal shaft from the same manure



Pto-operated wire winder mounts on a home-built steel frame. An old car wheel rim contains the wire.

spreader is welded on front of the frame and hooks up to the tractor's lower lift arms. I also welded a metal upright on top of the frame that hooks up to the tractor's top link."

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