



“Our Camera Guided Hitch can side shift a 3-pt. implement to provide precise control. It works at speeds up to 4 mph,” says Ryan Herbon, Agmechtronix.

Camera-Guided Hitch Like Having An Extra Set Of Eyes

The Camera Guided Hitch from Agmechtronix gives tractor operators eyeball control of rear-mounted equipment. What started out as a solution for one crop quickly became a multi-crop tool.

“We developed it for lettuce thinning as a way to keep the machine centered on the rows,” says Ryan Herbon, Agmechtronix. “Use of the hitch quickly expanded to other implements and other crops.”

The \$16,000 tool remains largely dedicated to high value crops. New Mexico-based Agmechtronix has sold the hitch with camera and in-cab touchscreen to growers from California to Michigan and south to the Rio Grande Valley.

Herbon stresses that easy installation is one of the selling points. The hitch itself is similar to conventional quick-hitch units. One wire runs to the cab to connect to a touchscreen monitor, and a power input cable runs to the

tractor battery.

The touchscreen in the cab allows the operator to monitor the implement and adjust tracking on the go. The unit can be connected to the internet for remote troubleshooting. Both operator interface and service technicians are bilingual in English and Spanish.

“The Camera Guided Hitch provides precise control to side shift a 3-point implement,” says Herbon. “It works at speeds of up to 4 mph.”

Agmechtronix offers free software updates and no annual subscription fees. Some options are available.

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This tractor was converted to spray fruit and nut trees in California. Seat and steering wheel were replaced by high definition cameras, and a large diesel tank was added for additional range.

Tractors Converted To Do Driverless Fieldwork

Connor Kingman of Kingman Ag Services converts conventional farm tractors to autonomous operation.

Kingman says driverless tractors are important in agriculture because there’s such a shortage of qualified farm labor. He says they work well because they’re not fatigued by weather or time in the field, and their speed and location can be continuously controlled to work 24 hrs. a day with minimal human supervision.

At the Tulare, Calif. farm show in February, 2020, Kingman and one of his customers, Ted Sheely of Azcal Management, demonstrated a Deere tractor equipped to spray fruit and nut trees. The tractor’s seat and steering wheel were replaced by high definition cameras, lights and a LIDAR (light detection and ranging) system. A larger diesel tank was added to give the tractor additional range along with an air-conditioned compartment to hold the computer system, which can be

controlled by a computer or a smart phone app. Kingman says the tractor has been tested in Sheely’s fields, doing tillage work and pulling sprayers. They’re working on equipment so it can be used for tree and vine trimming.

Unlike many row crop vehicles that use GPS, Kingman’s system, which they can adapt to Deere, Case IH, Kubota, and New Holland tractors, uses cameras that visually steer the tractor, even during foggy, hazy or dusty conditions.

Kingman says in the future an autonomous system might also be used for crop inspections, bunch counts on grapes, tree health, and other observation protocols that are now being done manually.

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Loader-mounted steel frame has a pair of slots for forks and a receiver hitch in the middle. “Horizontal ripper” shown in photo is used to dig out rocks and tree roots.

Loader-Mounted “Forklift” Also Does Other Big Jobs

“I used scrap steel to build a low-cost, multi-purpose attachment system that quick-taches to my tractor’s front-end loader. I’ve found a lot of uses for it,” says Kevin Wideman, Russellville, Mo.

He uses the system on his 2013 Deere 1025 R compact tractor. It consists of a big steel frame with a pair of slots for forks, a receiver hitch in the middle, and a 3-pt. hitch which lets him also mount the frame on back of the tractor.

“I use the tractor with a drive-over lawn mower and also to work in our woods,” says Wideman. “I came up with the idea because I wanted a set of forks that would let me haul brush as well as pallets. I decided I might as well add other attachments to the frame to make it more versatile,” says Wideman.

He used 4-in. channel iron to build the 5-ft. long, 3-ft. high frame. He bought quick-tach brackets from Deere and welded them to the frame’s upper corners, then closed up a hole in each bracket’s reinforcement plate by welding a bolt into it.

Wideman uses the system with a pair of home-built rippers - a receiver hitch-mounted “horizontal ripper” that’s used to dig out rocks and tree roots, and a 3-pt. mounted “vertical ripper” that can dig narrow trenches up to 1 ft. deep to install underground lines. “Both rippers were built out of used chisel points off road graders,” he says.

He also built a 1 1/2-ft. long, 10-in. wide V-shaped “shovel” with 1-in. high sides for the receiver hitch. “I built it by cutting up part of a dump truck frame. It can dig 2 ft. down and works great to remove rocks and to make holes for planting trees. Saves a lot of back work,” says Wideman, who notes that a 10-ft. long boom made from 2 1/2-in. square tubing can also be used with the receiver hitch.

He built the forks by slicing the cutting edge off a grader blade in half. Each fork is secured with a turn-down bolt that’s welded to a mounting bracket.

A pair of hitch pins runs through metal brackets that are welded to the frame and serve as the 3-pt.’s lower lift arms. A longer pin serves as the top link. “I bought the pins at a local farm store for about \$3 apiece, compared to \$20 for similar pins available from Deere,” says Wideman, who notes that he also plans to build a snow plow blade for



Frame can also be used on the 3-pt. hitch at back of tractor. Here frame is used with a “vertical ripper” that can dig narrow trenches up to 1 ft. deep.



Receiver hitch-mounted V-shaped “shovel” can dig 2 ft. down to remove rocks or to make holes for planting trees.



Wideman welded quick-tach mounting brackets to frame’s upper corners, then closed up a hole in each bracket’s reinforcement plate by welding a bolt into it.

the receiver hitch.

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