

“Robot Mower” Controlled By Add-On Guidance System

If you're tired of mowing big, open areas of lawn, you'll like this “robot mower” idea from Doug Heffron, Kirkville, N.Y.

He modified his Deere 54-in. riding mower to automatically mow a large air strip on his property.

To get started, the riding mower was first used to place wire about an inch deep under the ground, in a back and forth pattern using an implement that Heffron invented.

A 1 1/2-in. dia. pvc pipe mounts on front of the mower and has 2 coil sensors mounted on it, one on each side. A wire runs from the pipe back to one of the mower's front wheels. The coil sensors follow the wire and send information to an electronic box, which in turn operates a motor that's used to control the mower's steering system.

“The electronics read the frequency in the wire, allowing the steering motor to keep the mower on track as the mower works its way back and forth in loops over the area,” says Heffron. “It follows the wire to within a quarter inch of the previous run.”

The mower has a built-in safety feature on front, so if it hits anything it'll automatically shut down. “If the mower deviates from the wire any more than 2 in., which has never happened, it'll automatically shut down,” says Heffron.

A set of metal feelers extends out in front of the mower and causes it to stop if they make physical contact with an object. And a lighted beacon mounted on a 3-ft. high mast at the back of the mower serves as a warning that the mower is working.

Heffron first started working on the idea in the late 1980's. He got some interest from Deere back then but nothing ever panned out. Since then he has upgraded to a new riding mower and perfected the wiring



Riding mower has 2 coil sensors mounted on front, one on each side. Sensors follow underground wire and send information to an electronic box, which in turn operates a motor that's used to control mower's steering system.

technology.

But he credits the idea for this kind of automatic mower to a man named Gordon Carlson. Back in 1961 a magazine called “Radio-Electronics” published a story on Carlson's 3-wheeled automatic lawn mower. Carlson was only 18 years old at the time but already building electronic circuits.

He says his automatic mower is state-of-the-art. “The robotic mowers on the market now are small and go around in a random fashion that leaves a lot of uncut lawn. My mower doesn't just bounce around the yard until the battery dies. And you can unhook the sensors in minutes and use the tractor for other jobs.

“I engage the blades, get the tractor going at a speed of about 2 1/2 to 3 mph, pop

the clutch and slide off the seat as I watch the mower go. While the automatic mower is working, I keep an eye on it as I use my Kubota Z zero turn riding mower to cut nearby areas. I carry a transmitter with me so if I need to I can turn the mower off at any time.”

Heffron has applied for a patent on the automatic mower. “I'm not out to make a fortune. I just want to provide information on my terms that will attract people to my idea,” he says.

You can watch videos of the automatic mower in action by going to www.lawn-mower.wordpress.com.

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Boat Trailer Converted To Flatbed Trailer For \$850

“I couldn't find a good, heavy 2-wheeled trailer on the market that I liked, so I built a 6 by 14-ft. flatbed trailer out of a used boat trailer,” says John Drew, Great Bend, Kansas.

Drew bought the trailer, designed to haul a 16-ft. boat, for just \$225.

“My total cost to convert the trailer, including new tires, was only about \$850,” he says. “A comparable commercial trailer sells for \$3,500 to \$4,000. I pull it with my 1/2-ton pickup.”

He spaced out four 3 by 3 by 3/8-in. thick angle irons and welded them across the boat's frame, attaching them to cross pieces at the middle of the trailer and to the side rails. He bolted 4 by 4's on top of the angle



John Drew built a 6 by 14-ft., 2-wheeled flatbed trailer out of a used boat trailer. He spaced four 3-in. angle irons across the frame and welded them in place.

irons and then screwed 2 by 8's lengthwise onto the 4 by 4's to form the floor. He also bolted a big plastic storage box onto the tongue.



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