

Floating "Robot" Automatically Removes Weeds From Lakes

Garl McHenry of New Carlisle, Ohio, needed a way to remove floating weeds from a channel in front of his home. So he built a remote-controlled, electric-operated Styrofoam pontoon that's equipped with a 2 1/2-ft. wide aluminum "robot" rake.

The floating automatic rake measures only about 18 in. wide by 4 ft. long and is covered by fiberglass. The entire unit weighs 35 to 40 lbs. It moves about 10 ft. every 30 seconds.

While sitting in a lawn chair, McHenry moves the pontoon back and forth to collect weeds. Once the rake is full of weeds, he brings the unit into shore to dispose of them.

"As far as I know there's nothing like it on the market," says McHenry. "Whenever I get it out on the channel it usually doesn't take long before there's a crowd standing around watching it run. Some of my neighbors on the channel even come out with their rakes and ask me to push the weeds in front of their homes."

The device doesn't cut off weeds. Instead, it gathers up weeds that are cut off the bottom of the lake by boat propellers and then float to the top. "These floating weeds can plug up boat propellers as well as motor cooling systems. There are often large patches of

weeds, up to 40 ft. wide by 500 ft. long, that can't be reached from shore," says McHenry.

The pontoon is propelled by an aluminum paddle wheel on each side. The wheels are controlled individually by small electric motor gearboxes powered by a 12-volt DC battery.

The rake on front of the pontoon is made from aluminum tubing and has tines that are 9 in. long and spaced 4 in. apart. A spring-loaded cable is used to lift the rake out of the water when positioning the pontoon for another sweep. A metal counterbalance makes it easier to raise and lower the rake.

The entire unit is controlled by a 4-channel, ground frequency radio control system purchased at a hobby store. "Four servo motors were purchased for the system and are used to operate eight microswitches. The microswitches are used to go forward, reverse, right turn, left turn, rotate left, rotate right, raise rake, or lower rake," says McHenry. "I can turn sharp by rotating one wheel forward and the other one backward."

To operate the unit, he makes a path every 3 to 4 ft. "I usually retrieve weeds up to 150 ft. away, and never more than about 400 ft.



Remote-controlled, electric-operated Styrofoam pontoon is equipped with a 2 1/2-ft. wide aluminum "robot" rake. It moves about 10 ft. every 30 seconds.

Beyond that it's hard to see the weed patches laying on the water," says McHenry.

Once the pontoon reaches shore, he unloads the weeds by raising the rake and then backing away.

To make the pontoon, McHenry bought a 4 by 8-ft. sheet of Styrofoam and cut it in four pieces, then used "liquid nails" to glue it together. Then he covered the Styrofoam

with fiberglass.

He says he spent only about \$500 on materials. "I'm 83 years old so I'm not going to manufacture this unit. However, anyone is welcome to contact me," says McHenry.

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Jon Bell made use of an 11-ft. dia. satellite dish and a couple of cattle panels to make this wood shed. It holds six cords of wood.

Satellite Dish Wood Shed

An upside down satellite dish and a couple of cattle panels can be used to make a nifty wood shed, says Jon Bell, Lyons, Colo., who made use of an 11-ft. dia. satellite dish. "I get a lot of compliments on it from my neighbors."

The wood shed measures 9 1/2 ft. high at the center. The 8-ft. high walls are formed from two cattle panels, one above the other, and wired together. Bell used bolt cutters to remove the top horizontal wire around the perimeter and then inserted the remaining vertical wires through holes that he drilled into the satellite dish. The cattle panel walls are stapled to a wooden doorway which has a plywood "hallway" on each side that extends 3 ft. inside the shed. The walls and hallway provide support for the firewood, which is stacked all the way around the building in three concentric layers. The wood rests on wooden pallets set on the ground.

"It's a handy way to keep a large quantity of firewood handy without taking up a lot of space," says Bell. "It holds six cords of wood which is a full winter's supply for us. It worked so well that I made three more for additional storage. The satellite dish keeps rain and snow out, and the cattle panels provide enough ventilation to keep the firewood dry.

"I load firewood into the sheds from the outside toward the center until there's very little room at the center. Then I stack the center full, too. During the winter, I take wood from the center first and then work back to-

ward the outside.

"The doorway is 28 in. wide which is a little too narrow. If I were to do it over I'd make the door a little wider so I could walk through comfortably with a load of firewood. Also, I'd use 2 by 6's instead of plywood to make the hallways so they'd be a little stiffer."

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Engine-Powered Hose "Winder Upper"

"It works slick and saves a lot of hassle when I'm watering my yard," says inventor Phil Cruise of Canton, N.C., about his engine-powered hose "winder upper". "It'll wind up 50 ft. of hose in only 30 seconds."

The battery-operated unit is powered by the starter motor on a stripped-down single cylinder Briggs & Stratton engine. The starter motor turns the engine crankshaft which has a 15-in. aluminum wheel attached to it.

To wind up the hose, Cruise simply opens the engine's original gas tank, which was modified to contain a switch and cable that's connected to the engine's solenoid.

Is all of this overkill? "Maybe," jokes Cruise. "But then, I really despise garden hoses."

He removed the piston, connecting rod, camshaft, valves and gear from the Briggs & Stratton engine, keeping only the starter, solenoid, crankshaft and block. He used two set screws to attach an aluminum hub to the end of the crankshaft. Then a wheel adapter was welded to the hub and the wheel was bolted to the adapter. A brass rotary water valve fits onto the hub.

"There's a 10 to 1 ratio between the starter and the flywheel so it has a lot of torque," says Cruise. "A 50-ft. hose holds two gallons of water which weighs 14 lbs., yet it has



Hose winder mounts on wood frame with a 12-volt battery on back.

no trouble pulling all of the hose onto the reel. One time I even replaced the hose with cable and used it to pull a truck on a gravel road for a short distance.

"It didn't cost much to build. My friend Scott Allison rigged the starter solenoid and cast the aluminum hub by melting down old pop cans. My friend John Conard gave me the engine. I bought the chrome wheel at a junk yard for \$10."

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