



Robert Petrukovich converted a high clearance Deere 4440 tractor into this self-propelled sprayer, designing a mount that works like a front-end loader.



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By Jim Ruen, Contributing Editor

## Deere 4440 Converted Into A High-Clearance Sprayer

When Robert Petrukovich spotted a high-clearance Deere 4440 tractor for sale, he decided right away to turn it into a self-propelled sprayer.

"I designed a mount that would work like a front-end loader," says Petrukovich. "You just drive into it and pin the sprayer to the brackets on the tractor frame. When not in use, it has stands that hold it up."

Petrukovich credits commercial sprayers he has seen for much of his design. The sprayer frame starts with a parallelogram that flexes to keep the booms at the correct angle to the ground and correct distance from the ground.

The 67-ft. boom is a 3-piece design that auto folds back around the tractor with 5-ft. breakaway tips on either end. The center

section is about 12 ft. wide with 22 1/2-ft. wing sections. Cylinders on the parallelogram control the distance between the boom and the ground in two stages. The first stage gives the boom a range of 18 to 36 in. ground clearance. Repositioning the cylinders for the second stage gives the boom 3 to 7 1/2 ft. ground clearance.

"Left and right boom sections also have their own hydraulic cylinders for adjusting to field slope," says Petrukovich. "Gauge wheels suspended from the booms offer added support if a boom tips too much and might strike the ground."

All cylinders are controlled with a Fasse three-circuit multiplier. Petrukovich can control all boom cylinders without taking his hand off the control.

A ball valve turns the sprayer flow on and off. Controlling individual boom sections is done with a simple valve that lets Petrukovich turn on all sections, either side section or a combination of center and side.

"I just have to stop the sprayer, open a window and adjust the valve," he explains. "I prefer the manual to electric solenoid."

Boom sway from side to side has minimal impact on the tractor. The two boom end lift cylinders connect to a tube within a tube base unit that works like a shock absorber for sway.

Petrukovich fashioned a rear platform for a 420-gal. spray tank and bolted it to the 4440 frame. He went with a pto-driven pump to avoid interfering with available power to the tractor or the boom lifts. The pto drive also

lets him use tractor rpm's as a rate controller.

"If I want to spray more water, I just change the pulley on the pto," explains Petrukovich. "I usually spray around 8 1/2 mph, but I can vary from 7 to 9 without affecting the application rate."

Petrukovich has equipped the 4440 with GPS and auto steer. However, should he want to verify the GPS, he has half tires suspended from boom ends. He can manually drop them to leave drag marks in the field.

"I like to know that if the GPS goes down, I can continue to spray," he says.

Petrukovich estimates total costs of about \$12,000.

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"It works great for pulling logs out of the woods," says Glenn Fisher, who added a remote-operated winch to the 3-pt. boom on his tractor.

## Boom-Mounted Electric Winch Works Great To Retrieve Logs

"I have a lot of old oak tree tops left over from timber that was harvested years ago. Much of the wood is hard to get to, so I added a remote-operated winch to the 3-pt. boom on my tractor. It works great for pulling logs out of the woods," says Glenn Fisher, Homer, Ga.

He already had the 3-pt. boom. The 12-volt winch was designed to mount on a trailer hitch ball, so he welded a trailer ball onto one side of the boom. He welded a metal plate to the other side and mounted a 12-volt battery on it. A snatch block pulley at the end of the boom is used to guide the cable to the winch.

"It's really handy," says Fisher. "The winch came with a 10-ft. cable and with a hand crank to pull the cable tight. I carry extra cable and snatch blocks to the woods in case the log has to be guided around trees to get it out. Once I pull the log out of the woods I can attach a chain and use a tractor to drag the log to a convenient place for cutting into firewood."

"The front part of the winch bolts onto a metal bracket that I welded onto the boom. To remove the winch for storage I just pull



He mounted a winch on one side of boom and a 12-volt battery on the other side.

one bolt. The battery is held in place by a bungee cord for easy removal. I decided it was easier to operate the winch off a separate battery rather than hooking it up to the tractor battery and having to hassle with hooking up cables. I keep things simple by using alligator clips for the battery connectors."

Contact: FARM SHOW Followup, J. Glenn Fisher, Jr., 751 Boling Road, Homer, Ga. 30547 (ph 423 364-0158).

## Line Filter Eliminates Plugged Sprinklers

This new in-line garden hose filter protects sprinklers, drip irrigation lines, and other watering tools from particles that can plug them up. The filter attaches between hoses or ahead of watering devices.

Jessica Reinhardt at the Dramm Corporation says the ILF-080 has an easy-to-clean, 80 mesh screen inside its ABS housing. Easy-grip foam covers the filter housing.

As Dramm doesn't sell direct, Reinhardt suggests contacting online retailer [www.bestnest.com](http://www.bestnest.com). BestNest has the filter priced at \$12.49.

Contact: FARM SHOW Followup, BestNest.com, 4000 McMann Rd., Cincinnati, Ohio 45245 (ph 513 232-4225; toll free 877 562-1818; [customerservice@bestnest.com](mailto:customerservice@bestnest.com)).



In-line garden hose filter attaches between hoses or ahead of watering devices.

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Mark Newhall, Editor

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