

## Spray Boom Mounted On Zero-Turn Riding Mower

Stan Bennett, Lake Placid, Fla., mounted a quick-disconnect boom sprayer on back of his 2014 Toro zero-turn riding mower so he can use it to control fire ants.

The sprayer is complete with an 8-gal. tank, 32-in. pvc boom, and hand nozzle with 15 ft. of hose. It's operated by a 12-volt pump that hooks up to the mower battery.

He used scrap angle iron and 1-in. box tubing salvaged from an old bed frame to build a subframe that bolts on back of the mower and supports the sprayer's tank, boom, and pump. He added a short vertical length of 1-in. box tubing on top of the subframe and also drilled a pair of holes into the mower hitch to accept two 1/4-in. bolts as pilot pins.

To attach the sprayer, Bennett drops the sprayer into the subframe and then inserts a 3/8-in. lynch pin to secure it. The 1/4-in. pilot bolts help align the sprayer frame to the mower hitch. He then hooks up the pump by way of a 2-wire plug at the sprayer area, and inserts a foot-operated switch plug.

"It really works great and is easy to operate," says Bennett. "The boom is made from 1/2-in. schedule 40 pvc pipe and is equipped with 4 spray nozzles. It rides only about 12 in. off the ground, which minimizes drift.

"The boom can be raised or lowered several inches to facilitate adequate coverage. An inline selector valve allows spray to be directed to the boom, to the hand wand, or both. I installed a brass quick-disconnect fitting for the hand wand hose in case it's not needed."

Bennett says fire ants are a real problem in his area, and hiring a service to control them

can get expensive. "It costs about \$80 per month to have someone come out every 3 months to spray our approximately 10,000 sq. ft. lawn, but I can control them for only \$4 to \$5 per application. I use Talsar or Bifenthrin 7.9 percent concentrate at about one gal. of spray mix per 1,000 sq. ft. of lawn. The insecticide is also available in a 25.1 percent concentrate which is even more convenient to use.

"The sprayer does a good job of controlling all bugs including termites and many other insects for 3 months or so between treatments. I use the hand wand to spray under bushes and shrubs."

Bennett uses the foot-operated switch to turn the sprayer pump on or off, which allows him to keep both hands on the mower's control arms at all times. "I assembled the foot control box by installing a headlight dimmer switch as the on-off switch with an indicator light inside an aluminum electrical box. I attached magnets to the bottom of the box to make a temporary mount on the mower's steel toe plate.

"The switch box has a 2-in. flexible cable which attaches by way of a trailer light plug and receptacle. This allows the switch box to be removed whenever the sprayer is not in use. Whenever the mower is running the engine noise is too loud for me to hear if the sprayer pump is running, so that's why I installed an indicator light on the switch box," he says. "I may install a pressure gauge on or around the toe board so I can monitor the spray operation and know when the tank solution is running empty."

He bought the 8-gal. sprayer online from Northern Tool for about \$60. "My total cost



Fire ants are a real problem in Stan Bennett's area, so he mounted a quick-disconnect boom sprayer on back of his Toro zero-turn riding mower to control them.



Sprayer is operated by a 12-volt pump that hooks up to mower's battery.

was less than \$200," notes Bennett.

"With the sprayer and a full tank of spray solution, you're adding about 50 lbs. of weight on back of the mower. Anyone considering this idea should read their mower operating manual for information on safe

operation on hills or slopes, as the added weight may affect safe operation."

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Bernard Schalgel used railroad rails to build this quick-tach mounting system for his tractor's front-end loader. "I can scoop up a bucket fast with no fear of structural failure," he says.

## Railroad Rail Used To Make Quick-Tach Hookup

Bernard Schalgel made his loader arm quick-tach railroad tough with actual steel rail on the loader arms. He can scoop up a bucket or other attachments fast with no fear of structural failure.

"The railroad rail won't bend or break, and I got it at a scrap yard for just \$12 for the 2 pieces I needed," says Schalgel.

Schalgel inserted pins in the bucket where the loader arms and the hydraulic cylinder rams for bucket tilt would normally attach. He measured the space between to get the right lengths for the 4-in. wide base rail segments.

"My son is a machinist and cut away one end of the rails with a laser cutter so they would fit in and under the pin for the cylinder rams," explains Schalgel. "He drilled holes at the other ends to match the holes the loader arms would pin to and cut off excess."

Schalgel mounted each 18 1/2-in. rail base between 6-in. wide, 1/2-in. flat plates. The flat plates were cut to 20-in. lengths to match the

receiver holes in the bucket.

"I drilled holes in the plates so I could pin them to the cylinder rams and the loader arms," says Schalgel. "I tapered the plates so the bottom of the rail segment would stick out a little more than the top for easier pinning."

Schalgel pinned and clamped the plates in place with thin washers between the plates and the loader arms to allow a little give.

"I spot welded the rail segments in place, backed away and checked them, did some more welding, checked again and finished," recalls Schalgel. "I welded lengths of angle iron between the inside plates for cross frames."

Schalgel says the quick-tach works great. He simply hooks the top pin on the loader bucket or other attachment, picks it up and slips pins into the bottom holes. He's ready to go.

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Skid loader-mounted stump bucket is fitted with teeth and serrated sides that tear out roots.



## Skid Steer Stump Remover

Linus Huerter's stump bucket turns a skid loader into a powerful stump removal machine. The owner of HSB Welding and Fabrication in Seneca, Kan., started fabricating it in 2014 along with a backhoe attachment.

"The stump bucket is built heavy and the bucket teeth help get it into the ground," Huerter says. By cutting into the stump from all sides, it's effective on even big stumps, and the serrated sides tear out roots. It also works great to take down smaller live trees. The bucket fits on all model skid loaders with quick-attach fittings. It gets the job done on all sizes, Huerter says. It just takes longer with smaller skid loaders than larger ones.

Besides removing stumps, the \$950 stump bucket is long enough to do shallow trenching to about 2 ft. deep.

For deeper trenches Huerter sells his simply designed quick-attach backhoe for \$1,250. The 12-in. bucket digs down to 6 ft. It comes with a cylinder to hook up to the skid loader's auxiliary hydraulics.

Huerter uses 1/2-in steel so the attachments will last for years. Most customers live in the area and use them to expand cropland and clean up tree lines, he says.

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Quick-tach backhoe attachment uses a 12-in. bucket that digs down to 6 ft.