

## Homebuilt Cab For Gator ATV

"I priced a new cab for my 550 Gator from Deere and they wanted almost \$2,500, which I thought was way too much money," says Illinois handyman Roy Viel. "I drew up plans on my own and built the cab myself for less than \$500. It turned out real nice."

Viel started his project by building a wood frame for the front and rear of the roll cage opening. He ran the top and bottom frames parallel to the roll bar. The frames attach to the roll cage and each other with brackets that Viel bolted to the shoulder and seat belt harness mounting points.

Viel used three sheets of exterior good grade 1/2-in. plywood for the doors and window frames and one sheet for the rear panel. Each door bolts to the rear of the frame with box hinges. The doors close securely with a paddle latch that Viel adapted from an old truck tool box. Each door has a window made out of 1/8-in. Lexan plastic. Viel also put round porthole windows in the side panels similar to those on his vintage Thunderbird car.

The lower part of the front windshield was a Deere accessory, and Viel made the upper part from Lexan. The windshield is supported by a center divider that mounts to the roll cage on top and to the cup holder on the bottom.

To provide a small amount of heat inside the cab, he raised the base of the seat up with 2 by 5-in. rectangular steel tubing. That lets the engine send heat right into the passenger compartment. In the summer, he removes the cab doors and back window to provide plenty of fresh air. He finished off his project with a front bumper that he made from 2-in. black pipe and a rear view mirror from an old car.

Viel says it took him about 50 hrs. to build the homemade cab. "But it's time well spent for a retired guy. There's a fresh air factor to the overall design, but I'm okay with that because I know I won't suffocate. The big part is that it keeps the wind out," he says.

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Roy Viel built a new cab for his Gator 550 utility vehicle for less than \$500. All cab panels bolt to existing holes in the vehicle's roll cage.

## Poultry Litter "Gasified" To Produce Power, Fertilizer

Marc Marsh and his wife Melanie have a poultry operation that produces about 1,200 tons of poultry litter annually. Instead of spreading it all on farm fields, they teamed up with the U.S.D.A.'s Farm Pilot Project Coordination (FPPC) program in a 7-year quest to build a poultry litter gasification system. FPPC engineer Preston Burnette says the system can produce about 20 to 30 kilowatts of electrical power annually. Other byproducts are clean hot air that can be used to heat the production barns, and poultry ash, which Marsh can use to fertilize his turf grass and market to other producers. The ash is high in phosphate, potash, calcium and micronutrients.

Gasification of Marsh's litter takes place in equipment supplied by BGP, a Canadian company. Litter is augered into the gasifier at the rate of 200 lbs. an hour. A gas-fired furnace heats the litter to temperatures approaching 700 degrees, at which point carbon monoxide, hydrogen and carbon

dioxide are produced. Some of that gas can be mixed with propane to fuel the furnace while the remainder is sent into a secondary chamber where it ignites in a controlled environment. Heat from that chamber passes through an exchanger that brings water to a boiling temperature of 220 degrees F. The boiling water circulates through an Organic Rankine Cycle turbine, where it boils a refrigerant that's used to power a turbine to create electric power. BGP says its proprietary gasification method renders all biomass waste into sterile, contaminant-free material.

"It's a complicated process, but it's an efficient process," says Marsh. "We think once the bugs are worked out it might prove to be economically feasible for an operation this size."

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Marsh Farms' poultry litter gasification system can produce up to 30 kilowatts of electrical power annually. Clean, hot air is used to heat the poultry barns.

## Nifty Way To Mount Heavy-Duty Bale Spears

"It's built heavier than most commercial bale spears and is also much more versatile to use," says Glen Schweppe, Syracuse, Neb., who recently sent FARM SHOW photos of a skid loader-mounted bale spear system that he built.

He started with a heavy-duty, skid loader-mounted attachment plate and welded lengths of 2 by 5 steel tubing onto the perimeter and across the middle. He used a hole saw to cut 3 holes into the tubing both on the top and bottom. Then he welded six 6-in. long bushings into the holes.

Each bushing extends out the back side of the attachment plate. To mount the 3 bale spears he bought, Schweppe pushes the spears through the bushing and out the back, then inserts a 1/2-in. bolt through the holes already in each bushing.

"It's really handy to use. I can quickly change the position of the spears anywhere I want depending on my bale loading needs

by removing the spear from its bushing and inserting it into a different one," says Schweppe. "I can use the 3 spears in any configuration that I want. I can put all 3 spears at the bottom, or use 2 spears either on the top or bottom to form a triangle that will keep the bale very stable. Or, I can use only 2 spears. My bolt-on spears work a lot better than commercial screw-on bale spears, because if you change the spears on them too often the threads will give out.

"Another advantage is that the welded-on tubing gives the attachment plate a lot of strength, which allows me to use spears rated at 3,200 lbs. It's strong enough to use on my loader tractor, which is equipped with a conversion plate that lets me use skid loader attachments on my tractor."

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To mount bale spears, Schweppe pushes spears through welded-on bushings and out the back, then inserts a 1/2-in. bolt through holes already in each bushing.