Add-On Hydrogen Fuel Systems Improving Fast

By Jim Ruen, Contributing Editor

The next generation of hydrogen fueling (HHO) systems is proving itself on everything from ATV's to diesel trucks, says Dan Delasantos, HHO technology writer and entrepreneur. It includes not only a refinement of technology, but a focus on production of a specific hydrogen isomer.

"The technology is improving on a daily basis," he says. Delasantos recently reviewed HHO equipment for use on ATV's and other off-road recreational equipment for Sand Sports magazine. He has also written extensively about using the technology in diesel pickups.

He notes that glass jars and steel wool hydrogen-generating units are being replaced with titanium and stainless steel plates. Efficiency can be greatly improved by adding a pump to push hydrogen bubbles off plates and a control device, like a Pulse Width Modulator, to define the amount of amperage a cell can draw from the battery.

Even new cars with their full array of sensors can use hydrogen generators equipped with devices like the new Volo FS2-HHO circuit plug-in.

Delasantos has tested many of the new technologies. Until recently, he was part of a company perfecting titanium plates (Smactanium brand) adapted for everything from ATV's to diesel trucks. The death of a cousin/partner has put the business on hold. However, Delasantos says the industry is definitely not on hold.

"If I was buying an HHO unit now, I would probably go with one from Central Valley HHO," he says. "They use stainless steel plates that won't corrode," he says. "We had higher mileage with theirs than with our titanium unit."

Delasantos acknowledges that judging mileage on an off-road machine is difficult. However, he tested HHO units on ATV's in Arizona where on-road use is allowed. He says the most easily recognized benefit is the power boost.

Whether on a 4-wheel ATV or a 6-wheel diesel pickup, he says the power boost can be substantial. "We had a unit on a 2003 Duramax dually, and we were spinning our tires," he says. "We put a Central Valley unit on, and though they advertise a 10 to 35 percent increase in power, we experienced more."

Delasantos went from a base of 17 mpg to 24 mpg with the HHO. Towing an 18,600-lb. payload gave a base mileage of 9 mph. With the HHO on, he recorded a 15.5 mpg average.

"After years of research it has been discovered there are ways of producing the two different hydrogen fuels," says Delasantos.

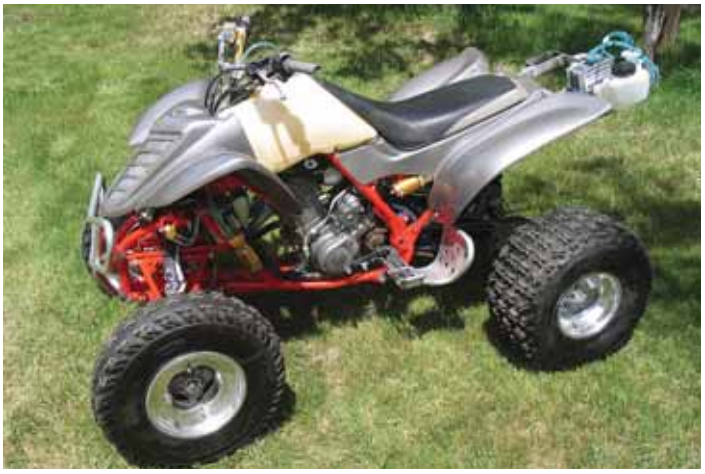
He is referring to the orthohydrogen isomer with added oxygen, referred to as hydroxy gas, versus the parahydrogen isomer. Both are considered fuel additives to enhance the combustion of fuel. However, while 98 percent of fuel cells make parahydrogen, orthohydrogen has four times the strength, says Scott Smith, Central Valley HHO.

"That's why we're getting greater gain with our equipment," he says. "We're producing a higher quality gas. We have two-liter diesel engines getting a 38 percent increase in mileage and drawing only 5.6 amps."

Smith says other benefits of the hydroxy effect include reduced NOX (nitrous oxide) emissions, increased horsepower and longer engine life. However, none of these improvements with hydroxy fuel would be possible, he says, without new generation HHO electronics.

"It took us two years to perfect our electronics to control hydrogen production," he says. Now we're doing every kind of engine from scooters to stationary engines for agriculture and getting into marine applications. I know an Australian farmer who is saving 33 percent on fuel since adding an HHO unit to a large forage chopper."

Central Valley HHO is a manufacturer that markets its products through distributors listed on the company website.



Hydrogen fueling (HHO) systems are proving themselves on everything from ATV's to diesel trucks, says Dan Delasantos. Note hydro unit on back of this ATV.

Whether on a 4-wheel ATV or a 6-wheel diesel pickup, the power boost can be substantial – up to 35 percent or more.

Contact: FARM SHOW Followup, Dan Delasantos (ph 303 347-9277; dandelasantos@comcast.net) or Central Valley HHO (www.centralvalleyhho.com).

HydroStar Works Great For FARM SHOW Reader

By Mark Newhall, Editor

I got a call the other day from Myron Rhodes, Harrisonburg, Va., who wanted to thank us for running a story in the 2011 Best of FARM SHOW issue on the HydroStar add-on hydrogen generator. Since I have also had people call to complain about the HydroStar, I was interested in what Myron had to say.

"I've been interested in hydrogen fuel for a while so when I saw your story, I contacted the manufacturer, Andrew Herrold, and bought a unit to install in my 2006 Dodge mini van. Before installing the HydroStar, I got 23 mpg on the highway and 15 or so on country roads. After installation, I now get an amazing 35 mpg on the highway and 25 on the local roads," Myron told me.

I've heard these kind of stories in the past on older, inefficient engines but almost never on newer computer-controlled, fuel-injected engines. Sometimes people would tell me they had great fuel savings at first but then the computers in the vehicles would "adjust" to the new fuel mix and mileage would go right back to what it was before. So I asked Myron what he did different.

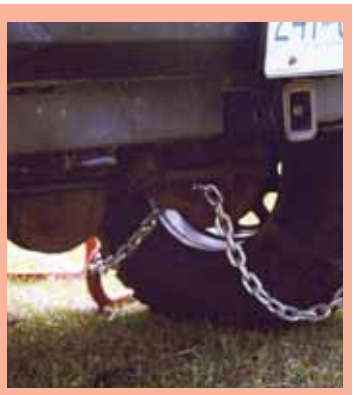
"The key to making it work is the new Volo FS2 performance chip (www.voloperformance.com) which is made specifically for the electronics in your vehicle to allow it to burn supplementary hydrogen fuel. It's a simple chip that plugs into the OBD-II data port under the dash of all late model cars. It allows the electronics to adapt to the introduction of hydrogen into the combustion process," says Rhodes. "No fine-tuning needed. Just install, hit the reset button for automatic calibration, and forget it."

Rhodes has another trick for running his HydroStar unit. "I installed a simple battery-powered digital amp meter under the dash (cost $10 online). I wired it to the unit and also to a toggle switch on the dash. When I turn it on I can see how many amps the HydroStar is drawing. It should be at 11 to 20 amps. I flip it on, see if it's okay, and then turn it off. If it drops below 11 amps, I top it up with the sodium citrate solution that I use in the hydrogen unit. Every 800 miles or so I empty the tank and refill it, then monitor it with the amp meter until it's back up to full power."

Using a hydrogen gas generator (shown above) and a Volo performance chip, Myron Rhodes increased mpg 50 percent.

The HydroStar hydrogen unit sells for right at $125. Inventor Andrew Herrold says he has been hearing more and more amazing reports from users. "One of my customers drives a semi and installed 3 HydroStar units in series, pulling only about 30 amps. He recently drove 19,212 miles across country with the unit, burning 2,479 gal. of gas for a 7.7 mpg average. That's 1.3 mpg more than before he installed the generators so his savings were about 90 gal. of diesel a week. I have examples from many other customers who are happy not only with the increased mileage but also the boost in power they've experienced," says Herrold.

Contact: FARM SHOW Followup, Andrew Herrold, 11402 Westview Ct., Beltsville, Md. 20705 (ph 240 715-5000; www.makehydrogenerators.com).



"Tire lock" is made from 1 1/4-in. dia. pipe bent and welded together to wrap around front and back sides of tire. A chain welded to one end of unit wraps around frame.

Tire Lock Makes Your Vehicle "Unsteerable"

In response to a rash of vehicle thefts in his area, Richard Chambers, Dunster, B.C., manufactured some low-cost "tire locks" that are designed to make a vehicle unsteerable and untowable.

"I make them in my shop using a pipe bender and welder. It's effective, portable, and simple to apply," says Chambers.

The tire lock is made from 1 1/4-in. dia. pipe bent and welded together to wrap around the front and back sides of a tire, with 2 bars spaced 6 in. apart along the outside of the tire. A 3/8-in. chain is welded to one end of the unit. You run the chain over the axle or between the tie rod and axle, then padlock it to the other end of the tire lock.

A tire-shredding cutter is welded onto the front of the device, in case a thief should try to move the vehicle.

"These units can be made to tightly fit any wheel size and work on everything from cars to pickups to stock trailers, as long as you can find a way to entangle the chain," says Chambers. "There's usually no space under the vehicle to work a bolt cutter that would be capable of cutting a 3/8-in. chain link."

Chambers says he made 70 of the units last winter but isn't interested in manufacturing them. However, he's willing to sell the units for $100 apiece, which he says is about the cost of production.

Contact: FARM SHOW Followup, Richard Chambers, General Delivery, Dunster, B.C. V0J 1J0 Canada (ph 250 968-4347; roustabout@dunster-bc.com).