

“Owner’s Report” On Hydrogen Boosters

Business is booming for inventors and manufacturers of hydrogen boosters for cars, trucks and tractors. The basic idea is simple: Electricity generated by the engine is run through metal plates that split water into hydrogen and oxygen, which is then sucked into the engine to provide a power boost.

Several units are on the market. Some are more complicated, with electronics that tie into a vehicle’s computer. Others are pretty basic.

FARM SHOW obtained a unit from George Wiseman at Eagle Research in Oroville, Wash. It had been featured in FARM SHOW earlier this year (Vol. 32, No. 2). Our report is below, along with reports from other FARM SHOW readers who have used hydrogen boosters. If you’ve had personal experience, good or bad, let us know.

Jim Ruen, Contributing Editor, FARM SHOW: “Eagle Research provided a HyZor hydrogen kit to us free of charge. In June, we took the unit to three different professional mechanics, seeking expert assistance at installation. After reviewing information on the product, all three mechanics turned us down. They were spooked by the unusual nature of the product and the fact that it tied into the vehicle’s electronics. We finally found Matt Huenink, a senior in Mechanical Arts Education at Viterbo College, LaCrosse, Wis. He agreed to assemble the product and install it in a 2001 Dodge Caravan.

“Assembly was relatively easy, although the prototype unit varied slightly from the instructions. Huenink and I tested the unit by releasing the hydrogen under water and holding a lighter close by as hydrogen bubbles broke the surface. The pops of the gas igniting assured us that the unit was producing.

“Installation proved impossible on the van, as there was literally no room beneath the hood. Instead, we installed it in a 1995 Ford Escort because Huenink had very detailed mileage logs on the vehicle. We knew we would be able to easily detect any impact the HyZor unit would have.

“Upon completion of installation - including an oxygen sensor bypass circuit suggested by Wiseman - Huenink took the car on a 600-mile road trip. There was no positive impact from the hydrogen unit that he could detect. For the past month, we’ve continued testing and adjusting the unit with virtually no change in miles per gallon or effect on power.

“When contacted, Wiseman suggested that the car’s anti-knock sensor might be interfering with mileage gains. As Huenink pointed out, however, to be successfully adopted on a wide scale, a hydrogen system must be easy to install. If a sensor requires a customized interface, it’s not going to be feasible for the mechanically inclined, much less the average motorist.”

FARM SHOW intends to transfer the unit

to another vehicle and install the anti-knock interface to see if we can find a way to get a mileage boost. To date, the unit has been a disappointment and we could not recommend it. When we reported that to George Wiseman, he responded that many FARM SHOW readers have also installed units on a variety of vehicles and that we should ask them to contact us about their results.

Arvne Doering, Hubbard, Iowa: Doering installed a HyZor unit from Eagle Research in a Dodge Dakota pickup. Not only did he not gain mileage, he figures he actually lost about 1/2 mpg. He has exchanged multiple emails with Eagle Research looking for advice, but has seen no real improvement in mileage. Arvne is still working with Wiseman in hopes of better results.

JH, Minnesota (name withheld by request): JH bought a HyZor kit from Eagle Research. He also bought a unit from Stan McDonald in Ontario. He found the HyZor unit to be too complicated to install and returned it for his money back.

As for the McDonald unit, after ordering last April, the kit was not shipped as promised. He began calling three to four times each day asking for his money back. McDonald finally responded with a check August 2. (A number of other FARM SHOW readers ordered units from McDonald last spring and didn’t receive them until August.)

Meanwhile, JH ordered plans from www.waterforgas.com and built his own unit to install in a 2003 Chrysler minivan. He claims about a 5 1/2 mpg increase but admits that he’s trying to keep his rpm’s under 2,000 and that may also be impacting mileage.

To install the unit, he placed it next to his seat inside the van instead of under the hood. He uses a 5-gal. air tank to pressurize the system. A hose conducts the hydrogen gas to a butterfly valve on the fuel injection system. He tried other input locations with little if any response. Now that he’s getting at least some improvement, JH plans to add a sec-

ond unit in hopes of getting even better mileage.

Bob Huebner, Kamiah, Idaho: Huebner ordered plans from Draper Custom Fabricators in Ephraim, Utah (ph 435 340-0387). He claims a 28.6 percent mileage increase (14 to 18 mpg) on his 1984 Chevy 350 pickup. His unit consists of a 3-in. pvc pipe with holes drilled through it wrapped in stainless steel screening and inserted inside a 4-in. dia. piece of pvc. Another length of steel screening is coiled and inserted inside the 3-in. pvc pipe. The screening forms the positive and negative electrodes. Huebner says the two pipes hold about 1 1/2 gal. of water, which is mixed with baking soda. A toggle switch on the dash turns the unit on and off. The gas is fed into the air cleaner.

Huebner says the plans didn’t say whether baking soda should also be added when refilling the unit. He did and the unit overheated. Now he only adds distilled water.

“I’ve been through one winter with it and though it does get slushy, it hasn’t frozen enough to cause problems,” says Huebner. “Once the engine has warmed up, I turn it on.”

David Scheiding, Troy, Ohio: Scheiding ordered a unit from an Illinois firm that he declined to name because he’s hoping to put his own booster on the market. He claims a 5 mpg increase in his Dodge Stratus around town and 7 to 8 mpg increase on the highway. The system consists of a large canning jar filled with distilled water, using baking soda as a catalyst. Two stainless steel posts serve as positive and negative poles. A small air pump bubbles air into the jar, creating a positive pressure within the jar.

The mix of hydrogen and oxygen gas is fed into the engine at the level of the PCV valve. Scheiding avoids the need for a sensor interface by simply covering the oxygen sensors with aluminum foil. “That keeps them cool and fools the car’s computer,” he says.

He has begun building similar but smaller units and placing them with friends. One 2004 Ford Taurus owner claimed a 4 1/2 mpg increase after two weeks, 6 1/2 after four weeks, and 12 mpg increase after 10 weeks.

Scheiding credits the increases over time to gradually increasing the baking soda-to-distilled water ratio. He also claims the system gradually “cleans out” the engine, increasing efficiency. Although the mileage increase in his own car has not been what he



Photo shows FARM SHOW’s Hyzor unit just before it was installed.

hoped, he’s pleased with what he has seen. “My car runs quieter, and is peppier and accelerates quicker with a better response,” says Scheiding. “There’s less smoke out the tailpipe, too.”

Scheiding believes the units he’s making get better mileage than the original unit he bought because of their smaller size. Once he gets at least 10 satisfied users of his system, he plans to begin making them for sale. Currently he’s offering them at cost in an effort to gather feedback.

Richard Dunn, Wheatland, Ind.: “Two years ago, I bought a hydrogen kit for my Freightliner semi with a 475 hp diesel engine. It cost \$10,000 and was manufactured by the Canadian Hydrogen Energy Company, Ltd. Unfortunately, I was never able to get it to work properly. In fact, I went through six different units and could never get any of them to work longer than about 10 days. After the company stopped taking my calls, I finally gave up.

“When I read about the hydrogen drip system from Advanced Energy Technology in FARM SHOW (Vol. 31, No. 6), I contacted the company. The inventor wanted to get a close look at the Canadian unit I already owned, so we made an even-up swap - my used hydrogen unit for one of his new units. That was in February, 2008.

“It’s fairly simple. I had a mechanic install it for a fee of about \$250, so I know it was installed correctly. It just required some wiring and installation of a gauge in the dash.

“I drive 3,720 miles every week over the same route with relatively light loads. Right now, after six months, I figure I’ve saved 8 percent on diesel fuel, or about 50 gallons of fuel a week. It helps, but is a far cry from the 15 to 30 percent increase in mileage promised by the inventor.”

Powerful New Air Rifles Great For On-Farm Use

Varmint control is a whole lot easier and safer with these new generation air rifles that have enough power to take out a coyote at 100 yards.

The guns are quiet, they don’t kick, and their high power at a short range makes them ideal for use inside or around buildings without causing damage.

“We sell a lot of rifles to control small pests in buildings and pigeons under overpasses. The Air Force buys them to control varmints on runways,” says Martin Greenwell, Airhog.

Partner Van Jacobi notes that compared to pump and CO₂-powered air rifles, pre-charged pneumatic (PCP) air rifles are much higher in power (3,000 psi), consistent, accurate and lightweight (5 1/4 to 6 1/2 lbs). Accuracy has made them a favored target-shooting weapon.

An increasing number of states are permitting their use for hunting. Jacob says a 0.25 caliber air rifle can take out a coyote at 100 yards and even kill a wild boar with a close-up head shot.

Bore and barrel length are important. The

larger the bore size, the bigger the pellet and the greater the muzzle energy. Length of barrel also affects velocity and power. Common sizes are 0.177, 0.20, 0.22 and 0.25 caliber with the smaller size favored for target shooting and the larger for hunting.

Regardless of bore size, it is the adjustability of the PCP rifles that many find attractive. The higher the power, the fewer the shots. Lower power settings increase the number of shots possible.

“If you’re shooting starlings, you can dial down the power and get 40 to 50 shots. If you dial up for larger pests you get 18 to 20 shots,” says Greenwell. “Unlike firearms, the barrel doesn’t heat up with rapid fire shooting. It actually chills.”

Because the air rifles are not classified as firearms in the U.S., they can often be used legally in areas where firearms are not allowed. Greenwell does note that Canadian customers need a license in order to receive an air rifle.

Another attractive feature of PCP air



Talon air rifle is quiet and doesn’t kick. It shoots .177 and .22 caliber ammunition and is charged by an external air tank. It sells for \$489.

rifles is the cost of ammunition. Pellets range from 200 0.25 caliber pellets at \$8.95 to 500 0.177 caliber pellets for \$9.95. Carbon fiber tanks, such as used for paintball and scuba diving, are recommended for recharging the rifles.

Greenwell carries PCP air rifles made in Ft. Worth, Texas by a company called Air Force. The Air Force products feature quick-change barrels enabling easy change-out of caliber or rifle upgrade. They also accept optical sights, bipods, night vision, scope levels, flashlights and more.

The basic single shot Talon sells for \$469.95 and comes in 0.177 and 0.22 caliber models with 18 in. barrels. Velocity varies from 400 to 1,000 feet per second.

It has a maximum effective range of about 60 yards. The Condor has a maximum effective range of about 100 yards with velocities of 600 to 1,250 feet per second and is also available in a 0.25 caliber model. Sells for \$577.

“A 0.25 caliber air rifle will produce 75 ft. lbs. wide open, comparable to a 0.22 short bullet which puts out 50 to 75 ft. lbs. of muzzle energy,” says Jacobi.

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