

“Next Generation Hydrogen Generator”

Andy Herold says 100 percent of his customers who have vehicles that are 1996 models or older have shown mpg improvement after installing one of his HydroStar add-on hydrogen generators.

Herold designed his unit to be compact, measuring only 5 in. wide by 7 1/2 in. long and 2 1/2 in. thick. All tubing and wiring needed is included in each kit. On larger engines you can hook two or more units together.

Herold says the best results with his kits have been on large diesel engines, such as large trucks and motor homes. Farmers are also using them on combines, tractors, irrigation engines, generators, grain dryers, and more.

One problem with most newer cars and pickups is that they have EPA-mandated software programs that dump excess fuel into the exhaust. A thermocoupler at the catalytic converter is used to make sure exhaust temperature gets to 600° and stays there. The way they keep the heat up is by dumping extra fuel. However, when you burn hydrogen, you're igniting waste fuel so the temperature at the catalytic converter drops. This causes the system to dump even more fuel. The way around this problem

is to buy a replacement computer chip that adjusts engine burn. They sell for about \$69 from a company called Engine Performance (www.engineperformancechip.com).

Herold's website offers pros and cons of four different electrolytes that are added to the distilled water used in the unit - sodium citrate, baking soda, sodium hydroxide and salt. He prefers sodium citrate for its safety, though more of it is required. He also recommends against salt due to its corrosive nature.

“Mix the electrolyte in 1.4 liters of water and fill the tank,” he says. “You can start out at five amps if the unit is installed inside the engine compartment and seven amps if it's in front of the radiator. You can be at 13.5 amps in two hours with the temperature in the tank at 185 degrees and maximum hydrogen production.”

Herold suggests placement ahead of the radiator for air stream cooling.

“The limiting factor in hydrogen generation is temperature of the electrolyte fluid,” he says. “Water boils at 212 degrees so I try to keep my units operating at 185 degrees.”

Herold has sold hundreds of systems, which are priced at \$125. He also offers an



Compact HydroStar generator measures 5 by 7 1/2 in. by 2 in. thick. Sells for \$125. On large engines, two or more units are required. Newer vehicles may require a replacement computer chip to run most efficiently.

EFIE switch for adjusting the mixture of fuel and air for \$15. He also has a website that sells individual components for do it yourselfers, as well as the entire system as a turnkey installation. The site also offers information on making your own, installing and using a hydrogen generator.

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Reader Inquiry No. 138



LP tanks are hooked up to four weed burners held about 8 in. off the ground.

Home-Built Flamer Burns Up Weeds

After reading about “flamers” used by organic growers to kill weeds, Tibor Sipos of Califon, N.J., decided to build his own fire-powered weed killer. Sipos and his 13-year-old son, Paul, grow about 10 acres of vegetables to sell.

“When dealing with small plants like lettuce, which are close together in beds, it's tough to cultivate,” Sipos says. Burning beds before plants emerge kills weeds and weed seeds. Once the plants start to grow, they choke out small weeds that come later.

After much research and finding helpful information at www.attra.ncat.org and [\[flameengineering.com\]\(http://flameengineering.com\), Sipos gathered angle iron, galvanized water pipes and other materials he had on hand. He purchased scaffold fittings to connect the parts and built a frame to attach to his tractor's 3-pt. hitch. The angle iron frame holds four 20-lb. liquid propane tanks, which are hooked up to four commercially available weed burners. A cross piece on the frame holds the burners about 8 in. off the ground, about 4 ft. behind the LP tanks. Two long water pipes drag behind to maintain an even distance to the ground.](http://www.</p></div><div data-bbox=)

By using one tank per flamer, Sipos says

he doesn't overload the liquid propane to the point it freezes up and doesn't work. He was impressed with the results of beds he flamed.

“Where it wasn't flamed, beds had 8-ft. weeds,” he says. “But weeds were small where I flamed.”

He noted that the weeds don't have to be burned completely.

“If you can see your fingerprint on a leaf, it's burned enough,” he explains. “You just need to heat weeds to destroy the cell structure. They just dry right up. I had one area of lambs quarter that was about 4-inches tall. I flamed it and the next day, they were all gone.”

He is satisfied with how his homemade flamer worked, but has ideas for improvements: hoods over the flamers for wind protection, tires or metal shoes on the pipes that drag, moving the tanks closer to the tractor driver and adding solenoid switches to turn them off quicker, and maybe adding two more tanks and flamers.

He says he spent about \$300 building his own flamer compared to about \$4,000 for a manufactured 4-row model.

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