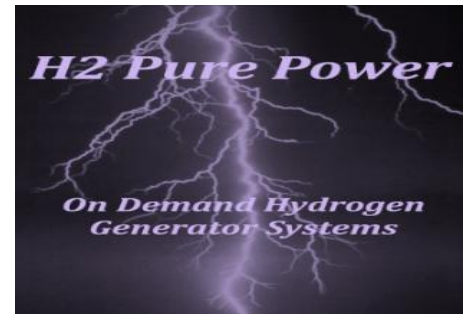


**H<sub>2</sub> PURE POWER INC**

**www.h2purepower.com**

Tel: 866-731-7779 Fax: 480-522-1225



## Instructions for your H<sub>2</sub> Pure Power Hydrogen Generator

Thank you for participating in the effort to reduce harmful emissions, make your vehicle perform better and get more out of your gas mileage. The benefits to the H<sub>2</sub> Pure Power generator you have just purchased should be noticeable from just about the minute you turn it on. Your motor will probably start to idle down as it is adjusting to the hydrogen supplement. When hydrogen mixes with the air and fuel at the burn point, you get a more complete burn with less waste of fuel. The results are better engine performance, lower emissions, and more gas mileage by implementing new driving techniques. Different makes, years and models of vehicles will give different results. Your vehicle will have a period of adjustment as the old memory of the engine learns the new air fuel mixture. The vehicle may take some weeks to adapt. The engine may need cleaning if it is older – especially diesel. You will notice a visible power increase and you can enjoy the power or ease back on the pedal and get the fuel gain. There are many factors for success such as condition of engine, terrain you are driving, headwinds, stop/start traffic as opposed to freeway driving, and speed. If vehicle needs a tune-up, or repairs, that will keep you from getting the success you may be expecting. Older models may require a carburetor adjustment. As with anything else, please make sure that you follow the maintenance schedules and driving tips outlined at the end of this manual. And, be patient for the first few weeks as the vehicle is going through its cleaning, relearning, and adapting. The Hero Chip is necessary on autos and pick-up trucks newer than '95 and can be ordered through H<sub>2</sub> Pure Power. Instructions for the Hero Chip are included in the box with the chip.

### Steps for Installation

- 1) Be sure that you have purchased the items needed to complete the installation and operation of your H<sub>2</sub> Pure Power generator. If you haven't, then here's what you need to get going. These parts should be available at your local auto or hardware store. Decide where you are going to put all the components and refer to the wiring diagram to plan for how much wire.
  - a) 6 – 8 gauge wire for Pulse Width Modulator, Black to Battery and to Negative on Hydrogen Generator, Red from Relay to Hydrogen Generator, 10 gauge Red from PulseWidth Modulator to Relay, with 12 or 14 gauge for "engine on" wire. Refer to Wiring Diagram. The amount you need is based on where you install the generator. Buy multi-stranded. colored wire (red/white/black/green/blue) for easier diagnostics

and easier visual inspection of the installation. If you can get marine wire or audio wire that is flexible, it is easier to work with.

- b) The electrolyte is Potassium Hydroxide, KOH. You will have a sufficient amount in your kit (shipped ground). It is also available from local chemical suppliers or online at <http://www.thechemistrystore.com>. You will have to fill out a routine hazard substance release form. Remember, Potassium Hydroxide is caustic to the skin and eyes. Also, wear a mask when opening container and measuring into distilled water. Use rubber gloves and proper eye protection when handling it. Keep vinegar on hand to neutralize it. Use common sense, and handle it with care. Since you will only need a very small amount at a time (teaspoons), you do not have to purchase much to last a long time. We provide it in the kit.
  - c) Distilled Water, get a couple of gallons. Make sure that you are using only distilled water so that there are no chemicals or minerals to interfere with the process, coat your plates or damage your unit.
  - d) Enough 3/8inch (Inner Diameter) fuel line to go from the output of your H2 Pure Power generator to the bubbler unit to the Check Valve, then to your Air Filter box (or other air intake) on your engine. Buy hose clamps for hose connections (approx. 8-10) We prefer the braided clear hose that you can get at any Ace Hardware store. NOTE: Do NOT use vacuum line as it will break down with the units use.
  - e) Depending on your specific install, you may want to buy some metal or plastic “strapping” to make some support mounts, I also recommend picking up some kind of vibration dampening material to lessen the vibrations from your vehicle on your generator and bubbler. Use rubber spacers or insulation to cushion. If you are installing the system inside a box like a battery box, put a fan in blowing directly on the hydrogen generator with an air vent at the other opposite side. Also add other air holes so there is adequate air flow.
  - f) Freezing: In cold weather, avoid freezing by purchasing a heat blanket such as Napa sells and plug it in to a 110 outlet at night or while setting for any period of time. Do not use any substance such as alcohol, windshield wiper fluid or methanol as you will get no production of hydrogen combustion as the oxygen is disintegrated.
  - g) Make sure you have all of the other basic shop supplies, electrical tape, clamps, wire connectors and have a good assortment of tools available to you, although most likely you will only need the basics, an electric drill and bits, crimpers, pliers, wrenches, hacksaw, etc.
- 2) Unpack your generator and accessories.
- a) Remove the generator from the box. Make sure that you have all parts. You should have the generator/s, the bubbler unit, a check valve with 2 push locs, a relay, a circuit breaker, on/off switch, terminal connectors, and Pulse Width Modulator. Examine all to make sure they

arrived unbroken in shipping.

- b) Remove all of the accessories, and set them aside.
  - c) After removing the accessories and meters, carefully set the generator/s to the side.
- 3) Identifying and understanding each component (accessories).
- a) The 12 volt, toggle switch. This is your on and off switch. This component is to be installed in between the “Key ON” fuel pump circuit and one of the coil terminals on the Relay. Connecting to the fuel pump circuit insures that when your vehicle is off, the unit is turned off as well. Find a place near or under your dash where you can reach it easily, but where it won’t interfere with your driving to mount it when we reach that step.
  - b) The Circuit Breaker. This component is to be installed 1st in the series circuit from the battery.
  - c) Electrical Relay. This is your relay that controls whether there is power to the unit or not. Follow the wiring diagram carefully.
  - d) The mounting bracket and screws. You may need to create some brackets out of plastic or metal strapping, or metal sheets. You can find a wide variety of shapes and lengths at the local hardware store.
  - e) One Way Check Valve Allows gas to pass in one direction, only. This prevents a flashback or spark to the gas and is very important for safety. The arrow on the check valve should point in the same direction to the air cleaner intake or motor.
  - f) Pulse Width Modulator (PWM); a PWM is an electronic switch that turns on and off at a very fast rate of speed varying the percentage of time on vs. off. To the load it appears smooth because it’s so fast, just like our vision can barely detect the flicker of a fluorescent bulb even though it goes completely off and back on again 120 times a second. The duty cycle of a PWM is the percentage of on-time vs. off-time. The Black wire considered the ground wire **MUST BE RUN ALL THE WAY TO THE NEGATIVE POLE OF THE BATTERY.** You cannot “ground” it to the frame as traditionally is done by mechanics. Ground loops will occur and the electronics of the vehicle will go haywire. The other Black wire goes to the Hydrogen Generator. Use the correct size wire – 6 or 8 gauge stranded wire for both Black strands. Some people even use 4 gauge. The red wire that powers the PWM from the relay can be 10 gauge.
  - g) Electrolyzers naturally draw more current as they warm up. All brute force electrolyzers will warm up, even the most efficient ones. At the end of a day current can be easily three times as much as what you started with at the beginning of the day. Without a PWM the problem becomes finding the correct electrolyte concentration for an entire day of driving.

With a current limited PWM you set your electrolyte for the target operating current for the season Temperature has an impact on it and for that reason, we recommend to use 2 teaspoons of KOH in the summer/warmer months and 4 teaspoons in colder climates. To start the output duty cycle is nearly 100%. Half way through the day as the cell is getting warm it may want to draw twice as much current from straight DC. The PWM, sensing that twice as much current is flowing every time it switches on, rolls back the duty cycle to 50%, thus maintaining the same average current. At the end of day when the cell wants to draw three times as much current the PWM is operating at 33% duty cycle.

You will have to add Hydrogen Juice to both bubbler and generators about every 1000 miles in the summer and about 1500 miles in cooler weather. Try to keep the plates covered but not too full as the gas needs air space.

**\*\*If, at this point you do not understand these instructions. You may want to consider calling us to get a qualified installer or mechanic to install this unit for you.**

**Let's Install the H2 Pure Power generator:** Now, let's begin the installation process. With the knowledge you now have about each component, you should be able to begin the installation of your new H2 Pure Power generator! Diagrams are included on page 7 and 8.

Before you begin, and as an extra level of safety, we recommend that you disconnect your vehicle's battery prior to doing any installation to avoid potential of electrical shock, and electrical shorts.

#### **Mount the generator and bubbler units**

Begin by determining the best location for the units. Some of the time you may be able to find room under the hood, however, a mount in the rear of the car or bed of pick-up will work as well. In most pick-ups there is a perfect place behind the grill and in front of the radiator. You will probably need to make special brackets for mounting. Look for a place under the hood where you can mount the generator/s vertically, and where you can access it for maintenance. You must be able to see the generator and bubbler so that you can check the water levels and fill them with water. In finding a perfect mounting location, keep in mind that you will have to run wires to it, and run the fuel line to it. Mount the units using brackets, or battery box, by using supplemental plumbers tape, plastic ties, metal strapping or metal sheets. Again, try to mount it in a vertical, stable position and use some sort of vibration absorbing material to minimize vibration. You can screw through the upper mounting tabs of the canisters. Use a washer in front of bracket and a rubber spacer behind it to cushion them. not position the generator where it will bounce against hard metal. A bracket around the middle of the generator could be beneficial and if you are creative, fashion a custom one to support it.

## Electrical Work



Disconnect your battery ground cable before starting electrical work. Now move on to the electrical work. At this point, and before you proceed, examine the wiring chart to see “the big picture”. Get a good mental picture of what is happening here before going on. Next, determine the source of current for switch – fuel pump circuit. If you cannot do this yourself, go to a mechanic for this function. It is very important to tap into a key on/off circuit so that the generator will be off when the ignition key is off. We recommend that you mount your electrical relay in an easily accessible place as you will be running wire to it. Mount the relay, and begin wiring each line according to the wiring diagrams. We recommend using different colors of wire for easier wiring and for better visual inspection and diagnostics of your completed system.

When there are multiple generators, they should be wired in series (not parallel). Note diagram which shows two wired the correct way.

Hero Chip is hardwired in behind the OBD port and the instructions come in the box with the chip.

### Inside the car

Placement is important for the “on and off” toggle switch. The switch should be mounted on or in your dashboard (or similar) where you can reach it. The switch can be left in the “on” position because you are tapping into a “key on/off” circuit. It can be turned on/off for testing mileage gains. It is an added safety feature in case you add too much electrolyte so you have the option to turn it off before you trip the circuit breaker. In running the wire from the engine compartment to the interior of the vehicle, look for established ways through the vehicle’s fire wall so as not to diminish the protective value.

### The Generator and Bubbler

At this point measure your fuel line, and install it so that you have a line between the generator and the input of the bubbler. Then run fuel line between the bubbler and the check valve. Then run fuel line from the check valve (arrow pointing to the air intake) to the air input or (air filter box). See diagram. The engine’s vacuum will pull the HHO gas into the engine with the air. Use some small hose clamps for extra safety on each fuel line connection.

Now back to the generator and bubbler. Connect the fuel line from the hydrogen generator barb and connect to the barb behind the fill hole or the second one should go into the barb to the left of the fill hole of the bubbler. Two generators can connect into one bubbler and make sure there is a tube

going down from those connecting barbs. There is no internal tube on the gas output barb that goes to the air intake. Dissolve two teaspoons of electrolyte (potassium hydroxide) in one gallon of distilled water making your Hydrogen Juice, then pour it into the generator filling until about 2 inches from the top (covering the top of plates). Remember, this is a caustic solution, so use care in handling it at all times. Fill the bubbler just over half way with Hydrogen Juice. Replace the fill plug of the generator and bubbler. Use yellow Teflon tape to re-wrap the fill plug. \*Any time the fill plug is removed use yellow teflon tape and make sure it is air-tight.

## **Start up (1<sup>st</sup> time)**

### **Fill canister HYDROGEN JUICE**

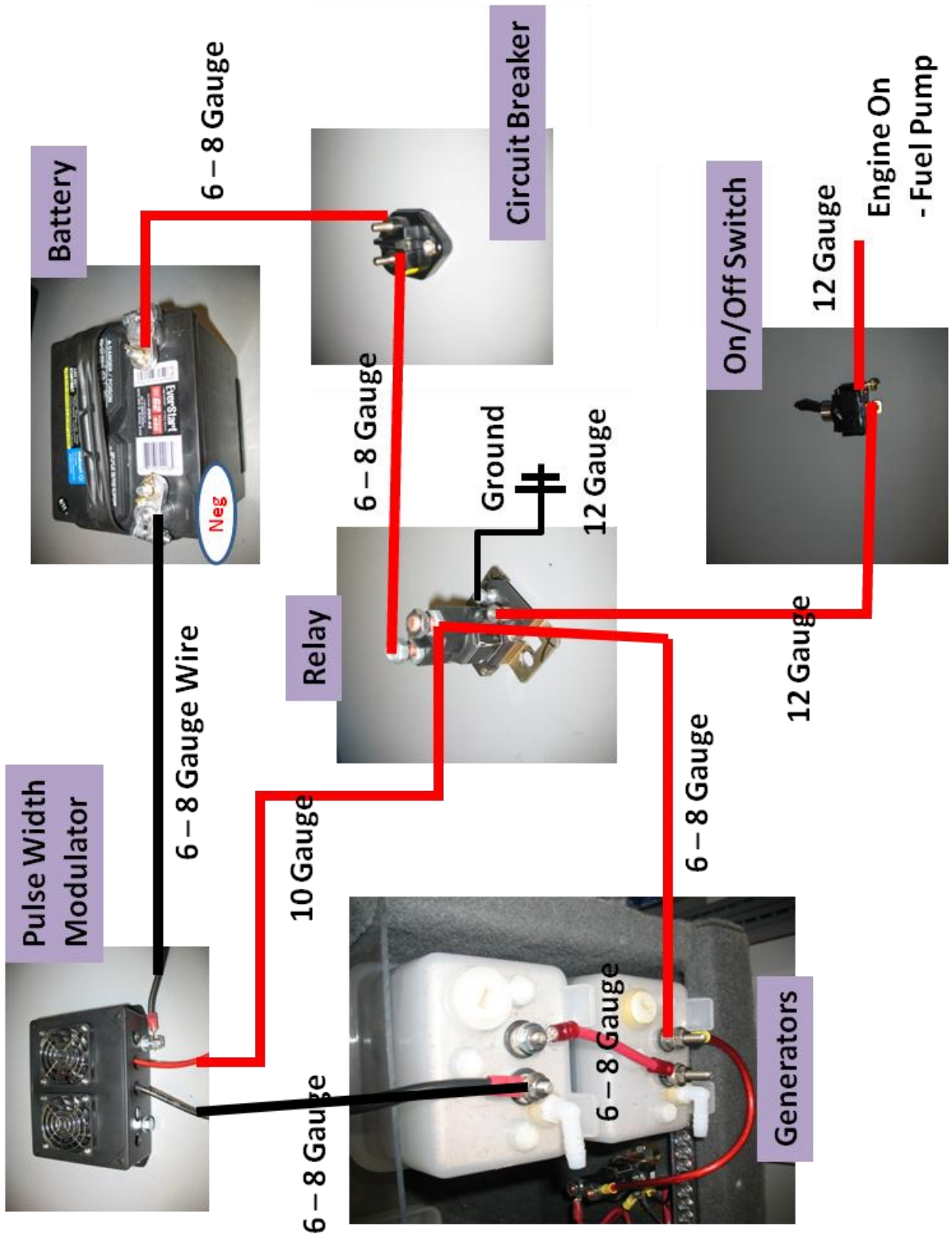
**Formula:** 2 teaspoons of POTASSIUM HYDROXIDE (KOH) electrolyte, in one gallon of **DISTILLED** water. If you have more than one generator, buy several gallons. You will want to premix one gallon extra to keep in your vehicle for easy refill. Keep a funnel and a screwdriver and the yellow tape handy.

**REFILL FORMULA:** Same mix of Hydrogen Juice.

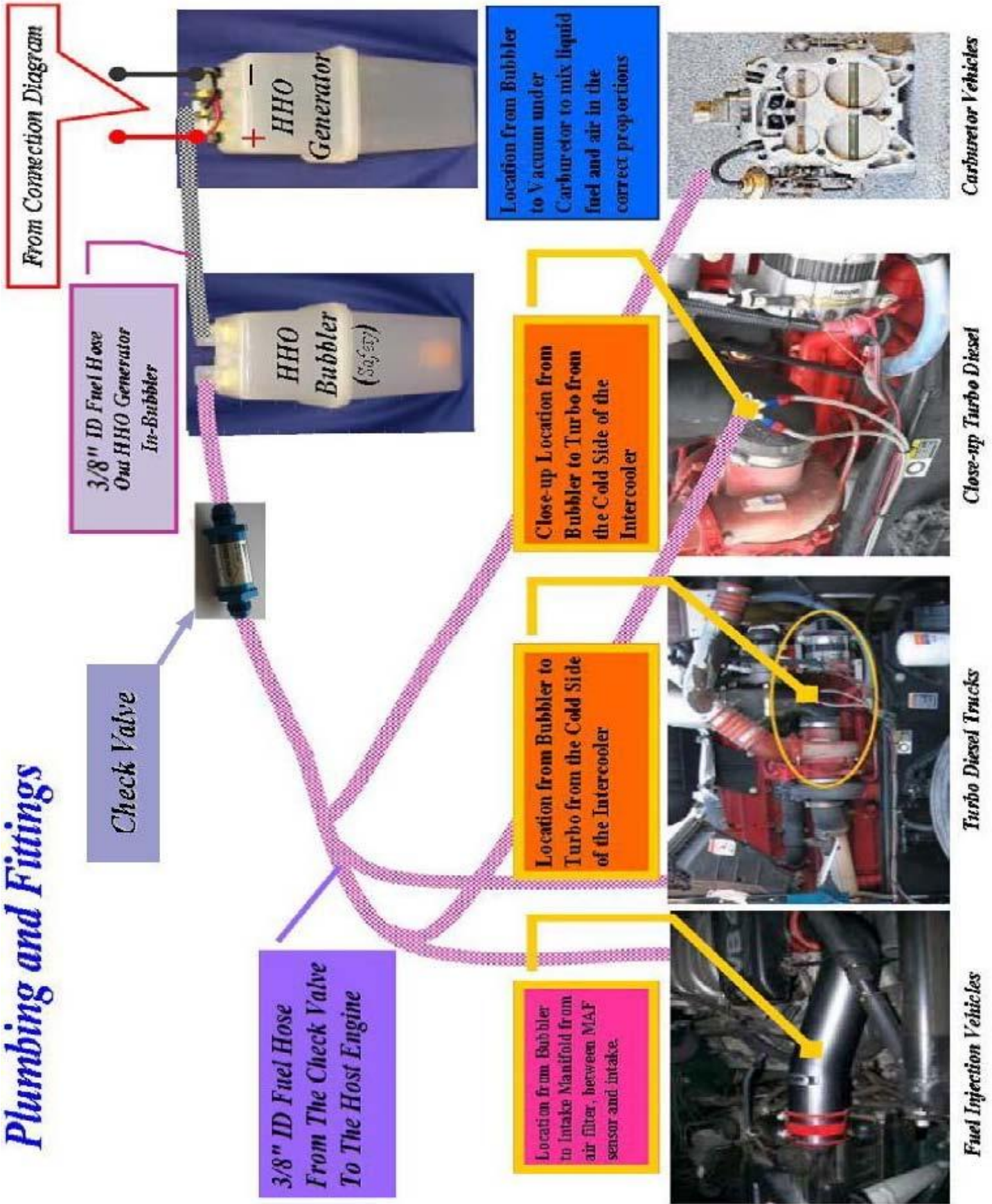
**Winter temperatures:** Add more potassium Hydroxide (about 4 tsp.)

At this point, you should be completely wired. You should have distilled water and electrolyte, in the generator. And, you should have distilled water and electrolyte in the bubbler. Your flashback arrestor should be installed. Your toggle switch should be wired in.

# H2PP Hercules System Wiring Diagram



# Plumbing and Fittings



Now, double check everything.

- i. Make sure that you are using dedicated grounds.
- ii. Make sure that you are using “engine off” power sources. Make sure that all connections are tight.
- iii. Make sure that you did not run wires or hoses on or near any moving parts or parts that may operate at high temperatures. Use plastic straps or clamps to neatly and efficiently run all wires and hoses so that they are protected and out of the way. In double checking everything, run through the following outline one last time...

The gas output line should be connected to the Air Intake via a punch in or screw in nipple to be sure it is tight. Silicone glue around the edges to seal it.

Recheck the generator and make sure it is filled to 2” from the top. The Bubbler should be also roughly a little over 1/2 full. \*\*In colder climates, make sure to have a heating blanket or under the generator and bubbler.\*\*

Re-connect your vehicle’s battery.

Now, start your vehicle. Install the Hero Chip if you are using it on your vehicle.

First, look into your bubbler to make sure that you see bubbles coming up (the bubbler will not be frothing, it will be bubbling): This is good sign that the generator is working properly. The bubbles should be coming so fast that you cannot count them and they should be large well defined bubbles. If you are utilizing an ammeter, run it at around 20 amps. Do not run it above 22 amps.

## Final Tips and new driving habits

Even though you should notice a difference in your engines performance right away, keep in mind that this process will actually continue to get better as your engine gets cleaned out, and as your plates (in the generator) get seasoned. However, be patient and give the vehicle time to accept the new system.

Caution: The generator contains a caustic solution, use care when handling. Do NOT open generator during operation. Do NOT operate generator if it is frozen. If outlet hose is restricted pressure can build up in the generator. If you remove plug from generator when pressurized, caustic solution can spray out. If you should get on your skin use vinegar to neutralize.

Now that you are up and running, let's talk about some new driving tips to help you maximize the use of your H<sub>2</sub> Pure Power generator and the use of the HHO gas. One of the first things you will notice when driving will be better performance. Here's what to expect: A smoother idle with less vibration. More power when accelerating.

When you hit your top cruising speed, you can back off the pedal. Try it you will notice the difference. With this in mind, now you realize you can use your gas pedal differently.

Less pedal needed for acceleration. And learn to back off at cruising speed.

If your warning lights for different systems come on your dash, first thing to do is disconnect your battery for just a few seconds allowing the computer to reset itself. Most likely, your warning lights will go off. If this continues, call technical support for advice.

*If your water becomes "muddy" then replace your water and electrolyte with new. Also wash the plates with clean water. You may have to do this a few times in the first month of use. If it continues, please contact technical support at headquarters.*

Technical support is available from 9:00am to 5:00pm at  
<http://www.info@h2purepower.com>

or call us at 866-731-7779.

Your H2 Pure Power generator comes with a 3 year warranty only on a broken or otherwise defective generator and electronic components. In the case the components are damaged, call the company for a return form or download it on the website and return the broken parts for replacements. H2PP makes no warranty, and buyer assumes all liability. Success of the H2 Pure Power generator kit is dependent on many factors such as installation, condition of engine, terrain driving in, weather, driver's driving habits, type of engine and even colder climates. Call the company and talk to a technician before returning the generator. Many times, the vehicle needs to be driven for about a month until the engine is cleaned and able to utilize the hydrogen at the optimum. Many times the engine has to be fine tuned after being driven for some weeks. Return to your installing mechanic for the fine-tuning.

We hope you enjoy your new H2 Pure Power generator, and hope you get the full and total benefits of it for years to come!

**Magnuson-Moss Warranty Act** The Act provides that any warrantor warranting a consumer product to a consumer by means of a written warranty must disclose, fully and conspicuously, in simple and readily understood language, the terms and conditions of the warranty to the extent required by rules of the Federal Trade Commission. Warrantors cannot require that only branded parts be used with the product in order to retain the warranty. With regard to after market products, it is the responsibility of the warrantor to prove that an after market product is responsible for a defect, malfunction or failure.

# Important

Please read to understand how to maintain your Hercules Hydrogen System

1. Keep the levels filled in your Generator/s and Bubbler Canisters. Premix 2 teaspoons of KOH (potassium hydroxide) in 1 gal. distilled water. Be sure to mark jug with "Hydrogen Juice – Not Water". Your canisters are marked with the high and low levels. Be sure to rewrap the plugs in the canisters with the yellow Teflon tape every time. You can buy more at the hardware stores.
2. The bubbler should have a steady stream of bubbles that you cannot count. However, boiling the liquid can result in frying the KOH and the plates as well.
3. If hydrogen juice turns brown, replace hydrogen juice with a new mix. This can be the result of contaminated distilled water or from running your system too hot. Use a suction tool or get your installer to service the generator.
4. If any of the barbs become loose and cannot be tightened, contact the company.
5. If you have work done on your vehicle where the battery gets disconnected, the Hero Chip will have to be reset. Simply insert a paper clip in the small hole on the Hero Chip and run the vehicle for about 15 minutes without driving it until the lights turn steady green. Read the Hero Chip Instructions.
6. Read the Manual thoroughly as most of your questions will be answered there. If you still have questions call Tech Support at 866-731-7779.

Thank you for joining THE HYDROGEN PEOPLE!!!

H2 PURE POWER INC.  
145 S. 79<sup>TH</sup> ST. STE 1.  
CHANDLER, AZ 85226



## **Please Sign and Return Signed Page to H2 Pure Power:**

### **POLICY FOR CUSTOMERS OF H2 PURE POWER INC.**

**All proposed installations without an approved and trained mechanic certified by H2 Pure Power, will have to have the approval of H2 Pure Power for safety and successful operation. An installation that is done without a corporate approval will have no warranty or guarantee of any sort.**

- No modifications by the customer, dealer, distributor, mechanic, or manufacturer rep of the H2 Pure Power Hydrogen on Demand System, will be tolerated.
- All accessories, add-ons, reconfiguration, mounting boxes, etc. will have to be submitted to H2 Pure Power to be assessed and approved.
- There can be no modification or tampering done to any part, component, canisters, or any electronics, of the Hydrogen on Demand Systems from H2 Pure Power. This includes; no loosening or removal of the nuts/washers at the top of the bolts may be done by anyone. Extra washers/nuts may be added on top of the factory installed ones.
- The canisters may not be opened or unsealed. The plates inside the canister may not be removed and reconfigured. The electronics may not be opened and changed.
- No part of the system may be duplicated or copied in another system. All re-engineering and designs of the H2 Pure Power systems will be done by the corporate engineers appointed and reporting directly to Dr. Mary Meadows, CEO.

Any of these events will result with the forfeiture of the system back to H2 Pure Power without any refund, that would have been covered by a warranty, guarantee or product demonstration contract.

**Non-Disclosure and Non-Use of Confidential Information.** The Customer Candidate shall not in any way, directly or indirectly, without the prior written approval of the H2 Pure Power Inc. company in each instance or unless otherwise expressly permitted by this Agreement, use for its own benefit, publish, or otherwise disclose or make available to others any of the Confidential Information, or permit the use of the Confidential Information by others associated with the Candidate or their employees for their own benefit or to the detriment of the H2 Pure Power Inc. company.

Further, the customer agrees not to develop a competing product ie: a hydrogen-on-demand generator system utilizing the technology that has been researched, developed and commercialized by H2 Pure Power, Inc.

- 1) Exception:** (A) Candidate can demonstrate to have rightfully in their possession a hydrogen on demand system prior to the disclosure of the unique hydrogen generator system to Candidate by H2 Pure Power Inc;  
(B) is independently developed by the Candidate or its employees without the use of any Confidential Information owned by H2 Pure Power Inc.

**Entire Agreement.** This Agreement constitutes the sole understanding of the parties with respect to the subject matter hereof and may not be amended or modified except in writing signed by each of the parties hereto. The H2 Pure Power Inc., Company and any Party, Candidate, Employee, or Consultant have executed this Agreement on the date set forth below, intending to be legally bound by all terms of this Agreement.

P. 2 Policy for Customers continued.

Return this signed page to H2 Pure Power. Mail or fax to 480-522-1225

I acknowledge that I have received and agree to the company policy regarding the installation and modification of the Hercules Hydrogen on demand system. I also sign this as a representative responsible for my mechanic/mechanics.

\_\_\_\_\_ Date: \_\_\_\_\_  
Customer Signature

For Company: \_\_\_\_\_

\_\_\_\_\_ Address \_\_\_\_\_  
Print Name

\_\_\_\_\_ Telephone \_\_\_\_\_  
City State Zip

## INSTALL NOTES

## **Limited Warranty**

Your H2 Pure Power Hydrogen Generator kit comes with a Three year guarantee only on broken or otherwise defective generator, bubbler, and electronic components. In the case the components are damaged, crack or leak, return the H2Pure Power hydrogen parts and HP Pure Power will replace the damaged parts. Call the company and talk to a technician before returning the generator or bubbler. If the unit cannot be repaired, the company will send the new parts with a return label to return the damaged parts to the company.

H2 Pure Power canisters makes no warranty, and buyer assumes all liability. Success of the H2 Pure Power canister kit is dependent on many factors such as installation, driver's driving habits, type of engine and even colder climates. Many times, the vehicle needs to be driven for about a month until the engine is cleaned and able to utilize the hydrogen at the optimum. Many times the engine has to be fine tuned after being driven for some weeks. Return to your installing mechanic for the fine-tuning.

H2 Pure Power will not pay for the installation of the replacements. It is a simple thing to remove the wires from the Generator and Reservoir and replace them. The process should take about 15 minutes. If you cannot figure out how to replace them, you will need to pay a mechanic to do the switch. We will try to suggest a mechanic in your area.

For Replacements or Repair, please call: 877-731-7779.

[www.h2purepower.com](http://www.h2purepower.com)