

Achieve Maximum Fuel efficiency by converting your car into a
Wallet & Environment Friendly
WATER-HYBRID



Thank You for your decision to convert your vehicle into a hybrid. You are joining over 1million drivers worldwide who are already utilizing this great technology to save gas, money and environment.

Thank You

www.XHybrids.com

Professionally Manufactured and Engineered Hydrogen On Demand Systems by XHybrids for virtually any vehicle

Note: The information contained in these instructions is for educational purposes only and cannot substitute for the advice of professional mechanic or authorized dealer. Don't attempt to repair your car if you don't have proper knowledge and tools, you can be injured and your vehicle could be damaged. Take your car to a dealer or a repair shop for proper installation.

WARNING! HYDROGEN TECHNOLOGY IS DANGEROUS IF NOT DONE RIGHT – READ THE INSTRUCTIONS AND PRECAUTIONS

Hydrogen on Demand Systems from Xhybrids are available for virtually any vehicle

UNDER 3 LITER



UNDER 5 LITER



OVER 5 LITER



INDUSTRIAL -SEMI



HYDROGEN ON DEMAND GENERATOR MANUAL

www.XHybrids.com



This Instructions guide contains following sections:

[Safety Advice](#)

[Generator Instructions](#)

[Vacuum and Generator](#)

[Generator and Electric](#)

[Cold Weather and Freezing](#)

[Final Steps / Electrolyte](#)

[Spark Plugs to Avoid](#)

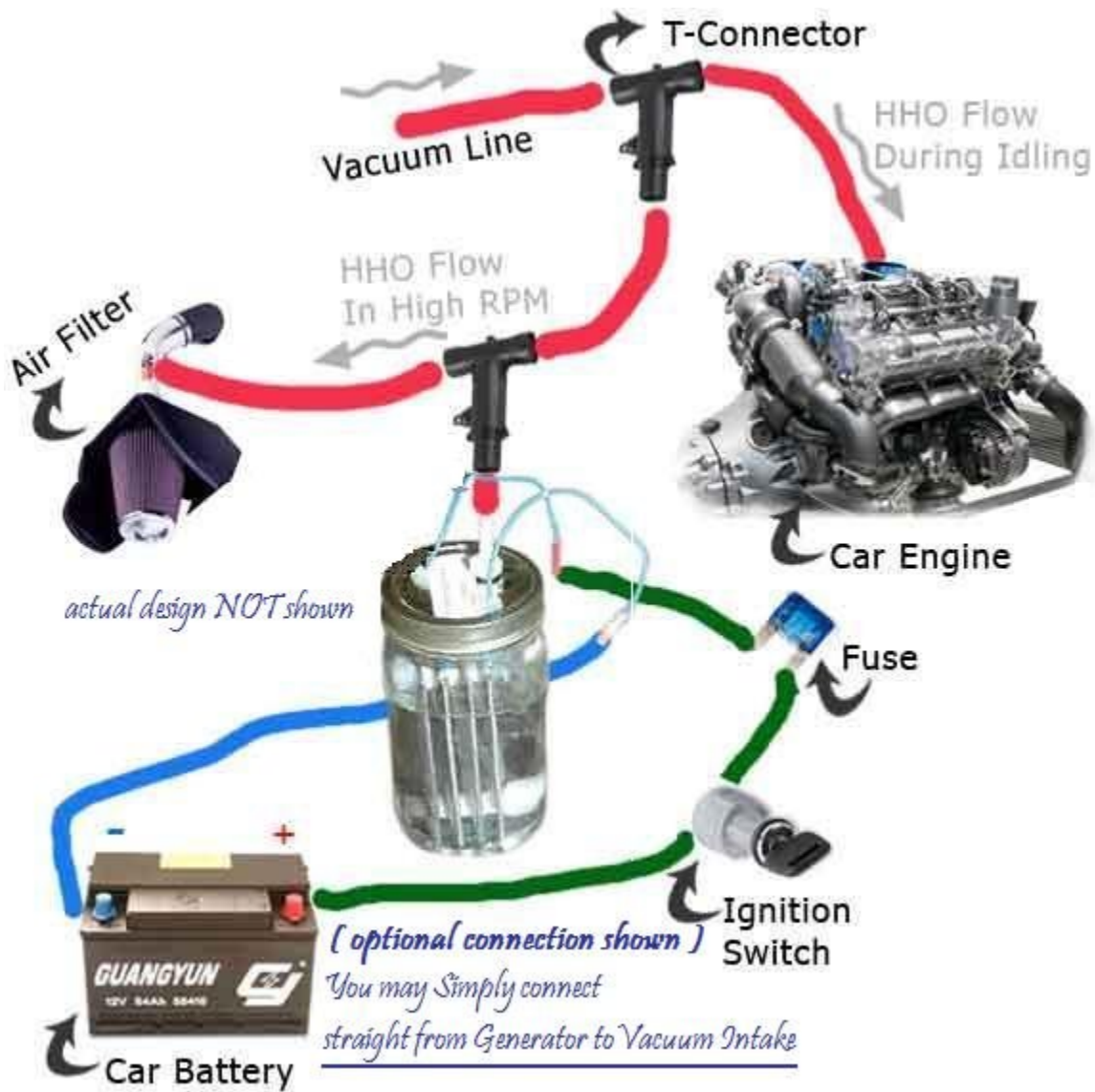
[Green Tax Credit Info](#)

HHO Generator Safety Advice

Incorrectly installing or incorrectly using Water fuel technology may result in serious damage or body injury. Read and follow the instructions and safety precautions given here and in relevant places throughout to avoid these hazards. If you do not understand these instructions or do not like working on vehicles, have your mechanic do the installation.

It should take 20 to 30 minutes to install. **Work outside, no smoking; make sure the engine is not hot. Wear goggles and gloves and only use professional tools; use common sense and general safety procedures used for automotive installations and maintenance. If you're not sure, ASK!**

Yes, HHO is combustible – AFTER IT ENTERS THE ENGINE – that's the whole point. Yet your Water fuel system does NOT store hydrogen when installed properly, so there is no fire hazard due to hydrogen storage. So again, don't let people who don't understand the system intimidate you or tell you about non-existent hazards. Water fuel technology cools down the engine and adds safety to any car.



Above image describes the basic set up – please read the manual first before starting with the installation.

HHO Generator Installation Instructions

Mount the HHO Water fuel device in the engine compartment. It should be mounted flat and level, and secured in such a manner as to assure that it cannot bounce around when the vehicle hits bumps etc.

Position the device so that it can easily be accessed and can be conveniently removed and filled with water, or cleaned, serviced or inspected.

IMPORTANT: INSTALL THE DEVICE AWAY FROM HOT AREAS as much as possible. If you're not sure where that is, Harbor Freight Tools has a digital non-contact thermometer for under \$7 (item 93983-2VGA). Use this tool to locate the coolest available place in the engine area.

We cannot give you an exact number here for what is “too hot”, because there is a combination of heating factors here: weather, engine, and the electrolysis process itself. All I can tell you that in two cases the electrolyzer mostly melted and only the glass survived. In both cases this occurred as a result of

(1) too much heat radiated by the engine through the air to the electrolyzer, and

(2) too much electrolyte in the HHO generator. There is a situation called Thermal Runaway, where an increase in temperature changes the conditions (in this case the rise in electrical current) that causes a further increase in temperature - leading to a undesired result. You can prevent this from happening by:

1. Use ONLY DISTILLED WATER. Filtered water are NOT distilled water!
2. Starting with no more than ½ teaspoon of *sodium hydroxide*, and add radiantly only when you're sure no excess heat is being generated.
3. Install away from heat. If this is not possible block the engine heat as much as possible by placing a heat shield (bubble wrap covered by aluminum foil) between the electrolyzer and the engine. Leave at least 1-2” air space around the electrolyzer.

A mounting bracket can be easily fashioned from copper and/or galvanized plumber’s strap. (Not supplied.) In other cases a small rubber pad (not supplied and usually not necessary) and/or two bungee cords (might be supplied) may be adequate. Rarely there may be vehicles that do not have enough space in the engine compartment to mount the device.

A possible solution is to use the area in front of the radiator. Fasten the device to the car's frame or anything other the radiator, belts or moving parts, and make sure that it does not touch the radiator. That's it for the mechanical installation and location. Now let's move for connections and supply lines. The HHO device is operated by vacuum pressure from your vehicle’s engine, plus 12 Volt supply from your vehicle’s electrical system.

Vacuum and the HHO Generator

note: *due to high efficiency of our units most our clients do not connect to vacuum line. The general idea in DIY Hydrogen on Demand Technology was to “suck” the gas out from the generator. This can generate danger of sucking fluid into the vacuum lines – To avoid this you will need to install a one way valve in your vacuum line. Our generators are strong enough to push the gas without the vacuum line therefor making the installation easier. You may simply try to connect directly from generator to your air intake(intake manifold) first and see the results. If your particular vehicle needs more output power utilize the vacuum line as described below You also should make sure that your electric wires are tight and try adding little more electrolyte(sodium hydroxide). -in ¼ tea spoon increments.*

Vacuum lines are supplied from the engine to various car systems, and you should best use the system that gets the highest vacuum. The idea is to Suck the HHO into a place such as the Carburetor or the Intake Manifold, where it can be automatically mixed with the existing fuel/air mixture. Connect the output to the carb/intake manifold.

CAUTION: DO NOT USE THE BRAKES VACUUM LINE. This is usually a very thick black hose that connects between the engine and the Brake Vacuum Booster (usually a large drum on the firewall on the driver side): The PCV valve line usually makes a good connection.

Vehicles with EFI (Electronic Fuel Injection) should also be connected at or near the intake manifold. * Positive Crankcase Ventilation valve, or PCV valve, is a one-way valve that ensures continual refreshment of the air inside a gasoline internal combustion engine's crankcase.

WARNING: DO NOT SHORTEN THE HOSE between the engine intake and the generator. Keep the line (hose) at least 4 ft long. This length must be kept to enhance safety and prevent damage to the device.

A universal vacuum line T-Connector is usually provided as well as a length of vacuum hose to make the connection. A wide range of vacuum fittings is readily available at any auto parts store (plastic fittings will do for this use). Note that the Universal Vacuum T-Connector is...well, universal. Its edges are usually too small for the hose, and should be trimmed (edge cut off) with a knife.

HHO Generator and the Electrical System

note: *optionally you may install a ON/OFF switch into your cabin so you can turn the system on or off more conveniently - we still recommend connecting the positive wire to vehicle's electric system that is utilizing the ignition. In Short: Generator Positive goes to fuse - to on/off switch- to vehicle's electric switch connected with ignition. (reason is safety – you need to make sure that the generator will have power to operate ONLY when the car is on (ignition position 2)*

The HHO generator is designed to operate on 12 Volts. Make sure your particular vehicle has 12V output – some vehicles have higher output which causes higher hydrogen generation and much higher temperatures – in that case you may try to reduce amount of electrolyte (pure *sodium hydroxide*). If you're not sure consult your auto mechanic (electric), or contact us for help.

1. Connect the black terminal of the device to the negative terminal of the vehicle's battery, using the wire WITHOUT FUSE (black wire). If the battery is too far, connect it to the firewall or extend the wire all the way to the battery.
2. Identify a point in your vehicle's electrical system which has a 12 Volts (positive) present ONLY WHEN THE ENGINE IS ON (Position 2 of the Ignition Switch), such as the starter solenoid, window wiper motor, or similar circuit.
3. Turn the switch off and take out the key. Connect positive (12 Volts) to the red terminal of the device, using the FUSED wire supplied (red), to the point you've identified above.
4. To protect the wiring from long term damage, you can now put the newly installed wires into what's called "split flex tubing". You can find it in all major hardware stores such as Ace, Home Depot. Don't buy it online (\$5 +S&H) because in the shop it's only 99 cents for 10 ft.

NOTES: In most newer vehicles the fuses are located in a box, in the engine compartment. You can just plug the wire into the fuse holder and reinsert the fuse. Usually it is a 25 Amp or 30 Amp ignition circuit, that we use. In some older cars where there was no fuse box to connect to, the wiper motor was found most useful as a supply point. Just splice into the SWITCHED 12 Volts and it works well. ? In some cars the electrical system may be in reverse (RED wire to the body of the car, or to the battery itself). If it gets confusing, consult an auto electrician who is familiar with your specific model.

Final Steps of HHO Generator Setup.

Fill the generator with DISTILLED WATER, leaving about 3/4" (0.750") of free space at the top. Start with 1/4 or 1/2 teaspoon of Electrolyte (pure *sodium hydroxide*) into the HHO Generator and increase as needed up to 2 teaspoons. (on systems for big rigs you may go up to 3 teaspoons)

HHO Unit should draw about 7-10 AMPS of power. More *sodium hydroxide* may be added but, make sure the units operate between 140F – 160F (optimal but may vary) and don't overheat. Our Units are designed for temperatures over 300F which is twice the optimal operating temperature.

Electrolyte – Baking Soda or Sodium Hydroxide?

We recommend using 100% sodium hydroxide instead of baking soda. Efficiency is higher- generator stays cleaner much longer, it does not dissolve at high temp and it does not produce toxic gases like baking soda. You may use “Crystal Drain Opener” by Robeic at your local drug store or hardwarestore – lowe’s sells 2LBS for about \$8.

Cold Weather and Freezing

If you encounter freezing temperatures the system's electrolyte may freeze. That is why it is important not to over fill the generator. Our Units are equipped with a safety plug (rated over 420F) that will release excessive pressure or ice if required.

To help avoid freezing you may replace distilled water with windshield wiper fluid (blue fluid) other wise the system will still melt the ice within few minutes after its started without any damage.

Spark Plugs to Avoid !

AVOID IRIIDIUM AND PLATINUM SPARK PLUGS, no matter what your mechanic recommends. He might not realize that you're now in the upper league of the MPG game...with different needs. Iridium and Platinum react badly to Hydrogen. Yes, and another thing – before installation, you may reduce the spark gap to 0.03", or 0.75 millimeter. This will definitely maximize the performance of whichever plug you have chosen.

Driving Habits

Your driving style all by itself (your behavior behind the wheel) can increase gas economy by as much as 30%!

Empty your trunk of unnecessary items which add weight to your vehicle.

Check your tire’s air pressure weekly. Over inflate your tires approximately 10% to increase miles per gallon of gas.- Careful in hot weather – do not overflate in hot weather!

Fill up your gasoline tank in the morning or dawn when it's cool. That's because gas stations have their storage tanks buried below ground; and the colder the ground, the denser the gasoline. You'll be getting more mass of gasoline per gallon.

www.XHybrids.com

Test Run Your HHO Generator-optional - alternative

1. Start with NO electricity, by taking out the fuse or leaving one of the terminals disconnected (make sure it doesn't touch metal parts of the car to prevent fuse blowout).
2. Turn the Vacuum Adjustment Valve (sometimes called “Bubbler Cap” or just “Bubbler”) fully CLOCKWISE. Then turn it half-turn COUNTER-CLOCKWISE.
3. Turn the engine and watch the bubbling action coming out of the lower end of the thin tubing inside the device. Gradually turn the Vacuum Adjustment Valve and watch the bubbling action in the jar. Adjust the valve until there is a small amount of bubbling action.
4. Turn off the engine.
5. Connect the electricity by putting the fuse on and making sure all connections are tight (hand force only).
6. Start the engine again and watch the electrolyzing action between the spiral electrodes. A yellowish gas (HHO) will start forming and flow toward the top of the jar.
7. Within a short time (roughly 30 seconds), you will notice that the engine starts to sound quite differently. It will sound smoother and quieter. Its RPM may be unstable for a couple minutes. This is normal – the HHO is starting to change the combustion cycle and cancels the pinging – and the engine is now adjusting to the changes.

Congratulations! Your HHO Generator system is now ready to go!

NOTES ON "QUALIFIED VEHICLES" Green Tax Credit

References:

www.irs.gov/pub/irs-pdf/f8910.pdf

Dear Green Upgrader,

The documents attached here clearly demonstrate that the IRS will give you tax relief for clean-fuel burning vehicles, or hybrids that use clean fuel in part. On their website you will find a list of "qualified vehicles", all made by big automakers such as Toyota, Honda and other famous hybrids. It may seem that if your model is NOT on the list, you're out of luck.

But that's NOT what the actual IRS Code (IRS Law) says! It states in very clear words, as you can see from Chapter 12 of the Code (attached), what is defined BY THE IRS CODE to be "Qualified property":

=====
Your property must meet the following requirements to qualify for the deduction.

1. It must be acquired for your own use and not for resale.
2. Its original use must begin with you.
3. Either—
 - a. The motor vehicle of which it is a part must satisfy any federal or state emissions standards that apply to each fuel by which the vehicle is designed to be propelled, or
 - b. It must satisfy any federal and state emissions certification, testing, and warranty requirements that apply.

=====
Since THE HYDROGEN-OXYGEN PART of the hybrid emits only water and oxygen as its "emissions", it qualifies for THAT part. As for the regular, original engine, We assume you have maintained it properly and have passed the regular smog tests of your state.

As for the water-based emissions, you don't have to invent the wheel, refer to well-documented scientific research as published on the Internet, US Patent Office and other scientific institutions. As far as we can predict the IRS may try to disqualify your submission and pooh-pooh the validity of its scientific background. The IRS is not the scientific arm of the government. It's the Patent Office and EPA as far as we're concerned. The Patent Office is in general agreement with water enhancers and other gas savers and emission reduction technologies. The EPA is against them and has not approved ANY add-on technology for saving gas and saving the environment. Popular Science has sweepingly pooh-poohed any and all such technologies just as well. These last two are obviously avid enemies of home-made improvements and have great financial interest in current state of affair. Yet they are not the law.

Insist that the IRS approves your submission. If you're not willing to fight, or are not sure of the validity of this technology, either assist yourself and arm yourself with before/after smog tests, or don't fight at all. You are using this IRS information, as the rest of the information we provide, totally at your own risk. But remember this: the more such submissions the IRS receives, the less they are likely to want to waste money fighting it. At a level of only 2% of the population, it will be accepted as "normal" and everybody will start doing it. This has been proven to be the only qualification for a new trend to "catch the wave" and boom. It has happened with the penetration of cellphones, DVDs and many other technologies and trends. Two percent of the population is all it takes.

WE SAY : START !!

